



Systems Reference Library

Catalog of Programs for IBM 1240-1401 1420-1440 and 1460 Data Processing Systems December 1966

This Catalog contains a complete listing of all programs available for the IBM 1240, 1401, 1420, 1440 and 1460 Data Processing Systems. It obsoletes the previous edition of this Catalog, Form No. C20-1601-4 and its Supplement Form No. N20-0013-8

Instructions for ordering magnetic tape programs are contained in the section of the Introduction entitled, "How to Order Programs".

This Catalog contains the following sections:

- Introduction and instructions on how to use the catalogs and how to order the programs.
- 2. A list of corrections and revisions to announced programs (if applicable).
- 3. A Keyword-in-Context (KWIC) Index.
- 4. Abstracts of all available programs.
- 5. A list of deletions (if applicable).

All programs listed in this Catalog should be ordered through your local IBM Branch Office.

















Copies of this and other IBM publications can be obtained through IBM branch offices. Address comments concerning the contents of this publication to IBM, Program Information Department, 40 Saw Mill River Road, Hawthorne, N.Y. 10532

TABLE OF CONTENTS

																																																	PAGE
INT	RC	D	υC	1	10	N		•	•		•	•	•	•		•	•	•	•		•			•		•	•		•	•			•		•	•	•		•	•			•	•	•		•	•	iii
	1	Y	PE	S	(F	1	PF	C	G	R	6 }	5						•		•			•		•			•			•	•				•			•				•	•			•	iii
	S	T	A۸	C	AF	t	S	F	C	R	-	1)	í F	E		1	V	/	C	U	S	1 (N	E	R	(0	Ν	TF	1	8	U I	E	D,	/	PI	RC	G	R A	M	S							•	iii
	Н	C	h	T	C	C	R	D E	R		PI	R (R	Δ	٧.	S									•						•					•			•					•				iv
	K	E	Y b	C	RE	-	I	۸-	·C	C	٨	T 6	<u> </u>	T		1	K V	١	C	/	-	1	E	Ł	X														•	•		ı	•	•	•		•	•	iv
	P	R	CG	R	AA	í	C	L /	S	S	1	F]	10	, Δ	1	I	C N		C	C	CI	E (3											4						•									v
	U	S	I۸	C	1	H	E	(Δ	T	Δ	L ((:			4																			•												•	vii
	N	E	k	₽	RC	G	R.	AN	S								4															•	•						•			ı						•	vii
	P	R	CG	R	Δħ	ŧ	CI	C F	R	E	C.	T	10	٨	S		٥N	\ D	!	R	Ē١	()	I S	1	C	N:	S															,				4			vii
																																													•				viii
LIS	т	•	r	.	£ t.		n	n r	. ~	Ð	A :	L (viii
LIS																																																	viii
MCR																																																	ix
KEY	# C	K	L-	1	1\ -		LI	N	E	X	1	/	r	N	1	U.	/	1	N	L	E A	K.		•		•	٠		•	•		•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	X
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INTRODUCTION

The Catalogs for the systems listed below, with their form numbers, are currently available from IBM Branch Offices. Individually updated supplemental issues of all Catalogs will be published under the form numbers indicated and can be obtained from IBM Branch Offices as they are published.

<u>Title</u>	Catalog Form No.	Supplement Form No.
Catalog of Programs for IBM 305 and 650 Data Processing System	C20-1600	N20-0012
Catalog of Programs for IBM 1240, 1401, 1420, 1440, and 1460 Data Processing Systems	C20-1601	N20-0013
Catalog of Programs for IBM 705, 1410, 7010, 7070, 7072, 7074, 7080, 7740 and 7750 Data Processing Systems	C20-1602	N20-0014
Catalog of Programs for IBM 1620 and 1710 Data Processing Systems	C20-1603	N20-0015
Catalog of Programs for IBM 704, 709, 7040, 7044, 7090 and 7094 Data Processing Systems	C20-1604	N20-0016
Catalog of Programs for IBM System/360	C20-1619	N20-0030
Catalog of Programs for IBM 1130 Computer System and IBM 1800 Data Acquisicand Control System		N20-0031

This Catalog contains a complete listing of all programs available for the IBM 1240, 1401, 1420, 1440 and 1460 Data Processing Systems. It obsoletes the previous edition of this Catalog and its Supplements.

To assist you in using this Catalog, the abstracts are listed by file number in numeric and alphabetical sequence.

TYPES OF PROGRAMS

Type I

Programming Systems are conceived and developed by IBM as integral parts of the data processing system for which they are written.

Type II

Application Programs are carefully selected solutions by IBM of data processing problems. They are supported by well-planned documentation and tested procedures.

Both types of programs are maintained by IBM and modifications will be supplied automatically to all users of specific programs by the Program Information Department, Abstracts for Type I and Type II programs are contained in the "IBM Programs" Section of this Catalog.

Type III

IBM-Contributed Programs are contributed voluntarily by IBM employees to aid the programming and system community.

Type IV

Customer-Contributed Programs are valuable aids to the programming and systems community supplied by members of customer organizations and individual users of IBM Data Processing Systems.

IBM serves solely as the distribution agent for Type III and Type IV programs. Abstracts for Type III and Type IV programs are contained in the "Contributed Programs" Section of this Catalog.

STANDARDS FOR TYPE IV (CUSTOMER CONTRIBUTED) PROGRAMS

Programs written by customer personnel must conform to established standards and procedures. These criteria differ according to the machine system for which the program is written. Copies of standards and procedures for Type IV (Customer Contributed) Programs are available through your local IBM Branch Office.

HOW TO ORDER PROGRAMS

Domestic Customers

All Programs listed in this Catalog should be ordered through your local IBM Branch Office.

Magnetic tapes will be duplicated at 556 characters per inch unless a different density is specified by the requestor. A full reel of tape, containing 2400 feet, should be submitted. Be sure to check the abstract for the exact number of tapes required when requesting a magnetic tape program.

The Program Information Department's objective is to complete the in-house processing of a program request within ten (10) working days of its receipt by the department.

IBM World Trade Users

World Trade users should order programs by contacting their IBM representative.

KEYWORD-IN-CONTEXT INDEX

The Keyword-in-Context Index lists available programs arranged alphabetic-

ally by the keywords in the program titles. There is an index entry for each significant keyword in the title. Certain words are not accepted as indexing words but will be printed as part of the title.

This KWIC Index was prepared by highlighting each keyword of the title in the context of words on either side of it and aligning the keywords of all titles alphabetically in a vertical column. The following example will illustrate the operation:

Notice that the # sign always precedes the first word of the title. A title that is longer than 59 characters will show only the characters that fall on either side of the keyword being highlighted, up to the limits of one line. The complete title may be found in the Abstract section. The slash (/) is used in place of parentheses. The # placed two spaces in front of the first word indicates that the entry is the second part of a two-line title.

			FILE NO.	PAGE
LYSIS. BCB CIRCULAR	A-54 #LEASE VS. ANA ABRIDGE CARC-KEEPING #STACK -	1401	14.C.014	074
STORAGE ON TAPE TO	ABRIDGE CARC-KEEPING #STACK -	1401	01.4.107	C44
SYNTRAN AN INCEXING	ABSTRACTING AND RETRIEVAL SYSTEM #	1401	10.3.045	069
	FACCELERATOR PACK - SYMBOLIC 4K PROGRAMMI			033
ILE #CIRECT	ACCESS STORAGE DEVICE INDEX SEQUENTIAL F	1401	01.4.215	052
#MORTGAGE LOAN	ACCOUNTING ACCOUNTING ACCOUNTING ACCOUNTING ACCOUNTING ACCOUNTING ACCOUNTS	1440	FB-04X	021
#DEMAND DEPOSIT	ACCOUNTING	1440	FB-03X	021
#ON-LINE SAVINGS	ACCOUNTING	1440	FB-C7X	022
#SAVINGS	ACCOUNTING	1440	FB-05X	021
TOR FREIGHT REVENUE	ACCOUNTING #MO	1440	ST-02X	027
#INSTALLMENT LCAN	ACCOUNTING	1440	10.2.003	079
#HOSPITAL	ACCOUNTS PAYABLE	1440	UH-C3X	028
#RETAIL	ACCOUNTS RECEIVABLE	1440	DR-02X	020
1	#ACCOUNTS RECEIVABLE FOR HOSPITALS	1440	UH-02X	028
EKESI AND PKINCIPAL	ACCUMULATION #MUNIALT INVESTMENT INT	1401	10.2.005	064
TING SYSTEM LIBRARY	ACTIVITY DATA STATISTICAL #HISTORY REPOR	1401	10.3.062	071
ORE DUMP ROUTINE IN	ACTUAL FORM #C ACTUARIAL #ORTHOGONAL POLYNOMIAL	1440	02.7.003	078
CURVE SMOOTHING FCR	ACTUARIAL #ORTHOGONAL POLYNOMIAL	1401	06.0.017	062
	ACD AND FILE SEARCH		01.4.044	040
SSOR STRUCTURE FILE	ACCRESS #BILL OF MATERIAL PROCE	1440	12.3.001	080
RUCTIONS TO A GIVEN	ACCRESS #CORE SEARCH FOR BRANCH INST	1401	01.4.162	048
	ACCRESS CONVERSION TECHNIQUES#DIVISION A			043
UTOMATIC PROGRAMMED	ACDRESS CONVERSION#GENERAL APPROACH TO A	1401	01.4.034	040
	ACCRESS FILE MAINTENANCE PROGRAM			078
M # RANDOM	ACCRESS TRANSFORMATION EVALUATION PROGRA	1401	01.4.098	043
#1401/1311 DISK	ACCRESS UTILITY ACCRESS UTILITY	1401	01.4.176	049
			02.1.002	076
	ACJUSTMENT FOR 1401 VERSIONS OF CENSUS M			063
	ACJUSTMENT OF MONTHLY TIME SERIES			C61
	ACJUSTMENT-CENSUS METHOD II, X-9 VERSION			C62
N, 4K, #SEASONAL	ACJUSTMENT, CENSUS METHOD II, X-9 VERSIO	1401	06.0.010	062

PROGRAM C	CLASSIFICATION CODES	/MT/	Textiles and Paper
	below is a complete listing fication codes for all types	Service I	ndustries
	ms and for each system	Finance	
included	in this Catalog. The	/mp /	Damlei
Programmi Applicati	ng Systems (Type I) and on Programs (Type II)	/FB/ /FI/	Banking Brokerage and Investment
abstracts	appear in the "IBM Programs"		
	of this Catalog; the IBM- ed Programs (Type III) and	Information	on Retrieval
	Contributed Programs (Type IV)	/CR/	Information Retrieval
Section o	the "Contributed Programs" of this Catalog.	Insurance	
	dition to assisting you in	/TT /	The sul Con sil
	the abstract of each program, should prove useful in	/IF/ /IL/	Fire and Casualty Life
classifyi	ng programs written by IBM	/ 11/	HILE
or custom	er personnel and contributed	State and	Local Government
to the pr	ogram libraries.	/UG/	Government, State and Local
Programmi	ng Systems Type I	, 55,	obversamency beare and becar
		Transport	ation
/AD/ /AS/	Autochart Assembly Systems	/ST/	Transportation
/AT/	Automatic Test	/51/	Transportation
/AU/	Autocoder	Utilities	
/CB/	COBOL - Common Bus. Oriented Language	/SU/	Utilities
/CT/	Commercial Translator	/50/	otilities
/CV/	Conversion Programs	Federal Re	egion
/DN/	Diagnostic Programs	/CFI /	Community Balancel
/FO/ /IO/	FORTRAN - Formula Translation Input/Output	/GF/	Government, Federal
/LM/	Library Material	Scientifi	c Industries
/MI/	Miscellaneous	_	
/PR/	Processor - Includes AU, CB, I/O, etc.	Aerospace	
/RG/	Report Generators	/MA/	Aerospace
/SI/	Simulator Programs		_
/SM/ /SP/	Sort/Merge Symbolic Assembly Programs	Education	
/SV/	Supervisory Systems	/US/	Secondary Schools
/UT/	Utility Programs		
Annlianti	on December Many TT	Medical	
Applicaci	on Programs Type II	/UH/	Hospital and Medical
Distribut	ion		-
/DP/	Bublishing	Scientific	c Marketing
/DR/	Publishing Retail	/CA/	Statistical Applications
/DW/	Wholesale	/CO/	Operations Research
Wahasi aati		/CP/	Critical Path Scheduling
rabricati	on and Assembly	/CM/ /EC/	Mathematical Applications Civil Engineering
/CN/	Numerical Control Applications	/MF/	Fabrication and Primary Metals
/CX/	Other		-
/EE/ /EO/	Electrical Engineering Optics	Cross Indi	ustry
/EX/	Other	Communica	tions
/ME/	Electrical and Machinery	uiiuiii Ca	
Process		/SC/	Communications
1100622			
/MP/	Petroleum and Industrial Chemicals		

Simulators Share 13.0 /cs/ Simulators 13.1 Utility 13.2 Assembly Systems Engineering Techniques 13.3 Simulation 13.4 Other Systems Engineering /SE/ Unclassified 14.0 Type III and Type IV Programs IBM 1440 Data Processing System IBM 1401, 1420 and 1460 Data Processing Systems Programming Systems 1.0 Utility Programs 1.0 1.0 Preprocessing, Editing 1.1 Monitoring or Supervisory 1.1 Assembly 1.2 Sorting - Merging 1.3 Report Generating 1.2 Assembly 1.3 Compiling 1.4 IOCS 1.4 Miscellaneous General Purpose 1.5 Report Generators 1.5 Input/Output 1.6 Sorting, Merging 1.6 Data Transmission 1.7 File Organization 1.8 Data Transmission Programming Systems 2.0 1.9 Other Mathematical Subroutines 3.0 Utility Programs 2.0 Differential & Integral Equations 4.0 2.1 Disk 2.2 Tape Matrix Programs 5.0 2.3 Duplicators and Listers 2.4 Input-Output Statistical Programs 6.0 2.5 Internal Information Transfer 2.6 Data Manipulation-Handling Mathematical Routines 7.0 2.7 Debugging Aids 2.8 Housekeeping, Documentation, Physical Sciences 8.0 Programming Aids 2.9 Other 8.1 General Physics 8.2 Nuclear Physics Simulators, Translators, & 8.3 Geology and Geophysics Interpreters 3.0 8.4 Other 3.1 Unit Record Simulation Engineering Applications 9.0 3.2 Computer Simulation 3.3 Translators 9.1 Aeronautical 3.4 Interpreters 9.2 Civil 3.9 Other 9.3 Chemical 9.4 Electrical Differential & Integral Equations 4.0 9.5 Mechanical 9.6 Petroleum Matrix Programs 5.0 9.7 Other Statistical Analysis & Probability 6.0 Management Science 10.0 6.1 Basic Statistics 10.1 Linear Programming 6.2 Time Series Analysis 10.2 Simulation 6.3 Correlation 10.3 Other 6.4 Regression Analysis 6.5 Analysis of Variance Demonstration Programs 11.0 6.6 Tests 6.9 Other Guide 12.0 Mathematical Routines 7.0

vi

7.1 Functional Subroutines7.2 Floating Point Arithmetic

7.3 Interpolation & Curve Fitting

12.1 Utility 12.2 Assembly 12.3 Simulation

12.4 Other

7.4 Polynomial Solutions

7.9 Other

Social & Physical Sciences, Engineering Applications 8.0

Management Information 9.0

9.1 Inventory Control

9.2 Scheduling

9.3 Information Classification & Retrieval

9.4 Simulators

9.5 Linear Programming

9.6 General Problem Solvers

9.9 Other

Commercial Industries Applications 10.0

10.1 Distribution

10.2 Finance

10.3 Insurance

10.9 Other

Public Service Industries Applications 11.0

ll.1 Business Services

11.2 Communications

11.3 Education

11.4 Government

11.5 Medical

11.6 Transportation

11.7 Utilities

11.9 Other

Manufacturing Industries Applications 12.0

12.1 Aerospace

12.2 Control Systems

12.3 Fabrication and Assembly

12.4 Numerical Control

12.5 Process

12.6 Other

Demonstrations 13.0

Systems Engineering 14.0

Unclassified 15.0

USING THE CATALOG

To locate a program begin by thinking of the significant words describing the desired program. Then look in the KWIC, Keyword-in-Context, Index for the keyword entry. The page number adjacent to the file number will then direct you to the corresponding program abstract. The reference code is set up as follows:

System 1440 1401

File No. CX-07X 06.0.010

The number of the IBM system for which the program is written.

The IBM Library code for filing and ordering a program.

Now refer back to the illustration in the section entitled, "Keyword-in-Context Index". As you can see, there are two kinds of file numbers: The first consists of an alphabetical and numeric reference; the second is completely numeric in a Dewey Decimal sequence.

Type I and II program abstracts are located in the "IBM Programs" section of this Catalog; Type III and IV program abstracts are located in the "Contributed Programs" section.

The page number listed at the end of the KWIC entry line will direct you to the program abstract. Each abstract describes the relevant program in enough detail to help you determine if the program will meet your requirements.

LIST OF NEW PROGRAMS

This section consists of a list of new Programs added since the last supplement to the Catalog and a list of all programs added since the last edition of the Catalog.

PROGRAM CORRECTIONS AND REVISIONS

There are two kinds of revisions to programs listed in this Catalog:

 Changes in the program abstract
 Functional changes in the program documentation and/or changes in the card decks and tapes.

Abstract changes for all Types of programs are noted in this Catalog and in the Supplement. The following codes appear at the extreme right-end of the title line for each abstract that is new or has been revised in this edition:

*N - This symbol indicates a new program

*M - This symbol indicates that the title of the program has been modified when it appears only at the extreme right end of the title line.

*M - This symbol indicates that the text of the abstract has been modified when an additional *M or * alone appears, at the extreme right end of each line

- of the abstract that has been modified.
- *R This symbol indicates that the entire text of the abstract has been revised.

Functional changes in program documentation and/or decks or tapes for Type III (IBM Contributed) and Type IV (Customer Contributed) programs are listed in a special table preceding the KWIC Index. This data is listed under three headings: program number; machine system area; and the date the received the program data prior to the date indicated and would like to receive the correction, he must reorder the program. See the section entitled, "How to Order Programs".

Information concerning functional changes in program documentation and/or decks or tapes for Type I (Programming Systems) and Type II (Application Programs) can be obtained through your IBM Branch Office.

DELETED PROGRAMS

correction was effective. If a user has

This section consists of a list of programs deleted since the last Supplement to the Catalog and a list of all programs deleted since the last edition of this Catalog. Included is an alphabetical heading "Reason for Removal". Each letter refers to a key that indicates the specific

reasons for removing the program from the Catalog.

Alphabetical Key to Reason for Removal

- A This Program has been deleted because of low usage.
- C This program has been deleted because of limited usefulness.
- D This program is obsoleted and replaced by file number
- F This program has been withdrawn by the author.

Programs deleted by the letter "D" are followed by a file number code. This code is the file number of the program that replaces the deleted program.

An abstract for the replacement program may be found in the "Abstracts of Available Programs" Sections in this Catalog.

LIST OF PROGRAM CORRECTIONS & REVISIONS

PREGRAM	MACHINE	DATE
NUMBER	AREA	
C1.1.051	1401	11-15-66
01.4.145	1401	C8-C2-66
03.0.045	1401	11-11-66
10.3.047	1401	C9-C1-66
C1.C.CO1	1440	C7-25-66
01.3.002	1440	08-10-66

LIST OF NEW PROGRAMS

IBM PROGRAMS

FILE NUMBER	TITLE	PAGE
	1401 NEW ENTRIES	
1401-LM-012	1401/1460 TIMING PROGRAM FOR SYSTEM/360 DISK AND TAPE OPERATING SYSTEMS TAPE SORT/MERGE PROGRAMS	10
	CONTRIBUTED PROGRAMS	
FILE NUMBER	TITLE	PAGE
	1401 NEW ENTRIES	
01.4.225 03.0.046 10.3.063	UTILITY PRINT PROGRAM CALOG, IBM 1401 CALOG SUBROUTINE FAST - FULLY AUTOMATIC SCORING TECHNIQUE - PHASE 1 PROGRAM PACKAGE	53 60 72
	1440 NEW ENTRIES	
02.3.004	OBJECT DECK LISTING PROGRAM	77

For the purpose of this index the following words are considered to be too general to be useful for retrieval purposes and are therefore prevented from indexing. This list may be modified

as needed to make the index more useful. Note that hyphenated words are treated as one index word, with only the first word being significant.

A					THEHENTE
ABOUT	BEFCRE	EIGHT	IT ITS	PRCGRAMS	THOUGHTS
ABCVE	BEING	EITHÉR	ITSELF	PUT	THREE THRCUGH
ACCOMPANYING	BELCNG	ENG ET	IV	Ç	THRU
ACCORDING	BELCW	ETC	j	R	TC
ACHIEVED	BEST		ĸ	RECENT	TOGETHER
ACHIEVEMENTS	BETTER	EXPLANATION	KEPT	REGARDING	TOTAL
ALHIEVES	BETWEEN	EXTREMELY	L L	RELATED	TOTALLY
ACCUIRED	BEYOND	F	LARGE	RELATING	
ACROSS	BIG	FAR	LARGER	RELATION	TCWARD
ADAPTATION	BCTH	FAST	LIKE	RELATIONSHIP	TOWARDS
ACDITIONAL	erief	FEK		RELATIONSHIPS	TRI
ACVANTAGE	BRIEFLY	FEWER	LIKELY	RELATIVE	TWO
ADVANTAGES	ERING	FIFTH	LCNG	REQUIRE	U
	eut	FINAL	LCCK	REQUIRED	UNDER
AFFECT AFFECTED	EΥ	FIRST	LCW	RECUIRES	UNTIL
	С	FIVE	LOWER	REQUIRING	UP
AFFECTING	CALLED	FCR	LTC	RESULTING	UPCN
AFFEREING	CAN	FCUR	M.	RESULTS	USAGE
AFTER	CAPABILITIES	FCURTEEN	MADE	RCUTINE	USE
AGAIN	CAPABILITY	FCURTH	MAKE	S	USED
AGAINST	CAPABLE	FROM	MAKES	SCHEME	USEFUL
AIRED	CAUSE	FT	MAKING	SCHEMES	USEFULNESS
ALL	CAUSED	FULL	MARY	SEC	USER
ALLEGED	CAUSES	FULLY	MEANS	SECONDARY	USERS
ALLCH	CAUSING	FUNDAMENTALS	ĶΕΤ	SEE	USES
ALLOWED	CERTAIN	FURTHER	METHOD	SEEMS	USING
ALLCWING	CHALLENGE	G	METHODS	SEEN	UTILIZATION
ALLCHS	CHIEF	GAVE	PCRE	SELF	UTILIZE
ALMOST	CC	GENERAL	MOST	SEVEN	UTILIZING
ALCNE	CCME	GENERALLY	MPH	SEVENTH	٧
ALCNG	CCMING	GIVE	MULTIPLE	SEVERAL	VARIOUS
ALSC	CCMPANIES	GIVEN	KY	SHORT	VARYING
AMONG	CCHPANY	GIVES	N .	SHCRTER	VERSUS
AN	CCMPLETE	GIVING	NEAR	SIGNIFICANCE	VERY
ANALYSES	CCMPLETED	GCCD	NEARLY	SIGNIFICANT	VI
ANALYSIS	CCMPLETELY	GREATÈR	NECESSARY	SIMILAR	VIA
ANALYZING	CCMPRISING	GREATLY	NEED		
AND	CENCERNED	GUICE	NEEDED	SIMPLE	VII VIII
ANC/CR	CCNCERNING		NEEDS	SIMPLER	
ANCTHER	CONSIDERATION	H		SIMPLY	VS
ANY	CONSIDERATIONS	HAD	NEW	SINCE	W
APART		HAS	NEWER	SINGLE	WAS
APPARENT	CONSIDERED	FAVE	NEWLY	SIX	WHAT
APPARENTLY	CONSIDERING	HAVING	NEXT	SIXTH	WHEN
APPEAR	CCNSISTING	HE	NINE	SLOW	WHERE
APPEARING	CCNVENIENT	HIGH	NC.	SLOWLY	WHEREBY
APPLICABILITY	CORP	HIGHER	NCT	SHALL	KHICH
	CORPORATION	HIGHLY	NOW	SMALLER	WHILE
APPLICABLE	CCULD	HIS	C	SMALLEST	WHC
APPLICATION	CPS	HCh	CBSERVED	SC	WHOSE
APPLICATIONS	E	I	CBTAINABLE	SOME	WHY
APPLIED	CATA	IBF	CETAINED	SPECIAL	WILL
APPLY	CE	IF	CBTAINING	SUBROUTINE	WITH
APPLYING	DEG	II	CCCURRING	SUCH	WITHIN
APPRECIABLE	CEPARTMENT	III	CF	SUGGESTED	WITHOUT
APPROACH	DEPARTMENTS	IMPLICATIONS	CFF	SUGGESTIONS	WOULD
APPROACHES	DEPENDING	IMPORTANCE	GN	SUITABLE	X
APPROACHING	CEPT	IMPORTANT	CNE	SUMMARY	ΧI
ARE	CETERMINATION	IMPROVED	CNLY	SURVEY	XII
ARISE	CETERMINE	IMPROVEMENT	CNTO	SYSTEM	IIIX
ARISING	DETERMINED	IMPROVEMENTS	CR	SYSTEMS	Y
ARCUND	DETERMINING	IMPROVING	CTHER	Т	YET
AS	CI	ĪN	CUR	TAKE	YOUR
ASCERTAIN	CIO	INC	GUT	TAKEN	2
ASPECT	DISCUSSION	INCLUDE	CVER	TAKING	2 K
ASPECTS	00	INCLUDED	P	TECHNIQUE	4 K
AT	DOES	INCLUDING	PARTICULAR	TECHNIQUES	8 K
ATTAIN	DOING	INCORPORATING	PER	TEN	1 CK
ATTAINED	DONE	INCREASE	PCCR	THAN	12K
ATTEMPT	DCUBLE	INCREASED	PCSSIBILITY	THAT	14K
ATTEMPTED	CCUBLY	INCREASES	POSSIBLE	THE	16K
ATTEMPTS	DCWN	INCREASING	PRACTICAL	THEIR	Ĉ.
AVAILABILITY	DR	INFLUENCE	PRELIMINARY	THEM	ĭ
AVAILABLE	DUE	INFLUENCED	PRESENCE	THEORETICAL	2
AVOICING	DURING	INFLUENCING	PRESENT	THERE	3
AWAY	E	INNER	PRIMARY	THEREFROM	4
В	EACH	INSIDE	PRINCIPLE	THEREON	5
EAC	EARLIER	INSTEAD	PRINCIPLES	THESE	6
BASED	EARLY	INTERESTING	PRECEDURE	THEY	7
BASIC	EASE	INTO	PROCEDURES	THIRD	é
BE	EASILY	INVCLVING	PROGRAM	THIS	e S
BECAUSE	EASY	IS	PROGRAMMING	THOSE	7
BEEN		• •	INCOMMENTED	INUSE	

Keyword-in-Context (KWIC) Index

	TITLE	SYSTEM	FILE NC.	PAGE	TITLE S	YSTEM	FILE NC.	PAGE
LYSIS, BCB CIRCULAR A-54 STCRAGE ON TAPE TO ABRIDGE O SYNTRAN AN INCEXING ABSTRACTI	#LEASE VS. AI CARC-KEEPING #STACK	- 1401	C1.4.1C7	C74 C44	440/1460 RESECUENCE AUTCCODER SCURCE PROGRAMS - RASP #1401/1 0 CHECK DIGITS #AUTCCODER SUBROUTINE TO VERIFY MCDLLUS 1	14C1	12.1.CC3	C5C C72
NG SYSTEM ASSEMBLY #ACCELERAT	ING AND REIKIEVAL SYSTEM TOR PACK - SYMBOLIC 4K PROGRAMI TORAGE CEVICE INCEX SEQUENTIAL	4I 14CI		C69 C33 C52	1 CHECK DIGITS #ALTCCCDER SURROLTINE TO VERIFY MODULUS 1 #ALTCCCDER SYMBOLIC CORE DUMP ROLTINE # FOR A TAPE ALTCCCDER SYSTEM	1440	02.7.C01 C1.4.210	C72 C77 C51
#MCRTGAGE LCAN ACCCUNTIN #DEMAND DEPOSIT ACCCUNTIN	NG NG	1440 1440	FB-C4x FB-C3x	C21	PATCH GENERATOR FOR AUTOCODER TESTING # #BASIC AUTOCODER 2K	14C1 14C1	01.1.049 AU-CC5	C35
#CN-LINE SAVINGS ACCOUNTIN #SAVINGS ACCOUNTIN TOR FREIGHT REVENUE ACCOUNTIN	NG	1440	FB-C7X FB-05X ST-C2X	C22 C21 C27	#BASIC ALTCCCER 2K # ALTCCCCER 2K RAMS FROM CBJECT TC ALTCCCCER#CISASSEMBLER CF 1401/146C PROG	146C	AU-CC6 SV-C9I 02.C.C35	C19 C31 C57
#INSTALLMENT LCAN ACCOUNTIN #HCSPITAL ACCOUNTS	NG Payaele	1440 1440	10.2.003 UH-03X	C79 C28	#AUTCCGRRELGGRAM AND GRCSSCORRELGGRAM OGRAMS #AUTCECIT-14C1 ECIT FCR 1410 AUTCCCCER PR	1401 1401	C1.5.CC8 C1.1.C14	053 033
#RETAIL ACCCUNTS #ACCCUNTS EREST AND PRINCIPAL ACCUMULAT	RECEIVABLE FOR HOSPITALS	1440	DR-C2x : LH-C2x	C2C C28 C64	CATION OF RUNNING #AUTOMATIC EDITING AND LINE LENGTH MODIFI #AUTOMATIC FLOW CHART TECHNIQUE #EINARY AUTOMATIC MULTIPLY SUBROUTINE /BAMS/	1401	02.0.016 02.0.019 03.0.022	C74 C55 C59
TING SYSTEM LIBRARY ACTIVITY CRE DUMP ROUTINE IN ACTUAL FO	CATA STATISTICAL #HISTORY REPO CRM	R 1401	1C.3.C62 C2.7.CC3	C71 C78	LTIPLY ROUTINE WITH AUTOMATIC PATCH LINKAGE #FARGO MURAM /FOURTEEN-G-ONE AUTOMATIC PLOTTER I/ #F A: P I PROC	1401	02.C.C15	055 C74
CURVE SMCCTHING FOR ACTUARIAL #GENERALIZED TAPE ACC AND F SSCR STRUCTURE FILE ACCRESS	FILE SEARCH	1401	C1.4.C44	C62 C4C O8C	N MAKING LABERATERY ALTEMATIC PLETTING #MANAGEMENT DECISIC GENERAL APPREACH TE ALTEMATIC PREGRAMMER ADDRESS CONVERSION BAFTCE - ALTEMATIC PREGRAMMING, TESTING AND CENDE	1401 1401	10.2.007 C1.4.034	C64 C4C O43
RUCTIONS TO A GIVEN ACCRESS NO RADIX PROGRAMMED ACCRESS O	#CORE SEARCH FOR BRANCH IN: CONVERSION TECHNIQUES#DIVISION	T 14C1	01.4.162	C48 C43	RGO /FOURTEEN-G-GNE ALTCMATIC REPCRT GENERATING GPERATICN#FA #FAST - FULLY ALTCMATIC SCERING TECHNIQUE	1401 1401	RG-045 10-3-C41	C12 C69
#NAME AND ACCRESS F	CCNVERSICN#GENERAL APPRCACH TC FILE MAINTENANCE PROGRAM TRANSFORMATION EVALUATION PROGI	1440	02.5.001	C4C C78 C43	CGRAM #FAST - FULLY ALTCHATIC SCORING TECHNIQUE - PHASE 1 PR #ALTCPAC II #ALTCPLCTTER PROGRAM	14C1	1C.3.C63 C1.4.172 CX-C3X	672 649 664
#14C1/1311 DISK ACCRESS U #144C/1311 DISK ACCRESS U	UTILITY UTILITY	1401 1440	C1.4.176	C 4 9 C 7 6	#AUTCPRCPS II NUMERICAL CONTROL PROGRAM #7046/44 - 1401 AUXILIARY PROGRAMS	1401 1401	CN-C3X UT-153	CC3
#SEASCNAL ACJUSTMEN	NT FOR 1401 VERSIONS OF CENSUS NT OF MONTHLY TIME SERIES NT-CENSUS METHOD II, X-5 VERSIO	1401	06.0.001	C63 C61 C62	#MEMCRY-ELMP IN BANCS OF 100 POS. /20 CARDS/ RADE ANALYSIS FOR A BANK #ECND T #SCILUTION OF BANK COST ALLOCATION BETWEEN DEPARTMENTS	1401	C1.4.C63 FB-C9X C5.C.CC6	C41 CC6 C61
N, 4K, #SEASCNAL ACJUSTMEN #ACMINISTR	NT, CENSUS METHOD II, X-S VERS RATIVE TERMINAL SYSTEM	[C 14C] 1440	C6.C.C1C	C62 C2C	#BANK DCCUMENT SCRT PROGRAM #BANK MANAGEMENT SIMULATOR	124C 14C1	SM-C3C FB-C2X	CC1 CC5
#ALC /AUTO #AIC /AUTO G AND DECUMENTATION AIC PROGR	RATIVE TERMINAL SYSTEM CMATIC INPUT CEFINER/ /CARC/ RAW #FLChChART	1401	CX-C8X C1.4.144 C2.C.C24	030 047 056	#BANK SCRT PREGRAM #1401/144C/146C BCC-BCC CCNVERSION SLBRCUTINE PROGRAM #BCDIC/EBCCIC/BCDIC CHARACTER TRANSLATION	1401	FB-C6X 01.4.213 02.C.C29	005 052 056
TIMING CALCULATION AID PROGR TEM ERRER-DETECTION AIDS	RAM #14C1/36 #CARC S CCBCL THRCUGH A LOGIC TRACE	C 1401	14.C.C15 AT-C17	C74 CC1	#144C/1311 BILL CF MATERIAL PRCCESSCR E ACDRESS #BILL CF MATERIAL PRCCESSOR STRUCTURE FIL	144C 144C	ME-C2X 12.3.CC1	C 2 4 C 8 C
#IBM CCCUMENTATION AICS SYST LUTION OF BANK COST ALLOCATION	TEM CN BETWEEN DEPARTMENTS #:	1401	SE-12X 05.C.CC6	C53 C13 C61	#HOSPITAL PATIENT BILLING MS/ #BINARY AUTOMATIC MULTIPLY SURROLLING //BA	144C	DW-C1X UH-C1X C3.C.C22	020 028 059
440 PROGRAM FOR THE ALLOCATIO 440 PROGRAM FOR THE ALLOCATIO PRODUCE AND/OR EMIT ALPHANUME	CN CF RESCURCES FOR #14C1.	/1 1440	FB-14X FB-13X	CC6 C22	#AUTCGGDER SERCH BINARY SEARCH MACRO #LCCK-UP - BINARY TABLE LGCK-UP MACRO	1401 1401	03.0.036 03.0.030	C6C 059
ECK A FILE OF CARDS ALPHANUME #STANDARD NAME ALTERATIO	ERICALLY #SEQER TO SEQUENCE (CH 14C1	C1.4.118 C1.2.CC9 14.C.C19	C45 C36 C75	#EINARY TAPE CUMP #SYMBOLIC ELGCK CLAGRAMPING SYSTEM	14C1	C1.4.CG8 C1.4.C97	059 039 043
#MCRTGAGE AMCRTIZAT #TAPE ANALYZE F #TC 1410 SYMBCLIC ANALYZER	PREGRAM, EK VERSIEN	1401	10.2.006	C64 C44	#BOND TRACE ANALYSIS FOR A BANK	1401 1401	14.C.C14 FB-CSX	C74 CC6
# ANALYZER #MEMCRY ANNCTATIO	CASCISFA	14C1	C1.4.C65 C1.4.215 C1.4.C5C	C42 C52 C4C	TIMING PROGRAM FOR BPS S/360 SCRT/MERGE PROGRAM #14C1/146C #CCRE SEARCH FOR BRANCH INSTRUCTIONS TO A GIVEN ADDRESS RINTER PROGRAM WITH BRANCH CN #ONE CARC 80-80 CARC TC P	14C1	C1.4.162	C11 C48 C77
ND CONDENSING #APTCO - #	LIST OF CONCENSED CARDS AUTOMATIC PROGRAMMING, TESTING Y NODE #CRITICAL PATH SCI	A INC.	C1.4.C5C C1.4.198 C1.4.C94	C5C C43 C67	#THE GAME BRIGG-IT ON THE 14C1 NUMERIC ENCCING OF BUSINESS, COMPANY AND #CCRP CODE- SUBROUTINE /CTCALC#CALCULATE NUM. OF DAYS BETWEEN TWO DATES	14C1	11.C.C1C C1.4.115	C72 C45
ATH SCHEDULING WITH ARBITRARY #1401 ASAP	Y NECE NUMBERING- #CRITICAL	P 14C1	10.3.015 C1.1.050	C67 C35	FFCRTLESS SYSTEM OF CALCULATING AND PRINTING #ESCAPE /E #14C1/36C TIMING CALCULATION AID PROGRAM	1401	01.4.C1C 14.C.C15	C58 C39 C74
#ASK II E 1401 #ASK INFCR #SPS SINGLE PASS ASSEMBLER	RMATION RETRIEVAL PROGRAM FOR	F 1401	10.3.014 10.3.009 01.1.052	C66 C66 C35		14C1	C7.C.CC2 C1.4.121	C63 C45 C64
#LCAC AND GC ASSEMBLER # BASIC ASSEMBLER	R R	14C1	C1.1.C55	C35 C57	TINE FOR MCCULUS II CALCULATIONS FOR A #1401/146C SUBRCU #CALCG, IBM 1401 CALCG SUBROLTINE	14C1 14C1	C7.C.C05 C3.C.C46	C63
#SYSTEM/36C BASIC ASSEMBLER	R LANGUAGE TRANSLATOR #14C1 SP: R PROGRAM NG REPORTS FROM TAPE OR CARCS	14C1	C1.4.155 C2.C.C28 C1.3.C13	C5C C56 C38	#CALCG, IEM 14C1 CALCG SUBROUTINE C REPORT #HCSPITAL CANCER CERVICAL CASEFINGING SUMMATION AN ALUATION ANC #CAPERTSIM - CCMPUTER ASSISTED PROJECT EV	1440		08C 08C 065
PROGRAPPING SYSTEM ASSEMBLY #TWC-TAPE AUTOCCCER ASSEMBLY	#ACCELERATOR PACK - SYMBOLIC . FOR THE 1401.	K 1401 1401	C1.1.C16	C33	#CAPITAL INVESTMENT ANALYSIS /8K/ #CARC AND TAPE SELECTIVE LISTER	14C1 14C1	10.3.016 01.4.045	C 6 7 C 4 C
#RAPIC ASSEMBLY	PREGRAM FOR 775C USING THE IBI PREGRAM NC. 14043	1401	C1.1.C13 SP-133 C1.1.C17	C33 C15 C33	/ #CARC ALTCCCEER PROGRAMMING SYSTEM /CAUTC #CARC CCLLATCR SIMULATCR #GENERAL PLRPCSE CARC EDIT ROLITINE	1401	C1.4.212 C1.4.C55	C54 C52 C44
#14C1/774C ASSEMBLY	PREGRAM USING THE IBM 14C1 FOR FOURTEEN-C-CNE USERS /SNAI	1401 L 1401	SP-156 C1.4.CEC	C16 C41	#CARC FILE MERGE SYSTEM #INVERTED CARD FILE-IEM 1401 INFORMATION RETRIEVAL	1401 1401	01.2.C05 1C.3.CC6	C36 C65
ING SYSTEM COMPUTER ASSISTED ING SYSTEM COMPUTER ASSISTED	INSTRUCTION COURSEWRITER#CPER/	T 1440	CS-C9C	C11 C24 C25	FORMAT TO AUTOCODER CARD FORMAT #CONVERT SPS CARD #CONVERT SPS CARD FORMAT TO AUTOCOCER CARD FORMAT #GENERALIZED CARD IMAGE UPDATE PROGRAM	1401	C1.4.131 C1.4.2C6	C46 C46 C51
APERTSIM — COMPUTER ASSISTED # SAVINGS AND LOAN ASSOCIATI # SAVINGS AND LOAN ASSOCIATI	ICNS	1401	1C.2.C11 FB-14X FB-13X	C65 CC6	#CNE CARD INVALID CHARACTER DETECTION PROGRAM #SHARE CROER CARD LIST AND PUNCH #CONTROL LIST OF THE PROPERTY O	1440 1401	C2.4.CC1 13.1.C29	C77 C73
LS #ATTENCANO NSEC CBJECT CECK TC AL-CO8	CE RECORDING FOR SECONDARY SCHO #CCDAC - 1401/1440/1460 CON	C 1440	US-C4X C1-4-224	C22 C29 C53	#CARC LIST CVERFLCW #SINGLE CARC LIST WITH SKIP #CARC MERGE	14C1	C1.4.13C O1.4.C48 C1.2.C18	C46 C4C C36
IES #ALTC RATI #ALTC-LCCE #ALTC-TEST	ING FCR FIRE AND CASUALTY CCMP. ER 8K, 12K, 16K T	1401	IF-C1X C1.2.CC7 AT-C72	CC7 C36 CC1	#VARIABLE CARC REPRCOLCER FCR 144C/1311 #CARC SCRTER #CARC SPS TC AUTCCOCER FCR 1401/146C	1401	C2.3.CC1 C1.2.C13 C1.4.2C5	C77 C36 C51
#14C1/1311 AUTC-TEST #AUTC-TEST	T 16K T 16K	1401	AT-CE2	CC1 C19	# 14C1 CARC SYSTEM #CARC SYSTEM ERROR-CETECTION AIGS	1401	1C.3.C26 AT-C17	C67
#1401/1311 ALTC-TEST #AUTC-TEST #ALTCELCCK	T 8K	1440	AT-C81 AT-C61 C2.C.C17	CC1 C19 C55	#CARC SYSTEM SUBROUTINES #CARC SYSTEM UTILITY PROGRAMS REPRODUCE WITH LAST CARC TEST #CNE OF ONE - ECXEC	1401	LM-CC7 LT-CC1	C1C C16 C5C
#ALTCCHART #BASIC ALTCCGCER	T R	14C1 1420	C2.C.C31 AL-CC1	C56 C18	#CNE CARC 80-8C CARC TC PRINTER PROGRAM WITH BRANCH GN AGE II /EXPANCED 4K CARC 1401 VERSION/ #FARGO ST	1440 1401	C2.3.CC2 C2.C.CCS	C77 C54
#BASIC AUTOCODER # AUTOCODER RENCE PHASE OF 1401 AUTOCODER	R #CRCSS-RFI	1440	AU-CC1 SV-CS1 C1.1.C54	C19 C27 C35	BRANCH CN #CNE CARC 8C-80 CARC TO PRINTER PROGRAM WITH #CNE CARC 8C-8C LIST #CNE CARC 8C-8C LIST	1401	C2.3.CC2 C1.3.C11 C1.4.C4C	C77 C38 C4C
MACRO FOR THE 1401 ALTOCODER CNVERSION OF SPS TO ALTOCODER 1401/1440/1460 DISK ALTOCODER	R #SCAI R :	X 1401 C 1401	C1.4.C91 C1.4.16C	C43 C48	CN TAPE TC ABRIDGE CARC-KEEPING #STACK - STORAGE #1401/1311 CARC-TC-DISK CONSECUTIVE LOAD PROGRAM	14C1 1401	C1.4.167 C1.4.159	C44 C48
	R /AUTCC/ #SCURCE REGENERATION	1440	C2.9.CC2 AL-CCE	057 078 002	#144C/1311 CARC-TC-CISK CONSECTIVE LCAD PROGRAM #CARC-TC-TAPE FCR THE SHARE LIBRARY #CARC-TC-TAPE LTILITY PROGRAM	1401	C2.1.CC1 13.1.C26 LT-C27	C76 C73 C16
# ALTCCCCER CN MCNITCR FCR 1401 ALTCCCCER	R /CN CISK/ R #1460-107C PRCCESS CCMMUNICA R ASSEMBLY FCR THE 1401.	1440 II 1460	SV-CSC	C27 C31	#UNPACK CENCENSEE CARES A LIST OF CENCENSEE CARES #ANTIC	1401 1401	C1.4.C67 C1.4.198	C42 C5C
SPS CARC FORMAT TO AUTOCODER #PROGRAM TO LOAD AUTOCODER	R CARE FORMAT #CONVE R CONDENSEE PROGRAM	RT 1401 1401	C1.4.131 C1.4.134	033 046 046	EPCRIS FRCM TAPE OR CARDS #SIMPLE METHOD OF ASSEMBLING R NGE CHECK A FILE OF CARDS ALPHANUMERICALLY #SECER TO SECLE /360 PROGRAM SCURCE CARDS ON AN IEM #LISTING OF IEM SYSTEM	1401 1401	01.2.009 01.4.218	C36 C36 C52
CPHISTICATEC SPS TC AUTCCCCER	R CCNVERSICN PROGRAM R CCNVERTER ; R CECISION TABLE TRANSLATOR	S 14C1	C3.3.CC1 C1.4.165 C3.C.C45	C75 C48 C6C	# CLCCK-CLT CARES. NCS CF 100 FCS. /2C CARES/ #MEMCRY-CLMP IN BA Y-DUMP IN NCRCS /18 CARES/ #MEMCR	1401	1C.3.C43 C1.4.C63 G1.4.C64	C69 C41 C41
#CARC SPS TC ALTCCCER #ALTCCCER	R FCR 14C1/146C R MULTIPLY-CIVICE MACRC	1401 1401	C1.4.2C5 C3.C.C25	C51 C59	TAL CANCER CERVICAL CASEFINGING SUMMATION AND REPORT #FCSPI RCCF OF DEPCSIT AND CASH LETTER WRITING #124C/144C P	1440 1440	11.5.CC1 1C.2.CC2	080 079
ZZA TC CCNVERT 1401 ALTCCODER CCA TC CCNVERT 1401 ALTCCODER #ALTCCCCER	R CPS TC 144C CPS GN 144C #(R PRE-LIST	V 1440	C1.4.2C9 C2.5.CC2 C1.1.C43	C51 C77 C34	RATING FOR FIRE AND CASUALTY COMPANIES #ALTO RATING/ #FIRE AND CASUALTY INSURANCE PROGRAMS /HOMEGNARS TRIBUTION/#FIRE AND CASUALTY INSURANCE PROGRAMS /GENERAL DIS	1440	IE-08X	CC7 C22 C22
#ALTCCCCER #ALTCCGCER	R PRE-LIST CIAGNESTIC R PREGRAM	14C1 14C1	C1.1.C26 AL-C37	C33 CC2	/ #FIRE AND CASULATY INSURANCE PROGRAMS /AUTO RATING CR 1401 VERSIONS OF CENSUS METHOD INTRACING-DAY ADJUSTMENT F	144C 14C1	IF-C7X 06.0.C18	C22
#CARC_ALTCCCCER -14C1 ECIT FCR 141C ALTCCCCER	R PROGRAM LOGIC DIAGRAMMER R PROGRAMMING SYSTEM /CAUTC/ R PROGRAMS #AUTCED.	14C1 T 14C1	C1.4.128 C2.C.C13 C1.1.C14	C46 C54 C33	NSFER - PRECEAM FER CENSUS METHICE II #DATA TRA EASCHAL ADJUSTMENT, CENSUS METHICE II, X-9 VERSION, 4K, #S CONVERT COLLARS ANCCENTS CIGITS TO #SUBROLITIE TO	1401 1401 1403	06.C.C13 C6.C.C1C 14.C.CC8	C62 C62 C74
#ALTCCCCER	R REVISEC FOR USE ON 1974 CATA R SEGUENCE CHECKING PROGRAM R SERCH BINARY SEARCH MACRO	T 1440 1401	C1.2.CC3 C1.4.132 C3.C.C36	C75 C46 C6C	T #HCSPITAL CANCER CERVICAL CASEFIACING SUMMATION AND REPOR NARY/ #THE 62 CFC PROGRAM / CONSOLICATED FUNCTIONS ORDI #CHAIN AND HECLESALE BILLING	144C 14C1	11.5.CG1	C 8 C C C 8 C 2 C
#PRE-LIST FCR AUTCCCCER REASSEMBLY TEST FCR AUTCCCCER	R SCURCE DECK	14C1	C1.1.C35 C1.1.C41	C34 C34	HE 1448/CIRECT CATA CHANNEL #CCMPUNICATIONS ICCS FOR T Y PROGRAMS WITH 12C CHARACTER #1401 AND 1460 TAPE LITHIT	144C	IC-C11	C23 C16
				v				

TITLE	SYSTEM	FILE NC.	PAGE	TITLE SYSTEM FILE NC. P	FAGE
#ONE CARD INVALID CHARACTER DETECTION PROGRAM	144C	C2.4.CC1	C77		057
#BCDIC/EBCDIC/BCDIC CHARACTER TRANSLATION PROGRAM	1401	C2.0.C29 C1.4.2C3	C56 C51	#CCPY 1311 CISK FILE TO 1EDF 14C1 C1.4.182	049 047
GEN - IBM 1401 FLCW CHART GENERATOR #FL	C 14C1	02.0.022	056	#CCRE DUMP 144C C2.7.CC4	C78
#AUTOMATIC FLCW CHART TECHNIQUE #Systems flcw charter		C2.C.C19 C2.C.C39	C55 C57		C78 C42
	# 14C1	01.4.136	C46 C36	#AUTCCCDER SYMBOLIC CORE DUMP ROUTINE 144C 02.7.C01	C77
O PACE PRE-ASSEMBLY CHECK AND ECIT #14C1/14	6 1401	C1.1.C51	C35	#PUNCH CCRE IN PROGRAM LOAD FORMAT 1440 02.5.CC3	C78
G VERIFY MCCULUS 10 CHECK DIGITS #AUTCCODER SUBROUTINE	T 14C1	01.0.001 12.1.003	C75 C72	GIVEN ACCRESS #CCRE SEARCH FOR BRANCH INSTRUCTIONS TO A 1401 01.4.162	078 648
C VERIFY MCCULUS 11 CHECK CIGITS #AUTOCCCER SUBROUTINE GGRAM FCR IBM #CHECK PCINT SUBROUTINE AND RESTARTING P	. 1401	12.1.004	C72 C49		C47 C53
#LEFT ZERC CHECK PROGRAM # CHECK-FORM WORDS	144C	C2.6.CC2 14.0.CC8	C77 C74	ICN #CCRL-8 THIRTEEN VARIABLE SIMPLE CCRRELAT 14C1 C6.C.CC6	C61 C45
#LABEL CHECKES /SPS/	1461	01.1.046	C34	#GENERAL TAPE CCRRECTION PROGRAM 14C1 01.4.113	€45
E IBM 1311 ID LABEL CHECKING MACRCS FCR 1401/1440/1460#SIMP ATE AND/CR SEQUENCE CHECKING PROGRAM #GENERALIZED TABL	L 14C1	C1.4.C56	C54 C41	ESSION ANALYSIS AND CORRELATION COEFFICIENTS#REGAN - 4K REGR 1401 C6.C.CC8	C61 C61
#AUTCCODER SEQUENCE CHECKING PROGRAM #SYMBOLIC LABEL CHECKING, ANY MACHINE S.P.S.		C1.4.132 C1.1.C3C	C46 C33		C61 C51
#CHECKPCINT AND RESTART PROCEDURE #CHRISTMAS CLUB PROGRAMMING PACKAGE	14C1	C1.4.102 C1.4.192	C44 C5C	#SCLUTION OF BANK COST ALLOCATION BETWEEN DEPARTMENTS 1401 05.0.006	C61 C66
E VS. ANALYSIS, BCE CIRCULAR A-54 #LEA	S 1401	14.0.014	C74	RCDLCE, GANG-PUNCH, CEUNT & PRINT #RGCP - REP 14C1 13.1.COS	C72
# FOR LIBRARY CIRCULATION CONTROL #CIRCULATION SYSTEM	1401	13.C.CC1 1C.3.C60	C8C C71	EXTRACT PROGRAM FOR CREDIT UNIONS #INCIVIDUAL LEDGER 1401 10.3.055	C24 C71
TIVE LIST WITH FOUR CLASSES OF TOTAL AND HEADINGS #SELE #CLASSIFICATION USING RATING FORM DATA		01.4.161 14.0.023	C48 C75	UPDATE PROGRAM FOR CRECIT UNIONS #INDIVIDUAL LEDGER 14C1 1C.3.056 SIS #CRITICAL PATH LISTING AND RESOURCE ANALY 14C1 1C.3.028	C71 C68
#DECK CLEANER I # CLCCK-CUT CARCS.	1401	C1.4.149 1C.3.043	C47 C65	#CRITICAL PATH MANAGEMENT GAME 14C1 1C.3.059	C71 C66
#TLUO1 TABLE LCCKUP CLCSED SUBRCUTINE	14C1	C1.4.1C9	C 4 4	NCDE NUMBERING- #CRITICAL PATH SCHEDULING WITH ARBITRARY 1401 10.3.019	C67
ICN CF CUACRATIC #A CLESED SUBROUTINE FOR THE COMPLETE SCLUENERAL DISTRIBUTION CLOSED SUBROUTINES IN MACRO FORM #	G 14C1	C1.4.21C	658 651	#1401/141C CRCSS REFERENCE LISTING PROGRAM 14C1 C1.1.C4C	C67 C34
#CHRISTMAS CLUB PREGRAPMING PACKAGE #1401 CCBCL		C1.4.192 CB-C7C	C5C CC2		C53
#SYSTEM/360 CCBCL ECIT #CCBCL EXPANDER PROGRAM #CCBCL FCR 18P 144C/1401/1460 #CCBCL LANGUAGE CONVERSION PROGRAM NO TESTING AIGS FCR CCBCL THROUGH A LOGIC TRACE #ECCUMENT	1401	SE-13X C2.C.C41	C14 C57	AUTCCGRRELCGRAM AND CRESSCERRELCGRAM # 1401 01.5.008	C53
#CCECL FCR IEM 144C/1401/1460	1440	CB-C73	015	ING CURVE #CCST CURVE ESTIMATION AND PROJECTION BY LEARN 1401 10.3.011	066
NO TESTING ALCS FOR COBOL THROUGH A LOGIC TRACE #DECUMENT	A 14C1	CB-7C1 01.4.223	C C 2 C 5 3	CASTING #PELYNOHIAL CURVE FIT FOR ECONOMIC ANALYSIS AND FORE 1401 07.0.003	C62 C63
DECK TO AU-CO8 #CCCAC - 14C1/1440/146C CCNCENSED OBJECT NY AND #CCRP CCCE-NUMERIC ENCCCING OF BUSINESS, CCMP	14C1 A 14C1	C1.4.224 C1.4.115	C53 C45	THEGENAL PELYNEMIAL CURVE SMCGTHING FOR ACTUARIAL #GR 1401 06.C.C17	C62 C63
CDER - MATHEMATICAL CCCING SYSTEM SIS AND CORRELATION CCEFFICIENTS#REGAN - 4K REGRESSION ANAL	C 144C	01.3.001	C76 C61	440 OPS CN 1440 #CVCCA TC CCNVERT 14C1 ALTCCODER CPS TC 1 144C C2.5.CC2	C77
#CARC CCLLATCR SIMULATOR	1401	C1.4.212	C52	ICNS CREINARY CAILY CYCLE PROGRAMS #CCNSOLICATEC FUNCT 14C1 IL-C2X	833
#TWC CCLUMN ANALYSIS RCDUCE CNLY CERTAIN CCLUMNS ON THE IBM 1401 #RE	P 14C1	C1.4.214 C1.4.221	052 052	# ANALYZER CASCISFA 14C1 C1.4.215	CC8 C52
USING NABAC MCDEL #CCMMERCIAL AND SAVINGS TELLER SIMULATIO #1440-1070 PROCESS COMMUNICATION MONITOR FOR 1401/40/60		10.2.C1C SV-CSC	C65 C27		C53 C69
#1440-1070 PROCESS COMMUNICATION MONITOR FOR 1440 BASIC #1460-1070 PROCESS COMMUNICATION MONITOR FOR 1461 AUTOCODE	144C	SV-CS1	C27 C31	CF CAYS BETWEEN TWC CATES SUBROUTINE /CTCALC#CALCULATE NUM. 1401 03.0.011	C58
#1460-1070 PRCCESS COMMUNICATION MONITOR FOR 1401 BASIC	1460	SV-C51	C31	C#CALCULATE NUM. OF CAYS BETWEEN TWO DATES SUBROUTINE /CTCAL 14C1 03.0.011	C58
401/1460 #CCMMUNICATIONS IDCS /1026/DDC/ FOR THE DATA CHANNEL #CCMMUNICATIONS IDCS FOR THE 1448/DIRECT	144C	IC-C11	CCS C23	RTRAN PREPRCCESSOR, CCT /AN L2C1/ /CARC/ #FC 14C1 13.2.CC2	C41 073
#146C/1401 CCPPUNICATIONS ICCS 1C26/CDC/ FCR THE 1	4 144C 1460	IC-012 IC-011	C23 03C		C23
#DATA COMMUNICATIONS LITILITY PROGRAM -IBM 100 TAPE CUPLICATION OR COMPARE	S 14C1		C18	TTING #PANAGEMENT CECISION MAKING LABORATORY AUTOMATIC PLC 1401 10.2.007	C64 O65
#TAPE COMPARE ERROR PRINT/CUPLICATE	1401	01.4.123	C45	C1 TAPE #CECISION TABLE MAINTENANCE ON THE 18M 14 14C1 C2.C.C38	C57
#GENERALIZED TAPE COMPARE MARK III.	1401	01.4.C77 C1.4.155	C42 C51	#PRINT CECISION TABLES 14C1 01.4.126	C6C G45
#GENERALIZEC KWIC COMPILE AND GO INCEX SYSTEM 4K TAPE #MCDIFIED FORTRAN COMPILER		1C.3.C22 C2.C.C32	C 6 7 C 5 6		CC4 C34
1401/1440/146C TYPE CCMPOSITION PROGRAM VES #GECMETRIC CCMPUTATION PROGRAM INCLUDING SPIRAL CU	# 14C1	14-0-018	C74 C63	#DECK CLEANER I 14C1 C1.4.149	C47 C77
IPULATION ON A 1401 COMPUTER #WUSIC - MUSIC PORT FOR SMALL 1400 COMPUTER #INSTALLATION PROGRESS R	S 14C1	11.C.C12	C72	60 CGNDENSEC CBJECT DECK TC AU-CO8 #CCCAC - 14C1/144C/14 14C1 C1.4.224	053
26 CPERATING SYSTEM COMPUTER ASSISTED #14C1/146C-1	C 14C1	CS-CS2	C38	ID /AUTCMATIC INPUT DEFINER/ /CARC/ #A 14C1 01.4.144	C34 C47
ER#OPERATING SYSTEM COMPUTER ASSISTED INSTRUCTION COURSEWRI 26 OPERATING SYSTEM COMPUTER ASSISTED INSTRUCTION #1440-1	C 144C	CS-CS1	C24 C25	#CELETE-FERGE FOR THE SHARE LIBRARY 14C1 13.1.C27	C62 C73
#CAPERTSIM - CCMPUTER ASSISTED PROJECT EVALUATION AN REGRESSION ANALYSIS COMPUTER PROGRAM		10.2.C11 C6.C.CC7	C65 C61	#CEMANC CEPCSIT ACCCUNTING 144C FB-C3X	C21
	# 14C1	C6.C.C11	C62 C41	#CEMAND DEPOSIT PROGRAM PACKAGE 1401 FB-C1X	CC5
#CCNCENSE FARGO #UNPACK CONCENSED CARCS	14C1	01.1.053 01.4.067	C35 C42	#A PREGRAM TO DEMONSTRATE THE USE OF THE IBM 1440/1311 1440 13.C.CC1	080
#ANTIC A LIST OF CONCENSED CARDS	14C1	C1.4.198	CSC	#1240/1440 PRECF CF DEPOSIT AND CASH LETTER WRITING 1440 10.2.CC2	C21 C79
M TC LOAD ALTCCCCER CONCENSED PROGRAM #PROGR	A 14C1	C1.4.224 01.4.134	C53 C46		CC1 CC5
AMMING, TESTING AND CONCENSING #APTCC - AUTOMATIC PROG TION #CONCENSING AFTER REPORT GENERATING OPER	R 1401 A 1401	01.4.094	C43 C54	# CEPRECIATION STUDIES AND TEST OF FIT 14C1 C6.C.C17	C62 C62
#SELF CONCENSING MCCIFIED FARGO	1401	C1.4.151 C1.4.159	C5C C48	WCRK QUANTITIES AND DESIGN DATA #HIGHWAY EARTH 1401 CS.2.CC7	C63
	4 144C	C2.1.CC1	076 CC8	D INVALIC CHARACTER DETECTION PROGRAM #ONE CAR 1440 02.4.001	C77
N PREGRAM #CCNSCLICATEC FUNCTIONS CREINARY VALUATI	C 14C1	IL-C3X	CCS	RECT ACCESS STERAGE DEVICE INCEX SECUENTIAL FILE #DI 1401 C1.4.215	C26 C52
LIBRARY CIRCULATION CONTROL # FOR #1401/1440/1460 JCB CONTROL MONITOR ON DISK	1401	01.4.220	C8C C52	CCDER PREGRAM LCGIC EIAGRAMMER #14C1/141C ALTC 14C1 C1.4.128	C33
- 1401 INPUT/EUTPUT CONTROL PROGRAM #7040/44	T 14C1 14C1	CN-C3X IC-152	CC3		C43 C63
#IBM INPUT/CUTPUT CENTREL PREGRAM /IGCP/ FCR IBM #INPUT/CUTPUT CENTREL SYSTEM	1401	IC-C77 IC-C65	CIC	EV NCCIONS 10 CHECK CICITS WANTCCCCED SURDCULINE TO VEDI 14C1 12 1 CC2	C72 C72
#INPUT/CUTPUT CONTROL SYSTEM	144C	IC-C1C	C23	T CCLLARS AND CENTS DIGITS IG #SUBROUTINE TO CONVER 1401 14.0.008	C74
#PRCJECT CONTROL SYSTEM SHORT INPUT/CUTPUT CONTROL SYSTEM #SICCS-	A 1401		C 2 4 C 5 4	NTIAL FILE #CIRECT ACCESS STGRAGE DEVICE INCEX SECUE 1401 01.4.215	C53
#PERICCICAL CONTROL SYSTEM #INPUT CUTPUT TAPE CONTROL SYSTEM /REVISED/		1C.3.C57 C1.4.C11	C71 C39		C57
#CCNTRCL TOTAL ROUTINE #CCNTRGLLER	1401	C1.4.C74 C2.C.C16	C42 C53	# 8K CISK 14C1 LM-C79	C11 C17
#CCNTRCLLER BM 1311 DISK FORMAT CONVERSION #IBM 14C5 TC	1440	C1.1.CC1	C75	CONTROL MONITOR ON CISK #1401/1440/1460 JCF 1401 01.4.220	C52
LER SIMULATION DATA CONVERSION AND SUMMARIZATION PROGRAM#TE	L 14C1	10.2.009	C65	#1401/1311 DISK ACCRESS LTILITY 1401 C1-4-176	075 049
CSE MACROS FOR DIV. CONVERSION OF DATES TO #GENERAL PUR AND II /SIMPLIFIED CONVERSION OF OTHER PUNCHES/ #SCCOP	I 14C1	C1.4.C12	041 039	GRAM FOR SYSTEM/360 CISK AND TAPE #1401/1460 TIMING PRE 14C1 LM-C12	C76
#CCNVERSION OF SPS TO AUTOCODER #DEMAND DEPOSIT CONVERSION PROGRAM		C1.4.16C FB-12X	C48 CC1	FCR 1401/144C/1460 CISK AUTCCCCER #TYPEWRITER MACRES 14C1 C2.C.C4C	C57
#CGBCL LANGUAGE CONVERSION PROGRAM FORTRAN II LANGUAGE CONVERSION PROGRAM	1401	CB-7C1	CC2 CC7	G #14C1/1311 CISK FILE CRGANIZATION ROUTINES 14C1/146 14C1 UT-C52	C17 C29
EM/360 RPG MCCEL 2C CCNVERSICN PRCGRAM #1401 FARGE TC SYS	T 14C1	C2.C.C36	C57	#CCPY 1311 CISK FILE TC 1ECF 14C1 C1.4.182	C45
#LESS AND DATE CONVERSION PROGRAM #SPS TO ALTOCODER CONVERSION PROGRAM	1440	1C.3.C38 03.3.CC1	069 079	#RADIC - RANDOM DISK INPUT/ CUTPUT SUBROUTINE 144C C1.4.CC1	C54
PREGRAMMED ACCRESS CONVERSION TECHNIQUES#CIVISION AND RACI	X 14C1	C1.4.213 C1.4.C81	C52 C43	RY #1401/144C CISK MANAGEMENT CECISION MAKING LABORATO 1401 10.2.012 TOR FOR PROGRAMS ON CISK PACKS #1401/1311 MONI 1401 02.0.021	C65 C55
PREGRAMMED ACDRESS CONVERSION#GENERAL APPROACH TO AUTOMATI #SUBROLLINE TO CONVERT DOLLARS AND CENTS DIGITS TO	1401	01.4.034	C4C G74	#14C1-1311 CISK PRINT PREGRAM 14C1 C1.4.211	C52
D FCRMAT #CCNVERT SPS CARC FCRMAT TO AUTCCODER CA N 14C1 #CVZZA TC CCNVERT 14C1 AUTCCEER CPS TC 144C CPS	R 14C1	C1-4-131	046 051	#REPAIR CISK RECORC 14C1 C1.4.181	C49
N 1440 #CVCOA TC CONVERT 1401 AUTOCOCER CPS TO 1440 CPS	C 1440	02.5.CC2	C77	#SCRT 54 CISK RESIDENT 144C C1.6.CC1	C5C C76
ED 'SPS TC ALTCCODER CONVERTER #SCPHISTICA # CCRELOAC CONVERTER		C1.4.165 C1.4.224	C48 C53		C37
			vi		

TITLE S	YSTEM	FILE NC.	PAGE	TITLE SYSTEM FILE NC.	PAGE
#144C-1311 DISK SCRY PACKAGE		02.1.003	C76	#FINANCIAL ANALYSIS PROGRAM 14C1 FI-C5X	CC6
# CISK SCRT/MERGE PROGRAM /16K/ FCR 1401/144C/1460 CISK SYSTEMS #1231 READ MACRO	1440	LR-011 02.4.002	01C 677	#1311 CISK RECCRC FINCER 14C1 C1.4.187 #AUTC RATING FCR FIRE AND CASUALTY COMPANIES 14C1 IF-C1X	C5C CC7
#CISK UTILITY PREGRAMS /1460 AUTOCCDER /CN DISK/ #1401/1440	1401		03C CC2	MECHNERS RATING/ #FIRE AND CASUALTY INSURANCE PROGRAMS /HC 144C IF-CBX NERAL DISTRIBUTION/#FIRE AND CASUALTY INSURANCE PROGRAMS /GE 144C IF-C9X	C22 O22
# AUTOCCEER /CN DISK/	144C	1C-C68 SV-C5C	CC9 C27	TG RATING/ #FIRE AND CASULATY INSURANCE PROGRAMS /AU 1440 IF-07X STUDIES AND TEST OF FIT # DEPRECIATION 1401 06-0.017	C22 C62
OGRAM GENERATOR /CN CISK/ 1401/1460 #1401/1311 REPORT PR ANGE TAP-OFFICE AND DISPLACEMENT METER CALCULATIONS #FL	1401	C9.6.CC1	C12 C64	EE CRTHCGCNAL CURVE FIT #FIRST AND SECOND DEGR 14C1 06.C.16 G #POLYNCMIAL CURVE FIT FOR ECCNOMIC ANALYSIS AND FORECASTIN 14C1 07.C.003	C62 C63
AGE, RETRIEVAL, AND DISSEMINATION SYSTEM FOR INFORMATION STOR #SELECTIVE DISSEMINATION OF INFORMATION SYSTEM	14C1	CR-Clx	07C 0G3	#SHCRT ICCS FCR FIXEC LENGTH RECORCS 14C1 01-3-C1C #FIXED FCINT SQUARE RCCT SUBROUTINE 14C1 03-0-C2C	C38 C59
FCRM #GENERAL DISTRIBUTION CLOSED SUBROUTINES IN MACRO #GENERAL DISTRIBUTION PROGRAM FOR A TAPE 1401	1401	C1.4.210 IF-03X	C51 CC8	#FIXIT UTILITY PROGRAM 1461 C1.4.17C CALCULATIONS #FLANGE TAP-CFFICE AND DISPLACEMENT METER 1401 C9.6.C01	C49
#GENERAL CISTRIBUTION PROGRAM #DISTRIBUTION TAPE REEL FOR SHARE	1401	IF-C2X 13.1.C32	C08 C73	#FLCATING POINT SUBRCUTINES /NORMALIZEC/ 14C1 C3.0.CC4 #FLCGEN - IEM 14C1 FLCW CHART GENERATOR 14C1 C2.0.C22	C64 C58
E PROGRAMS /GENERAL CISTRIBUTION/#FIRE AND CASUALTY INSURANC PURPOSE MACROS FOR CIV. CONVERSION OF CATES TO #GENERAL	144C	IF-CSX	022 C41	#FLCCD PLAIN ANALYSIS PRCGRAM 14C1 CS.2.C22	C56 C63
EATURE MULTIPLY AND DIVIDE MACROS #SPECIAL F	1401	C1.4.11C	045	#FLOGEN - IBM 1401 FLCW CHART GENERATOR 1401 C2.C.C22 #AUTEMATIC FLCW CHART TECHNIQUE 1401 C2.C.C19	°C56 C55
MULTANECUS MULTIPLY DIVICE SUB-RCUTINE #14C1/146C SI	1401		C47 C6C	#\$YSTEMS FLOW CHARTER 1401 02.c.c35 AM #FLOWCHARTING AND DOCUMENTATION AID PROGR 1401 02.c.c24	057 056
#FAST CIVICE SUBRCUTINE FCR 14C1/144C/146C CRDIMER-MULTIPLY CR CIVICE UTILITY PROGRAM #14C1/144C M	1401	03.0.C25 03.C.C43	059 060	CNOMIC ANALYSIS AND FERECASTING #POLYNOMIAL CURVE FIT FOR EC 14C1 C7.0.CC3 #FERECASTING BY EXPENENTIAL SMOOTHING 14C1 1C.3.CO8	C63
NVERSIGN TECHNIQUES#DIVISION AND RACIX PROGRAMMED ADDRESS CO UGH A LOGIC TRACE #CCCUMENT AND TESTING AIDS FOR COBOL THRO	1401	C1.4.223	C43 C53	P RCUTINE IN ACTUAL FCRM UBROUTINES IN MACRO FCRM #GENERAL CISTRIBUTION CLOSED S 14C1 C1.4.21C	C78 C51
#BANK DCCUMENT SCRT PROGRAM #FLONCHARTING AND DCCUMENTATION AID PROGRAM		SM-G30 G2.C.C24	CC1 056	CATION USING RATING FORM CATA #CLASSIFI 14C1 14.0.023 #FORM WRITING SUBROUTINE /FORM/ 14C1 01.4.163	C75
#IBM DCCUMENTATION AIDS SYSTEM #PAPER AND PROGRAM DCCUMENTATION ECITOR		SE-12X Cl.4.193	013 050	CRE IN PROGRAM LCAC FCRMAT #PLNCH C 1440 02.5.C03 T TO AUTCCCCER CARC FCRMAT #CCNVERT SPS CARD FCRMA 1401 01.4.131	C78 C46
#DOWGO LOAD AND ON REPORT GENERATOR		14.0.C08 01.3.C17	C74 C38	05 TC IBM 1311 DISK FCRMAT CONVERSION #IBM 14 1401 C1.5.C21 #CONVERT SPS CARC FCRMAT TO ALTCCCCER CARC FCRMAT 1401 C1.4.131	054 C46
#BINARY TAPE DUMP #MCCIFIEC CUMP	14C1	C1.4.CC8 C1.4.124	039 045	#FCRTRAN 14C1 FC-C5C #MACBACY 8K 1440 FCRTRAN 144C C1-3-CC2	007 076
#SYMBOLIC CORE DUMP #CORE-TC-CARC DUMP	14C1	01.4.141 01.4.148	C47 G47	#MCCIFIEC FCRTRAN CCMPILER 14C1 C2.C.C32	C56
	1401	C1.4.158 C2.7.CC4	C48 C78	#14G1/4O/6O FCRTRAN IV CISK . 14C1 FC-C51	CC7
#SELF-LCADING CORE CUMP #CORE DUMP ROUTINE	1440	02.7.006	C78 C42	#1401/60 FCRTRAN IV TAPE 1401 FC-C52 E MULTIPLY-CIVIDE #FCRTRAN MCCIFICATION WHICH ELIMINATES IF 1401 02.0.025	CC7 C56
CODER SYMBOLIC CORE DUMP ROUTINE #AUTO	144C	C2.7.CC1	C77	D/ #FCRTRAN PREFRCCESSCR, CCT /AN L2C1/ /CAR 14C1 13.2.CC2 #FARGC FCRTY 1440 C1.5.CC1	C73 C76
#CORE CUMP ROUTINE IN ACTUAL FORM #TAPE CUPLICATION	1401	C2.7.CC3 C1.4.1C8	C78 C44	NUMBER ASSIGNER FCR FCURTEEN-C-CNE USERS /SNAFU/#SECUENTIAL 14C1 C1.4.C6C #MOTCR FREIGHT REVENUE ACCCUNTING 144C ST-C2X	C41 C27
#TAPE DUPLICATION OR COMPARE FOR 8K 1401B #TAPE DUPLICATION OR COMPARE	1401	01.4.C77 13.1.C01	C42 C72	#CCNSCLIDATEC FUNCTIONS CRCINARY CAILY CYCLE FROGRAMS 1401 IL-62X #CCNSCLIDATEC FUNCTIONS CRCINARY VALUATION PROGRAM 1401 IL-C3X	608 009
#CESIGN EARTHWORK /CARC/ #HIGHWAY EARTHWORK QUANTITIES AND DESIGN DATA	1401	C9.2.C15 09.2.C07	C63 C63	OGRAM /CCNSCLICATEC FUNCTIONS CRCINARY/ #THE 62 CFC PR 14C1 IL-CIX CAL PATH MANAGEMENT GAME #CRITI 14C1 10-3-059	CC8
60 #CCNVERTER TO EBCCIC OF HEXADECIMAL OUTPUT OF SYSTEM/3 OHIAL CURVE FIT FOR ECONOMIC ANALYSIS AND FORECASTING #POLYN	1401	C7.C.CC3	C57 C63	#THE GAME BRIDG-IT ON THE 14C1 14C1 11.0.01C #TUE FILE GANG PUNCH PROGRAM 1401 01.4.167	C72 C49
#SYSTEM/360 COBCL ECIT -ASSEMBLY CHECK AND ECIT #1401/1460 PACE PRE	1401	SE-13X 01.1.C51	C14 C35	#REPRODUCE GAMG PUNCH SIMULATOR 1440 C3-1-CC1 #RGCP - REPRODUCE, GAMG-PUNCH, COUNT & PRINT 14C1 13-1-CC9	075 C72
· #ECIT /ECITING CATA INPUT FOR VALIDITY/ RE-ASSEMBLY PROGRAM EDIT AND REFERENCE /PAPER/ #14C1/1410 P			033 034	SET REPRODUCING AND GANGPUNCHING CR #FOURTEEN C ONE OFF 14C1 14.0.CC4 #GENERALIZED CARC IMAGE UPDATE PROGRAM 1401 01.4.2C6	C74 C51
#AUTGEDIT-1401 ECIT FOR 1410 AUTOCCCER PROGRAMS -ASSEMBLY CHECK AND ECIT LISTING #PAGE - PRE	1401	01.1.014	C33:	#INFCRM 2 - GENERALIZEC INFCRMATION RETRIEVAL SYSTEM 1401 10-3.042 STEM 4K TAPE #GENERALIZEC KNIC COMPILE AND GC INCEX SY 1401 10-3.022	069 C67
	1401	01.4.099	C44 C74	#GENERALIZEC LIST PROGRAM 1401 01.4.066 #GENERALIZEC PLOT PROGRAM 1401 14.0.002	C42 G74
OGRAM DCCUMENTATION ECITOR #PAPER AND PR #SEE - SELECTIVE EIGHTY-EIGHTY PROGRAMS	1401	C1.4.193 O1.4.C36	05C 04C	CKING PROGRAM #GENERALIZED TABULATE AND/OR SEQUENCE CHE 1401 01.4.056	C41
R /REPRODUCE, EMIT, ELIMINATE, RE-ARRANGE/ #REE MODIFICATION WHICH ELIMINATES THE MULTIPLY-CIVIDE #FORTRAN	1401	C1.4.C68	C42	#GENERALIZED TAPE COMPARE MARK III. 1401 01.4.155	C4C C51
RG-REPRODUCE AND/CR EMIT ALPHANUMERIC /12-9/, #REP	14C1	01.4.118	C56 C45	#GENERALIZEC THREE TAPE SCRT PROGRAM 14C1 01.2.C2C ABTEK, A PROGRAM TO GENERATE A PROGRAM FROM TABULAR INPUT #T 14C1 01.3.C15	C37
#REER /REPRCDUCE, EMIT, ELIMINATE, RE-ARRANGE/ # EMITTING #CORP CCCE-NUMERIC ENCCDING OF BUSINESS, COMPANY AND	1401	01.4.068 14.C.CC4	042 074	NE AUTOMATIC REPORT GENERATING CPERATION#FARGC /FOURTEEN-G-O 14C1 RG-C45 ENSING AFTER REPORT GENERATING CPERATION #CCNC 14C1 02.C.C12	C12 C54
#ENGINEERING SCHECULING SYSTEM	14C1	C1.4.115 EX-C1X	C45 CC5	#REPCRT PRCGRAM GENERATCR 14C1 RG-C48 ASIC REPCRT PRCGRAM GENERATCR #8 144C RG-C21	C13 C25
#TRACE WITH EASY ENTRY AND EXIT LTIPLE SIMULTANEOUS EQUATION AND MATRIX INVERSION PROGRAMMMU	14C1	02.7.CC5 C5.C.CC3	C78 C6C	1311 REPCRT PROGRAM GENERATOR #144C / 1440 RG-020 ASIC REPCRT PROGRAM GENERATOR #1440 STERLING B 1440 RG-721	025 026
SIMULTANEOUS LINEAR EQUATIONS #SOLUTION TO SIMULTANEOUS LINEAR EQUATIONS # USING	1401	05-0-006	061 061	LCAD AND GC REPORT GENERATOR #CChGC 14C1 01.3.C17 IBM 1401 FLCW CHART GENERATOR #FLCGEN - 14C1 C2.c.c22	C38 C56
G SYSTEMS OF LINEAR EQUATIONS ON THE #A PROGRAM FOR SOLVIN # EQUATIONS ON THE 18M 14C1	14C1	C3.C.C16	C72 C58	#PERT INPLT GENERATOR 14C1 1C.3.046 1311 REFORT PROGRAM GENERATOR /CN DISK/ 1401/1460 #14C1/ 1401 RG-G32	C7C C12
#TAPE CCMPARE ERRCR PRINT/CUPLICATE #CARD SYSTEM ERRCR-CETECTION AICS	14C1	01.4.123 AT-C17	045 601	#PATCH GENERATOR FCR AUTOCCCER TESTING 1401 C1.1.C49 #REPCRT PROGRAM GENERATOR PRE-ECIT 1401 C1.3.C05	C35
AND PRINTING #ESCAPE /EFFCRTLESS SYSTEM OF CALCULATING #LESS LEAST-COST ESTIMATING AND SCHEDULING /4K-SCHEDULING	1401	10.3.001	039 065	#REPCRT PROGRAM GENERATOR 2K 14C1 RG-033 #REPCRT PROGRAM GENERATOR 2K 1440 RG-024	C12 C25
16#LESS /LEAST-COST ESTIMATING AND SCHEDULING/ 8K, 12K, AND RVE #COST CURVE ESTIMATION AND PROJECTION BY LEARNING OU	1401	10.3.002	065 066	ASIC REPORT PROGRAM GENERATOR 4K #14C1/146C B 14C1 RG-C22 SPIRAL CURVES #GECMETRIC COMPUTATION PROGRAM INCLUDING 14C1 C9.2.C17	C12 C63
ER ASSISTED PROJECT EVALUATION AND #CAPERTSIM - COMPUT RESS TRANSFORMATION EVALUATION PROGRAM # RANDOM ADD	1401	10.2.011	065 043	#LCAD AND GC ASSEMBLER 1401 01-1-055	C35 C67
# EVERYTHING/ #EXACT TAPE TO PRINTER /CARD/	1401	01.4.C1C 01.4.C27	039 C39	ED KHIC CCMPILE AND GC INDEX SYSTEM 4K TAPE #GENERALIZ 1401 10.3.022 #DONGC LCAD AND GC REPORT GENERATOR 1401 C1.3.017 E VERSUS TIME SCALE GRAPHICAL PRINTCUT #LCG SCAL 1401 06.0.019 1440 02.5.004	038 063
#TAPE EXECUTIVE PROGRAM #PROGRAM TAPE EXECUTIVE ROUTINE	14C1	01.4.C15 C1.4.C52	039 C41	#GULP 4 1440 02-9.004 #GUTS-1401 GENERAL UTILITY TAPE SEARCH 14C1 01.4.070	C78 042
WITH EASY ENTRY AND EXIT #TRACE #COBCL EXPANDER PROGRAM	1440	02.7.005 02.0.041	078 C57	LASSES OF TOTAL AND HEADINGS #SELECTIVE LIST WITH FOUR C 1401 C1.4.161 #HEURISTIC CORRUGATOR SCHEDULING PROGRAM 1401 C1.4.200	C48
#FORECASTING BY EXPONENTIAL SMCCTHING #MULTI PURPOSE EXTRACT AND SELECT	1401	1C.3.0C8 C1.5.C1C	C66 C53	VERTER TC EBCCIC CF HEXAGECIMAL CUTPUT CF SYSTEM/36C #CN 14C1 C2.C.C.33 DATA #HIGFWAY EARTHWORK CLANTITIES AND DESIGN 14C1 09.2.C.C7	051° 057 063
#INDIVIDUAL LEDGER EXTRACT PROGRAM FOR CRECIT UNIONS # EXTRACTION METHOD	14C1	10.3.C55 C3.C.C19	C71 C59	Y CATA STATISTICAL #HISTORY REPORTING SYSTEM LIBRARY ACTIVIT 1401 05-22-067 #HECMECHNERS RATING PROCESSM 1401 IF-CEX	C71
E. 2 TO THE N POWER FACTORIAL DESIGN #ANALYSIS OF VARIANCE #FALLOUT	1401	C6.C.C12	062	#HESPITAL ACCOUNTS PAYABL® 1446 UH-G3X	CO8 C28
#CCACENSE FARGO	1401	11.C.CC7 C1.1.C53 C1.4.191	C72 C35 C5C	MATION AND REPORT #HCSPITAL CANCER CERVICAL CASEFINDING SLM 1440 11.5.CC1 #HCSPITAL GENERAL LECGER #HCSPITAL INVENTORY PROGRAM 1440 LH-C4X	08C 628
ENERATING CPERATICN#FARGC /FGURTEEN-O-CNE AUTCMATIC REPORT G #TAPE FARGG FCR IEM 1401	14C1	RG-C45	C12	#HCSPITAL PATIENT BILLING 144C UH-C1X	C 2 8
#FARGO MCDIFIEC #FARGO FERTY #FARGO FER IEM 1401	144C	C2.C.C23 C1.5.CC1	C56 C76	#HCSPITAL PAYRCLL 1440 UH-C6X UNTS RECEIVABLE FCR HCSPITALS #ACCC 144C UH-C2X	028 028
TCH LINKAGE #FARGO MULTIFLY ROUTINE WITH AUTOMATIC PA	14C1		C54 C55	MINATION OF PAYROLL HOURS FROM 357 JOB-IN AND #CETER 14C1 10.3.C43 HE 4K IBM #CNE HUNGRED THOUSAND NODE LESS PROGRAM FOR T 14C1 10.3.C26	C69
#FARGG MULTIPLY-CIVICE II #FARGG CNE-SIXTY-G RSICN/ #FARGG STAGE II /FXPANTET 4K CART 14C1 VE	1401	C2.C.C2C C2.C.C18	055 055	#HYPERTAPE UTILITY PROGRAMS 14C1 UT-C67 E AUTOMATIC PLOTTER I/ #F A P I PROGRAM /FOURTEEN-C-CN 14C1 14.0.005	017 C74
ICN PROGRAM #1401 FARGO TO SYSTEM/360 RPG MCCEL 20 CONVERS	1401	02.0.036	C54 C57	#PLCT IA /REVISEC/ 14C1 14.C.CC1 46C#SIMPLE IBM 1311 IC LABEL CHECKING MACROS FCR 14C1/144C/1 14C1 01.5.C2C	C73 C54
#SPECIAL FEATURE MULTIPLY AND CIVICE MACROS # SPECIAL FEATURE REQUIREMENT	1401	C1.4.11C C2.0.C25	C45 C56	#GENERALIZEC CARC IMAGE UPCATE PRCGRAM 14CI 01.4.2C6 #14C5 hhclesale impact 14Cl dh-c2x	C51 CC4
AT NEEDS NO SPECIAL FEATURES # PROGRAMS TO FIGURATE STATISTICAL ANALYSIS	1401	06.C.C11	046 062	#1311 WHCLESALE IMPACT 1461 CN-C3X #1311 WHCLESALE IMPACT 144C CN-C4X	CC4 C21
MS ON THE 1405 DISK FILE # DIRECT ACCESS STORAGE DEVI	1401	01.4.215	054 052	#IMPACT SIMULATOR 1401 C1.4.135 #STATE AND LOCAL INCOME TAXES FOR IBM 14C1 TAPE SYSTEM 14C1 14.c.c12	C46 C74
PRCCESSOR STRUCTURE FILE ACCRESS #EILL OF MATERIAL #TUB FILE GANG PUNCH PROGRAM	1440 1401	12.3.001 01.4.167	08C 049	#QUICK KWIC INCEX 14C1 1C.3.035 RCH TECHNIQUE USING INCEX REGISTERS ON #BINARY TABLE SEA 14C1 03.C.034	C68 C59
#NAME AND ACCRESS FILE MAINTENANCE PROGRAM #CARD FILE MERGE	1440 1401	02.9.001	C7E C36	CESS STORAGE CEVICE INCEX SEQUENTIAL FILE #CIRECT AC 1401 01.4.215 KWIC COMPILE AND GC INCEX SYSTEM 4K TAPE #GENERALIZED 14C1 1C.3.C22	052 067
TO SEQUENCE CHECK A FILE OF CARDS ALPHANUMERICALLY #SEGER #1401/1311 DISK FILE ORGANIZATION ROUTINES 1401/1460	1401	01.2.CCS LT-C52	C36 C17	TC PRODUCE MULTIPLE INCEMES #PROGRAM 1401 10.3.037 M #SYNTRAN AN INDEXING ABSTRACTING AND RETRIEVAL SYSTE 1401 10.3.045	C69
#FILE CRGANIZATION ROUTINES #DISK FILE GRGANIZATION ROUTINES	14C1 144C	UT-057 UT-040	C17 C25	EDIT UNIONS #INCIVICUAL LEGGER EXTRACT PROGRAM FCR CR 1401 10.3.055 DIT UNIONS #INCIVICUAL LEGGER UPCATE PROGRAM FCR CRE 1401 10.3.056	C71 C71
ALIZED TAPE ACD AND FILE SEARCH: #GENER #CCPY 1311 DISK FILE TO 180F	1401	C1.4.C44 C1.4.182	C4C 049	EVAL SYSTEM #INFORM 2 - GENERALIZEC INFORMATION RETRI 1401 10-3.042 CARD FILE-IBM 1401 INFORMATION RETRIEVAL SYSTEM #INVERTED 1401 10-3.006	069 065
#FILE UTILITIES EM #INVERTEC CARC FILE-IBM 14C1 INFCRMATION RETRIEVAL SYST	1401	1:T-C51	017 C65	O1 #ASK INFCRMATION RETRIEVAL PROGRAM FOR THE 14 14C1 1C-3.CCC CRM 2 - GENERALIZEC INFCRMATION RETRIEVAL SYSTEM #INF 14C1 1C-3.CC2	066 069
			vii	2101 1401 10:30:042	007

TITLE	SYSTEM FILE NC.	PAGE	TITLE SYSTEM FILE NO	. PAGE
RUS PREPARATION FOR INFORMATION RETRIEVAL #INFORMATION RETRIEVAL DEMO #INFORMATION STORAGE AND RETRIE	#THESAU 1401 10.3.054 1401 11.0.009	C71 C72	USING SIMULTANEOUS LINEAR EQUATIONS # 1401 05.0.00 SOLVING SYSTEMS OF LINEAR EQUATIONS ON THE #A PROGRAM FOR 1401 11.0.00	6 061 3 072
EMINATIONS VETER ECO INCODRATION STORAGE DETRIEVAL	AND DICC 1661 10 2 069	C7C	#RAMAC LINEAR PROGRAM 1401 10.1.00 #LINEAR PROGRAMMING 1401 10.1.00	3 064
VE DISSEMINATION OF INFORMATION SYSTEM #SERVICE INFORMATION SYSTEM	#SELECTI 1401 CR-C1X 1401 10.3.061	003 071	#1400-1311 LINEAR PROGRAMMING SYSTEM 1401 CO-13X	003
46#DICS - 1311/1301 INPUT -CUTPUT SYSTEM FOR THE ROGRAM FROM TABULAR INPUT #TABTEK, A PROGRAM TO GE	14C1/144C/1 14C1 C1.5.CC2 ENERATE A P 14C1 01.3.C15	C53	#LINEAR REGRESSION ANALYSIS 1401 06.0.00 #MULTIPLE LINEAR REGRESSION ANALYSIS 1401 06.0.00	2 061
#AID /AUTCMATIC INPUT CEFINER/ /CARC/ #EDIT /EDITING DATA INPUT FCR VALIDITY/	1401 01.4.144 1401 01.1.020	047 033	ITH AUTOMATIC PATCH LINKAGE #FARGO MULTIPLY ROUTINE W 1401 02.0.01 #ONE CARD 80-80 LIST 1401 01.3.01	5 055
D/ #INPUT CUTPUT TAPE CONTROL SYST	TEM /REVISE 14C1 01.4.011	C7C C39	#ONE CARD 80-80 LIST 1401 01.4.04 AME CROSS REFERENCE LIST # AND DATA-N 1401 01.4.22	040 3 053
AGE FOR IBM #INPUT PROGRAM FOR 7CSC/7CS4 SU #TIGMS - /TAPE INPUT-CUTPUT MACRO SYSTEM/	JPPORT PACK 1401 UT-938 14C1 01.5.003	018 053	#LATCH LIST ALL THE SPECIAL CHARACTERS 1401 01.4.20 #SHARE ORDER CARD LIST AND PUNCH 1401 13.1.02	9 073
#TIGHS - /TAPE INPUT-CUTPUT MACRO SYSTEM/ RADIO - RANCCF DISK INPUT/ CUTPUT SUBRECTINE #INPUT/CUTPUT CONTROL SYSTEM	# 144C 01.4.C01 14C1 IC-065	C76 CC9	#SHARE ORDER CARD LIST AND PUNCH 1401 13.1.02 #ANTIC A LIST OF CONDENSED CARDS 1401 01.4.19 #ECARD LIST OVERFLOW 1401 01.4.13	046
IBM #IBP INPUT/CUTPUT CONTRCL PRCGRAM / #704C/44 - 1401 INPUT/CUTPUT CONTRCL PRCGRAM #INPUT/CUTPUT CONTRCL SYSTEM #SIOCS- A SHCRT INPUT/CUTPUT CONTRCL SYSTEM	1401 IC-152	C1C	#GENERALIZED LIST PROGRAM 1401 01.4.06 INGS #SELECTIVE LIST WITH FOUR CLASSES OF TOTAL AND HEAD 1401 01.4.16	1 048
#SIOCS- A SHORT INPUT/CUTPUT CONTROL SYSTEM THE 1401 #TAPE INPUT/CUTPUT MACROS AND SUBROL	1440 IC-010 1401 01.5.018	C23	#SINGLE CARD LIST WITH SKIP 1401 01.4.04 AND TAPE SELECTIVE LISTER #CARD 1401 01.4.04	5 040
ACCREDAL TARE INCUING DOCCOAN	1/01 01 / 10/	04C 05C	MBLY CHECK AND EDIT LISTING #PACE - PRE-ASSE 1440 01.0.00 #CRITICAL PATH LISTING AND RESOURCE ANALYSIS 1401 10.3.02	1 075 8 068
#INTERPOLIC LANGUAGE INSERT PACKAGE /SYMBOLIC LANGUAGE /SYMBO	#SLIP II 14C1 C1.3.CCE	C68 C37 C37	CARDS ON AN IBM #LISTING OF IBM SYSTEM/360 PROGRAM SOURCE 1401 01.4.21 410 CROSS REFERENCE LISTING PROGRAM #1401/1 1401 01.1.04	0 034
400 COMPUTER #INSTALLATION PROGRESS REPORT F	FOR SMALL 1 14C1 01.3.C21 14C1 01.3.C21	C38	#OBJECT DECK LISTING PROGRAM 1440 02.3.00 #LOAD AND GO ASSEMBLER 1401 01.1.05	5 035
#INSTALLMENT LCAN ACCCUNTING # INSTRUCTION	1440 10.2.CC3 14C1 0S-CS2	C79	#DONGO LOAD AND GO REPORT GENERATOR 1401 01.1.05 #POGRETAL PROGRAM TO LOAD AUTOCODER CONDENSED PROGRAM 1401 01.4.01 #PROGRAM TO LOAD AUTOCODER CONDENSED PROGRAM 1401 01.4.0.13	
M COMPUTER ASSISTED INSTRUCTION #144C-1026 CPER/ M COMPUTER ASSISTED INSTRUCTION COURSEWRITER#OPER/	ATING SYSTE 1440 CS-C91	C25 C24	NCH CORE IN PROGRAM LCAD FORMAT TO-DISK CONSECUTIVE LCAD PROGRAM \$1401/1311 CARD-1440 02.1.00 \$\$700GAM TO LCAD PROGRAMS ON DISK\$\$1440 /1311 CARD-1440 02.1.00	4 055 9 048
#FAST LCAC INSTRUCTION TAPE 1440 STERLING MACRO INSTRUCTIONS	14C1 02.C.C14 # 144C MI-7C2	055 024	TO-DISK CONSECUTIVE LOAD PROGRAM #1440/1311 CARD- 1440 02.1.00 #PROGRAM TO LOAD PROGRAMS ON DISK	076
#DEBIT INSURANCE PROGRAM	1440 IL-G5X	C48 C23	#TAPE SYSTEM LOADER 1401 01.1.03 0-1311 DISK PROGRAM LOADER #1401/146 1401 01.4.18	5 034
#FIRE AND CASULATY INSURANCE PROGRAMS /AUTO RATIN #FIRE AND CASUALTY INSURANCE PROGRAMS /HOMEGWNERS	NG/ 1440 IF-C7X S RATING/ 1440 IF-C8X	C22 022	#TAPE SYSTEM LOADER 1401 01.1.03 0-1311 DISK PROBERM LOADER #1401/46 1401 01.4.18 #MORTGAGE LOAN ACCOUNTING 1440 FB-04X #INSTALLMENT LOAN ACCOUNTING 1440 10.2.00 # SAVINGS AND LOAN ASSOCIATIONS 1401 FB-14X	021 3 079
/#FIRE AND CASUALTY INSURANCE PROGRAMS /GENERAL DI UBROUTINE USING ODD INTEGER METHOD #SQU	ISTRIBUTION 1440 IF-C9X JARE ROOT S 14C1 C3.O.C14	C22 C58	# SAVINGS AND LOAN ASSOCIATIONS 1401 FB-14X # SAVINGS AND LOAN ASSOCIATIONS 1440 FB-13X	006 022
#PERIPHERAL INTEGRATEC PROCESSING SYSTEM #MONTHLY INVESTMENT INTEREST AND PRINCIPAL ACCUMUL	1401 PR-925 LATION 14C1 10.2.CC5	012 C64	TEM #STATE AND LOCAL INCOME TAXES FOR IBM 1401 TAPE SYS 1401 14.0.01 INTOUT #LOG SCALE VERSUS TIME SCALE GRAPHICAL PR 1401 06.0.01	2 074
NVENTORY MANAGEMENT INTERPOLATION TECHNIQUE #CNE CARD INVALID CHARACTER DETECTION PR	ROGRAM 144C 02.4.C01	C67	O AUTOCODER PROGRAM LOGIC DIAGRAMMER #1401/141 1401 01.4.12 FOR COBOL THROUGH A LOGIC TRACE #DOCUMENT AND TESTING AIDS 1401 01.4.22	A 046
#1401/1620 MCDULAR INVENTORY MANAGEMENT SIMULATOR #INVENTORY MANAGEMENT SIMULATOR	1401 10-2-003	CC4 C64	#DECISION LOGIC TRANSLATOR PROGRAM 1401 SE-05X	013
#INVENTORY MANAGEMENT ANALYSIS IQUE #LCT-SIZE INVENTORY MANAGEMENT INTERPOLA	ATION TECEN 1401 10.3.024	C67	K-UP - BINARY TABLE LOOK-UP MACRO #LOO 1401 03.0.030 #TLU01 TABLE LOOKUP CLOSED SUBROUTINE 1401 01.4.100	059 9 044
PROGRAM #INVENTORY MANAGEMENT SIMULATOR #OND INVENTORY OR VALUATION	1401 1C.3.C4C	C68	ION TECHNIQUE #LOT-SIZE INVENTORY MANAGEMENT INTERPOLAT 1401 10.3.02 EPROCESSOR, DOT /AN L201/ /CARD/ #FORTRAN PR 1401 13.2.00 #MACBADY 8K 1440 FORTRAN 1440 01.3.00 LABEL CHECKING, ANY MACHINE S.P.S. #SYMBOLIC 1401 01.1.03	4 067 2 073
#SKILLS INVENIERY PREGRAM	144C UE-C4X 1401 10.3.C49	C28 C70	#MACBADY 8K 1440 FORTRAN 1440 01.3.00 LABEL CHECKING, ANY MACHINE S.P.S. #MACODER - MATHEMATICAL CODING SYSTEM 1440 01.3.00	076
#MIP /MATRIX INVERSE PROGRAM FOR THE IBM 14 EQUATION AND MATRIX INVERSION PROGRAM#MULTIPLE SI RETRIEVAL SYSTEM #INVERTED CARD FILE-IBM 1401 IF	MULTANEOUS 14C1 C5.C.CO3	060	DER MULTIPLY-DIVIDE MACRO #AUTOCO 1401 03.0.02	9 059
#CAPITAL INVESTMENT ANALYSIS /8K/ LATION #MCNTHLY INVESTMENT INTEREST AND PRINCE	1401 10.3.016	065 067	SERCH BINARY SEARCH MACRO #AUTOCODER 1401 03.0.03	6 060
#OVERLAP ICCP #ICCP WITHOUT PROCESS OVERLAP DIE PEAN CHRIST TABLE ICCS		064 019 019	#1231 READ MACRO FOR 1401/1440/1460 DISK SYSTEMS 1440 02.4.00	2 077
#IRM 1401/1460 IOCS /ON DISK/	1401 UL-068	041	#1440 STERLING MACRO INSTRUCTIONS 1440 MI-702	024
#COMMUNICATIONS IOCS /1026/DDC/ FOR THE 1401/1	1460 1401 10-012 #1460/ 1460 10-011	009	/ TAPE INPUT-LUIPUT MACKU SYSIEM/ #TIONS - 1401 01.5.00 RAMMING CONCEPT FOR MACKO-ORIENTED PROBLEMS #MODULAR PROG 1401 01.4.06 MULTIPLY AND DIVIDE MACROS #SPECIAL FEATURE 1401 01.4.11 MULTIPLY AND OLVIDE MACROS #SPECIAL FEATURE 1401 01.4.15	
#SHORT IOCS FOR FIXED LENGTH RECORDS #COMMUNICATIONS IOCS FOR THE 1448/DIRECT DATA	1401 01.3.010	038 023	MULTIPLY AND DIVIDE MACROS # 1401 01.4.15 #TAPE MACROS 1401 02.0.03	
#COMMUNICATIONS IOCS 1026/DDC/ FOR THE 1440	1440 IO-012	023 052	#TAPE INPUT/OUTPUT MACROS AND SUBROUTINES FOR THE 1401 1401 01.4.04 #GENERAL PURPOSE MACROS FOR DIV. CONVERSION OF DATES TO 1401 01.4.06	7 040
ROLL HOURS FROM 357 JOB-IN AND #DETERMINAL # JULIAN DAYS, SIMPLE READ/WRITE	TION OF PAY 1401 10.3.043 E TAPE IOCS 1401 01.4.062	069 041	1 ID LABEL CHECKING MACROS FOR 1401/1440/1460#SIMPLE IBM 131 1401 01.5.02 #TYPENRITER MACROS FOR 1401/1440/1460 DISK AUTOCODER 1401 02.0.04	0 054 0 057
#KEEP -CONTEXT /KWOC/ #KEYWORD-IN-CONTEXT /KWIC/ KEYW	1401 01.4.055	041 003	SYSTEM FOR STORING, MAINTAINING AND RETRIEVING #1405 STAR- 1401 02.0.00 #DECISION TABLE MAINTENANCE ON THE IRM 1401 TAPE 1401 02.0.03	8 054 8 057
D-IN-CONTEXT /KWIC/ KEYWORD-OUT-OF-CONTEXT /KWOC/ #GENERALIZED KWIC COMPILE AND GO INDEX SYST	TEM 4K TAPE 1401 10.3.022	003 067	ME AND ADDRESS FILE MAINTENANCE PROGRAM #NA 1440 02.9.00 # REORGANIZATION MAINTENANCE PROGRAM 1440 12.3.00 PECIAL TAPE UTILITY MAINTENANCE PROGRAM/ #STUMP /S 1401 01.4.06 #GENERAL TAPE MAINTENANCE RUN /CARD/ 1401 01.4.02	1 078 1 080
#QUICK KWIC INDEX	1401 10.3.035 1401 10.3.010	860 860	PECIAL TAPE UTILITY MAINTENANCE PROGRAM/ #STUMP /S 1401 01.4.06 #GENERAL TAPE MAINTENANCE RUN /CARD/ 1401 01.4.02	9 042 9 039
#LABEL CHECKES /SPS/ #SIMPLE IBM 1311 IO LABEL CHECKING MACROS FOR 1401	1401 01.1.046 1/1440/1460 1401 01.5.020	034 054	#INVENTORY MANAGEMENT ANALYSIS PROGRAM 1401 10.3.02 TOMATIC PLOTTING #MANAGEMENT DECISION MAKING LABORATORY AU 1401 10.2.00	3 067 7 064
#SYMBOLIC LABEL CHECKING, ANY MACHINE S.	#1 1401 01.1.030 #1 1401 01.4.222	033 053	#1401/1440 DISK MANAGEMENT CECISION MAKING LABORATORY 1401 10.2.01. #MANAGEMENT DECISION-MAKING LABORATORY 1401 CS-02X	004
GRAM /120-CHARACTER LABEL/ #MULTIPLE TAPE U # LABLE CAPABILITY #LABOR AND MATERIAL PROGRAM	JTILITY PRO 1401 UT-019 1401 UT-025	016 016	#CRITICAL PATH MANAGEMENT GAME 1401 10.3.05 #LOT-SIZE INVENTORY MANAGEMENT INTERPOLATION TECHNIQUE 1401 10.3.02	4 067
ENT DECISION-MAKING LABORATORY	1440 12.3.002 #MANAGEM 1401 CS-02X ISK MANAGEM 1401 10.2.012	080 004 065	O MODULAR INVENTORY MANAGEMENT SIMULATOR 12K #1401/162 1401 CS-03X #BANK MANAGEMENT SIMULATOR 1401 FB-02X #INVENTORY MANAGEMENT SIMULATOR 1401 10.2.00	004 005 3 064
ENT DECISION MAKING LABORATORY AUTOMATIC PLOTTING # LANGUAGE	#MANAGEM 1401 10.2.007 1440 05-090	064	#INVENTORY MANAGEMENT SIMULATOR SELECTION PROGRAM 1401 10.3.03 ALIZED TAPE COMPARE MARK III. #GENER 1401 01.4.19	068
#COBOL LANGUAGE CONVERSION PROGRAM #FORTRAN II LANGUAGE CONVERSION PROGRAM	1401 CB-701 1401 FO-702	002	D/ #FULL MAST /FULL MINNEAPOLIS OF SPS-2/ /REVISE 1401 01.1.00 #MASTER UTILITY SYSTEM 1401 01.5.01	6 033
#SLIP /SYMBOLIC LANGUAGE INSERT PACKAGE/ /CARI #SLIP III SYMBOLIC LANGUAGE INSERT PACKAGE	0/ 1401 01.3.004 1401 01.3.008	037 037	#1440/1311 BILL OF MATERIAL PROCESSOR 1440 ME-02X S #BILL OF MATERIAL PROCESSOR STRUCTURE FILE ADDRES 1440 12.3.00	024
360 BASIC ASSEMBLER LANGUAGE TRANSLATOR #1401 SPS 0X80 REPRODUCE WITH LAST CARD TEST #0NE	TO SYSTEM/ 1401 01.4.195 OF ONE - 8 1401 01.4.188	050 050	#LABGR AND MATERIAL PROGRAM 1440 12.3.00 #MACODER - MATHEMATICAL CODING SYSTEM 1440 01.3.00	2 080 1 076
#LATCH LIST ALL THE SPECIAL CH/ N AND PROJECTION BY LEARNING CURVE #COST CURVI	ARACTERS 1401 01.4.203 E ESTIMATIO 1401 10.3.011	051 066	ANEOUS EQUATION AND MATRIX INVERSION PROGRAM#MULTIPLE SIMULT 1401 05.0.00 #MEMORY ANNOTATION, POST-TEST 1401 01.4.05	3 060 0 040
#LEASE VS. ANALYSIS, BOB CIRCUI -SCHEDULING#LESS LEAST-COST ESTIMATING AND SCH	LAR A-54 1401 14.0.014 EDULING /4K 1401 10.3.001	074 065	#UNIVERSAL MEMORY PRINT 1401 01.4.09 DS/ #MEMORY-DUMP IN BANDS OF 100 POS. /20 CAR 1401 01.4.06	3 041
#HOSPITAL GENERAL LEDGER #INDIVIDUAL LEDGER EXTRACT PROGRAM FOR CRI	1440 UH-05X EDIT UNIONS 1401 10.3.055	028 071	#MEMORY-DUMP IN WORDS /18 CARDS/ 1401 01.4.06 #CARD FILE MERGE 1401 01.2.00	5 036
#INDIVIDUAL LEDGER UPDATE PROGRAM FOR CREE #LEFT ZERO CHECK PROGRAM	1440 02.6.002	071 077	#CARD MERGE 1401 01.2.01 #8K THREE TAPE SORT MERGE 1401 01.2.02	2 037
IC EDITING AND LINE LENGTH MODIFICATION OF RUNNING HORT IOCS FOR FIXED LENGTH RECORDS	#S 1401 01.3.010	074 038	# MERGE PROGRAM 1401 LM-010 #MERGE 5 1440 SM-031	010 026
LING /4K-SCHEDULING#LESS LEAST-COST ESTIMATING NG/ 8K, 12K, AND 16#LESS /LEAST-COST ESTIMATING AT #LESS AND DATE CONVERSION PROG	ND SCHEDULI 1401 10.3.002	065 065	#MERGE 6 1401 SM-063 #MERGE 7 1401 SM-061 CE AND DISPLACEMENT METER CALCULATIONS #FLANGE TAP-OFFI 1401 09.6.00	015 014
#LESS AND DATE CUNVERSION PROGRAM #LESS NODE NUMBERING PROGRAM	1401 10.3.038 1401 10.3.053 1401 10.3.027	069 070 068	#9 X 9 TEN MILLISECOND MULTIPLY SUBROUTINE 1401 03.0.00 #THE TAPE MINNEAPOLIS ASSEMBLY OF SPS TWO 1401 01.1.01	057
#LESS PRE-EDIT #LESS PRE-EDIT NDRED THOUSAND NODE LESS PROGRAM FOR THE 4K IBM	1401 10.3.027 1401 10.3.012 #ONE HU 1401 10.3.026	066 067	#FULL MAST /FULL MINNEAPOLIS OF SPS-2/ /REVISED/ 1401 01.1.01 1401/ /CARD/ #MIP /MATRIX INVERSE PROGRAM FOR THE 1BM 1401 05.0.00	6 033
#LESS PROGRAM 4K #LESS 1	1401 10.3.017 1401 10.3.018	067 067	#MIL YROGRAM FOR THE 18M 1401 05.0-00 #ML VILLTY PROGRAM ULATION USING NABAC MODEL #COMMERCIAL AND SAVINGS TELLER SIM 1401 10.2-01	7 040
OF DEPOSIT AND CASH LETTER WRITING #1240/: -TAPE FOR THE SHARE LIBRARY	1440 PROOF 1440 10.2.002 #TAPE-TO 1401 13.1.025	079 073	O TO SYSTEM/360 RPG MODEL 20 CONVERSION PROGRAM #1401 FARE 1401 02.0.03 01/1460 #SYSTEM/360 MODEL 20 RPG PRELISTER RUN ON THE IBM 14 1401 01.3.02	6 057 0 038
-TAPE FOR THE SHARE LIBRARY MERGE FOR THE SHARE LIBRARY	#CARD-TO 1401 13.1.026 #DELETE- 1401 13.1.027	073 073	ING AND LINE LENGTH MODIFICATION OF RUNNING #AUTOMATIC EDIT 1401 14.0.01 LY-DIVIDE #FORTRAN MODIFICATION WHICH ELIMINATES THE MULTIP 1401 02.0.02	6 074
-CARD FOR THE SHARE LIBRARY RY REPORTING SYSTEM LIBRARY ACTIVITY DATA STATIST	#TAPE-TO 1401 13.1.028	073 071	#FARGO MODIFIED 1401 02.0.00 #MODIFIED DUMP 1401 01.4.12	5 054
# FOR LIBRARY CIRCULATION CONTROL TOMATIC EDITING AND LINE LENGTH MODIFICATION OF R	1440 13.0.001 UNNING #AU 1401 14.0.016	080 074	#SELF CONDENSING MODIFIED FARGO 1401 01.4.19 #MODIFIED FORTRAN COMPILER 1401 02.0.03	1 050
ION TO SIMULTANEOUS LINEAR EQUATIONS	#SOLUT 1401 05.0.005	061	2K #1401/1620 MODULAR INVENTORY MANAGEMENT SIMULATOR 1 1401 CS-03X	004

TITLE	YSTEM FILE NO.	PAGE	TITLE S'	YSTEM FILE	E NO.	PAGE
IENTED PROBLEMS #MGDULAR PROGRAMMING CONCEPT FOR MACRO-OR 1460 SUBROUTINE FOR MODULUS II CALCULATIONS FOR A #1401/	1401 01-4-061	041 063	*PAPER AND PROGRAM DOCUMENTATION EDITOR			050
NUMBER CALCULATION- MODULUS 10 #SELF-CHECKING UBROUTINE TO VERIFY MODULUS 10 CHECK DIGITS #AUTOCODER S	1401 01.4.121	045 072	#SPS SINGLE PASS ASSEMBLER #PATCH GENERATOR FOR AUTOCODER TESTING	1401 01. 1401 01.	1.049	035 035
	1401 07.0.002	063 072	TINE WITH AUTOMATIC PATCH LINKAGE #FARGO MULTIPLY ROU #CRITICAL PATH LISTING AND RESOURCE ANALYSIS	1401 10.3	3.028	055 068
#SOMR- SPUR OF THE MEMENT REPORTING RAMMING SUPERVISORY MONITOR #1440-1026-1070 MULTIPROG	1401 01.3.022	039 075	#CRITICAL PATH SCHEDULER /BASIC 1401/	1401 10. 1401 10.	3.013	071 066
#1401/1311 MONITOR FOR PROGRAMS ON DISK PACKS OCESS COMMUNICATION MONITOR FOR 1401 AUTOCODER #1460-1070 PR	1401 02.0.021	055 031	ERING- #CRITICAL PATH SCHEDULING WITH ARBITRARY NODE NUMB	1401 10.3	3.019	067 067
OCESS COMMUNICATION MONITOR FOR 1401 BASIC #1460-1070 PR	1460 SV-091	031 027	#HOSPITAL ACCOUNTS PAYABLE	1440 UH-0	03X	028 028
DCESS COMMUNICATION MCNITOR FOR 1440 BASIC #1440-1070 PR	1440 SV-091 1401 01.4.220	027 052		1440 UH-0	3.015	028 066
#MONITOR SYSTEM FOR TAPE TEM #MONITOR SYSTEM FOR 8K, 12K, 16K TAPE SYS	1401 01.4.039	040 049	#PERIODICAL CONTROL SYSTEM	1401 10-1	3.057	069 071
L ACCUMULATION #MONTHLY INVESTMENT INTEREST AND PRINCIPA	1401 10.2.005	064 061	#PERIPHERAL INTEGRATED PROCESSING SYSTEM #7090/94 - 1401 PERIPHERAL OUTPUT PROGRAM #7040/7044 - 1401 PERIPHERAL UTILITY PROGRAM	1401 UT-1	158	012 018 018
RAM #1401/1440 MORDIMER-MULTIPLY OR DIVIDE UTILITY PROG #MORTGAGE AMORTIZATION SCHEDULE		060 064	OGRAMS /PAYROLL AND PERSONNEL/ #SECONDARY SCHOOL PR		03X	029 065
#MCRTGAGE LOAN ACCOUNTING	1440 FB-04X 1440 ST-02X	021 027	#PERT INPUT GENERATOR	1401 10.1	3.046	070 068
#MULTI PURPOSE EXTRACT AND SELECT #MULTI-PURPOSE 80-80 REPRODUCING	1401 01.5.010 1401 01.4.190	053 050	ECT PROGRESS REPORT PHASE I #PROJ	1401 10.	3.044	069 035
#MULTIPLY AND DIVIDE MACROS	1401 01-4-110	045 047	# PHASE ONLY/ /REVISED/ SCORING TECHNIQUE - PHASE 1 PROGRAM #FAST - FULLY AUTOMATIC	1401 10.3	3.001	065 072
1/1460 SIMULTANEOUS MULTIPLY DIVIDE SUB-ROUTINE #140 #NEPCO MULTIPLY ROUTINE /CARD/	1401 03.0.041 1401 03.0.008	060 058	#PIECEWORK-TIMEWORK PAYROLL	1401 10.	3.015	066 063
NKAGE #FARGO MULTIPLY ROUTINE WITH AUTOMATIC PATCH LI X 9 TEN MILLISECOND MULTIPLY SUBROUTINE #9	1401 02.0.015 1401 03.0.001	055 057	#FLUT IN /REVISEU/	1401 14.0	0.001	073 074
#BINARY AUTOMATIC MULTIPLY SUBROUTINE /BAMS/ #MULTIPLY SUBROUTINE /130 POSITION/	1401 03-0-022	059 059	EEN-O-ONE AUTOMATIC PLOTTER I/ #F A P I PROGRAM /FOURT ABORATORY AUTOMATIC PLOTTING #MANAGEMENT DECISION MAKING L	1401 14.0	0.005	074 064
HICH ELIMINATES THE MULTIPLY-DIVIDE #FORTRAN MODIFICATION W #FARGO MULTIPLY-DIVIDE II	1401 02.0.020	056 055	03 #PLOTTING SUBROUTINE FOR THE IBM 1401/ 14	1401 14.0	0.013	074 059
#AUTOCODER MULTIPLY-DIVIDE MACRO #1440-1026-1070 MULTIPROGRAMMING SUPERVISORY MONITOR	1401 03.0.029 1440 01.1.003	059 075	FOR IBM #CHECK POINT SUBROUTINE AND RESTARTING PROGRAM #FLOATING POINT SUBROUTINES /NORMALIZED/	1401 01.4	4.171 0.004	049 058
TER #MUSIC - MUSIC SIMULATION ON A 1401 COMPU #MUSIC - MUSIC SIMULATION ON A 1401 COMPUTER	1401 11.0.012	072 072	X SUBROUTINE /FIXED POINT/ #E TO THE X AND E TO THE - IS AND FORECASTING #POLYNOMIAL CURVE FIT FOR ECONOMIC ANALYS	1401 03.0	0.013 0.003	058 063
ER SIMULATION USING NABAC MODEL #COMMERCIAL AND SAVINGS TELL #STANDARD NAME ALTERATION PROGRAM	1401 14.0.019	065 075	#ORTHOGONAL POLYNOMIAL CURVE SMOOTHING FOR ACTUARIAL	1401 06.0 1401 FI-0	0.017 04X	062 006
M #NAME AND ADDRESS FILE MAINTENANCE PROGRA # CORPORATE NAMES	1401 01.4.115	078 045	UMP IN BANDS OF 100 POS. /20 CARDS/ #MEMORY-D PLY SUBROUTINE /130 POSITION/ #MULTI	1401 03.0	0.028	041 059
#NEPCO MULTIPLY ROUTINE /CARD/ #PERT NETWORK RANKING PROGRAM GRAM WITH ARBITRARY NODE #CRITICAL PATH SCHEDULING PRO	1401 03.0.008 1401 10.3.032	058 068	#MEMORY ANNOTATION, POST-TEST ARIANCE, 2 TO THE N POWER FACTORIAL DESIGN #ANALYSIS OF V		0.012	040 062
GRAM WITH ARBITRARY NODE #CRITICAL PATH SCHEDULING PRO NE HUNDRED THOUSAND NODE LESS PROGRAM FOR THE 4K IBM #C #NODE NUMBERING	1401 10.3.026	067 067	#1401/1460 PACE PRE-ASSEMBLY CHECK AND EDIT	1401 03.0 1401 01.1	1.051	058 035
#LESS NODE NUMBERING PROGRAM	1401 10.3.031 1401 10.3.027	068 068	/PAPER/ #1401/1410 PRE-ASSEMBLY PROGRAM EDIT AND REFERENCE		1.033	075 034
LING WITH ARBITRARY NODE NUMBERING- #CRITICAL PATH SCHEDU FOR THE 1401 USING NORMAL #A SQUARE ROOT SUBROUTING E /DTCALC#CALCULATE NUM. OF DAYS BETWEEN TWO DATES SUBROUTIN	1401 10.3.019	067 059 058	#LESS PRE-EDIT	1401 01.3 1401 10.3	3.012	037 066
# 9 DIGIT NUMBER /SNAFU/#SEQUENTIAL NUMBER ASSIGNER FOR FOURTEEN-O-ONE USERS	1401 07.0.005	063 041	#AUTGCODER PRE-LIST	1401 01.1 1401 01.1	1.043	034 034
#SELF-CHECKING NUMBER CALCULATION MODULUS 10 #SELF-CHECKING NUMBER CALCULATION- MODULUS 10	1401 07.0.002 1401 01.4.121	063 045	#PRE-LIST FOR AUTOCODER SOURCE DECK	1401 01-1 1401 01-1	1.039	033 034
#NODE NUMBERING #LESS NODE NUMBERING PROGRAM	1401 10.3.031 1401 10.3.027	068 068	CKS #PREASSEMBLY TEST FOR AUTOCODER SOURCE DE EM/360 MODEL 20 RPG PRELISTER RUN ON THE IBM 1401/1460 #SYST #THESAURUS PREPARATION FOR INFORMATION RETRIEVAL	1401 01-3	3.020	034
# NUMBERING 8K	1401 10-3-020	067 067		1401 10.3	2.002	071 073 064
WITH ARBITRARY NODE NUMBERING— #CRITICAL PATH SCHEDULING MERIC/O-9/ONLY, AND NUMERIC ZONE/12-11/ONLY # NUMERIC ZONE/12-11/ONLY AND NUMERIC ZONE/12-11	1401 01.4.118 1401 01.4.118	045 045	#UNIVERSAL MEMORY PRINT GANG-PUNCH, COUNT & PRINT #RGCP - REPRODUCE,	1401 01.4	4.096	043 072
#AUTOPROPS II NUMERICAL CONTROL PROGRAM # AND/OR NUMERICALLY	1401 CN-03X 1401 01.2.009	003 036	#CORE PRINT	1440 02.	7.002	078 045
#0BJECT DECK LISTING PROGRAM 1440/1460 CONDENSED OBJECT DECK TO AU-008 #CODAC - 1401/	1440 02.3.004 1401 01.4.224	077 053	#1401-1311 DISK PRINT PROGRAM #UTILITY PRINT PROGRAM	1401 01-4	4.211 4.225	052 053
/1460 PROGRAMS FROM OBJECT TO AUTOCODER#DISASSEMBLER OF 1401 OT SUBROUTINE USING ODD INTEGER METHOD #SQUARE RO	1401 03.0 014	057 058	#SYLVANIA PRINT ROUTINE #TAPE COMPARE ERROR PRINT/DUPLICATE	1401 01.4	4.082 4.123	043 045
#FOURTEEN O ONE OFFSET REPRODUCING AND GANGPUNCHING OR #ON-LINE SAVINGS ACCOUNTING	1440 FB-07X	074 022	#EXACT TAPE TO PRINTER /CARC/ CARD 80-80 CARD TO PRINTER PROGRAM WITH BRANCH ON #ONE	1401 01.4	4.027 3.002	039 077
#OND INVENTORY OR VALUATION #FARGO ONE-SIXTY-G	1401 10.3.040 1401 02.0.018	069 055	OF CALCULATING AND PRINTING #ESCAPE /EFFORTLESS SYSTEM #ZIP /INSTANT PRINTING/			039 039
# PHASE ONLY/ /REVISED/ # PHASE ONLY/ /REVISED/ #1401/1460-1026 OPERATING SYSTEM COMPUTER ASSISTED	1401 06.0.014 1401 10.3.001 1401 0S-092	062 065 011	#ZIP /INSIANI PRINIING/ IME SCALE GRAPHICAL PRINTOUT #LOG SCALE VERSUS T 1311 TRANSPORTATION PROBLEM #1401/			063 070
UCTION COURSEMPITER#OPERATING SYSTEM COMPUTER ASSISTED INSTRUCTION #1440-1026 OPERATING SYSTEM COMPUTER ASSISTED INSTR	1440 DS-090	024 025	FOR MACRO-ORIENTED PROBLEMS #MODULAR PROGRAMMING CONCEPT 0/60 #1440-1070 PROCESS COMMUNICATION MONITOR FOR 1401/4 ASIC. #1440-1070 PROCESS COMMUNICATION MONITOR FOR 1440 R	1440 SV-0	090	041 027
OGRAM FOR IBM BASIC OPERATING SYSTEM/360#1401/1460 TIMING PR MS # OPERATING SYSTEMS TAPE SORT/MERGE PROGRA	1401 LM-011	010 010	UTOCODER #1460-1070 PROCESS COMMUNICATION MONITOR FOR 1401 A	1460 SV-0	090	027 031
# OPERATION R REPORT GENERATING OPERATION #CONDENSING AFTE	1401 01.4.094	043 054	#IOCP WITHOUT PROCESS OVERLAP	1420 IO-0	010	031 019 012
C REPORT GENERATING OPERATION#FARGO /FOURTEEN-O-ONE AUTOMATI #OPTRAIN OPERATOR TRAINING ON THE 1401	1401 RG-045	012 073	#PER THE IBM 1401 DATA PROCESSING SYSTEM #SD1 3 FOR 11 BILL OF MATERIAL PROCESSOR #1440/13 #1440/13	1401 10-3	3.004	065 024
TOCODER OPS TO 1440 OPS ON 1401 #CVZZA TO CONVERT 1401 AU TOCODER OPS TO 1440 OPS ON 1440 #CVODA TO CONVERT 1401 AU	1401 01.4.209	051 077	#THREE TAPE SORT PROCESSOR # PROCESSOR	1401 01-2	2.011	036
VERT 1401 AUTOCODER OPS TO 1440 OPS ON 1401 #CYZZA TO CON VERT 1401 AUTOCODER OPS TO 1440 OPS ON 1440 #CYOOA TO CON	1401 01.4.209 1440 02.5.002	051 077	#BILL OF MATERIAL PROCESSOR STRUCTURE FILE ADDRESS #PROGRAM TO PRODUCE MULTIPLE INDEXES	1440 12.		080
O WITH THE IBM 1285 OPTICAL READER # 1401/1440/146 #SORAL - SIMPLE OPTIMUM REPRODUCING ALL	1401 10-077 1401 01-4-153	010 047	# TAPE SORT /MERGE PROG. /FOR THE 2415/ # TAPE SORT/MERGE PROG. /2401 THROUGH 2404/	1401 LM-0	080	011 011
#OPTRAIN OPERATOR TRAINING ON THE 1401 #SHARE ORDER CARD LIST AND PUNCH	1401 13.1.029	073 073	RAM FOR S/360 BASIC PROG. SUPPORT #1401/1460 TIMING PROG	1401 LM-0	078	011 011
#ORDER RECEIVING SYSTEM SOLIDATED FUNCTIONS ORDINARY DAILY CYCLE PROGRAMS SOLIDATED FUNCTIONS ORDINARY VALUATION PROGRAM #CON	1401 10.3.058 1401 IL-02X 1401 IL-03X	071 008	RAM FOR S/360 BASIC PROG. SUPPORT #1401/1460 TIMING PROG UTILITY MAINTENANCE PROGRAM/ #STUMP /SPECIAL TAPE	1401 01.4	4.069	011 042
SOLIDATED FUNCTIONS ORDINARY/ #THE 62 CFO PROGRAM /CON	1401 IL-01X	009 008	PROACH TO AUTOMATIC PROGRAMMED ADDRESS CONVERSION#GENERAL AP #DIVISION AND RADIX PROGRAMMED ADDRESS CONVERSION TECHNIQUES	1401 01-4	4.081	040 043
#FILE DRGANIZATION ROUTINES #DISK FILE ORGANIZATION ROUTINES	1401 UT-052 1401 UT-057 1440 UT-040	017 017 029	#INSTALLATION PROGRESS REPORT FOR SMALL 1400 COMPUTER #PROJECT PROGRESS REPORT PHASE I #PROJECT CONTROL SYSTEM	1401 10.3	3.044	038 069
T AND SECOND DEGREE ORTHOGONAL CURVE FIT #FIRS R ACTUARIAL #ORTHOGONAL POLYNOMIAL CURVE SMOOTHING FO	1401 06-0-016	062 062	- COMPUTER ASSISTED PROJECT EVALUATION AND #CAPERTSIM	1440 MX-0 1401 10.2 1401 10.3	2.011	024 065 069
CDIC OF HEXADECIMAL OUTPUT OF SYSTEM/360 #CONVERTER TO EB	1401 02.0.033 1401 UT-158	057 018	URVE ESTIMATION AND PROJECTION BY LEARNING CURVE #COST C #1240/1440 PROOF OF DEPOSIT AND CASH LETTER WRITING	1401 10.3	3.011	066 079
#INPUT GUTPUT TAPE CONTROL SYSTEM /REVISED/	1440 01.4.001 1401 01.4.011	076 039	ORDER CARD LIST AND PUNCH #SHARE	1401 13.1 1401 14.0	1.029	073 075
#CARC LIST OVERFLOW # OVERFLOW	1401 01.4.130 1440 02.3.002	046 077	#PUNCH CORE IN PROGRAM LOAD FORMAT TIVE REPRODUCE/GANG PUNCH FOR THE 1401 #SELEC	1440 02.9	9.003	078 041
#CVERLAP IOCP	1420 IO-010 1420 IO-011	019 019	#TUB FILE GANG PUNCH PROGRAM #TAPE PUNCH ROUTINES FOR THE 1401-1012	1401 01.4 1401 10-0	4.167 074	049 010
NG #PACE - PRE-ASSEMBLY CHECK AND EDIT LISTI	1401 01.4.078 1440 01.0.001	042 075	#REPRODUCE GANG PUNCH SIMULATOR CONVERSION OF OTHER PUNCHES/ #SCOOP I AND II /SIMPLIFIED	1440 03.1	1.001 4.012	079 039
SEMBLY #ACCELERATOR PACK - SYMBOLIC 4K PROGRAMMING SYSTEM AS	1401 01.1.051 1401 01.1.016	035 033	#STORAGE PUNCHOUT PROGRAM #GENERAL PURPOSE CARD EDIT ROUTINE	1401 01.4 1401 01.4	4.038 4.099	040 044
LIC LANGUAGE INSERT PACKAGE #SLIP III SYMBO	1401 FB-01X 1401 01.3.008 1401 01.4.192	005 037	#MULTI PURPOSE EXTRACT AND SELECT TES TO #GENERAL PURPOSE MACROS FOR DIV. CONVERSION OF DA		4.062	053 041
# PACKAGE	1401 01.4.192 1401 10.3.063 1440 02.1.003	050 072 076		1401 10.2	2.008	038 064
R 7090/7094 SUPPORT PACKAGE FOR IBM #INPUT PROGRAM FO LIC LANGUAGE INSERT PACKAGE/ /CARD/ #SLTP /SYMRO	1401 UT-938	018 037		1401 01.4 1401 01.4	4.158	037 048 058
OR PROGRAMS ON DISK PACKS #1401/1311 MONITOR F	1401 02.0.021	055		1401 09.2		063

TITLE	YSTEM	FILE NO.	PAGE	TITLE S'	YSTEM	FILE NO.	PAGE
#QUICK KWIC INDEX #SELF-CENTERING QUICK REPORT-QUICKIE	1401	10.3.035 01.3.018	068 038	#SQUARE ROOT SUBROUTINE L #A SQUARE ROOT SUBROUTINE FOR THE 1401 USING NORMA	1401	03.0.027 03.0.019	059 059
TINE #RADIO - RANDOM DISK INPUT/ OUTPUT SUBROUNIQUES#DIVISION AND RADIX PROGRAMMED ADDRESS CONVERSION TECH	1401	01.4.081	076 043	#SQUARE ROOT SUBROUTINE USING ODD INTEGER METHOD #FILE ORGANIZATION ROUTINES	1401 1401	03.0.014 UT-057	058 017
#RAMAC LINEAR PROGRAM # RANDOM ADDRESS TRANSFORMATION EVALUATION #RADIO - RANDOM DISK INPUT/ OUTPUT SUBROUTINE	1401	10.1.003 01.4.098 01.4.001	064 043 076	#TAPE PUNCH ROUTINES FOR THE 1401-1012	1401	UT-040 IO-074	029 010 017
#PERT NETWORK RANKING PROGRAM #RAPID ASSEMBLY PROGRAM NO. 14043	1401 1401	10.3.032 01.1.017	068 033	FARGO TO SYSTEM/360 RPG MODEL 20 CONVERSION PROGRAM #1401 SYSTEM/360 MODEL 20 RPG PRELISTER RUN ON THE IBM 1401/1460 #	1401	02.0.036	057 038
#RAPID SELECTIVE TRACE #RAPID SELECTIVE TRACE	1440	01.4.207	051 076	#IBM 1400 RPG TO SYSTEM/360 TRANSLATOR AL TAPE MAINTENANCE RUN /CARD/ #GENER	1401 1401	RG-700 01.4.029	013 039
R SOURCE PROGRAMS - RASP #1401/1440/1460 RESEQUENCE AUTOCODE #AUTO RATING FOR FIRE AND CASUALTY COMPANIES LASSIFICATION USING RATING FORM DATA	1401	IF-01X 14.0.023	050 007 075	EL 20 RPG PRELISTER RUN ON THE 18M 1401/1460 #SYSTEM/360 MOD #SYSTEM/360 RUN TIMING ON THE 1401/1440 GTH MODIFICATION OF RUNNING #AUTOMATIC EDITING AND LINE LEN	1401	01.4.208	038 051 074
#HOMECWNERS RATING PROGRAM #VENDOR ANALYSIS RATING SYSTEM	1401 1440	1F-05X 09.3.001	008 079	TIMING PROGRAM FOR S/360 BASIC PROG. SUPPORT #1401/1460 TIMING PROGRAM FOR S/360 BASIC PROG. SUPPORT #1401/1460	1401 1401	LM-078 LM-080	011 011
ANCE PROGRAMS /AUTO RATING/ #FIRE AND CASULATY INSUR ROGRAMS /HOMECWNERS RATING/ #FIRE AND CASUALTY INSURANCE F E, EMIT, ELIMINATE, RE-ARRANGE/ #REER /REPRODUC	1440	IF-08X	022 022 042	ING PROGRAM FOR BPS S/360 SORT/MERGE PROGRAM #1401/1460 TIM #THE TRAVELING SALESMAN	1401	10.3.039	011 069
RD/ #REACTION TIMING PROGRAM FOR IBM 1401 /C/ MS #1231 READ MACRO FOR 1401/1440/1460 DISK SYSTE	1401	11.0.005	072 077	#SAVINGS ACCOUNTING	1440	FB-07X FB-05X FB-14X	022 021 006
#WRITE AND READ TAPE CHECK JULIAN DAYS, SIMPLE READ/WRITE TAPE IOCS #	1401 1401	01.4.136 01.4.062	046 041	# SAVINGS AND LOAN ASSOCIATIONS DEL #COMMERCIAL AND SAVINGS TELLER SIMULATION USING NABAC MO	1440 1401	FB-13X 10.2.010	022 065
#WRITE AND READ TAPE CHECK JULIAN DAYS, SIMPLE READ/WRITE TAPE 10CS #THE IBM 102 THE IBM 1285 OPTICAL READER #TAPE READING WRITING SUBROUTINES	1401	14.0.021 10-077 10-040	075 010 009	G SCALE VERSUS TIME SCALE GRAPHICAL PRINTOUT #LO UT #LOG SCALE VERSUS TIME SCALE GRAPHICAL PRINTO #SCANX MACRO FOR THE 1401 AUTOCODER	1401	06.0.019 06.0.019 01.4.091	063 063 043
# RECAP	1401 1440	10.3.062 DR-02X	071 020	RTGAGE AMORTIZATION SCHEDULE #MO #CRITICAL PATH SCHEDULER /BASIC 1401/	1401	10.2.006	064 066
#RETAIL ACCOUNTS RECEIVABLE #ACCOUNTS RECEIVABLE FOR HOSPITALS #GROER RECEIVING SYSTEM #REFAIR DISK RECORD	1401	UH-02X 10.3.058 01.4.181	028 071 049	IS REGISTRATION AND SCHEDULING #/TARS/ TALLY ANALYS COST ESTIMATING AND SCHEDULING /4K-SCHEDULING#LESS LEAST- EURISTIC CORRUGATOR SCHEDULING PROGRAM	1401	10.3.001	079 065
#1311 DISK RECORD FINDER 1 #METHOD OF RECORDING COMPUTER UTILIZATION AND 3 140	1401	01.4.187	050 062	#CRITICAL PATH SCHEDULING PROGRAM WITH ARBITRARY NODE #ENGINEERING SCHEDULING SYSTEM	1401	01.4.200 10.3.020 EX-01X	051 067 005
#ATTENDANCE RECORDING FOR SECONDARY SCHOOLS CS FOR FIXED LENGTH RECORDS #SHORT IC		US-04X 01.3.010	029 038	 #CRITICAL PATH SCHEDULING WITH ARBITRARY NODE NUMBERING L PROGRAMS /STUDENT SCHEDULING/ #SECONDARY SCHOOL 	1401 1440	10.3.019 US-01X	067 029
CS FOR FIXED LENGTH RECORDS #SHORT IL E PROGRAMS FOR DATA REDUCTION ON THE IBM #GENERAL PURPO IES ANALYSIS & DATA REDUCTION PROGRAM #TIME SEF #DATA ANALYSIS AND REDUCTION SYSTEM	1401	06.0.015 CA-04X	038 062 002	COST ESTIMATING AND SCHEDULING/ 8K, 12K, AND 16#LESS /LEAST- #SECGNDARY SCHOOL PROGRAMS /GRADE REPORTING/ #SECGNDARY SCHOOL PROGRAMS /PAYROLL AND PERSONNEL/	1440	US-02X	065 029 029
#DISTRIBUTION TAPE REEL FOR SHARE ANGE/ #REER /REPROCUCE, EMIT, ELIMINATE, RE-ARF	1601	13.1.032 01.4.068	073 042	#SECONDARY SCHOOL PROGRAMS /STUDENT SCHEDULING/ RDING FOR SECONDARY SCHOOLS #ATTENDANCE RECO	1440 1440	US-01X US-04X	029 029
LY PROGRAM EDIT AND REFERENCE PAPER/ #4401/1410 PRE-ASSEME AND DATA-MAME CROSS REFERENCE LIST #1401/1410 CROSS REFERENCE LISTING PROGRAM	1401	01.1.033 01.4.223 01.1.040	034 053 034	OTHER PUNCHES/ #SCCOP I AND II /SIMPLIFIED CONVERSION OF T - FULLY AUTOMATIC SCORING TECHNIQUE - PHASE 1 PROGRAM #FAS T - FULLY AUTOMATIC SCORING TECHNIQUE - PHASE 1 PROGRAM #FAS	1401	01.4.012	039 069 072
LATION COEFFICIENTS#REGAN — 4K REGRESSION ANALYSIS AND CORRE EN AUTOCO #SQURCE REGENERATION OF 1401 SPS TO 1440 AUTOC CHNIQUE USING INDEX REGISTERS ON #BINARY TABLE SEARCH TE	1401	06-0-008	061 078	YSTEM #SDI 3 FOR THE IBM 1401 DATA PROCESSING S D TAPE ADD AND FILE SEARCH #GENERALIZE	1401 1401	10.3.004 01.4.044	065 040
CHNIQUE USING INDEX REGISTERS ON #BINARY TABLE SEARCH TE ARS/ TALLY ANALYSIS REGISTRATION AND SCHEDULING #/1 #MULTIPLE LINEAR REGRESSION ANALYSIS	1440	03.0.034 11.3.001 06.0.004	059 079 061	ENERAL UTILITY TAPE SEARCH ***ADDRESS #**CORE SEARCH FOR BRANCH INSTRUCTIONS TO A GIVE GCODER SERCH BINARY SEARCH MACRO #**AUT	1401	01.4.070	042 048
#LINEAR REGRESSION ANALYSIS #REGRESSION ANALYSIS COMPUTER PROGRAM	1401	06.0.002	061 061	#TAPE SEARCH PROGRAM N #BINARY TABLE SEARCH TECHNIQUE USING INDEX REGISTERS O	1401	01.4.058	060 041 059
FICIENTS#REGAN - 4K REGRESSION ANALYSIS AND CORRELATION COEF #MULTIPLE REGRESSION PROGRAM #RELOCATABLE TRACE PROGRAM #REDGRANIZATION MAINTEMANTE PROGRAM	1401 1401	06.0.008	061 061	ES #SEASONAL ADJUSTMENT OF MONTHLY TIME SERI 9 VERSION, 4K, #SEASONAL ADJUSTMENT-CENSUS METHOD II, X-	1401 1401	06.0.001 06.0.009	061 062
#REDICATABLE TRACE PROGRAM # REORGANIZATION MAINTENANCE PROGRAM #REPAIR DISK RECORD	1440	01.4.103 12.3.001 01.4.181	044 080 049	-9 VERSION, 4K, #SEASONAL ADJUSTMENT, CENSUS METHOD II, X #FIRST AND SECOND DEGREE ORTHOGONAL CURVE FIT PURPOSE EXTRACT AND SELECT	1401	06.0.016	062 062 053
NDING SUMMATION AND REPORT #HOSPITAL CANCER CERVICAL CASEF STALLATION PROGRESS REPORT FOR SMALL 1400 COMPUTER #10	1440 1401	11.5.001 01.3.021	080 038	#SELECT DATA RETRIEVAL SYSTEM #PORTFOLIO SELECTION PROGRAM	1401 1401	01.4.145 FI-04X	047 006
EEN-O-ONE AUTOMATIC REPORT GENERATING OPERATION#FARGO /FOUR #CONDENSING AFTER REPORT GENERATING OPERATION #DDWGO LOAD AND GC REPORT GENERATOR	1401 1401 1401	RG-045 02.0.012 01.3.017	012 054 038	ANAGEMENT SIMULATOR SELECTION PROGRAM #INVENTORY M #SELECTIVE DISSEMINATION OF INFORMATION S #SEE — SELECTIVE EIGHTY—EIGHTY PROGRAMS	1401	CR-01X	068 003 040
#PROJECT PRICARESS REPORT PHASE I #1440/1311 STERLING REPORT PROGRAM DEVELOPMENT #1401/1460 BASIC REPORT PROGRAM GENERATOR 4K 1460 #1401/1311 REPORT PROGRAM GENERATOR 70N DISK/ 1401/	1440	10.3.044 RG-720	069 026	L AND HEADINGS #SELECTIVE LIST WITH FOUR CLASSES OF TOTA	1401	01.4.161	048 040
#1401/1460 BASIC REPORT PROGRAM GENERATOR 4K 1460 #1401/1311 REPORT PROGRAM GENERATOR /ON DISK/ 1401. #REPORT PROGRAM GENERATOR 2K	/ 1401	RG-022 RG-032 RG-033	012 012 012	#CARD AND TAPE SELECTIVE LISTER 401 #SELECTIVE REPRODUCE/GANG PUNCH FOR THE 1 #NO RESTRICTIONS SELECTIVE TRACE #RAPID SELECTIVE TRACE	1401	01.4.106	041 044 051
#REPURI PROGRAM GENERATUR	1401 1440	RG-048 RG-020	013 025	#RAPID SELECTIVE TRACE #UNRESTRICTED SELECTIVE TRACE #UNRESTRICTED SELECTIVE TRACE ROUTINE	1440	01.4.207 01.4.002 02.7.007	076 078
#REPORT PROGRAM GENERATOR 2K	1440	RG-021 RG-024 RG-721	025 025 026	S 10 #SELF-CHECKING NUMBER CALCULATION- MODULU	1401 1401	01.3.018	038 045
#REPORT PROGRAM GENERATOR PRE-EDIT	1401	01.3.005 01.3.018	037 038	11 #SELF-CHECKING NUMBER CALCULATION MODULUS #SELF-LOADING CORE DUMP ALPHANUMERICALLY #SEGER TO SEQUENCE CHECK A FILE OF CARDS	1440	02.7.006	063 078 036
TATISTICAL #HISTORY REPORTING SYSTEM LIBRARY ACTIVITY DATA	1401	01.3.022	039 071	RICALLY #SEGER TO SEQUENCE CHECK A FILE OF CARDS ALPHANUME ZED TABULATE AND/OR SEQUENCE CHECKING PROGRAM #GENERALI	1401 1401	01.2.009 01.4.056	036 041
ETHOD OF ASSEMBLING REPORTS FROM TAPE OR CARDS #SIMPLE I THE IBM 1401 #REPRO - REPROCUCER SIMULATOR ROUTINE FOR	1401	01.3.013	029 038 041	#AUTCCODER SEQUENCE CHECKING PROGRAM TORAGE DEVICE INDEX SEQUENTIAL FILE #DIRECT ACCESS S O-ONE USERS /SNAFU/#SEQUENTIAL NUMBER ASSIGNER FOR FOURTEEN-	1401		046 052 041
/12-9/→ #REPRO-REPRODUCE AND/OR EMIT ALPHANUMERIO #REPRODUCE GANG PUNCH SIMULATOR	1401 1440	01.4.118	045 079	#AUTOCODER SERCH BINARY SEARCH MACRO ENT OF MONTHLY TIME SERIES #SEASONAL ADJUSTM	1401 1401	03.0.036	060 061
M 1401 #REPRODUCE ONLY CERTAIN COLUMNS ON THE II #1440/1311 80-80 REPRODUCE PROGRAM #ONE OF ONE - 80X80 REPRODUCE WITH LAST CARD TEST #SELECTIVE REPRODUCE/GANG PUNCH FOR THE 1401	1401 1440 1401	01.4.221	052 077 050	#TIME SERIES ANALYSIS & DATA REDUCTION PROGRAM #SERVICE INFORMATION SYSTEM UTION TAPE REEL FOR SHARE #DISTRIB	1401	10.3.061	062 071 073
#RGCP - REPRODUCE, GANG-PUNCE, COUNT & PRINT	1401	13.1.009	041 072	ARD-TO-TAPE FCR THE SHARE LIBRARY #C APE-TO-TAPE FCR THE SHARE LIBRARY #T	1401 1401	13.1.026 13.1.025	073 073
#VARIABLE CARC REPRODUCER FOR 1440/1311 1401 #REPRO - REPRODUCER SIMULATOR ROUTINE FOR THE IB! MULTI-PURPOSE 80-80 REPRODUCING	4 1401	02.3.001 01.4.054 01.4.190	077 041 050		1401	13.1.027 13.1.028 13.1.029	073 073 073
AL - SIMPLE OPTIMUM REPRODUCING ALL URTEEN O ONE GFFSET REPRODUCING AND GANGPUNCHING OR #F0	R 1401	01.4.153 14.0.004	047 074	ROGRAMMING, REVISED SIMPLEX METHOD #LINEAR P TION PROGRAM#TELLER SIMULATION DATA CONVERSION AND SUMMARIZA	1401 1401	10.1.004 10.2.009	064 065
# SPECIAL FEATURE REQUIREMENT ASP #1401/1440/1460 RESEQUENCE AUTOCODER SOURCE PROGRAMS - I #SORT 54 DISK RESIDENT	R 1401	02.0.025 01.4.189 01.6.001	056 050 076	#MUSIC - MUSIC SIMULATION ON A 1401 COMPUTER #IBM 1405 TO 1311 SIMULATION SUBROUTINES FOR 1401/1460 AND SAVINGS TELLER SIMULATION USING NABAC MODEL #COMMERCIAL	1401	11.0.012 01.4.219	072 052 065
AL PATH LISTING AND RESOURCE ANALYSIS #CRITIC R THE ALLOCATION OF RESOURCES FCR #1401/1440 PROGRAM FO	1401 1401	10.3.028 F8-14X	068 006	#1401/407 SIMULATION UTILITY PROGRAM #BANK MANAGEMENT SIMULATOR	1401 1401	01.4.150 FB-02X	047 005
R THE ALLOCATION OF RESOURCES FOR #1401/1440 PROGRAM FI #CHECKPOINT AND RESTART PROCEDURE OINT SUBROUTINE AND RESTARTING PROGRAM FOR IBM #CHECK!	1401	FB-13X 01.4.102 01.4.171	022 044 049	#IMPACT SIMULATOR #CARD COLLATOR SIMULATOR NVENTORY MANAGEMENT SIMULATOR #I	1401	01.4.135 01.4.212 10.2.003	046 052 064
#NO RESTRICTIONS SELECTIVE TRACE #RETAIL ACCOUNTS RECEIVABLE	1401 1440	01.4.106 DR-02X	044 020	# REVIEW TECHNIQUE SIMULATOR EPRODUCE GANG PUNCH SIMULATOR #R	1401 1440	10.2.011 03.1.001	065 079
#GENERAL RETRIEVAL ION FOR INFORMATION RETRIEVAL #THESAURUS PREPARA' #INFORMATION RETRIEVAL DEMO	1401	10.3.036 10.3.054 11.0.009	068 071 072	#GENERAL PURPOSE SIMULATOR -GPSS-2 #REPRO - REPRODUCER STMULATOR ROUTINE FOR THE IBM 1401 NVENTORY MANAGEMENT SIMULATOR SELECTION PROGRAM #I	1401	10.2.008 01.4.054 10.3.030	064 041 068
RMATION STORAGE AND RETRIEVAL PROGRAM #INFI #ASK INFORMATION RETRIEVAL PROGRAM FOR THE 1401	1401 1401	10.3.047	070 066	NVENTORY MANAGEMENT SIMULATOR 12K #1401/1620 MODULAR I ON PROGRAM#MULTIPLE SIMULTANEOUS EQUATION AND MATRIX INVERSI	1401 1401	CS-03X 05.0.003	004 060
#SELECT DATA RETRIEVAL SYSTEM RALIZED INFORMATION RETRIEVAL SYSTEM #INFORM 2 - GENI ING ABSTRACTING AND RETRIEVAL SYSTEM #SYNTRAN AN INDE.	1401	10.3.045	047 069 069	#SOLUTION TO SIMULTANEOUS LINEAR EQUATIONS # USING SIMULTANEOUS LINEAR EQUATIONS #1401/1460 SIMULTANEOUS MULTIPLY DIVIDE SUB-ROUTINE	1401 1401	05.0.005 05.0.006	061 061 060
BM 1401 INFORMATION RETRIEVAL SYSTEM #INVERTED CARD FILE- NFORMATION STORAGE, RETRIEVAL, AND DISSEMINATIO#SYSTEM FOR	I 1401 I 1401	10.3.006	065 070	#SIN-COS SUBROUTINE #SINE-COSINE SUBROUTINE	1401 1401	03.0.005	058 059
NG, MAINTAINING AND RETRIEVING #1405 STAR-SYSTEM FOR STOR #MOTOR FREIGHT REVENUE ACCCUNTING # REVIEW TECHNIQUE SIMULATOR	1440	02.0.008 ST-02X 10.2.011	054 027 065	EM #SIOCS- A SHORT IMPUT/OUTPUT CONTROL SYST #SKILLS INVENTORY SYSTEM NGLE CARD LIST WITH SKIP #SI	1401	01.5.018 10.3.049 01.4.048	054 070 040
N #BASIC AUTOCODER REVISED FOR USE ON 1974 DATA TRANSMISSI LINEAR PROGRAMMING, REVISED SIMPLEX METHOD	1440 # 1401	01.2.003	075 064	/CARD/ #SLIP /SYMBOLIC LANGUAGE INSERT PACKAGE/ E #SLIP III SYMBOLIC LANGUAGE INSERT PACKAG	1401 1401	01.3.004 01.3.008	037 037
INT #RGCP - REPRODUCE, GANG-PUNCH, COUNT & PI #SQUARE ROOT SUBROUTINE #SQUARE ROOT SUBROUTINE	R 1401 1401	13.1.009 03.0.015 03.0.003	072 058 058	TING BY EXPONENTIAL SMCCTHING #FORECAS AL POLYNOMIAL CURVE SMCCTHING FOR ACTUARIAL #ORTHOGON DEPARTMENTS #SOLUTION OF BANK COST ALLOCATION BETWEEN	1401 1401	10.3.008	066 062 061
#SQUARE ROOT SUBROUTINE #SQUARE ROOT SUBROUTINE #FIXED POINT SQUARE RCOT SUBROUTINE	1401	03.0.003	058 059	DEPARTMENTS #SULUTION OF BANK CUST ALLUCATION BETWEEN NE FOR THE COMPLETE SOLUTION OF QUADRATIC #A CLOSEO SUBROUTI S #SCLUTION TO SIMULTANEOUS LINEAR EQUATION	1401	03.0.016	058 061

TITLE S	YSTEM FILE NO.	PAGE	TITLE SYSTEM FILE	NO. PAGE
HE #A PROGRAM FOR SOLVING SYSTEMS OF LINEAR EQUATIONS ON T #SOMR- SPUR OF THE MOMENT REPORTING	1401 11.0.003 1401 01.3.022	072 039	#SYSTEM/360 BASIC ASSEMBLER PROGRAM 1401 02.	.028 056
#SOPHISTICATED SPS TO AUTOCODER CONVERTER #SORAL - SIMPLE OPTIMUM REPRODUCING ALL	1401 01.4.165	048 047	#\$YSTEM/360 COBOL EDIT TIMING PROGRAM FOR SYSTEM/360 CISK AND TAPE #401/1460 L401 LM-C THE IBM 1401/1460 \$YSTEM/360 MODEL 20 RPG PRELISTER RUN ON 1400 10.1	3X 014 012 010 010 038
#TTSRT - TWC TAPE SORT #TWC-TAPE SORT	1401 01.2.012 1401 01.2.016	036 036	M #LISTING OF IBM SYSTEM/360 PROGRAM SOURCE CARDS ON AN IB 1401 01. AM #1401 FARGO TO SYSTEM/360 RPG MODEL 20 CONVERSION PROGR 1401 02.0	-218 052
OR THE TOS/360 TAPE SORT #IBM 1401/60 TIMING PROGRAM F		037 010	#SYSTEM/360 RUN TIMING ON THE 1401/1440 1401 01-4	208 051
# TAPE SORT /MERGE PROG. /FOR THE 2415/	1401 01.2.021 1401 LM-080	037 011	#IBM 1400 RPG TO SYSTEM/360 TRANSLATOR 60 PROGRAM TO LABEL SYSTEM/360 7-TRACK TAPES #1401/14 1401 01-4 1BM BASIC OPERATING SYSTEM/360#1401/1460 TIMING PROGRAM FOR 1401 LMC	.222 053 011 010
#8K THREE TAPE SORT MERGE	1401 01.2.022	036 037 076	#GENERAL PURPOSE TAB-BACK PROGRAM 1401 01.3 #LOOK-UP - BINARY TABLE LOOK-UP MACRO 1401 03.0	.003 037 .030 059
#1440-1311 DISK SORT PACKAGE #THREE TAPE SORT PROGESSOR #BANK DOCUMENT SORT PROGRAM #BANK SORT PROGRAM #THREE TAPE SORT PROGRAM ERALIZED THREE TAPE SORT PROGRAM #SORT 1 #SORT 1	1401 01.2.011	036 001	#TLU01 TABLE LOOKUP CLOSED SUBROUTINE 1401 01.4 #DECISION TABLE MAINTENANCE ON THE 1BM 1401 TAPE 1401 02.0	.038 057
#BANK SORT PROGRAM #THREE TAPE SORT PROGRAM	1401 FB-06X	005 035	TERS ON #BINARY TABLE SEARCH TECHNIQUE USING INDEX REGIS 1401 03.0 #AUTOCODER DECISION TABLE TRANSLATOR 1401 03.0 #PRINT DECISION TABLES 1401 01.0	-045 060
ERALIZED THREE TAPE SCRT PROGRAM #GEN #SORT 1	1401 01.2.020 1401 SM-029	037 014	#PRINT DECISION TABLES FROM TABULAR INPUT #TABTEK, A PROGRAM TO GENERATE A PROGRAM 1401 01-3 RATE A PROGRAM FROM TABULAR INPUT #TABTEK, A PROGRAM TO GENE 1401 01-3	-015 038
#IBM 1440 SORT 13 #IBM 1440 SORT 13	1440 SM-036 1440 SM-037	02 7 02 7	M #GENERALIZED TABULATE AND/OR SEQUENCE CHECKING PROGRA 1401 01.4 NG #/TARS/ TALLY ANALYSIS REGISTRATION AND SCHEDULI 1440 11.3	· 056 041
	1401 LM-077 1460 SM-069	011 031	ATIONS #FLANGE TAP-OFFICE AND DISPLACEMENT METER CALCUL 1401 09.6 #1401/60 FORTRAN IV TAPE	.001 064
#SORT 3 PROGRAM	1460 SM-068 1401 SM-046	031 014	#MONITOD SYSTEM EOD TAGE	000 010
#SORT 5	1401 SM-047 1440 SM-030	014 026	ST LOAD INSTRUCTION TAPE NCE ON THE IBN 1401 TAPE GO INDEX SYSTEM MK TAPE SYSTEM/300 DISK AND TAPE #GENERALIZED KHIC COMPILE AND 1401 10.3 SYSTEM/300 DISK AND TAPE #1401/1460 TIMING PROGRAM FOR 1401 LM-	0.038 057 0.022 067
#SORT 51	1401 LM-002 1440 SM-035	011 026	SYSTEM/360 DISK AND TAPE #1401/1460 TIMING PROGRAM FOR 1401 LM-C #GENERALIZED TAPE ADD AND FILE SEARCH 1401 01.4	
#SORT 53	1440 SM-032 1440 SM-033 1440 SM-034	026 026 026	#GENERALIZED TAPE ADD AND FILE SEARCH 1401 01.4 #IAPE ANALYZE PROGRAM, 8K VERSION 1401 01.4 # FOR A TAPE AUTOCODER SYSTEM 1401 01.4	
#SORT 54 DISK RESIDENT	1440 01.6.001 1401 SM-062	076 014	# FUN A (APP AUTOLUCE YSTEM 1401 01.2 ##RITE AND READ TAPE CHECK	•136 046 •123 045
#SORT 61	1401 SM-067 1401 SM-064	015 015	#GENERALIZED TAPE COMPARE MARK III. 1401 01.4 #INPUT CUTPUT TAPE CONTROL SYSTEM /REVISED/ 1401 01.4	.199 051 .011 039
#SORT 63	1401 SM-065 1401 SM-066	015 015	#BENERAL PURPOSE TAPE DUMP 1401 01.4 #GENERAL PURPOSE TAPE DUMP 1401 01.4	-113 045 -008 039
#SORT 7 #SORT 7 TIMING PROGRAM FOR 1401/1460	1401 SM-060 1401 LM-060	014 011	#TAPE DUPLICATION 1401 01.4	-108 044
APABILITY #SORT 71- SORT 7 WITH THREE TAPE UNBALANCED SORT C ED SORT CAPABILITY #SORT 71- SORT 7 WITH THREE TAPE UNBALANC	1401 01.2.019	036 036	#TAPE DUPLICATION OR COMPARE FOR 8K 1401B 1401 01.4 #TAPE DUPLICATION OR COMPARE 1401 01.4 #TAPE EXECUTIVE PROGRAM 1401 01.4	.001 072
# TAPE SORT/MERGE PROG. /2401 THROUGH 2404/ OGRAM FOR BPS S/360 SORT/MERGE PROGRAM #1401/1460 TIMING PR	1401 LM-078 1401 LM-079	011	#PROGRAM TAPE EXECUTIVE ROUTINE 1401 01.4 #TAPE FARGO FOR IBM 1401 1401 02.0	-052 041
GGRAM FOR BPS S/360 SORT/MERGE PROGRAM #1401/1460 TIMING PR # DISK SORT/MERGE PROGRAM /16K/ RATING SYSTEMS TAPE SCRT/MERGE PROGRAMS # OPE #CARD SORTER	1401 LM-011 1401 LM-012	010 010	FOR THE 1401 #TAPE INPUT/OUTPUT MACROS AND SUBRGUTINES 1401 01.4 #GENERAL TAPE INQUIRY PROGRAM 1401 01.4	-047 040 -194 050
# SOURCE	1401 02.0.035	036 057 052	, SIMPLE READ/WRITE TAPE IOCS # JULIAN DAYS 1401 01.4	.062 041
SYSTEM/360 PROGRAM SCURCE CARDS ON AN IBM #LISTING OF IBM -LIST FOR AUTOCODER SOURCE DECK TEST FOR AUTOCODER SOURCE DECKS -FREQUENCE AUTOCODER SOURCE DECKS -FREQUENCE AUTOCODER SOURCE DECKS	1401 01-1-039	034 034	#TAPE MACROS 1401 02.0 #GENERAL TAPE MAINTENANCE RUN /CARD/ 1401 01.4	.029 039
AUTOCODER /AUTOC/ #SOURCE REGENERATION OF 1401 SPS TO 1440	1440 02-9-002	050 078	#THG TAPE MINNEAPOLIS ASSEMBLY OF SPS TWO 1401 01.3 MBLING REPORTS FROM TAPE OR CARDS #SIMPLE METHOD OF ASSE 1401 01.3 #THE IBM 1012 TAPE PUNCH AS A TAPE READER 1401 14.C	.013 038
N PROGRAM INCLUDING SPIRAL CURVES #GEOMETRIC COMPUTATIO #CONVERT SPS CARD FORMAT TO AUTOCODER CARD FORMAT	1401 09.2.017 1401 01.4.131	063 046	#TAPE PUNCH ROUTINES FOR THE 1401-1012 1401 IO-0	74 010
#CPC PRF-1 TCT	1401 01 1 046	034 035	WIADO DOADING HOLITING CHOCOUTINGS	
#SPS SINGLE PASS ASSEMBLER #CONVERSION OF SPS TO AUTOCODER #SOPHISTICATED SPS TO AUTOCODER CONVERTER	1401 01.4.160 1401 01.4.165	048 048	#DISTRIBUTION TAPE REEL FOR SHAKE 401 GENERAL UTILITY TAPE SEARCH #GUTS-1 1401 01.4 #CARD AND TAPE SEARCH PROGRAM #GUTS-1 1401 01.4 #CARD AND TAPE SELECTIVE LISTER 1401 01.4 #TOARD AND TAPE SELECTIVE LISTER 1401 01.4	.070 042 .058 041
#SPS TO AUTOCODER CONVERSION PROGRAM #CARD SPS TO AUTOCODER FOR 1401/1460	1440 03.3.001	079 051	#CARD AND TAPE SELECTIVE LISTER 1401 01.4 #TTSRT - TWO TAPE SORT 1401 01.2	.045 040 .012 036
GE TRANSLATOR #1401 SPS TO SYSTEM/360 BASIC ASSEMBLER LANGUA EGENERATION OF 1401 SPS TO 1440 AUTOCODER /AUTOC/ #SOURCE R		050 078	RAM FOR THE TUS/360 TAPE SURT # IBM 1401/60 TIMING PROG 1401 LM-C	10 010
EAPOLIS ASSEMBLY OF SPS TO 1440 AUTOLOBER AUTOLOBER ASSUMER K EAPOLIS ASSEMBLY OF SPS TWO WAS ASSEMBLER FULL MINNEAPOLIS OF SPS-27 / REVISED/ #FULL MAST /	1401 01.1.013	033 034	#8K THREE TAPE SORT MERGE 1401 01.2 #THREE TAPE SORT PROCESSOR 1401 01.2	.022 037 .011 036
#SPSS - AN IMPROVED SPS-ASSEMBLER	1401 01.1.036 1401 01.3.022	033 034 039	#THREE TAPE SORT PROGRAM 1401 01.2 #GENERALIZED THREE TAPE SORT PROGRAM 1401 01.2	.020 037
#SQUARE ROOT ROUTINE #SQUARE ROOT SUBROUTINE	1401 03.0.015 1401 03.0.003	058 058	OPERATING SYSTEMS TAPE SORT/MERGE PROGRAMS # 1401 LM-C # TAPE SORT/MERGE PROG. /2401 THROUGH 2404 1401 LM-C	78 011
MEIHUD #SQUARE ROUT SUBROUTINE USING ODD INTEGER	1401 03-0-014	058 058	ROGRAM FOR 18M 1401 TAPE SYSTEM #MULTIPLE UTILITY P 1401 UT-C # 1401 TAPE SYSTEM 1401 01.2	39 016 -016 038 -171 049
	1401 03.0.020	059 059	# 1401 TAPE SYSTEM 1401 01.2 EM FOR 8K, 12K, 16K TAPE SYSTEM #MONITOR SYST 1401 01.4 TAXES FOR 1BM 1401 TAPE SYSTEM #STATE AND LOCAL INCOME 1401 14.6	.175 049 .012 074
KEEPING #STACK - STORAGE ON TAPE TO ABRIDGE CARD-	1401 03.0.027 1401 01.4.107	059 044	### ##################################	.035 034 .139 046
#FARGO STAGE II / EXPANDED 4K CARD LAGI VERSION/ #STANDARD NAME ALTERATION PROGRAM RETRIEVING #1405 STAR-SYSTEM FOR STORING, MAINTAINING AND	1401 14.0.019	054 075	#TAPE TESTING ROUTINE FOR 1401 1401 01.4 #STACK - STORAGE ON TAPE TO ABRIDGE CARC-KEEPING 1401 01.4	-164 048 -107 044
T TAPE SYSTEM #STATE AND LOCAL INCOME TAXES FOR IBM 140 BRARY ACTIVITY DATA STATISTICAL #HISTORY REPORTING SYSTEM LI	1401 14-0-012	054 074 071	 SORT 7 WITH THREE TAPE UNBALANCED SORT CAPABILITY #SORT 71 1401 01.2 	-019 036
OGRAMS TO FICILITATE STATISTICAL ANALYSIS # PR #1440 STERLING BASIC REPORT PROGRAM GENERATOR	1401 06-0-011	062 026	#TAPE UPDATE UTILITY PROGRAM /CARD/ 1401 01.4 #STUMP /SPECIAL TAPE UTILITY MAINTENANCE PROGRAM/ 1401 01.4	·069 042
#1440 STERLING MACRO INSTRUCTIONS #1440/1311 STERLING REPORT PROGRAM DEVELOPMENT	1440 MI-702 1440 RG-720	024 026	L/ #MULTIPLE TAPE UTILITY PROGRAM /120-CHARACTER LABE 1401 UT-C #1401 ANC 1460 TAPE UTILITY PROGRAMS WITH 120 CHARACTER 1401 UT-C #TAPE UTILITY PROGRAMS	25 016
#STERLING SUBROUTINES #INFORMATION STORAGE AND RETRIEVAL PROGRAM	1440 MI-701 1401 10.3.047	024 070	#TAPE UTILITY SYSTEM FOR THE 771C 1401 UT-C UTION PROGRAM FOR A TAPE 1401 #GENERAL DISTRIB 1401 IF-C	69 018
#STACK - STORAGE ON TAPE TO ABRIDGE CARD-KEEPING	1401 01.4.215 1401 01.4.107	052 044	#TAPE-TO-CARC FOR THE SHARE LIBRARY 1401 13.1 #TAPE-TO-CARC UTILITY PROGRAM 1401 UT-C	. 028 073
#STORAGE PUNCHOUT PROGRAM TEM FOR INFORMATION STORAGE, RETRIEVAL, AND DISSEMINATIO#SYS	1401 01.4.038 1401 10.3.048	040 070	#TAPE-TC-PRINTER UTILITY PROGRAM 1401 UT-C #TAPE-TO-TAPE FOR THE SHARE LIBRARY 1401 13.1	26 016
405 STAR-SYSTEM FOR STORING, MAINTAINING AND RETRIEVING #1 MATERIAL PROCESSOR STRUCTURE FILE ADDRESS #BILL OF # DEPRECIATION STUDIES AND TEST OF FIT	1440 12.3.001	054 080	# /ON TAPE/ 1460 SV-C SYSTEM/360 7-TRACK TAPES #1401/1460 PROGRAM TO LABEL 1401 01.4	90 031 •222 053
PROGRAM/ #STUMP /SPECIAL TAPE UTILITY MAINTENANCE OUS MULTIPLY DIVIDE SUB-ROUTINE #1401/1460 SIMULTANE	1401 06.0.017	062 042 060	TE AND LOCAL INCOME TAXES FOR IBM 1401 TAPE SYSTEM #STA 1401 14.0 MMARIZATION PROGRAM#TELLER SIMULATION DATA CONVERSION AND SU 1401 10.2	.009 065
DATA CONVERSION AND SUMMARIZATION PROGRAM#TELLER SIMULATION ERVICAL CASEFINDING SUMMATION AND REPORT #HOSPITAL CANCER C	1401 10.2.009	065 080	MERCIAL AND SAVINGS TELLER SIMULATION USING NABAC MODEL #COM 1401 10.2 #ADMINISTRATIVE TERMINAL SYSTEM 1440 CX-C #ADMINISTRATIVE TERMINAL SYSTEM 1460 CX-C	7X 020
#SUPERVISOR FOR PROGRAM OVERLAYS 70 MULTIPROGRAMMING SUPERVISORY MONITOR #1440-1026-10	1401 01.4.078	042 075	#ADMINISTRATIVE TERMINAL SYSTEM 1460 CX-C DUCE #ITH LAST CARD TEST #ONE OF ONE - 80X80 REPRO 1401 01.4 #PREASSEMBLY TEST FOR AUTOCODER SOURCE DECKS 1401 01.1	·188 050
R S/360 BASIC PROG. SUPPORT #1401/1460 TIMING PROGRAM FO R S/360 BASIC PROG. SUPPORT #1401/1460 TIMING PROGRAM FO	1401 LM-078 1401 LM-080	011	CIATION STUDIES AND TEST OF FIT # DEPRE 1401 06.0 #TAPE TEST PROGRAM, 4K 1401 01.1	•017 062
UGRAM FOR 7090/7094 SUPPORT PACKAGE FOR IBM #INPUT PR #SYLVANIA PRINT ROUTINE	1401 UT-938 1401 01.4.082	018 043	RATOR FOR AUTOCODER TESTING #PATCH GENE 1401 01.1 RACE #DOCUMENT AND TESTING AIDS FOR COBOL THROUGH A LGGIC T 1401 01.4	-049 035
#SYMBOLIC A TO THE X POWER SUBROUTINE #TO 1410 SYMBOLIC ANALYZER #SYMBOLIC BLOCK DIACRAMMING SYSTEM	1401 03.0.006 1401 01.4.065	058 042	OMATIC PROGRAMMING, TESTING AND CONDENSING #APTCO - AUT 1401 01.4 #TAPE TESTING ROUTINE FOR 1401 1401 01.4	-094 043 -164 048
#SYMBOLIC BLOCK DIAGRAMMING SYSTEM #SYMBOLIC CORE DUMP #AUTGCODER SYMBOLIC CORE DUMP ROUTINE	1401 01.4.097 1401 01.4.141	043 047	# TEXT 1401 14.0 # THEORY 1401 10.3	.016 074 .011 066
.S. #SYMBOLIC LABEL CHECKING, ANY MACHINE S.P	1440 02.7.001 1401 01.1.030 1401 01.3.008	077 033 037	TRIEVAL #THESAURUS PREPARATICN FOR INFORMATICN RE 1401 10.3 #CORL-8 THIRTEEN VARIABLE SIMPLE CORRELATION 1401 06.0 M #ONE HUNDREC THOUSAND NOCE LESS PROGRAM FOR THE 4K 16 1401 10.3	-006 061
#SYMBOLIC PROGRAMMING SYSTEM 1 /SPS-1/ #SYMBOLIC PROGRAMMING SYSTEM 2 /SPS-2/	1401 SP-021 1401 SP-030	015 015	#LUG SCALE VERSUS TIME SCALE GRAPHICAL PRINTOUT JUSTMENT OF MCNTHLY TIME SERIES #SEASONAL AD 1401 06.C	.019 063
#ACCELERATOR PACK - SYMBOLIC 4K PROGRAMMING SYSTEM ASSEMBLY IEVAL SYSTEM #SYNTRAN AN INDEXING ABSTRACTING AND RETR	1401 01.1.016 1401 10.3.045	033 069	OGRAM #TIME SERIES ANALYSIS & DATA REDUCTION PR 1401 06.0 #1401/360 TIMING CALCULATION AID PROGRAM 1401 14.0	.015 062
INPUT-OUTPUT MACRO SYSTEM/ #TIOMS - /TAPE # SYSTEM/360	1401 01.5.003 1401 UT-938	053 018	#SYSTEM/360 RUN TIMING ON THE 1401/1440 1401 01.4 #SORT 13 AND 14 TIMING PROG. FOR 1401/1460. 1401 LM-0	.208 051 77 011
XADECIMAL OUTPUT OF SYSTEM/360 #CONVERTER TO EBCDIC OF HE SLATOR #1401 SPS TO SYSTEM/360 BASIC ASSEMBLER LANGUAGE TRAN	1401 02.0.033 1401 01.4.195	057 050	1/1460 SORT 5 AND 6 TIMING PROGRAM #140 1401 LM-C PROGRAM #1401/1460 TIMING PROGRAM FOR BPS S/360 SORT/MERGE 1401 LM-C	02 011
		vvi		

TITLE	SYSTEM FILE NO.	PAGE	TITLE SYSTEM FILE NO.	PAGE
YSTEM/360#1401/1460 TIMING PROGRAM FOR IBM BASIC OPERATING S #REACTION TIMING PROGRAM FOR IBM 1401 /CARD/	1401 LM-011 1401 11.0.005	010 072	ER WRITING #1240/1440 PROOF OF DEPOSIT AND CASH LETT 1440 10.2.002 0/1460 WITH THE IBM 1285 OPTICAL READER # 1401/144 1401 ID-077	079
APE #1401/1460 TIMING PROGRAM FOR SYSTEM/360 DISK AND 1 PORT #1401/1460 TIMING PROGRAM FOR S/360 BASIC PROG. SUF	1401 LM-078	010 011	#IBM 1440 SORT 13 1440 SM-036 #IBM 1440 SORT 13 1440 SM-037	010 027 027
PORT #1401/1460 TIMING PROGRAM FOR S/360 BASIC PROG. SUF #IBM 1401/60 TIMING PROGRAM FOR THE TOS/360 TAPE SORT	1401 LM-010	011 010	#50RT 13 AND 14 TIMING PROG. FOR 1401/1460. 1401 LM-077 #COPY 1311 DISK FILE TO 1EOF 1401 01.4.182	011
#SORT 7 TIMING PROGRAM FOR 1401/1460 #TIOMS - /TAPE INPUT-CUTPUT MACRO SYSTEM/		011 053	#IBM 1405 TO IBM 1311 DISK FORMAT CONVERSION 1401 01.5.021 #1311 DISK RECORD FINDER 1401 01.4.187	054 050
#TLUO1 TABLE LOOKUP CLOSED SUBROUTINE ING PROGRAM FOR THE TCS/360 TAPE SORT #IBM 1401/60 TIN #TRACE	1401 01.4.109 1401 LM-010 1401 01.4.092	044	440/1460#SIMPLE IBM 1311 IC LABEL CHECKING MACROS FOR 1401/1 1401 01.5.020 0 #IBM 1405 TO 1311 SIMULATION SUBROUTINES FOR 1401/146 1401 01.4.219	054 052
	1401 01.4.092 1401 01.4.106 1401 01.4.207	043 044 051	#1311 WHOLESALE IMPACT 1401 DW-03X #1311 WHOLESALE IMPACT 1440 DW-04X	004 021
#RAPID SELECTIVE TRACE BOL THROUGH A LOGIC TRACE #DOCUMENT AND TESTING AIDS FOR CO	1440 01.4.002	076 053	401/1440/144BIOS - 1311/1301 INPUT -OUTPUT SYSTEM FOR THE 1 1401 01-5-002 #IBM 1460 SORT 14 #IBM 1460 SORT 14 1460 SM-068	053 031 031
#RELOCATABLE TRACE PROGRAM ESTRICTED SELECTIVE TRACE ROUTINE #UNF	1401 01.4.103 1440 02.7.007	044 078	#SORT 13 AND 14 TIMING PROG. FOR 1401/1460. 1401 LM-077 SS REPORT FOR SMALL 1400 COMPUTER #INSTALLATION PROGRE 1401 01.3.021	011
#TRACE THAT NEEDS NO SPECIAL FEATURES #TRACE WITH EASY ENTRY AND EXIT	1401 01.4.133 1440 02.7.005	046 078	#IBM 1400 RPG TO SYSTEM/360 TRANSLATOR 1401 RG-700 #1400-1311 LINEAR PROGRAMMING SYSTEM 1401 CO-13X	013 003
#BOND TRADE ANALYSIS FOR A BANK OF CENSUS METHOD I#TRADING-DAY ADJUSTMENT FOR 1401 VERSIONS	1401 FB-09X 1401 06.0.018	006 063	/GANG PUNCH FOR THE 1401 #SELECTIVE REPRODUCE 1401 01.4.051 TESTING ROUTINE FOR 1401 #TAPE 1401 01.4.164	041 048
OPTRAIN OPERATOR TRAINING ON THE 1401 #DATA TRANSFER - PROGRAM FOR CENSUS METHOD II # RANDOM ACORESS TRANSFORMATION EVALUATION PROGRAM	1401 13.4.002 1401 06.0.013 1401 01.4.098	073 062 043	# 1401 1401 01.4.218 #TAPE FARGO FOR IBM 1401 1401 02.0.023	052 056
DIC/BCDIC CHARACTER TRANSLATION PROGRAM #BCDIC/EBC	1401 02.0.029 1401 RG-700	056 013	QUATIONS ON THE IBM 1401 # E 1401 03.0.016 # THE 8K-16K 1401 1401 03.0.034 # 18M 1401 11.0.003	058 059
ODER DECISION TABLE TRANSLATOR ASSEMBLER LANGUAGE TRANSLATOR #1401 SPS TO SYSTEM/360 BASIC	1401 03.0.045 1401 01.4.195	060 050	AME BRIOG-IT CN THE 1401 #THE G 1401 11.0.010 TOR TRAINING CN THE 1401 #OPTRAIN OPERA 1401 13.4.002	072 072 073
#DECISION LOGIC TRANSLATOR PROGRAM OR USE ON 1974 DATA TRANSMISSION #BASIC AUTOCODER REVISED F		013 075	PROGRAM FOR A TAPE 1401 #GENERAL DISTRIBUTION 1401 IF-03X 7750 USING THE IBH 1401 #ASSEMBLY PROGRAM FOR 1401 SP-133	008 015
#1401/1311 TRANSPORTATION PROBLEM #THE TRAVELING SALESMAN #TRIGONOMETRIC SUBROUTINES	1401 10.3.050	070 069 060	OGRAM USING THE IBM 1401 #1401/7740 ASSEMBLY PR 1401 SP-156 VAL PROGRAM FOR THE 1401 #ASK INFORMATION RETRIE 1401 10.3.009	016 066
#TTSRT - THO TAPE SORT #TTSRT - THO TAPE SORT #TUB FILE GANG PUNCH PROGRAM	1401 03.0.044 1401 01.2.012 1401 01.4.167	036 049	COLUMNS ON THE IBM 1401 #REPRODUCE ONLY CERTAIN 1401 01.4.221 R UTILIZATION AND 3 1401 #METHOD OF RECORDING COMPUTE 1401 06.0.011	052 062
#TMO-TAPE AUTOCODER ASSEMBLY FOR THE 1401 #TWO-TAPE SORT	1401 01.1.018	033	ROUTINE FOR THE 18M 1401 #REPRO - REPRODUCER SIMULATOR 1401 01.4.054 SUBROUTINES FOR THE 1401 #TAPE INPUT/OUTPUT MACROS AND 1401 01.4.047 OPS TO 1440 GPS ON 1401 #CVZZA TO CONVERT 1401 AUTOCODER 1401 01.4.209	041 040 051
#1401/1440/1460 TYPE COMPOSITION PROGRAM K AUTOCODER #TYPEWRITER MACROS FOR 1401/1440/1460 DIS	1401 14.0.018	074 057	OPS TO 1440 CPS ON 1401 #CVZZA TO CONVERT 1401 AUTOCODER 1401 01.4.209 ING PROGRAM FOR IBM 1401 /CARD/ #REACTION TIM 1401 11.000 120 CHARACTER #1401 AND 1460 TAPE UTILITY PROGRAMS WITH 1401 UT-025	072 016
T 7 WITH THREE TAPE UNBALANCED SORT CAPABILITY #SORT 71- SOF PROGRAM FOR CREDIT UNIONS #INDIVIDUAL LEDGER UPDATE	1401 10.3.056	036 071	#1401 ASAP 1401 01.1.050 -REFERENCE PHASE OF 1401 AUTOCOCER #CROSS 1401 01.1.054	035 035
PROGRAM FOR CREDIT UNIONS #INDIVIDUAL LEDGER EXTRACT #UNIVERSAL MEMORY PRINT #UNPACK CONDENSED CARDS	1401 01.4.096	071 043	SCANX MACRO FOR THE 1401 AUTOCODER # 1401 01.4.091 ICATION MONITCR FOR 1401 AUTOCODER #1460-1070 PROCESS COMMUN 1460 SV-090	043 031
#UNRESTRICTED SELECTIVE TRACE ROUTINE	1401 01.4.067 1440 02.7.007 1401 01.4.206	042 078 051	#CVZZA TO CCNVERT 1401 AUTOCODER OPS TO 1440 OPS ON 1401 1401 01.4.209 #CVOOA TO CCNVERT 1401 AUTOCODER OPS TO 1440 OPS ON 1440 1440 02.5.002	051 077
#INDIVIOUAL LEDGER UPDATE PROGRAM FOR CREDIT UNIONS #TAPE UPDATE UTILITY PROGRAM /CARD/	1401 10.3.056 1401 01.4.022	071 039	#7040/44 - 1401 AUXILIARY PROGRAMS 1401 UT-153 ICATION MONITOR FOR 1401 BASIC #1400-1070 PROCESS COMMUN 1460 SV-091 #CALOG, IBM 1401 CALOG SUBROUTINE 1401 03.0.046	018 031 060
	1401 UT-051 1401 01.4.176	017 049	# 1401 CARO SYSTEM 1401 10.3.026 #1401 COBOL 1401 CB-070	067 002
O/1311 DISK ADDRESS UTILITY #144 STUMP /SPECIAL TAPE UTILITY MAINTENANCE PROGRAM/ #UTILITY PRINT PROGRAM	1440 02.1.002	076 042	SIC SIMULATION ON A 1401 COMPUTER #MUSIC - MU 1401 11.0.012 #SDI 3 FOR THE IBM 1401 DATA PROCESSING SYSTEM 1401 10.3.004	072 065
#TAPE-TO-PRINTER UTILITY PROGRAM #TAPE-TC-CARD UTILITY PROGRAM	1401 01.4.225 1401 UT-026 1401 UT-028	053 016 016	NVERSION PROGRAM #1401 FARGO TO SYSTEM/360 RPG MODEL 20 CO 1401 02.0.036 #FLOGEN - IBM 1401 FLOW CHART GENERATOR 1401 02.0.022	057 056
#CARD-TG-TAPE UTILITY PROGRAM	1401 UT-027 1401 UT-157	016 018	ERTEO CARO FILE-IBM 1401 INFORMATION RETRIEVAL SYSTEM #INV 1401 10.3.006 #7040/44 - 1401 INPUT/OUTPUT CONTROL PROGRAM 1401 10-158 #7090/94 - 1401 PERIPHERAL OUTPUT PROGRAM 1401 UT-158	065 010
#MLR UTILITY PROGRAM 1401/407 SIMULATION UTILITY PROGRAM	1401 01.4.037 1401 01.4.150	040 047	#7090/94 - 1401 PERIPHERAL OUTPUT PROGRAM 1401 UT-158 #7040/7044 - 1401 PERIPHERAL UTILITY PROGRAM 1401 UT-157 ANGUAGE TRANSLATOR #1401 SPS TO SYSTEM/360 BASIC ASSEM _D LER L 1401 01.4-195	018 018 050
#FIXIT UTILITY PROGRAM -MULTIPLY CR CIVIDE UTILITY PROGRAM #1401/1440 MORDIMEF		049 060	RCE REGENERATION OF 1401 SPS TO 1440 AUTOCODER /AUTOC/ #SOU 1440 02.9.002 NTENANCE ON THE IBM 1401 TAPE #DECISION TABLE MAI 1401 02.0.038	078 057
DATA COMMUNICATIONS UTILITY PROGRAM -IBM 1009 #TAPE UPDATE UTILITY PROGRAM /CARD/ #MULTIPLE TAPE UTILITY PROGRAM /120-CHARACTER LABEL/	1401 UT-076 1401 01.4.022	018 039	ITY PROGRAM FGR IBM 1401 TAPE SYSTEM #MULTIPLE UTIL 1401 UT-039 # 1401 TAPE SYSTEM 1401 01.3.016	016 038
#MULTIPLE UTILITY PROGRAM FOR IBM 1401 TAPE SYSTEM #CARD SYSTEM UTILITY PROGRAMS	1401 UT-019 1401 UT-039 1401 UT-001	016 016 016	# 1401 TAPE SYSTEM 1401 01.4.171 NCOME TAXES FGR IBM 1401 TAPE SYSTEM #STATE AND LCCAL I 1401 14.0.012	049 074
#HYPERTAPE UTILITY PROGRAMS #TAPE UTILITY PROGRAMS	1401 UT-067 1440 UT-043	017 030	SUBROUTINE FOR THE 1401 USING NORMAL ₩A SQUARE ROOT 1401 03.0.019 # 1401 VERSION 1401 CS-03X 1 /EXPANDED 4K CARD 1401 VERSION/ #FARGO STAGE 1 1401 02.0.009	059 004 054
#DISK UTILITY PROGRAMS #UTILITY PROGRAMS FOR THE 1401-1311 DISK		030 017	-DAY ADJUSTMENT FOR 1401 VERSIONS OF CENSUS METHOD [#TRADING 1401 06.0.018 ER ASSEMBLY FOR THE 1401. #TWO-TAPE AUTOCOD 1401 01.1.018	063
#UTILITY PROGRAMS FOR THE 1401-1CO9 #1401 AND 1460 TAPE UTILITY PROGRAMS WITH 120 CHARACTER #MASTER UTILITY SYSTEM	1401 UT-066 1401 UT-025	017 016	TY PROGRAMS FOR THE 1401-1009 #UTILI 1401 UT-066 CH ROUTINES FOR THE 1401-1012 #TAPE PUN 1401 10-074	017 010
#TAPE UTILITY SYSTEM FOR THE 7710 #GUTS-1401 GENERAL UTILITY TAPE SEARCH	1401 01.5.019 1401 UT-069 1401 01.4.070	054 018 042	TY PROGRAMS FGR THE 1401-1311 DISK #UTILI 1401 UT-053 #1401-1311 DISK PRINT PROGRAM 1401 01.4.211 TH SCHEDULER /BASIC 1401/ #CRITICAL PA 1401 10.3.013	017 052
TING DATA INPUT FOR VALIDITY/ #EDIT /EDI #OND INVENTORY OR VALUATION	1401 01.1.020 1401 10.3.040	033 069	TH SCHEDULER /BASIC 1401/ #CRITICAL PA 1401 10.3.013 PROGRAM FOR THE 1BM 1401/ /CARD/ #MIP /MATRIX INVERSE 1401 05.0.001 ROUTINE FOR THE 1BM 1401/ 1403 #PLOTTING SUB 1401 14.0.013	066 060 074
FUNCTIONS ORDINARY VALUATION PROGRAM #CONSOLIDATES #VARIABLE CARD REPRODUCER FOR 1440/1311	1440 02.3.001	009 077	#1401/1311 AUTO-TEST 16K 1401 AT-082 #1401/1311 AUTO-TEST 8K 1401 AT-081	001 001
#CORL-8 THIRTEEN VARIABLE SIMPLE CORRELATION LTIPLE CORRELATION- VARIABLES OF IMPORTANCE DETERMINED #ML ONE-MAY ANALYSIS OF VARIANCE		061 061	PROGRAM #1401/1311 CARD-TO-DISK CONSECUTIVE LOAD 1401 01.4.159 #1401/1311 DISK ADDRESS UTILITY 1401 01.4.176	048 049
IGN #ANALYSIS OF VARIANCE, 2 TO THE N POWER FACTORIAL DES	1401 06.0.014 1401 06.0.012 1440 09.3.001	062 062 079	S 1401/1460 #1401/1311 DISK FILE DRGANIZATION ROUTINE 1401 UT-052 ACKS #1401/1311 MONITOR FOR PROGRAMS ON DISK P 1401 02.0.021 ISK/ 1401/1460 #1401/1311 REPORT PROGRAM GENERATOR /CN D 1401 RG-032	017 055
CODER SUBROUTINE TO VERIFY MODULUS 10 CHECK DIGITS #AUTO	1401 12.1.003	072 072	#1401/1410 #1401/1410 RG-U32 #1401/1311 TRANSPORTATION PROBLEM 1401 10.3.050 MMER #1401/1410 AUTOCODER PROGRAM LOGIC DIAGRA 1401 01.4.128	012 070 046
# 1401 VERSION ANALYZE PROGRAM, 8K VERSION #TAPE	1401 CS-03X 1401 01.4.100	004 044	M #1401/1410 CROSS REFERENCE LISTING PROGRA 1401 01.1.040 REFERENCE /PAPER/ #1401/1410 PRE-ASSEMBLY PROGRAM EDIT AND 1401 01.1.033	034 034
# 4K VERSION PANDED 4K CARD 1401 VERSION/ #FARGO STAGE II /E) NSUS METHOD II, X-9 VERSION, 4K, #SEASONAL ADJUSTMENT-CE	1401 10.3.019	067 054	O RUN TIMING CN THE 1401/1440 #\$Y\$STEM/36 1401 01.4.208 LABORATORY #1401/1440 DISK MANAGEMENT DECISION MAKIN 1401 10.2.012	051 065
NSUS METHOD II, X-9 VERSION, 4K, #SEASONAL ADJUSTMENT-CE ADJUSTMENT FOR 1401 VERSIONS OF CENSUS METHOD INTRADING-DAY	1401 06-0-010	062 062 063	1LITY PROGRAM #1401/1440 MORDIMER-MULTIPLY OR DIVIDE UT 1401 03.0.043 RESOURCES FOR #1401/1440 PROGRAM FOR THE ALLOCATION OF 1401 FB-14X RESOURCES FOR #1401/1440 PROGRAM FOR THE ALLOCATION OF 1440 FB-13X	060 006
#CHAIN AND WHOLESALE BILLING #1311 WHOLESALE IMPACT	1440 DW-01X 1401 DW-03X	020 004	RESQURCES FOR #1401/1440 PROGRAM FOR THE ALLOCATION OF 1440 FB-13X TPUT SYSTEM FOR THE 1401/1440/146#DIOS - 1311/1301 INPLT -OU 1401 01.5.002 VIDE SUBROUTINE FOR 1401/1440/1460 #FAST DI 1401 03.0.025	022 053 059
#1405 WHGLESALE IMPACT #1311 WHGLESALE IMPACT	1401 DW-02X 1440 DW-04X	004 021	#1401/1440/1460 AUTOCODER /ON DISK/ 1401 AU-008 TINE #1401/1440/1460 BCC-BCD CONVERSION SUBROU 1401 01.4.213	002 052
# CHECK-FORM WORDS #MEMCRY-DUMP IN WORDS /18 CARDS/	1401 14.0.008	074 041	AU-008 #CGDAC - 1401/1440/1460 CONDENSED OBJECT DECK TO 1401 01.4.224 PEWRITER MACRCS FOR 1401/1440/1460 DISK AUTOCODER #TY 1401 02.0.040	053 057
#WRITE AND REAG TAPE CHECK SIT AND CASH LETTER WRITING #124C/1440 PROOF OF DEPL #FORM WRITING SUBROUTINE /FORM/	1401 01.4.136 1440 10.2.002 1401 01.4.163	046 079 048	1231 READ MACRO FOR 1401/1440/1460 DISK SYSTEMS # 1440 02.4.002 SK #1401/1440/1460 JUB CUNTROL HONITOR ON DI 1401 01.4.220 CE PROGRAMS - RASP #1401/1440/1460.RESEQUENCE AUTOCODER SGUR 1401 01.4.189	077 052 050
#TAPE READING WRITING SUBROUTINES , CENSUS METHOD II, X-9 VERSION, 4K, #SEASONAL ADJUSTMENT	1401 IO-040 1401 06.0.010	009 062	#1401/1440/1460 MESEQUENCE AUTOCOBER SOOR 1401 01-4-189 #1401/1440/1460 TYPE COMPOSITION PROGRAM 1401 14-0-018 READER # 1401/1440/1460 WITH THE 16M 1285 OPTICAL 1401 10-0:77	074 010
T-CENSUS METHOD II, X-9 VERSION, 4K, #SEASONAL ADJUSTMEN #LEFT ZERO CHECK PROGRAM	1401 06.0.009 1440 02.6.002	062 077	#IBM 1401/1440/1460/1311 DISK SORT 1401 01.2.023 CHECKING MACROS FOR 1401/1440/1460#SIMPLE IBM 1311 ID LABEL 1401 01.5.020	037 054
	1401 01.4.009 1401 01.4.118	039 045	/1026/DDC/ FOR THE 1401/1460 #COMMUNICATIONS IOCS 1401 10-012 TIMING PROGRAM FOR 1401/1460 #SORT 7 1401 LM-060	009 011
ALCULATION- MODULUS 10 #SELF-CHECKING NUMBER (E TO VERIFY MCDULUS 10 CHECK DIGITS #AUTOCODER SUBROUTIN		049 045 072	PS TO AUTOCODER FOR 1401/1460 #CARD S 1401 01.4.205 GANIZATION ROUTINES 1401/1460 #1401/1311 DISK FILE OR 1401 UT-052 AUTOMORPHINES FOR 1401/1460 #1401/1311 DISK FILE OR 1401 UT-052	051 017
RY-DUMP IN BANDS OF 100 POS. /20 CARDS/ #MEMO TILITY PROGRAM -IBM 1009 #EATA COMMUNICATIONS OF	1401 01.4.063	041 018	ION SUBROUTINES FOR 1401/1460 #IBM 1405 TO 1311 SIMULAT 1401 01.4.219 GENERATOR /CN DISK/ 1401/1406 #1401/1311 REPORT PRUGRAM 1401 RG-032 STER RUN ON THE IBM 1401/1460 #SYSTEM/360 MODEL 20 RPG PRELI 1401 01.3.020	052 012 038
#THE IBM 1012 TAPE PUNCH AS A TAPE READER COMMUNICATIONS IOCS 1026/000/ FCR THE 1440	1401 14.0.021 1440 IO-012	075 023	4K #1401/1460 BASIC REPORT PROGRAM GENERATOR 1401 RG-022 #IBM 1401/1460 IOCS /ON CISK/ 1401 IO-068	012 009
CALCULATION MODULUS 11 #SELF-CHECKING NUMBER E TO VERIFY MODULUS 11 CHECK DIGITS #AUTOCODER SUBROUTIN	1401 12.1.004	063 072	IT #1401/1460 PACE PRE-ASSEMBLY CHECK AND ED 1401 01.1.051 TRACK TAPES #1401/1460 PROGRAM TO LABEL SYSTEM/360 7- 1401 01.4.222	035 053
ILITY PROGRAMS WITH 120 CHARACTER #1401 AND 146C TAPE UT SYSTEMS #1231 READ MACRU FCR 1401/144C/1460 DISK	1440 02.4.002	016 077	DER#DISASSEMBLER OF 1401/1460 PRGGRAMS FROM DBJECT TO AUTOCO 1401 02.0.035 UB-ROUTINE #1401/1460 SIMULTANEOUS MULTIPLY DIVIDE S 1401 03.0.041	057 060

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TITLE
                                           SYSTEM FILE NO. PAGE
                                                        049
                                                        025
027
027
076
077
080
024
076
076
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077
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1240

1240-FB-12X Program DEMAND DEPOSIT CONVERSION

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1240-FB-12X

THE IBM 1240 DEMANC DEPOSIT CONVERSION PROGRAM /1240-FB-12X/ IS DESIGNED TO CONVERT MICE PAPER DOCUMENTS TO DISK PACK RECORDS IN THE FORMAT REQUIRED BY THE 1440 DEMAND DEPOSIT APPLICATION PROGRAM. THE PROGRAM IS USED IN CONJUNCTION WITH THE 1440 DEMAND DEPOSIT PROGRAM TO DO THE COMPLETE DEMAND DEPOSIT APPLICATION ON THE 1240 SYSTEM. FEATURES- IT ALLOWS SORTING OF PAPER DOCUMENTS BASED ON AN ACCOUNT NUMBER LIMITS TABLE PREPARED BY THE USER. OTHER FUNCTIONS ARE IDENTICAL TO THE 1440 DEMAND DEPOSIT CONVERSION RUN.

FUNCTIONS ARE IDENTICAL TO THE 1440 DEMAND DEPUSII CUNVENSION RUN.

USE- THIS PROGRAM IS USED IN PLACE OF THE 1440 DEMAND DEPOSIT CONVERSION RUN ON THE 1240 SYSTEM. IT MAY BE USED WITHOUT MODIFIED IF USER REQUIREMENTS DICTATE. TWO PROGRAMS ARE FURNISHED WHICH ALLOW THE USE OF A BUFFERED TO RAY NUMBERFERED 1443 PRINTER. PROGRAM REQUIREMENT- DEMAND DEPOSIT ACCOUNTING FOR THE 1BM 1440 DATA PROCESSING SYSTEM /1440-F8-03X/- MINHOUS SYSTEM REQUIREMENTS
A 1241 PROCESSING UNIT MODEL A4., 1442 CARD READ PUNCH MODEL 1., 1443 PRINTER WITH ADDITIONAL PRINT POSITIONS., 1447 CONSOLE WITH SENSE SWITCHES., TWO 1311 DISK STORAGE DRIVES, MODELS I AND 2.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM HRITE-UP... REFERENCE MANUAL
INCLUDING PROGRAM LISTINGS.
CARD DECKS - SOURCE AND PROGRAM CARDS.

1240-SM-030 BANK DOCUMENT SORT PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1240-SM-030

THE IBM 1240 BANK DOCUMENT SORT PROGRAM, NO. 1240-SM-030, PROVIDES A COMPLETE GENERAL PURPOSE SORTING PROGRAM FOR FINE SORTING OF DOCUMENTS, WHICH IS AN INTEGRAL PART OF DEMAND DEPOSIT ACCOUNTING PROCEDURES. THE PROGRAM IS SPECIFICALLY DESIGNED FOR THIS PURPOSE. DOCUMENTS CAN BE SORTED OVER ANY VALID MICR FIELD OF FROM ONE TO TEN DIGITS. THE USER SPECIFIES THE FIELD AND THE DIGITS IN THE FIELD OF SORTED IN A CONTROL CARD. THE PROGRAM CAN SEQUENCE CHECK COLUMNS PREVIOUSLY SORTED. THE USER MAY SPECIFY IN THE CONTROL CARD MODULUS 10 OR MODULUS IN THE FIELD AND SORTED IN A CONTROL CHECKING MHEN DESIRED. TO HANDLE SPECIFIA APPLICATIONS, UP TO THREE USER ROUTINES AND BE INCLUDED—/1/ A SPECIALIZED SORT ROUTINE, Y2/ A CHECKSUM ROUTINE TO HANDLE CHECK DIGITS DERIVED BY A METHOD OTHER THAN MODULUS 10 OR 11, /3/ A REJECT ROUTINE. THE USER ROUTINES ARE SPECIFIED BY INCLUDING ACTUAL ADDRESSES OF THE ROUTINES IN THE CONTROL CARD.
MINIMUM SYSTEM REQUIREMENTS—AN 8K 1240 SYSTEM WITH... ONE 1442 CARD READER. THE PROGRAM UTILIZES THE DASH TRANSMISSION FEATURES WHERE THEY ARE INSTALLED. NOTE—FOR AUTOCODER ASSEMBLY OF USER ROUTINES. A 1443 PRINTER AND CARD PUNCHING FACILITY /1442 OR 1444/ ARE REQUIRED.

BASIC PROGRAM MATERIAL-COCUMENTATION - PROGRAM WRITE-UP... SPECIFICATIONS AND OPERATING PROCEDURES.

CARD DECKS - BAND DOCUMENT SORT PROGRAM DECK.

OPTIONAL PROGRAM MATERIAL- FLOWCHARTS AND PROGRAM LISTING. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401

1401-AT+017 AIDS CARD SYSTEM ERROR-DETECTION

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-AT-017

TO PROVIDE A SIMPLE 1401 SYSTEM FOR CHECKING OUT PROGRAMS. EQUIPMENT SPECIFICATIONS NO SPECIAL FEATURES RECUIRED. THE PROGRAMS WILL PROVIDE A CONTROL CARD METHOD FOR PATCHING/ A 1401 PROGRAM WITH INSTRUCTIONS THAT WILL EITHER 1. HALT THE PROGRAM AT SELECTED TIMES 2. PRINT SELECTED AREAS OF STORAGE AT SELECTED TIMES. MEANS FOR CONVENIENTLY REMOVING THE PATCHES ARE ALSO PROVIDED.

BASIC PROGRAM MATERIAL
DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLONCHARTS...

OPERATING PROCEDURES.

CARD DECK - CONDENSED PROGRAM DECK.

1401-AT-072 AUTO-TEST

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-AT-072

AUTO-TEST IS A TESTING PROGRAM FOR THE IBM 1401 DATA PROCESSING SYSTEM. IT EFFECTIVELY USES THE POWER OF THE 1401 SYSTEM TO AID IN THE TESTING OF AUTOCODER, SPS, AND FARGO PROGRAMS. AUTO-TEST PROVIDES THE ABILITY TO STACK PROGRAMS AND PRODUCES, WITH A MINIMUM OF OPERATOR INTERVENTION, THE NECESSARY OCCUMENTATION TO EVALUATE THE TESTING PROGRAMS. 1 1401 PROCESSING UNIT / ANY MODEL WITH 1401 PROCESSING UNIT / ANY MODEL WITH 5 THE MORE STORAGE POSITIONS/, ADVANCE PROGRAMMING FEATURE, HIGH LOW EQUAL COMPARE FEATURE, SENSE SWITCHES, 1 1402 CARO READ-PUNCH,1 1403 PRINTER /MODEL 2/, 1 TAPE UNIT /2 TAPE UNITS IF THE RAMAC FILE TRACE AND/OR SNAPSHOTFEATURES ARE UTILIZED/
THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP, FLONCHARTS, OPERATING
INSTRUCTIONS, GENERAL INFORMATION MANUAL.
MACHINE READABLE - ONE TAPE CONTAINING THE AUTO-TEST SYSTEM
DECK AND AUTOCOBER LISTING HITH SELECT LOADING PROGRAM.

A-1401 PAGE 001

1401-AT-081 1401/1311 AUTO-TEST 8K ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-AT-081

AN INTEGRATED SET OF UTILITY PROGRAMS...

AUTO-TEST IS DESIGNED TO PROVIDE DOCCUMENTATION FOR PROGRAM
EVALUATION OURING A PROGRAM TESTING RUN. IT CAN BE USED ON AN
IBM 1401/1311 OR 1400/1311 SYSTEM TO TEST PROGRAMS ASSEMBLED
BY THE IBM 1401/1311 AUTOCODED PROGRAM. BECAUSE TEST RUNS CAN
BE PLANNED TO PROCEED WITH A MINIMUM OF OPERATOR INTERVENTION.
AUTO-TEST IS A USEFUL TOOL FOR REMOTE TESTING. AUTO-TEST 164
PERMITS TESTING OF LARGER PROGRAMS THAN DOES ITS COMPANION 8K
SYSTEM.

PERMITS TESTING OF LARGER PROGRAMS THAN DOES ITS COMPANION 8K SYSTEM.
FUNCTIONS CAN BE SELECTIVELY SPECIFIED...
THE AUGIC-TEST SYSTEM RESIDES IN DISK STORAGE DURING TESTING.
IT CONTROLS PROGRAM TESTS IN WHICH THE FOLLOWING FUNCTIONS
CAN BE SELECTIVELY SPECIFIED.
CLEAR SELECTIVELY SPECIFIED.
CLEAR SELECTIVELY SPECIFIED.
PRINT SELECTION AREAS OF DISK STORAGE
PRINT SELECTED AREAS OF DISK STORAGE
PRINT SELECTED AREAS OF DISK STORAGE
PRINT FIXED OR VARIABLE—LENGTH, BLOCKED OR UNBLOCKED
TAPE RECORCS
CREATE TAPE FILES PRIOR TO THE TEST OF EACH INDIVIDUAL
PROGRAM
PRINT FIXED OR VARIABLE—LENGTH, BLOCKED OR UNBLOCKED
TAPE RECORCS
CREATE AND MAINTAIN IBM STANDARD TAPE LABELS /120-CHARACTER/
MAINTAIN DISK LABELS ON THE LABEL TRACK OF A DISK PACK
PRINT DATA READ FROM OR WRITTEN IN DISK STORAGE DURING
PROGRAM EXECUTION
PRINT DATA FROM SELECTED AREAS OF CORE STORAGE AT SPECIFIC
TIMES DURING PROGRAM EXCEUTION
PRINT CATE SURRAGE WHEN PROGRAM EXECUTION TERMINATES
LIST PUNCHED CARD INPUT BEFORE TEST AND OUTPUT FOLLOWING
TEST

MINIMUM SYSTEM REQUIREMENTS -AN 8K OR 16K 1401 SYSTEM MITH... ONE 1311 DISK STORAGE DRIVE... 1402 CARD READ PUNCH... 1403 PRINTER MODEL 2 OR 1404 PRINTER... ADVANCED PROGRAMMING AND HIGH-LOM-EQUAL COMPARE OR AN 8K CR 16K 1460 SYSTEM WITH... ONE 1311 DISK STORAGE DRIVE... IBM 1402 CARD READ PUNCH... ONE 18M 1403 PRINTER... INDEXING AND STORE ACCRES REGISTER.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... SYSTEM LISTINGS...
SPECIFICATIONS AND OPERATING PROCEDURES.
CARD DECKS - BUILD AUTO-TEST SYSTEM DISK PACK /DECK A/...
INITIATE PROGRAM TESTING /DECK B/... RESTART /DECK C/...
SAMPLE PROGRAM TEST DECK.

OPTICNAL PROGRAM MATERIAL -SYSTEM FLOMCHARTS. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-AT-082 1401/1311 AUTO-TEST 16K ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-AT-082

AN INTEGRATED SET OF UTILITY PROGRAMS...
AUTO-TEST IS DESIGNED TO PROVIDE DOCUMENTATION FOR PROGRAM
EVALUATION DURING A PROGRAM TESTING RUN. IT CAN BE USED ON AN
BIM 1401/1311 OR 1400/1311 SYSTEM TO TEST PROGRAMS ASSEMBLED BY
THE IBM 1401/1311 AUTOCODER PROGRAM. BECAUSE TEST RUNS CAN BE
PLANNED TO PROCEED WITH A MINIMUM OF OPERATOR INTERVENTION, AUTOTEST IS A USEFUL TOOL FOR REMOTE TESTING. AUTO-TEST 16K PERMITS
TESTING OF LARGER PROGRAMS THAN DOES ITS COMPANION 8K SYSTEM.
FUNCTIONS CAN BE SELECTIVELY SPECIFIED...
THE AUTO-TEST SYSTEM RESIDES IN DISK STORAGE DURING TESTING.
IT CONTROLS PROGRAM TESTS IN WHICH THE FOLLOWING FUNCTIONS
CAN BE SELECTIVELY SPECIFIED.

- CLEAR SELECTIPED AREAS OF DISK STORAGE
- PRINT SELECTED AREAS OF DISK STORAGE
- CREATE TAPE FILES PRIOR TO THE TEST OF EACH INDIVIDUAL
PROGRAM

- PRIGRAM
 PRINT FIXEC / OR VARIABLE-LENGTH, BLOCKED OR UNBLOCKED TAPE
 RECOND :

- PRINT FIXEC / OR VARIABLE-LENGTH, BLOCKED OR UNBLOCKED TAPE RECORDS

- CREATE AND MAINTAIN IBM STANDARD TAPE LABELS /120-CHARACTER/
- MAINTAIN DISK LABELS ON THE LABEL TRACK OF A DISK PACK
- LOAD THE PROGRAM TO BE TESTED FROM CARDS
- PRINT DATA READ FROM OR WRITTEN IN DISK STORAGE DURING PROGRAM EXECUTION
- PRINT DATA FROM SELECTED AREAS OF CORE STORAGE AT SPECIFIC TIMES DURING PROGRAM EXECUTION
- PRINT CORE STORAGE WHEN PROGRAM EXECUTION TERMINATES
- LIST PUNCHED CARD INPUT BEFORE TEST AND OUTPUT FOLLOWING TEST SEVERAL PROGRAMS MAY BE STACKED FOR TESTING IN A SINGLE RUN. A CONVENIENT CARD FORMAT FOR PATCHING PROGRAM DECKS BEING TESTED IS PROVIDED TO FACILITATE RETESTING OF ANY PROGRAM. MINIMUM SYSTEM REQUIREMENTS...
AN 8K OR 16K 1401 SYSTEM MITH... ONE 1311 DISK STORAGE DRIVE...
ADVANCED PROGRAMMING AND HIGH-LOW-EQUAL COMPARE OR AN 8K OR 16K 1405 SYSTEM MITH... ONE 1311 DISK STORAGE ORIVE...
ADVANCED PROGRAMMING AND HIGH-LOW-EQUAL COMPARE OR AN 8K OR 16K 1405 SYSTEM WITH... ONE 1311 DISK STORAGE ORIVE... IBM 1402 CARD READ PUNCH... 1603 BIM 1403 PRINTER... INDEXING AND STORE ADDRESS REGISTER.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... SYSTEM LISTINGS...
SPECIFICATIONS AND OPERATING PROCEDURES.
CARD DECKS - BUILD AUTO-TEST SYSTEM DISK PACK /DECK A/...
INITIATE PROGRAM TESTING /DECK B/... RESTART /DECK C/...
SAMPLE PROGRAM TEST DECK.

OPTICNAL PROGRAM MATERIAL — SYSTEM FLORCHARTS.
OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-AU-005 BASIC AUTOCODER 2K ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-AU-005

THE 1401 BASIC AUTOCODER 2K PROCESSOR ACCEPTS SOURCE STATEMENTS MEITTEN IN BASIC AUTOCODER 2K LANGUAGE AND PRODUCES MACHINE LANGUAGE DEJECT PROGRAMS. BASIC AUTOCODER 2K IS A 2-PASS SYSTEM. THE SOURCE PROGRAM IS PROCESSED AND THE RESULTING OBJECT PROGRAM IS CONVEKTED BY ONE OF THO SPECIAL CONDENSING

IBM Programs

PAGE 002 A-1401 CONTINUED FROM PRIOR PAGE-ROUTINES FROM CNE-INSTRUCTION-PER-CARD TO CONDENSED CARD FORMAT.
MINIMUM SYSTEM REQUIREMENTSA 2K 1401 SYSTEM WITH... 1402 CARD READ PUNCH... 1403 PRINTER. BASIC PROGRAM MATERIAL —
DOCUMENTATION — PROGRAM WRITE-UP... OPERATING PROCEDURES.
CARD DECKS — PROCESSOR DECK... PRE-LIST ROUTINE DECK... POST-LIST
ROUTINE DECK... CONDENSING ROUTINES DECKS 1 AND 2... SAMPLE
PROBLEM DECK. OPTIONAL PROGRAM MATERIAL - FLOWCHARTS... PROGRAM LISTINGS.
OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD. 1401-AU-008 DISK/ 1401/1440/1460 AUTOCODER /ON ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-AU-008 BASIC PROGRAM MATERIAL—
DOCUMENTATION — PROGRAM WRITE—UP... AUTOCODER LANGUAGE
SPECIFICATIONS... LISTING OF SAMPLE SOURCE PROGRAM...
SPECIFICATIONS... OPERATING PROCEDURES.
CARD DECKS—— AUTOCODER SYSTEM DECK... IBM—SUPPLIED.MACROS...
SAMPLE SOURCE PROGRAM DECK..
MAGNETIC TAPE — ONE REEL IS REQUIRED IF USER DESIRES PROGRAM
ON TAPE IN CARD IMAGE FORM.
*SEE OPTIONAL MATERIAL. OPTIONAL PROGRAM MATERIAL-- FLOMCHARTS... LISTINGS.
*** ONE OF THE FOLLCWING PROGRAMS SHOULD BE OBTAINED TO
PREPARE DISK STORAGE TO STORE THE AUTOCODER SYSTEM...
/// 1401/1460 DISK UTILITY PROGRAM 1401-UT-053.
/// 1440 DISK UTILITY PROGRAMS 1440-UT-041. 1401-AU-037 AUTOCODER PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-AU-037 PURPOSE TO PROVIDE MORE POWERFUL TOOLS FOR PROGRAMMERS TO ENABLE THEM TO CONCENTRATE THEIR EFFORTS ON THE PROBLEMS OF PROGRAM LOGIC RATHER THAN CODING. IN ADDITION, TO PROVIDE AN EXTREMELY FAST ASSEMBLY SYSTEM. EQUIPMENT SPECIFICATIONS 4000 CORE-STORAGE POSITIONS 4 /FOUR/ 729 II OR IV TAPE UNITS 1403 PRINTER MODEL 3 1402 CARD READ-PUNCH ADVANCED PROGRAMMING FEATURES HIGH-LOM-EQUAL COMPARE THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR ORDERED FOR EACH ITEM THAT IS ORDERED. THE TAPES MUST BE 2400 FEET IN LENGTH. BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM HRITE-UP, OPERATING PROCEDURES.
MACHINE READABLE - ONE TAPE /SYSTEM TAPE AND LISTINGS/. 1401-CA-04X SYSTEM DATA ANALYSIS AND REDUCTION ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-CA-04X DARS IS A SET OF PROGRAMS UNDER ITS OWN MONITOR CONTROL WHICH
CAN BE USED TO—SELECTIVELY EXTRACT RECORDS FROM A FILE BASE
ON A VARIETY OF CONDITIONS, PRODUCE STATISTICAL ANALYSIS AND
SINCLE AND MULTI-COLUMN / MATRIX / TABULAR REPORTS, REARRANGE
RECORDS TO ANY DESIRED FORMAT AND MANE CONDITIONAL OR
UNCONDITIONAL INSERTIONS INTO RECORDS. ALL OF THESE FUNCTIONS
ARE OBTAINABLE IN ANY SEQUENCE BY USING SIMPLE CONTROL CARDS.
FEATURES—
— ACCEPTS CARD OR MAGNETIC TAPE INPUT
— ONE OR MORE STATISTICAL ANALYSES OR TABULAR REPORTS MAY BE
PRODUCED FROM THE SAME INPUT DATA
— REPORTS ARE PRODUCED IMMEDIATELY ON THE 1403 PRINTER
— THE SYSTEM IS USER-EXPANDABLE AND MAY BE TAILORED TO MEET
SPECIFIC NEEDS BY PROGRAM CHANCES, ADDITIONS, AND DELETIONS
USE— THE DATA ANALYSIS AND REDUCTION SYSTEM, MRITTEN IN 1401
AUTOCOCER LANGUAGE /1401-AU-037/. THE USER SELECTS THE
PROGRAMS TO BE RUM AND SPECIFIES THE ACTION TO BE TAKEN BY EACH
THROUGH THE USE OF CONTROL CARDS.
MINIMUM MACHINE REQUIREMENTS—AN BE 1401 SYSTEM WITH, THREE
MAGNETIC TAPE UNITS, 1402 CARD READ PUNCH, 1403 PRINTER, MODEL 2
MAD HIGH-LOM-EQUAL COMPARE, ADVANCED PROGRAMMING, MULTIPLY—
DIVIDE AND SENSE SWITCHES TO USE VARIABLE INPUT CONTROL
PROGRAMS A FOURTH TAPE UNIT IS NEEDED IF SORTING IS NECESSARY.

THE NUMBER OF TAPES INDICATED MAY BE SUPPLIED OR ORDERED PROM

THE NUMBER OF TAPES INDICATED MAY BE SUPPLIED OR ORDERED FROM YOUR IBM REPRESENTATIVE. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

A-1401 CONTINUED FROM PRIOR COLUMN--BASIC PROGRAM MATERIAL DOCUMENTATION - APPLICATION DIRECTORY... SAMPLE PROBLEM
OUTPUT LISTING... APPLICATION DESCRIPTION MEDO-0207...
PROGRAMMERS AND OPERATORS MANUAL H20-0214.
MACHINE READABLE - A DTR CONTAINING THE OBJECT PROGRAM
AND SAMPLE PROBLEM IN CARD IMAGE FORM. OPTICNAL PROGRAM MATERIAL - SYSTEM MANUAL... A FULL 2400 FOCT REEL OF MAGNETIC TAPE CONTAINING THE SOURCE PROGRAM, AND THE MIXED AUTOCODER OUTPUT CONSISTING OF THE ASSEMBLY LISTINGS AND OBJECT PROGRAM CARDS. OPTIONAL MATERIAL DESTRED MUST BE TIEMIZED ON THE CROER CARD. THE OTR /DISTRIBUTION TAPE REEL/ WILL BE SUPPLIED BY PID. 1401-CB-070 1401 COBOL
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-CB-070 1401 COBOL IS A COMPILER SYSTEM FOR THE IBM 1401 DATA PROCESSING SYSTEMS.
USE CF PROGRAM— 1401 COBOL IS USED IN CONJUNCTION WITH 1401 AUTOCODER. THEREFORE, A CURRENT VERSION OF AUTOCODER CONTAINING A LIBRARY UPDATED WITH THE COBOL SUBROUTINES IS REQUIRED TO OBTAIN A VALID ASSEMBLY AFTER THE COBOL RUN HAS BEEN COMPLETED. 10CS ONE—FOR—ONE INSTRUCTIONS NORMALLY WILL BE GENERATED BY THE COBOL PROCESSOR WITHCH REQUIRES LESS TIME FOR THE GENERATION/ HOWEVER, THE USER DOES HAVE THE OPTION OF THE COBOL PROCESSOR WITHCH REQUIRES LESS TIME FOR THE CORNESSOR VALIDABLE FOR THE PURPOSE OF DIACNOSING NAME—ASSOCIATED ERRORS AND FOR ANALYZING THE SURFER PROFRAM. THESE DIAGNOSTICS ARE FAR SUPERIOR TO THOSE CONTAINED IN THE SYSTEM ANALYZING THE SENTENCE STRUCTURE OF THE SOURCE PROGRAM. THESE DIAGNOSTICS ARE FAR SUPERIOR TO THOSE CONTAINED IN THE SYSTEM ANALYZING USED OF THE PRE—SCAN DIAGNOSTIC NOT THE SYSTEM ANALYZING THE PRE—SCAN DIAGNOSTIC THE COMPLETED. A MINIMUM OF 8K STORAGE IS REQUIRED IF THIS OPTION IS USED. MACHINE CONFIGURATION — 1401 NITH 4K STORAGE—A HAGNETIC TAPES.—1402 CARD—READ—PUNCH.—1403 MOD.2 OR 1443 PRINTER.—ADVANCED PROGRAMMING FEATURE HOLD THE SUPER PROGRAM MOUNTED THE FORMER FATURE HIGH—LOW—EQUAL COMPARE FEATURE HOLD THE SUBJECT HACHINE MUST HAVE AT LEAST—4,000 POSITIONS OF CORE STORAGE IN THE SUBJECT PROGRAM MULTIPLY—DIVIDE FEATURE IF EITHER THE MULTIPLY OR DIVIDE VERB IS USED IN AN ARITHMETIC EXPRESSION. OR IF THE OPERATOR MAY BE ELININATED BY THE SOURCE PROGRAM. OR IF THE OPERATOR SAY BE ELININATED BY THE WEST OF THE ENTER AUTOCODER STATEMENT, WITH THE USE IN LENGTH.

UNSED IN THE SOURCE PROGRAM, OR IF THE OPERATOR SAY BE ELININATED BY THE WEST OF THE ENTER AUTOCODER STATEMENT, WITH THE USE THE NUMBER OF TAPES INDICATED HAY BE CRESSEN ANY BE ELININATED BY THE SUPPLYING THE APPROPRIATE SUBROUTINE.

THE HUMBER OF TAPES INDICATED HAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH. 1401 COBOL IS A COMPILER SYSTEM FOR THE IBM 1401 DATA PROCESSING BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... SPECIFICATIONS...

OPERATING PROCEDURES.

MAG. TAPE - ONE REEL - /TRANSMITTAL TAPE/. OPTIONAL PROGRAM MATERIAL - OBJECT TIME SUBROUTINE FLOW DIAGRAM. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD. 1401-CB-701 COBOL LANGUAGE CONVERSION PROGRAM

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-CB-701 RECET THROUGH LOCAL IBM BRANCH OFFICE

PECIFY FILE NUMBER 1401-CB-701

IT AIDS IN THE TRANSITION TO SYSTEM/360 BY CONVERTING ACCEPTABLE CURRENT COBOL LANGUAGES TO EITHER SYSTEM/360 LEVEL E COBOL OR LEVEL F COBOL.

ACCEPTABLE LANGUAGES -- THE COBOL LCP WILL ACCEPT AS INPUT-1401/1440/1460 COBOL 7070/7074 COBOL 7090/7094 COBOL 7090/709

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP...PROGRAM MATERIAL LIST...
COBOL TRANSITION AIDS MANUAL.
MACHINE REACABLE - ONE REEL OF TAPE CONTAINING THE COBOL
LANGUAGE CONVERSION OBJECT DECK.

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A-1401

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OPTIONAL PROGRAM MATERIAL - ONE REEL OF TAPE CONTAINING THE COBOL LANGUAGE CONVERSION SOURCE DECKS.

OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD. THE NUMBER OF TAPES NECESSARY TO OBTAIN THE PROGRAM MATERIAL MAY BE SUPPLIED OR ORDERED FROM YOUR IBM REPRESENTATIVE. THE TAPES SHOULD BE 2400 FEET IN LEMBTH.

1401-CN-03X AUTOPROPS II NUMERICAL CONTROL PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-CN-03X

AUTOPROPS II IS A 1401-CN-03X

AUTOPROPS II IS A 1401 COMPUTER PROGRAM FOR X-Y AXIS N/C
MACHINE TOOLS TO COMPUTE POINTS AND POINT ARRAYS USED IN
DRILLING, BORING, TAPPING, STAMPING, RIVETING, ETC.
AUTOPROPS II IS EXPANDEC TO GIVE FOUR DECIMAL OUTPUT
ACCURACY FOR MACHINE TOOLS SUCH AS JIE GRINDERS AND
JIE BORRERS. ANYONE HAVING THO AXES POINT-TO-POINT N/C
MACHINE TOOLS SHOULD BE INTERESTED IN THE AUTOPROPS II
PROGRAM TO REDUCE LEAD TIMES, TOOLING COSTS, AND EASY
MODIFICATION RESULTING FROM ENGINEERING DESIGN CHANGES.
NO NEM LANGUAGE IS NECESSARY TO PROGRAM A PART WITH
AUTOPROPS II BECAUSE THE SOURCE STATEMENTS REQUIRE ONLY
SIMPLE ARITHMETICAL DESCRIPTIONS FAMILIAR TO EVERYONE.
AS MANY AS 999 POSITIONS IN A PATTERN, SUCH AS A BOLT CIRCLE
OR MATRIX, CAN BE PROGRAMMED BY WITH A SINCLE IMPUT STATEMENT.
SMALL PARTS OFTEN LOADED IN A MULTIPLE STATION LOADING
TIME IS REDUCEG IN MANY CASES OVER HAND METHODS. A TEST
PROGRAMM AND A PLOT PROGRAMMED AS A MATRIX AND PROGRAMMING
TIME IS REDUCECE IN MANY CASES OVER HAND METHODS. A TEST
PROGRAMM AND A PLOT PROGRAM GIVE THE PROGRAMMER AN
OPPORTUNITY TO VERIFY HIS RESULTS BEFORE MACHINING A PART,
THEREBY REDUCING TIME AND ERRORS TO A MINIMUM. MINIMUM
REQUIREMENTS ARE A 1401 WITH 4K STORAGE, CARO INPUT/GUTPUT
AND 1403 PRINTER MOL 2.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL LISTINGS.
MACHINE READABLE - OBJECT PROGRAM DECK... SAMPLE PROBLEM DECK.

OPTIONAL PROGRAM MATERIAL - SOURCE DECK
OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE GROER CARD.

1401-CO-13X SYSTEM

1400-1311 LINEAR PROGRAMMING

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-CC-13X

LINEAR PROGRAMHING IS A MATHEMATICAL PROGRAMMING TECHNIQUE FOR DETERMINING THE OPTIMUM SOLUTION TO A SYSTEM OF LINEAR INEQUALITIES. THIS SOLUTION MAY BE AN OPTIMUM ALLOCATION OF RESOURCES /CAPITAL, RAM MATERIALS, MANDOWER, ETC./ TO SPECIFIED ACTIVITIES /INVESTMENTS, PRODUCTS, JOBS/ IN ROBER TO OBTAIN A PARTICULAR OBJECTIVE /MINIMUM EXPENSE, MAXIMUM PROFOLIT/ WHEN THERE ARE ALTERNATE USES FOR THESE RESOURCES. LINEAR PROGRAMMING PLAYS AN IMPORTANT ROLE IN MATERIAL ALLOCATION, INGREDIENT BLENDING FEED, FLOUR, GASOLINE, ETC./, PRODUCTION SCHEDULING, AND DISTRIBUTION AND SHIPPING. THE SYSTEM IS COMPOSED OF A NUMBER OF PROGRAMS STORED ON DISK. THE PROGRAMS ARE CALLED BY PROCEDURE CONTROL CARDS KNOWN AS AGENOMU CARDS. THE SOLUTION PROCEDURE BY CALLING THE PROCESSING AGENCA FOR AN APPLICATION. THE SOURCE OF AGENDUM CARDS DEFINES THE SOLUTION PROCEDURE BY CALLING THE PROCESSING AGENCA FOR AN APPLICATION.

FEATURES ARE—
CATA ORIGINATES FROM CARCS IN SHARE STANDARD FORMAT.
ALTERNATE OBJECTIVE FUNCTIONS AND RIGHT-HAND SIDES ARE
SPECIFIED BY NAME FOR OPTIMIZATION.
A MODIFIED SIMPLEX ALCORITHM WITH BOUNDED VARIABLES IS USED TO
MAXIMIZE OR MINIMIZE THE OBJECTIVE FUNCTION.
FULL ECONOMIC ANALYSIS OF THE PRICE—ACTIVITY—COST RELATIONSHIPS
FOR STRUCTURAL VARIABLES AND OF THE ACTIVITY—COST RELATIONSHIP
FOR ROW CONSTRAINTS IS PROVIDED.
SOLUTION CAN BE INTERRUPTED TO PROCESS HIGHER PRIORITY JCBS,
AND CONTINUED FROM THE POINT OF INTERRUPTION.
STORING PROGRAMS ON CISK ENABLES THE SYSTEM TO PROVIDE
COMPREHENSIVE SOLUTION PROCEDURES AND POST—OPTIMAL ANALYSIS.
OPTIONAL FEATURES CAN BE USED TO INCREASE SOLUTION SPEED.

THE BOUNDEC VARIABLES ALGORITHM REDUCES THE MATRIX SIZE OF MANY LP PROBLEMS. UPPER AND LOWER BOUNDS ON VARIABLES ARE HANDLED EXPLICITLY SO THAT NO . BOUND ROWS, ARE NEEDED. ROWS MAY HAVE BOTH HIGH AND LOW LIMITS, FURTHER REDUCING THE NUMBER OF ROWS REQUIRED TO SPECIFY THE PROBLEM. THE PROBLEM MATRIX SIZE MAY HAVE UP TO 47 ROWS AND 900 COLUMNS ON A 4K SYSTEM AND UP TO 97 ROWS AND 900 COLUMNS ON A 9K SYSTEM AND UP TO 97 ROWS AND 900 COLUMNS ON AN BK OR LARGER SYSTEM. THE NUMBER OF ROWS AND COLUMNS INCLUDES OBJECTIVE FUNCTIONS AND RIGHT-HAND SIDES.

MINIMUM SYSTEM REQUIREMENTS—
1401 — 4K, HIGH-LOW-EQUAL COMPARE, ADVANCED PROGRAMMING,
1402 CARD READ PUNCH, 1403 PRINTER, ONE 1311 DISK
STCRAGE DRIVE, OR
1440 — 4K, INDEXING AND STORE ADDRESS REGISTERS, 1442 CARD READ
PUNCH, 1443 PRINTER, ONE 1311 DISK STORAGE DRIVE, OR
1460 — 8K, INDEXING AND STORE ADDRESS REGISTERS, 1402 CARC READ
PUNCH, 1403 PRINTER, ONE 1311 DISK STORAGE DRIVE.
OPTICNAL FEATURES—ADDITIONAL 4K OF CORE STORAGE INCREASES
PREDIED CAPACITY TO 97 ROWS. MULTIPLY-DIVIDE AND DIRECT SEEK
FEATURES CAN BE USED, IF AVAILABLE, TO REDUCE SOLUTION TIME.
SENSE SHITCHES ALLOW THE USE OF THE SOLUTION INTERUPT FEATURE
AND PROVIDE A MEANS OF IN-LINE CORRECTION OF INPUT DATA. PROGRAM
DECK MAY BE OBTAINED ON ONE REEL OF MACHETIC TAPE AS CARD INAGES.
ONLY ONE REEL IS REQUIRED IF ONE OR MORE 1401/1440 PROGRAMS ARE
ORDERED AT THE SAME TIME.
OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.
THE NUMBER OF TAPES INDICATED MUST BE SUPPLIED FOR EACH ITEM THAT
IS ORDERED. THE TAPES SUPPLIED SHOULD BE 2400 FEET IN LENGTH AND
TESTED AT 556 EPI.

BASIC PROGRAM MATERIAL COCCUMENTATION - PROGRAM WRITE-UP...APPLICATION DESCRIPTION...
USERS MANUAL...OPERATORS MANUAL.
MACHINE READABLE - SAMPLE PROBLEM...OPTION A- OBJECT DECK FOR 8K OR LARGER 1401,1440 OR 1460...OPTION B- OBJECT DECK FOR 4K 1401 OR 1440.

A-1401

PAGE 003

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CONTINUED FROM PRIOR COLUMN--

OPTIONAL PROGRAM MATERIAL - SYSTEMS MANUAL...4K-8K SOURCE PROGRAM /OVER 5000 CARDS/.

1401-CR-OIX SELECTIVE DISSEMINATION OF INFORMATION SYSTEM ORDER THREUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-CR-OIX

ROER THROUGH LOCAL IBM BRANCH OFFICE

PECIFY FILE NUMBER 10-IO-CR-OLX

THE IBM 1401 SELECTIVE DISSEMINATION OF INFORMATION
SYSTEM ACTS AS AN ELECTRONIC SCREENING AND DISTRIBUTION
AGENCY FOR INFORMATION. FROM THE FLOOD OF REPORTS, ARTICLES,
AND BOOKS RECEIVED BY AN ORGANIZATION, THE NEW SYSTEM
SELECTS AND ROUTES INFORMATION TO PEOPLE ACCORDING
TO THEIR SPECIFIC INTERESTS AND NEEDS.
DESCRIPTION—THE 1401 SDI CONSISTS OF A SERIES OF PROGRAMS AND A
COMPREHENSIVE SYSTEM DESCRIPTION TO PERMIT A CUSTOMER TO OPERATE
A CURRENT—MANARENESS PROGRAM. USERS EXPRESS THEIR INTERESTS BY
LISTS OF KEYMORDS CALLED PROFILES. ABSTRACTS OF MATERIAL TO
DE DISSEMINATEC /INCLUDING THE AUTHOR, TITLE, AND SOURCE AND
COMMENTS/ ARE TYPED ON THE 18M 826 TYPENRITER CARD PUNCH. THE
AUTO-INDEXING PROGRAM DEVELOPS INDEX KEYWORDS FROM THE ABSTRACT
TEXT. THE PROFILES ARE COMPARED WITH THE KEYWORDS OF THE
ABSTRACTS. WHEN A SUFFICIENT NUMBER OF PORDS MATCH BETWEEN
A PROFILE AND AN ABSTRACT, THE ABSTRACT IS PRINTED ON THE 1403
AND ADDRESSED TO THE USER.

FEATURES—
ALLOWS A HIDE COMBINATION OF LOGICAL COMPARISONS, INCLUDING
, WEIGHTED, WORDS AND MULTIPLE PROFILES FOR EACH USER.

A KLOWS AND ADDRESSED TO THE USER.

MAKES AVAILABLE MANY STATISTICAL CONTROL REPORTS FOR
OPERATING CONTROL AND FOR IMPROVING THE USER/S
INTEREST PROFILE.

A NEW MATCH AND PRINT PROGRAM /SDI 8/ WHICH IS SIMILAR TO RUN 3
EXCEPT THAT IT HILL TAKE ADVANTAGE OF 16K MEMORY AND PRINT
STORAGE, IF AVAILABLE, TO OVERLAP PRINT BUFFER TIME WITH
PROCESSING TO PRODUCE FAR GREATER THROUGHPUT.

THE ABILITY TO USE OUR LINE ADDRESSES FOR ABSTRACT NOTICES
HHEN SUBSCRIBERS ARE AT REFORM CONTROL REPORTS.

HER BOULTY TO USE AUGUST TO WELL FOR DENTRES WITHOUT
THE NEED FOR MANUAL INDEXING HITH MINIHUM EFFORT.

A FEATURE FOR CARRY OF THE PROCESSING TO ALLITY FOR CREATING INPUT TO KHILC /KEYMORD-IN-CONTEXT/
INDEXING.

LENDS ITSELF TO OALLY PROCESSING MEITH MINIHUM EFFORT.

A FEATURE FOR DANY INDEX ABSTRACTS ON MULTIPLE WORD ENTRIES WITHOUT
THE NEED FOR MANUAL INDEXENS.

- A FACILITY FUR CREATING INFUL TO MALE ACTIONS IN CONTROL OF THE INDEXING.

- THE MODIFICATION OF SDI 6 TO PERMIT MORE USER CONTROL OF THE ABSTRACT MERCE.

- SDI 5 NOW ALLOWS PROCESSING OF CARDS THAT ARE BLANK IN COLUMNS 1 THROUGH 60.

- PROGRAMS SDI 8 AND 23 THROUGH 29 HAVE BEEN ADDED.

TIREDUST SOL AND 23 THROUGH 29 HAVE BEEN ADDED.

USE— THE PROGRAM WILL ACCEPT ABSTRACTS PUNCHED IN ACCORDANCE WITH THE FORMAT OUTLINED IN THE GI MANUAL, KEYWOD-IN-CONTEXT /KMIC/ INDEXING, E20-8091. THE ABSTRACTS ARE PLACED ON AN ABSTRACT HISTORY TAPE WHILL HAY BE USED FOR RETROSPECTIVE SEARCHING. ANY SELECTED GROUP OF ABSTRACTS UP TO A LIMIT OF 100 MAY BE SELECTED FROM THE HISTORY TAPE FOR THE SOL NOTICE PRINTING RUN.

SOME SOL APPLICATION AREAS ARE—
CURRENT—AWARENESS PROGRAM FOR RESEARCH, ENGINEERING, MANAGEMENT, AND MARKETING PERSONNEL IN INDUSTRY, GOVERNMENT, BANKING, UNIVERSITIES, PUBLISHING, BROKERAGE, TRADE ASSOCIATIONS, PROFESSIONAL SOCIETIES, ETC.

SELECTIVE UPDATING SERVICE FOR ENCYCLOPEDIAS, JOURNALS, LAW BOOKS, ETC.

SELECTIVE UPDATING SERVICE FOR ENCYCLOPEDIAS, JOURNALS, LAW BOOKS, ETC.

POLICE MODUS OPERANDI FILES — TO MATCH DETAILS OF THE CRIME WITH THE MODUS OPERANDI FILES.

EMPLOYMENT AGENCIES TO MATCH SKILLS AVAILABLE WITH EMPLOYMENT AGENCIES TO MATCH SKILLS AVAILABLE WITH EMPLOYMENT REQUISTS.

PROGRAM REQUIREMENTS—USERS OF THIS PROGRAM SHOULD OBTAIN THE 1BM SORT 7, 1401—SM-060.

MINIMUM SYSTEM REQUIREMENTS—AN 8K 1401 SYSTEM WITH...

HIGH-LOW-EQUAL CCMPARE, ADVANCED PROGRAMMING, AND SHENS SWITCHES... 1402 CARD READ PUNCH.... 1403 PRINTER, MODEL 2... 4 MAGNETIC TAPE UNITS.

HE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH TIEM THAT IS ORDERED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIALDOCUMENTATION - PROGRAM WRITE-UP... APPLICATION MANUAL... USERS
MANUAL... PERATORS MANUAL... SYSTEMS MANUAL.
MACHINE READABLE - TWO REELS OF MACNETIC TAPE CONTAINING PROGRAM LISTING... SOURCE PROGRAM CARDS... OBJECT PROGRAM
CARDS... SAMPLE PROBLEM CARDS, ALL IN CARD IMAGE.

1401-CR-02X KEYMORD-IN-CONTEXT /KWIC/ KEYWORD-OUT-OF-CONTEXT /KWOC/ ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-CR-02X

THIS PROGRAM WILL PRODUCE TWO BASIC KMIC OR PERMUTED TITLE
INDEXES. THE CONVENTIONAL FORMAT IS ILLUSTRATED BY THE INDEX
TO THE CATALOG OF PROGRAMS. THE KMOC FORMAT PROVIDES FULL
TITLE PRINTOUT WITH NO FRAGMENTATION. EACH NEW KEYWORD IS
PRINTED IN THE LEET HAND MARGIN, FOLLOWED BY TITLES
CONTAINING THAT KEYWORD. KEYWORDS MAY BE BOLD-FACED, IN BOTH
HEADING AND TITLE, UTILIZING THE 1403 OVER-PENTINING
CAPABILITY. THE USER ENJOYS THE OPTION OF HAVING THE
AUTOMATICALLY SELECT KEYWORDS ON THE BASIS OF A COMPARE OR A
NO-CCMPARE WITH A PRE-ASSIGNED LIST OF WORDS. INDEXING MAY BE
ENRICHED WITH THE ADDITION OF MANUALLY INSERTED DESCRIPTORS
AND SEE ALSO REFERENCES. A STATISTICAL COUNT IS MAINTAINED ON
ALL KEYWORDS INDEXED AND ALL MORDS PREVENTED FROM BEING INDEXED.
A NEW TYPE OF MKAP-AROUND IS EMPLOYED IN THE KEYWORD ENTRIES
WHICH SAVES THE MAXIMUM AMOUNT OF CONTEXT ADJACENT TO
THE KEYWORD AND ELIMINATES UNDESTRABLE WORD FRAGMENTS FOR
INCREASED EASE IN READING. THIS PROGRAM CAN BE USED TO
PREPARE INDEXES OF PUBLISHED ARTICLES, INTERNAL REPORTS,
SPECIAL COLLECTIONS/E.G., PHOTOGRAPHS, PAINTINGS,
PARTS LISTS/, PROCEDURE MANUALS, BIBLIOGRAPHIES,
CORRESPONDENCE FILES. KMIC INDEXES HAVE BEEN USED ON FOREIGN
LANGUAGE MATERIAL TO PREPARE INDEXES AND CONCORDANCES. ALL THAT
IS INVOLVED IN THE PREPARATION OF INPUT TO THE PROGRAM
IS THE KEYPUNCHING OF CARDS CONTAINING THE TITLE TO THE INDEX.
IF THE USER DESIRES, THE AUTHORS NAME AND SOURCE OF
PUBLICATION MAY ALSO BE KEYPUNCHED AND MOULD BE
AUTOMATICALLY INDEXES. THE PROGRAM ALSO PROVIDES FOR TAPE INPUT
OF 80 CHARACTERS CARD FORMAT RECORDS. THIS PROGRAM CAN BE USED
OF 80 CHARACTERS CARD FORMAT RECORDS. THIS PROGRAM CAN BE USED
OF 80 CHARACTERS CARD FORMAT RECORDS. THIS PROGRAM CAN BE USED
OF 80 CHARACTERS CARD FORMAT RECORDS. THIS PROGRAM CAN BE USED

IBM Programs

CONTINUED FRUM PRIOR PAGE—
TO PRODUCE NHIC INDEXES FROM INFORMATION PLACED ON
TAPES FROM THE SDI PROGRAM, 1401-CR-01%. MINIMUM MACHINE
REQUIREMENTS ARE A 4K 1401 SYSTEM WITH... 4 MAGNETIC TAPE
UNITS IF SORTING IS DONE ON THE 1401/IF NOT,
2 UNITS ARE REQUIRED FOR THE BASIC PACKAGE... AND ADVANCED
PROGRAMMING, HIGH-LOM-EQUAL COMPARE, SENSE SWITCHES, AND READ
RELEASE FEATURE. THE 2-TAPE COMPTIGURATION WILL BE OF
PARTICULAR INTEREST. AT INSTALLATIONS MHERE THE 1401 IS USED AS A
PERIPHERAL EQUIPMENT FOR A LARGER MACHINE ON WHICH SORTING
CAN BE DONE. IF ONLY 2 TAPES ARE ATTACHED TO THE 1401, AND A
LARGER MACHINE IS NOT AVAILABLE, SORTING CAN BE DONE AT ANY CTHER
AVAILABLE INSTALLATION.

BASIC PROGRAM MATERIAL —
DOCUMENTATION — PROGRAM WRITE-UP...REFERENCE MANUAL.
MACHINE READABLE — A MAGNETIC TAPE CONTAINING SIX SOURCE
PROGRAMS, SIX OBJECT PROGRAMS, AND THE SAMPLE PROBLEM.
THE NUMBER OF TAPES NECESSARY TO OBTAIN THE PROGRAM MATERIAL
MAY BE SUPPLIED OR ROBCRED FROM YOUR 1BM REPRESENTATIVE. THE
TAPES SHOULD BE 2400 FEET IN LENGTH.

1401-CS-02X MANAGEMENT DECISION-MAKING LABORATORY ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-CS-02X

THE MANAGEMENT DECISION—MAKING LABORATORY, OFTEN REFERRED TO AS THE MANAGEMENT CAME, IS A SIMULATION OF A GENERAL BUSINESS ECONOMY REQUIRING COMPETITIVE DECISIONS ON THE PART OF THE PARTICIPANTS. IT IS DESIGNED TO PROVIDE, IN A SHORT PERIOD OF TIME, PLANNING AND DECISION—MAKING SIMILAR TO THAT NORMALLY EXPERIENCED OVER A PERIOD OF SEVERAL YEARS IN ACTUAL BUSINESS PRACTICE. THE MATHEMATICAL MODEL IS INCORPORATED IN A PROCRAM EXCUTED ON A 1401 DATA PROCESSING SYSTEM. THE ADMINISTRATOR OF THE LABORATORY BRIEFS THE PARTICIPANTS ON FEATURES OF THE MODEL. THE PARTICIPANTS OF PERIOD. PROPERIOD, AND STANDARD OF THE LABORATORY PRINTER /OR ON MAGNETIC TAPE/ TO BE USED IN THE NEXT DECISIONS ARE THEN PROCESSED BY THE 1401 SYSTEM, PERIOD BY PERIOD, PRODUCING OUTPUT ON THE NEXT DECISION PERIOD. A 4K 1401 SYSTEM HITH, 1402 CARD READ PUNCH, 1403 PRINTER MOL 2, THREE MAGNETIC TAPE UNITS /FOUR IF MAGNETIC TAPE OUTPUT IS DESIRED/, CARD PUNCH, PREFERABLY 26 PRINTING CARD PUNCH, ADVANCED PROGRAMMING, HIGH-LOM-EQUAL COMPARE AND MULTIPLY-DIVIDE SPECIAL FEATURES. THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR ROBERED FOR EACH ITEM THAT IS ORDERED. THE TAPES MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL —

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM MATERIAL LIST...OPERATION, REFERENCE
AND PARTICIPANTS MANUALS.
MACHINE READBLE - MACHISTIC TAPE CONTAINING THE OBJECT
PROGRAM SAMPLE DATA WHICH MAY BE USED TO GENERATE EQUAL
STARTING REPORTS, AUTOCODER ASSEMBLY LISTING AND OUTPUT.

OPTIONAL PROGRAM MATERIAL - SOURCE PROGRAMS ON ONE REEL OF MAGNETIC TAPE, 80 CHARACTER RECORDS, UNBLOCKED.

1401-CS-03X 1401/1620 MODULAR INVENTORY MANAGEMENT SIMULATOR 12K 1401 VERSION ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-CS-03X

A MODULAR INVENTORY MANAGEMENT SIMULATOR TO PROVIDE PRE-TESTING OF INVENTORY CONTROL SYSTEM. WRITTEN IN FORTRAN DESIGNED FOR USE OF UNDERSTANDING, USE OF MODIFICATION. SIMULATOR INCLUBES FIRST, SECOND, AND THIRD ORBER EXPONENTIAL SMOOTHING. APPROXIMATELY 9,500 POSITIONS ON 12K-16K 1401 12KOR 16K CARD 1401. THAT MILL ACCEPT FORTRAN. HI-LO-EQUAL COMPARE MULTIPLY-DIVIDE-ADVANCED PROGRAMMING, LANG-FORTRAN, RUNNING TIME-2 SECONDS PER DEMAND TRANSACTION.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOWCHARTS.
MACHINE READABLE - CONDENSED DECK.

1401-CX-03X AUTOPLOTTER PROGRAM
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-CX-03X

- IDER THROUGH LOCAL IEM BRANCH OFFICE
 PECIFY FILE NUMBER 1401-CX-O3X

 THE 1401 AUTOPLOTTER PROGRAM, 1401-CX-O3X, USES THE 18M 1627
 PLOTTER ATTACHED TO A 1401 SYSTEM TO PRODUCE A VARIETY OF PLOTTED
 FORMATS FROM NUMERICAL CATA.
 FEATURES
 EXISTING DATA MAY BE PLOTTED-BY PUNCHING A SMALL NUMBER OF
 AUTOPLOTTER CONTROL CARDS.

 EXISTING PROGRAMS MAY BE EASILY MODIFIED TO GENERATE CONTROL
 CARDS AND CATA FOR APPLICATIONS WHERE DATA WILL ALWAYS NEED
 TO BE PLOTTED.

 GRAPHS MAY BE IN THE FOLLOWING FORMS OR COMBINATIONS- POINT
 PLOTS--GIVEN DATA PLOTTED AS ANY ALPHAMERIC CHARACTER OR A
 PLUS SIGN. LINE PLOTS--DATA POINTS CONNECTED WITH STRAIGHT
 LINES. LINE PLOTS--DATA POINTS CONNECTED WITH SECOND GROER
 POLYMONIAL CURVES. HISTOGRAM--DRAWN TO X AXIS OR TO A
 REFERENCE AXIS. VERTICAL BAR CRAPH.

 SIMPLE GRAPHS MAY BE DRAWN WITH ANY NUMBER OF CURVES AGAINST
 ONE X SCALE AND ONE OR TWO Y SCALES.

 STACKED GRAPHS--UP TO THREE X AND ASSOCIATED Y SCALES LOCATED
 SUCH THAT THERE ARE SIMPLE GRAPHS ONE ABOVE ANOTHER.

 MULTIPLE COPIES OF A PLOT MAY BE GENERATED WITHOUT
 REPROCESSING THE DATA.

 SCALES MAY BE GIVEN OR AUTOMATICALLY DETERMINED BY THE
 PROGRAM SO THAT DATA WILL PROPERLY PIT ON PLOTI.

 MULTIPLE CURVES AND MULTIPLE SETS OF DATA MAY BE PLOTTED ON A
 SINGLE GRAPH.

 MULTIPLE GRAPHS MAY BE PLOTTED FROM A SET OR SETS OF DATA.

 GIVEN POINTS ON ANY LINE PLOT MAY BE PLOTTED SA PLUS FC.

 DISTINGUISHING ALPHAMERIC TAGS MAY BE PLOTED AS PLUS FC.

 DISTINGUISHING ALPHAMERIC TAGS MAY BE PLOTED AS PLUS FC.

 DISTINGUISHING ALPHAMERIC TAGS MAY BE PLOTTED AS PLUS FC.

 DISTINGUISHING BLPHAMERIC TAGS MAY BE PLOTTED AS PLUS FC.

 DISTINGUISHING BLPHAMERIC TAGS MAY BE PLOTTED ON A
 SINGLE GRAPH.

 MULTIPLE EXERS MAY BE DAY BE ANALLY ON THE PLOT OR SOLVED THE PLOT OF THE PLOT ON THE PLOT OF TH

A-1401

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CONTINUED FRCM PRIOR COLUMN—

CONTROL TO SUBSEQUENT PHASES. INPUTS TO THE SYSTEM ARE GRAPH CONTROL RECORDS AND DATA. QUIPUTS ARE A LISTING OF INITIAL INPUT, ERROR DIAGNOSTICS, AND THE PLOTTER FORMINGS.

AN OPTION PROVIDES FOR PREPARATION OF A PLOTTING QUIPUT TAPE ON A LARGER SYSTEM WITHOUT A PLOTTER, FOR SUBSEQUENT PLOTTING ON A MINIMUM 1401 SYSTEM.

MINIMUM 1401 SYSTEM.

MINIMUM 1401 SYSTEM.

MINIMUM SYSTEM REQUIREMENTS—AN BR 1401 SYSTEM WITH ADVANCED PROGRAMMING... HIGH—LOW—EQUAL COMPARE... MULTIPLY—DIVIDE... 1402 CARD READ PUNCH... 1403 PRINTER MODEL 1 OR 2... 1407 CONSOLE INCURY STATION / WITH RPO MO1372 OR EQUIVALENT/... 1627 PLCTTENS. AND FOUR MAGNETIC TAPE UNITS. RPO MO1372, OR AN EQUIVALENT RPO, ALLOWS ATTACHMENT OF THE 1627 PLOTTER TO THE 1407 CONSOLE INQUIRY STATION.

PLCTTING FROM A TAPE PREPARED ON THE BR 1401 OR LARGER SYSTEM MAY BE DOBNE ON A 1-48 1401 SYSTEM WITH 1407 CONSOLE INQUIRY STATION / WITH RPO, SEE ABOVE/... 1627 PLOTTER... AND ONE MAGNETIC TAPE UNIT.

THE NUMBER OF TAPES INDICATED MAY BE GROERED FROM YOUR IBBN REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE GROER CARD.

BASIC PROGRAM MATERIAL —

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM MRITE-UP... APPLICATION
DIECTOR... APPLICATION DESCRIPTION... PROGRAMMERS
MANUAL... DEFRATORS MANUAL
HACHINE READABLE - ONE MAGNETIC TAPE CONTAINING - OBJECT AND
SOURCE DECKS FOR ALL PHASES... SAMPLE PROBLEM DATA...
PROGRAM LISTINGS... LIBRARY MONITOR... SYSTEMS MONITOR.

OPTICNAL PROGRAM MATERIAL - SYSTEMS MANUAL INCLUDING FLOWCHARTS AND NARRATIVES.

1401-DM-02X 1405 WHOLESALE IMPACT ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-DM-02X

THE IBM RAMAC 1401 IMPACT PROVIDES THE WAREHOUSE DISTRIBUTOR WITH THE INFORMATION OF WHEN AND HOW MUCH TO BUY FOR EACH ITEM OF INVENTORY. IT DOES THIS BY USE OF PROBABILITY SCIENCE AND CONSIDERS SPECIFICALLY THE LEAD TIME, LEAD TIME VARIATION, FORECAST DEMAND, FORECAST ERROR, SHORTAGE CONDITIONS, INVENTORY CARRYING COSTS, PURCHASING/RECEIVING COSTS, FIXED STORAGE LIMITATIONS, DISCOUNT STRUCTURES, CARLOAD AND PALLET REQUIREMENTS, VENDOR MINIMUMS, WENDOR MAXIMUMS, ITC. THE WHEN AND HOW MUCH ANSWERS WILL MINIMUMS THE THE TOTAL COST OF STOCKOUTS, AND CARRYING AND PURCHASING INVENTORY.

- CARRYING AND PURCHASING INVENTORY.

 THE SYSTEM INCLUDES THE FOLLOWING SIGNIFICANT FEATURES—
 EDIT ALL INPUT FOR ACCURACY AND FORMAT.
 DETERMINE THE FORECAST MODEL—HORIZONTAL, SEASCNAL, TREND OR TREND SEASCNAL.

 DETERMINE THE ORDERING STRATEGY THAT SHOULD BE USED AND CALCULATE THE ORDER FREQUENCY FOR THE JOINT ITEMS.
 AND THE ORDER FREQUENCY FOR THE JOINT ITEMS.
 SELECT THE PREFERRED DISCOUNT BREAMPOINT.
 CALCULATE THE SAFETY FACTOR REQUIRED FOR A PRESCRIBED LEVEL OF CUSTOMER SERVICE.
 CALCULATE INITIALIZING VALUES FOR SINGLE AND DOUBLE SMOOTHING.
 AFTER IMPLEMENTATION, THE PROGRAMS SERVE—
 TO PROVIDE IMPORMATION FOR MONITORING THE PERFORMANCE OF THE IMPACT SYSTEM.
 AS A GUIDE TO MANAGEMENT DECISIONS ON SUCH THINGS AS CAPITAL COST VERSUS INVENTORY LEVEL, FREQUENCY OF PURCHASTING, SERVICE LEVEL VERSUS INVENTORY LEVEL,
 TO RECOMMEND THE PRODUCT MIX WHEN ORDERING MANY ITEMS FROM ONE VENDOR.

THE IMPACT COMPUTER PROGRAM LIBRARY IS WRITTEN IN AUTOCODER AND PERFORMS IN THE FOLLOWING FUNCTIONAL AREAS— EDITING, FILE INITIALIZATION, INVENTORY ESTIMATING AND JOINT REPLENISHMENT OPERATIONS. VERSIONS OF THE LATTER PROGRAMS ARE ALSC SUPPLIED FOR USE WITH A 1401 CARD SYSTEM MINIMUM REQUIREMENTS ARE—AN IBM 1401 RAMAC SYSTEM, MODEL F3, WITH 4K STORAGE, A 1405 MODEL 1, A 1402 READER PUNCH, AND A 1403 PRINTER, MCDEL 2. THE CARD SYSTEM PROGRAMS REQUIRE A 4K 1401, 1402, AND A 1403, MOCEL 2.

BASIC PROGRAM MATERIAL —
DOCUMENTATION — PREGRAM WRITE-UP.
MACHINE READABLE — CONDENSED OBJECT DECKS...
SAMPLE PROBLEM DATA DECKS.
CPTIONAL PROGRAM MATERIAL — AUTOCODER PROGRAM LISTING. ONE REEL
OF MAGNETIC TAPE CONTAINING SOURCE CARD DECK IN CARD IMAGE, BCD,
UNBLOCKED. NO DUMP PROGRAM IS PROVIDED. THE NUMBER OF TAPES
INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR
SUPPLIED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.
OPTIONAL MATERIAL MUST BE ITEMIZED ON THE CROER CARD.

DW-03X 1311 WHOLESALE IMPACT ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-CW-03X

THE CUNINUL OF INDEFENDENT AND STATE RELEASING.
THE 1311 PROGRAM LIBRARY PERFORMS IN THE SAME FUNCTIONAL
AREAS AS THE EXISTING 1401-1405 IMPACT COMPUTER PROGRAM
LIBRARY- EDIT ALL INPUT FOR FORMAT.
- DETERMINE THE FORECAST MODEL /HORIZONTAL, TREND,

CONTINUED FROM PRICE PAGE—

HORIZONIAL-SEASONAL, OR TREND-SEASONAL/.

OETERMINE THE ORDERING STRATEGY TO BE USED AND CALCULATE ORDER QUANTITY OR ORDER FREQUENCY AS APPROPRIATE FOR STRATEGY SELECTED.

CALCULATE INSTIBLIZING VALUES REQUIRED FOR A PRESCRIBED LEVEL OF CALCULATE INSTIBLIZING VALUES REQUIRED FOR A PRESCRIBED LEVEL OF CALCULATE INSTIBLIZING VALUES REQUIRED FOR A PRESCRIBED LEVEL OF CALCULATE INSTIBLIZING VALUES REQUIRED FOR FORECAST AND ORDER MODELS SELECTED.

ESTIMATE RESULTS TO BE EXPECTED FROM APPLYING THE RULES AND VALUES DEVELOPED.

DETERMINE WHEN TO ORDER ITEM GROUPS TO MEET SERVICE OBJECTIVES AFTER THE SYSTEM IS OPERATIONAL.

COMMENTION OF THE SHAPPING OBJECTIVES AND LIMITATIONS ON TOTAL SIZE OF ORDER.

IN ADDITION, THE 1311 PROGRAMS INCORPORATE IMPROVEMENTS OVER EXISTING PROGRAMS INCLUDING—

MORK FLOM AND RECORD FORMATS STREAMLINED.

HISTORICAL DEPHANDS SCREENED FOR PROMOTIONS.

TIED DISCOUNTS CONSIDERED IN ADDITION TO VENDOR DISCOUNTS, IN DETERMINING ORDERING STRATEGIES AND ORDER QUANTITIES.

DIFFERENT LEAD TIME MAY BE SPECIFIED BY ITEM FOR BOTH INDEPENDENT AND JUINI VENDORS.

A SERVICE MAY DESPECIFIED BY ITEM FOR BOTH INDEPENDENT AND JUINI VENDORS.

A SERVICE POINT AND ALLOCATION PROGRAM /SWA/ THAT KILL TAKE ADVANTAGE OF 8K MEMORY TO PRODUCE GREATER THROUGHPUT.

AN OPTION TO FORCE A PREOETERINGE ORDER QUANTITY FOR ANY ITEM THROUGH THE SWA PROGRAM.

IN HE PROLITIY FOR EXPRESSING A CONVERSION FACTOR OF 1.0 TO THE SEMILAR SEEN INCLUDED IN THE MADP PROGRAM.

PUNCHING OF THE SUDPE AND INTERCEPT OF THE LEAST SQUARES LINES HIS BEEN INCLUDED IN THE MADP PROGRAM.

PUNCHING OF THE SUDPE AND INTERCEPT OF THE LEAST SQUARES LINES HAS BEEN INCLUDED IN THE MADP PROGRAM.

PUNCHING OF THE SUDPE AND INTERCEPT OF THE LEAST SQUARES LINES HAS BEEN INCLUDED IN THE MADP PROGRAM.

PUNCHING OF THE SUDPE AND INTERCEPT OF THE LEAST SQUARES LINES HAS BEEN INCLUDED ON THE MADP PROGRAM.

PUNCHING OF THE SUDPE AND INTERCEPT OF THE LEAST ORDER AND SOURCE TO SET UP AN IMPACT SYSTEM, THEN PROGRAMHING PROGRAM HAS BEEN INCLUDE

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... USERS MANUAL...
OPERATORS MANUAL.
CARD DECKS - OBJECT DECK... SAMPLE PROBLEM DECK.
OPTIONAL PROGRAM MATERIAL - SYSTEM MANUAL WHICH CONTAINS THE
ASSEMBLY LISTINGS OF ALL THE 140/1746-01311 IMPACT PROGRAMS.
OPTICNAL MATERIAL MUST BE ITEMIZED ON THE ORDER CARD.

1401-EX-01X SYSTEM ENGINEERING SCHEDULING

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-EX-01X

THE SYSTEM CONTAINS A SERIES OF FOURTEEN 1401 PROGRAMS MRITTEN IN AUTOCODER SERIES OF FOURTEEN 1401 PROGRAMS MRITTEN IN AUTOCODER/IGCS LANGUAGE TO AUTOMATICALLY PERFORM THE DATING, LOADING, AND PERFORMANCE EVALUATION FUNCTIONS OF SCHEDULING. IT IS DEVELOPED PRIMARLLY FOR HIGH VOLUME, SHORT-CYCLE OPERATIONS AS FOUND IN A CUSTOM ENGINEERING ENVIRONMENT., TECHNIQUES WILL ALSO BE APPLICABLE TO MANY OTHER TYPES OF PROJECT PLANNING AND CONTROL. THE SYSTEM EMPHASIZES SIMPLIFIED INPUT REQUIREMENTS AND PRESENTS MOKK-LOAD INFORMATION IN FORMATS DESIGNED TO BE MOST USEFUL TO INDIVIDUAL SUPPREYISORS. MAJOR OUTPUTS, UNDER SELECTIVE CONTROL OF THE USER, INCLUDE-FACILITY LOAD BY TIME PERIOD.

ORDER STATUS LISTINGS /FULL, OR BY EXCEPTION/
ORDER LISTING IN CUSTOMER NAME SEQUENCE
PERFORMANCE EVALUATION BY FACILITY

ORDER HISTORY REPORT
PREPUNCHED TURN-AROUND DOCUMENTS FOR WORK REPORTING
FEATURES OF THE SYSTEM ARESKELETON FILE FOR RETRIEVAL OF COMMON MORK ROUTINGS
AUTOMATIC CALENDAR ALLOWS USER COMMUNICATION USING GREGORIAN DATES

AUTOMATIC START-DATF CALCULATION ALLOWS USE OF EXTERNAL

. SKELETON FILE FOR RETRIEVAL OF COMMON WORK ROUTINGS
AUTOMATIC CALENDAR ALLOWS USER COMMUNICATION USING GREGORIAN
DATES
AUTOMATIC START-DATE CALCULATION ALLOWS USE OF EXTERNAL
CONSTRAINT DATES
. SYSTEM HANDLES UP TO 1,000 EVENTS PER PROJECT, UP TO 260
COMMON ROUTINGS
. FLEXIBILITY IN ORGANIZATION OF WORK FORCE
. MONITOR CONTROL AND A SPECIAL THREE-TAPE SORT MINIMIZE OPERATOR
INTERVENTION
COMMON ROUTINGS ARE DEFINED AND USED TO PREPARE A SKELETON FILE.
A NEW ORDER CARD. DURING THE SYSTEM RUN, ALL WORK IS
WITH ONLY ONE CARD. DURING THE SYSTEM RUN, ALL WORK IS
IN CLEAR, CONCISE FORM FOR DECISIONS IN WORK DISPATCHING.
A 16K 1401 SYSTEM WITH ADVANCED PROGRAMMING, HIGH-LOW-EQUAL
COMPANER, MULTIPLY-DIVIDE, SENSE SWITGHES, AND ADDITIONAL PRINT
CONTROL. 1402 CARD READ PUNCH... 1403 PRINTER MOIL Z... AND
FOUR MAGNETIC TAPE UNITS.
OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.
THE NUMBER OF TAPES INCICATED MAY BE CROBERED FROM YOUR IBM
REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE

A-1401

PAGE DOS

CONTINUED FROM PRIOR COLUMN --

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM MRITE-UP...APPLICATION DIRECTORY...
APPLICATION DESCRIPTION...PROGRAMMER MANUAL... OPERATOR
MANUAL...SAMPLE PROBLEM MANUAL.
HACHIRE REACABLE - ONE MAG. TAPE CONTAINING /1/SQURCE DECK
/2/OBJECT DECK /3/SAMPLE PROBLEM & /4/ASSEMBLY LISTINGS.

OPTIONAL PROGRAM MATERIAL - SYSTEM MANUAL... CHE MAG. TAPE CONTAINING AUTOCHART BLOCK DIAGRAMS

1401-FB-01X DEMAND DEPOSIT PROGRAM PACKAGE ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-FB-01X

THE APPLICATION PROGRAM CONTAINS A SERIES OF PROGRAMS FOR PERFORRING THE ENTIRE DEMAND DEPOSIT APPLICATION. SCHE OF PROFERRING THE ENTIRE DEMAND DEPOSIT APPLICATION. SCHE OF THE RUNS HAVE OPTIONS WHICH MAY BE SELECTED BY THE USER TO FIT HIS PARTICULAR NEEDS AND IN A VERY FEW SECTIONS SUCH AS SERVICE CHARGE CALCULATIONS, THE USER MUST ENTER HIS OWN PARTICULAR SUB-ROUTINE. THE FOLLOWING RUNS ARE PROGRAMMED. EDIT AND CONVERSION RUN, VALID ITEM RELEASE RUN, TRANSACTION SORT, TRANSACTION MERCE, POSTING RUN, POSTED DETAIL MERGE, SHORT STATEMENT RUN, DETAILED STATEMENT RUN, SER RUN. THE PURPOSE OF THIS APPLICATION PROGRAM IS TO ASSIST THE USER IN SYSTEMATICALLY DEFINING HE PROBLEM. ALLOW THE USER TO USE THE VAST MAJORITY OF THE PROGRAMS WHICH ARE COMMON TO MANY BANKS BUT STILL MAINTAIN THE ABILITY TO TAILOR-MAKE HIS PROGRAM BY EASILY SUBSTITUTING SECTIONS TAILOR-MAKE TO! HIS PROGRAM BY EASILY SUBSTITUTING SECTIONS TAILOR-MAKE TO! HIS OWN SPECIFICATIONS. THE PROGRAM REQUIRES A 1401 MODEL C-3, 1402,1403,1412 AND FOUR TAPE UNITS, EITHER T29 II S OR 7330 S. SPECIAL DEVICES REQUIRED INCLUDE ADVANCED PROGRAMMING PRINT STORAGE, HIGH-LOW-EQUAL, SERIAL I/O ADDYTER, ADDITIONAL PRINT CONTROL AND READ PUNCH RELEASE.

THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR ORDERED FOR EACH ITEM THAT IS ORDERED. TH

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOWCHARTS.
MACHINE READABLE - SYSTEM TAPE.

1401-FB-02X BANK MANAGEMENT SIMULATOR ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-FB-02X

THE BANK MANAGEMENT SIMULATOR IS AN EXERCISE WHICH SIMULATES THE FEFECTS OF MANAGEMENT DECISIONS IN A \$50 MILLION COMMERCIAL BANK. EACH TEAMS OBJECTIVE IS TO MAKE DECISIONS IN THE MOST PROFITABLE USE OF JIS ASSETS. IN ONE DAY, THE PLAYERS MAKE DECISIONS SIMILAR TO THOSE WHICH HOULD BE MADE OVER A PERIOD OF SEVERAL YEARS. THIS EXERCISE WAS DESIGNED BECAUSE OF THE DIFFICULTY OF EXPOSING OFFICERS TO ASSET MANAGEMENT DECISIONS IN ANY OTHER WAY. THE COMPUTER APPLIES THE DECISIONS AGAINST A MATHEMATICAL MODEL OF THE BANK, CALCULATES THEIR EFFECT BASED ON THE STATE OF THE ECONOMY THAT HIGHT TAKE PLACE DURING THE PARTICULAR QUARTER OF PLAY. THE RESULTS ARE PRESENTED TO THE PARTICULAR QUARTER OF PLAY. THE RESULTS ARE PRESENTED TO THE PARTICULAR QUARTER OF PLAY. THE RESULTS ARE PRESENTED TO THE PARTICULAR QUARTER OF PLAY. THE RESULTS ARE OUT THE VARIOUS DECISIONS. ONE TO NINE TEAMS MAY PARTICIPATE AT ONE THEE. TEAMS DO NOT COMPETE AGAINST EACH OTHER, BUT RATHER AGAINST THE ECONOMIC CLIMATE ESTABLISHED IN THE GAME. A 44 1401 SYSTEM WITH, THREE TAPE DIVES, CARD INPUT/OUTPUT, HIGH-LOW-EQUAL, ADVANCED PROGRAMMING AND MULTIPLY-DIVIDE SPECIAL FEATURES.

THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR DEDREED FOR EACH ITEM THAT IS ORDERED. THE TAPES MUST BE 2400 FEET IN LENGTH.

OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... OPERATORS GUIDE... PLAYERS
AND EXAMINER INSTRUCTIONS.
CARD DECKS - INITIALIZER PHASE OBJECT PROGRAM DECK... INITIALIZER
DATA DECK... SAMPLE PROBLEM DECK...
CNE MAGNETIC TAPE - CALCULATIONS PHASE OBJECT PROGRAM.

OPTIONAL PROGRAM MATERIAL - ONE MAGNETIC TAPE - ASSEMBLY LISTINGS.

1401-FB-06X BANK SORT PROGRAM
ORDER THROUGH LOCAL IEM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-F8-06X

THE IBM 1401 BANK SORT PROGRAM IS A SPECIAL-PURPOSE MAGNETIC TAPE SORT TOWELOPED FOR SORTING DEMAND DEPOSIT ACCOUNTING IMPUT TRANSACTIONS ON AN IBM 1401 SYSTEM. IT IS DESIGNED TO INCREASE THE SPEED OF SORTING IMPUT DATA ENTERED ON MAGNETIC TAPE FROM MICR-ENCODED CHECKS, OTHER ENCODED ODCUMENTS, AND IBM CARDS BY—USING PROCESSING TIME AVAILABLE DURING DOCUMENT AND IBM CARDS BY—USING PROCESSING TIME AVAILABLE DURING DOCUMENT CONVERSION TO PERFORM A PORTION OF THE SORT BY USING PROCESSING TIME AVAILABLE DURING TAPE OPERATIONS TO INCREASE MERGING SPEED BY PROVIDING SPECIFICALLY FOR A SHORT VARIBABLE LENGTH RECORD BY MAKING USE OF OTHER TIME-SAVING TECHNIQUES. THE BANK SORT PROGRAM DECK, PUNCHED IN AUTCODER LANGUAGE, IS DIVIDED INTO THREE PHASES—1/1 AN ADDRESS SEQUENCING SUBROUTINE HICH MAY BE INCLUDED IN A 11419/1401 CONVERSION PROGRAM BY A USER TO DETERMINE THE SECUENCE OF RECORDS AS THEY ARE READ. /2/ A RECORD SEQUENCING PROGRAM MICH ARROWS RECORDS INTO SEQUENCES ON MAGNETIC TAPE BASED ON THE ADDRESS SEQUENCES DEVELOPED BY THE PREVIOUS SUBROUTINE. THE USER MAY ADD PROGRAM STEPS, WRITTEN IN AUTOCODER, TO EDIT AND COMPRESS SEQUENCES OF RECORDS REPETITIVELY UNTIL JUST ONE SEQUENCE CENTAINING ALL OF THE CATA RECORDS IS DEVELOPED.

MINIMUM SYSTEM REQUIREMENTS —

MINIMUM SYSTEM REQUIREMENTS — 8K 1401 SYSTEM WITH- 1402 CARD-READ PUNCH... 1403 PRINTER ...1419 MAGNETIC CHARACTER READER...FOUR 1BM 729 MODEL II, IV OR V OR 7330 MAGNETIC TAPE UNITS...HIGH-LON-EQUAL COMPARE, SENSE SMITCHES, ADVANCED PROGRAMMING AND PROCESS OVERLAP SPECIAL FEATURES.

A-1401

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BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... LISTINGS.
MACHINE READABLE - AUTOCODER SOURCE LANGUAGE DECK... SAMPLE
PROBLEM DECK.

1401-FB-09X BANK BOND TRADE ANALYSIS FOR A

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-FB-09X

THE BOND TRADE ANALYSIS IS A MANAGEMENT TOOL DESIGNED ESPECIALLY FOR BANKS. THE ANALYSIS COMPUTES THE NET EFFECT, AFTER TAX, OF A PROPOSED BOND TRADE IN THE BANKS CUM PORTFOLIC. THE ANALYSIS PROGRAM COMPUTES TIME FACTORS, COUPON INTEREST INCOME, PREMIUM AMORTIZATIONS, CAPITAL GAINS, ORDINARY AND CAPITAL GAIN TAXES OR TAX SAVINGS, AND SALE PROCEEDS APPLICABLE TO THE BONDS BEING CONSIDERED. VARIOUS LOGICAL DECISIONS ARE ALSO MADE IN THE PROGRAM HICH ARE RELATED TO SUCH ITEMS AS THE TYPE OF TAX YEAR BEING EXPERIENCED BY THE BANK, THE TYPE OF BONDS BEING CONSIDERED, AND WHETHER OR NOT A CALL DATE IS INVOLVED. THE RESULT OF THESE COMPUTATIONS AND DECISIONS IS SET FORTH IN TERMS OF DOLLAR RETURN WHICH MAY BE EASILY INTERPRETED BY THE BANKER. THIS PROGRAM IS DESIGNED TO PROVIDE A COMPREHENSIVE WARIETY OF RESULTS HHICH WILL PERMIT THE BANKER TO SEE THE EFFECT OF ALTERNATE COURSES OF ACTION, AND ENABLE THE BANKER IC AVOID COMMON ERRORS IN BOND INVESTMENT PLANNING AND EXECUTION. THE SPEED AND PRECISION OF COMPUTATION, THE DEPTH OF ANALYSIS, AND THE NUMBER OF ALTERNATIVES PROVIDED BY THE PROGRAM AND EXECUTION. THE SPEED AND PRECISION OF COMPUTATION, THE DEPTH OF ANALYSIS, AND THE NUMBER OF ALTERNATIVES PROVIDED BY THE PROGRAM ARE NOT AVAILABLE TO THE BANKER TO AVAILABLE TO THE BANKER TO AND THE ROWER OF ALTERNATIVES PROVIDED BY THE PROGRAM ARE NOT AVAILABLE TO THE BANKER TO AVAILABLE TO

AVAILABLE IO THE BANKER IODAY. HIS OMNISSION RESTRICTS HIS TRADING AND THREBEY HIS PROFITS.

THE BOND TRADE ANALYSIS IS DESIGNED TO HELP THE BANKER IN THE FOLLCWING AREAS—
IMPROVING THE OVERALL YIELD OF THE SECURITY PORTFOLIO.
UTILIZING TAX PROVISIONS DESIGNED ESPECIALLY FOR BANKS.
REINVESTING FUNDS OF NEAR MATURITIES.
CONVERTING PRESENT COUPON INCOME TO FUTURE CAPITAL GAINS.
CONVERTING PRESENT COUPON INCOME TO FUTURE CAPITAL GAINS.
CONVERTING PRESENT COUPON INCOME TO FUTURE CAPITAL GAINS.
COMPARING ALTERNATE TRADE POSSIBILITIES.
REALIGNING THE MATURITIES OF THE SECURITY PORTFOLIC.
AVOIDING CAPITAL GAIN AND CAPITAL LOSS OFF-SETS.
PREVENTING INAUGERIENT SHORT-TERM SALES.
ACCOUNTING FOR SECURITY TRADES.
USE—THE INPUT TO EFFECT AS INSUE ANALYSIS IS TWO CARDS
CONTAINING DATA RELEVANT TO A BOND PRESENTLY OWNED BY THE BANK,
HHICH THE BANK ANTICIPATES SELLING, AND ONE CARD CONTAINING THE
PERTINENT DATA CONCERNING THE BOND THE BANK CONTEMPLATES
PURCHASING. MULTIPLE PRESENTLY OWNED BOINS MAY BE ANALYZED
AGAINST FROM ONE TO TEN CONTEMPLATED PURCHASES IN A SINGLE
UNINTERRUPTED PROCESSING. EACH INDIVIDUAL ANALYSIS REQUIRES FROM
2 TO 3 SECONDS OF MACHINEY OWNED BOINS MAY BE ANALYZED
AGAINST FROM ONE TO TEN CONTEMPLATED PURCHASES IN A SINGLE
UNINTERSUPTED PROCESSING. EACH INDIVIDUAL ANALYSIS REQUIRES FROM
2 TO 3 SECONDS OF MACHINEY, OWNED BY THE BANK MOULD
CROINARILY BE AVAILABLE IN THE FORM OF THE VARIOUS ANALYSES
MAY BE FRINTED IF DESIGNED. IT IS SIGNIFICANT TO NOTE THAT THE
CARDS REPRESENTING BONDS PRESENTLY OWNED BY THE BANK MOULD
CROINARILY BE AVAILABLE IN THE FORM OF THE BANKS SECURITY
INVENTORY AND CONTROL PROGRAM—THEREFORE, ONLY THE CARD
REPRESENTING THE CONTEMPLATED PURCHASE MAY HAVE TO BE PREPARED.
IN ADDITION TO USING THE BOND TRADE ANALYSIS PROGRAM ON THE BANKS
CWN PORTFOLIO, APPLICATION MAY BE FOUND IN THE MANAGEMENT OF
LARGE BANK TRADING ACCOUNTS AND AS A SALES DEVICE FOR ADDITIONAL
AND NEW SERVICES TO CORRESPONDENT BANKS. MINIMUM MACHINE
REQUIREMENTS—AN OR 1401 MITH...ADVANCE PROGRAMMING, HIGH-LCWEQUIA COMPA

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... OPERATING INSTRUCTIONS...
REFERENCE MANUAL... LISTINGS.
CARD DECK - OBJECT DECK... SOURCE PROGRAM DECK... SAMPLE PROBLEM DECK...

1401-FB-14X 1401/1440 PROGRAM FOR THE ALLOCATION OF RESOURCES FOR SAVINGS AND LOAN ASSOCIATIONS ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-FB-14X

THE 1401/140 PROGRAM FOR THE ALLOCATION OF RESOURCES FOR SAVINGS AND LOAN ASSOCIATIONS, 1401-FB-14X HELPS SAVING AND LOAN ASSOCIATIONS, 1401-FB-14X HELPS SAVING AND LOAN MANAGEMENT MAKE DECISIONS WHICH OBTERMINE PROFITABLE LEVELS FOR THE ASSOCIATION SASSETS AND LIABILITIES.
INPUT DATA DESCRIBE THE PRESENT FINANCIAL STATUS, LEGAL REQUIREMENTS, INDIVIOUAL ASSOCIATION POLICIES, AND CASH FILD REQUIREMENTS, OF THE ASSOCIATION AND ARE TRANSLATED BY THE PROGRAM INTO A SET OF CONCISE MATHEMATICAL EQUATIONS REFLECTING THE ECCONDIC ENVIRONMENT WITHIN WHICH THE ASSOCIATION MUST OPERATE. LINEAR PROGRAMMING, A MATHEMATICAL TECHNIQUE USED TO MAXIMIZE PROFIT, CALCULATES THE SOLUTION TO THESE EQUATIONS. THIS MATHEMATICAL SCLUTION IS THEN TRANSLATED INTO OUTPUT REPORTS WITH THE FOLLOWING INFORMATION—
SHORT-TERM RECOMMENDATIONS PERTAINING TO CHANGES IN THE ASSOCIATION'S ASSETS AND LIABILITIES.

- PROJECTIONS PERTAINING TO EXPECTED LONGER TERM CHANGES IN THE ASSOCIATION'S ASSETS AND LIABILITIES.

- THE POSITION OF THE ASSOCIATION WITH RESPECT TO LEGAL REQUIREMENTS, REGULATIONS, AND SELF-IMPOSED RESTRICTIONS.

- THE POSITION OF THE ASSOCIATION WITH RESPECT TO LEGAL REQUIREMENTS, REGULATIONS, AND SELF-IMPOSED RESTRICTIONS.

- ASSETS AND LIABILITIES WHICH HAVE A CONSTRAINING EFFECT CN PROFIT.

- THE FEFFORTER RECOMENT OF THE ASSOCIATION WITH RESPECT TO LEGAL REQUIREMENTS, REGULATIONS, AND SELF-IMPOSED RESTRICTIONS.

- ASSETS AND LIABILITIES WHICH HAVE A CONSTRAINING EFFECT CN PROFIT.

- THE FEFFORTER PROFERVE POSITION AS OF ONE YEAR AFTER THE PROGRAM

THE EXPECTED RESERVE POSITION AS OF ONE YEAR AFTER THE PROGRAM

IS RUN.
PROGRAMMING SYSTEMS— THE PROGRAM IS WRITTEN IN THE AUTOCODER
SOURCE LANGUAGE FOR THE 1401 AND 1440.
1401 MINIMUM SYSTEM REQUIREMENTS—A 4K 1401 SYSTEM MITH HIGH-LCWECUAL COMPARE, ADVANCED PROGRAMMING, MULTIPLY-DIVIDE
//DFIIONAL/... 1311 DISK STORAGE DRIVE... 1316 DISK PACK... 1402
CARD READ PUNCH MOI 1... 1403 PRINTER MOI 2. THE MULTIPLY-CIVIDE
FEATURE WILL EFFECTIVELY REDUCE PROCESSING TIME.

BASIC PROGRAM MATERIAL-COCCUMENTATION - PROGRAM WRITE-UP... APPLICATION DIRECTORY...
REFERENCE MANUAL... OPERATORS MANUAL.
MACHINE REACABLE - GBJECT PROGRAM CECK... SAMPLE PROBLEM CECK

OPTICNAL PROGRAM MATERIAL-- SYSTEMS MANUAL... AUTOCODER SCURCE PROGRAM DECKS. OPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE CROER CARC.

A-1401

1401-FI-04X PORTFOLIO SELECTION PROGRAM ORDER THROUGH LOCAL 18M BRANCH OFFICE SPECIFY FILE NUMBER 1401-FI-04X

PORT PROUGH LOCAL IBM BRANCH OFFICE
PECIFY FILE NUMBER 1401—FI-04X

THE 1401 PORTFCLIO SELECTION PROGRAM /1401—FI-04X/ IS VALUABLE
TO BANKS, MUTUAL FUNDS, TRUST AND INSURANCE COMPANIES, ESTATES,
AND INVESTMENT DEPARTMENTS OF INSTITUTIONS BOTH PUBLIC AND
PRIVATE.

DESCRIPTION—THE PROGRAM DETERMINES OPTIMALLY DIVERSIFIED
PORTFOLIOS FROM A GIVEN GROUP OF SECURITIES. THESE OPTIMAL
PORTFOLIOS HOM A GIVEN GROUP OF SECURITIES. THESE OPTIMAL
PORTFOLIOS MININIZE RISK FOR GIVEN LEVELS OF RETURN. THE PROGRAM
PORTFOLIOS MININIZE RISK FOR GIVEN LEVELS OF RETURN. THE PROGRAM
PORTFOLIOS MININIZE RISK FOR GIVEN LEVELS OF RETURN. THE PROGRAM
PORTFOLIOS MININIZE RISK FOR GIVEN LEVELS OF RETURN. THE PROGRAM
PORTFOLIOS MININIZE RISK FOR ANY LEVEL OF RETURN ASSOCIATED WITH A
SECURITY PORTFCLIO. IT SELECTS OPTIMALLY DIVERSIFIED PORTFOLICS
FROM GROUPS OF UP TO 750 SECURITIES, INCLUDING CASH INVESTMENTS.
CONSTRAINTS, SUCH AS A MAXIMUM HOLDING OR A FIXED HOLDING, MAY BE
APPLIED TO ANY OR ALL OF THE SECURITIES BEING CONSIDERED. CUTPUT
CONSISTS OF— /1/ A SET OF PORTFOLIOS—— EACH MITH MININUM RISK
FOR ITS LEVEL OF RETURN.—— FOR AS MANY LEVELS OF RETURN AS THE
USER REQUESTS, /2/ THE INDIVIDUAL SECURITY PARAMETERS—— SUCH AS
RETURN AND RISK —— THAT WERE USED IN THE COMPUTATION, AND /3/ THE
EXPECTED RETURN AND ASSOCIATED RISK FOR A PORTFOLIO CONSISTING
OF CURRENT HOLDINGS.

FEATURES—

USES THE INDEX OR LINEAR MODEL, MICH ASSUMES A LINEAR
RELATIONSHIP BETWEEN RETURN AND SOME SINGLE ECCNOMIC

INDICATOR.

ELIMINATES THE NEED FOR THE USER TO PROVIDE ESTIMATES OF
COVARIANCE OR CORRELATION BETWEEN PAIRS OF SECURITIES.

USES THE MODELS AS SPECIAL SUBPROGRAM FROM THE GIVEN INPUT DATA AND ARE
USED BY THE PROGRAM TO MININIZE RISK THROUGH THE PRINCIPLE OF
DIVERSIFICATION.

INCLUDES A SPECIAL SUBPROGRAM CALLED DATA TRANSFORMATION
PROGRAM, MEICH ALLOWS THE USER TO SPECIFY ANY LINEAR FUNCTION
PROGRAM, MEICH ALLOWS THE USER TO SPECIFY ANY LINEAR FUNCTION
PROGRAMMING PROGRAM THAT APE IS PROVIDED. THE PROGRAM.

USED AS SELF-LOADING PROGRAM THAT APE IS PROVIDE

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM MRITE-UP... APPLICATION DIRECTORY...
REFERENCE MANUAL... SYSTEM MANUAL.
MAG. TAPE - ONE REEL CONTAINING... SELF-LOADING OBJECT
PROGRAM... SOURCE PROGRAM... ASSEMBLY LISTING... CARD
DECKS FOR THE SOURCE AND OBJECT PROGRAM FOR THE AUXILIAR
PROGRAM DTP MAINTENANCE PROCEDURE. SAMPLE PROBLEM CARD
DECK.

1401-FI-05X FINANCIAL ANALYSIS PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-FI-05X

THE FINANCIAL AMALYSIS PROGRAM CONSISTS OF A SERIES OF PROGRAMS WHICH GIVE THE PROFESSIONAL FINANCIAL ANALYSI EASILY ACCESSIBLE, DETAILED, AND AMALYTICAL INFORMATION ABOUT INDUSTRIAL CORPCRATIONS. THE PROGRAM UTILIZES THE INFORMATION HANDLING AND COPPUTATIONAL ABILLTY OF THE IBM 1401 TO PROVIDE THE PROFESSIONAL FINANCIAL AMALYST WITH TOOLS TO HELP HIM IN SCREENING AND APPRAISING INDUSTRIAL COMMON STOCKS. THE MAIN INPUT FOR THE PROGRAM IS A MAGNETIC TAPE CONTAINING HISTORICAL BALANCE SHEET, INCOME STATEMENT, AND MARKET DATA FOR A LARGE NUMBER OF INDUSTRIAL COMPANIES. THIS TAPE MAY BE PREPARED BY THE USER OR CBITAINED FROM THE ORGANIZATION WHICH MAKES IT COMMERCIALLY AVAILABLE /STANDARD & PCORS CORPORATION/.
BY USING THE PROGRAM, THE AMALYST MAY DOTAIN REPORTS PROVIDING HIM WITH-1/1/A LIST OF COMPANIES MEETING CERTAIN STANDARDS SPECIFIED BY THE ANALYST.
2/ PAST FINANCIAL DATA AND RATIOS.
3/3 COMPARISONS BETMEEN A COMPANY'S SALES AND EARNINGS AND GNP FRE INDEX OF INDUSTRIAL PRODUCTION.
4/4 COMPOUND GROWTH RATES AND STABILLITY MEASURES.
5/5 COMPARISONS BETMEEN HOUSTRIAL PRODUCTION.
4/5 COMPARISONS BETMEEN HOUSTRIAL PRODUCTION.
5/6 FINANCIAL DATA AND ARKET INFORMATION FOR UP TO FIVE COMPANIES CN A SINGLE REPORT.

/6/ FINANCIAL AND MA A SINGLE REPORT.

- A SINGLE REPURI.

 FEATURES:

 PROVIDES THE ANALYST WITH TIMELY INFORMATION THAT HAS PREVIOUSLY BEEN IMPRACTICAL TO OBTAIN CONSISTENTLY.

 FREES THE ANALYST FOR MORE CREATIVE TASKS BY ELIMINATING MUCH OF THE CLERICAL MORK HE MUST NOW PERFORM.

 ALLOWS AN ANALYST TO FOLLOW CLOSELY MORE COMPANIES THAN IS NOW PORSYLED.

- ALIONS AN ANALYST TO FOLLOW CLOSELY MORE COMPANIES THAN IS NOW PRACTICAL.

PRACTICAL.

SELECTS COMPANIES WHICH ARE WORTHY OF FURTHER STUDY BASED ON THE SPECIFIED CRITERIA.

SEPARATE PROGRAMS ALLOW THE ANALYST TO EXAMINE ONLY THOSE REPORTS WHICH INTEREST HIM.

USE - THE FINANCIAL ANALYSIS PROGRAM CONSISIS OF SEVEN SEPARATE 1401 AUTOCODER PROGRAMS, SIX OF WHICH MAY BE RUN INDEPENDENTLY AND AND ARE UNDER THE CONTROL OF ONE EXECUTIVE PROGRAM. CONTROL OR ONE EXECUTIVE PROGRAM. CONTROL THOSE INDUSTRIES TO BE ANALYZED. AS MANY COMPANIES AND ESSIRED MAY BE PROCESSED IN A SINGLE RUN.

MINIMUM SYSTEM REQUIREMENTS—AN 8K 1401 WITH FOUR MAGNETIC TAPE UNITS... 1403 PRINTER MDL 2... 1402 CARD READ PUNCH... ADVANCED PREGRAMMING, HIGH-LOW-EQUAL COMPARE, MULTIPLY-DIVIDE, SENSE SWITCHES, ADDITIONAL PRINT CONTROL.

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDEREC. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD. THE TAPE SUPPLIED MUST BE 24C0 FEET IN LENGTH.

BASIC PROGRAM MATERIAL DCCUMENTATION - PROGRAM WRITE-UP... APPLICATION DESCRIPTION
MANUAL..-CPERATION MANUAL.
MACHINE READABLE - ONE REEL OF MAGNETIC TAPE WHICH CONTAINS THE
OBJECT DECKS, THE SOURCE DECKS, AND THE ASSEMBLY LISTINGS.

1401-F0-050 FORTRAN
ORDER THROUGH LOCAL 18M BRANCH OFFICE
SPECIFY FILE NUMBER 1401-F0-050

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RER THROUGH LOCAL IBM BRANCH OFFICE

PECIFY FILE NUMBER 1401-FO-050

PURPESE 1401 FORTRAM HAKES AVAILABLE TO 1401 DPS

INSTALLATIONS THE ESTABLISHED FORTRAM PROGRAMMING LANGUAGE,
THE PRINCIPAL USE OF MHICH IS TO DESCRIBE SOLUTIONS TO

SCIENTIFIC AND ENGINEERING PROBLEMS. THE FORTRAM COMPILER

HACHINE LANGUAGH LISE OF THE FORTRAM SYSTEM HILL PRODUCE
HIGHER PROGRAMS, HITS OF THE FORTRAM SYSTEM WILL PRODUCE
HIGHER PROGRAMS OF THE FORTRAM SYSTEM WILL PRODUCE
HIGHER PROGRAMS OF THE FORTRAM SYSTEM WILL PRODUCE
HIGHER PROGRAMS OF THE FORTRAM SYSTEM WILL PRODUCE
PROGRAMS PRODUCED MORE QUICKLENT. I. 2. MORE RELIABLE
PROGRAMS OF THE MACHINE OF THE PROGRAMS
WRITTEN IN FORTRAM AND TESTED ON THE MACHINE FOR RELIABLE
OF THE MACHINE STORM OF THE PROGRAM SYSTEM
OF THE MACHINE STORM OF THE PROGRAM SYSTEM / NO TAPE AVAILABLE. 1401 FORTRAM FRATURES ARE
1. FAST COMPILING SPEED, 2. OPERABILITY ON A 1401 CAPD
SYSTEM / NO TAPE REQUIRED/, AND 3. ALOAD-AND-GO/ SYSTEM
ORGANIZATION, 4. VARIBBLE PRECISION ARITHHETIC AND 5. EXTENSIVE
DIAGNOSTIC ABILITY. USE OF PROGRAM THE USERS FORTRAM PROGRAM
STATEMENTS, PUNCHED ON CAROS, ARE ENTERED INTO THE 1401
DPS, FOLLOWED BY THE FORTRAM COMPILER, HHICH MAY BE ON
CARDS OR TAPE. THE SOURCE PROGRAM HE USERS FORTRAM PROGRAM
STATEMENTS, PUNCHED ON CAROS, ARE ENTERED INTO THE 1401
DPS, FOLLOWED BY THE FORTRAM COMPILER, HHICH MAY BE ON
CARDS OR TAPE. THE SOURCE PROGRAM HICH LANGUAGE PROGRAM
IN CORE STORAGE, READY FOR EXECUTION. THE PROGRAM MAY BE PUNCHED
OUT IN CONDENSED FORM PRIOR TO EXECUTION A LISTING IS
PROVIDED DURING THE COMPILATION WHICH INCLUDES THE SOURCE
PROGRAM STATEMENTS, DIAGNOSTIC INFORMATION RELATION TO THE
INSTALLED TO STORE AND LOAD THE 1401 FORTRAM COMPILER. FOR
A 1403 LISTING OF THE COMPILATION WHICH INCLUDES THE SOURCE
PROGRAMS I SOOD OR HORE CORE STORAGE POSITIONS

BASIC PROGRAM MATERIAL —

DOCUMENTATION — PROGRAM WRITE—UP...DOCUMENTATION OF 1401
FORTRAN...DPERATING INSTRUCTIONS.

CNE MAGNETIC TAPE — CONSISTING OF COMPILER DECK...SAMPLE
PROBLEM DECK...JTLLITY DECK 1 — FOR PREPARING A CCMPILER
TAPE...UTLLITY DECK 2 — FOR ADDING LIBRARY FUNCTIONS TO
THE SYSTEM WHERE AUTOCODER IS REQUIRED...FORTRAN SYSTEM
SYMBOLIC LISTINGS.

OPTICNAL PROGRAM MATERIAL CARD DECKS - CONTAINS EVERYTHING AVAILABLE ON TAPE /MENTIONED
ABOVE/ IN CARE FORM.

1401-F0-051 1401/40/60 FORTRAN IV DISK ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-F0-051

FORTRAN IV FOR IBM 1401, 1440 AND 1460, BROADENS IBMS FORTRAN LANGUAGE. IT PROVIDES A FORTRAN IV LEVEL LANGUAGE FOR THE 1401/1460 AND THE FIRST FORTRAN SYSTEM FOR THE 1440 USER. WITH THE POWERFUL FORTRAN IV, 1401, 1440 AND 1460 USERS CAN EASILY COMBINE BOTH BUSINESS AND SCIENTIFIC DATA PROCESSING IN ONE LOW-COST SYSTEM. AVAILABLE AS A SEPARATE PROGRAM IS A TAPE RESIDENT SYSTEM /NO. 1401-FO-CS1/FOR 1401/60 SYSTEM. MINIMUM SYSTEM REQUIREMENTS - 12K 1401... ONE 1311 DISK STORAGE DRIVE... ONE 1402 CARD READ PUNCH... CNE 1403 PRINTER MCOEL 2... ADVANCED PROGRAMMING FEATURE.

A 12K 1440... ONE 1301 CISK STORAGE, OR ONE 1311 DISK STORAGE DRIVE... ONE 1442 CARD READER... ONE 1443 PRINTER... INDEXING AND STORE ADDRESS REGISTER FEATURE.

A 12K 1460... ONE 1301 DISK STORAGE, OR ONE 1311 DISK STORAGE DRIVE... ONE 1402 CARD READ PUNCH... DNE 1403 PRINTER MODEL 2... INDEXING AND STORE ADDRESS REGISTER FEATURE.

BASIC PROGARM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LANGUAGE
SPECIFICATIONS, PROGRAM SPECIFICATION, AND OPERATING
PROCEDURES MANUAL.
MACHINE READABLE - A CARD DECK CONTAINING THE SYSTEM
CONTROL PROGRAM, FORTRAN COMPILER, THE RELOCATABLE
LOADER, FORTRAN SUBROUTINE LIBRARY, CARD BOOTSTRAPS,
SAMPLE SOURCE PROGRAM AND VARIOUS SYSTEM GENERATION
UTILITIES NEEDED TO BUILD AND OPERATE A DISK-RESIDENT
SYSTEM.

OPTIONAL PROGRAM MATERIAL - SOURCE LISTINGS.
THE OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-F0-052 1401/60 FORTRAN IV TAPE ORDER THROUGH LOCAL 18M BRANCH OFFICE SPECIFY FILF NUMBER 1401-F0-052

FORTRAN IV FOR IBM 1401, 1440 AND 1460, BROADENS IBMS FORTRAN LANGUAGE. IT PROVIDES A FORTRAN IV LEVEL LANGUAGE FOR THE 1401/1460 AND THE FIRST FORTRAN SYSTEM FOR THE 1440 USER. WITH THE POWERFUL FORTRAN IV, 1401, 1404 AND 1460 USERS CAN MEASILY COMBINE BOTH BUSINESS AND SCIENTIFIC DATA PROCESSING IN ONE LOW-COST SYSTEM. AVAILABLE AS A SEPARATE PROGRAM IS A DISK RESIDENT SYSTEM /NOL 1401-F0-051/ FOR 1401/40/60 SYSTEMS. MINIMUM SYSTEM REQUIREMENTS — A 12K 1401 OR 1460 SYSTEM SITHL 1402 CARD-READ-PUNCH... 1403 PRINTER MODEL 2... FOUR 7330 OR 729 MAGNETIC TAPE UNITS. ON THE 1401 — HIGH-LOW-EQUAL AND ADVANCED PROGRAMMING... ON THE 1406 — INDEXING AND STORE ACCRESS REGISTER. ACDRESS REGISTER.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... LANGUAGE
SPECIFICATIONS, PROGRAM SPECIFICATIONS, AND OPERATING
PROCEDURES MANUAL.
MACHINE REACABLE - A DTR CONTAINING A TAPE LOADABLE

A-1401

PAGE 007

CONTINUED FROM PRIOR COLUMN-PROGRAM WHICH WILL PUNCH THE SAMPLE PROGRAM DECK.
THE CARD BOOT DECK, THE SYSTEM CONTROL, FORTRAN
COMPILER, THE FORTRAN LOADER DECKS AND THE FORTRAN
SUBROUTINE LIBRARY DECKS.

CPTIONAL PROGRAM MATERIAL - SOURCE LISTINGS. 1401-F0-702 FORTRAN II LANGUAGE CONVERSION PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-F0-702

THE FORTRAN II LANGUAGE CONVERSION PREGRAM AIDS IN THE TRANSITION TO SYSTEM/360 BY CONVERTING ACCEPTABLE CURRENT FCRTRAN II SOURCE PROGRAMS INTO FORTRAN IV SOURCE PROGRAMS FCR THE SYSTEM/360. THE FORTRAN II LCP ACCEPTS AS INPUT-1401 FORTRAN II, 1620 FORTRAN II FORTRAN II-D, 1620 MONITOR II FORTRAN II-D, 1620 MONITOR II FORTRAN II-D, 1620 FORTRAN II FOR AUTOMATIC FLOATING POINT, 7070 SERIES FORTRAN, PASIC AND FULL/, 7070 FOS FORTRAN, 7081 CANDERS FORTRAN FORTRAN FORTRAN FOR SYSTEM/360 FORTRAN - 0095 FORTRAN FORTRAN FORTRAN FOR SYSTEM/360 FORTRAN IV / LEVEL US SYSTEM/360 FORTRAN IV / LEVEL L/, 0PERATING SYSTEM/360 FORTRAN IV / LEVEL L/, 0PERATING SYSTEM/360 FORTRAN IV / LEVEL SUBSET/ AND SYSTEM/360 BASIC PROGRAMMING SUPPORT FORTRAN IV / TAPE/ SYSTEM/360 BASIC PROGRAMMING SUPPORT FORTRAN IV / CARD/ BASIC OPERATING SYSTEM/360 WITH 1005/360

FEATURES - THE FORTRAN LCP HAS-

BASIC UPERATING SYSTEM/360 WITH TOS/360

FEATURES -- THE FORTRAN LCP HAS- CARD OR TAPE INPUT -- BOTH THE LCP AND THE FORTRAN II SOURCE
PROGRAMS CAN BE READ FROM EITHER CARDS OR TAPE.
- SINGLE OR STACKED PROGRAM CONVERSION -- A SINGLE SOURCE PRCG.
CAN BE PROCESSED FROM ONE OF THE THREE TAPE UNITS NEEDED IN
A MINIMUM COMPIGURATION. STACKED PROGRAMS CAN BE PROCESSED
IF MORE THAN THREE TAPE UNITS ARE USED.
- CARP-CODE CONVERSION FOR DUAL BCD CHARACTERS -- A CONTROL
CARD OPTION PROVIDES AUTOMATIC CONVERSION FROM BCD INPUT CODE TO
EBCDIC OUTPUT CODE, OR VICE VERSA. IN THIS MAY, THE LCP CAN
COMERT THE DUAL BCD CHARACTERS, I.E., TWO CHARACTERS WITH THE
SUMAL CARD CODULA BCD CHARACTERS, I.E., TWO CHARACTERS WITH THE
SUMAL CHARACTERS INTO THE PROPERS STEM-360 CARD CODES. THE
SUMAL CHARACTERS THE AND THE PROPERS AND THE SCUAL SIGN AND PERCENT ROPHE AND THE COMMENCE AND THE CONVENTED AND THE COMMENCE AND THE CONVENTED THE LCP PROVIDES A LISTING OF THE
CONVERTED PROGRAM. THIS LISTING CONTAINS MESSAGE CODES AND
TABLES THAT DOCUMENT CONVERSION ACTIONS AND PACILITATE ANALYSIS
OF THE CONVERTED PROGRAM. A LISTING OF THE SOURCE PROGRAM IS
OF THE CONVERTED PROGRAM. A LISTING OF THE SOURCE PROGRAM IS
OF THE CONVERTED PROGRAM.

OF THE CONVERTED PROGRAM. A LISTING OF THE SOURCE PROGRAM IS OPTICAL.
OPTICAL CARC OUTPUT -- WHEN SPECIFIED, THE LCP PRODUCES A PUNCHED-CARD DECK THAT CONTAINS THE CONVERTED PROGRAM.
OPTICAL OUTPUT ON TAPE -- THE USER CAN SPECIFY THAT PRINTED AND/CR PUNCHED OUTPUT ARE TO BE RECORDED ON TAPE.
REPLACEMENT OF TAPE REFER. -- THE USER CAN SPECIFY THAT TAPE CONSTANTS IN INPUT/OUTPUT STATEMENTS ARE TO BE REPLACED BY A VARIABLE NAME CR ANOTHER TAPE CONSTANT.
- RESOLUTION OF COMMON-EQUIVALENCE INTERACTION -- THE USER CAN SPECIFY THAT VARIABLES IN COMMON STATEMENTS ARE TO BE REDROERED SO THAT A SYSTEM/360 COMPILER WILL ALLOCATE COMMON STCRAGE AND ESTABLISH EQUIVALENCE IN THE SAME MANNER AS THE CURRENT FORTRAN II COMPILER.

THE FORTRAN II LCP WILL REDUCE THE AMOUNT OF REPROGRAMMING NECESSARY TO CONVERT CURRENT FORTRAN II PROGRAMS INTO SYSTEM/360 FORTRAN IV PROGRAMS. USE OF THE LCP WILL REDUCE TIME AND MONEY SPENT ON RECODING, CLERICAL ACTIVITIES, AND PROGRAM DEBUGGING. ALTHOUGH THE SAVINGS TO BE REALIZED FOR A SINGLE PROGRAM MAY BE AS GREAT AS 65 PER CENT, THE OVERALI SAVINGS TO A CUSTOMER MUST BE DETERMINED ON AN INDIVIDUAL BASIS.

MINIPUM SYSTEM REQUIREMENTS- AN 8K 1401 SYSTEM WITH... A 1402 CARD READ PUNCH... A 1403 PRINTER MODEL 2... THREE TAPE UNITS... THE ACVANCED PROGRAMMING FEATURE... THE HIGH-LON-EQU COMPARE FEATURE /OR AN 18M SYSTEM/360 WITH 1401 COMPATIBILITY AND CORRESPONDING FEATURES AND 1/0 DEVICES/.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM MATERIAL LIST... FORTRAN II LANGUAGE
CONVERSION MAUNAL.
MACHINE READABLE - DTR CONTAINING LCP OBJECT DECK.

OPTIONAL PROGRAM MATERIAL - LCP SOURCE DECKS ON ONE REEL CF MAGNETIC TAPE. CPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE GROER CARG. THE NUMBER OF TAPES NECESSARY TO OBTAIN THE PROGRAM MATERIAL MAY BE SUPPLIED OR ORDERED FROM YOUR IBM REPRESENTATIVE. THE TAPES SHOULD BE 2400 FEET IN LENGTH.

1401-IF-01X AUTO RATING FOR FIRE AND CASUALTY COMPANIES ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IF-01X

THE AUTO RATING PROGRAM IS A SERIES OF SUBROUTINES
DESIGNED TO PERFURM THE RATING CALCULATIONS INVOLVED IN
ISSUING A POLICY COVERING PRIVATE PASSENGER AUTOMOBILES
AND PICKUP TRUCKS. PROVISION IS MADE FOR CALCULATING SUCH
COVERAGES WITH THE LIMITS OF LIABILITY AND DEDUCTIBLES AS
ARE PUBLISHED BY THE NATIONAL RATING ORGANIZATIONS. BY
USING A MODULAR PROGRAMMING TECHNIQUE, IT IS EASILY
ADAPTED TO INDIVIDUAL REQUIREMENTS. BASE RATES AND FACTORS
ARE UTILIZED, WHICH REDUCES CORE STORAGE REQUIREMENTS.
USE OF TABLES AND A SPECIAL TABLE LOOKUP TECHNIQUE MAKES
MAINTENANCE, CAUSED BY RATE CHANGES, MUCH SIMPLER. THE
USER SELECTS THE ROUTINES FOR THE DESIRED COVERAGES,
DISCOUNTS, DEVIATIONS, ETC., COMBINES THESE WITH HIS OWN
INPUT/OUTPUT ROUTINES—ADDS THE DESIRED BASE RATE TABLES—
AND PROCESSES, USING EITHER SPS OR AUTOCODER, TO PRODUCE
AN OBJECT DECK. NORMALLY, A SEPARATE PROGRAM IS PRODUCED
FOR EACH STATE, ALTHOUGH USUALLY THE CNLY CHANGE IS THE
BASE RATE TABLES, ROUTINES FOR THE CONTROL OR TATES
THAT VARY FROM STANDARD FORMULAS. HINIMUM REQUIREMENTS FOR
THE AUTO RATING PRODRAM ARE A 4K 1001 SYSTEM WITH
ADVANCED PROGRAMMING AND HIGH-LON-EQUAL COMPARE FEATURES—

A-1401

CONTINUED FRCM PRIOR PAGE-1402 AND 1403 MDL 1. STORAGE REQUIREMENTS VARY WITH
SYSTEMS CONSIDERATIONS SUCH AS- COVERAGES, SIZE OF STATE
TABLES, USERS DEVIATIONS, AND INPUT/OLIPUT REQUIREMENTS.
THE NORMAL REQUIREMENT FOR RATING, POLICY ISSUE, AND
STATISTICAL CODING IS 8000 POSITIONS OF CORE STORAGE.

BASIC PROGRAM MATERIAL COCUMENTATION - PRELIMINARY REFERENCE MANUAL... PROGRAM WRITE-UP
... PROGRAM LISTINGS.
CARD DECKS - SPS SCURCE PROGRAM DECK... OBJECT PROGRAM DECK...
SAMPLE PROBLEM DECK.

1401-IF+02X GENERAL DISTRIBUTION PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IF-02X

THE GENERAL DISTRIBUTION PROGRAM FOR A CARO LAGI DATA PROCESSING SYSTEM ACCOMPLISHES SUMMARY REPORTING WITHOUT RESEQUENCING AN INPUT CARD FILE. THE LAGI GENERAL DISTRIBUTION PROGRAM FULFILLS ITS PURPOSE BY BUILDING A TABLE OF EXTRACTE CONTROL FIELDS AND RESPECTIVE ALGEBRAICALLY ADDED AMOUNTS. SPECIFIED FIELDS ON SPECIFIED CARDS CAN BE SUMMARIZED FOR SELECTIVE REPORT WRITING. HEN AN INPUT FILE HAS BEEN EXHAUSTED, OUTPUT CARDS ARE THEN HEN AN INPUT FILE HAS BEEN EXHAUSTED, OUTPUT CARDS ARE PUNCHED REFLECTING THE DATA AMMASSED IN THE TABLE. OUTPUT CARDS ARE THEN USED FOR SUMMARY AFPORT WRITING EITHER IN THE SEQUENCE PRODUCED OR ANY OTHER SCRIED SEQUENCE DESIRED. IF TABLE SPACE IS EXHAUSTED BEFORE THE ENC OF INPUT FILE, AN EXTRACTED ITEM TABLE IS PUNCHED OUT. OVERFLOW ITEMS ARE PROCESSED UPON COMPLETION OF THE INITIAL RUN.

IN ADDITION TO PROPERTY AND CASUALTY INSURANCE FOR WHICH THE PROGRAM WAS DEVELOPED, THERE ARE NUMEROUS IMAGINATIVE USES FOR THE GENERAL DISTRIBUTION PROGRAM INCLUDING MULTIPLE SUMMARIZATION AND SELECTIVE FILE SEARCHING. A SIGNIFICANT FLEED USES WILLIAMS FOR EACH CONTROL FIELD UNTIL HIS PROGRAM GIVING THE USER MULTIPLE CONTROL FIELD UND THIS PROGRAM GIVING THE USER MULTIPLE CONTROL FIELD SULT INTO THIS PROGRAM GIVING THE USER MULTIPLE CONTROL FIELD SULT INTO THIS PROGRAM GIVING THE USER MULTIPLE CONTROL FIELD SULT INTO THIS PROGRAM GIVING THE USER MULTIPLE CONTROL FIELD SULT INTO THIS PROGRAM GIVING THE USER MULTIPLE CONTROL FIELD SULT INTO THIS PROGRAM GIVING THE USER MULTIPLE CONTROL FIELD SEQUENCE.

INTHUM SYSTEM REQUIREMENTS

A 4K, 8K, 0R 16K 1401 MITH HIGH-LOW-EQUAL COMPARE, ADVANCED PROGRAMMING, A 1402 CARD READ PUNCH, AND A 1403 PRINTER.

BASIC PROGRAM MATERIAL**

BASIC PROGRAM MATERIALCOCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL
INCLUDING PROGRAM LISTINGS.
CARD DECKS - PROGRAM DECK... SAMPLE PROBLEM DECK.

1401-IF-03X GENERAL DISTRIBUTION PROGRAM FOR A TAPE 1401 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IF-03X

THE GENERAL DISTRIBUTION PROGRAM FOR A TAPE 14-C1 DATA PROCESSING SYSTEM /140-11F-03X PROVIDES FILE SEARCH OR SUMMARY ABILITY FROM A TAPE FILE WITHOUT PRE-SORTING. IT IS A , LOAD AND GC, TYPE PROGRAM WHICH IS ACTIVATED BY SIMPLE CONTROL CARDS. FOR MCST JOBS ONLY FOUR CONTROL CARDS NEED TO BE PUNCHED. THUS, FROM RANDOM TAPE RECURS, EITHER BUCKED OR SINGLE, IT WILL EXTRACT CONTROL FIELDS AND AMOUNT FIELDS, SUMMARIZE, SEQUENCE, AND MRITE OUT THESE EXTRACTED SUMMARIZED RECORDS. THE PROGRAM WAS DEVELOPED ESPECIALLY FOR THE PROPERTY AND CASUALTY INDUSTRY, BUT IT WILL HAVE WIDE APPLICATION IN ALL INDUSTRIES. THE PROGRAM MAS DEVELOPED ENSECIALLY FOR THE PROPERTY AND CASUALTY INDUSTRY, BUT IT WILL HAVE WIDE APPLICATION IN ALL INDUSTRIES. THE PROGRAM EMPLOYS THE TECHNIQUES OF BUILDING TABLES IN CORE STORAGE, DOING AN INTERNAL SORT, AND A 3 TAPP MERGE. DETAILED INSTRUCTIONS FOR PUNCHING THE CONTROL CARDS ARE GIVEN IN THE REFERENCE MANUAL. THESE CARDS ARE PLACED BEHING THE PROGRAM DECK, THE INPUT REEL MOUNTED ON A TAPE DRIVE, AND THE JOB IS REACY TO RUN. MINIMUM SYSTEM REQUIREMENTS—

4K, BR, OR 16K 1401 WITH HIGH-LOW-EQUAL COMPARE, ADVANCED PROGRAM MON SYSTEM REQUIREMENTS—

4K, BR, OR 16K 1401 WITH HIGH-LOW-EQUAL COMPARE, ADVANCED PROGRAMMING, AND SENSE SHITCHES. A 14-C2 CARD READ PUNCH, 14-03 PRINTER, AND 3 TAPE DRIVES.

THE NUMBER OF TAPES INDICATED MAY BE GRORERD FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE TAPES PROGRAM MATERIAL—

BASIC PROGRAM MATERIAL—

COCUMENTATION — PROGRAM WRITE—UP... REFERENCE MATERIAL...

FLONCHARTS... PROGRAM LISTINGS.

MAGNETIC TAPE — ONE REEL CONTAINING SAMPLE PROBLEM INPUT...

SOURCE DECK IN CARD IMAGE... GBJECT DECK IN CARD IMAGE.

1401-IF-05X HOMEOWNERS RATING PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IF-05X

THE 18M 1401 HOMEOWNERS RATING PROGRAM IS A SERIES OF SUBROUTINES WHICH PROVIDES A VALUABLE TOOL TO INSUBANCE COMPANIES THAT DESIRE TO RATE NEW OR RENEWAL POLICIES. IT REQUIRES AS INPUT THOSE FACTORS FROM WHICH AN UNDERWRITER WOULD RATE THE POLICY. THE PROGRAM HAS PROVISION FOR ALLOHING CREDIT FOR EXISTING INSURANCE, INCREASED OR DECREASED LIMITS, NON-STANDARD COVERAGE AMOUNTS /INTERPOLATION/, AND RATING OF MANY STANDARD ENDORSEMENTS.

- REDUCES CLERICAL EFFORT IN THE RATING, CODING, AND POLICY TYPTING AREAS.

REDUCES CLERICAL EFFORT IN THE RATING, CODING, AND POLICY TYPING AREAS.

- FLEXIBLE, MODULAR PROGRAM ALLOWING MODIFICATIONS AND EASE OF ALAPTION.

- PROVIDES AN IMPORTANT STEP IN THE IMPLEMENTATION OF AN INSURANCE INFORMATION SYSTEM.
MINIPUM SYSTEM REQUIREMENTS.

AN 8K 1401 SOME STATES REQUIRE 12K/ WITH ADVANCED PROGRAPHING AND MIGH-LOW-EQUAL COMPARE FEATURES. INPUT/OUTPUT DEVICES ARE DETERMINED BY USERS REQUIREMENTS. USE OF RANDOM ACCESS /1405 OR 1311/ CAN REDUCE STORAGE REQUIREMENTS OF 4K. RATING IN FORM SEQUENCE CAN ALSO APPRECIABLY REDUCE CORE STORAGE REQUIREMENTS.

BASIC PROGRAM MATERIAL
COCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL

/INCLUEES TABLES AND PROGRAM LISTINGS/.

CARD DECKS - SQURCE DECK... OBJECT DECK... SAMPLE PROBLEM

DECK.

1401-IL-01X THE 62 CFO PROGRAM /CONSOLIDATED FUNCTIONS ORDINARY/ GROER THROUGH LECAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IL-01X

A-1401

CONTINUED FROM PRIOR COLUMN ---

THIS SERIES OF FOURTEEN PROGRAMS IS DESIGNED TO COMPUTE
NET PREMIUMS AND TERMINAL RESERVES FOR MOST PLANS OF
INSURANCE. COMPUTE ADJUSTED PREMIUMS AND MINIMUM CASH
VALUES FOR THOSE PLANS REQUIRING SUCH VALUES. STORE
COMPUTED RESULTS ON MASTER RATE TAPES FOR USE IN THE COMPUTTATION OF LEGAL RESERVES OR NON-FORFEITURE BENEFITS. PRINT
THE COMPUTED RESULTS IN REPORT FORM FOR VISUAL REFERENCE
AND CTHER PURPOSES. MINIMUM INPUT IS REQUIRED FOR MOST
PLANS OF INSURANCE. /A WHOLE LIFE PLAN RECUIRES TWENTY—
SIX COLUMNS OF DATA/. 62 CFO TERMINAL RESERVE, NET
PREMIUMS, AND MINIMUM CASH VALUE PROGRAMS PROVIDE EXTREME
FLEXIBILITY IN THE CALCULATION OF TERMINAL RESERVES AND
MINIMUM CASH VALUES. THEY HAVE BEEN USED TO OUPLICATE
CORRECTLY HE VALUES FOR HUNDREDS OF PLANS OR INSURANCE
USING A WIDE WARLETY OF BENEFITS, MORTALITY TABLES, INTEREST
RATES, AND METHODS OF VALUATION. USE OF THESE PROGRAMS
WILL PROVIDE AN ECONOMIC MEANS OF PREPARING CONSOLIDATED
FILES FOR CONVERSION TO 62 CFO DAILY CYCLE HICH WILL BE
AVAILABLE IN THE THIRD QUARTER OF 1963. EACH PLAN OF
INSURANCE MUST BE DESCRIBED USING STANDARD FORMS. THE
INPUT DATA IS PUNCHED FROM THESE FORMS AND PROCESSED
INFORMAN OF MAGNETIC TAPE CONTAINING THE STRUCTURE OF THE
INPUT DATA IS PUNCHED FROM THESE FORMS AND PROCESSED
ITHROUGH THE APPROPRIATE CFO PROGRAMS. INITIAL QUIPUT IS IN
THE FORM OF MAGNETIC TAPE CONTAINING THE STRUCTURE OF THE
PLAN, THE PREMIUMS, AND RELATED POLICY VALUES. A PRINT
PROGRAM IS PROVICED HICH GENERATES DESCRIPTIVE INFORMATION
AND PREPARES A COMPLETE REPORT ON EACH PLAN OF INSURANCE.
THIS SERIES OF PROGRAMS WAS MRITTEN AND ASSEMBLED USING
1401 TAPE SYSTEM HITH, 1402 CARD READ PUNCH
MOL 1, 1403 PRINTER MOL 2, FOUR TAPE DRIVES, ADVANCED PROGRAMMING, EXPANDED PRINT ECIT, HIGH-COM-GEOURL COMPARE,
MULTIPLY-DIVIDE, PRINT CONTROL ADDITIONAL, AND SENSE
SWITCHES SPECIAL FEATURES.

THE NUMBER OF TAPES INDICATED MAY BE GROERED FROM YOUR IBM
REPRESENTATIVE OR ORDERED FOR EACH ITEM THAT IS ORDERED. THE
TAPES MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... 62 CFO VOLUMES I AND II.
CNE MAGNETIC TAPE - CONTAINS PROGRAM CARDS... MORTALITY TABLES...
SELECTED THENTY-PAY LIFE PREMIUMS... SELECTED ADJUSTED LIFE
PREMIUMS...
CARD DECKS - TAPE-TG-CARD PROGRAM DECK... SAMPLE PROBLEM DECK.

1401-IL-02X CONSOLIDATED FUNCTIONS ORDINARY DAILY CYCLE PROGRAMS ORDER THROUGH LOCAL 1BM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IL-02X

IDER THROUGH LOCAL 18M BRANCH OFFICE

FECIFY FILE NUMBER 1401-IL-OZX

THE /62 CFO DAILY CYCLE PROGRAMS, 1401-IL-CZX, ARE 31 PROGRAMS

MITH ACCOMPANYING ACTUARIAL TABLES DESIGNED TO MEET DATA

PROCESSING REGUIREMENTS FOR ORDINARY LIFE INSURANCE CCMPANIES IN

THE FOLLOWING AREAS- /1/ INPUT PREPARATION TO THE DAILY CYCLE

/BALANCE, SORT, EDIT/... /2/ DAILY CYCLE PROCESSING FOR ALL

POLICIES CONTAINED IN THE MASTER FILE /FILE MAINTENANCE,

ACCOUNTING, COMMISSION BILLING, LOAN OR NORMORRETIONER

ACCOUNTING, COMMISSION BILLING, LOAN OR NORMORRETIONER

ACCOUNTING JOURNALS... AND /4/ PERIODIC FILE UPDATING RUNS

/DIVIDENDS, CASH MALUES, AND RENEMBALE FERM PREMIOMS/

THE TOTAL SYSTEM PROVIDES FOR AUTOMATIC PROCESSING

OF ALL SCHEDULED TRANSACTIONS INVOLVING ORDINARY LIFE CONTRACTS.

EXCEPTIONS WILL OCCUR ONLY WHEN THE POLICY IS ISSUED UNDER

EXTREMELY UNUSUAL ARRANGEMENTS. THE SYSTEM IS BASED UPON

CONSCILDATION OF ALL POLICY INFORMATION INTO A SINGLE MAGNETIC

TAPE RECORD AND INTEGRATES ALL PROCESSING FUNCTIONS WITHIN A

SINGLE COMPUTER SYSTEM. PROCESSING FUNCTIONS WITHIN A

SINGLE COMPUTER SYSTEM. PROCESSING FUNCTIONS WITHIN A

SINGLE COMPOTER SYSTEM. PROCESSING AND COMMISSION RECORDS AS

WELL AS POLICY EXHIBIT TRANSACTIONS ARE GENERATED AUTOMATICALLY

AND BROUGHT FORWARD UNDER PROGRAM CONTOL FOR MONTH-END

PROCESSING OR FOR VALUATION PURPOSES.

FEATURES
/// C CFO DAILY CYCLE PROGRAMS WILL PROVIDE LIFE INSURANCE

COMPANIES USING THIS SYSTEM WITH EXCEPTIONAL OPERATICNAL

EFFICIENCY. THE MAJOR FEATURES OF THIS SYSTEM ARE /1/ DAILY

ANALYSIS OF ALL POLICY RECORDS FOR ANY PORM OF ACTIVITY...

/// CONTINUOUS CONTROL OF THE POLICY MASTER FILE... /3/ POLICY

INFORMATION FOR ACCOUNTING JOURNALS, COMMISSION RECORDS

INFORMATION FOR ACCOUNTING JOURNALS COMMISSION RECORDS

INFORMATION FOR ACCOUNTING JOURNAL

NOTIFICATION, POLICYMULER SERVICE AND VALUATION REPORTS FROM AS SINGLE SOURCE...ADD 74 ORGANIZATION OF OUTPUT FROM THE SYSTEP INTO MEANINGFUL PRINTED REPORTS.

SET.

762 CFG DAILY CYCLE ASSUMES THE DEVELOPMENT OF A CCMPLETE POLICY MASTER FILE BY EACH USER. TO HELP IN THE DATA GATHERING NECESSARY FOR A CONSOLIDATED FILE, PROGRAMS ARE AVAILABLE /1401-IL-OLIX/ TO GENERATE RESERVE, NET PRENIUM AND MINIMUM CASH VALUE RATE TAPES. RATE TAPE PHILOSOPHY HAS BEEN INCORPORATED INTO THE OVERALL SYSTEM TO FACILITATE THE HANDLING OF ANY TYPE OF UPDATING REQUIRED AND IN MANY CASES ELIMINATE THE NECESSITY FOR DATA GATHERING.

USER—
RESPONSIBILITY INCLUDES THE FOLLOWING MAJOR AREAS— /1/
GATHERING ALL CATA NECESSARY TO ESTABLISH A POLICY MASTER RECCRD

1. /2/ PREPARATION OF CONVERSION PROGRAMS WHICH MILL CONVERT
GATHERED DATA INTO AN ACCEPTABLE FORMAT... /3/ PREPARATION OF A PRINT PROGRAM FOR PRENIUM AND ANNIVERSARY NOTICES... AND /5/ PREPARATION OF CASH VALUE AND DIVIDEND RATE TAPES, RENEWABLE TERM PREMIUM RATE CARCS, AGENTS CONTROL RECORDS, AND COMMISSION TABLES.

DAILY CYCLE PROGRAMS MAY BE USED AS THEY ARE OR WITH SLIGHT MODIFICATION TO FACILITATE AUDITING NELLY CONVERTED POLICY RECORDS. DIVIDENCY, CASH VALUE AND REMABLE TERM UPDATING PROGRAMS WILL OPERATE UPDN ANY PROPERTY CONVERTED POLICY RECORDS. BUSINESSIN PROGRAMS OBTILLY CONVERTED BLCCK CF POLICIES ON EITHER A DAILY OF PRENDERLY CONVERTED POLICY RECORDS. BUSINESSIN PROGRAMS NO DAILY CYCLE PROGRAMS WILL OPERATE UPDN ANY PROPERTY CONVERTED BLCCK CF POLICIES ON EITHER A DAILY OF PRENDED STRIPLY CONVERTED BLCCK CF POLICIES ON EITHER A DAILY OF PRENDED SHAPEN PROMISSION AND RECREASED ADAILY CONVERTED BLCCK CF POLICIES ON EITHER A DAILY OF PRENDED SCHOLLES... ADVANCED PROGRAMS MAY BRADED PRINT EDIT, HIGH-CUN-EQUIREMENT—

12K 1401 SYSTEM HITH 1402 CARD READ PUNCH HOL 1... 1403 PRINTER MCL 2... FIVE TAPE ORDIVERSION PROBLEMS. ADVANCED PROGRAMS MILL OFFICE PROBRED PRINT CENTROL ADDITIONAL PROBRED PROBRAMS OF THE PROBRED FROM YEAR PROBRED PROBRED PROM YEAR PROBRED PROBRED PROBRE

BASIC PROGRAM MATERIAL—

CCCUMENTATION - PROGRAM WRITE-UP... /62 CFO POLICY MASTER

RECORD CODE BOOK /VOLUME 0/ AND VOLUMES 3 THROUGH 11.

CARD DECKS - OBJECT DECK DESIGNED TO ADD OR TO ALTER PROGRAMS

CN THE /62 CFO PROGRAM TAPE.

MAGNETIC TAPE - ONE REEL CONTAINING ALL DECKS IN SOURCE

CONTINUED FROM PRIOR PAGE-PROGRAM CARD FORM... AND MORTALITY TABLES.

1401-IL-03X CONSOLIDATED FUNCTIONS ORDINARY VALUATION PROGRAM ORDER THROUGH LOCAL 1BM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IL-03X

CONSULIDATED FUNCTIONS
Y VALUATION PROCRAM
THE 62 CFO / CONSOLIDATED FUNCTIONS ORDINARY/ VALUATION PROGRAMS,
1401-14-03x, ARE A SERIES OF 15 PROCRAMS DESIGNED TO CPERATE
EXCLUSIVELY IN THE AREA OF VALUATION AND IN THE PREPARATION CF
THE POLICY EXHIBIT FOR ORDINARY LIFE INSURANCE CEPPANIES. ALL CF
THE PROCRESSING MAY BE PERFORMED ON A STANDARD ANNUAL BASIS
OR AT ANY MORE FREQUENTLY DESTRED CYCLE SUCH AS SEMIANNUALLY,
QUARTERLY, OR MONTHLY. ALL INFORMATION FURNISHED BY THESE
PROCRAMS COMES EXCLUSIVELY FROM PAID FOR BUSINESS IN THE FILE CN
THE VALUATION CATE AND DOES NOT PERTAIN IN ANY WAY TO
SUPPLEMENTARY FILES. POLICY EXHIBIT AND RESERVES RELEASED ARE
PASCE CN ACTIVITY TO THE POLICY MASTER FILE DURING THE REPORTING
PERIOD.
FEATURES—THE VALUATION PROCEDURES HERE DESIGNED TO CONFORM TO
STANDARD VALUATION PRACTICES AND TO FURNISH THE MAXIMUM AMOUNT
OF INFORMATION AVAILABLE FROM A CURRENT CONSOLIDATED POLICY
MACHINE-CENERATED RATE TAGES AND TE FRENCH SHASE AND STORE OF THE POLICY
MACHINE-CENERATED RATE TAGES AND TE FRENCH SHASE AND STORE OF THE POLICY
MACHINE-CENERATED RATE TAGES AND THE RENDER OF THE POLICY
MACHINE-CENERATED RATE TAGES AND THE RENDER OF THE POLICY
MACHINE-CENERATED RATE THE OF THE POLICY MASTER FILE DURING ON POLICY
MACHINE-CENERATED RATE THE OF THE POLICY MASTER FILE OF THE POLICY MASTER
FILE ON THE MAJOR FEATURES OF THE OVERALL APPROACH ARE
JUSING THE CALLY CYCLE PROGRAMS /1401-11-02X/, COKTROL CF
THE POLICY MASTER FILE IS MAINTAINED ON A CURRENT DAILY
BASIS FOR THE NUMBER OF POLICIES, IMPAIRMENTS, ALL FORMS OF DEPOSITS, AND SUSPENSE ITEMS, THUS ELIMINATING THE NEED
TO STORE EXCESSIVE VALUATION TO THE BEGINNING OF A VALUATION. THE POLICY MASTER FILE ON AN INDIVIDUAL

MACHINE-CENERATED RATE THE DEPOSITION OF THE POLICY MASTER FILE ON AN INDIVIDUAL

MACHINE-CENERATED RATE THE CONTRACT OF THE POLICY MASTER FILE ON THE POLICY MASTER FILE OF THE POLICY MASTER

JEBOR OF THE POLICY MASTER FILE SHAD THE

BASIC PROGRAM MATERIAL-COCUMENTATION - PROGRAM WRITE-UP... /62 CFO VOLUMES 12

DOCUMENTATION - PROGRAM MRITE-OF-1, 702 GTG 1855-1855-1 THROUGH 16.

CARD DECKS - OBJECT DECK DESIGNED TO ADD OR ALTER PROGRAMS ON THE 762 CFO PROGRAM TAPE.

MAGNETIC TAPE - ONE REEL CONTAINING SOURCE PROGRAM CARDS FCR THE 15 COMPONENT PROGRAMS.

1401-IO-012 COMMUNICATIONS IOCS /1026/DDC/ FOR THE 1401/1460 GROBE THRCUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IO-012

IDER THRCUGH LOCAL IBM BRANCH OFFICE
PECIFY FILE NUMBER 1401-10-012

THIS IOCS FACILITATES THE GENERATION OF PROGRAMS TO CONTROL 1026
COMMUNICATION WITH 1030, 1050, AND 106C. IT IS COMPATIBLE WITH
THE 1401/1460-1440 COMMUNICATIONS 10CS. FOR THE 1448, THUS
REQUIRING A MINITUM OF RE-PROGRAMMING FOR GROWTH FROM 1026
FROM SINGLE INQUIRIES TO SOPHISTICATED REAL-TIME DATA OPERATIONS.

- CONTROL OF THE 1447 CONSOLE

- USER CONTROL OF POLLING, ADDRESSING AND RECEIVING
- ERROR DETECTION
- CPERATION WITH EXISTING IBM PROGRAMS FOR DDC
- TIME OF DAY RECORDING WITH THE 1032 DIGITAL TIME UNIT
THE 1401/1460 COMMUNICATIONS 10CS / 1026/DOC/ WILL OPERATE WITH
POINT-TO-POINT OR MULTI-POINT COMMON CARRIER LEASED OR
CUSTOMER GNNED COMMUNICATION LINES. IN ADOITION, THE PROGRAMS
WILL SUPPORT THE AUTOMATIC ANSWERING FEATURE AND THE AUTOMATIC
CALLING FEATURE.
COMMUNICATIONS IOCS / 1026/DOC/ CONSIST OF A SET OF LIBRARY
ROUTINES WHICH, WHEN CALLED FOR IN AN AUTOCODER SOURCE PROGRAM BY
MACAG INSTRUCTIONS, ARE SELECTED, TAILORED, AND INCLUDED IN THE
DBJECT PROGRAM. THE ROUTINES PERFORM THE FUNCTIORS NECESSARY TO
HANDLE BASIC INPUT/OUTPUT FILES, TO TRANSMIT INFORMATION TO AND
ECEIVE INFORMATION FROM REMORE LOCATIONS AND ENCLUDED IN THE
DBJECT PROGRAM. THE ROUTINES PERFORM THE FUNCTIONS NECESSARY TO
HANDLE BASIC INPUT/OUTPUT FILES, TO TRANSMIT INFORMATION TO AND
ECEIVE INFORMATION FROM REMORE LOCATIONS AND REMOTE PROCESSORS,
AND TO PROVIDE LINKAGE TO USERS/ PROGRAMS. THE SPECIFIC ROLTINES
GENERATED AT ASSEMBLY TIME DEPEND LARGELY ON THE PARTICULAR
SPECIFICATIONS GONTAINED IN THE USERS/ SOURCE PROGRAMS.
FILE LIBRARY ROUTINES FOR THIS IOCS IS TO BE PLACED IN THE
AUTOCODER SYSTEM THROUGH A LIBRARY RUN, USING AUTOCODER /ON DISK/
PCCRAM. THE AUTOCODER /ON OISK/ PROGRAM STAND AND INCOLODER FOR DISK/
PROCRAM. THE AUTOCODER /ON OISK/ PROGRAM STAND AND ROUTOCODER /ON OISK/
PROCRAM. THE AUTOCODER /ON OISK/ PROGRAM SOURCE PROGRAMING AND
HIGH-LCH-CHOLAL COMPAGEMENTS FOR THIS IOCS IS TO BE PLACED IN THE

LIBRARY ROUTINES FOR THIS IOCS IS TO BE PLACED IN

A-1401 PAGE 009

A-1401 PAGE

CONTINUED FRCM PRIOR COLUMN—

1026 TRANSMISSION CONTROL UNITS /ONE FOR EACH COMMUNICATION

LINE/... I/O UNITS /AS REQUIRED/.

AN 8K 1460 WITH... INDEXING AND STORE ADDRESS REGISTER FEATURE...

1447 CONSOLE MEL 1... 1026 TRANSMISSION CONTROL UNIT ATTACHENT

FEATURE... 1025 TRANSMISSION CONTROL UNITS /ONE FOR EACH

COMMUNICATION LINE/... 1/O UNITS /AS REQUIRED/.

IN ACDITION- DIRECT CATA CHANNEL FEATURE... 1147

CONSCLE MOL 2 FOR 1440 AND 1460, MDL 3 FOR 1401... 1032 DIGITAL

TIME UNIT MAY BE PRESENT, AS DESIRED. NOTE- USE OF DOE WITH 1026

SHOULD SPECIFY THE INTERRUPT FEATURE /AVAILABLE ON 1401 ONLY AS

RRQ/ FOR CATINUM PERFORMANCE.

PROGRAM DECK MAY BE OBTAINED ON ONE REEL OF MAGNETIC TAPE AS

CARD IMAGES. CNLY ONE REEL IS REQUIRED IF ONE OR MORE 1440,

1401/1311 PROGRAMS ARE ORDERED AT THE SAME TIME.

OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROPE CARC.

BASIC PROGRAM MATERIAL CCCUMENTATION - WRITE-UP... OPERATIONS INSTRUCTIONS.
CARD DECKS - LIBRARY DECK OF MACROS.

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS.

1401-IO-040 TAPE READING WRITING SUBROUTINES Green Through Local IBM Branch office Specify file Number 1401-IC-040

PURPOSE TO PROVIDE 1401 USERS WITH CLOSED SUBROUTINES WHICH ARE CONSISTENT WITH THE APPLIED PROGRAMMING TAPE STANDARDS FOR TAPE READ/MENTER ROUTINE. THE SUBROUTINE SCHOSIST OF A TAPE READ/MENTER ROUTINE, A READ ROUTINE AND A WRITE ROUTINE. INCLUDED ARE 1. ERROR CHECKING PROCEDURES 2. NOLISE RECORD PROCEDURES 3. DUMPING OF UNREADABLE RECORDS 4. STATISTICS CONCENNING RETRIES. EQUIPMENT SPECIFICATIONS ARE MET APPENDED.

BASIC PROGRAM MATERIAL -CCOMENTATION - LISTINGS... FLCHCHARTS... PROGRAM HRITE-UP. CARD DECK - CONDENSED DECK.

1401-10-065 INPUT/DUTPUT CONTROL SYSTEM
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-10-065

PURPOSE THE 1401 IOCS CONSISTS OF A SET OF LIBRARY ROUTINES WHICH, WHEN CALLEC FOR IN A 1401 AUTOGODER SQURCE PROCRAM BY MACRO INSTRUCTIONS, ARE SELECTED AND TAILORED AND INCLUDED IN THE OBJECT PROGRAM. THESE ROUTINES PERFORM 1/0 FUNCTIONS AND PROVIDE LINKAGE TO THE USERS OBJECT PROGRAM. THE SPECIFIC STATEMENTS GENERATED AT ASSEMBLY TIME DEFEND COMPLETELY ON THE PARTICULAR SPECIFICATIONS CONTAINED IN THE USERS SOURCE PROGRAM. USE OF PROGRAM THE 1401 IOCS LIBRARY ROUTINES ARE TO BE PLACED IN THE 1401 AUTOCOCER SYSTEM /VERSION 3 OR LATER VERSION/ THROUGH A LIBRARIAN RUN. MACHINE CONFIGURATION THE 1401 IOCS WILL PERFORM THE 1/0 FUNCTIONS AND ASSOCIATED HOUSEKEEPING FOR MACHINE MAYER CARE PUNCH AND PRITHER. THE GBJECT MACHINE MUST HAVE, IN ACCITION TO ANY OF THE ABOVE 1/0 UNITS, ADVANCEC PROGRAMMING FEATURES AND THE HIGH-LON-EQUAL COMPARE FEATURE. THE AMOUNT OF CORE STORAGE REQUIRED VARIES MIDELY FROM PROGRAM TO PROGRAM AND MUST BE DETERMINED AT ASSEMBLY TIME.

THE NUMBER OF TAPES INDICATED MAY BE GRORRED FROM YOUR IBM REPRESENTATIVE OR ORDERED FOR EACH ITEM THAT IS ORDERED. THE TAPES MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL COCCUMENTATION - PROGRAM WRITE-UP... DOCUMENTATION OF THE 1401 ICCS
SYSTEM INCLUDING LANGUAGE SPECIFICATIONS... FLORGHARTS...
SAMPLE PROBLEM.
CNE MAGNETIC TAPE - 1401 MODEL STATEMENTS IN CARD IMAGE FORM.

1401-IO-068 IBM 1401/1460 IOCS /ON DISK/ GROER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IO-068

THE 1BM 1401/1400 10CS, 7ON DISK/, VERSION 2, NO. 14CI-IC-068, PREVIOUSLY NAMED 1401/1311 10CS/ IS AVAILABLE TO BE USED CN 1401 AND 1460 SYSTEMS WITH 1401/1440/1460 AUTOCODER /CN DISK/, NO. 1401-AU-00B.

THE NEW VERSION CONSISTS OF A SET OF LIBRARY ROUTINES HHICH, WHEN CALLED FOR BY MACRO INSTRUCTIONS ARE SELECTED, TAILORED AND INCLUDED IN THE OBJECT PROGRAM. FOR 1401 AND 1460 SYSTEMS, THESE ROUTINES PERFORM 1/O FUNCTIONS AND HOUSEKEEPING ASSOCIATED WITH 1311 DISK STORAGE, 1301 DISK STORAGE, MAGNETIC TAPE, CARD READER, CARD PUNCH, AND PRINTER. THEY ALSO PROVIDE LIMRAGE TO THE USER'S OBJECT PROGRAM. THE SPECIFIC STATEMENTS GENERATED AT ASSEMBLY TIME DEPEND COMPLETELY ON THE PARTICULAR SPECIFICATIONS CONTAINEE IN THE USER'S SOURCE PROGRAM. THE 1401/1460 IOCS LIBRARY ROUTINES ARE TO BE PLACED IN THE 1401/1460/1460 AUTOCODER /CN DISK/ SYSTEM THRU A LIBRARY RUN. SYSTEM REQUIREMENTS-FCR ASSEMBLY—PROGRAMS INCORPORATING I/O MACRO INSTRUCTIONS FCR 1401 AND 1460 SYSTEMS MAY BE ASSEMBLED ON A 4K 1401 SYSTEM WITH-... HOW 1311 DISK STORAGE DRIVE. - 1402 CARD READ PUNCH.... 1403 PRINTER NCL 2 OR 1404 PRINTER. - HIGH-LOM-EQUAL CUMPARE

AN 8K 1460 SYSTEM WITH. CORE 1311 DISK SIGRAGE DRIVE UP ON 1622 ADDITIONAL COMPARE

OR
AN 8K 1460 SYSTEM WITH... CNE 1311 DISK STORAGE DRIVE UR UNE 1301
DISK STORAGE ARRAY... 1402 CARD READ PUNCH... GNE 1403 PRINTER

R
A 4K 1440 SYSTEM WITH... ONE 1311 DISK STORAGE DRIVE CR CNE 1301
DISK STORAGE ARRAY... 1442 CARD READ PUNCH MDL 1 CR 2 OR 1442
CARD READER MCL 4 AND 1444 CARD PUNCH... 1443 PRINTER.

BASIC PROGRAM MATERIAL COCUMENTATION - PREGRAM WRITE-UP... LIBRARY LISTINGS...
OPERATING PROCECURES.
CARD CECKS - LIBRARY CARD DECK... CARD DECK OF SAMPLE SCURCE
PROGRAM FOR TEST PURPOSES...

CPTICNAL PROGRAM MATERIAL - FLOWCHARTS. CPTICNAL MATERIAL CESIRED MUST BE ITEMIZED ON THE ORDER CARC.

A-1401

1401-10-074 1401-1012 TAPE PUNCH ROUTINES FOR THE

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IC-074

THE PROPER USE OF THESE ROUTINES WILL RELIEVE THE USER OF THE RESPONSIBILITY OF CODING THE NECESSARY INSTRUCTIONS TO CONTROL 1401-1012 TAPE PUNCHING, ERROR CHECKING, AND ERROR CORRECTION. THE ROUTINES ARE DESIGNED TO BE USED AS A PART OF THE 1401 AUTOCODER LIBRARY. ONCE PART OF THIS LIBRARY, THEY MAY BE INCLUDED IN ANY OBJECT PROGRAM THROUGH THE USE OF THE APPROPRIATE MACRO-INSTRUCTION. FOR ASSEMBLY OF SOURCE PROGRAMS - 1401 PROCESSING UNIT / ANY MOBEL WITH 4000 OR MORE CORE STORAGE POSITIONS / FOUR IBM 729 II, 729 IIV, DR 733 MAGNETIC TAPE UNITS 1403 PRINTER, MOBEL 21402 CARD READ-PUNCH ADVANCED PROGRAMMING FEATURE HIGH-LCH-EQUAL COMPARE FEATURE SENSE SWITCHES FOR EXECUTION OF OBJECT TAPE UNITS—UNITS SENSE SWITCHES FOR EXECUTION OF OBJECT TAPE UNITS—ONLY AS REQUIRED FOR OTHER IMPUT OR OUTPUT DATA, IBM 1402 CARD READ-PUNCH-ONLY AS REQUIRED FOR OTHER IMPUT OR OUTPUT DATA.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... 1401-1012 TAPE PUNCH ROUTINES
... C.P. PROCESSING SYSTEM BULLETIN.
CARD DECK - TAPE PUNCH ROUTINES DECK /CONDENSED/.

1401-IO-077 IBM INPUT/OUTPUT CONTROL
PROGRAM /IOCP/ FOR IBM 1401/1440/1460 WITH THE IBM 1285 OPTICAL READER
ORDER THREUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-IO-077

DER THROUGH LOCAL IBM BRANCH OFFICE
FECIFY FILE NUMBER 1401-10-077

PROVIDES SUPPORT FOR SOURCE DOCUMENT ENTRY APPLICATIONS THAT USE
ONE 1285 OPTICAL READER ATTACHED TO A 1401, 1440, OR 1460. THESE
SUBROUTINES ARE DESIGNEE TO ELIMINATE THE USERS NEED TO PROGRAM
LOGICAL DETAILS ASSOCIATED WITH 1285 JOURNAL ROLL PROCESSING.
RECORD MARK AND HORO MARK DEFINITION OF THE RECORDS IN CORE
ALLOWS THE USER TO EASILY TRANSFER THEM TO AN OUTPUT DEVICE.
ICOP PERFORMS THESE FUNCTIONS — READS HEADER INFORMATION ENTERED
FROM THE KEYBOARD... READS LINES OF DATA FROM A JOURNAL ROLL
INTO A SPECIFIC AREA OF CORE... TESTS FOR PARTY ERRORS IN READING
INTO CORE STORAGE... FESTS FOR VALID DATA LINE LENGTH... MAKES
INTO RESCRIPTION OUTPUT.
THE 1401/1440/1460 - 1285 IGCP CONSISTS OF THE FOILDWING
COMPOMENTS— AUTOCODER SYMBOLIC DECK... BASIC AUTOCCOER
SYMBOLIC DECK. THE USER DECIDES WHICH DO THESE THO DECKS
HE DESIRES TO USE. THE DECK WHICH IS CHOSEN AND THE USER
PROVIDED PROBLEM PROGRAM, ALLOWS THE PROCESSING OF DATA READ IN FROM
HAIN STORAGE FROM CARDS. THIS COMBINED DECK /1285 IGCP AND THE
USERS PROBLEM PROGRAMM ALLOWS THE PROCESSING OF DATA READ IN FROM
THE JOURNAL ROLL AND EFFECTS THE READING AND WRITTING OF OTHER
INPUT/OUTPUT DEVICES WHICH THE USER MAY REQUIRE HIN HIS 1285
APPLICATIONS. IN A 1285 OPTICAL READER COUNFIGURATION,
THROUGHPUT HILL VARY HITH USER PROCESSING THE REQUIREMENTS
AND OTHER INPUT/OUTPUT OPERATIONS. HOWEVER, THE LOCP IS DESIGNED
TO MAKE POSSIBLE THE MAXIMUM 1285 OPTICAL READER HOROUTEPUT.
STORAGE CONSIDERATIONS BY THE USER SHOULD INCLUDE 1.2K POSITIONS
FOR THE IOCP.
FOR EACH SYSTEM /1401, 1440, AND 1460/ THE HINIMUM MACHINE
REQUIREMENTS FOR ASSEMBLING AND AUTOCODER PROGRAM THAT USES IOCP MAY BE FOUND IN THE APPROPRIATE
FROM THE MAXIMUM 1285 OPTICAL READER TROUCHPUT.

STORAGE CONSIDERATIONS BY THE USER SHOULD INCLUDE 1.2K POSITIONS
FOR THE IOCP.
FOR EACH SYSTEM /1401, 1440, AND 1460/ THE HINIMUM MACHINE
REQUIREMENTS FOR ASSEMBLING AND AUTOCODER PROGRAM THAT USES IOCP MAY BE FOUND IN THE APPROPRIATE
BOULDWENTS FOR

BASIC PROGRAM MATERIAL

DOCUMENTATION - PROGRAM MATERIAL LIST...LISTINGS OF AUTOCODER

AND BASIC AUTOCODER SYMBOLIC DECKS...FLOWCHARTS...

INPUT/OUTPUT CONTROL PROGRAM SPECIFICATIONS AND OPERATING
PROCEDURES, IBM 1401/140/1460 NITH IBM 1285 OPTICAL
READER REFERENCE PUBLICATION.

MACHINE READBLE - AUTOCODER SYMBOLIC DECK...BASIC AUTGCODER
SYMBOLIC DECK.

1401-IO-152 7040/44 - 1401 INPUT/OUTPUT CONTROL PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IO-152

THIS 1401 PROGRAM PERMITS THE INPUT/OUTPUT DEVICES ON A 1401
ON CHANNEL A OF A 7040/7044 TO BE USED AS IF THEY WERE ON THE
7040/7044. THIS PROGRAM ACCEPTS CONTROL INFORMATION AND
DATA FROM THE 7040/7044 BK OR 16/32K. DPERATING SYSTEMS AND
PERFORMS ON-LINE TAPE, BASIC CARD READ-PUNCH, AND PRINTER
FUNCTIONS. THIS PROGRAM IS READ INTO THE 1401 BY 1TS 1402
CARD READER AND OPERATES IN CONJUNCTION WITH THE 7040/7044 BK
OR 16/32K IOCS.
MACHINE REQUIREMENTS. A 1401 DATA PROCESSING SYSTEM USED WITH THE
7040/7044-1401 INPUT/OUTPUT CONTROL PROGRAM MUST BE EQUIPPED WITH
THE SERIAL INPUT/OUTPUT ADAPTER /FEATURE CODE NO. 7080/ AND
THE 7040/7044 MUST LIKEWISE HAVE A 1401 ADAPTER NO. 1034.
THE 1401 MUST HAVE AT LEAST 4000 POSITIONS OF CORE STRAGE,
THE COLUMN BINARY FEATURE NO. 1990, A 1402 CARD READ-PUNCH,
AND THE ADVANCED PROGRAMMING FEATURE.
** OISTRIBUTION OF THIS PROGRAM IS RESTRICTED TO USERS OF THE
7040/7044 OPERATING SYSTEM, FILE NUMBER 7040-PR-150

BASIC PROGRAM MATERIAL -DOCUMENTATION - PROGRAM WRITE-UP--CARD DECKS -- DOBJECT PROGRAM DECK.-. SYMBOLIC INPUT DECK.

1401-LM-007 CARD SYSTEM SUBROUTINES ORDER THROUGH LOCAL 18M BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-007

PURPOSE TO PROVIDE A FEW FREQUENTLY USED ARITHMETIC SUBRUTINES. THIS 1401 PROGRAM PREVIOES MULTIPLY I FOR STORAGE SPACE ECONOMY/ MULTIPLY II /FOR SPEED ECCNOMY/ DIVIDE DOZENS-TO-UNITS CONVERSION UNITS-TO-DOZENS CONVERSION NOTE CLOSED SUBROUTINE LINKAGE INSTRUCTIONS

4-1401

CONTINUED FROM PRIOR COLUMN~-

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOKCHARTS.
CARD DECK - CONDENSED DECK.

1401-LM-010 IBM 1401/60 TIMING PROGRAM FOR THE TOS/360 TAPE SORT MERGE PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-010

RIGER THROUGH LOCAL IBM BRANCH OFFICE

FECIFY FILE NUMBER 1401—1M-O10

THE 1401/1460 TIMING PROGRAM FOR THE TOS/360 TAPE SORT/MERGE
PROGRAM, PROVIDES TIMING ESTIMATES FOR THE TOS/360 TAPE
SORT/MERGE PROGRAM WHEN DPERSTING CM A SYSTEM/360 MODEL 2030
OR MODEL 2040 MITH A MAXIMUM OF 254K BYTES OF MAIN STORAGE,
A CHANNEL CONFIGURATION OF EITHER DNE MULTIPLEXOR CHANNEL,
ONE SELECTOR CHANNEL, OR THO SELECTOR CHANNELS, CONNECTED TG A
2404 MAGNETIC TAPE UNIT AND CONTROL A 2040 TAPE CONTROL,
OR A 2816 SHITCHING UNIT, AND USING 2401, 2402, 2403, OR
2404 TAPE ORIVES. ITMING ESTIMATES FOR THE MODEL 2030
ASSUME A 1.5 MICROSECONG CYCLE TIME. THE PROGRAM WHILL
PROVIDE ONE MULTIPLEXOR, ONE SELECTOR OR THO SELECTOR CHANNEL
SORT TIMING ESTIMATES FOR SORTING FIXED LENGTH RECORDS WITH
A SINGLE CONTROL FIELD. TIMINGS CAN BE OBTAINED FOR SPECIFIC
RECORD VOLUMES DESIGNATED BY THE USER, OR FOR A SPREAD OF
RECORD VOLUMES PREDETERMINED BY THE TIMING PROGRAM. IN ADDITION,
AMAIN STORAGE UTILIZATION AND MAXIMUM FILE SIZE ARE INCLUDED IN TH
THE PROGRAM OUTPUT. CONTROL CARDS ARE USED TO SUPPLY A
DESCRIPTION OF THE SYSTEM AND RECORD/FILE CONFIGURATION FOR
MHICH ESTIMATES ARE REQUIRED. MULTIPLE RECORD/FILE CONFIGURATION FOR
MAY BE USED MITH ONE SYSTEM CARD TO ESTIMATE TIMES FOR MANY
FILE CONFIGURATIONS ON THE SAME SYSTEM. OR, MANY SYSTEMS
CARDS MAY BE USED WITH ONE RECORD/FILE CARD TO ESTIMATE
THE TIME FOR SCRIING ONE FILE ON SEVERAL DIFFERENT SYSTEM'S
MULTIPLE CONTROL CARD SETS CAN BE STACKED TO PROVIDE MULTIPLE
ESTIMATES AT THE SAME TIME.
HINTHOM SYSTEM ROQUIREMENTS— A 16K 1401 SYSTEM WITH...
ONE 1402 CARD READ PUNCH MODEL 1... ONE 1403 MODEL 2 OR
1404 PRINTER. MICH/LOW/FOULD COMPARE FEATURE... MULTIPLY/DIVIDE
FEATURE... SENSE SHITCHES... ADVANCED PROGRAMMING FEATURE...

ONE 1403 PRINTER MODEL 2... MULTIPLY-DIVIDE FEATURE... MULTIPLY/DIVIDE
FEATURE... SENSE SHITCHES... ADVANCED PROGRAMMING FEATURE... INDEXING
AND STORE ADDRESS REGISTER FEATURE... SENSE SHITCHES...

BBASIC PROGRAM MATERIAL —
DOCUMENTATION PROGRAM MATERIAL ISST... 1401/60 IMMI

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM MATERIAL LIST... 1401/60 TIMING
PROGRAM FOR BASIC OPERATING SYSTEM/360 TAPE SORT/MERGE
PROGRAM /16K/ MANUAL C24-3439... TAPE SORT/MERGE
/16K/ SPECIFICATIONS MANUAL C24-3438.
MACHINE READABLE - OBJECT DECK

1401-LM-011 1401/1460 TIMING PROGRAM FOR IBM BASIC OPERATING SYSTEM/360 DISK SORT/MERGE PROGRAM /16K/ ORDER THREUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-011

DER TIRKOGEN LOZAL IBM BARNUN OPPLEE

CIFY FILE NUMBER 1401-LM-011

THE IBM 1401/1460 TIMING PROGRAM PROVIDES TIMING ESTIMATES FCR

THE DISK OPERATING SYSTEM/360 DISK SORT/MERGE PROGRAM

MCDEL 2040 MITH A MAXIMUM OF 256K BYTES OF MAIN STORAGE, A

CHANNEL CONFIGURATION OF ONE MULTIPLEXOR OR SELECTOR CHANNEL

AND UP 10 8 IBM 2311 DISK STORAGE DRIVES. TIMING ESTIMATES FCR

AND UP 10 8 IBM 2311 DISK STORAGE DRIVES. TIMING STAMPE

FROGRAM HILL PROVIDE SORT, THE MERCASCOMO CYCLETIMES. THIS

CHANNEL DRIVEN OF THE SORT OF THE STAMPE STAMPE

LENGTH RECORDS WITH A SINGLE CONTROL FIELD. TIMINGS MAY

LENGTH RECORDS WITH A SINGLE CONTROL FIELD. TIMINGS HAVE

LENGTH RECORDS WITH A SINGLE CONTROL FIELD. TIMINGS HAVE

DESTAINED FOR SPECIFIC RECORD VOLUMES DESIGNATED BY THE VIRING PROGRAM. AND MAXIMUM FILE

SIZE ARE INCLUDED IN THE PROGRAM OUTPUT. CONTROL CARDS AND HAVE MAY

LESD TO SUPPLY A DESCRIPTION OF THE COMPITING SYSTEM. FARE

CONFIGURATION AND RECORD DEFINITION FOR WHICH ESTIMATES ARE

RECUIRED. MULTIPLE RECORD/FILE CARDS MAY BE USED WITH ORE SYSTEM

CANDS MAY BE USED WITH CHE SAME SYSTEM. ALSO, MANN SYSTEM DEFINER

CANDS MAY BE USED WITH CHE RECORD/FILE CARD TO ESTIMATE THE

CONFIGURATIONS ON THE SAME SYSTEM. ALSO, MANN SYSTEM DEFINER

CANDS MAY BE USED WITH CHE RECORD/FILE CARD TO ESTIMATE THE

CONFIGURATIONS ON THE SAME SYSTEM. ALSO, MANN SYSTEM DEFINER

CANDS MAY BE USED WITH CHE STEVEN TO PROVIDE MULTIPLE ESTIMATES. THE

CONFIGURATIONS ON THE SAME SYSTEM. ALSO, MANN SYSTEM DEFINER

CANDS MAY BE USED WITH CHE STEVEN TO PROVIDE MULTIPLE ESTIMATES. THE

CONFIGURATIONS ON THE SAME SYSTEM. ALSO, MANN SYSTEM DEFINER

CANDS MAY BE USED WITH CHE STEVEN TO PROVIDE MULTIPLE ESTIMATES. THE

CONFIGURATIONS ON THE SAME SYSTEM. ALSO, MANN SYSTEM DEFINER

CANDS MAY BE USED WITH CHE STEVEN TO PROVIDE MULTIPLE ESTIMATES. THE

CONFIGURATIONS ON THE SAME SYSTEM. ALSO, MANN SYSTEM DEFINER

CANDS MAY BE USED WITH CHE STEVEN TO PROVIDE MULTIPLE ESTIMATES.

AT THE SAME SYSTEM ALSO.

A 1404 PRINTER. AL ALGOLO COMPARE FEATURE. ADVANCED

PR

OR
A 16K 1460 SYSTEM WITH... A 1402 CARD READ PUNCH MODEL 3... A
1403 MODEL 2 PRINTER... MULTIPLY-DIVIDE FEATURE... INDEXING
AND STORE ADDRESS REGISTER FEATURES... SENSE SHITCHES.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM MATERIAL LIST... TIMING PROGRAM
MANUAL C24-3445... DISK OPERATING SYSTEM SORT/MERGE
MANUAL C24-3444.
MACHINE READABLE - OBJECT DECK.

1401-LM-012 1401/1460 TIMING PROGRAM FOR SYSTEM/360 DISK AND TAPE OPERATING SYSTEMS TAPE SORT/MERGE PROGRAMS GROEF THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-012

1401/1460 TIMING PROGRAM FOR SYSTEM/360 DISK AND TAPE OPERATING SYSTEMS TAPE SORT/MERGE PROGRAMS PROVIDES TIMING ESTIMATES FOR ODS/360 AND TOS/360 SORT/MERGE PROGRAMS USING 2415 TAPE CRIVES WITH EITHER SOO OR 1600 SYTES PER INCH DEMSITY ON SYSTEM/360 MODELS 30 AND 40 WITH A MAXIMUM OF 256K MAIN STORAGE, THE MULTIPLEXER CHANNEL, AND EITHER ONE OR THO SELECTIOR CHANNELS. THIS PROGRAM PROVIDES TIMES FOR SORTING FIXED-LENGTH RECORDS WITH A STRUCT CHARACTER CONTROL FIZED IN FIXED-LENGTH BLOCKS. TIMINGS CAN BE OBTAINED FOR SPECIFIC RECORD VOLUMES DESIGNATED BY THE USER OR FOR A SPREAD OF RECORD VOLUMES. CONTROL CARDS SUPPLY A DESCRIPTION OF THE SYSTEM AND OF THE FIXED-LENGTH PILES TO BE SORTED. TIMING ESTIMATES ARE WITHIN 15 PER CENT OF ACTUAL SURTING TIMES.

MINIMUM SYSTEM REQUIREMENTS- A 16K 1401 SYSTEM WITH ONE 1402 CARO READ PUNCH MODEL 1, ONE 1403 MODEL 2 OR 1404 PRINTER, HIGH-LCM-EQUAL COMPARE FRATURE, MULTIPLY-DIVIDE FEATURE,. OR A 16K 1460 SYSTEM WITH ONE 1402 CARD READ PUNCH MODEL 3, ONE 1403 PRINTER MODEL 2, MULTIPLY-DIVIDE FEATURE, INDEXING AND STORE ADDRESS REGISTER FEATURE, AND SENSE SWITCHES.

CONTINUED FROM PRIOR PAGE-

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM MATERIAL LIST... TIMING PROGRAM
MANUAL, C24-3439.
MACHINE READABLE - OBJECT DECK IN CARD FORM.

SORT 7 TIMING PROGRAM FOR 1401-LM-060 1401/1460

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-060

THE SORT 7 TIMING PROGRAM /NO. 1401-LM-060/ IS A GENERALIZED PROGRAM USED TO OBTAIN TIMING ESTIMATES FOR RECORD FILES TO BE SORTED USING 1401 SORT 7 /NO. 1401-SM-060/ ON 1401 OR 1460 SYSTEMS. THE TIMING PROGRAM RUNS ON A 16K 1401 OR 1460 FEATURES THE TIMING PROGRAM RUNS ON A 16K 1401 OR 1460 FEATURES. THIS PROGRAM WILL GIVE TIMING ESTIMATES FOR FIXED LENGTH RECORDS WITH ONE CONTROL FIELD. TIMINGS CAN BE OBTAINED EITHER FOR PARTICULAR RECORD VOLUMES SPECIFIED BY THE USER, CR FOR A SPREAD OF RECORD VOLUMES PREDETERMINED IN THE TIMING PROGRAM. CONTROL CARDS SUPPLY THE SORT 7 TIMING PROGRAM HITH A DESCRIPTION OF THE FILE/S/ FOR WHICH ESTIMATES ARE REQUIRED. MORE THAN ONE SET OF CONTROL CARDS CAN BE PLACED IN THE PROGRAM DECK IF ADDITIONAL ESTIMATES ARE DESIRED.

MINIMUM SYSTEM REQUIREMENTS—A 16K 1401 SYSTEM HITH... 1402 CARD READ PUNCH.... 1403 PRINTER MDL 2 OR 1404 PRINTER... HIGH-LCK-ECUAL COMPARE, ADVANCED PROGRAMMING, AND MULTIPLY-DIVIDE FEATURES, CR

UR A 16K 1460 SYSTEM WITH... 1402 CARD READ PUNCH... ONE 1403 PRINTER... MULTIPLY-DIVIDE AND INDEXING AND STORE ADDRESS REGISTER FEATURES.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... 80X80 LISTING OF THE
SORT 7 CARD DECK... SPECIFICATIONS... OPERATING
PROCEDURES.
CARD DECKS - SORT 7 TIMING DECK.

1401-LH-062 1401/1460 SORT 5 AND 6
TIMING PROGRAM
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-LH-002

THE SORT 5 AND 6 TIMING PROGRAM, 1401-LM-062, IS AN OBJECT PROGRAM FOR USE ON AN IBM 1401/1460 WITH 16K CORE STORAGE. THI PROGRAM GIVES TIMING ESTIMATED FOR FIXED LENGTH RECORDS WITH UF TO TEN CONTROL DATA FIELDS TO BE SORTED BY THE SORT 5 AND 6

PROGRAMS.

TIMINGS CAN EITHER BE REQUIRED FOR A SPECIFIC RECORD VOLUME, CR CAN BE CALCULATED FOR A PREDETERMINED SET OF RECORD VOLUMES.
CONTROL CARDS SUPPLY THE SORT 5 AND 6 TIMING PROGRAM WITH A DESCRIPTION OF THE FILE/S/ TO BE SORTED.
MINIMUM SYSTEM REQUIREMENTSA 16K 1401 SYSTEM WITH... 1402 CARD READ PUNCH... 1403 PRINTER MDL 2 CR 1404 PRINTER... HIGH-LOM-EQUAL COMPARE, ADVANCED PROGRAMMING, AND MULTIPLY-DIVIDE FEATURES.

A 16K 1460 SYSTEM WITH... 1402 CARD READ PUNCH... 1403 PRINTER MDL 2... INDEX AND STORE ADDRESS REGISTER AND MULTIPLY-DIVIDE FEATURES.

BASIC PROGRAM MATERIAL—

DOCUMENTATION - PROGRAM WRITE-UP... 80 X 80 LISTING OF THE SORT 5 AND 6 TIMING PROGRAM CARD DECK...

SPECIFICATIONS... OPERATING PROCEDURES.

CARD DECKS - PROGRAM DECK.

1401-LM-077 FOR 1401/1460. SORT 13 AND 14 TIMING PROG.

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-077

THE 1401/1460 SORT 13 AND 14 TIMING PROGRAM /NO. 1401-LM-077/
GIVES TIMING ESTIMATES FOR SORTING FIXED LENGTH RECORDS WITH UP
TO TEN CONTROL DATA FIELDS USING THE SORT 13 OR SORT 14 PROGRAMS.
THE TIMING PROGRAM RUNS ON A 16K 1400 TO 1460.
FEATURES—TIMING CAN BE OBTAINED EITHER FOR A SPECIFIC RECORD
VOLUME, OR FOR A PREDETERMING SET OF RECORD VOLUMES. CONTROL
CAROS SUPPLY THE SORT 13 AND 14 TIMING PROGRAM WITH A DESCRIPTION
OF THE FILEYS FOR WHICH ESTIMATES ARE REQUIRED. THE TIMING
PRECRAM CAN BE LOADED THROUGH THE CARD READER OR A MAGNETIC TAPE
UNIT. MINITUM SYSTEM REQUIREMENTS—A 16K 1401 SYSTEM WITH...
1402 CARD READ PUNCH... 1403 PRINTER MDL 2 OR 1404 PRINTER...
HIGH-LOM-EQUAL COMPARE, ADVANCED PROGRAMMING, MULTIPLY-DIVIDE,
AND SENSE SWITCHES FEATURES,

OR
A 16K 1460 SYSTEM WITH... 1402 CARD READ PUNCH... ONE 1403

OR
A 16K 1460 SYSTEM WITH... 1402 CARC READ PUNCH... ONE 1403
PRINTER MDL 2... INDEXING AND STORE ADDRESS REGISTER, MULTIPLYDIVIDE, AND SENSE SWITCHES FEATURES.
THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM
REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE
TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.
OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... 80X80 LISTING OF SGRT 13
AND SGRT 14 CARC DECK... SPECIFICATIONS... UPERATING
PROCEDURES.
CARD DECKS - SGRT 13 AND SGRT 14 CARD DECK.

OPTICNAL PROGRAM MATERIAL - ONE REEL OF MAGNETIC TAPE CONTAINING PROGRAM DECK IN CARD IMAGE.

1401-LN-078 1401/1460 TIMING PROGRAM FOR \$/360 BASIC PROG. SUPPORT TAPE SORT/MERGE PROG. /2401 THROUGH 2404/ ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-078

THIS PROGRAM PROVIDES TIMING INFORMATION FOR ONE AND THO CHANNEL SYSTEM/360 MODEL 30 /1.5 MICROSECOND/ AND 40 CONFIGURATIONS. THIS PROGRAM IS USED WITH 2401, 24C2, 2403 OR 2404 MAGNETIC TAPE UNITS.

THESE PROGRAMS PROVIDE MULTIPLEX, ONE SELECTOR OR THG SELECTGR CHANNEL SORT TIMING ESTIMATES FOR SYSTEM/360 MODEL 30 AND 40 CCNFIGURATIONS FOR SORTING FIXED LENGTH RECORDS WITH A SINGLE CONTROL FIELD OF TEN CHARACTERS. TIMINGS CAN BE OBTAINED FOR SPECIFIC RECORD VOLUMES DESIGNATED BY THE USER, OR FOR A SPREAD OF RECORD VOLUMES PREDETERMINED BY THE TIMING PROGRAM. IN ACDITION, MAIN STORAGE UTILIZATION AND MAXIMUM FILE

CONTINUED FROM PRIOR CCLUMN—

SIZE ARE INCLUEED IN THE PROGRAM OUTPUT.

CONTROL CARDS ARE USED TO SUPPLY A DESCRIPTION OF THE MACHINE AND RECORD FILE CONFIGURATION FOR WHICH ESTIMATES ARE REQUIRED. SEPARATE MACHINE AND CONFIGURATION CARDS ARE USED TO ENABLE MULTIPLE RECORD FILE CONFIGURATION CARDS TO BE COMBINED WITH A SINGLE MACHINE CONFIGURATION CARD OR VICE VERSA. MULTIPLE CONTROL CARD SETS CAN BE RUN AT THE SAME TIME TO PROVIDE ADDITIONAL ESTIMATES AS DESIRED.

MINIMUM SYSTEM REQUIREMENTS— A 16K, 1401 SYSTEM WITH... 1402 CARD READ PUNCH... 1403 PRINTER MODEL 2 OR 1404 PRINTER... HIGH-LOW-EQUAL COMPARE, ADVANCED PROGRAMMING, MULTIPLY-DIVIDE, AND SENSE SWITCH FEATURES,

OR

A 16K, 1460 SYSTEM WITH... 1402

CARD READ PUNCH... 1403 PRINTER MODEL 2... MULTIPLY DIVIDE, INDEXING AND STORE ADDRESS REGISTER, AND SENSE SWITCH FEATURES.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP...SPECS. AND OPERATING
INSTRUCTIONS.
MACHINE READABLE - TIMING PROGRAM OBJECT DECK.

1401-LM-079 1401/1460 TIMING PROGRAM FOR BPS 5/360 SORT/MERGE PROGRAM 8K DISK ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-079

THE PROGRAM PROVIDES TIMING ESTIMATES FOR THE 1BM BOS 360 SORT/MERGE / BR DISK/ WHEN OPERATING ON A SYSTEM/380 MCDEL 2030 OR ON A MODEL 2040 MITH A MAXIMUM OF 6.5536 BYTES OF MAIN STCRAGE, A CHANNEL CONFIGURATION OF ONE MULTIPLEXOR OR SELECTOR CHANNEL WITH UP TO 8 2311 DISK STORRAGE ORIVES.

THE PROGRAM PROVIDES SORT TIMING ESTIMATES FOR SORTING FIXED LENGTH RECORDS WITH A SINGLE CONTROL FIELD. TIMINGS CAN BE OBTAINED FOR SPECIFIC RECORD VOLUMES DESIGNATED BY THE USER, OR FOR A SPREAD OF RECORD VOLUMES PREDETERMINED BY THE TIMING SIZE ARE INCLUDED IN THE PROGRAM OUTPUT. CONTROL CARDS ARE USED TO SUPPLY A DESCRIPTION OF THE COMPUTING SYSTEM, FILE CONFIGURATION AND RECORD DEFINITION FOR WHICH ESTIMATES ARE REQUIRED. MULTIPLE RECORD/FILE CARDS MAY BE USED MITH ONE SYSTEM DEFINER CARD TO ESTIMATE TIMES FOR MANY FILE CONFIGURATIONS ON THE SAME SYSTEM. OR, MANY SYSTEM DEFINER CARDS MAY BE USED MITH ONE RECORD/FILE CARD TO MANY FILE CONFIGURATIONS ON THE SAME SYSTEM. OR, MANY SYSTEM DEFINER CARDS MAY BE USED MITH ONE RECORD/FILE CARD TO ESTIMATE THE TIME FOR SORTHING ONE FILE ON SEVERAL DIFFERENT SYSTEMS. MULTIPLE CONTROL CARDS SETS CAN BE STACKED TO PROVIDE MULTIPLE ESTIMATES AT THE SAME TIME.

MINIPUM SYSTEM REQUIREMENTS- A 16K 1401 SYSTEM WITH...
ONE 1402 CARD READ PUNCH... ONE 1403 MODEL 2, OR 1404 PRINTER...
HIGH-LOW-EQUAL COMPARE, DOVANCED PROGRAMMING, MULTIPLY-DIVIDE,
AND SENSE SWITCHES FEATURES...
OR
A 16K 1460 WITH ONE 1402 CARD READ PUNCH... ONE 1403 PRINTER
MODEL 2... MULTIPLY-DIVIDE, INDEXING AND STORE ADDRESS
REGISTER AND SENSE SWITCHES FEATURES.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM MATERIAL LIST... PROGRAM WRITE-UP...
SPECIFICATIONS MANUAL... OPERATING SPECIFICATIONS MANUAL.
MACHINE READABLE - OBJECT DECK.

1401-LM-080 1401/1460 TIMING PROGRAM FOR \$/360 BASIC PROG. SUPPORT TAPE SORT /MERGE PROG. /FOR THE 2415/ ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-080

THIS PROGRAM PROVIDES TIMING INFORMATION FOR ONE AND THO CHANNEL SYSTEM/JAGO MODEL 30 /1.5 MICROSECOND/ AND 40 CONFIGURATIONS. THIS PROGRAM IS USED WITH 2415 MAGNETIC TAPE

THESE PROGRAMS PROVIDE MULTIPLEX, ONE SELECTOR OR THO
SELECTOR CHANNEL SORT TIMING ESTIMATES FOR SYSTEM/360 MODEL 30
AND 40 CONFIGURATIONS FOR SORTING FIXED LENGTH RECORDS WITH
A SINGLE CONTROL FIELD OF TEN CHARACTERS. TIMINGS CAN BE
OBTAINED FOR SPECIFIC RECORD VOLUMES DESIGNATED BY THE USER,
OR FOR A SPREAD OF RECORD VOLUMES PREDETERMINED BY THE
TIMING PROGRAM. IN ADDITION, MAIN STORAGE UTILIZATION AND
MAXIMUM FILE SIZE ARE INCLUDED IN THE PROGRAM OUTPUT.
CONTROL CARDS ARE USED TO SUPPLY A DESCRIPTION OF THE MACHINE
AND RECORD FILE COMFIGURATION FOR WHICH ESTIMATES ARE
REQUIRED. SEPARATE MACHINE AND CONFIGURATION CARDS ARE USED TO
ENABLE MULTIPLE RECORD FILE COMFIGURATION CARDS TO BE
COMBINED WITH A SINGLE MACHINE CONFIGURATION CARDS TO BE
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BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP...SPECS. AND OPERATING
INSTRUCTIONS.
MACHINE READABLE - TIMING PROGRAM OBJECT DECK.

1401-CS-092 1401/1460-1026 OPERATING SYSTEM COMPUTER ASSISTED INSTRUCTION ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-OS-092

THE COURSEWRITER LANGUAGE IS A SPECIAL USER LANGUAGE WITH WHICH A TEACHER /I.E., ,,AUTHOR,,/ CAN PREPARE HIS COURSE MATERIALS TO ACCOMMODATE THE RANGE OF STUDENT ABILITIES. THE OPERATING SYSTEM A MONITOR TO SUPERVISE WRITING AND INSTRUCTING SIMULTANEOUSLY. AN ASSEMBLER WHICH EMABLES THE COURSE AUTHOR TO COMMUNICATE WITH THE COMPUTER WHEN MRITING AND REVISING COURSES. UTILITIES FOR PREPARING STUDENT AND COURSE REPORTS.

IT PROVIDES THE ABILITYFOR AUTHORS TO WRITE AND CORRECT COURSE MATERIAL WHILE STUDENTS
ARE TAKING COURSES.
FOR A ,,PROCTOR,, MINO OPERATES THE SYSTEM, TO UNDERTAKE
ESSENTIAL ADMINISTRATIVE ROUTINES.
TO COLLECT DATA ON STUDENT RESPONSES FOR LATER ANALYSIS.

CONTINUED FROM PRIOR PAGE--FOR AUTHORS OR PROGRAMMERS TO ADD NEW FUNCTIONAL CAPABILITY TO THE COURSEMITER. TO OPERATE SIMULTANEOUSLY UP TO FIVE COURSES PER 1316 DISK

TO SERVICE UP TO TWELVE 1050 POINT-TO-POINT LINES WITH A 1448 CR UP TO FOUR LINES WITH FOUR 1026 TRANSMISSION CONTROL UNITS.

THE HORD ASSISTED IN THE TERM COMPUTER ASSISTED INSTRUCTION IS IMPORTANT. THIS NEW METHODOLOGY IS NOT INTENDED TO REPLACE THE IMPORTANT ROLE OF THE TEACHER IN THE EQUICATIONAL PROCESS. INSTEAD, IT IS A NEW SCIENCE FOR ASSISTING THE TEACHER IN ADMINISTERING COURSE MATERIAL AND TAKING FULLEST ADVANTAGE OF THE BENEFITS OF CAL.

BENEFITS OF CAI.

MINIMUM 1401/1026 CONFIGURATION- A 12K 1401 MODELS B,C, GR E WITH DISK STORAGE ADAPTER, HIGH-LOW-EQUAL COMPARE, ADVANCED PREGRAMMING, BIT TEST, CONSOLE AUXILIARY ADAPTER, SENSE SHITCHESS... 1402 CARD READ PUNCH MODEL 1... 1403 PRINTER MODEL 1... 1406 SIGRAGE MODEL 2... 1409 CONSOLE AUXILIARY MODEL 2... 1409 CONSOLE AUXILIARY MODEL 2... 1026 RANSHISSION CONTROL UNIT -- UP TO 4 MODEL 1 MAXIMUM. THE FIRST 1026 MUST HAVE THE EXPANDED LINE FEATURE AND AS MANY AS THREE ADDITIONAL DISC MODEL 1, EACH WITH THE ADDITIONAL LINE FEATURE. ONE MUST SPECIFY TEXT TIME-OUT SUPPRESSION TO OISABLE THE TIMER FROM OPERATING AT THE NORMAL 9-18 SECOND OISCONNECT. THIS FEATURE IS TO BE USED WITH THE TEXT TIME-OUT SUPPRESSION ON THE 1051 CONTROL UNIT -- 1050 CATA COMMUNICATION SYSTEM -- AS MANY AS THE NORMAL 9-18 SECOND OISCONNECT. THIS SECOND OISCONNECT. THE TIME THE TOP OF THE SECOND OISCONNECT. THIS SECOND OI

CCMPCKENTS, IT MUST ALSO BE ORDERED ON THE 1051./

HINIMUM 1460/1026 CONFIGURATION-1441 PROCESSING UNIT MCDEL B5
WITH DISK STORAGE CONTROL, DIRECT SEEK, INDEXING AND STORE
ACCRESS REGISTER, BIT TEST, TRANSMISSION CONTROL UNIT
ATTACHMENT... 1447 MODEL 1 MITH SENSE SWITCHES... 1461 MODEL 1...
1402 MODEL 3... 1403 MODEL 2... 1311 MODELS 1 AND 2 WITH DIRECT
SEEK... 1026 — AS MANY AS FOUR MODEL 1. THE FIRST 1026
TRANSMISSION CONTROL UNIT MUST HAVE THE EXPANDED LINE FEATURE
AND AS MANY AS THEE ADCITIONAL 1026 MODEL 1 EACH WITH THE
ACCITIONAL LINE FEATURE. ONE MUST SPECIFY TEXT TIME-OUT
SUPPRESSION TO DISABLE THE TIMER FROM OPERATING AT THE NORMAL
9-18 SECOND DISCONNECT. THIS FEATURE IS TO BE USED WITH THE
TEXT TIME-OUT SUPPRESSION ON THE 1051 CONTROL UNIT... 1050 DATA
CCMMUNICATION SYSTEM — AS MANY AS FOUR SYSTEMS EACH CONSISTING
OF A 1051 CONTROL UNIT MODEL 2 AND A 1052 PRINTER-KEYBCARD WITH
THE 1ST PRINTER FEATURE. WHEN THE TEXT TIME-OUT SUPPRESSION IS
SPECIFIED ON THE 1026 COMPONENTS, IT MUST ALSO BE ORDERED ON THE

THE PROGRAM DECKS MAY BE OBTAINED ON ONE REEL OF MAGNETIC TAPE AS CARC IMAGES. ONLY ONE REEL IS REQUIRED IF ONE OR MCRE PROGRAMS ARE DRORERD AT THE SAME TIME. THE TAPES SUPPLIED SHOULD BE 2400 FEET IN LENGTH AND TESTED AT

556 BPI. OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP...AUTHOR AND PROCTOR MANUAL
STUDENT MANUAL...COURSEMITER DESCRIPTION MANUAL
MACHINE READABLE - SYSTEM CONTROL PROGRAM...INSTRUCTION
FUNCTION DECK...INITIAL LOAD DECK...UTILITY PROGRAMS
DECK.

CPTICNAL PROGRAM MATERIAL - FLOWCHARTS...PROGRAM LISTINGS.

1401-PR-925 PERIPHERAL INTEGRATED PROCESSING SYSTEM GROBE THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-PR-925

THIS SYSTEM IS PRIMARILY INTENDED FOR THE PROCESSING OF ILLANGUAGE OUTPUT ON A 1401. TWO PERIPHERAL PROCESSORS ARE SUBJECT TO A MCNITOR WHICH CONTROLS THE OPERATION. THE SYSTEM MAY BE MODIFIED BY THE LIBRARIAN SEGMENT, WHICH CAN ADD AND DELETE SECTIONS FROM THE SYSTEM TAPE. 1401 WITH 4, 8, 12, OR 16K STORAGE... 1403 PRINTER...1402 CARD READ/PUNCH... 3 TAPE UNITS... ADVANCED PROGRAMMING... EXPANDED PRINT EDIT... HIGH-LOW-EQUAL COMPARE... AND PRINT STORAGE.
IT IS ALSO NECESSARY THAT THE USER INDICATE THE STORAGE CAPACITY DO THE 1401. EITHER 4, 8, 12, OR 16K.
SYSTEM TAPE, LISTING OF PERIPHERAL MONITOR AND LIBRARIAN LISTING OF PRINT DOILY C-PROGRAM, LISTING OF PRINT/PUNCH C-PROCRAM, SPECIFICATIONS AND OPERATIAN PROCEDURE
THE MUMBER OF TAPES INDICATED MAY BE URDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE

EASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... SPECIFICATIONS AND CPERATING
PROCEDURES.
FOUR MAGNETIC TAPES - ONE TAPE / SYSTEM TAPE/... ONE TAPE //LISTINGS OF PHERIPHERAL MONITOR LIBRARIAN/... ONE TAPE //LISTING OF PRINT ONLY D-PROGRAM/... ONE TAPE //LISTING OF PRINT/PUNCH D-PROGRAM...

1401-RG-022 1401/1460 BASIC REPORT PROGRAM GENERATOR 4K

ORDER THROUGH LOCAL IBM, BRANCH OFFICE SPECIFY FILE NUMBER 1401-RG-022

IBM 1401 BASIC REPORT PROGRAM GENERATOR 4K ENABLES A PROGRAM WRITTEN IN 1401/1460 BASIC RPG LANGUAGE TO BE COMPILED ON EITHER A 1401 OR 1460 SYSTEM. THE OUTPUT IS USED TO EXECUTE THE APPLICATION ON A 1401 CR 1460 SYSTEM. THE SOURCE PROGRAM IN THE 1401/1460 BASIC RPG LANGUAGE, PUNCHED IN CARDS, IS COMPILED ON EITHER A 1401 OR 1460 SYSTEM. THE OUTPUT OBJECT PROGRAM IS IN THE 1401/1460 BASIC RPG LANGUAGE. THE SOURCE PROGRAM MAY BE COMPILED DIRECTLY TO CONDENSED CARD OUTPUT, AND/OR IF LCAC-AND-GO IS DESIRED, IT MAY BE CIRECTLY EXECUTED. ACDITIONAL FEATURES INCLUDED IN THIS PROGRAM ARE AUTOMATIC DECIMAL ALLGMENT AND EXTENSIVE DIAGNOSTICS. THE PROGRAM THE SURCE USED IN THE PROGRAM THE PRINTER. THE PRINTER.
MINIMUM SYSTEM RECUIREMENTS—
A 4K 1401 OR 8K 1460 SYSTEM WITH... 14C2 CARD READ PUNCH...
CNE 1403 PRINTER.

CONTINUED FROM PRICE COLUMN --

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... SPECIFICATIONS... OPERATING
PROCEDURES.
CARD DECKS - PROGRAM DECKS... SAMPLE PROBLEM SOURCE PROGRAM AND

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS... LISTINGS.
OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-RG-032 1401/1311 REPORT PROGRAM GENERATOR /ON DISK/ 1401/1460 ORDER THROUGH LOCAL IEM BRANCH OFFICE SPECIFY FILE NUMBER 1401-RG-032

INCLUDENT LINGUIGH LOCAL IEM BRANCH OFFICE
PECIFY FILE NUMBER 1401-RG-032

IEM 1401/1460 REPORT PROGRAM GENERATOR /ON DISK/,
1401-RG-032, ENABLES THE RPG PROCESSOR TO HAVE 1301 DISK
STORAGE SYSTEM RESIDENCE AT COMPILE TIME AND PROVIDES FOR INPUT,
OUTPUT, OR FOR FILES ON A 1301 DISK STORAGE MODULE AT OBJECT
TIME. VERSION 1, CALLES ON A 1301 DISK STORAGE MODULE AT OBJECT
TIME. VERSION 1, CALLED 1,1401/1311 RPG.,, MILL NOT BE
AVAILABLE SINCE ITS FUNCTIONS ARE INCLUDED IN THE NEW VERSION.
VERSION 2 INCREASES THE POWER OF THE RPG LANGUAGE THROUGH
THE IMPLEMENTATION OF A DISK UPDATE FUNCTION. INCLUDED WITH
1401/1460 RP GPON DISK/ IS A 1401 RPG TRANSLATOR PROGRAM
ENABLING AP PROGRAM MRITTEN FOR THE 1401 RPG PROGRAM TO BE
PUNCHED IN A FORM THAT CAN BE COMPILED ON A 1401/1311 SYSTEM,
A 1460/1311 SYSTEM, OR A 1460/1301 SYSTEM. THIS SYSTEM EMBBLES
A PROGRAM MRITTEN IN 1401/1440/1460 RPG LANGUAGE TO BE COMPILED
AND ASSEMBLED ON A 1401/1311, 1460/1311 OR 1460/1301 SYSTEM.
THE CUTPUT IS USED TO EXECUTE THE APPLICATION ON A 1401 OR 1460
SYSTEM. OBJECT PROGRAM INTITY IS A CARD FILE, MAGNETIC TAPE FILE,
CR DISK STORAGE FILE. THE OUTPUT REPORT CAN BE PRINTED AND/OR WRITTEN ON EITHER MAGNETIC TAPE
OF DISK STORAGE FILE. THE OUTPUT REPORT CAN BE PRINTED AND/OR
PUNCHED INTO CARDS AND/OR WRITTEN ON EITHER MAGNETIC TAPE
OF DISK STORAGE. THE SCURCE PROGRAM IN THE 1401/1440/1460 RPG
LANGUAGE PUNCHED IN CARDS IS COMPILED AND ASSEMBLED ON A
1401 OR 1460 SYSTEM. THE OUTPUT OBJECT PROGRAM IS EITHER THE
MACHINE LANGUAGE EQUIVALENT PROGRAM. THE MACHINE LANGUAGE EQUIVALENT
CBJECT PROGRAM CAN BE IN THE FORM OF CONDENSED CARDS, OR IF
,1LOAD-AND-GO,, IS DESIRED, THE OBJECT PROGRAM LISTING,
DCCUMENTATION, AND DIAGNOSTIC OUTPUT ARE RECORDED ON THE PRINTER.
MINIMUM SYSTEM PROLUREMENTS—
A 44 1401 SYSTEM MITH... 1402 CARD READ PUNCH... 1403 PRINTER.

AN 181460 SYSTEM WITH... 1402 CARD READ PUNCH... 1403 PRINTER.

AND RELAGOR STEM WITH... 1402 CARD READ PUNCH... 1403 PRINTER.

OR
AN 8K 1460 SYSTEM WITH... 1402 CARD READ PUNCH... 1403 PRINTER...
CNE 1311 DISK STGRAGE DRIVE OR ONE 1301 DISK STGRAGE MODULE.

BASIC PROGRAM MATERIALDOCUMENTATION - PROGRAM WRITE-UP... OPERATING PROCEDURES.
CARD DECKS - SYSTEM DECK... SAMPLE DECK... 1401 RPG
TRANSLATOR PROGRAM.

OPTIONAL PROGRAM MATERIAL-- FLOW CHARTS... LISTINGS.
OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

G+033 REPORT PROGRAM GENERATOR 2K ORDER THROUGH LOCAL 18M BRANCH OFFICE SPECIFY FILE NUMBER 1401-RG-033 1401-RG+033

THE 1401 REPORT PROGRAM GENERATOR 2K SYSTEM ENABLES A PROGRAM WRITTEN IN 1401 RPG 2K LANGUAGE TO BE COMPILED ON A 1401. THE CUTPUT IS USED TO EXECUTE THE APPLICATION ON A 1401 SYSTEM. THE SOURCE PROGRAM IN THE 1401 RPG 2K LANGUAGE, PUNCHED IN CARDS, IS CCMPILED ON A 1401 SYSTEM. THE OUTPUT OBJECT PROGRAM IS ON CONDENSED CARDS IN 1401 MACHINE LANGUAGE. THE PROGRAM LISTING, COCUMENTATION, AND DIAGNOSTIC OUTPUT ARE RECORDED BY THE PRINTER. MINIMUM SYSTEM REQUIREMENTS—
A 2K 1401 SYSTEM WITH... 1402 CARD READ PUNCH... 1403 PRINTER. ALTHOUGH THE HIGH-LOW-EQUAL COMPARE FEATURE IS NOT NEEDED, RPG 2K CAM USE IT TO ADVANTAGE IF IT IS INSTALLED. THE 1401 ZK SYSTEM WILL TAKE ADVANTAGE OF AN ADDITIONAL 2K CORE SICRAGE.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... OPERATING PROCEDURES.
CARD DECKS - PROGRAM DECK... SAMPLE PROBLEM SOURCE PROGRAM DECK...
SAMPLE PROBLEM CATA DECK.

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS... PROGRAM LISTINGS.
OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-RG-045 FARGO /FOURTEEN-O-ONE AUTOMATIC REPORT GENERATING DERATION/ GROET THREUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-RG-045

PURPOSE TG PROVIDE A SIMPLE-TO-LEARN, EASY-TO-USE METHOD CF CONVERTING ACCOUNTING REPORTS FROM UNIT RECORD EQUIPMENT /602A - 402 - 514 - 604 - 407 - 515 TYPES/ TO AN IBM 1401 DATA PROCESSING SYSTEM. PROGRAMMING LANGUAGE 1401 SYMBOLIC PROGRAMMING SYSTEM METHOD LOAD & 60, WHICH MEANS THERE IS NO INTERMEDIATE SYMBOLIC ASSEMBLY OPPRATIONS. THIS MEANS THAT THE FARGO CONCENSED PROGRAM DECKS WITH THE INSERTED CONTROL CARDS CONTAINING THE REPORT SPECIFICATIONS ARE READ INTO THE 1401 FOLLOWED BY THE REPORT SPECIFICATIONS ARE READ INTO THE 1401 FOLLOWED BY THE REPORT SPECIFICATIONS ARE READ INTO THE 1401 FOLLOWED BY THE REPORT SPECIFICATIONS ARE READ INTO THE 1401 FOLLOWED BY THE REPORT SPECIFICATIONS ARE DEAD INTO THE 1401 FOLLOWED BY THE REPORT SPECIFICATIONS ARE READ INTO THE 1401 FOLLOWED BY THE REPORT SPECIFICATIONS ARE READ INTO THE 15T LINE OF EACH PAGE OF THE REPORT. 3. PRINT I CR 2 FULL LINES OF EACH PAGE 64. CONTROL ON A MAXIMUM OF FOUR FILLEDS ON THE FIRST LINE OF EACH MINOR CONTROL GROUP. 6. RECOGNIZE UP TO 10 TYPES OF DETAIL CARDS BY ANY SINCLE COLUMN HUST BE TESTED TO IDENTIFY A GIVEN TYPE OF CARD, A PATCH IS REQUIRED. NOTE EACH OF THE 10 TYPES MAY BE IN SEPARATE CARD COLUMNS 7. ADD, SUBTRACT, MULTIPLY, DIVIDE* CPRATICIONS NAY BE PERFORMED ON DETAIL OR TOTAL SILNES.

*THESE OPERATIONS REQUIRE MULTIPLY/DIVIDE FEATURE. 8.

PRINT MULTIPLE LINES FROM ONE CARC /MLP/.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... LISTINGS.
CARD DECK - CONDENSED SYSTEM DECK.

A-1401 4-1401 PAGE 013

1401-RG-048 REPORT PROGRAM GENERATOR ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-RG-048

DER THREUGH LOCAL IBM BRANCH OFFICE

PURPOSE 1401 RPG IS A PROGRAMMING SYSTEM WHICH GENERATES IN THE ROPE LANGUAGE ESTABLISHED FOR IBM 1400-SERIES MACHINES. THE GENERATED REPORT PROGRAMS WHICH ARE SPECIFIED BY THE USER IN THE RPG LANGUAGE ESTABLISHED FOR IBM 1400-SERIES MACHINES. THE GENERATED REPORT PROGRAM WILL ACCEPT SOURCE DATA CONTAINED IN EITHER A CARD FILE, MAGNETIC TAPE FILE OR DISK STORAGE FILE. THE LANGUAGE FACILITATES SPECIFYING THE CLASSIC REPORT WRITING FUNCTIONS OF HEADING AND DETAIL LINES, TOTAL LINES CONTROLLED BY CONTROL FIELD BREAKS, OFFSET TOTAL PRINTING, SUMMARY PUNCHING, CROSS-FOODTING AND CALCULATION, PAGE AND SERIAL NUMBERING, ETC. THE OUTPUT REPORT CAN BE OBSTAINED AT THE PRINTER, ON CARDS, ON TAPE, OR ON ANY COMBINATION OF THE THREE. USE OF PROGRAM REPORT SPECIFICATIONS, PUNCHED ON CARDS, ARE ENTERED INTO THE 1401 DPS TOGETHER WITH THE RPG SYSTEM DECK. THE DUTPUT IS A PUNCHED DECK CONTAINING THE GENERATED REPORT PROGRAM IN SYMBOLIC /1401 SPS/ LANGUAGE. THIS DECK IS FURTHER PROCESSED BY ONE OF THE 1401 ASSEMBLY SYSTEMS /SPS-1, SPS-2, OR AUTOCODER/ TO OBTAIN THE MACHINE LANGUAGE REPORT PROGRAM REPORT FOR CARD FEAD FUNCH 11405 PRINTER FOR REPORT PROGRAM FOR FATOR OBTAIN THE MACHINE LANGUAGE REPORT PROGRAM GENERATION 1 4000 CORE STORAGE POSITIONS/ 1 1402 CARD READ FUNCH 1 1403 PRINTER FOR REPORT PROGRAM ESCUTION 1 1461 PROCESSING UNIT /ANY MODEL-CORE STORAGE SIZE REQUIRED LEPENDS UPON COMPLEXITY OF REPORT/ 1 1402 CARD READ PUNCH 1 1403 PRINTER FOR REPORT PROGRAM EXECUTION 1 1461 PROCESSING UNIT /ANY MODEL-CORE STORAGE SIZE REQUIRED LEPENDS UPON COMPLEXITY OF REPORT/ 1 1402 CARD READ PUNCH 1 1403 PRINTER FOR REPORT PROGRAM ESCUTION 1 1461 PROCESSING UNIT /ANY MODEL-CORE STORAGE SIZE REQUIRED LEPENDS UPON COMPLEXITY OF REPORT/ 1 1402 CARD READ PUNCH 1 1403 PRINTER FOR MODEL 1 OR 2/, 1405 DISK STORAGE UNIT - ONLY AS REQUIRED FOR INPUT DATA FILLE AND CUTPUT PEPORT MEDIA. MULTIPLY—DIVID SPECIAL FEATURE - MAY BE USED IF INSTALLED. SENSE SWITCHES SPECIAL FEATURE - MAY BE USED IF INSTALLED.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLCWCHARTS.
CARD DECK - CONDENSED PROGRAM DECK.

IBM 1400 RPG TO SYSTEM/360

1401-RG+700 IBM 1400 RPG TO SYSTEM/360 TRANSLATOR
ORDER THROUGH LGCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-RG-700

THIS PROGRAM OPERATES ON A 1401 OR 1460 DATA PROCESSING SYSTEM.

THIS PROGRAM OPERATES ON A 1401 OR 1460 DATA PROCESSING SYSTEM.

THE TRANSLATOR CONVERTS SOURCE PROGRAMS HRITTEN FOR ANY OF THE PROCESSORS LISTED BELON TO SIMILAR SOURCE PROGRAMS ACCEPTABLE TO SYSTEM/360 MODEL 20 PRG, SYSTEM/360 BASIC PROGRAMMING SUPPORT RPG, BASIC OPERATING SYSTEM/360 RPG, OR 1. 1401 RPG /ZK/
2. 1401 BASIC RPG /4K/
3. 1401 RPG /ZK/
6. 1440 BASIC RPG /AK/
7. 1440 RPG / PRO / SYSTEM/360 RPG / SURCE PROGRAM ARS FIRST BEEN TRANSLATED TO 1401/1460 RPG /GN DISK/ USING THE 1401 RPG PRANSLATOR PROGRAM. PROGRAM INPUT IS 1400 SERIES RPG SCURCE PROGRAM CARDS. DUTPUT IS SYSTEM/360 RPG SOURCE PROGRAM CARDS FOR INPUT, CALCULATION, AND OUTPUT SPECIFICATIONS. NCN-TRANSLATABLE CONDITIONS MILL BE FLAGGED AS THEY ARE DETECTED BY THE TRANSLATOR. MINIMUM SYSTEM RECUIREMENTS. AN 6K 1401 OR 1460 WITH 1402 CARD READ PUNCH... 1403 PRINTER, NCDEL 20 OR MODEL 3 /ON 1460/1. THREE 7330 OR 729 TAPE UNITS OR ONE 1311 DISK STORAGE CRIVE OR ONE 1301 DISK STORAGE UNIT / CN 1460/1... DAVANCED PROGRAMMING AND HIGH-LOW-EQUAL COMPARE SPECIAL FEATURES /ON 1401/ OR INDEXING AND STORE ADDRESS REGISTER FEATURE / CN 1460/.

BASIC PROGRAM MATERIAL —
COCUMENTATION — PROGRAM WRITE-UP...PROGRAM MATERIAL LIST...
JAMPLE PROGRAM TRANSLATION LISTING...SYSTEM/360 RPG
TRANSLATOR MANUAL...LOGIC MANUAL.
MACHINE READABLE — CARO DECKS FOR TRANSLATOR OBJECT PROGRAM,
SAMPLE PROGRAM 1400/RPG SOURCE, SAMPLE PROGRAM SYSTEM/360
RPG SOURCE.
OPTIONAL PROGRAM MATERIAL — ONE REEL OF MAGNETIC TAPE CONTAINING
THE TRANSLATOR SOURCE PROGRAM.
OPTICMAL MATERIAL CESIRED MUST BE ITEMIZED ON THE CROER CARD.
THE NUMBER OF TAPES NECESSARY TO OBTAIN THE PROGRAM MATERIAL MAY
BE SUPPLIED OR ORDERED FROM YOUR 18M REPRESENTATIVE. THE TAPES
SHOULD BE 2400 FEET IN LENGTH.

1401-SE-05X PROGRAM DECISION LOGIC TRANSLATOR

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SE-05X

THE DECISION LOGIC TRANSLATOR PROGRAM IS VALUABLE IN THE IMPLEMENTATION OF AUTOMATED DESIGN ENGINEERING SYSTEMS, AS WELL AS OTHER AREAS IN WHICH PROGRAM LOGIC CAN BE EFFECTIVELY EXPRESSED IN TABULAR FORM. THE TABULAR APPROACH TO SOLUTION OF COMPILCATED LOGICAL PROBLEMS FACILITATES THE BERAKUP OF A PROBLEM INTO SMALL, DISCRETE, READLLY UNDERSTOOD UNITS OF CONDITIONS AND ACTIONS. THIS APPROACH FOSTERS MODULARITY OF PROGRAM DESIGN WHICH WILL BE OF INCREASING IMPORTANCE WITH THE WORK WIDESPREAC USE OF DIRECT-ACCESS STORAGE. SITUATIONS NOT ACTION AND ACTIONS. THIS APPROACH EASIST MY DETAILS NOT YET ANTICIPATED CAN BE INTRODUCED INTO EXISTING PROGRAMS WITH A MINIMUM OF EFFERT THROUGH CONSTRUCTION OF ADDITIONAL TABLES. EXISTING CONDITIONAL TABLES. EXISTING CONDITIONAL TRABLES CAN BE EASILY ALTERED.

EITHER AS OPERATIONAL PROCEDURES CHANGE OR TO STUDY THE EFFECT SUCH CHANGES WOULD HAVE ON A BUSINESS ENVIRONMENT. AREAS OF APPLICATION OF DECISION TABLES AND 1401 DECISION LOGIC TRANSLATOR INCLUDE—

ALL TYPES MANUFACTURING OPERATIONS WHICH PRODUCE A WICE TRANSLATOR THE PRODUCTS FROM A RELATIVELY SMALL POOL OF COMPONENTS INCLUDING— ELECTRICAL PARTS, MOTORS, TURBINES, ASSEMBLIES AND SUB-ASSEMBLIES.

— INVENTORY CONTROL PROGRAMS

— FINANCIAL ANALYSIS AND CONTROL APPLICATIONS

— SPECIAL PURPOSE SIMULATION MODELS

— OUALITY CONTROL PROGRAMS

— FINANCIAL ANALYSIS AND CONTROL APPLICATIONS

— PRODUCTION CONTROL AND PLANNING

— ORDINITY CONTROL PROGRAMS

— FINANCIAL ANALYSIS AND CONTROL APPLICATIONS

— PRODUCTION CONTROL AND PLANNING

— OUBLITY CONTROL PROGRAMS

— PRODUCTION CONTROL AND PLANNING

CONTINUED FROM PRIGR CCLUMN—
THE 1401 DECISION LOGIC TRANSLATOR ACCEPTS AS INPUT DECISION
TABLES WRITTEN IN A FORTRAN—ORIENTED LANGUAGE. THE TRANSLATOR
PROGRAM SORTS THE RULES TO PRODUCE AS OUTPUT AN EFFICIENT
FORTRAN II SOURCE PROGRAM. THE USE OF THIS PROGRAM CAN RESULT IN
SAVINGS OF UP TO 50 PERCENT IN INFLEMENTATION TIME AND
SUBSTANTIAL REDUCTION IN COST IN INSTALLATION THE AND
THAT EXHIBIT COMPLEX CONDITION—ACTION RELATIONSHIPS.
MINIMUM SYSTEM REQUIREMENTS—A 16AL-101 SYSTEM PRIGRAMMING... A
1401 COMPARE, MOLIPLY—015 AND THE ADMINISTRATION THE AUTHORITY AND THE AUTHOR THE AUTHORITY AND THE AUTHORITY AND THE AUTHORITY AND THE AUTHOR THE AUTHORITY AND THE AUTHORITY OF TAPES INCICATED MAY BE ORDERED FROM YOUR IBM
REPRESENTATIVE OR SUPPLIED FOR EACH LIFEM THAT IS ORDERED. THE
TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL.
CARD DECKS - SAMPLE PROBLEM... PROGRAM CARDS.

OPTIONAL PROGRAM MATERIAL -TRANSLATOR SOURCE TAPE. /ONE REEL/ SYSTEMS MANUAL.

1401-SE-12X IBM DOCUMENTATION AIDS SYSTEM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SE-12X

THE CA SYSTEM PROVIDES MACHINE-GENERATED DOCUMENTATION AIDS TO USERS WHO PROGRAM IN THE IBM SUPPORTED ASSEMBLY LANGUAGES LISTED BELOM. IT PROVIDES AN ACCURATE, EFFICIENT, AND INEXPENSIVE COMPUTER PROCESS FOR PRODUCING AND MAINTAINING UP-TC-DATE PROGRAM DOCUMENTATION. THE DA SYSTEM CONSISTS OF FCUR PROGRAMS AND A SYSTEM CONTROLLER. THEY ARE HIGHLY MODULAR AND ARE INTEGRATED INTO A TOTAL SYSTEM SO THAT EACH PROGRAM PERFORMS CERTAIN FUNCTIONS WHICH MAY BE REQUIRED BY OTHER PROGRAMS OPERATING WITHIN THE SYSTEM.

CPERATING MITHIN THE SYSTEM.

THE DA SYSTEM PROCESSES PROGRAMS WRITTEN IN SYSTEM/360
ASSEMBLER LANGUAGE, SYMBOLIC PROGRAMMING SYSTEM /SPS/, AUTOCODER,
MACRO ASSEMBLY PROGRAM /MAP/, FORTRAN ASSEMBLY PROGRAM /FAP/,
OR SYMBOLIC FLOWCHART LANGUAGE /SFL/ FOR THE SYSTEM/360,
1401/1440/1440, 1620, 1410/7010, 7040/7044, 7070/7072/7074,
705/7080, AND 7090/7094.
THE SOURCE LANGUAGE USED IN THE IMPLEMENTATION OF ALL DA SYSTEM
PROGRAMS IS 1401 AUTOCODER.
THE DA SYSTEM BEJECTIVES ARE TO ASSIST AN INSTALLATION IN
CONVERTING EXISTING PROGRAMS TO SYSTEM/360... TO
ENCOURAGE THE USER TO REPROGRAM IN HIGHER LEVEL LANGUAGE, E.G.,
FORTRAN, COBOL, AND PL/1... TO ALLOW THE COMPUTER TO ASSUME
MANY CLERICAL AND ROUTING FUNCTIONS ASSOCIATED WITH DOCUMENTATION
AND CONVERSION... TO IMPROVE AND UPDATE THE COMPUTER TO ASSUME
MANY CLERICAL AND ROUTING FUNCTIONS ASSOCIATED WITH DOCUMENTATION
AND CONVERSION... TO IMPROVE AND UPDATE THE COMPUTER TO EXISTING PROGRAMS, THEREBY REDUCING MAINTENANCE EFFORTS... IC
IMPRICVE PROGRAMMING EFFICIENCY BY THE STANDARDIZATION OF
DOCUMENTATION TECHNIQUES.

- DOCUMENTATION TECHNIQUES.

 FEATURES—

 THE DA SYSTEM OPERATES DIRECTLY UPON ASSEMBLY LANGUAGE SCURCE STATEMENTS. NO MODIFICATION IS REQUIRED BY THE USER BEFORE USING DA SYSTEM PROGRAMS.

 THROUGH SCANNING, THE NUMEROUS SYMBOLIC LANGUAGES ARE CONVERTED TO A STANCARD DA SYSTEM RECORD FORMAT. PROCESSING OF THE DA FORMATIED TAPE IS THUS LARGELY LANGUAGE—INDEPENDENT.

 EACH PROGRAM HITHIN THE DA SYSTEM HAS ITS ONN CONTROL CARDS AND IS PROCESSED IN SEQUENCE FROM THE DA SYSTEM TAPE, PROVIDING ADVANTAGES NORMALLY FOUND IN A MONITOR SYSTEM.

 THE SYSTEMS CONCEPT ENABLES THE USER TO SUBHIT A SOURCE PROGRAM DECK TO THE DA SYSTEM AND RECEIVE ANY OR ALL OF THE SOURCE OUTPUTS OF THE SYSTEM IN ONE PROCESSING RUN.

 SCURCE PROGRAMS CAN BE SEQUENCE CHECKED, RESEQUENCE NUMBERED AND UPDATED. CORRESPONDING LISTINGS CAN BE PRODUCED.

 CROSS-REFERENCING LISTINGS, BOTH IN PROGRAM AND IN LABEL TABLE SEQUENCE, AS WELL AS ANALYSIS OF DEPRATION TYPE, INDEXING AND OPPRATION CODE USAGE, ARE PROVIDED BY THE SYSTEM.

 A STORAGE MAP OF AN OBJECT PROGRAM USEFUL IN DETECTING DIFFERENCES BETWEEN THE SOURCE AND OBJECT PROGRAMS IS AVAILABLE. OVERLAY PATCHES ARE IDENTIFIED AND LISTED IMPOSTATELY AFTER THE INSTRUCTION THAT THEY MODIFY.

 THE FLOUCHART PRODUCED IS A DETAILED LOGIC FLOW OF THE SCURCE PROGRAMS IS AVAILABLE. OVERLAY PATCHES ARE IDENTIFIED AND LISTED IMPOSTATELY AFTER THE INSTRUCTION THAT THEY MODIFY.

 THE FLOUCHART PRODUCED IS A DETAILED LOGIC FLOW OF THE SCURCE PROGRAM. FLOWCHART SYMBOLS CONFORM TO THE 18M CORPERATE STANDARD AND THE PROPOSED AMERICAN STANDARD ASSOCIATION STANDARD AND THE PROPOSED AMERICAN STANDARD ASSOCIATION STANDARD ON THE MOCHANT OF THE SUMPREMENT.

STANDARDS ON FLONCHART SYMBOLS FOR INFERNATION PROCESSING.

THE SYMBOLIC FLONCHART LANGUAGE PROVIDES A MACHINE INDEPENDENT, EASY-TO-USE LANGUAGE MHICH MAY BE USED IN APPLICATION DESIGN AND DCCUMENTATION OF NEW AND EXISTING PROGRAMS.

INFLEMENTATION OF THE CA SYSTEM ON THE LAOI GIVES THE USER THE OPPORTUNITY TO DOCUMENT ASSEMBLY PROGRAMS FOR ANY CURRENT LARGE-SCALE SYSTEM WITHOUT TYING-UP THAT SYSTEM.

THE FUNCTION OF THE SYSTEM CONTROLLER IS TO START AND END ALL DA RUNS AS WELL AS PROVIDE MAINTENANCE CAPABILITY FOR THE LANGUAGE TO BE PROGRAMS. AFTER IDENTIFYING THE MACHINE TYPE AND LANGUAGE TO BE PROGRESSED, THE CONTROLLER CALLS IN THE FOLLCHING PROGRAMS IN THE SEQUENCE LISTED - AN UPDATE PROGRAM WHICH ALLC'S INSERTION, DELETION, AND REPLACEMENT LOF ASSEMBLY LANGUAGE PROGRAMS AND PRODUCES STATEMENTS TO BRING THE SOURCE PROGRAM UP TO DATE., AN ANALYSIS PROGRAM WHICH SCANS ASSEMBLY LANGUAGE PROGRAMS AND PRODUCES FLONCHARTS OF PROGRAM LOCIC CRCSS REFERENCES. A FLONCHART PROGRAM HHICH SCANS ASSEMBLY LANGUAGE PROGRAMS AND PRODUCES FLONCHARTS OF PROGRAM LOCIC CF DESIGNATED AREAS. A VERIFICATION PROGRAM HHICH PRODUCES A STARGE MAP OF AN OBJECT DECK, NOTING OVERLAY PATCH AREAS. EACH PROGRAM IN TURN PROCEEDS AS REQUESTED BY DA SYSTEM CONTROL CARRES, TRANSFERRING CONTROL THROUGH THE SYSTEM AND PROCESSING THE DATA UNTIL ALL DA SYSTEM CONTROL CARDS HAVE BEEN PROCESSED.

MINIPUM SYSTEM REQUIREMENTS— AN 8K 14C1 OR 1460 SYSTEM WITH FOUR 729 OR 7330 MAGNETIC TAPE UNITS /SEE SALES MANUAL FOR TAPE INTERMIX/... ADVANCED PROGRAMMING... HIGH-LOW-EQUAL COMPARE... 1402 CARD READ PUNCH MODEL 1... 1463 PRINTER MODEL 2 OR 3 WITH 132 PRINT POSITIONS. A 1410, 7010, OR SYSTEM/360 MODEL 30 CR 40 CAN BE USED WHEN OPERATING IN 1401 COMPATIBILITY MODE. THE NUMBER OF TAPES NECESSARY TO OBTAIN THE PROGRAM MATERIAL MAY BE SUPPLIED OR ORDERED FROM YOUR 18M REPRESENTATIVE. THE TAPES SHOULD BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL COCUMENTATION - APPLICATION DIRECTORY...PROGRAM REFERENCE
MANUL, 140-0177.
MACHINE READABLE - SYSTEMS TAPE.

A-1401

1401-SE-13X SYSTEM/360 COBOL EDIT ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SE-13X

COBOL EDIT OPERATES ON A 1401 AND WILL DIAGNOSE SYSTEM/360 COBOL STATEMENTS FOR SYNTACTICAL ERRORS. THIS WILL REDUCE SYSTEM/360 TEST TIME BY ALLOWING DEBUGGING ON THE CURRENT SYSTEM/360 TEST TIME BY ALLOWING DEBUGGING ON THE CURRENT SYSTEM.
THE SYSTEM/360 COBOL EDIT WILL ACCEPT AS IMPUT 5/360 COBOL D OR E SOURCE PROGRAMS IN BECCIC ON CARDS OR ON 7-TRACK TAPE IN CARD IMAGE. IT PRINTS A LISTING OF THE SOURCE PROGRAM AND IDENTIFIES SEQUENCE PRORS, FORUP MARKS AND RECORD MARKS. IT ALSO FLAGS IMPUT CHARACTERS PUNCHED IN CODES HAVING DUAL REPRESENTATION IN CURRENT SYSTEMS.
A DICTIONARY OF NAMES IS PREPARED AND PRINTED. IT WILL INDICATE ANY NAMES THAT ARE MULTI-DEFINED, ANY COBOL RESERVED WORDS INCORRECTLY USED AS NAMES AND ANY UNDEFINED NAMES. THE PROGRAM HILL SCAN THE STATEMENTS FOR SYNTAX ERRORS AND PRINT DIAGNOSTIC MESSAGES IF ANY SENTENCE STRUCTURE ERRORS ARE FOUND. EDITING IS FOR SYNTAX AND ATTRIBUTES ARE NOT CHECKED.

- CHECKEDFEATURES—
 GIVES THE USER THE ABILITY TO PRE-EDIT SYSTEM/360 COBCL
 SOURCE PROGRAMS ON THE 1BM 1401 AT HIS OWN INSTALLATION.
 THUS PROVIDING HIM WITH BETTER UTILIZATION OF HIS S/360
 TEST TIME.
 INPUT PROGRAMS CAN BE STACKED BY THE ADDITION OF AN END
 CARD BETMEEN PROGRAMS.
 MAY BE USED IN CONJUNCTION WITH THE 1BM S/360 COBOL LANGUAGE
 CONVERSION PROGRAM /1401-CB-701/. THE OUTPUT OF LCP WILL
 BE ACCEPTED AS INPUT.

MINIMUM SYSTEM REQUIREMENTS- 8K 1401, 3 TAPE UNITS, 1402 CARD READ PUNCH, 1403 PRINTER MITH 132 PRINT POSITIONS, HIGH-LOW-EQUAL COMPARE, SENSE SHITCHES AND ADVANCED PROGRAMMING. ADDITIONAL CORE WILL BE UTILIZED BY THE PROGRAM. IF A FOURTH TAPE DRIVE IS AVAILABLE, INPUT CAN BE ON TAPE. PROGRAMMING SYSTEMS- TO OBTAIN LISTINSS OR CARDS FROM THE TAPE, THE FOLLOWING UTILITIES WILL BE REQUIRED -- IBM 1401 TAPE-TO-PRINTER UTILITY /1401-UT-029/-. IBM 1401 MULTIPLE UTILITY /1401-UT-039/-. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD. THE TAPE NECESSARY TO COBTAIN THE OPTIONAL PROGRAM MATERIAL MAY BE SUPPLIED OR ORDERED FROM YOUR IBM REPRESENTATIVE. THE TAPE SHOULD BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL DOCUMENTATION - APPLICATION DIRECTORY... PROGRAM REFERENCE
MANUAL H20-0217.
MACHINE READABLE - OBJECT DECKS AND SAMPLE PROGRAM ON A
DIT WHICH HILL BE SUPPLIED BY THE PROGRAM INFORMATION
DEPARTMENT.

OPTIONAL PROGRAM MATERIAL - ONE REEL OF MAGNETIC TAPE CONTAINING THE SOURCE DECKS AND PROGRAM LISTINGS.

1401-SM-029 SORT 1

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SM-029

PURPOSE TO PROVIDE A GENERALIZED 2-WAY SORT PROGRAM FOR 1401 USERS. THE PROGRAM INTERNALLY SORTS INPUT RECORDS AND MERGES THE SORTED BLOCKS INTO SEQUENCED OUTPUT RECORDS. SORT 1 MAY ALSO BE USED AS A MERGE PROGRAM IF INPUT TAPES ARE ALREADY ORDERED. EQUIPMENT SPECIFICATIONS 4000 POSITIONS OF STORAGE HIGH-LOW-EQUAL COMPARE MINIMUM OF FOUR *4* TAPE DRIVES.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLCMCHARTS.
CARD DECK - CONDENSED PROGRAM DECK.

OPTIONAL PROGRAM MATERIAL SYMBOLIC CARD DECKS.
OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-SM-046 SORT 3 PROGRAM
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-SM-046

ECIFY FILE NUMBER 1401-SM-046

SORT 3 IS A GENERALIZED SORT PROGRAM WHICH PROVIDES THE FACILITY TO SORT RECORDS ON 1401-1405 SYSTEMS WITHOUT THE USE OF MACMETIC TAPE UNITS. THE INPUT FILE MAY BE ON MAGNETIC TAPE OR IN DISK STORAGE. THE USER MAY SPECIFY SORTING INTO EITHER ASCENDING OR DESCENDING SEQUENCE, AND MAY SPECIFY EITHER MACMETIC TAPE OR DISK STORAGE FOR THE SORTED OUTPUT FILE. THE PROGRAM SORTS FIXED LENGTH BLOCKED OR UNBLOCKED UP TO 1000 CHARACTERS IN LENGTH AND MAY SPECIFY STORED OUTPUT FILE. THE PROGRAM SORTS FIXED LENGTH BLOCKED OR UNBLOCKED OR TO CONTROL DATA FIELDS CONTAINING A TOTAL OF UP TO 193 CHARACTERS OF CONTROL INFORMATION. PROGRAM INTERRUPTION AND CHECKPOINT RESTART FEATURES ARE AVAILABLE UNDER SINSE SWITCH CONTROL. 44 1401 SYSTEM WITH 1405 DISK STORAGE, 1402 CARD READ PUNCH, 1403 PRINTER MODEL 2, HIGHLOM-EQUAL COMPARE AND SENSE SWITCHES SPECIAL FEATURES. AT LEAST ONE MAGNETIC TAPE UNIT 7729 II, TV, OR V, OR 7330/ IS REQUIRED IF TAPE INDIC OR OUTPUT IS DESIRED.

THE NUMBER OF TAPES INDICATED MAY BE GROERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROCK CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... FLOWCHARTS... PROGRAM LISTINGS
... OPERATING PROCEDURES.
CARD DECK - CONDENSED PROGRAM DECK.
OPTIONAL PROGRAM MATERIAL - ONE REEL OF MAGNETIC TAPE CONTAINING THE
SOURCE DECK.

1401-SM-047 SORT 4 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SM-047

SORT 4 IS A THO- OR THREE-WAY BALANCED MERGE, TAPE SORTING PROGRAM USING THE PROCESSING OVERLAP SPECIAL FEATURE. THE PROGRAM WILL SORT FIXED OR VARIABLE LENGTH DATA RECORDS WRITTEN ON MAGNETIC TAPE INTO EITHER ASCENDING OR DESCENDING SEQUENCE. THE PROGRAM SORTS EITHER FIXED LENGTH OR VARIABLE LENGTH, BLCCKED OR UNBLOCKED RECORDS HAVING UP TO TEN CONTROL DATA FIELDS CONTAINING A TOTAL OF UP TO 999 CHARACTERS OF CONTROL

A-1401

CONTINUED FRCM PRIOR CCLUMN—
INFORMATION. THE ABILITY TO PERFORM FULL IOCS TYPE TAPE LABEL
HANDLING PROCEDURES FOR 80-CHARACTER LABELS IS INCORPORATED.
PACDING RECORDS MAY OR MAY NOT CONTAIN RECORD MARKS, AS SPECIFIED
BY THE USER, AMD FULL BLOCKS OF PADDING WILL BE DELETED FROM THE
FINAL OUTPUT. FULL CHECKPOINT AND RESTART CAPABILITY IN ALL
PASSES OF PHASE 2 IS INCLUDED, AS ARE PROGRAM EXITS TO ALLOW
USER MODIFICATION.

MINIMUM MACHINE REQUIREMENTS — AN 8K 1401 SYSTEM WITH...FCUR IBB MAGNETIC TAPE UNITS /729 II, IV, OR 7330/... 1402 CARD REAC PUNCH... 1403 PRINTER MODEL 2 /0R 1404 PRINTER/... ADVANCE PROGRAMMING, HIGH-LOM-EQUAL COMPARE, PROCESSING OVERLAP, AND SENSE SWITCHES.
THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... PRELIMINARY SPECIFICATIONS...
FLOWCHARTS... OPERATING PROCEDURES.
CNE MAGNETIC TAPE - SYMBOLIC LISTINGS AND SYSTEM CARD DECK.

1401-SM-060 SORT 7
ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SM-060

SORT 7 IS A GENERALIZED TAPE SORTING PROGRAM DESIGNED FOR USE CN AN IBM 1401 TAPE SYSTEM WITH AT LEAST 8,000 POSITIONS OF CORE STORAGE. THIS PROGRAM PROVIDES LABEL PROCESSING CAPABILITIES FOR THE BM STANDARD TAPE LABEL /120 CHARACTER/. A TAPE-LOADABLE OPTION IS AVAILABLE AND WHEN USED 100 POSITION OF STORAGE ARE USED. THIS PROGRAM SORTS FIXED LENGTH OR VARIABLE LEWGTH, BLOCKED OR NOBLOCKED RECORDS INTO EITHER ASCENDING CR DESCENDING SEQUENCE. SORTING CAN BE CONTROLLED BY AS MANY AS TEN CONTROL DATA FIELDS CONTAINING A TOTAL OF UP TO 999 CHARACTERS. FOR FOUR-TAPE SYSTEMS ON WHICH FIXED LEWGTH RECORDS ARMY AS TEN CONTROL DATA FIELDS CONTAINING A TOTAL OF UP TO 999 CHARACTERS. FOR FOUR-TAPE SYSTEMS ON WHICH FIXED LEWGTH RECORDS ARE BEING SORTED, SORT 7 PROVIDES AN ADDITIONAL CAPABILITY IN THE FORM G. A MULTIPHASE TECHNIQUE IN THE HEREING PORTION OF THE PROGRAM. WHEN DEPRATING HITH THE MULTIPHASE PROCEDURE, 15 TO 25 PERCENT CVERALL TIME SAYING MAY BE REALIZED AS COMPARED WITH THE BALANCE MERGING TECHNIQUE. INTERRUPT AND RESTART CAPABILITIES ARE PROVIDED IN THE PROGRAM. MINIMOM SYSTEM REQUIREMENTS—AN 8K 1401 OR 1460 TAPE SYSTEM...AT LEAST FOUR IBM MAGNETIC TAPE UNITS 7729 II, IV, OR V. OR 7330/...102 CAN ADDITIONAL TAPE UNIT IS NEEDED IT THE TAPE-LOADABLE CPITION IS USED. THE 1460 REQUIRES, INDEXING AND STORE ADDRESS REGISTER AND THE SENSE SHITCH FEATURE.

SORT 7 CAN ALSO USE, IF AVAILABLE, FIVE OR SIX TAPE UNITS AND 12K ORR SYCRAGE CAPACITY.

THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTED WOTH THAT IS ORDERED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

OPTICNAL MATERIAL DESIRED MUST, BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITEUP...SPECS. AND CPERATING
PROCEDURES...FLOWCHARTS.
ONE MAG. TAPE CONTAINING OBJECT DECKS AND ASSEMBLY LISTING
FOR BOTH TAPE LOAD AND SORT PROGRAMS.
OPTIONAL MATERIAL - ONE MAGNETIC TAPE - SYMBOLIC PROGRAM DECKS.

1401-SM-061 MERGE 7
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-SM-061

MERGE 7 IS A GENERALIZED TAPE MERGING PROGRAM CESIGNED FOR USE ON 19M 1401 TAPE SYSTEMS WITH AT LEAST 8,000 POSITIONS OF CORE STORAGE. THE USER MAY SPECIFY MERGING INPUT FILES IN EITHER ASCENDING OR DESCENDING ORDER TO AN OUTPUT FILE OF THE SAME ORDER. THE PROGRAM PROVIDES LABEL PROCESSING CAPABILITIES FOR THE 18M STANDARD TAPE LABEL 1/20 CHARACTER/.
THE PROGRAM WILL MERGE FIXED LENGTH AND VARIABLE LENGTH BLCCKED OR UNBLOCKED RECORDS. MERGING CAN BE CONTROLLED BY UP TO THE CONTROL DATA FIELDS OF TOTAL LENGTH AS LARGE AS 999 CHARACTERS. MERGE 7 ALSO PROVIDES THE ADDITIONAL FEATURES OF REBLOCKING SINGLE FILES AND PERFORMING A SEQUENCE CHECK ON A SINGLE FILE OR ON THE OUTPUT FILE OF A NORMAL MERGE OPERATION. THE PROGRAM PROVIDES A WRONG LENGTH RECORD CHECK FOR UNBLOCKED FIXED LENGTH, AND BLOCKED VARIABLE LENGTH RECORDS.
PROGRAM REQUIRES AN 8K 1401 OR 1460 LAPS SYSTEM. 1.1402 CAPO

RECORDS.
PROGRAM REQUIRES AN 8K 1401 OR 1460 TAPE SYSTEM..1402 CARD
READ-PUNCH..1403 PRINTER MDL.2 /OR 1404 PRINTER- 1401 ONLY/ PLUS.
FOR 1401 - HIGH-LOW-EQUAL COMPARE AND ADVANCED PROGRAMMING.
FOR 1460 - INDEXING AND STORE ADDRESS REGISTER.
MERGE 7 REQUIRES FROM THREE TO SIX TAPE UNITS AND WILL USE 12K
OR 16K CORE STORAGE CAPACITY, IF AVAILABLE.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITEUP...SPECS. AND OPERATING
PROCEDURES... FLOWCHARTS.
MACHINE READABLE - A DTR CONTAINING THE MERGE 7 DBJECT DECK
AND THE MERGE 7 PROGRAM LISTING.

THE DIR HILL BE SUPPLIED BY THE PROGRAM INFORMATION DEPARTMENT - NO TAPE SUBMITTAL IS REQUIRED.

SORT 6 IS A GENERATIVE SORT PROGRAM DESIGNED FOR GENERATION AND USE CN AN 1BM 1401 OR 1460 WITH AT LEAST ONE 1BM 1311 DISK STORAGE DRIVE, AND A MINIMUM OF 4000 POSITIONS OF CORE STORAGE 78000 FOR 1460/- SORT 6 OBJECT PROGRAMS WILL SORT FIXED LENGTH, BLOCKED OR UMBLICKED, RECORDS IN MOVE MODE INTO EITHER ASCENDING DR DESCENDING SEQUENCE. SORTING CAN BE CONTROLLED BY AS MANY AS TEN CONTROL DATA FIELDS OF TOTAL LENGTH UP TO A MAXIMUM OF 194 CHARACTERS. SORT 6 CAN GENERATE AN OBJECT PROGRAM HERCUGH USE OF THE AUTOCODER MACRO-GENERATIOR AND PARAMETER CARDS. IT IS FURTHER CLASSIFIED AS A GENERALIZED PROGRAM BECAUSE IT CAN MODIFY ITSELF AT OBJECT RUN TIME ACCORDING TO INFORMATION PUNCHED IN CONTROL CARDS BY THE USER.
MINIMUM MACHINE REQUIREMENTS—
GENERATION AND OBJECT TIME USE OF THE 1401 SORT 6 ARE— 4K 1401 OR 8K 1460 SYSTEM...ONE 1311 DISK STORAGE DRIVE...1402 CARD READ PUNCH...ONE 1403 PRINTER MODEL 2, OR 1404 PRINTER /1401 ONLY/...

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CONTINUED FROM PRIOR PAGE--
HIGH-LOM-EQUAL COMPARE FEATURE /1401 ONLY/. THE OBJECT PROGRAM
CAN USE, IF AVAILABLE, UP TO 5 DISK STORAGE ORIVES AND 8K, 12K,
OR 16K CORE STORAGE CAPACITY. THE FOLLOWING PROGRAMS ARE
REQUIRED TO IMPLEMENT 1401 SORT 6-
1401/1440/1460 AUTOCODER /OM DISK #1401-AU-008.
1401/1460 IOCS VERSION 2 #1401-ID-C68
1401/1311 DISK UTILITY PROGRAMS, #1401-UT-053
                                                       BASIC PROGRAM MATERIAL -
DOCUMENTATION - SORT 6 SPECIFICATIONS... OPERATING PROCEDURES...
FLOWCHARIS... LISTING FOR LIBRARY PROGRAM... LISTING FOR
PREPHASE PROGRAM.
MACHINE READABLE - LIBRARY ROUTINE DECKS... PREPHASE DECKS.
1401-SM-063 MERGE 6
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-SM-063
                                                       IBM 1401 MERGE 6, #1401-SM-063, IS A GENERATIVE PROGRAM FOR 1401/1311 OR 1460/1311 SYSTEMS. USED WITH 1401/1311 AUTOCODER AND 10CS, MERGE 6 HILL GENERATE SPECIFIC OBJECT PROGRAMS THAT ARE FITTED TO THE USERS PARTICULAR MERGING APPLICATIONS. THE OBJECT PROGRAMS GENERATED BY MERGE 6 ARE GENERALIZED IN THAT THEY CAN BE MODIFIED ACCORDING TO INFORMATION SUPPLIED BY THE USER IN CONTROL CARDS. MITH OBJECT PROGRAMS THE USER CAN MERGE PRE-SORTED, FIXED LENGTH, BLOCKED OR UNBLOCKED RECORDS IN THE MOVE MODE INTO EITHER ASCENDING OR DESCENDING SEQUENCE. THE INPUT AND OUTPUT CAN BE ON EITHER DISK OR TAPE. A ONE-, TWO-, THREE-, OR FOUR-MAY MERGE CAN BE PERFORMED. IF SPECIFIED BY THE USER AT GENERATION TIME, OPTIONS SUCH AS LABEL CHECKING, ADDITIONS FROM CARDS, SEQUENCE CHECK AND HASH OTTAL, DELETIONS OR SELECTIONS BY CLASS CAN BE INCORPORATED INTO THE OBJECT PROGRAM.
                                                         ROUTE OR SELECTIONS BY CLASS CAN BE INCORPORATED INTO THE DEJECT PROGRAM.
MINIMUM SYSTEM REQUIREMENTS—
DBJECT PROGRAM GENERATION— SAME AS FOR 1401/1311 AUTOCODER ON 1401 OR 1460 SYSTEM, SECONDER OF THE OBJECT PROGRAM EXECUTION—A 4K 1401 SYSTEM OR A 8K 1460 SYSTEM, CBJECT PROGRAM EXECUTION—A 4K 1401 SYSTEM OR A 8K 1460 SYSTEM, EACH WITH SUFFICIENT CORE STORAGE TO UTILIZE THE OBJECT PROGRAM POPTIONS... A 1402 CARD READ PUNCH... AND, DEPENDING UPON THE OBJECT PROGRAM REQUIREMENTS, A 1403 PRINTER OR 1404 PRINTER /1401 ONLY/ OR 1407 CONSOLE INQUIRY STATION /1401 ONLY/ OR A 1447 CONSOLE NOL 2 /1460/ OR 3 /1401/... ONE TO FIVE 1311 DISK STORAGE DRIVES AND/OR ONE TO SIX MAGNETIC TAPE UNITS /7330 OR 729 II, IV, OR V/ IN COMBINATION TO PROVIDE A MINIMUM OF THE INPUT FILES AND ONE OUTPUT FILE... HIGH-LOW-EQUAL COMPARE /1401 ONLY/.
                                                         BASIC PROGRAM MATERIAL -
DOCUMENTATION - PROGRAM WRITE-UP... SPECIFICATIONS... OPERATING
PROCEDURES... FLOW CHARTS... LIBRARY LISTING..PREPHASE
ASSEMBLY LISTING.
CARD DECKS - LIBRARY PROGRAM DECK... PREPHASE DECK.
 1401-SM-064 SORT 62
ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SM-064
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THE IBM 1401 SORT 62, /1401-SH-064/ IS A GENERALIZED SORT PROGRAM DESIGNED FOR USE ON AN IBM 1401 OR 1460 EQUIPPED WITH AT LEAST ONE IBM 1311 DISK STORAGE DRIVE AND A MINIMUM OF 8,000 POSITIONS OF CORE STORAGE. THIS PROGRAM SORTS FIXED LENGTH RECORDS IN THE MOVE MODE. THE MAXIMUM RECORD LENGTH THAT MAY BE SORTED VARIES FROM 1,200 CHARACTERS FOR AN EX SYSTEM UP TO 3,000 CHARACTERS FOR A 16K SYSTEM. THE SCRTING CAN BE ACCOMPLISHED IN EITHER ASCENDING OR DESCENDING SEQUENCE BASED UPON UP TO 10 CONTROL DATA FILLDS AND 189 CHARACTERS OF CONTROL DATA CONTAINED IN THESE FILLDS. THE MINIMUM MACHINE REQUIREMENTS FOR USE OF SORT 62 ARE— 8K 1401 OR 1460, ONE 1311 DISK STORAGE DRIVE, 1403 PRINTER, 1402 CARD READ-PUNCH AND HIGH-LUM-EQUAL COMPARE SPECIAL FEATURE

TAGO REPORT AND TIGHT-CONTENDED STORE STEVEN TEACHER THAT IS ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL-DOCUMENTATION - PROGRAM WRITE-UP... OBJECT PROGRAM LISTING...
SPECIFICATION MANUAL... OPERATING PROCEDURES.
CARD DECKS - OBJECT PROGRAM DECK. /1HIS DECK CAN BE
OBTAINED ON ONE REEL OF MAGNETIC TAPE/.

1401-SM-065 SORT 63
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-SM-065

THE IBM 1401 SORT 63, /1401-SM-065/ IS A GENERALIZED SORT PROGRAM DESIGNED FOR USE ON AN IBM 1401 EQUIPPED WITH AT LEAST ONE IBM 1311 DISK STORAGE DRIVE, A MINIMUM OF 4,000 POSITIONS OF CORE STORAGE AND THE DIRECT SEEK FEATURE.

THIS PROGRAM SORTS FIXED LENGTH RECORDS IN THE MOVE MODE. THE MAXIMUM RECORD LENGTH THAT MAY BE SORTED IS 400 CHARACTERS. THE SORTING CAN BE ACCOMPLISHED IN EITHER ASCENDING OR DESCENDING SEQUENCE BASED UPON UP TO 10 CONTROL DATA FIELDS AND 189 CHARACTERS OF CONTROL DATA CONTAINED IN THESE FIELDS.

THE MINIMUM HACHINE REQUIREMENTS FOR USE OF SORT 63 ARE- 4K 1401, DNE 1311 DISK STORAGE DRIVE, 1403 PRINTER, 1402 CARD READ PUNCH, HIGH-LOM-GUAL COMPARE SPECIAL FEATURE, AND THE DIRECT SEEK SPECIAL FEATURE.

THE NUMBER OF TAPES INDICATED MAY BE GROERED FROM YOUR 18M REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAI IS URDERED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL—

DOCUMENTATION — PROGRAM WRITE—UP... OBJECT PROGRAM LISTING...

SPECIFICATIONS MANUAL... OPERATING PROCEDURES.

CARD DECKS — OBJECT PROGRAM DECK. /THIS DECK CAN BE

OBTAINEO ON ONE REEL OF MAGNETIC TAPEY.

1401-SM-066 SORT 64
ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SM-066

THIS PROGRAM SCRTS FIXED LENGTH RECORDS IN THE MOVE MODE. THE MAXIMUM LENGTH RECORD THAT MAY BE SORTED VARIES FROM 1,200 CHARACTERS FOR A 16K SYSTEM. THE SCRTING CAN BE ACCOMPLISHED IN ELIHER ASCENDING OR DESCENDING SEQUENCE BASED UPON UP TO 10 CONTROL DATA FIELDS AND 189 CHARACTERS OF CONTROL DATA CONTAINED IN THESE FIELDS.

CONTINUED FROM PRIOR COLUMN-THE MINIMUM MACHINE REQUIREMENTS FOR USE OF SORT 64 ARE- 8K
IBM 1401 OR 1460 EQUIPPED WITH ONE IBM 1311 DISK STORAGE DRIVE,
AN IBM 1403 PRINTER, AN IBM 1402 CARD READ PUNCH, HIGH-LOW-EQUAL
COMPARE SPECIAL FEATURE /1401 ONLY/, AND THE DIRECT SEEK SPECIAL
FEATURE.

PAGE 015

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FEATURE.
THIS PROGRAM HAS BEEN GENERATED FROM THE 1401 SORT 6 LIBRARY,
PROGRAM #1401-SM-062, USING THE FOLLOWING PARAMETER CARDSOFFICE OF THE FOLLOWING PARAMETER CARDSOFFICE OF THE FOLIAN CARD,
CARD LABEL
OUTPTHEDIA CARD,
CHECKS SELDELCLASS, CONTROLDATA
ADDITIONS CARD
CHECKS SEQHASH
DSKLABLOUT ALL CARD LABEL
INPUTMEDIA
GUTPTMEDIA
SELECTDLET
ADDITIONS

ADDITIONS
CARD
CHECKS SEQHASH

DSKLABLOUT ALL
TAPE UNLOADIN, UNLOADDUT, SCAN
TAPLABLIN STANDARD, ALL, B
TAPLABOUT STANDARD, ALL, B
SYSTEMSPEC
THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM
REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE
TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... PROGRAM LISTING...
SPECIFICATIONS MANUAL... OPERATING PROCEDURES MANUAL.
CARD DECKS - OBJECT PROGRAM DECK. /THIS DECK CAN BE
OBTAINED ON ONE REEL OF MAGNETIC TAPE/.

1401-SM-067 SORT 61
ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SM-067

THE IBM 1401 SORT 61, /1401-SM-067/ IS A GENERALIZED SORT PROGRAM DESIGNED FOR USE ON AN IBM 1401 EQUIPPED WITH AT LEAST ONE IBM 1311 DISK STORAGE DRIVE AND A MINIMUM OF 4,000 POSITIONS OF CORE STORAGE RECORDS IN THE MOVE MODE. THE MAXIMUM RECORD LENGTH THAT MAY BE SORTED IS 400 CHARACTERS. THE SORTING CAN BE ACCOMPLISHED IN EITHER ASCENDING OR DESCENDING SEQUENCE BASED UPON UP TO 10 CONTROL DATA FIELDS AND 189 CHARACTERS OF CONTROL DATA CONTAINED IN THESE FIELDS. THE MINIMUM MACHINE REQUIREMENTS FOR USE OF SORT 61 ARE-4K 1401, ONE 1311 DISK STORAGE DRIVE, 1403 PRINTER, 1402 CARD READ PUNCH AND HIGH-LON-EQUAL COMPARE SPECIAL FEATURE. THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM IS ORDERED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL—
DOCUMENTATION - PROGRAM WRITE-UP... OBJECT PROGRAM LISTING...
SPECIFICATIONS-MANUAL... OPERATING PROCEDURES.
CARD DECKS - OBJECT PROGRAM DECK. /THIS DECK CAN BE OBTAINED
ON ONE REEL OF MAGNETIC TAPE/.

1401-SP-021 SYMBOLIC PROGRAMMING SYSTEI 1/SPS-1/ ORDER THROUGH LOCAL 1BM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SP-021 SYMBOLIC PROGRAMMING SYSTEM

PURPOSE TO PROVIDE A BASIC SYMBOLIC PROGRAMMING LANGUAGE AND PROCESSOR FOR THE IBM 1401. EQUIPMENT SPECIFICATIONS 1400 POSITIONS OF STORAGE 1402 READER-PUNCH 1403 PRINTER MODEL 1.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS...
OPERATING PROCEDURES.
CARD DECKS - CONDENSED PROGRAM DECK.

1401-SP-030 2 /SPS-2/ SYMBOLIC PROGRAMMING SYSTEM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SP-030

PURPOSE TO PROVIDE A SYMBOLIC LANGUAGE PROCESSOR FOR MACHINES WITH GREATER THAN 4000 POSITIONS OF CORE STORAGE. EQUIPMENT SPECIFICATIONS 4000 POSITIONS OF STORAGE 1402 READER-PUNCH 1403 PRINTER, MODEL 1.

BASIC PROGRAM MATERIAL —
DOCUMENTATION — PROGRAM WRITE-UP... LISTINGS...
OPERATING PROCEDURES.
CARD DECK — CONDENSED PROGRAM DECK.

1401-SP-133 ASSEMBLY PROGRAM FOR 7750 USING THE 18N 1401 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SP-133

THIS PROGRAM ASSEMBLES 7750 SOURCE LANGUAGE STATEMENTS AND PRODUCES AS OUTPUT A CARD DECK OR A TAPE SUITABLE FOR LOADING INTO THE 7750 THROUGH THE IBM 1410 OR 7000 SERIES DATA PROCESSING SYSTEMS. THE PROGRAM IS PROVIDED ON TAPE. INPUT TO THE ASSEMBLY PROGRAM IS TO BE SUPPLIED ON CARDS. THE USER MAY REQUEST CARD OUTPUT, TAPE OUTPUT, OR BOTH FROM THE ASSEMBLY PROGRAM. THE 1401 SYSTEM USED MUST HAVE THE FOLDMING MINIMUM CONFIGURATION 4000 POSITIONS OF CURE SIURAGE, IMREE IBM 2/29 11, 2/29 1V, OR 7330 MAGNETIC TAPE UNITS. ADVANCED PROGRAMING FEATURES, HIGH-IOM-EQUAL COMPARE FEATURE, 18M 1403 PRINTER, MODEL 2, IBM 1402 CARD READ-PUNCH.

THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPES PROVIDED MUST BE 2400 PETIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... PROGRAMMING MANUAL.
DNE MAGNETIC TAPE - 7750 ASSEMBLY PROGRAM USING THE 1401.

OPTICNAL PROGRAM MATERIAL ONE MAGNETIC TAPE - LISTING TAPE OF 7750 ASSEMBLY PROGRAM USING
THE 1401-

A-1401

1401-SP-156 1401/7740 ASSEMBLY PROGRAM USING THE IBM 1401 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-SP-156

IDER THROUGH LOCAL IRM BRANCH OFFICE
FECIFY FILE NUMBER 1401-SP-156

THE ASSEMBLED PROGRAM, IF CREATED ON A 1311 DISK STORAGE DRIVE,
CAN BE LOADED DIRECTLY INTO THE 7740 FOR EXECUTION. IF THE
PROGRAM IS PROGLEGE ON TAPE OR IN CARDS, IT CAN BE LOADED INTO
THE 7740 FRUM 1410 OR ANY 7000 SERIES SYSTEM EXCEPT THE 7072.
FEATURES.

OPERATES ON 1401 OR 1410 IN 1401 MODE.
CONVERTS 7740 SOURCE PROGRAMS MRITTEN IN SYMBOLIC LANGUAGE TO
DBJECT PROGRAMS IN MACHINE LANGUAGE.
ACCEPTS INPUT FOOM EITHER TAPE OR CARDS.
PRODUCES THE OBJECT PROGRAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE, OR IN CARDSAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE, OR IN CARDSAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE, OR IN CARDSAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE, OR IN CARDSAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE, OR IN CARDSAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE, OR IN CARDSAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE, OR IN CARDSAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE, OR IN CARDSAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE, OR IN CARDSAM AS OUTPUT ON AN 1311 DISK STORAGE
DRIVE, TAPE HOPER OR LOWER MEMORY DISK AND HOST LOADERS
ON AN 8K FACILITATE THE USE OF ADDITIONAL CORE STORAGE FOR CBJECT
PROGRAMS. THE LOADERS WILL NOT BE DESTORED FOR MY RESERVE BLOCK
AND CHAIN STATEMENTS.
OR AN STATEMENTS.

CORRECTS PROGRAM ACTION IN THE USE OF RBC DECLARATIVE STATEMENT.
HINIMUM MACHINE REQUIREMENTS-A 4K 1401 OR 1410 SYSTEM WITH....1402
CARD READ PUNCH....1403 PRINTER MODEL 2...FOUR 729 OR 7330
MAGNETIC TAPE UNITS....ADVANCED PROGRAMMING AND HIGH-LON-EQUAL
COMPANE FEATURES. AN IBM 1311 DISK STORAGE DRIVE IS ALSO
MAGNETIC TAPE UNITS....ADVANCED PROGRAMMING AND HIGH-LON-EQUAL
COMPANE FEATURES. AN IBM 1311 DISK STORAGE DRIVE IS ALSO
MACNETIC TAPE UNITS....ADVANCED PROGRAMMING AND HIGH-LON-EQUAL
COMPANE FEATURES. AN IBM 1311 DISK STORAGE DRIVE IS ALSO
MAGNETIC TAPE UNITS....ADVANCED PROGRAMMING AND HIGH-LON-EQUAL
THE PROGRAM ALSO—

PROVIDES NOTIFICATION WHEN TO REPLACE THE INPUT TAPE IF THE
INPUT IS

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM HRITE-UP... SAMPLE PROBLEM LISTING...
PROGRAM MATERIAL LIST... LISTINGS OF LOAD PROGRAMS.
CARD DECKS - PROGRAM ASSEMBLY DECK... SAMPLE PROBLEM DECKS.
OPTICNAL PROGRAM MATERIAL - ONE REEL OF TAPE CONTAINING FLOWCHARTS
AND PROGRAM LISTING.

1401-UT-001 CARD SYSTEM UTILITY PROGRAMS
ORDER THROUGH LOCAL 1BM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-UT-001

PURPOSE UTILITY PROGRAMS TO LOAD OR TO OUTPUT PROGRAMS AND DATA. REMARKS PROGRAMS PROVIDED CLEAR STORAGE CARD LOADER PRINT STORAGE PUNCH STORAGE PUNCH—LIST-SCOUENCE CHECK EQUIPMENT SPECIFICATIONS NO SPECIAL FEATURES RECUIRED.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOWCHARTS.
CARD DECK - CONDENSED PROGRAM DECK.

1401-UT+019 MULTIPLE TAPE UTILITY PROGRAM /120-CHARACTER LABEL/ ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-019

THE MULTIPLE TAPE UTILITY PROGRAM /120-CHARACTER LABEL/ FOR IBM 1401 AND 1460 SYSTEMS, #1401-UT-019, HAS THE FACILITY TO HAVE ANY ONE, TWO, OR ALL THREE TAPE UTILITY FUNCTIONS /CARD-TO-TAPE, TAPE-TO-CARD, TAPE-TO-PRINTER/ OCCUR CONCURRENTLY, IN A MANNER SIMILAR TO THAT OF THE 1401 MULTIPLE UTILITY PROGRAM.

THO FUNCTIONS AVAILABLE WITH THIS PROGRAM THAT DO NOT EXIST IN THE 1401 MULTIPLE UTILITY PROGRAM.

THE ABILITY TO CREATE AND/OR PROCESS THE IBM STANDARD TAPE LABEL /120-CHARACTERY, USING PROCEDURES SIMILAR TO THOSE AVAILABLE FROM IOCS.

THE FACILITY TO ACCOMDDATE BLOCKED RECORDS IN THE CARD-TO-TAPE AND TAPE-TO-CARD FUNCTIONS.

THE STALLITY TO ACCOMDDATE BLOCKED RECORDS IN THE CARD-TO-TAPE AND TAPE-TO-CARD FUNCTIONS.

THIS IS A GENERALIZED UTILITY PROGRAM SUPPLIED AS A CONCENSED CARD OBJECT DECK./ THE PROGRAM IS CONTROLED FOR APPROPRIATE APPLICATION BY THE USE OF SENSE SWITCHES. ADDITIONAL INFORMATION IS PROVIDED BY A CONTROL CARD.

MINIMUM SYSTEM REQUIREMENTS
AN 8K 1401 OR 1460 SYSTEM WITH... 1402 CARD READ PUNCH... CNE 1403 PRINTER MUL 2 OR 3/1460/ OR 1404 PRINTER /1401/... 729 OR 17330 MAGNETIC TAPE UNIT /ONE TAPE WITH IS REQUIRED FOR EACH TAPE OPPERATION PERFORMED CONCURRENTLY/... HIGH-LOM-EQUAL COMPARE AND ADVANCED PROGRAMMING /1401/ OR INDEXING AND STORE ADDRESS REGISTER FEATURE /1460/... COLUMN BINARY /1401/ OR BIT TEST AND BINARY FIRST FEATURES. /1460/. NEEDEN ONLY IF BINARY FIRST AND TO BE ACCOMMODATED... SENSE SWITCHES /1401/... READ PUNCH RELEASE FEATURE.

BASIC PROGRAM MATERIALDOCUMENTATION - PROGRAM HRITE-UP... PROGRAM LISTINGS...
MULTIPLE TAPE UTILLITY PROGRAM SPECIFICATIONS.
CARD DECKS - PROGRAM DECK.

OPTIONAL PROGRAM MATERIAL-- PROGRAM FLOWCHARTS.
OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-UT-025 1401 AND 1460 TAPE UTILITY PROGRAMS WITH 120 CHARACTER LABLE CAPABILITY ORDER THROUGH LOCAL 18M BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-025

THESE THREE PROGRAMS, FOR 1401 AND 1460 TAPE SYSTEMS, TRANSFER DATA FILES FROM CARD TO TAPE, FROM TAPE TO CARD, AND FROM TAPE TO PRINTER. OUTPUT FORMAT FLEXIBILITY IS PROVIDED THROUGH FIELD-SELECTION AND EXCEPTION-RECORD PROCEDURES. THE PROGRAMS HAVE THE CAPABILITY OF PROCESSING THE IBM STANDARD TAPE LABEL /120/, USING PROCEDURES SIMILAR TO THE AVAILABLE FROM IOCS. THESE ARE GENERALIZED UTILITY PROGRAMS, SUPPLIED BY IBM AS CONDENSED CARD OBJECT DECKS. THE PROGRAMS MODIFY

CONTINUED FROM PRIOR COLUMN—
THEMSELVES TO FIT A SPECIFIC APPLICATION THROUGH THE USE OF
CONTROL CARDS. MINIMUM SYSTEM REQUIRMENTS— 4K 1401 /R 8K 1460
SYSTEM...1402 CARD READ PUNCH...ONE 1403 PRINTER, MODEL 2 CR 3,
OR 1404 PRINTER...ONE 729 OR 7303 MAGMETIC TAPPE UNIT...SENSE
SWITCHES FEATURE /1401 ONLY, IF BINARY TAPE RECORDS OR COLUMN
BINARY CARDS ARE TO BE PROCESSED, THE COLUMN BINARY TRANSFER
FEATURE /1460/ IS REQUIRED.

BASIC PROGRAM MATERIAL—
COCUMENTATION— PROGRAM WRITE-UP... LISTINGS...
PROGRAM SPECIFICATIONS... OPERATING PROCEDURES.
CARD DECKS- CARD TO TAPE DECK... TAPE TO CARD DECK...
TAPE TO PRINTER PROGRAM DECK.

OPTIONAL PROGRAM MATERIAL-FLCWCHARTS.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-UT-026 Program TAPE-TO-PRINTER UTILITY

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-026

PURPOSE 1. TO ENABLE THE PRINTING OF VARIOUS TAPE
CONFIGURATIONS IN MANY PRINT CONFIGURATIONS WITHOUT THE
NEED FOR SPECIFIC PROGRAMS. 2. TO SIMULATE THE 717, 720
AND 730 OFF-LINE PRINTERS FOR TAPES PREPARED ON 700-7000
SERIES COMPUTERS. EQUIPMENT SPECIFICATIONS /1401 MODEL C3
1403 MODEL 2 PRINTER 1 //DNE / 729 MODEL II OR IV /1402 CARD
READ PUNCH HIGH-LOW-EQUAL COMPARE /MAY RUN ON MODEL 03 IF
SYSTEM TAPE PRODUCED ON MODEL C3. TIMEN VARIES ACCORDING
TO RECORD TYPES /1.E. FIXED LENGTH OR VARIABLE LENGTH/, AND
ACCORDING TO SPACING AND SKIPPING REQUIREMENTS. FIXED
LENGTH RECORDS WHICH ARE SINGLE SPACED OBTAIN MAXIMUM SPEED
/600 LINES/MINUTE/. 1. MAXIMUM BLOCK SIZE ALLOWABLE IS
1496 CHARACTERS WITHOUT EDITING 1279 WITH EDITING. 2.
SEQUENCE CHECKING AND EXCEPTION TESTING ARE PROVIDED.

BASIC PROGRAM MATERIAL -DGCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOWCHARTS. CARD DECK - CONDENSED PROGRAM DECK.

OPTICNAL PROGRAM MATERIAL - CARD DECK - SYMBOLIC CARDS.
OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-UT-027 CARD-TC-TAPE UTILITY PROGRAM
ORDER THRCUGH LOCAL 1BM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-UT-027

THE CARD-TO-TAPE PROGRAM PROVIDES FOR WRITING INFORMATION CONTAINED IN PUNCHED CARDS ONTO MAGNETIC TAPE. EQUIPMENT SPECIFICATIONS - 1401 MODEL C3, HIGH-LOW-EQUAL COMPARE, 1402 MODEL I CARD READER-PUNCHO. DORE 729 MODEL II OR IV 1403 MODEL 2 PRINTER ADDITIONAL REMARKS 1. INPUT RECORD IN FROM 1 TO 99 CARDS. 2. REARRANGEMENT OF INPUT PRIOR TO OUTPUT IS ALLOWEDS . 3. UP TO 16 FIELDS MAY BE SELECTED FOR DUTPUT. BLOCKING OF 1499 CHARACTERS OF BCD RECORDS AND 1599 CHARACTERS FOR COLUMN BINARY RECORDS. 5. SEQUENCE CHECKING OF CARDS AND NECORDS CAN BE PERFORMED. 6. AN EXCEPTION RECORD PROCEDURE IS PROVIDED. 7. HEADER AND TRAILER LABELS MAY BE INSERTED. 8. COLUMN BINARY RECORDS CAN BE PERFORMED CHARACTERS FOR COULDING BINARY AND NECORDS CAN BE PERFORMED. 6. AN EXCEPTION RECORD PROCEDURE IS PROVIDED. 7. HEADER AND TRAILER LABELS MAY BE INSERTED. 8. COLUMN BINARY MORE OF COLUMN BINARY MORE INTERVALLED BY THE PROPERTY OF THE

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLCWCHARTS.
CARD DECK - CONDENSED PROGRAM DECK.

OPTICNAL PROGRAM MATERIAL CARD DECK - SYMBOLIC CARDS.
CPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-UT-028 TAPE-TO-CARD UTILITY PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-028

PURPOSE TO TRANSFER INFORMATION RECORDED ON MAGNETIC TAPE INTO PUNCHED CARDS, WITH A VARIETY OF OUTPUT COLUMN DESIGNATIONS. EQUIPMENT SPECIFICATIONS 1401 MODEL C3 1403 MODEL 2 PRINTER 729 MODEL 2 OR 4 TAPE DETIVE 1402 CARD READER-PUNCH HIGH-LOW-EQUAL COMPARE ADDITIONAL REMARKS TIMING VARIES FROM 200 TO 250 C.P.M., DEPENDING UPON THE NUMBER OF OPTIONS DESIRED BY THE USER. I. MAXIMUM BLCCK SIZE ALLOWABLE 1197 CHARACTERS. 2. ADDITIONAL INFORMATION NOT CONTAINED MITHIN THE RECORD MAY BE PUNCHED. 3. FIELD SEQUENCE GHECKING AND FIELD SELECTION IS PERMITTED. 4. MULTIPLE FILE REELS ARE PROCESSED ACCORDING TO THE USERS SPECIFICATIONS. 5. EXCEPTION RECORD PROCESSING AND CARD SEQUENCE ONUMBERING IS ALLOWED. 6. HEADER AND TRAILER LABELS ARE OPTIONALLY TREATED.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOWCHARTS.
CARD DECK - CONDENSED PROGRAM DECK.

OPTIONAL PROGRAM MATERIAL - CARD DECK - SYMBOLIC CARDS. CPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-UT-039 MULTIPLE UTILITY PROGRAM FOR IBM 1401 TAPE SYSTEM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-039

PURPOSE TO SIMULATE CURRENT OFF-LINE PROCESSING BY 700 SERIES EQUIPMENT, AND ALLOW ANY COMBINATION OF TAPE-TO-CARD, TAPE-TO-PRINTER AND CARD-TO-TAPE OPERATIONS TO BE PERFORMED AT THE SAME TIME. EQUIPMENT SPECIFICATIONS 1401 MODEL C3 1402 REACER-PUNCH 1403 MODEL 2 PRINTER 729

A-1401

CONTINUED FROM PRIGR PAGE-
MCDEL 2 OR 4 TAPE UNIT /AS MANY AS USER DESIRES FOR 1, 2,
OR 2 SIMULTANEOUS OPERATIONS/ HIGH-LON-EQUAL COMPARE
ADVANCED PROGRAMMING FEATURES COLUMN BINARY FEATURE /IF
USER DESIRES/ ADDITIONAL REMARKS TIMING MAXIMUM SPEED WILL
BE EFFECTED WHEN ANY ONE SINGLE OPERATION IS BEING
PENFORMED. TAPE-TO-PRINTER 600 IPM, CARD-TO-TAPE 800 C/PM,
TAPE-TO-CARD 250 C/PM. WHEN MORE THAN ONE OPERATION IS
DESIRED SIMULTANEOUSLY, THE FOLLOWING THE SPEEDS ARE
APPLICABLE CARD-TO-TAPE - TAPE-TO-PRINTER, SINGLE SPACE
PRINTING 510 C61/PM. CARD-TO-TAPE - TAPE-TO-PRINTER, 1ST
CHARACTER FORMS CONTROL 400 C61/PM. CARD-TO-TAPE - TAPE-TO-PRINTER, 1ST
CHARACTER FORMS CONTROL 400 C61/PM. CARD-TO-TAPE - TAPE-TO-CARD 250 1/PM, 100 C/PM.
CARD-TO-TAPE - TAPE-TO-PRINTER, TAPE-TO-CARD 275 1/PM. 275
CARD READ, 140 CARD PUNCH/PM. 1. HIGH AND LOW DENSITIES
MAY BE INTERMIXED ON THE SEVERAL TAPE DIVISES WHILE RUNNING
SIMULTANEOUS OPERATIONS. 2. BINARY AND BCD OPERATIONS MAY
BE PROCESSED AT THE SAME TIME EXCEPT THAT THE SAME
OPERATION /1.E., TAPE-TO-CARD BCD AS OPERATION #1, AND
TAPE-TO-CARD BINARY AS OPERATION #2 = 1S NOT PERMITTED.
3. ANY COMBINATION OF THE FOLLOWING MAY BE PROCESSED AT THE
SAME TIME CONSIDERING THE RESTRICTIONS STATED IN 2 ABOVE
TAPE-TO-CARD BCD, TAPE-TO-CARD BINARY, CARD-TO-TAPE, BCD,
CARD-TO-TAPE BINARY, CARD-TO-TAPE PROCESSING FILES
CCNT AINING BOTH BINARY AND BCD RECORDS, AND
TAPE-TO-CARD BCD, TAPE-TO-CARD BINARY, CARD-TO-TAPE, BCD,
CARD-TO-TAPE BINARY, CARD-TO-TAPE PROCESSING FILES
CCNT AINING BOTH BINARY AND BCD RECORDS, AND
TAPE-TO-PRINTER. ONLY TAPE-TO-PRINTER MAY BE BLOCKED AND
A MAXIMUM OF 1000 CHARACTERS. 4. INTERRUPT / SWITCH E/
ALLOWS INTERRUPTION OF PROCESSING FILES
COVERNED BY THE NEW SENSE SWITCH SETTINGS.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOWCHARTS.
CARD DECK - CONDENSED PROGRAM DECK.

OPTICNAL PROGRAM MATERIAL - CARD DECK - SYMBOLIC CARDS.
OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-UT-051 FILE UTILITIES
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-UT-051

PURPOSE THIS IS A SET OF SIX INDEPENDENT PROGRAMS TO PERFORM HANY COMMON TASKS ASSOCIATED WITH THE 1405 DISK STORAGE. THE PROGRAMS ARE CLEAR DISK, 10 ISK TO PRINTER, TAPE TO DISK, DISK TO TAPE, CARD TO DISK, AND DISK TO CARD. USE CONTROL CARDS ARE USED TO SPECIFY THE AFFECTED PORTIONS OF THE DISK FILE. RESIRICTIONS THE TAPE TO DISK AND CARD TO DISK AND CARD TO DISK AND CARD TO DISK ARE COMPANION PROGRAMS TO THE DISK TO TAPE AND DISK TO CARD PROGRAMS, AND ARE DESIGNED TO LOAD THE DATA GENERATED BY THESE PROGRAMS. MEMORY REQUIREMENTS ARE FROM ZK TO 4K, DEPENDING UPON WHICH PROGRAM IS USED. EQUIPMENT SPECIFICATIONS 1401 MODEL F, 1402, 1403, 1405, TAPE DRIVES AS REQUIRED FOR PROGRAMS.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOWCHARTS.
CARD DECK - CONDENSED PROGRAM DECK.

1401-UT-052 1401/1311 DISK FILE ORGANIZATION ROUTINES 1401/1460 ORGER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-052

IDER THROUGH LOCAL IBM BRANCH OFFICE

ECIFY FILE NUMBER 1401-UT-052

1401-UT-052, SUPPORTS 1301 AND 1311 DISK STORAGES AND THE

1401/1460/S CONSOLE PRINTER. THE PACKAGE INCORPORATES THE

ADDITIONAL FEATURES OF 1301 DISK STORAGE AND CONSOLE PRINTER

CAPABILITIES, REQUIRED 1401/1440/1460 AUTOCODER /ON DISK/ FOR

GENERATION OF GOBJECT PROGRAMS, AND PROVIDES TWO COMPLETE SETS OF

ROUTINES. ONE SET GENERATES OBJECT PROGRAMS FOR A RANDOM FILE.,

THE OTHER, OBJECT PROGRAMS FOR A CONTROL SEQUENTIAL FILE
RANDOM FILE USE THE CHAINING METHOD TO LOAD RECORDS INTO

DISK LCCATIONS DETERMINED BY CONTROL FIELDS WITHIN THE

RECORDS. RECORDS WHOSE CONTROL DATA CONVERT TO THE SAME ADDRESS

ARE LINNED TOGETHER BY A CHAIN OF ADDRESSES, OBJECT PROGRAMS CAN

BE GENERATED BY THE ROUTINES TO ADD RECORDS OR DELETE THEM.

CONTROL SEQUENTIAL FILE USE A SEQUENCE LINK TO ADD RECORDS TO THE

FILE OR DELETE THEM, WITHOUT DESTROYING THE SEQUENCE. A

DISTRIBUTION INDEX BUILT BY THE PROGRAMS HASE POSSIBLE QUICK

ACCESS TO ANY RECORD. IN BOTH TECHNIQUES, RECORDS MAY BE LOADED

FREM OR UNLOADED TO CARDS, TAPE, OR DISK. THE USER/S FILE

ORGANIZATION ROUTINES ARE GENERATED BY 1401/1440/1460 IOCS /OR DISK/

VERSION 2 LIBRARY ROUTINES AND THE DISK FILE ORGANIZATION LIBRARY

ROUTINES. BY CONTROL CARDS, THE USER SUPPLIES THE APPROPRIATE

PARAMETERS FOR GENERATION. OF THE USER/S FILE ORGANIZATION LIBRARY

ROUTINES. BY CONTROL CARDS, THE USER SUPPLIES THE APPROPRIATE

PARAMETERS FOR GENERATION OF THE USER/S FILE ORGANIZATION

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PARAMETER OF /1460/ 1477 CON

BASIC PROGRAM MATERIALDOCUMENTATION - PROGRAM MRITE-UP... PROGRAM LISTING...
DISK FILE ORGANIZATION ROUTINES... OPERATING PROCEDURES.
CARD DECKS - ONE OF THREE GROUPS MUST BE SPECIFIED.
GROUP A - COMMON AND RANDOM... GROUP B - COMMON AND
CONTROL SEQUENTIAL... GROUP C - COMMON, RANDOM AND
CONTROL SEQUENTIAL...

OPTIONAL PROGRAM MATERIAL-- FLOW CHARTS.

CPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-UT-053 UTILITY PROGRAMS FUR THE 1401-1311 DISK ORDER THRGUGH LOCAL 1BM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-053

CONTINUED FROM PRIOR COLUMN ---

THIS SYSTEM IS DESIGNED TO PERFORM CERTAIN FREQUENTLY REQUIRED OPERATIONS MITHOUT PROGRAMMING EFFORT ON THE PART OF THE USER. THE SYSTEM CONSISTS OFCLEAR-DISK-STORAGE PROGRAM, DISK-TO-TAPE PROGRAM, TAPE-TC DISK PROGRAM, DISK-TO-CARD PROGRAM, CARD-TO-DISK PROGRAM, PRINT-DISK PROGRAM, DISK-RECORD-LOAD PROGRAM, AND DISK-LABEL PROGRAM.
EACH OF THE PROGRAMS IS GENERALIZED, MODIFYING ITSELF TO PERFORM SPECIFIC OPERATIONS BY INFORMATION RECEIVED THROUGH CONTROL CARDS. EACH OF THE PROGRAMS INCLUDES AN OPTIONAL DISK LABEL CHECKING ROUTINE. THE PROGRAMS ARE DESIGNED FOR USE ON 4K CR LARGER SYSTEMS- 8K OR GREATER IS NECESSARY WHEN PROCESSING DISK DATA FOR WHICH THE TRACK RECORD SPECIAL FEATURE IS REQUIRED. THESE PROGRAMS PERFORM SUCH FUNCTIONS AS CLEAR DISK AND GENERATE ADDRESSES, SUPPLY OUTPUT FOR FILE PROTECTION PURPOSES, DISPLAY DISK STORAGE ON THE PRINTER, CHANGE DATA OR ADDRESSES IN DISK STORAGE ON THE PRINTER, CHANGE DATA OR ADDRESSES IN DISK STORAGE, CREATE THE LABEL TRACK OR REMOVE THE LABEL TRACK, AND ENTER, DELETE, CHANGE DISPLAY, AND PUNCH DISK LABELS.

MINIMUM MACHINE REQUIREMENTS -- A 4K 1401 SYSTEM /8K REQUIRED IF TRACK RECORD FORMAT IS USED/ WITH...1402 CARD READ PUNCH...1403 PRINTER MODEL 1 OR 2...ONE 1311 DISK STORAGE DRIVE...AND ONE 1EM MACNETIC TAPE UNIT /729 II, IV, OR V, OR 7330/ REQUIRED FOR TAPE PREGRAMS ONLY.

BASIC PROGRAM MATERIAL OCCUMENTATION - PROGRAM MRITE-UP... OPERATING PROCEDURES...
PRELIMINARY SPECIFICATIONS.
CARD DECKS - NINE CARD DECKS / DECKS LABELED ABOVE/.

OPTICNAL PROGRAM MATERIAL -LISTINGS... FLOWCHARTS. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1401-UT-057 FILE ORGANIZATION ROUTINES ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-057

DER THROUGH LOCAL IBM BRANCH OFFICE
PECIFY FILE NUMBER 1401-UT-057

PURPOSE THE CHAINING METHOD OF FILE ORGANIZATION IS AN
EFFICIENT METHOD OF HANDLING THE PROBLEM OF DUPLICATE FILE
ADDRESSES, MHEN CONTROL DATA JITEM NUMBER, MAN NUMBER,
ETC./ ARE CONVERTED TO DISK STORAGE ADDRESSES. THE
1401-1405 FILE ORGANIZATION POOGRAM HILL EFFICLENTLY LOAD
AND MAINTAIN A CHAINED CISK FILE SE AS TO MINIMIZE THE
AMOUNT OF UNUSED STORAGE, AS WELL AS THE RETRIEVAL TIME FOR
EACH RECORD. 1401 FILE ORGANIZATION FEATURES ARE 14 AN
EOIT PROGRAM WHICH HILL EDIT A SYMBOLIC VERSION OF THE
PROGRAM SO AS TO PROVIDE THE MOST EFFICIENT PROGRAM FOR ANY
SIZE 1401, 29 ABILITY TO MAKE ADDITIONS AND DELETIONS TO A
CHAINED FILE 3 LOAD AND ACD TRAILER RECORDS TO A FILE, 34
UNICADA FILE ENTO CARES OR TAPE FOR REORGAMIZATION, 54 AN
AUGIT LIST CONSISTING OF THE CONTROL DATA OF RECORDS BEING
LOADED AND THEIR ADDRESSES, 64 INPUT DATA OF RECORDS BEING
LOADED AND THEIR ADDRESSES, 65 INPUT DATA OF RECORDS BEING
LOADED AND THE SEDED HICK THOUSE OF THE LOAD AND ADDITIONS
PROGRAMS ARE USED IN CONJUNCTION WITH THE EDIT PROGRAM.
THE USER PROVIDES THE SPECIFICATIONS OF THE LOAD AND ADDITIONS
ADDITIONS PROGRAMS WHICH MEET THOSE SPECIFICATIONS. THE
EDITED PROGRAM TO THE SPECIFICATIONS OF THE LOAD AND ADDITION THE USER SHOULD AND THE USERS OF THE LOAD AND THE
USERS OR AUTOCODER. THE ASSEMBLED MITH HE
EITHER SPS OR AUTOCODER. THE ASSEMBLED MITH THE
USERS OR AND THE USERS DATA FILE /ON CARD OR TAPE/WITH A GIVEN
FORMATION TO THE CISK FILE IN THE DESTRED AREA. THE PROGRAM
WILL CREATE THE NECESSARY CHAIN LINKAGES. THE REMAINING
PROGRAM HOTO THE USERS DATA FILE /ON CARD OR TAPE/WITH A GIVEN
FORMATION TO THE USER SHEED AND THE PROGRAM
WILL CREATE THE NECESSARY CHAIN LINKAGES. THE REMAINING
PROGRAM HOTO THE USERS DATA FILE /ON CARD OR TAPE/WITH A GIVEN
FORMATION THE USER DATA IS OPERATED UPON ACCORDING
TO THE SPECIFICATIONS IN THE CONTROL CARD. ALL OF THE
PROGRAM HOTO THE USERS DATA A SOPERATED UPON ACCORDING
TO THE SPECIFICATION IN THE CONTROL CARD. ALL OF THE
PROGRAM H

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOWCHARTS.
CARD DECKS - CONDENSED PROGRAM DECK... SAMPLE PROBLEM DECK.

1401-UT-066 UTILITY PROGRAMS FOR THE 1401-1009 ROPER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-066

PURPOSE THE 1401-1009 UTILITY TRANSHITS DATA TO GR
RECEIVES DATA FROM ANOTHER TERMINAL ON EITHER CARDS OR
MAGNETIC TAPE. USE OF PROGRAM THE FOUR USES ARE 1.
TRANSHIT DATA FROM CARDS - BLOCKED OR UNBLOCKED. 2.
TRANSHIT DATA FROM MAGNETIC TAPE. 3. RECEIVE BLOCKED OR
UNBLOCKED DATA ON CARDS. 4. RECEIVE DATA ON TAPE.
MACHINE CONFIGURATION 1 4000 CORE STORAGE POSITIONS SENSE
SHITCHES I 1402 CARD READ PURCH 1 1009 DATA TRANSHISSION
UNIT SERIAL I/O ADAPTER 1 TAPE UNIT IS OPTIONAL.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UPS... LISTING... FLOWCHARTS.
CARD DECK - CONDENSED PROGRAM DECK.

1401-UT-067 HYPERTAPE UTILITY PROGRAMS
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-UT-067

THE 1401 HYPERTAPE UTILITY PROGRAMS, NO. 1401-UT-067, PERFORM CERTAIN FREQUENTLY REQUIRED OPERATIONS ON 1401 AND 1460 SYSTEMS WITHOUT PROGRAMMING EFFORT. THE PROGRAMS INCLUDED ARECARD-TO-HYPERTAPE, HYPERTAPE-TO-CARD, 1/2 INCH TAPE-TO-HYPERTAPE, HYPERTAPE-TO-JPINTER.
USE-EACH PROGRAM IS GENERALIZED, MODIFYING ITSELF TO PERFORM SPECIFIC OPERATIONS THROUGH PRAMHETERS CONTAINED ON CONTROL CARDS. EACH PROGRAM ALSO INCLUDES TAPE LABEL CHECKING OPTIONS. THE PROGRAMS PERFORM SUCH FUNCTIONS AS PREPARING TAPE FILES FOR 7074, 7080, AND 7090 HYPERTAPE SYSTEMS FROM CARD FILES OR 729 /1/2 INCH/TAPE FILES, CREATING CARD FILES OR 729 /1/2 INCH/TAPE FILES OR 729

IBM Programs

PAGE 018 A-1401 A-1401 CONTINUED FROM PRIOR PAGE—
A HYPERTAPE FILE.
MINIPUM SYSTEM REQUIREMENTS... A 4K 1401 SYSTEM WITH... 1402
CARD READ PUNCH... 1403 PRINTER MOL 2 OR 1404 PRINTER... CNE 7340
HYPERTAPE CRIVE... ADVANCED PROGRAMMING, HIGH-LOW-EQUAL COMPARE,
BIT TEST, AND SEMSE SWITCHES FEATURES... ONE 729 OR 7330 NAGRETIC
TAPE UNI /IF 1/2 INCH TAPE IS TO BE READ OR WRITTEM/... COLUMN
BINARY FEATURE /IF COLUMN BINARY CARDS ARE TO BE READ OR
PUNCHED/... CONTINUED FROM PRIOR CCLUMN--7040/7044 OPERATING SYSTEM, FILE NUMBER 7040-PR-150 THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS GROFRED. BASIC PROGRAM MATERIAL -COCUMENTATION-PROGRAM HRITE-UP... PROGRAMMERS GUIDE...
OPERATORS GUIDE... SYSTEM PROGRAMMERS GUIDE.
MAGNETIC TAPE - /ONE REEL/ - SYMBOLIC DECK...
OBJECT DECK... AUTOCHART LISTING. AN 8K 1460 SYSTEM WITH... 1402 CARC READ PUNCH... 1403
PRINTER... QUE 7340 HYPERTAPE DRIVE... INDEXING AND STORE
ADDRESS REGISTER, AND BIT TEST FEATURES... QNE 729 QR 7330
MAGNETIC TAPE UNIT /IF 1/2 INCH TAPE IS TO BE READ UR
WRITTEN... BINARY TRANSER FEATURE /IF COLUMN BINARY CARDS ARE
TC BE READ QR PUNCHED/. 1401-UT-157 7040/7044 - 1401 PERIPHERAL UTILITY PROGRAM GROER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-157 BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM MRITE-UP... PROGRAMMING
LISTINGS... HYPERTAPE UTILITY PROGRAMS OPERATING
PROCEDURES. THE 1401 PERIPHERAL UTILITY PROGRAM, USING INFORMATION SUPPLIED BY A SINGLE CONTROL CARD AND THE SENSE SWITCHES, PERFCRMS, ON AN OFF-LINE 1401 DATA PROCESSING SYSTEM, THE BASIC PERIPHERAL OPERATIONS ASSOCIATED WITH THE 7040/7044 8K OPERATING SYSTEM, THEREBY SAVING 7040/7044 MACHINE TIME. ** DISTRIBUTION OF THIS PROGRAM IS RESTRICTED TO USERS OF THE 7040/7044 8K OPERATING SYSTEM, FILE NUMBER 7040-PR-154 CARD DECKS - FIVE INDIVIDUAL CARD DECKS. OPTIONAL PROGRAM MATERIAL - FLOWCHARTS.

OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD. BASIC PROGRAM MATERIAL -DOCUMENTATION - PROGRAM WRITE-UP... PROGRAM LISTING.
CARD DECKS -- OBJECT DECK... SYMBOLIC DECK. 1401-UT-069 7710 TAPE UTILITY SYSTEM FOR THE ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-069 THIS SYSTEM IS DESIGNED TO CONTROL THE MOVEMENT OF DATA BETWEEN THE IBM 1401 WITH 7710 DATA COMMUNICATION UNIT AND A REMOTE TERMINAL. THE REMOTE TERMINAL MAY BE ANY ONE OF THE FCLLOWING-1401-7710, 1401-1009, 7701, 7702, 1013. THE PROGRAMS INCLUDED IN THE SYSTEM ARE—
IBM 1401-7710 TAPE TRANSMIT UTILITY PROGRAM
IBM 1401-7710 TAPE RECEIVE UTILITY PROGRAM
IBM 1401-7710 TRANSMIT-RECEIVE UTILITY PROGRAM 7090/94 - 1401 PERIPHERAL ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-158 DER THROUGH LOCAL IEM BRANCH OFFICE
ECIFY FILE NUMBER 1401-UT-158

THE 1401 PERIPHERAL OUTPUT PROGRAM IS A COMBINED
TAPE-TC-PRINTER/PUNCH ROUTINE UTILIZING THE IBM 1401 DATA
PROCESSING SYSTEM. THIS PROGRAM READS THE SYSTEM OUTPUT TAPE AND
PROGUCCES A LISTING ON THE IBM 1402 PRINTER OR A DECK OF COLUMNBINARY CARDS ON THE IBM 1402 PRINTER OR A DECK OF COLUMNBINARY CARDS ON THE IBM 1402 PRINTER OR A DECK OF COLUMNBINARY CARDS ON THE IBM 1402 PRINTER OR A SELECT 3 IS
USED FOR OUTPUT FROM THIS PROGRAM.
THIS PROGRAM ACTS ON DATA OF THE FOLLOHING TYPES/// PRINT-LINE IMAGES /ON MAGNETIC TAPE/ IN EVEN-PARITY MODE,
BLOCKED BY A RECORD MARK IN THE LAST CHARACTER POSITION CF
EACH PRINT-LINE, OR COLUMN-BINARY CARD IMAGES IN ODD-PARITY
MODE, BLOCKED WITH A RECORD MARK OR UNBLOCKED.
/// CUTPUT FROM THE 18JOB PROCESSOR CONSISTING OF EITHER OF THE
FOLLOWING- /A/ PRINT-LINES /WITH A MAXIMUM OF 132 CHARACTERS
INCLUDING THE CARRIAGE-CONTROL CHARACTER/ WITH CHARACTERS
INCLUDING THE CARRIAGE-CONTROL CHARACTER/ WITH CHARACTERS
INCLUDING THE CARRIAGE-CONTROL CHARACTER/ WITH CHARACTERS
THE DISTINCTION BETWEEN THESE TYPES OF DATA IS CONCERNED WITH THE
PRESENCE OR ABSENCE OF THE BLOCK CONTROL WORD. IF THE BLOCK
CONTROL WORD IS PRESENT, LOGICAL CONTROL WORD SARE WRITTEN, IF
THE BLOCK CONTROL WORD IS NOT PRESENT, THE MODE IS RECORDED
ON TAPE.
MINIMUM MACHINE CONFIGURATION- 4,000 POSITIONS OF CORE STORAGE,
ONE 729 OR 7330 MAGNETIC TAPE UNIT, ADVANCED PROGRAMMING
FEATURE, 106+ 104- PRINTER WITH 132 PRINT POSITIONS AND THE
PRINT CONTROL FEATURE.

THE CISTROL ONE IBM 1402 PRINTER WITH 13 PRINT POSITIONS AND THE
PRINT CONTROL FEATURE.

THE CISTROL ONE IBM 1402 PRINTER WITH 13 PRINT POSITIONS AND THE
PRINT CONTROL FEATURE.

THE CISTROL ONE IBM 1402 PRINTER WITH 132 PRINT POSITIONS AND THE
PRINT CONTROL FEATURE.

THE CISTROL ONE IBM 1402 PRINTER WITH 132 PRINT POSITIONS AND THE
PRINT CONTROL FEATURE.

THE CISTROL ONE IBM 1402 PRINTER WITH 132 PRINT POSITIONS AND THE
PRINT CONTROL FEATURE. EACH OF THE PROGRAMS PROVIDES FOR TAP, DATA INPUT-OUTPUT OPERATIONS AND FOR HANCLING OF MIXED PARITY TAPES. A 4K 1401 SYSTEM WITH...1710 DATA COMMUNICATION UNIT...1402 CARD READ PUNCH ...729 II, IV, V, OR 7330 MAGNETIC TAPE UNIT... SERIAL I/O ADAPTER FEATURE. FOR THE IBM 1401-7710 TRANSMIT-RECEIVE UTILITY PROGRAM, THE 1401 SYSTEM MUST HAVE THE ABOVE REQUIREMENTS PLUS ADVANCE PROGRAMMING AND SENSE SWITCH FEATURES. BASIC PROGRAM MATERIAL DOCUMENTATION - AUTGOODER LISTING... FLOWCHARTS... INSTRUCTIONS TO
SEPARATE CARD DECKS... UTILITY PROGRAMS FOR THE 1401 MANUAL.
CARD DECKS - OBJECT PROGRAM DECK. OPTIONAL PROGRAM MATERIAL AUTOCODER SOURCE DECKS... S.P.S. SOURCE DECKS... LISTINGS.
OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER CARC. 1401-UT-076 DATA COMMUNICATIONS UTILITY PROGRAM -IBM 1009 GROET THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-076 THE DATA COMMUNICATIONS UTILITY PROGRAM, NO. 1401-UT-076, CONSISTING OF SEVEN INDEPENDENT PROGRAMS, BRINGS TO 1401, 1440, AND 1460 USERS A MEANS TO EASILY ACCOMPLISH LINE SPEED DATA FILE CCMMUNICATION WITH A BUFFERED 1009 DATA TRANSMISSION UNIT. THE PACKAGE OF SEVEN PROGRAMS INCLUESS—CARD FILE TRANSMISSION IN 1311 DISK FILE RECEPTION 1311 DISK FILE TRANSMISSION MAGNETIC TAPE FILE RECEPTION HAGNETIC TAPE FILE TRANSMISSION AGNETIC TAPE FILE RECEPTION CARD FILE RECEPTION THE PACKAGE OF SEVEN PROGRAMS INCLUESS—CARD FILE TRANSMISSION AGNETIC TAPE FILE RECEPTION AGNETIC TAPE FILE RECEPTION AGNETIC TAPE FILE RECEPTION CARD FILE RECEPTION THE TRANSMISSION AGNETIC TAPE FILE RECEPTION CARD FILE RECEPTION THE COMMUNICATION LINE, END OF FILE SIGNALLING AND RECOGNITURN, PERFORMANCE OF FIELD SELECTION AND EXPANSION WITHIN INDIVIOUAL RECORDS, PROCESSING OF STANDARD MEADER AND TRANSMISSION OF BLOCKED AND UNBLOCKED DATA. IN TAPE AND DISK TRANSMIT AND RECEIVE, DATA TRANSMISSION THES CAN BE OVERLAPPED WITH THE PERFORMANCE OF ADDIT PROCESSING OF STANDARD MEDICAL DATA. IN TAPE AND DISK TRANSMISTION OF BLOCKED AND UNBLOCKED DATA. IN TAPE AND DISK TRANSMIT AND RECEIVE, DATA TRANSMISSION THES CAN BE QUENCHEAPED UNTH THE PERFORMANCE OF A DATA PROCESSING OPERATION. A TAPE TO PRINTER ROUTINE IS PROVIDED. HOWEVER, THE USER MAY BLEET TO SUPPLY A ROUTINE OF HIS OWN CHOOSING SUBJECT TO THE TIMING REQUIREMENTS PUBLISHED IN THE PROGRAM SPECIFICATIONS. AUTOMATIC ANSWER AND AUTOMATIC DISCONNECT SERVICE IS AN OPTILIN PROVIDED IN ALL RECEIVE PROGRAMS. PROCESSING OF SINGLE OR MULTI-RELE MAGNETIC TAPE FUR RECORDS CAN BE PERFORMED IN BINARY, BCD, OR MIXED BINARY/BCD MODE.

MINTHMY MYSTER REQUIREMENTS—
A 4K 1440 OR 8K 1460 SYSTEM WITH... ONE 1442 CARD READ PUNCH.... CNE 729 II, IV, V, OR 7330 MAGNETIC TAPE UNIT /TAPE PROGRAMS ONLY/... CNE 729 II, IV, V, OR 7330 MAGNETIC TAPE UNIT /TAPE PROGRAMS ONLY/... CNE 1311 DISK STORAGE DRIVE /DISK PROGRAMS ONLY/... CNE 1311 DISK STORAGE DRIVE /DISK PROGRAMS ONLY/... CNE 1009 DATA TRANSMISSION UNIT WITH BUFFER FE BASIC PROGRAM MATERIAL—
CCCUMENTATION - PROGRAM WRITE-UP...
CARD DECKS - PRINT/PUNCH OBJECT DECK... CARD-TO-TAPE OBJECT
DECK... PRINT/PUNCH SYMBOLIC DECK... CARD-TO-TAPE SYMBOLIC
DECK. 1401-UT-938 INPUT PROGRAM FOR 7090/7094 SUPPORT PACKAGE FOR IBM SYSTEM/360 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-938 ±₩ THE 1401 INPUT PROGRAM IS USED TO READ CARD DECKS IN ONE FORM AND THEN PREPARE AN IMPUT TAPE FOR USE BY THE 7090/7094 SUPPORT PACKAGE. THE TAPE WILL CONSIST OF CARP-IMAGE RECORDS.. SOME OF THESE WILL BE IN BINARY CODED DECIMAL /BCD/ REPRESENTATION, OTHERS IN BINARY MODE. *** CISTRIBUTION OF THIS PROGRAM IS RESTRICTED TO USERS OF THE TO900/T094 SUPPORT PACKAGE FOR THE IBM SYSTEM/360 FILE NUMBER TO90-SI-162-BASIC PROGRAM MATERIAL -DOCUMENTATION - PROGRAM WRITE-UP. MACHINE READABLE - INPUT PROGRAM OBJECT DECK. 1420 1420-AU-001 BASIC AUTOCODER
ORDER THRGUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1420-AU-C01 THIS SYSTEM IS DESIGNED TO ENABLE A PROGRAM WRITTEN IN 1420
BASIC AUTCCODER LANGUAGE TO BE ASSEMBLED ON A 1420 SYSTEM. THE
OUTPUT IS USED TO EXECUTE THE APPLICATION ON A 1420 SYSTEM.
USE... THE SOURCE PROGRAM IN 1420 BASIC AUTOCODER LANGUAGE
PUNCHED IN CARCS IS ASSEMBLED ON A 1420 SYSTEM. THE CUTPUT
CELECT PROGRAM IS PUNCHED IN 1420 MACHINE LANGUAGE. PROGRAM
DCCUMENTATION AND CIAGNOSTIC OUTPUT IS PRINTED ON THE 1403
PRINTER. MINIMUM SYSTEM REQUIREMENTS... A 4K 1420 SYSTEM WITH...
CNE 1442 CARO READ PUNCH... 1403 PRINTER. OPTIONAL PROGRAM MATERIAL-- FLOWCHARTS... LISTINGS.
CPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD. 1401-UT-153 PROGRAMS 7040/44 - 1401 AUXILIARY MMS CRDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-UT-153 BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... OPERATING INSTRUCTIONS...
SPECIFICATIONS.
CARD DECKS - BASIC AUTOCODER SYSTEM DECK... SAMPLE SOURCE DECK FOR
TEST ASSEMBLY. THE 7040/7044--1401 AUXILIARY PROGRAM, 14C1-UT-153, SUPPORT THE 7040/7044 CPERATING SYSTEM /16/32K/, 704C-PR-150. MAINTENANCE OF THE SYMBOLIC MASTER TAPES MITH THE 7040/7044-1401 MAP SYMBOLIC UPDATING PROGRAM REQUIRES THAT A 7040 UPDATE RUN FIRST BE MADE TO REDUCE THE BLOCKING FACTOR FROM NINE TO A MAXIMUM OF FIVE.

OPTIONAL PROGRAM MATERIAL - SYSTEM FLOW CHARTS... LISTING OF SYSTEM PHASES. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1420-10-010 IOCP WITHOUT PROCESS OVERLAP ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1420-IO-010

THE 18M 1420 IGCP WITHOUT PROCESS GVERLAP, PROGRAM /1420-IC-010/ IS DESIGNED TO CONTROL THE READING OF DATA FROM PAPER DOCUMENTS AND TO QUEUE THE PRINTING OF THIS DATA AFTER 1T HAS BEEN PROCESSED. PROCESSED.
USE
- READING OF AMOUNT AND TRANSIT/ROUTING FIELDS FROM PAPER DOCUMENTS

- PLACING THIS DATA IN A QUEUE

- USER EXIT TO STACKER SELECT DECISION ROUTINE

- USER EXIT TO DOCUMENT FRORD ROUTINES

- USER EXIT TO DOCUMENT PRIORESSING ROUTINES

- USER EXIT TO DOCUMENT PRIORESSING ROUTINES

- USER EXIT TO DOCUMENT PRIORESSING ROUTINE.

HACHINE COMPTIGURATION
4-000 POSITIONS OF CORE STORAGE...

1 IBM 1442 CARD READ-PUNCH, MODEL 1 OR 2...

1 IBM 1442 CARD READ-PUNCH, MODEL 1 OR 2...

1 IBM 1403 PRINTER, MODEL 1 OR 2 / SELECTIVE TAPE

LISTER AND NUMERIC CHAIN CAN BE USED WITH THE 1403/...

CONTINUED FROM PRIOR PAGE--

BASIC PROGRAM MATERIAL—
DOCUMENTATION - PROGRAM WRITE-UP... PROGRAM LISTING...
FLOWCHARDS... SAMPLE PROBLEM PROGRAM LISTING...
SPECIFICATIONS... OPERATING PROCEDURES.
CARD DECKS - PROGRAM DECKS IN 1/1 1440/1311 AUTOCODER
FORMAT... /27 1420 BASIC AUTOCODER FORMAT... SAMPLE
PROBLEM DECK... OBJECT PROGRAM EXECUTION OUTPUT.

1420-IO-011 OVERLAP IOCP
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1420-IO-011

THE IBM 1420 OVERLAP IOCP, #1420-10-011, CONTROLS THE READING OF DATA FROM PAPER DOCUMENTS AND QUEUES THE PRINTING OF THIS DATA AFTER IT 14AS BEEN PROCESSED.

THE PROGRAM HAS THESE FUNCTIONSREADING OF AMOUNT AND TRANSIT/ROUTING FIELDS OR ALL FIELDS FROM PAPER DOCUMENTS.

USER EXIT TO STACKER SELECT DECISION ROUTINE.

USER EXIT TO DOCUMENT PROCESSING ROUTINES.

USER EXIT TO DOCUMENT PROCESSING ROUTINES.

USER EXIT TO DOCUMENT PROCESSING ROUTINE.

AUSER DOCUMENT ERROR ROUTINES.

MINIPUM SYSTEM REQUIREMENTS
4 4K SYSTEM WITH... ONE 1442 CARD READ PUNCH... 1403 PRINTER

YSELECTIVE TAPE LISTING FEATURE AND NUMERIC PRINT CHAIN CAN BE

USED WITH THE 1403/... PROCESSING QUERLAP FEATURE.

BAS2C PROGRAM MATERIAL DOCUMENTATION - PROGRAM HRITE-UP... PROGRAM LISTINGS... PROGRAM
FLOWCHARTS... SAMPLE PROBLEM LISTINGS... SPECIFICATIONS...
OPERATING PROCEDURES.
CARD DECKS - OVERLAP IOCP CARD DECK IN 1440/1311 AUTOCOCER FORMAT
AND... 1420 BASIC AUTOCODER FORMAT... SAMPLE PROBLEM SCURCE
DECKS AND... OBJECT DECK... OBJECT PROGRAM EXECUTION CUTPUT.

1440

1440-AT-060 AUTO-TEST 16K
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1440-AT-060

AUTO-TEST IS AN INTEGRATED SET OF UTILITY PROGRAMS DESIGNED IC PREVIDE DOCUMENTATION FOR PROGRAM EVALUATION DURING A PROGRAM. TESTING RUN. IT CAN BE USED TO TEST PROGRAMS ASSEMBLED BY THE 1440 AUTOCODER PROGRAM FOR ANY IGM 1444 CAYSTEM. BECAUSE TEST RUNS CAN BE PLANNED TO PROCEED WITH A MINIMUM OF DERATOR INTERVENTION, AUTO-TEST IS A USEFUL TOOL FOR REMOTE TESTING. THE AUTO-TEST SYSTEM RESIDES IN DISK STORAGE DURING TESTING. IT CONTROLS PROGRAM TESTS IN WHICH THE FOLLOWING FUNCTIONS CAN BE SELECTED RESTS IN WHICH THE FOLLOWING FUNCTIONS CAN BE SELECTED REARS OF DISK STORAGE
2. LCAD PROGRAM DATA FROM CARDS TO DISK STORAGE
3. PRINT SELECTED AREAS OF DISK STORAGE
4. LCAC THE PROGRAM TO BE TESTED FROM CARDS
5. PRINT DATA FROM SELECTED AREAS OF CORE STORAGE AT SPECIFIC TIMES DURING PROGRAM EXECUTION
6. PRINT DATA READ FROM OR WRITTEN ON DISK STORAGE DURING PROGRAM EXECUTION
6. PRINT DATA READ FROM OR WRITTEN ON DISK STORAGE DURING PROGRAM EXECUTION
6. PRINT DATA READ FROM OR WRITTEN ON DISK STORAGE DURING PROGRAM EXECUTION
6. PRINT DATA READ FROM OR WRITTEN ON DISK STORAGE DURING PROGRAM EXECUTION
6. PRINT DATA READ FROM OR WRITTEN ON DISK STORAGE DURING PROGRAM EXECUTION
6. PRINT DATA READ FROM OR WRITTEN ON DISK STORAGE DURING PROGRAM EXECUTION
6. PRINT DATA READ FROM OR WRITTEN ON DISK STORAGE DURING PROGRAM EXECUTION
6. PRINT DATA READ FROM OR WRITTEN ON DISK STORAGE DURING PROGRAM EXECUTION

TIMES DURING FROGULA.

TIMES DURING FROGULA FROM OR WRITTEN ON DISK STURAGE GUALANCE OF A PLANT DATA READ FROM OR WRITTEN ON DISK STURAGE GUALANCE OF A PLANT CORE STORAGE WHEN PROGRAM EXECUTION TERMINATES SEVERAL PROGRAMS MAY BE STACKED FOR TESTING IN A SINGLE RUN. A CONVENIENT CARE FROMAT FOR PATCHING PROGRAM DECKS BEING TESTED IS PROVIDED TO FACILITATE RETESTING OF ANY PROGRAM. MINIMUM MACHINE REQUIREMENTS ARE THE FOLLOWING— BK 1440 SYSTEM AUTO-TEST BK/ OR 16K 1440 SYSTEM FOLLOWING— OR 1442 CARD READ PUNCH...1443 PRINTER...CNE 1311 DISK STORAGE DRIVE...INDEXING AND STORE ADDRESS REGISTER SPECIAL FEATURE.

THE NUMBER OF TAPES INCICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROEN CARD.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP...LISTINGS...SPECIFICATIONS
AND OPERATING PROCEDURED.
CARD DECKS - /DECK A/ BUILD AUTO-TEST SYSTEM DISK PACK...
/DECK P/ INITIATE PROGRAM TESTING.../DECK C/ LSED TC
RESTART...SAMPLE PROBLEM TEST DECK AND LISTINGS.

OPTIONAL PROGRAM MATERIAL —
CNE MAGNETIC TAPE — CONTAINING CARD IMAGES.
FLOWCHARTS.

1440-AT-061 AUTO-TEST 8K ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-AT-061

PAGE 019

CONTINUED FROM PRIOR COLUMN---

AN 8K VERSION IS ALSO AVAILABLE TO FACILITATE AUTOMATIC PROGRAM TESTING AT 8 AND 12K 1440 INSTALLATIONS. HOWEVER, ALTHOUGH THE FEATURES OFFERD BY EACH SYSTEM ARE IDENTICAL, 16K INSTALLATIONS SHOULD USE THE 16K VERSION HIFTOH PERMITS TESTING OF LARGER PROGRAMS THAN COES ITS COMPANION 8K VERSION.

AUTO-TEST IS AN INTEGRATED SET OF UTILITY PROGRAMS DESIGNED TO PROVIDED DOCUMENTATION FOR PROGRAM EVALUATION DURING A PROGRAM TO THE PROVIDED DOCUMENTATION FOR PROGRAM FOR ANY IDN LAKE OF STENDER TO THE STANDARD DESIGNED TO TEST ING RUN. IT CAN BE USED TO TEST PROGRAMS ASSEMBLED BY THE LAMO AUTOCODER PROGRAM FOR ANY IDN 14AC SYSTEM. BECAUSE TEST RUNS CAN BE PLANNED TO PROCEED WITH A MINIMUM OF OPERATOR INTERVENTION, AUTO-TEST IS A USEFUL TOOL FOR REMOTE TESTING. THE THE AUTO-TEST SYSTEM RESIDES IN DISK STORAGE DURING TESTING. IT CONTROLS PROGRAM TESTS IN WHICH THE FOLLOWING FUNCTIONS CAN BE SLECTED EARS OF DISK STORAGE DURING TESTING. IT CONTROLS RELECTED AREAS OF DISK STORAGE
2. LCAO PROGRAM DATA FROM CARDS TO DISK STORAGE
3. PRINT SELECTEC AREAS OF DISK STORAGE
4. LCAO THE PROGRAM TO BE TESTED FROM CARDS
5. PRINT DATA FROM SELECTED AREAS OF CORE STORAGE AT SPECIFIC TIMES DURING PROGRAM EXECUTION
6. PRINT DATA FROM SELECTED AREAS OF CORE STORAGE DURING PROGRAM EXECUTION
7. PRINT DATA FROM SELECTED AREAS OF THE STING IN A SINGLE RUN. A CONVENIENT CARE FORM TO BE STACKED FOR TESTING IN A SINGLE RUN. A PROGRAM EXECUTION TO THE PROGRAM SHAY BE STACKED FOR TESTING IN A SINGLE RUN. A PROVIDED TO FACILITATE RETESTING OF ANY PROGRAM. MINIMUM MACHINE REQUIREMENTS—THE MINIMUM SYSTEM REQUIREMENTS—ARE THE FOLLOWING—* BR 14440 SYSTEM FAULTHERST BK/ OR 16K 1440 SYSTEM FOULDER. THE MINIMUM SYSTEM REQUIREMENTS—ARE THE FOLLOWING—* BR 14440 SYSTEM FAULTHERST BK/ OR 16K 1440 SYSTEM FOULDER. THE PROVIDED FOR EACH ITEM SPECIAL FEATURE.

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP...LISTINGS...SPECIFICATIONS
AND OPERATION PROCEDURES.

CARD DECKS - /DECK A/ BUILD AUTO-TEST SYSTEM DISK PACK...

CYPECK B/ INITIATE PROGRAM TESTING.../DECK C/ USED TO
RESTART PROGRAM...SAMPLE PROBLEM TEST DECK AND LISTINGS.

OPTICNAL PROGRAM MATERIAL CNE MACNETIC TAPE - CONTAINING CARD IMAGES.
FLOWCHARTS.

AU-001 BASIC AUTOCODER ORDER THRGUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-AU-001 1440-AU-001

THIS SYSTEM IS DESIGNED TO ENABLE A PROGRAM WRITTEN IN 1440 BASIC AUTOCODER LANGUAGE TO BE ASSEMBLED ON A 1440 SYSTEM. THE OUTPUT IS USED TO EXECUTE THE PROGRAM ON A 1440 SYSTEM. THE SURCE PROGRAM IN 1440 BASIC AUTOCODER LANGUAGE, PUNCHED IN CARDS, IS ASSEMBLED IN A 1440 SYSTEM. THE OUTPUT OBJECT PROGRAM, IN 1440 HACHINE LANGUAGE, IS PUNCHED ONE INSTRUCTION PER CARD IN THE SOURCE PROGRAM DECK. A PROGRAM LOAD ROUTINE IS PUNCHED WITH EACH OBJECT PROGRAM DECK. PROGRAM DOUMENTATION AND DIAGNOSTIC OUTPUT ARE PRINTED ON THE 1443 PRINTER. MINIMUM MACHINE REQUIREMENTS—4K 1440 SYSTEM WITH...ONE 1442 CARD READ PUNCH...

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... PRELIMINARY SPECIFICATIONS...
OPERATING PROCEDURES.
CARD DECKS - BASIC AUTOCODER SYSTEM DECK... SAMPLE SOURCE PROGRAM
FOR REASSEMBLY.

OPTICNAL PROGRAM MATERIAL -SYSTEM FLONCHARTS. SYSTEM LISTINGS. OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER CARC.

1440-AU-006 BASIC AUTOCODER 2K GRDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-AU-006

THE IBM 1440 BASIC AUTOCODER 2K PROGRAM ACCEPTS SOURCE STATEMENTS MRITTEN IN BASIC AUTOCODER 2K LANGUAGE AND PRODUCES MACHINE LANGUAGE OBJECT PROGRAMS. BASIC AUTOCODER 2K IS A 2-PASS SYSTEM. THE SOURCE PROGRAM IS PROCESSED AND THE RESULTING OBJECT PROGRAM IS CONVERTED BY ONE OF TWO SPECIAL CONDENSING ROUTINES FROM ONE-INSTRUCTION-PER-CARD TO CONDENSED CARD FORMAT.
MINIPUM SYSTEM REQUIREMENTSA 2K 1440 SYSTEM WITH... 1442 CARD READER MODEL 4 /NOTE- A 1442 MCDEL 1 OR 2 MAY BE USED AS THE READER IN LIEU OF THE 1442 MCDEL 4/... 1444 CARD PUNCF... 1443 PRINTER.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... OPERATING PROCEDURES.
CARD DECKS - PROCESSOR DECK... PRE-LIST ROUTINE DECK... PCSI-LIST
ROUTINE DECK... CONDENSING ROUTINES DECKS 1 AND 2... SAMPLE
PROBLEM DECK.

* M

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS... PROGRAM LISTINGS.
OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1440-CB-073 COBOL FOR IBM 1440/1401/1460 CRDER THRCUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-CB-073

THE DISK RESIDENT COBOL FOR IBM 1440, 1401 AND 1460 COMPILES COBOL / COMMON BUSINESS ORIENTED LANGUAGE/ PROGRAMS FOR 1440, 1401 AND 1460 CARD, TAPE, AND DISK SYSTEMS.

USESYMBCLIC PROGRAMS ARE AUTOMATICALLY COMPILED FROM SOURCE PROGRAMS WRITTEN IN THE COBOL LANGUAGE, WHICH USES ENGLISH WORDS AND SPECIAL STANDARD NOTATIONS. THESE SYMBOLIC PROGRAMS ARE THEN TRANSLATED TO MACHINE LANGUAGE OBJECT PROGRAMS BY AN AUTOCCOER PROCESSOR. THIS PROGRAM OPERATES UNDER THE DIRECTION OF A CENERAL SYSTEM CONTROL PROGRAM WHICH ALLOHS THE USE OF AVAILABLE I/O DEVICES ASSIGNED BY THE USER. THE USER SPECIFIES THE CONFIGURATION OF THE PROCESSING MACHINE WITH CONTROL CARDS. THE SYSTEM CONTROL PROGRAM HITHER SYSTEM THE USER. THE USER SPECIFIES THE APPROPRIATE I/O ROUTINE TO HANDLE THE INPUT AND

PAGE 020

A-1440

CONTINUED FRCM PRIOR PAGE—
OUTPUT DURING COMPILATION.
THE REQUIREMENTS FOR COMPILING THE COBCL PROGRAMS ARE—A 4K 1401
SYSTEM MITH... ONE 1311 DISK STORAGE DRIVE WITH A 1316 DISK
PACK... 1402 CARD READ PUNCH... 1403 PRINTER MODEL 2... ADVANCED
PROGRAMMING FEATURE... HIGH-LOM-PACUAL COMPARE FEATURE, CR A
4K 1440 SYSTEM WITH... ONE 181 1311 DISK STORAGE DRIVE WITH A
1316 DISK PACK... ONE 1842 CARD READ PUNCH... 1443 PRINTER...
INDEXING AND STORE ADDRESS REGISTER FEATURE, OR AN 8K 1460
SYSTEM WITH... ONE 1311 DISK STORAGE DRIVE WITH A 1316 DISK
PACK... 1402 CARD READ PUNCH... ONE 1403 PRINTER... INDEXING
AND STORE ADDRESS REGISTER. /A 1301 DISK STORAGE RARAY MAY BE
USED IN LIEU OF THE 1311 1316... OR AN 8K 1440 SYSTEM WITH...CNE
1301 DISK STORAGE ARRAY...ONE 1442 CARD NAM 6K 1440 SYSTEM WITH...CNE
1301 DISK STORAGE ARRAY...ONE 1442 CARD NAM 6K 1440 SYSTEM WITH...CNE
1301 DISK STORAGE ARRAY...ONE 1442 CARD NAM 6K 1440 SYSTEM WITH...CNE

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... SPECIFICATIONS MANUAL...
OPERATING PROCEDURES.
MACHINE READABLE - COBOL PROGRAM DECK WHICH INCLUDESMARKETING PROGRAMMING DECK, MACROS DECK, WRITE
FILE-PROTECT ADDRESS DECK, SYSTEM CONTROL CARD
MODIFICATIONS DECK, UPDATE DECK AND SAMPLE PROGRAMS.

OPTIONAL PROGRAM MATERIAL- SYSTEMS LISTINGS... FLOW CHARTS... ALL CARD DECKS ARE AVAILABLE ON ONE REEL OF MAGNETIC TAPE.

ADMINISTRATIVE TERMINAL 1440-CX-07X SYSTEM

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-CX-07X

THE PRIMARY CONCEPT OF THIS SYSTEM IS TO SUPPORT A TYPERRITER-LIKE TERMINAL FOR TEXT PROCESSING. INFORMATION IS ENTERED FROM THE TERMINALS IN EITHER FREE OR FIXED FORM. IT CAN BE CORRECTED, MOLIFIED, OR REARRANGED. DUTPUT FORMATS ARE FLEXIBLE AND MAY BE SPECIFIED FROM THE TERMINAL. OUTPUT MAY BE TRANSMITTED TO ANY TERMINAL, STORED ON DISK OR TAPE, PRINTED BY AN ON-LINE PRINTER, WRITTEN AS CARD IMAGES ON TAPE, OR PUNCHED. STORED INFORMATION MAY BE RECALLED FOR FURTHER PROCESSING.

- FEATURES—

 DATA CORRECTION, MODIFICATION, AND REARRANGEMENT BYBACKSPACING AND RETYPING DURING ENTRY... RETYPING BEGINNING
 MITH A PARTICULAR WORD... REPLACING A WORD OR PHRASE...
 ADDING TO A LINE OR TEXT UNIT... DELETING A LINE OR OTHER
 TEXT UNIT... MOVING OF GROUPS OF LINES OR TEXT UNITS...
 GATHERING OF STORED DATA IN ANY SEQUENCE... COPYING OF
 INFORMATION BY TRANSMISSION TO THE ORIGINATING TERMINAL.
 STORAGE AND RETIEVAL OF DATA FROM DISK FILES OR TAPE.
 TRANSMISSION OF DATA TO ANY TERMINAL.
 OUTPUT FORMAT CONTROLLED FROM THE TERMINAL BY- LIMITING
 FREE-FORM TEXT LINE LENGTH... JUSTIFICATION OF RIGHT-HAND
 MARGIN... INTERNIX OF FREE-FORM TEXT WITH FIXED FORMAT
 INFORMATION... PLACING SPECIFIED HEADING AND FODTING LINES
 ON ALL PAGES OF A DECUMENT... AUTOMATIC PAGE NUMBERING...
 CONTROLLED VERTICAL SPACING... HALTING TO ALLOW DEPEATOR
 INTERVENTION FOR TEXT INSERTION OR CHANGE OF PRINT ELEMENTS.
 DESK CALCULATOR FUNCTIONS- ADDITION... SUBTRACTION...
 MULTIPLICATION... DIVISION... ROOTS... POWERS... FACTORIALS...
 EVALUATION OF SIMPLE ALGEBRAIC EXPRESSIONS... FACTORIALS...
 USERS MAY ADD POGRAMS TO DO SIMULTANEOUS PERIPHERAL
 OPERATIONS SUCH AS SIMPLE TAPE-TO-PRINTER AND CARD-TO-TAPE
 FUNCTIONS.

 AN IMPROVED DISK STORAGE ORGANIZATION SCHEME WILL GIVE

 AN IMPROVED DISK STORAGE ORGANIZATION SCHEME WILL GIVE

- OPERATIONS SUCH AS SIMPLE INFE-TO-TRAILED AND SUCH SPUNCTIONS.

 AN IMPROVED DISK STORAGE ORGANIZATION SCHEME HILL GIVE IMPROVED TERMINAL RESPONSE ON REQUESTS INVOLVING PERMANENT OLSK STORAGE.

 1301 DISK FILE IMPLEMENTATION SIGNIFICANTLY INCREASES PERMANENT STORAGE CAPACITY.

 IMPROVED STORAGE REPORTING FACILITIES.

PRINCIPAL APPLICATION AREAS OF THE ADMINISTRATIVE TERMINAL SYSTEM ARE TECHNICAL MANUAL PREPARATION, PROPOSAL WRITING, TEST REPORT PREPARATION, FINANCIAL CREDIT REPORTING, STATISTICAL TYPING, AND SIMILAR AREAS. THE SYSTEM MAY ALSO BE USED FOR SOURCE DATA ENTRY, CAPTURING DATA DIRECTLY FROM A TYPERMITER KEYBGARD. THIS HAS PARTICULAR SIGNIFICANCE IN THE COMPUTER PROGRAMMING AREA WHERE PROGRAM DECK CONTROL CARDS AND TEST DECKS MAY BE SELECTED, MODIFIED, COMBINED AND MADE AVAILABLE FOR RUNNING DIRECTLY FROM A TERMINAL.

THE SYSTEM, WHEN PROPERLY INSTRUCTED, CAN SAVE EVERY KEYSTROKE MADE BY THE OPERATOR. TO ALTER THE TEXT, THE OPERATOR DIRECTS THE SYSTEM TO LOCATE THE CHARACTERS TO BE CHANGED AND INSTRUCTS IT IN WHAT MANNER THESE ARE TO BE ALTERED. IF A COPY OF A DOCUMENT IS REQUESTED, THE SYSTEM WILL PRODUCE AND TRANSHIT IT TO THE TERMINAL. THE SOURCE PROGRAM LANGUAGE IS 1401/1440/1460 AUTOCODER /ON DISK/.

MINIMUM 1440 SYSTEM REQUIREMENTS— A 16K 1440 WITH— BIT TEST, CONSCLE ATTACHMENT, DIRECT SEEK, DISK STORAGE CONTROL, INDEXING AND STORE ADDRESS REGISTER, TRANSMISSION CONTROL UNIT ATTACHMENT ON THE 1441 PROCESSING UNIT MODEL A6...

ONE 1311 DISK STORAGE CRIVE MODEL 1 WITH DIRECT SEEK...

1447 CONSOLE MODEL 1 WITH SENSE SWITCHES... 1447 CONSOLE MODEL 4 WITH 11TH SENSE SWITCHES... 1447 CONSOLE MODEL 4... 1448 TRANSMISSION CONTROL UNIT WITH 1050/1060 ATTACHMENT AND RPO =39485 AND, AS REQUIRED, COMMON CARRIER ADAPTER SETS.OR LINE ADAPTER SETS... EITHER A 1442 CARD READ FUNCH MODEL 1 OR 2 OR A 1442 CARD READER MODEL 4 IS REQUIRED UNLESS ANOTHER 1401/1440/1460 SYSTEM IS AVAILABLE TO LOAD THE PROGRAM ON A 1316 DISK PACK.

OPTIONAL 1440 SYSTEM REQUIREMENTS— TRANSLATE FEATURE ON THE 1441 PROCESSING UNIT... ONE TO FOUR 1311 DISK STORAGE DRIVES MODEL 2 WITH DIRECT SEEK AND SEEK OVERLAP FEATURES /AT LEAST ONE 1311 MODEL 2 IS STRONGLY RECOMMENDED/... ONE TO FIVE MODULES OF 1301 DISK STRONGLY RECOMMENDED/... ONE TO FIVE MODULES OF 1301 DISK STRONGLY ROUGH 1311 MODEL 2 IS REQUIRED/... EITHER A 1442 CARD READ PUNCH MODEL 1 OR 2 OR A 1442 CARD READ PUNCH MODEL 1 OR 2 OR A 1442 CARD READ PUNCH MODEL 1 OR 2 OR A 1442 CARD READ PUNCH MODEL 1 OR 2 OR A 1443 PRINTER CONTROL... 7335 MAGNETIC TAPE PRINTER MODEL 1 OR 2... LINE GROUP FEATURES AND RPQ 811390, ARCHIVET OF THE STRONG PRINTER MODEL 1 OR 2... LINE GROUP FEATURES AND RPQ 811390, ARCHIVET OF THE STRONG PRINTER CONTROL... TO ATTACH MORE HAM 10 LINES TO THE 1448 PRINTER CONTROL... TO ATTACH MORE THE MODEL 2 AND THE THE MODEL 2 AND THE THE MODEL 2 AND THE MODEL 3 OR COURTER TYPE MATCHING THE COURTER 72 PRINTING ELEMENT ON THE TERMINALS/ IS DESIRED USING A 1403 PRINTER MODEL 2. ADD- APQ/S 813148 AND 818029 ON THE 1446 PRINTER CONTROL... RPQ/S 812033, 812034, 898058,

A-1440

CONTINUED FROM PRIOR CCLUMN-33 EACH OF RPQ E33255, AND PART 82338C /THE CHAIN/ ON THE 1403 MODEL 2-.. RPQ 818019 ON THE 1441 PROCESSING UNIT.

TERMINAL REQUIREMENTS- 2741 COMMUNICATION TERMINALS /UP TO 40/, WITH COURTER 72 STANDARD SELECTRIC PRINTING ELEMENTS, AND LINE ADAPTERS IF REQUIRED. ATS SUPPORTS ONLY THE CORRESPONDENCE CODE 2741 TERMINALS WITHOUT THE INTERRUPT FEATURE.

BASIC PROGRAM MATERIAL DOCUMENTATION - APPLICATION DIRECTORY... APPLICATION
DESCRIPTION, H20-0129... TERMINAL OPERATORS MANUAL,
H20-0185... PROGRAMMERS MANUAL, H20-0228... CONSOLE
OPERATORS MANUAL, H20-0227.
MACHINE REACABLE - PROGRAM DECKS.

OPTICNAL PROGRAM MATERIAL DOCUMENTATION - SYSTEMS MANUAL /PROGRAM FLOW CHARTS/.
MACHINE READABLE - 1401/1440/1440 AUTOCODER /ON DISK/ GUTPUT
FILE ON TWO 1316 DISK PACKS FROM WHICH SOURCE
DECKS AND PROGRAM LISTINGS CAN BE CREATED USING
1401/1440/1440 AUTOCODER /ON DISK/ /1401-AU-008/.

NOTE- WHEN ORDERING THE OPTIONAL MATERIAL THE REQUESTOR MUST SUBMIT TWO 1316 DISK PACKS.

1440-DR-02X RETAIL ACCOUNTS RECEIVABLE
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1440-DR-02X

IDER THROUGH LOCAL IBM BRANCH OFFICE
FECIFY FILE NUMBER 1440-CR-OZX

THIS PROGRAM IS A SYSTEM OF SIXTEEN 1440 RUNS DESIGNED TO
AUTOMATICALLY PERFORM RECEIVABLES MAINTENANCE AND BILLING IN
MEDIUM-SIZED DEPARTMENT OR SPECIALTY STORES. THE PROGRAM HAS
BEEN DESIGNED AS A SERIES OF ROUTINES WHICH PERFORM SPECIFIC
FUNCTIONS. BY SELECTINE AND COMBINING THESE ROUTINES,
SPECIALIZED PEPARTMENT OR SPECIALTY STORES. THE PROGRAM HAS
BEEN DESIGNED AS A SERIES OF ROUTINES WHICH PERFORM SPECIFIC
FUNCTIONS. BY SELECTINE AND COMBINION THESE ROUTINES,
SPECIALIZED PROGRAMS FOR A PARTICULAR STORE ARE DEVELOPED.
MODIFICATIONS AND REFINEMENTS TO PARAMETERS OF THESE ROUTINES CAN
BE MADE TO HAVE THEM APPLY TO A SPECIFIC STORE. THE SYSTEM IS
DESIGNED TO ACCOMMODATE FOUR TYPES OF CHARGE ACCOUNTS. THESE
ARE—/I/ 30-DAY CHARGE ACCOUNT.../2/ FLEXIBLE REVOLVING
ACCOUNT—A MONTHLY PAYMENT BASED ON A PERCENTAGE OF THE BALANCE.
/INCLUDES OPTION ACCOUNTS, /.../3/ FIXED REVOLVING ACCOUNT—A
/I/ CONTRACT ACCOUNT, OR DEFERRED PAYMENT ACCOUNT—ON THE PURCHASE WITH FIXED MONTHLY PAYMENT BASED ON THE CREDIT LIMIT OF THE ACCOUNT...
/4/ CONTRACT ACCOUNT, OR DEFERRED PAYMENT ACCOUNTS—A COME TIME
PURCHASE WITH FIXED MONTHLY PAYMENT BAS ANY GIVEN STORE WILL
PROBABLY NOT HAVE ALL FOUR TYPES OF ACCOUNTS. HIGHEYER, RUNS CAN
BE MODIFIED TO DELETE THOSE TYPES OF ACCOUNTS HIGH ARE NOT
NEEDED. TRANSACTIONS ARE ENTERED INTO THE SYSTEM IN THE FORM OF
PUNCHED CARDS. EDIT AND ACCOUNTING CONTROL BASES.

FOR ADJUSTMENTS LISTING, SERVICE CHARGE ADJUSTMENTS LISTING,
CHARGE-OFFS LISTING, CREDITS LISTING, CASH BATCH BALANCE LISTING,
CHARGE-OFFS LISTING, CREDITS LISTING, CASH BATCH BALANCE LISTING,
CONTROL BALANCE LISTING. SERVICE CHARGE ADJUSTMENTS LISTING,
CHARGE-OFFS LISTING, OF THE MESSAGES, CUSTOMER STATEMENTS,
DELINOUENT ACCOUNT LISTING, AGED TRIAL BALANCE LISTING,
CONTROL BALANCE LISTING.

- DELINQUENT LISTING TO AUTOMATICALLY SELECT FOR REVIEW
AND FOLLOW-UP THOSE ACCOUNTS RR QUISTING RECOUNT NUMBERS.

- DIACNOSTIC AGEN THAS BALANCE DISTORED ON BACCOUNT.

- AUTOMATIC AGI

- PREPARATION OF LABELS FOR PROMOTIONAL MAILINGS ON A SELECTIVE BASIS.

- COMPLETE AND AUTOMATIC CONTROLS.

- COMPLETE AND AUTOMATIC CONTROLS.

READ PUNCH... 1443 PRINTER... 1311 DISK STORAGE DRIVE...

INDEXING AND STORE ADDRESS REGISTER, SELECTIVE STACKER,

24 ADDITIONAL PRINT POSITIONS, SELECTIVE CHARACTER SET, 39

CHARACTER SET.

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL INCLUDING
LISTINGS.
CARD DECKS - OBJECT PROGRAM DECKS... SAMPLE PROBLEM DECKS.

OPTICNAL PROGRAM MATERIAL CNE MAGNETIC TAPE - CONTAINING ALL CARD DECKS.

1440-CW-O1X CHAIN AND WHOLESALE BILLING ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-CW-O1X

THE 1440 CHAIN AND WHOLESALE BILLING PROGRAM USES EITHER THE IBM CARD ORDER PLAN OR THE PERMANENT ITEM CODE PLAN FOR PLACING ORDERS. THREE PHASES OF THE BILLING PROGRAM RESULT INCUSTOMER INVOICE. PHASE I SETS UP ORDER QUANTITIES, MARCHOUSE NUMBERS, AND DISK PACK ADDRESSES. PHASE Z SORTS ITEMS INTO MARCHOUSE LOCATION SEQUENCE. PHASE 3 PRINTS CUSTOMERS NAME AND ADDRESS, ANALYZES AND UPDATES STOCK AVAILABILITY, PRICES ITEMS ACCORDING TO PRICE ZONES, ETC., PRINTS ITEM LINES, AND STORES DESIRED ANALYSIS DATA FOR SUBSEQUENT USS. INTERMEDIATE TOTALS ARE PRINTED WHERE NECESSARY. SALES ANALYSIS AND BACK-UP RECORDS ARE PROVIDED AS A BY-PRODUCT OF THE BILLING ROUTINE. ALTHOUGH THIS PROGRAM MAS DEVELOPED FOR THE GROCETY DISTRIBUTOR, IT IS EQUALLY APPLICABLE /IN TOTAL OR IN SEGMENTS—PURPOSELY DESIGNED HIS MAY FOR OTHER DISTRIBUTORS, I.E., DRUG, HARDWARE, RACK JOBBER, LIQUOR, AUTO PARTS, ETC.

THE CHAIN AND WHOLESALE BILLING PROGRAM IS DESIGNED TO HELP
INSTALL 1440 SYSTEMS BY PROVIDING CONCEPTS ON WHICH A SYSTEM
MAY BE DESIGNED AND BY PROVIDING CERTAIN PROGRAMS WHICH MAY BE
MODIFIED AND USED IN THAT SYSTEM IN WHOLE OR IN PART. THIS
PROGRAM PROVIDES A MAIN LINE BILLING ROUTINE PLUS 6 SUPPORTING
ROUTINES FOR EACH TYPE OF INPUT /PAGE AND LINE OR PERMANENT ITEM
CODE/. THE BILLING PORTION OF THE PROGRAM IS BROKEN INTO THREE
PHASES. HINTHUM SYSTEM REQUIREMENTS 4K 1440 SYSTEM WITH...1447
CONSOLE MODEL 2...1442 CARD READ PUNCH...1443 PRINTER...TWO 1311
DISK STORAGE ORIVES...INDEXING AND STORE ADDRESS REGISTERS,
SELECTIVE CHARACTER SET AND SENSE SWITCHES FEATURES. /CARD
IMAGE AND BIT TEST FEATURES ARE OPTIONAL WITH CARD ORDER PLAN
INPUT/.

CONTINUED FROM PRIOR PAGE--

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL.
MACHINE READABLE - SOURCE PROGRAM DECK.

1440-DW-04X 1311 WHOLESALE IMPACT ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-DW-04X

194Y 1311 WINDLESALE IMPACT
RORE TERCUGA LOCAL ISM BRANCH OFFICE
PECTFY FILE WUNBER 1440-DW-04X

THE IBM IMPACT / INVENTORY MANAGEMENT PROGRAM AND CONTROL
PECHANIQUES/ SYSTEM OF SCIENTIFIC INVENTORY MANAGEMENT PROVIDES
INVENTORY CONTROL CHARACTERISTICS, WITH THE INFORMATION OF
, "MHEN," AND , HOM MUCH," TO BUY FOR EACH INVENTORY ITEM
CONTROLLED BY THE YSSTEM. IT DOES INTIS THROUGH THE MEANS OF
PROBABILITY SCHENCE IN CONJUNCTION MITH THE MANY FACTORS
INFLUENCING OFFI CONTROLLED ON SILVENT OF CONTROLLED FILE
CONTROLLED BY THE YSSTEM. IT DOES INTIS THROUGH THE MEANS OF
PROBABILITY SCHENCE IN CONJUNCTION MITH THE MANY FACTORS
INFLUENCE OFFI CONTROLLED ON SILVENT OF CONTROLLED TO STATE
CONTROLLED SY THE YSSTEM. IT DOES INTIS THROUGH THE MEANS OF
PROBABILITY SCHENCE IN CONJUNCTION OF THE MEAN OF ACKNOWLED
CONTROLLED ON THE OTHER CONTROLLED ON THE MEAN OF THE MEAN

BASIC PROGRAM MATERIAL —
DOCUMENTATION — PROGRAM WRITE-UP... USERS MANUAL...

OPERATORS MANUAL.

CARD DECKS- OBJECT DECK... SAMPLE PROBLEM.

OPTIONAL PROGRAM MATERIAL — SYSTEMS MANUAL WHICH CONTAINS THE
ASSEMBLY LISTINGS OF ALL THE 1440-1311 IMPACT PROGRAMS.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARI

1440-FB-03X DEMAND DEPOSIT ACCOUNTING ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-FB-03X

THIS APPLICATION PROGRAM IS DESIGNED TO ACCOMPLISH THE DEMAND DEPOSIT ACCOUNTING FUNCTION IN A COMMERICAL BANK. THE APPLICATION IS DIVIDED INTO THE FOLLOWING PROGRAM RUNS-CONVERSIONS, IBM 1440 SCRT 5, STOP PAY AND HOLD EDIT, SHORT LIST AND LEDGER CONTROL, TRANSACTION JOURNAL, POSTING, STATEMENTS, EXCEPTION STOR THE STATEMENTS, THE USER HAS THE OPTION OF PRODUCING A SEPERATE TRAIL BALANCE NCN-SUFFICIENT FUND NOTICES ARE PREPARED AUTOMATICALLY INPUT CAN BE MACHETICALLY ENODED CHECKS AND DEPOSIT SLIPS AND/OR PUNCHED CARDS.
SUMMARY AS WELL AS DETAILED STATEMENTS CAN BE PROVIDED DETAIL STATEMENTS MAY BE PRINTED EITHER SINGLY OR TWO-UP

A-1440

PAGE 021

CONTINUED FROM PRIOR COLUMN--

ED FRCM PRIOR COLUMN—

MICR CHECKS AND DEPOSIT SLIPS AND/OR PUNCHED CARDS ARE

TRANSACTION INPUT TO THE SYSTEM. MASTER RECORDS, 1000 CHARACTERS

IN LENGTH, ARE POSTED DAILY WITH ALL ITEMS AFFECTING ACCOUNT

BALANCES FROM A TRANSACTION FILE WHICH IS UNDER LEGGER CONYACL.

A PUNCHED CARD FILE IS MAINTAINED TO SATISFY STOP-PAY GROERS

AND HOLD REQUESTS. STATEMENT WRITING MAY BE CYCLED. ALL

ACCOUNTS HITHIN ANY SEQUENTIAL RANGE OF LEGGER NUMBERS ARE

PRINTED. USERS WILL WRITE THE FOLLOWING FOR INSERTION TO THE

APPROPRIATE RUN— SERVICE CHARGE ROUTINES FOR THE POSTING RUN—

A LEGGER CONTROL TABLE FOR THE CONVERSION RUN— A UTILLITY PROGRAM

TO CREATE THE MASTER FILE /AN IBM CARD TO DISK UTILLITY PROGRAM

CAN BE USED/. PROGRAM REQUIREMENTS USERS OF THIS PROGRAM SHOULD

OBTAIN THE IBM 1440 SORT 5 PROGRAM /1440-SM-030/ WHICH

CONSTITUTES RUN 03 OF SUBJECT PROGRAM MINIMUM MACHINE

REQUIREMENTS—8K 1440 SYSTEM WITH... INDEXING AND STORE ADDRESS

...TWO 1311 STORAGE ORIVES...A 1442 CARD READ PUNCH...A 1443

PRINTER WITH 24 ADDITIONAL PRINT POSITIONS...A 1447 CONSOLE WITH

SENSE SHITCHES. IF MAGNETICALLY ENCODED CHECKS AND/OR DEPOSIT

SLIPS ARE USED, A 1412 MAGNETIC CHARACTER READER HITH SERIAL 1/0

ADAPTER 7080 FOR MICH CONVERSION IS REQUIRED. PRINT STORAGE AND

SELECTIVE CHARACTER SET FEATURES, ALTHOUGH NOT REQUIRED, WILL

BASIC PROGRAM MALTERIAL —

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... SAMPLE
PROBLEM LISTINGS.
MACHINE READABLE - OBJECT PROGRAM DECK... SAMPLE PROBLEM DECK

OPTIONAL PROGRAM MATERIAL —
SOURCE DECKS.
ALL CARD DECKS MAY BE OBTAINED IN CARD IMAGE FORM ON ONE REEL CF
MAGNETIC TAPE. THIS TAPE MAY BE OBCREED FROM YOUR IBM
REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH.

OPTIONAL MATERIAL REQUIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-FB-04X HORTGAGE LOAN ACCOUNTING ORDER THROUGH LOCAL 18M BRANCH OFFICE SPECIFY FILE NUMBER 1440-FB-04X

1. DAILY PROCESSING- FILE MAINTENANCE PROCESSES AND LISTS NEW LOANS, CHANGES AND DELETIONS. PRODE LISTING IS PRODUCED FROM DEBIT AND CREDIT TRANSACTION CARDS CREATED FROM PAYMENT COUPONS, JOURNALS AND ACVICES. POSTING OF TRANSACTION CARDS TO THE MASTER ACCOUNT BALANCE FILE IS PERFORMED AND SPECIAL CONDITIONS ARE RECORDED ON A REPORT FILE. REPORTS OF TRANSACTION AND LEDGER RECAP, UNPROCESSED ITEMS, PAYOFFS /FINAL PAYMENTS/, EXCEPTIONS AND EXCESS ITEMS ARE PRODUCED.
2. DELINQUENCY PROCESSING— LATE NOTICES, DELINQUENCY NOTICES AND DELINQUENCY REPORTS ARE PRODUCED MONTHLY OR AS OFTEN AS DESIRED.

2. UELINGUENCY PROLESSING— LAIE NOTICES, DELINGUENCY NOTICES AND DELINGUENCY PROCESSING— LAIE NOTICES, DESIRED.
3. PERIODIC REPORTING— TRIAL BALANCE REFLECTING INDICATIVE INFORMATION, DATE OF LAST TRANSACTION, PAID—THROUGH DATE, TOTAL PAYMENT AMOUNT, PRINCIPAL, ESCROW, LAIE CHARGE, AND MORTGAGE LIFE BALANCE FOR EACH MORTGAGE IS MADE. STATEMENTS ARE PRODUCED ESTMI-ANNUALLY FROM THE OLD BLANCE FILE AND EXCESS TIEM CARDS PRODUCED BY THE DAILY REPORT RUN. COUPON BOOKS ARE PRODUCED FROM PAYMENT CHANGES, NEW ACCOUNT CARDS, AND THE MASTER BALANCE FILE. INVESTOR REPORTING PRODUCES COLLECTION, PAST DUE, PREPAID, VARIATION, AND PAID—OFF LOAN REPORTS ON THOSE INVESTORS SPECIFIED BY THE USER.
4. ESCROW PROCESSING— ENCOMPASSES PERIODIC ESCROW FILE MAINTENANCE, ESCROW ANALYSIS AND CUSTOMER ADVICE NOTIFYING CUSTOMER OF ANY MONTHLY PAYMENT CHANGE RESULTING FROM ESCROW ANALYSIS.

THE PROGRAM PROVIDES THE USER WITH— EFFECTIVE CONTROL...
DELINOUENT ACCOUNT INFORMATION... EFFICIENT DAILY PROCESSING...
ESCROB ANALYSIS... COMPLETE DETAIL ON DAILY ACTIVITY... LOAN
SERVICING REPORTS.
MACHINE REQUIREMENTS... A 4K 1441 PROCESSING UNIT, MODEL A3 WITH—
INDEXING AND STORE ADDRESS REGISTER, PRINTER ATTACHMENT, DISK
STORAGE CONTROL... 1442 CARD READ PUNCH, MODEL 1, CARD READ PUNCH
ADAPTER... 1443 PRINTER, MODEL 1, PRINTER CONTROL, SELECTIVE
CHARACTER SET, 13-CHARACTER PRINT BAR, 52-CHARACTER PRINT BAR...
1447 COMSOLE, MODEL 1, SENES WHITCHES... 1311 DISK STORAGE DRIVE,
MODEL 1... 1311 DISK STORAGE DRIVE, MODEL 2.

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORCERED. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL... LISTINGS.
CARD DECKS - OBJECT PROGRAM DECKS... SAMPLE PROBLEM DECK.

OPTICNAL PROGRAM MATERIAL SOURCE CARD DECKS.

ONE MAGNETIC TAPE - ALL PROGRAM DECKS MAY BE OBTAINED ON THIS
TAPE.

1440-FB-05X SAVINGS ACCOUNTING ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-FB-05X

ECIFY FILE NUMBER 1440-F8-05X

IBM NOW OFFERS FINANCIAL INSTITUTIONS A COMPREHENSIVE 1440
SAVINGS ACCOUNTING PROGRAM. SAVINGS ACCOUNTING FUNCTIONS ARE
ACCOMPLISHED THROUGH THE USE OF TWELVE 1440 PROCESSING RUNS.
MASTER ACCOUNT BALANCE RECORDS ON ALL SAVINGS ACCOUNTS ARE STGRED
AND MAINTAINED DAILY IN DISK PACKS. MASTER RECORDS CONTAIN
BALANCE DATA, CIVIDEND CATA, AND OTHER SIGNIFICANT DATA ON EACH
SAVINGS ACCOUNT. CAILY TRANSACTIONS—DEPOSITS, MITHORAWALS, AND
SHARE LUANS /PASSBOOK LOANS/—ARE POSTED TO THE BALANCE RECORD,
AND A DAILY TRANSACTION REGISTER IS PRODUCED. REPORTS ON ZERC
BALANCE ACCOUNTS, PASSBOOK DIFFERENCES, AND UNPROCESSED
TRANSACTIONS ARE PREPARED DAILY. A TRAL BALANCE IS ALSO
PREPARED DAILY. AT THE END OF A DIVIDEND PERIOD, DIVIDENDS ARE
CALCULATED, A CIVIDEND PERIOD ACTIVITY REPORT IS PREPARED, MAIL
DIVIDEND CHECKS ARE PREPARED FOR SELECTED ACCOUNTS, AND
STATEMENTS ARE PRINTED. AT THE END OF THE YEAR, DIVIDEND
REPORTING IS ACCOMPLISHED. IN ADDITION TO THE MASTER ACCOUNT
BALANCE FILE, A NAME AND ADDRESS MASTER FILE IS MAINTAINED. THIS
FILE IS USED IN THE PREPARATION OF MAIL DIVIDEND CHECKS,
STATEMENTS, AND ANNUAL DIVIDEND REPORTING.
FEATURES
PREPARATION OF TRANSACTION CARDS BY CONVERSION OF PAPER TAPE

- STATEMENTS, AND ANNUAL CIVIDENU REPURITING.
 FEATURES.
 PREPARATION OF TRANSACTION CARDS BY CONVERSION OF PAPER TAPE
 FROM WINDOW MACHINES OR BY KEY-PUNCHING FROM SOURCE.
 ABILITY TO CONCENSE MASTER ACCOUNT INFORMATION AND STORE UP
 TO 75,000 ACCOUNTS PER DISK PACK.
 VERIFICATION OF ACCOUNT BALANCES TO LEDGER CONTROL TOTALS.
 PROVISION FOR PRINTING UNCOLLECTED FUNDS, THUS PRESENTING AN

PAGE 022

CONTINUED FRCM PRIOR PAGE—

AVAILABLE FUNDS BALANCE FOR REFERENCE.

DETAILED SAVINGS JCURNAL INCLUDING PREVIOUS AND NEW ACCCUNT BALANCES AND ANTICIPATED DIVIDEND.

EXCEPTION REPORT INDICATING ACTIVITY ON DORMANT ACCOUNTS, PASSBOOK DIFFERENCES, ZERO BALANCE ACCOUNTS, ETC.

PRINT FOUR ACCOUNTS TO A LINE ON DAILY TRIAL BALANCE.

PRIND—BY—PERIOD ITEMIZATION OF UNREPORTED INTEREST ON DIVIDENDS FOR TELLER WINDOW POSTING TO PASSBOOKS.

COMPREHENSIVE DIVIDEND PERIOD ACTIVITY REPORT.

AUTOMATIC PREPARATION OF READY—TO—MAIL DIVIDEND CHECKS.

CUSTOMER STATEMENT OF ACTIVITY ECONOMICALLY PREPARED, WHICH DETAILS AS WELL AS SUMMARIZES ACTIVITY OF THE PERIOD.

MACHINE REQUIREMENTS— A 4K 1441 PROCESSING UNIT, MODEL A3 WITH... INDEXING AND STORE ADDRESS REGISTER FEATURE, PRINTER ATTACHMENT FEATURE, DISK STORAGE CONTROL FEATURE... 1442 CARD READ PUNCH, MODEL 1, CARD READ PUNCH ADAPTER FEATURE... 1443 PRINTER, MODEL 1, PRINTER CONTROL FEATURE, SELECTIVE CHARACTER SET FEATURE, 13—CHARACTER PRINT BAR... 1447 CORSOLE, MODEL 1, SENSE SWITCHES... 1311 DISK STORAGE DRIV MCDEL 1... 1311 CISK STORAGE DRIVE, MODEL 2.

THE NUMBER OF TAPES INCICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL... LISTINGS.
CARD DECKS - OBJUECT PROGRAM DECKS... SAMPLE PROBLEM DECK.

OPTIONAL PROGRAM MATERIAL -SOURCE CARC DECKS. CNE MAGNETIC TAPE - ALL PROGRAM DECKS MAY BE OBTAINED ON THIS

1440-FB-07X ON-LINE SAVINGS ACCOUNTING ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-FB-07X

THE PROGRAM DEFERS TO SAVINGS BANKS, COMMERCIAL BANKS, AND SAVINGS AND LOAN ASSOCIATIONS A REAL-TIME SYSTEM FOR USE WITH THE 1062 TELER TERMINAL.

THE PROGRAM DEFERS TO SAVINGS BANKS, COMMERCIAL BANKS, AND SAVINGS AND LOAN ASSOCIATIONS A REAL-TIME SYSTEM FOR USE WITH THE 1062 TELER TERMINAL.

THE PROGRAM PROVIDES THE USER WITH AN ON-LINE TELLER SYSTEM. IT HAS A CAPACITY. WITH MINOR MODIFICATION. FOR THIRTY-FOUR 10.22 TERMINALS ON SEVENTEEN LINES, ONE 1052 SYSTEM TERMINAL PER LINE, CR COMBINATIONS OF BOTH., AND THE MAXIMUM MACHINE CAPABILITY OF FIVE 1311 DISK DRIVES. FIVE DRIVES WILL TYPICALLY STORE MORE THAN 400,000 ACCOUNT RECORDS. THE PROGRAM AS CURRENTLY. STORE MORE THAN 400,000 ACCOUNT RECORDS. THE PROGRAM AS CURRENTLY. A DESIGN WHICH PERMITS CARE OR TWO 102 PROGRAMMING TECHNIQUE WHICH DEVELOPS AN 80 PER CENT INCREASE IN RETURE DISK FILE CAPACITY... A DESIGN WHICH PERMITS CARE OR TWO 102 PROGRAMMING TECHNIQUE WHICH DEVELOPS AN 80 PER CENT INCREASE IN RETURE DISK FILE CAPACITY... A DESIGN WHICH PERMITS CARE OR TWO 102 PROGRAMMING TECHNIQUE WHICH DEVELOPS AND ADMINISTRY OF THE WAS THE PROGRAM AND THE WAS THE PROGRAM AND A PER LINE. AMAZIMUM FILE PACKING FROM THE USE OF A VARIABLE LENGTH FORMAT JOR UNPOSTED AND MEMORANDUM RECORDS... AN PEFFICIENT MODEL AND MACHINE-ORIENTED FILE ORGANIZATION WHICH PERMITS CARE OR THAN 104,000 ACCOUNT RECORDS TO A 1311 PACK... A COMPLETELY ALLOWS MORE THAN 100,000 ACCOUNT RECORDS TO A 1311 PACK... A COMPLETELY ALLOWS MORE THAN 100,000 ACCOUNT RECORDS TO A 1311 PACK... A COMPLETELY ALLOWS MORE THAN 100,000 ACCOUNT RECORDS TO A 1311 PACK... A COMPLETELY ALLOWS MORE THAN 100,000 ACCOUNT RECORDS TO A 1311 PACK... A COMPLETELY ALLOWS MORE THAN 100,000 ACCOUNT RECORDS TO A 1311 PACK... A COMPLETELY ALLOWS MORE THAN 100,000 ACCOUNT RECORDS TO A 1311 PACK... A COMPLETELY ALLOWS MORE THAN 100,000 ACCOUNT RECORDS TO A 1311 PACK... A COMPLETELY ALLOWS MORE FOR THICH SOLVEN THE PLACEMENT OF PACK ON A SPECIFIC DRIVE. THE CUSTOMER OF THE PLACEMENT OF THE WASHIMUM TO THE PROCRAMMING THE CUSTOM

FCLLOWS - 1441 PROCESSING UNIT MODEL A6 WITH DISK STORAGE CONTROL, EXPANDED PRINT EDIT, INDEXING AND STORE ADDRESS REGISTER, CONSCLE ATTACHMENT, TRANSMISSION CONTROL UNIT ATTACHMENT, DIRECT SEEK,

EXPANDED PRINT ECIT, INCEXING AND STORE ADDRESS REGISTER, CGASCLE ATTACHMENT, TRANSMISSION CONTROL UNIT ATTACHMENT, DIRECT SEEK, BIT TEST.

1447 CONSOLE MODEL 4.

1311 OISK STORAGE CRIVE MODEL 1 FOR FIRST ORIVE, MODEL 2 FCR SECOND DRIVE / ADDITIONAL MODEL 2S AS REQUIRED/.

1448 TRANSMISSION CONTROL UNIT MODEL 1 WITH ATTACHMENT FEATURE, FIXED TIME-OUT, AND AS REQUIRED, LINE GROUP, LINE ACAPTER SET, CCHMON CARRIER ADAPTER SET, LINE GROUP, LINE ACAPTER SET, CCHMON CARRIER ADAPTER SET, LINE ADAPTER, CFF-LINE FEATURE.

1062 TELLER TERMINAL, MODEL 1 OR 2 WITH LINE ADAPTER, CFF-LINE FEATURE.

1062 TELLER TERMINAL, MODEL 1 WITH CARD READ PUNCH ADAPTER. RECOMMENDATIONS FOR POTENTIAL PRINTING NEEDS—PRINTER ATTACHMENT ON 1441 PROCESSING UNIT.

1443 PRINTER MODEL 1 OR 2 WITH PRINT STORAGE AND PRINTER CONTROL. TO IMPROVE THE TIME REQUIREMENTS FOR THE OFF-LINE RUNS—PRINT POSITIONS /24 ADDITIONAL/ AND SELECTIVE CHARACTER SET/1 ALAGA PRINTER CONTROL UNIT WITH THE APPROPRIATE ATTACHMENT FEATURE NUMBER 1325,1326,1327, OR 1328.

1403 PRINTER MODEL 2,3,5, OR 6.

1F A 1403 MODEL 3 IS SELECTED, A 1416 INTERCHANGEABLE TRAIN CARTRICGE IS AN ADDITICNAL REQUIREMENT.

THE PROCRAM DECK MAY BE OBTAINED ON ONE REEL OF MAGNETIC TAPE AS CARD IMAGES. THIS TAPE MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH. ONLY ONE REEL OF TAPE IS REQUIRED IF ONE OR MORE 1440 PROCRAMS ARE ORCERED AT THE SAME TIME.

BASIC PROGRAM MATERIAL COCUMENTATION - PREGRAM WRITE-UP...APPLICATION DIRECTORY...
APPLICATION DESCRIPTION...USERS MANUAL...OPERATORS MANUAL
AND SYSTEMS MANUAL.
MACHINE READABLE - SOURCE AND OBJECT CARD DECKS... SAMPLE
PROBLEM DECKS.

1440-FB-13X 1401/1440 PROGRAM FOR THE ALLOCATION OF RESOURCES FOR SAVINGS AND LOAN ASSOCIATIONS ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-FB-13X

4-1440

CONTINUED FROM PRIOR COLUMN--

THE 1401/1440 PROGRAM FOR THE ALLOCATION OF RESOURCES FOR SAVINGS AND LOAN ASSOCIATIONS, 144C-FB-13X, HELPS SAVING AND LOAN MANAGEMENT MAKE DECISIONS HHICH DETERMINE PROFITABLE LEVELS FOR THE ASSOCIATION'S ASSETS AND LIABILITIES.
INPUT DATA DESCRIBE THE PRESENT FINANCIAL STATUS, LEGAL REQUIREMENTS, INDIVIDUAL ASSOCIATION POLICIES, AND CASH FLOM REQUIREMENTS, OF THE ASSOCIATION AND ARE TRANSLATED BY THE PROGRAM INTO A SET OF CONCISE MATHEMATICAL EQUATIONS REFLECTING THE ECONCHIC ENVIRONMENT HITHIN WHICH THE ASSOCIATION MUST OPERATE. LINEAR PROGRAMMING, A MATHEMATICAL TECHNIQUE USED TO MAXINIZE PROFIT, CALCULATES THE SOLUTION TO THESE EQUATIONS. THIS MATHEMATICAL SCLUTION IS THEN TRANSLATED INTO OUTPUT REPORTS WITH THE FOLLOWING INFORMATION—
SHORT-TERM RECOMMENDATIONS PERTAINING TO CHANGES IN THE ASSOCIATION/S ASSETS AND LIABILITIES.
PROJECTIONS PERTAINING TO EXPECTED LONGER TERM CHANGES IN THE ASSOCIATION/S ASSETS AND LIABILITIES.
THE POSITION OF THE ASSOCIATION WITH RESPECT TO LEGAL REQUIREMENTS, REGULATIONS, AND SELF-IMPOSED RESTRICTIONS.
ASSETS AND LIABILITIES WHICH HAVE A CONSTRAINING EFFECT ON PROFIT.
THE FROSTION OF THE ASSOCIATION AS OF ENE VERM AFTER THE PREGRAM

PROFIT- THE EXPECTED RESERVE POSITION AS OF CNE YEAR AFTER THE PROGRAM

IS RUNPREGRAMMING SYSTEMS- THE PROGRAM IS WRITTEN IN THE AUTOCODER
SOURCE LANGUAGE FOR THE 1401 AND 14401440 MINIMUM SYSTEM REQUIREMENTS- A 4K 1440 SYSTEM WITH INDEXING
AND STORE ADDRESS REGISTER, MULTIPLY-DIVIDE /OPTIONAL/,
ADDITIONAL PRINT POSITIONS... 1311 DISK STORAGE DRIVE... 1316
DISK PACK... 1442 CARD READ PUNCH... 1443 PRINTER /144 PRINT
POSITIONS/.

BASIC PROGRAM MATERIAL-COCUMENTATION - PROGRAM WRITE-UP--- APPLICATION DIRECTORY--REFERENCE MANUAL--- OPERATORS MANUAL-CARD DECKS - OBJECT PROGRAM DECK--- SAMPLE PROBLEM DECK-

OPTICNAL PROGRAM MATERIAL-- SYSTEMS MANUAL... AUTOCODER SOURCE PROGRAM DECK.
CPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD-

1440-IF-07X FIRE AND CASULATY INSURANCE PROGRAMS /AUTO RATING/ ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-IF-07X

THE 1440 AUTO RATING PROGRAM CONSISTS OF A SERIES OF SUBROUTINES TO RATE PRIVATE-PASSENGER AUTOMOBILES AND PICKUP TRUCKS FOR LIABILITY, BOTH BOCILY INJURY AND PROPERTY DAMAGE, MEDICAL PAYMENTS, UNINSURED MOTORIST, ACCIDENTAL DEATH AND DISABILITY, COLLISION, COMPREHENSIVE, FIRE, FIRE AND THEFT, COMBINED ADDITIONAL COVERAGE, RIDT AND CIVIL COMMONITION, THUNDERSTORM, FLOCO AND TOWING. THERE ARE ALSO ROUTINES TO CHECK FOR VALID CAMBINATIONS OF COVERAGES AND TO PROVIDE DISCOUNTS FOR SECOND CAR, COMPACT CAR, CRIVER-TRAINING AND SAFE-DRIVER PLANS. THE USER IS ALLOWED COMPLETE FREEDOM IN DESIGNING HIS OWN IMPUT OR OUTPUT ROUTINES. ALL WORK IS DONE IN A PREDESIGNATED WORK AREA AND THE USER CAN MITTE THE PROGRAM NECESSARY TO FILL AND EMPTY THIS AREA USING CARD INPUT, OR A COMBINATION OF ALL IMPRE. THE ROUTINES CAN BE ASSEMBLED IN ANY SEQUENCE DESIRED BY THE USER, EXCEPT FOR THE MEDICAL PAYMENT AND THE ATTERIAL DAMAGE ROUTINES. ARCHIVES ADDITIONS.

BASIC PROGRAM MATERIAL-EOCUMENTATION- PROGRAM WRITE-UP... REFERENCE MANUAL INCLUDING PROGRAM LISTINGS. CARD DECKS- SOURCE DECK... SAMPLE PROBLEM DECKS.

1440-IF-08X FIRE AND CASUALTY INSURANCE PROGRAMS /HOMEOWNERS RATING/ ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-IF-08X

THE 1440 HOMEONNERS RATING PROGRAM IS DESIGNED TO RATE THREE YEAR COVERAGES ON PRIMARY AND SECONDARY LOCATIONS FOR FORMS 1, 2, 3 WITH 4, 4, AND 5. THE TABLES USED IN THE PROGRAM FOLLOW HIGSE IN THE HOMEOWNERS MANUALS WHICH ARE ISSUED BY THE VARIOUS STATE FIRE BUREAUS. THESE TABLES MUST BE CHANGED BY THE USER ACCEGING TO THE STATE WHICH HE IS RATING. SUBROUTINES ARE USED THROUGHOUT THE PROGRAM TO ALLOW THE USER THE ABILITY TO ASSEMBLE VARIOUS PROGRAM TO ALLOW THE USER THE ABILITY TO ASSEMBLE VARIOUS PROGRAM TO ALLOW THE USER THE ABILITY TO ASSEMBLE VARIOUS PROGRAM TO ALLOW THE USER THE ABILITY TO ASSEMBLE VARIOUS PROGRAM TO ALLOW THE USER RATING—AN 8K 1440, SYSTEM WITH INDEXING AND STORE ADDRESS...1442 CARD READ PUNCH...1443 PRINTER.../THIS PROGRAM WILL ALSO RUN ON A 4K 1440 SYSTEM WITH A 1311 DISK STORAGE DRIVE/-

BASIC PROGRAM MATERIAL—
COCUMENTATION— PROGRAM WRITE—UP... REFERENCE MANUAL INCLUDING
PROGRAM LISTINGS.

MACHINE READABLE — OBJECT PROGRAM DECK... SOURCE CARD DEUK...
SAMPLE PROBLEM CECK.

1440-IF-09X FIRE AND CASUALTY INSURANCE PROGRAMS /GENERAL DISTRIBUTION/ QROER THROUGH LOCAL IBM BRANCH.OFFICE SPECIFY FILE NUMBER 1440-IF-09X

ECIFY FILE NUMBER 1440-IF-OSX

1440 GENERAL DISTRIBUTION PROGRAM—IN ALMOST EVERY INDUSTRY
THERE IS A NEED FOR REPORTS MADE UP OF SUMMARY TOTALS IN CERTAIN
PREDETERMINED SEQUENCES. SINCE NORMALLY ONLY A SMALL PART OF
EACH RECORD IS NEEDED FOR A SUMMARY TYPE REPORT, A NEW APPROACH
HAS BEEN DEVISED. IN EENERAL, THIS PROGRAM ACCEPTS RECORDS IN
ANY SEQUENCE, EXTRACTS CONTROL FIELDS AND AMOUNT FIELDS,
SUMMARIZES AND SORTS THESE INTERNALLY. AFTER THE INPUT FILE HAS
BEEN READ, A TABLE IS WRITTEN IN SEQUENCE ON ANOTHER SECTION OF
THE CISK PACK, AND FROM THIS, REPORTS ARE PRINTED AS DESIRED.
FOUR TYPES OF CONTROL CARDS ARE USED ID DESCRIBE THE INPUT FILE
TO THE PROGRAM. OUTDUT FORMAT IS AT THE USERS DISCRETION.
RESULTS OF SUMMARIZATION EXIST IN A SPECIFIC KNOWN FORMAT ON THE
DISK PACK. CONTROLS ARE INCLUDED IN THE USERS DISCRETION.
CCUNT, NUMBER OF RECORDS DISTRIBUTED, TOTAL OF ALL AMOUNT FILEDS
CTUDY OF A STATE OF THE STATING ADDRESS OF THE OUTPUT. MACHINE
REQUIREMENTS—1440 GENERAL DISTRIBUTION—A 4K 1440 SYSTEM KITH
INDEXING AND STORE ADDRESS...1442 CARD READ PUNCH...

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BASIC PROGRAM MATERIALDOCUMENTATION- PROGRAM WRITE-UP... REFERENCE MANUAL INCLUDING
PROGRAM LISTINGS.
MACHINE READABLE - OBJECT PROGRAM DECK... SOURCE CARD DECK...
SAMPLE PROBLEM DECK.

1440-IL-05X DEBIT INSURANCE PROGRAM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-IL-05X

THE IBM 1440 DEBIT INSURANCE PROGRAM CONSISTS OF MANY RUNS DESIGNED TO PERFORM GENERAL REQUIREMENTS OF AN INSURANCE COMPANY WRITING COMBINATION BUSINESS IN THE AREAS OF UNDERWRITING, POLICY ISSUE COMBINED LIFE AND LAYSE REGISTER, AGENT PRODUCTION STATUS, AND RESERVE CALCULATIONS. UNDERWRITING AND POLICY ISSUE CONSIST OF INDUSTRAL, ACCIDENT, FAMILY LIFE, AND FAMILY HOSPITAL ROUTINES WHICH ARE MODE FROM THE OBJECT OF INDUSTRAL, ACCIDENT, FAMILY LIFE, AND FAMILY HOSPITAL ROUTINES WHICH ARE MODE FROM THE OBJECT OF THE

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CREEK CARD.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM HRITE-UP... APPLICATION DESCRIPTION
MANUAL... USERS MANUAL... OPERATORS MANUAL... SYSTEM MAI
CARD DECKS - OBJECT PROGRAM DECKS... SAMPLE PROBLEM DECKS.

OPTICNAL PROGRAM MATERIAL -SOURCE CARC DECKS. CNE MAGNETIC TAPE - CONTAINS ALL CARD DECKS IN CARD IMAGE FORM.

1440-10-010 INPUT/OUTPUT CONTROL SYSTEM ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-10-010

THE 1BM 1440 ICCS, 1440-10-10 /PREVIOUSLY NAMED 1440/1311 ICCS/
1S TO BE USEO CN 1440 SYSTEMS WITH THE NEW 1401/1440/1460
AUTOCODER /ON CISK/, 1401-AU-008.
1440 ICCS CONSISTS OF A SET OF
LIBRARY ROUTINES WHICH, WHEN CALLED FOR BY MACRO INSTRUCTICNS IN
A 1401/1440/1460 AUTOCODER /ON DISK/ SOURCE PROGRAM, ARE
SELECTEO, TAILORED AND INCLUDED IN THE OBJECT PROGRAM. FOR 1440
SYSTEMS, THESE ROUTINES PERFORM 1/0 FUNCTIONS AND HOUSEKEEPING
ASSOCIATED WITH 1311 DISK STORAGE, 1301 DISK STORAGE, 7335
MACNETIC TAPE, 1442 CARD READ PUNCH, 1442 CARD READER, 1444 CARD
PUNCH, AND 1443 PRINTER. THEY ALSO PROVIDE LINKAGE TO THE
USER/S OBJECT PROGRAM. THE SPECIFIC STATEMENTS GENERATED AT
ASSEMBLY TIME DEPEND COMPLETELY ON THE PARTICULAR SPECIFICATIONS
CONTAINED IN THE USER/S SOURCE PROGRAM.
THE PREVIOUSLY ANNOUNCED 1440-1301 IOCS /P63-129/ WILL NOT BE
MADE AVAILABLE SINCE ITS FUNCTIONS ARE INCLUDED IN THIS 1440
IGCS.

CARD PUNCH... 1443 PRINTER,

OR

A 4K 1401 SYSTEM WITH... ONE 1311 CISK STORAGE DRIVE... 1402
CARD READ PUNCH... 1403 PRINTER MOL 2 OR 1404 PRINTER...
HIGH-LOW-EQUAL COMPARE FEATURE,

OR

AN 8K 1460 SYSTEM WITH... ONE 1311 DISK STORAGE DRIVE CR ONE 1301
DISK STORAGE ARRAY... 1402 CARD READ PUNCH... ONE 1403 PRINTER.
FOR EXECUTION - THE 1440 OBJECT MACHINE MUST HAVE ANY 170 UNITS
REQUIRED BY THE USER'S PROGRAM. THE AMOUNT OF CORE STORAGE
REQUIRED VARTES WIDELY FROM PROGRAM TO PROGRAM, AND MUST BE
DETERMINED WHEN IT IS ASSEMBLED.

BASIC PROGRAM MATERIAL—
DOCUMENTATION - PROGRAM WRITE-UP... LIBRARY LISTINGS...
OPERATING PROCEDURES.
CARD DECKS-- LIBRARY CARD DECK... SAMPLE SOURCE PROGRAM
DECK FOR TEST PURPOSES... I/O CONTROL SYSTEM.

OPTIONAL PROGRAM MATERIAL -- FLOWCHARTS.
OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-IC-011 COMMUNICATIONS IOCS FOR THE 1448/DIRECT DATA CHANNEL ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-IO-011

THE 1440 COMMUNICATIONS IOCS /1448/7740/DDC/ CONSISTS OF A SET CF LIBRARY ROUTINES WHICH, WHEN CALLED FOR IN AN AUTOCODER /ON DISK/ SOURCE PROGRAM BY MACRO INSTRUCTIONS, ARE SELECTEC, IAILGRED, AND INCLUDED IN THE OBJECT PROGRAM. THESF REQUITINES PERFERM THE FUNCTIONS NECESSARY TO HANDLE 1442, 1443, AND 1311 INPUT/OUTPUT FILES, TO TRANSHIT INFORMATION TO AND RECEIVE INFORMATION FORM REMOTE LOCATIONS AND REMOTE PROCESSORS, AND IC PROVIDE LINKAGE TO THE USERTY PROGRAMS. THE SPECIFIC ROUTINES GENERATED AT ASSEMBLY TIME DEPEND LARGELY ON THE PARTICULAR SPECIFICATIONS CONTAINED IN THE USER'S SOURCE PROGRAM. THE MEW VERSION FACILITATES THE GENERATION OF PROGRAMS TO CONTROL 1446 COMMUNICATIONS OF THE COMMUNICATIONS OF THE SUSING AUTOMATIC DIALING AND AUTOMATIC ANSWERING FEATURES, AND OVER CUSTOMER-OWNED

CONTINUED FRCM PRIOR COLUMN—

COMMUNICATION LINES, WITH JHE 1030 DATA COLLECTION SYSTEM, THE 1032 DIGITAL TIME UNIT, THE 357 DATA COLLECTION SYSTEM, THE 1408 TRANSMISSION UNIT/, THE 1606 DATA COMMUNICATION SYSTEM, AND ATET TYPE 8382 AND MESTERN UNION TYPE 115A TELEGRAPH TERMINALS /UTILIZING THE TELEGRAPH ATTACHMENT FEATURE/.

USING THE EARLY MARNING PROGRAM DETION, THE USER CAN TRANSMIT LARGE MESSAGES MITHOUT ASSIGNING EQUALLY LARGE BUCKS OF CORE STORAGE TO HOLD THESE MESSAGES DURING TRANSMISSION. THE USER CAN ALSO GENERATE PROGRAMS TO CONTROL THE TRANSFER OF INFORMATION FROM A 1440 TO ANOTHER 1440, TO A 1401 OR 1460 VIA THE DIRECT DATA CHANNEL, OR FROM A 1440 TO EITHER A 1410 OR TOLO VIA THE EXPANDED SERIAL INPUT/OUTPUT ADAPTER CHANNEL. TWO UTILITY PROCRAMS /ESTOA LOADER AND ESTORAGE VIA THE 1410 OR A 7010.

THE LIBRARY ROUTINES FOR THIS IOCS ARE PLACED IN THE AUTOCODER SYSTEM THROUGH A LIBRARY RUN, USING AUTOCODER /ON DISK/ FOR 1401, 1440, AND 1460, VERSION 1, NO. 1401-AU-008.

MINIMUM SYSTEM REQUIREMENTS FOR PROGRAM ASSEMBLY ARE THE SAME AS THOSE FOR THE STORAGE VIA 1401-AU-008.

MINIMUM SYSTEM REQUIREMENTS FOR PROGRAM ASSEMBLY ARE THE SAME AS THOSE FOR THE ASSEMBLY OF ANY PROGRAM USING THE IBM 1401/1440/1460 AUTOCODER /ON DISK/ PROGRAM.

FOR OBJECT PROGRAM ASCULTION THE MACHINE COMPIGURATION DEPENDS UPON PROCESSING REQUIREMENTS. FOR COMMUNICATION BETWEEN REMOTE LOCATIONS, IOCS REQUIRES- AND ME 1440 SYSTEM WITH. INDEXING AND STORE ADDRESS REGISTER FEATURE... SEYSEM WITH... INDEXING AND STORE ADDRESS REGISTER FEATURE... SEYSEM WITH... INDEXING AND STORE ACCURTED THE ACCURTED

A-1440

BASIC PROGRAM MATERIAL -DOCUMENTATION - PROGRAM WRITE-UP... LIBRARY LISTINGS... OPERATING PROCECURES. CARD DECKS - LIBRARY CARD DECK OF MACROS.

OPTICNAL PROGRAM MATERIAL - ESIDA LOADER AND ESIDA DUMP PROGRAM CECKS.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER CARD.

1440-10-012 COMMUNICATIONS IOCS 1026/DDC/ FOR THE 1440 GREET THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-IG-012

IF FOR THE 1440

IDER THROUGH LOCAL IBM BRANCH OFFICE

PECIFY FILE NUMBER 1440-10-012

THIS LOCS FACILITATES THE GENERATION OF PROGRAMS TO CONTROL 1026

COMMUNICATION WITH 1030, 1050, AND 10cC. IT IS COMPATIBLE WITH

THE 1401/1460-1440 COMMUNICATIONS IOCSS FOR THE 1448, THUS

REQUIRING A MINIMUM OF RE-PROGRAMHING FOR GROWTH FROM 1026

TRANSHISSION CONTROL UNITS TO A 1448. APPLICATIONS CAN RANCE

FROM SINGLE INQUIRIES TO SOPHISTICATED REAL-TIME DATA OPERATIONS.

ITS FUNCTIONS ARE—

- CONTROL OF THE 1447 CONSOLE

- USER CONTROL OF POLLING, ADDRESSING AND RECEIVING

- ERROR DETECTION

- CPERATION HITH EXISTING IBM PROGRAMS FOR DOC

- TIME OF DAY RECORDING HITH THE 1032 DIGITAL TIME UNIT

THE 1440 COMMUNICATIONS IOCS /1026/DOC/ WILL OPERATE

WITH POINT-TO-POINT OR MULTI-POINT COMMON CARRIER

LEASED OR CUSTOMER-OWNED COMMUNICATION LINES. IN ADDITION, THE

PROGRAMS WILL SUPPORT THE AUTOMATIC ANSWERING FEATURE AND THE

AUTOMATIC CALLING FEATURE.

COMUNICATIONS IOCS /1026/DOC/ CONSIST OF A SET OF LIBRARY

RCUTINES WHICH, HHEN CALLED FOR IN AN AUTOCODER SOURCE PROGRAM

BY MACRO INSTRUCTIONS, ARE SELECTED, TAILORED, AND INCLUDED

IN THE OBJECT PROGRAM. THE ROUTINES PERFORM THE FUNCTIONS

NECESSARY TO HANDLE BASIC INPUT/JOUPPUT FILES, TO TRANSHII

INFORMATION TO AND RECEIVE INFORMATION FROM REMOTE LOCATIONS AND

REMOTE PROCESSORS, AND TO PROVIDE LINNAGE TO USERS/ PROGRAMS.

THE SPECIFIC ROUTINES CENERATED AT ASSEMBLY TIME DEPPEN LARGELY ON

ON THE PARTICULAR SPECIFICATIONS CONTAINED IN THE WASTES, PROGRAMS.

THE LIBRARY ROUTINES FOR THIS IOCS IS TO BE PLACED IN THE

AUTOCODER SYSTEM THROUGH A LIBRARY RUN, USING AUTOCODER /ON CISK/

FOR 1401, 1440, AND 1440, NO. 1401-AU-008.

SYSTEM REQUIREMENTS FOR PROGRAM ASSEMBLY SAME AS THOSE FOR INE

ASSEMBLY OF ANY PROGRAM USING CONTROL UNIT ATTACHMENT FEATURE.

FOR GBJECT PROGRAMS A 44 1440 WITH-... INDEXING AND STORE REGISTER

FEATURES. 1026 TRANSHISSION CONTROL UNIT ATTACHMENT FEATURE.

FOR GBJECT PROGRAMS A 44 1440 WITH-... INDEXING AND STORE REGISTER

FOR THE AUTOCOCER /ON DISK/

BASIC PROGRAM MATERIAL COCUMENTATION - WRITE-UP--- OPERATING INSTRUCTIONS.
CARD DECKS - LIBRARY DECK OF MACROS.

*M

PAGE 024

A-1440

CONTINUED FROM PRIOR PAGE--

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1440-ME-02X PROCESSOR

1440/1311 BILL OF MATERIAL

SOUK ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-ME-02X

MOST FABRICATION AND ASSEMBLY MANUFACTURING ORGANIZATIONS ARE REQUIRED TO MAINTAIN LARGE VOLUMES OF RECORDS THAT DESCRIBE THE STRUCTURE OR MAKEUP OF THEIR PRODUCTS. PRODUCT STRUCTURE RECORDS ARE REFERENCED BY VARIOUS NOMENCLATURE, SUCH AS BILLS OF MATERIAL, PARTS LISTS, AND WHERE-USED LISTS, DEPENDING UPON INDIVIDUAL ORGANIZATION PREFERENCES AND THE ARRANGEMENT OF THE DATA. THE REQUIREMENTS FOR MAINTAINING PRODUCT STRUCTURE RECORDS ARE SUFFICIENTLY SIMILAR TO ALLOW DEVELOPMENT OF STANDARD SYSTEMS APPROACHES. THE 1440/1311 BILL OF MATERIAL PROCESSOR PACKAGE INCLUDES -/1/C GENERALIZED PROGRAMS THAT ORGANIZE AND MAINTAIN PRODUCT STRUCTURE DATA ON 1311 DISK FILES AND /2/ LOGIC DIAGRAMS EXPLAINING THE USE OR RETRIEVAL OF THE PRODUCT STRUCTURE INFORMATION IN FUNDAMENTAL APPLICATIONS.

PACKAGE INCLUDES—71/ GENERALIZED PROGRAMS THAT ORGANIZE AND
MAINTAIN PRODUCT STRUCTURE DATA ON 1311 DISK FILES AND 72/ LOGIC
DIAGRAMS EXPLAINING THE USE OR RETREVAL OF THE PRODUCT STRUCTURE
INFORMATION IN FUNDAMENTAL APPLICATIONS.
FEATURES—
THIS PACKAGE CAN BE USED IN A WIDE RANGE OF MANUFACTURING
INDUSTRIES WHERE PRODUCT STRUCTURE RECORDS ARE MAINTAINED.
PRODUCT STRUCTURE RECORDS ARE LINNED WITH PART NUMBER MASTER
INVENTORY TYPE RECORDS ON DISK STORAGE.

DISK CHAINING IS USED TO ORGANIZE PRODUCT STRUCTURE DATA IN
TWO INHERENT SEQUENCES—
/// ASSEMBLY OR BILL OF MATERIAL SEQUENCE /I.E., LINKING
THE COMPONENTS OF AN ASSEMBLY/. THE USER DETERMINES THE
MAINTAINED SEQUENCE OF COMPONENTS WITHIN
THE ASSEMBLY. TYPICAL SEQUENCES MIGHT BE COMPONENT PART
NUMBER OR HOLGERE LEVEL ASSEMBLIES/. THIS CROSS—
REFERENCED SEQUENCE /I.E., LINKING THE USAGES OF A PART
NUMBER OR HOLGERE LEVEL ASSEMBLIES/. THIS CROSS—
REFERENCED SEQUENCE FILE TO WHERE—USED SEQUENCE OR SPECIED TO A MAINTAIN A
DUPLICATE FILE IN WHERE—USED SEQUENCE OR SPECIED TO A MAINTAIN A
DUPLICATE FILE IN MHERE—USED SEQUENCE OR SPECIENCE FOR
INSTEMP SECUENCE SEQUENCE FILE TO WHERE—USED SEQUENCE FOR
LISTING PUPPOSES.

RAM MATERIAL CAN BE INCLUDED IN THE PRODUCT STRUCTURE FILE,
PROVIDING COMPLETE WHERE—USED CROSS REFERENCE OF EACH RAM
MATERIAL NUMBER.

USER DESIGNS HIS OWN DISK RECORD LAYOUTS BY INCORPORATING HIS
OWN INFORMATION PLUS CERTAIN REQUIRED DATA INTO PART NUMBER
MASTER INVENTORY AND PRODUCT STRUCTURE RECORDS.

LOW LEVEL COCING IS AUTOMATICALLY MAINTAINED.

ASSEMBLY TO SUB—ASSEMBLY CONTINUITY IS VERTIFIED. THIS FEATURE
GUARANTEES THAT THE PRODUCT STRUCTURE RECORDS CAN BE

"LEST DUBLY THE PRODUCT STRUCTURE RECORDS CAN BE
"LEST BULLDS HIS OWN ENGINEERING CHANGE PROCEDURE INTO THE
FILE ORGANIZATION AND MAINTENANCE PROCEDURE INTO THE
FILE ORGANIZATION AND MAINTENANCE PROCEDURE AND THE SASEMBLE OF PROVIDED HAS AND PRODUCT STRUCTURE RECORDS.

LOSCI BATE OF ANY THE PART NUMBER HASTER INVENTORY RECORDS.

SERVENCE OF ANY THE PART NUMBER HASTER INVENTORY RECORDS.

LOW L

BASIC PROGRAM MATERIAL —

DOCUMENTATION — PROGRAM WRITE-UP...APPLICATION DIRECTORY...

PROGRAMMER MANUAL...OPERATOR MANUAL...SYSTEM MANUAL.

MACHINE READABLE — SOURCE DECK FOR PRODUCT STRUCTURE FILE

ORGAN. & MAINTENANCE PROGRAM...SAMPLE PROBLEM SOURCE, DATA

AND OBJECT DECKS.

1440-MI-701 STERLING SUBROUTINES ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-MI-701

THE 1440 STERLING SUBROUTINES, \$1440-MI-701, OPERATE ON DATA FIELDS CONTAINING REPRESENTATIONS OF STERLING MONETARY VALUES PROBLEMS, SHILLINGS, PENCE, AND DECIMALS OF PENCE! IN ANY OF THREE FORMAIS—/1/ OPERATIONS FOR TRANSLATION, /2/ ARITHMETIC, AND /3/ PREPARATION FOR PRINTING. IN ADDITION TO BEING IMMEDIATELY USEFUL FOR OPERATIONS ON STERLING FIELDS OF THE SIZES AND FORMATS FOR MHICH THEY HAVE BEEN PROGRAMMED, THE SUBROUTINES ARE USEFUL AS GUIDES AND MODELS FOR PROGRAMMED, THE SUBROUTINES ARE USEFUL AS GUIDES AND MODELS FOR PROGRAMMED BY THE USER OF ALTERED, EXTENDED, AND RELATED SUBROUTINES ARE USEFUL AS GUIDES AND MODELS FOR PROGRAMMED BY THE USER OF ALTERED, EXTENDED, AND RELATED SUBROUTINES ARE USEFUL AS SUBROUTINES ARE PROVIDED AS 1440 AUTCCODER SUBSCIECT STATEMENTS IN PUNCHED CARDS. THOSE SUBROUTINES DESIRED BY THE USER FOR A 1440 PROGRAM MAY BE INCORPORATED IN THE PROGRAM AND ASSEMBLED BY ANY VERSION OF 1440 AUTCCODER. IF 1440 BASIC AUTCCODER IS TO BE USED, THE PUNCHED CARDS MUST BE REPRODUCED WITH GOLUMNS OFFSET IN ACCORDANCE WITH BASIC AUTCCODER INTO SECTIFICATION.
MINIMUM SYSTEM REQUIREMENTS—
ANY 1440 SYSTEM HITH INDEXING AND STORE ADDRESS REGISTER FEATURE. THIS FEATURE IS USED FOR SUBROUTINE ENTRY AND EXIT PURPOSES. IT IS NOT REQUIRED FOR SUBROUTINE FOR SUBROUTINE LINKAGE IS USECL. AN ALTERNATIVE VERSION OF ONE OF THE SUBROUTINES MAKES USE OF THE MULTIPLY/DIVIDE FEATURE.

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED.

A-1440

CONTINUED FROM PRIOR COLUMN--

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS.
CARD DECKS - SYMBOLIC STATMENTS /17 DECKS/. THESE CARD DECKS MAY
BE REQUESTED ON ONE REEL OF MAGNETIC TAPE.

* M

1440 STERLING MACRO .440-MI+702 NSTRUCTIONS

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-MI-702

PURPOSE- THIS SET OF MACRO-INSTRUCTIONS, FOR INCLUSION IN THE USER/S 1440 AUTOCODER LIBRARY ON DISK, PROVIDES FOR OPERATIONS ON DATA FIELDS CONTAINING REPRESENTATIONS OF STERLING MONETARY VALUES / POUNDS, SHILLINGS, PENCE AND DECIMALS OF PENCE/ IN AMY OF THREE FORMATS. OPERATIONS FOR TRANSLATION AND ARITHMETIC ARE PORVIDED.

VALUES PROUNDS, SHILLINGS, PERCE AND BELIMALS OF PERCE? IN ANY OF THREE FORMATS. OPERATIONS FOR TRANSLATION AND ARITHMETIC ARE PROVIDED.

FEATURES—FLEXIBILITY IN THE SIZE OF STERLING FIELDS HANDLED IS PROVIDED, WITH VARIATION IN THE NUMBER OF POUNDS POSITIONS AND THE NUMBER OF DECIMALS OF PENCE. WORK—AREAS ARE SHARED AS FAR AS POSSIBLE AND THE GENERATED CODE IS FURTHER REDUCED BY A FACILITY OF PARAMETER OHISSION.

USE—THE PROGRAMMER INCLUDES THE APPROPRIATE MACRO—INSTRUCTION CODE AT THE POINT IN THE PROGRAM WHEN EXECUTION OF THE STERLING OPERATION IS REQUIRED. THE SUBSEQUENT INCLUSION OF A DEFINITE MACRO—INSTRUCTION, ALSO PROVIDED, CAUSES THE GENERATION OF CCDE TO CARRY OUT THE NECESSARY STERLING PROCESSING.

MINITUM SYSTEM REQUIREMENTS—A 4K 1440 SYSTEM WITH... 1311

DISK STORAGE DRIVE, MOL 1... 1442 CARD READ PUNCH... 1443

PRINTER. INDEXING AND STORE ADDRESS REGISTER FEATURE IS NECESSARY IN ADDITION TO THE MSSEMBLY REQUIREMENTS. ADVANTAGE CAN BE TAKEN OF THE MULTIPLY-DIVIDE FEATURE.

BASIC PROGRAM MATERIAL—
DCCUMENTATION - PROGRAM WRITE-UP... SPECIFICATIONS MANUAL
... OPERATING PROCEDURES.
CARO DECKS-- SYSTEM CARO DECK... SAMPLE PROGRAM.

OPTIONAL PROGRAM MATERIAL-- SYSTEMS FLOW CHARTS AND LISTINGS.
OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-MX-02X PROJECT CONTROL SYSTEM
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1440-MX-02X

THE 1440 PROJECT CONTROL SYSTEM, 1440-MX-02X, IS ORIENTED TO THE SPECIFIC NEEDS OF A CONSTRUCTION COMPANY AND WILL PROVIDE THE BACKBONE FOR A SALES PROGRAM THAY CAN RESULT IN NET 1440 SALES. DESCRIPTION—THE PROJECT CONTROL SYSTEM PROVIDES A BASIC CAPABILITY RELATED TO THE PLANNING, SCHEDULING, AND CONTROL OF A PROJECT THROUGH THE USE OF THE CRITICAL PATH METHOD. IN THE BASIC SYSTEM THE USER CAN INITIALLY PLAN A PROJECT, UPDATE AND MODIFY THE PROJECT SCHEDULE, MONITOR PROGRESS, AND INVESTIGATE ALTERNATE APPROACHES.

THE BASIC SYSTEM CAN BE EXPANDED BY THE USER TO INCLUDE SUCH RELATED PROJECT FUNCTIONS AS ESTIMATING AND COST CONTROL.

THE BASIC SYSTEM CAN BE EXPANDED BY THE USER TO INCLUDE SUCH RELATED PROJECT FUNCTIONS AS ESTIMATING AND COST CONTROL.

FEATURES—

A BASIC SYSTEM FRAMEWORK IS PROVIDED THAT INCLUDES 1440 PROGRAMS FOR PLANNING, SCHEDULING, AND CONTROL OF CONSTRUCTION PROJECTS.

ALL PROGRAMS, INCLUDING THOSE ADDED BY THE USER, OPERATE UNDER THE CONTROL OF A SYSTEMS MONITOR.

PLANNING ACCOMPLISHED THROUGH CONVENTIONAL ARROW DIAGRAMMING OR THE NEW, HIGHLY EFFICIENT AND EASIER TO USE PRECEDENCE DIAGRAMMING.

EACH PROJECT CAN CONTAIN UP TO 2,000 ACTIVITIES.

OUTPUT IN TERMS OF PROJECT OR CALENDAR DAYS CAN BE DISPLAYED AS BAR CHARTS, EXCEPTION REPORTS, AND PROGRESS LISTINGS IN TERMS OF QUANTITIES SET, PERCENT COMPLETE, OR REMAINING DURATION.

USE—THE SYSTEM, WRITTEN IN AUTOCODER AND IOCS, OPERATES UNDER ITS GAN MONITOR. THE MASTER SYSTEMS PACK, CONTAINING THE HITTHY-SYSTEM PROGRAMS AND ANY CUSTOMER PROGRAMS, RESIDES ON A SECOND DISK DRIVE. THE PROJECT MASTER FILE BACK RESIDES ON A SECOND DISK DRIVE. THE WORDLETH HORSE STEMPLES FOR SEQUENCE AND GUTPUT DESIRED THROUGH CONTROL CARDS ALLOWING BATCHED PROCESSING OF A NUMBER OF PROJECTS WITHOUT OPERATOR INTERVENTION.

HINIMUM SYSTEM REQUIREMENTS—AN 8K 1444 CYSTEM... THO 1311 DISK STORAGE DRIVES... 1447 CONSOLE WITH SENSE SWITCHES.

THOSEXING AND STORE ADDRESS REGISTER., DIRECT SEEK, ADDITIONAL PRINT POSITIONS... 1447 CONSOLE WITH SENSE SWITCHES.

HOMEXING AND STORE ADDRESS REGISTER. PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROSE CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM MRITE-UP... APPLICATION PROGRAM
BULLETIN... USERS MANUAL... OPERATORS MANUAL... SYSTEMS
MANUAL...
CARD DECKS - OBJECT PROGRAM DECK.

OPTIONAL PROGRAM MATERIAL - SOURCE PROGRAM CARD DECKS... PROGRAM DECKS MAY BE OBTAINED ON ONE REEL OF MAGNETIC TAPE AS CARD IMAGES.

1440-05-090 OPERATING SYSTEM COMPUTER ASSISTED INSTRUCTION COURSEMRITER LANGUAGE ORDER THROUGH LOCAL IEM BRANCH OFFICE SPECIFY FILE NUMBER 1440-05-090

FOR MANY YEARS ,,PROGRAMMED INSTRUCTION,, HAS BEEN USED TO ACCELERATE THE LEARNING PROCESSES, AUGMENT THE CONVENTIONAL TEACHING METHODS, AND PROVIDE REMEDIAL TEACHING MEASURES. THIS TECHNIQUE HAS TAKEN THE PHYSICAL FORM OF PROGRAMMED INSTRUCTION TEXT OR TEACHING MACHINES. IN BOTH CASES, THE OBJECTIVE IS TO PERMIT THE STUDENT TO PROGRESS THROUGH COURSE MATERIAL AS FAST AS HIS INCLVIDUAL CAPABILITIES WILL ALLOW. A PROGRAMMED INSTRUCTION COURSE PRESENTS TEXT MATERIAL, QUESTIONS, AND ANSWERS TO A STUDENT IN A CAREFULLY PLANNED SEQUENCE. AS HE PARTICIPATES IN THE COURSE, THE STUDENT IS CONTINUOUSLY AWARE OF HIS PROGRESS. WHENEVER HE RESPONDS INCORRECTLY TO A QUESTION, HE IS TOLD IMMEDIATELY THAT HE MADE A MISTAKE, WHICH HE IS CFIEN REQUIRED TO CORRECT. AS A CONSEQUENCE, THE NORE CAPBALE STUDENT MICKES FASTER BECAUSE HE MAKES FEMER ERRORS. THE SLOWER STUDENT RECEIVES THE PRACTICE AND REINFORCIMS TEXT HE REEDS TO ALD HIM IN LEARNING. AS EACH STUDENT MASTERS EACH SEGMENT OF THE ENTIRE SUBJECT, HE PROGRESSES THROUGH THE COURSE IN AN ORDERLY, DISCIPLINED FASHION.

CONTINUED FROM PRIOR PAGE--

THE COURSEWRITER LANGUAGE IS A SPECIAL USER LANGUAGE HITH WHICH A TEACHER / I.E. ...AUTHOR:,/ CAN PREPARE HIS COURSE MATERIALS TO ACCOMMODATE THE RANGE OF STUDENT ABILITIES. THE OPERATING SYSTEM CONSISTS OF.

1. A MONITOR TO SUPERVISE WRITING AND INSTRUCTING SINULTANEOUSLY.

2. AN ASSEMBLER WHICH EMABLES THE COURSE AUTHOR TO COMMUNICATE WITH THE COMPUTER WHEN WRITING AND REVISING COURSES.

3. UTLITITIES FOR PREPARING STUDENT AND COURSE REPORTS.

1T PROVIDES THE ABILITY.

1. FOR AUTHORS TO MRITE AND CORRECT COURSE MATERIAL WHILE STUDENTS ARE TAKING COURSES.

2. FOR A THROUGH OF THE AND CORRECT COURSE MATERIAL WHILE ESSENTIAL ADMINISTRATIVE ROUTINES.

3. TO COLLECT DATA ON STUDENT RESPONSES FOR LATER ANALYSIS.

4. FOR AUTHORS OR PROGRAMMERS TO ADD NEW FUNCTIONAL CAPABILITY TO THE COURSEWRITER.

5. TO OPERATE SIMULTANEOUSLY UP TO FIVE COURSES PER 1316 DISK PACK.

6. TO SERVICE UP TO TWELVE 1050 POINT—TO—POINT LINES WITH A 1448 OR UP TO FOUR LINES WITH FOUR 1026 TRANSWISSION CONTROL UNITS.

YELF WORDS --ASSISTED. IN THE TERM ..COMPUTER ASSISTED

448 OR UP TO FOUR LINES WITH FOUR 1026 TRANSMISSION CONTROL
UNITS.

THE WORD , ASSISTEC,, IN THE TERM , COMPUTER ASSISTED
INSTRUCTION,, IS IMPORTANT. THIS NEW METHODOLOGY IS NOT
INTENDED TO REPLACE THE IMPORTANT ROLE OF THE TEACHER IN THE
EDUCATIONAL PROCESS. INSTEAD, IT IS A NEW SCIENCE FOR ASSISTING
THE TEACHER IN ADMINISTERING COURSE MATERIAL AND TAKING FULLEST
ADVANTAGE OF THE BENEFITS OF CAI.
MINTHUM 1440/1448 COMPTIGURATION IS 1441 PROCESSING UNIT MODEL AG
MITH CONSOLE ATTACHMENT, DIRECT SEEK, DISK STORAGE CONTROL,
INDEXING AND STORE ADDRESS REGISTER, BIT TEST, TRANSMISSION
CONTROL UNIT ATTACHMENT, AND PRINTER ATTACHMENT... 1442 CARD READ
PUNCH MODEL 1 MITH CARD READ PUNCH ADDPTER... 143 PRINTER MODEL
1 MITH SELECTIVE CHARACTER SET AND PRINTER CONTROL...1447 CCASCLE
MODELS 1 AND 4 WITH SENSE SMITCHES... 1311 STORAGE ORIVE ONE
MODEL 1 AND AND HODEL 2 WITH DIRECT SEEK... 1448 TRANSMISSION
CONTROL UNIT MODEL 1 HITH 1605 ATTACHMENT FEATURE, FIXED TIME-OUT
FEATURES /NEW LINE AND LINE FEED, HORIZONTAL TABY AND, AS
REQUIRED, LINE GROUP, LINE ADDPTER SET, COMMON CARRIER ADAPTER
SET... ONE CAN ALSO OPTIONALLY SPECIFY TEXT TIME-OUT
SUPPRESSION TO DISABLE THE TIMER FROM OPERATING AT THE
NORMAL 9-18 SECOND DISCONNECT WHEN OPERATING WITH POINT-10-PCINT
SYSTEMS. THIS OPTIONAL FEATURE IS TO BE USED MITH THE TEXT
TIME-OUT SUPPRESSION ON THE 1051 CONTROL UNIT... 1050 DATA
COMMUNICATION SYSTEM - UP TO 12 SYSTEMS MAXIMUM, EACH
COMSISTING OF A 1051 CONTROL UNIT MODEL 2 WITH AN ...,
TERMINAL IDENTIFICATION LETTER AND A 1052 PRINTER-EX-DORD
MITH THE LIST PRINTER FEATURE. // JE DESIRED, THE TEXT TIME-OUT
SUPPRESSION FEATURE CAN BE ORDERED ON THE 1051 AS A REQUIRED
COMPANION TO THE ONE SPECIFIED ON THE 1648./

PROGRAMS ARE ORDERED AT THE SAME THEM.

OPTICNAL MATERIAL - PROCEAM MELTE-UP TINSTRUCTION MANIAL

DATE OF THE PROCEAM MATERIAL - PROCEAM MATERIAL - PROCEAM MATERIAL DROCEAM MATERIAL - PROCEAM MELTE-UP TINSTRUCT

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP...INSTRUCTION MANUAL...
AUTHOR AND PROCTOR MANUAL...STUDENT MANUAL.
MACHINE READABLE - A CARD DECK CONSISTING OF...SYSTEM CENTROL
PROGRAM...COMPUTER ASSISTED INSTRUCTION PROGRAM...UTILITY
PROGRAMS DECK.

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS...PROGRAM LISTINGS.

1440-0S-091 1440-1026 OPERATING SYSTEM COMPUTER ASSISTED INSTRUCTION ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-0S-091

THE COURSEWRITER LANGUAGE IS A SPECIAL USER LANGUAGE WITH WHICH TEACHER CAN PREPARE HIS COURSE MATERIALS TO ACCOMMODATE THE RANGE OF STUDENT ABILITIES. THE OPERATING SYSTEM CONSISTS OF—A MONITOR TO SUPERVISE WRITING AND INSTRUCTING SIMULTANEOUSLY. AN ASSEMBLER WHICH ENABLES THE COURSE AUTHOR TO COMMUNICATE WITH THE COMPUTER WHEN WRITING AND REVISING COURSES. UTILITIES FOR PREPARING STUDENT AND COURSE REPORTS.

IT PROVIDES THE ABILITYFOR AUTHORS TO WRITE AND CORRECT COURSE MATERIAL WHILE STUDENTS
ARE TAKING COURSES.
FOR A ,,PROCTOR,, MO OPERATES THE SYSTEM, TO UNDERTAKE
ESSENTIAL ADMINISTRATIVE ROUTINES.
TO COLLECT DATA ON STUDENT RESPONSES FOR LATER ANALYSIS.
FOR AUTHORS CR PROGRAMMERS TO ADD NEW FUNCTIONAL CAPABILITY TO
THE COURSEWRITER.
TO OPPRATE SIMULTANEOUSLY UP TO FIVE COURSES OF 1316 DISK TO OPERATE SIMULTANEOUSLY UP TO FIVE COURSES PER 1316 DISK

PACK. TO SERVICE UP TO TWELVE 1050 POINT-TO-POINT LINES WITH A 1448 OR UP TO FOUR LINES WITH FOUR 1026 TRANSMISSION CONTROL UNITS.

THE MORD ASSISTED IN THE TERM COMPUTER ASSISTED INSTRUCTION IS IMPORTANT. THIS NEW METHODOLOGY IS NOT INTENDED TO REPLACE THE IMPORTANT ROLE OF THE TEACHER IN THE EDUCATIONAL PROCESS. INSTEAD, IT IS A NEW SCIENCE FOR ASSISTING THE TEACHER IN ADMINISTERING COURSE MATERIAL AND TAKING FULLEST ADVANTAGE OF THE BENEFITS OF CAL.

THE PROGRAM DECKS MAY BE OBTAINED ON ONE REEL OF MAGNETIC TAPE AS CARD IMAGES. ONLY ONE REEL IS REQUIRED IF ONE OR MORE PROGRAMS ARE ORDERED AT THE SAME TIME. THE TAPES SUPPLIED SHOULD BE 2400 FEET IN LENGTH AND TESTED AT 556 BPI.

A-1440

PAGE 025

CONTINUED FROM PRIOR COLUMN-OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP---AUTHOR AND PROCTOR MANUAL
STUDENT MANUAL--COURSEWRITER DESCRIPTION MANUALMACHINE READABLE - SYSTEM CONTROL PROGRAM--INSTRUCTION
FUNCTION DECK--- INITIAL LOAD DECK---UTILITY PROGRAMS
DECK--

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS...PROGRAM LISTINGS.

1440-RG-020 GENERATOR 1440/1311 REPORT PROGRAM

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-RG-020

1440/311 RPG ENABLES A PROGRAM WRITTEN IN 1401/1440/1460 RPG LAMGUAGE TO BE COMPILED AND ASSEMBLED ON A 1440/1311 SYSTEM. INSTEAD OF WRITING A SPECIFIC PROGRAM FOR A REPORT, THE USER STATES HIS PROBLEM ON FIXED FORM SPECIFICATIONS SHEETS IN 1401/1440/1460 RPG LANGUAGE. THE RPG PROCESSOR OPERATES ON THE PUNCHED SPECIFICATIONS, GENERATING A PROGRAM TOO THE SPECIFIC JOB. BY RELIEVING THE USER OF THE MACHINE CODING AND PROGRAM TESTING, RPG PERMITS HIM TO CONCENTRATE HIS EFFORTS ON THE SOLUTION TO HIS PARTICULAR PROBLEM. RPG WILL GENERATE PROGRAMS TO PRODUCE REPORTS OF A VARIETY OF FORMATS FROM SOURCE DATA CONTAINED IN A CARD FILE OR DISK STORAGE FILE. THE DUIPUT REPORT CAN BE OBTAINED AT THE PRINTER, ON CARDS, ON DISK STORAGE, OR ANY COMBINATION OF THE THREE.

WITH THE RPG AND AUTOCODER /NITH IOCS LIBRARY ROUTINES/ IN CISK STORAGE, THE PROBLEM SPECIFICATION CARDS ARE LOADED AT THE CARD READER. THE COMPILATION AND ASSEMBLY ARE COMPLETELY AUTONATIC. THE CUTPUT OBJECT PROGRAM IS EITHER THE MACHINE LANGUAGE EQUIVALENT PROGRAM OR THE 1440/1311 AUTOCODER EQUIVALENT PROGRAM. THE MACHINE LANGUAGE EQUIVALENT OBJECT PROGRAM MAY BE IN THE FORM OF CONDENSED CARDS, OR IF /LOAD-AND-GO/ IS DESIRED, THE QBJECT PROGRAM MAY BE OIRECTLY LOADED FROM THE SYSTEM PACK FOR IMMEDIATE EXECUTION. THE PROGRAM LISTING, DOCUMENTATION AND DIAGNOSTIC OUTPUT ARE RECORDED ON THE PRINTER.

MINIMUM MACHINE REQUIREMENTS—FOR REPORT PROGRAM GENERATION—4K
1440 SYSTEM MITH...ONE 1442 CARD READ PUNCH...1443 PRINTER...ONE
1311 DISK STORAGE ORIVE. FOR REPORT PROGRAM EXECUTION—1440
SYSTEM MITH CORE STORAGE CAPACITY DEPENDING ON COMPLEXITY OF
REPORT...ONE 1442 CARD READ PUNCH...1443 PRINTER AND/OR 1311 DIS
STORAGE AS REQUIRED BY REPORT. THE PROGRAM MAY ALSO BE OBSTAINED
ON MAGNETIC TAPE AS CARD IMAGES /ONLY ONE REEL OF TAPE IS
REQUIRED IF ONE OR MORE 1440/1311 PROGRAM MAY ALSO BE OBSTAINED
SAME TIME/. THE OPTIONAL PROGRAM MATERIAL CONSISTS OF SYSTEM
LISTING AND SYSTEM FLONCHARDS. REFERENCE MATERIAL 1440/1311
AUTOCODER, #1440-AU-OO2
1440/1311 DCS, #1440-10-O10
1440/1311 DCS, #1440-10-O10
1440/1311 DCS, #1440-10-O10

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP...LISTINGS...SPECIFICATIONS
AND OPERATION PROCEDURES.
CARD DECKS - R.P.G. SYSTEM CARD DECK...SAMPLE SOURCE PROGRAM
FOR TEST PURPOSES.

OPTICNAL PROGRAM MATERIAL ONE MAGNETIC TAPE - PROGRAM IN CARD IMAGE FORM.
LISTINGS.
FLONCHARTS.

1440-RG-021 GENERATOR BASIC REPORT PROGRAM

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-RG-021

THIS SYSTEM IS DESIGNED TO ENABLE A PROGRAM MRITTEN IN 1440 BASIC RPG LANGUAGE TO BE COMPILED ON THE 1440 SYSTEM. THE OUTPUT IS USED TO EXECUTE THE APPLICATION ON A 1440 SYSTEM. THE FOR PROGRAM HAS THE ABILITY TO PUNCH OBJECT DECKS ON A 1444 CARD PUNCH AS WELL AS TO GENERATE OBJECT PUNCH ROUTINES FOR IT. THE SPACE—AFTER—PRINI LOGIC HAS A DELAYED SPACE RATHER THAN AN IMMEDIATE SPACE INSTRUCTION. THIS YIELDS A FASTER RUMNING OBJECT PUNCHED IN CARD, IS COMPILED ON A 1440 SYSTEM. THE OLIPPUT OBJECT PUNCHED IN CARD, IS COMPILED ON A 1440 SYSTEM. THE OLIPPUT OBJECT PROGRAM HAY BE IN THE FORM OF CONDENSED CARDS, OR IF LODA/GO IS DESIRED. IT MAY BE DIRECTLY EXECUTED. THE PROGRAM LISTING, DOCUMENTATION. AND DIRECTLY EXECUTED. THE PROGRAM LISTING, DOCUMENTATION, AND AND EXECUTION ARE THE FOLLOWING AND SYSTEM REQUIREMENTS FOR GENERATION AND EXECUTION ARE THE FOLLOWING—4K 1440 SYSTEM MITH...GNE 1442 CARD READ PUNCH...1443 PRINTER.

BASIC PROGRAM MATERIAL DOCUMENTATION - WRITE-UP... SPECIFICATIONS AND PROCEDURES...
CARD DECKS - PROGRAM DECKS... SAMPLE PROBLEM SOURCE WITH DATA
DECKS... ORDER GROUP A OR B.
GROUP A - PROGRAM FOR 4K SYSTEMS
GROUP B - PROGRAM FOR 8, 12 OR 16K SYSTEMS

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS AND LISTINGS.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1440-RG-024 REPORT PROGRAM GENERATOR 2K ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-RG-024

THE 1440 REPORT PROGRAM GENERATOR 2K MILL ENABLE A
PROGRAM MRITTEN IN 1440 RPG 2K LANGUAGE TO BE COMPILED
ON THE SYSTEM. THE DUTPUT IS USED TO EXECUTE THE APPLICATION
ON A 1440 SYSTEM. THE SOURCE PROGRAM IN THE 1440 RPG 2K
LANGUAGE, PUNCHED IN CARDS, IS COMPILED ON A 1440 SYSTEM.
THE CUTPUT OBJECT PROGRAM IS ON CONDENSED CARDS IN 1440
MACHINE LANGUAGE, OR IF , LOAD AND GOJ, IS DESIRED, THE OBJECT
PROGRAM MAY BE DIRECTLY EXECUTED. THE PROGRAM LISTING,
DOCUMENTATION, AND DIAGNOSTIC DUTPUT ARE RECORDED BY THE PRINTER.
MINIMUM SYSTEM REQUIREMENTS A 2K 1440 SYSTEM MITH... 1443
PRINTER... OME 1442 CARD READ PUNCH, MODEL 1 OR 2 OR ONE
1442 CARD READER, MODEL 4, AND ONE 1444 CARD PUNCH.

A-144C

CONTINUED FROM PRIOR PAGE--

THE NUMBER OF TAPES INCICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORGERED. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER CARD.

BASIC PROGRAM MATERIAL
COCUMENTATION - PROGRAM HRITE-UP... OPERATING PROCEDURES.
MACHINE READABLE - PROGRAM DECK... SAMPLE PROBLEM SCURCE
DECK... SAMPLE PROBLEM DATA DECK.

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS... PROGRAM LISTINGS... PROGRAM DECK CAN BE OBTAINED ON ONE REEL OF MAGNETIC TAPE IN CARD IMAGE FORM.

1440-RG-720 1440/1311 STERLING REPORT PROGRAM DEVELOPMENT ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-RG-720

PURPOSE- A DEVELOPMENT FROM 1440/1311 REPORT PROGRAM GENERATOR THAT HAS THE ADDED FACILITY OF PROCESSING STERLING FIELDS.

USE- AS WITH 1440/1311 RPG, THE OBJECT PROGRAM IS EITHER THE MACHINE LANGUAGE EQUIVALENT PROGRAM OF THE 1440/1311 AUTOCODER EQUIVALENT PROGRAM. EXTRA DIAGNOSTIC MESSAGES ARE PROVIDED APPROPRIATE TO THE STERLING PROCESSING. HHEN STERLING FIELDS ARE NOT SPECIFIED, STERLING RPG PERFORMS THE SAME FUNCTIONS AS 1440/1311 RPG.

MINIMUM SYSTEM REQUIREMENTS- A 4K 1440 SYSTEM WITH... 1442 CARD READ PUNCH... 1443 PRINTER... ONE 1311 DISK STORAGE DRIVE, MOL 1. STERLING PROCESSING IS IMPROVED BY THE PRESENCE OF MULTIPLY-DIVIDE AND THE INDEXING AND STORE ADDRESS REGISTER FEATURES ON THE OBJECT MACHINE.

BASIC PROGRAM MATERIAL—
DOCUMENTATION - PROGRAM WRITE-UP... STERLING RPG
DSPCIFICATIONS AND OPERATING PROCEDURES... BASIC RPG
SPECIFICATIONS MANUAL... BASIC RPC OPERATING PROCEDURES.
CARD DECKS-- SYSTEM CARD DECK... SAMPLE PROBLEM AND DATA
CARDS.

OPTICNAL PROGRAM MATERIAL -- SYSTEMS FLOW CHARTS AND LISTINGS.

1440-RG-721 1440 STERLING BASIC REPORT PROGRAM GENERATOR ORDER THROUGH LOCAL IBM BRANCH OFFICE

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-RG-721

PURPOSE- A DEVELOPMENT FROM 1440 BASIC RPG THAT HAS THE ADDED FACILITY OF PROCESSING STERLING DATA FIELDS.
FEATURES- THE HANDLING OF STERLING IS ACCOMPLISHED BY THE GENERATION OF CODE TO CENVERT FROM STERLING TO PENCE ON IMPUT AND TO RECENVERT FROM PENCE ON IMPUT AND TO RECENVERT FROM PENCE TO STERLING ON OUTPUT. CONSIDERABLE FLEXIBILITY IS ALLOWED IN LENGTHS OF STERLING FIELDS AND THEIR FORMATS. COLUMN 75 IS USED TO INDICATE STERLING ON DATA AND FORMAT SPECIFICATIONS., THEREFORE, EDIT WORDS AND CONSTANTS HAVE ONE LESS CHARACTER AVAILABLE THAN WITH 1440 BASIC RPG. AN HITH 1440 BASIC RPG. ON GOBECT PROGRAM MAY BE PUNCHED IN CONCENSED FROMAT OR THE ",LOAD AND GO", OPTION MAY BE USED.
EXTRA INFORMATION APPROPRIATE TO STERLING IS INCLUDED AS PART OF THE PRINT-OUT. WHEN STERLING IFFILEDS ARE NOT SPECIFIED, STERLING BASIC RPG PERFORMS THE SAME MAIN FUNCTION AS 1440 BASIC RPG WITH THE FOLLOWING RESTRICTIONS - A/MONTHLY CONVERSION FROM SINGLE DIGIT INPUT IS NOT AVAILABLE. /B/NO PRINTING OF SEQUENCE ERROR CHECKS IN THE EOIL LISTING TAKES PLACE.

MINIMUM SYSTEM REQUIREMENTS- A 4K 1440 SYSTEM WITH... 1442 CARD READ PUNCH... 1443 PRINTER.

BASIC PROGRAM MATERIAL—
DOCUMENTATION - PROGRAM WRITE-UP... SPECIFICATIONS MANUAL...

OPERATING PROCEDURES... BASIC REPORT PROGRAM GENERATOR
SPECIFICATIONS AND OPERATING PROCEDURES.

CARD DECKS-- ONE OF THE FOLLOWING GROUPS MUST BE SPECIFIEDGROUP A - 4K SYSTEM CARD DECK... SAMPLE PROBLEM
//SPECIFICATIONS CARDS AND CATA/.

GROUP B - 8, 12, 16K SYSTEM CARD DECK...
SAMPLE PROBLEM /SPECIFICATIONS CARDS AND CATA/.

OPTIONAL PROGRAM MATERIAL-- SYSTEMS FLOW CHARTS AND LISTINGS. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-SM-030 SORT 5 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-SM-030

SCRT 5 IS A GENERATIVE SORT PROGRAM DESIGNED FOR GENERATION AND USE CN AN 18M 1440 MITH AT LEAST ONE IBM 1311 DISK STORAGE DRIVE, AND A HIMIMUM OF 4000 POSITIONS OF CORE STORAGE.

THE PROGRAM NOW HAS THE ABILITY TO USE 7335 MAGNETIC TAPE FOR INPUT/CUTPUT FILES AND THE OPTION TO RELOCATE PHASE FOR OUTPUT TO THE BEGINNING OF THE WORK AREA. THE PROGRAM RECUIRES THE USE OF 1401/1440/1460 AUTOCODER, TON DISKY FOR GENERATION OF A SCRI OBJECT PROGRAM. IT IS A GENERATIVE SORT PROGRAM-ALSO NEEDS IC-010 PEATURES-SCRT 5 OBJECT PROGRAM WILL SORT FIXED LENGTH, BLOCKED OR UNBLOCKED, RECORDS IN MOVE MODE INTO EITHER ASCENDING OR DESCENDING SEQUENCE. SORTING CAN BE CONTROLLED BY AS MANY AS TEN CONTROL DATA FIELDS OF TOTAL LENGTH UP TO A MAXIMUM OF 189 CHARACTERS. SCRT 5 CAN GENERATE AN OBJECT PROGRAM THROUGH USE OF THE AUTOCODER MACRO-CENERATOR AND PARAMETER CARDS. IT IS FURTHER CLASSIFIED AS A GENERATIZED PROGRAM HIRCUGH USE OF THE AUTOCODER MACRO-CENERATOR AND PARAMETER CARDS. IT IS FURTHER CLASSIFIED AS A GENERATIZED PROGRAM HOROUGH USE OF THE AUTOCODER MACRO-CENERATOR AND PARAMETER CARDS. IT IS FURTHER CLASSIFIED AS A GENERATIZED PROGRAM HOROUGH USE OF THE AUTOCODER MACRO-CENERATOR AND PARAMETER CARDS. IT IS CURTER CLASSIFIED AS A GENERAL IZED PROGRAM HOROUGH USE OF THE AUTOCODER MACRO-CENERATOR AND PARAMETER CARDS. IT IS CURTER CLASSIFIED AS A GENERAL IZED PROGRAM HOROUGH USE IT CAN MCDIFY ITSELF AT OBJECT RUNGTHM FROM THE REQUIREMENTS-FOR GENERALION AND GBJECT TIME- 4K 1440 SYSTEM...ONE 1311 DISK STORAGE DRIVE...1442 CARD READ PUNCH...1443 PRINTER. THE OBJECT PROGRAM CAN USE, IF AVAILABLE, UP TO 5 DISK STORAGE DRIVES AND 6K, 12K, CR 16K CCRE STCRAGE CAPACITY.

BASIC PROGRAM MATERIAL COCUMENTATION - WRITE-UP... SPECS. AND OPERATING
PROCEDURES... LIBRARY DECK LISTING... PREPHASE PROGRAM
LISTING.
CARD CECKS - LIBRARY ROUTINES FROM WHICH OBJECT PROGRAMS MAY
BE GENERATED... PREPHASE DECK.

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS.

OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARC.

A-1440

CONTINUED FROM PRIOR COLUMN--

IBM 1440 MERGE 5, #1440-SM-031, IS A GENERATIVE PROGRAM FOR AN IBM 1440/1311 SYSTEM. WITH 1440/1311 AUTOCODER AND IOCS, MERGE 5 WILL GENERATE SPECIFIC OBJECT PROGRAMS THAT ARE FITTED TO THE USERS PARTICULAR MERGING APPLICATIONS. THE OBJECT PROGRAMS GENERATED BY MERGE 5 ARE GENERALIZED IN THAT THEY CAN BE MODIFIED BY THE USER IN CONTROL CARDS. WITH OBJECT PROGRAMS THE USER CAN MERGE PRESORTED, FIXED LENGTH, BLOCKED OR UNBLOCKED, DISK RECORDS IN THE MOVE MODE INTO EITHER ASCENDING OR DESCENDING SEQUENCE. A ONE-, TWO-, THREE-, CR FOUR-WAY MERGE CAN BE PERFORMED. IF SPECIFIED BY THE USER AT GENERATION TIME, OPTIONS SUCH AS LABEL CHECKING, ADDITIONS FORM CARDS, SEQUENCE CHECK AND HASH TOTAL, DELETIONS OR SELECTIONS BY CLASS CAN BE INCORPORATED INTO THE OBJECT PROGRAM. MINIMUM SYSTEM REQUIREMENTS—OBJECT PROGRAM EXECUTIOR— A 4K 1440 SYSTEM WITH SUFFICIENT CORE STURAGE TO UTILIZE THE OBJECT PROGRAM MINIMUM AND, DEPENDING UPON THE OBJECT PROGRAM REACUTIOR—A 4K 1440 SYSTEM WITH SUFFICIENT CORE STURAGE TO UTILIZE THE OBJECT PROGRAM MITH SUFFICIENT CORE STURAGE TO UTILIZE THE OBJECT PROGRAM MITH SUFFICIENT CORE STURAGE TO UTILIZE THE OBJECT PROGRAM PACK CARD READ PUNCH... AND, DEPENDING UPON THE OBJECT PROGRAM REQUIREMENTS, A 1443 PRINTER OR 1447 CONSOLE MDL 2, AND ONE TO FIVE 1311 OISK STORAGE DRIVES.

BASIC PROGRAM MATERIAL —
DOCUMENTATION — PROGRAM WRITE-UP... SPECIFICATIONS... OPERATING
PROCEDURES... FLOW CHARTS... LIBRARY LISTING... ASSEMBLY LISTING.
CARD DECKS - LIBRARY PROGRAM DECK... PREPHASE DECK.

1440-SM-032 SORT 52 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-SM-032

THE IBM 1440 SORT 52, /1440-SM-032/ IS A GENERALIZED SORT PROGRAM DESIGNED FOR USE ON AN IBM 1440 EQUIPPED WITH AT LEAST ONE 18M 1311 DISK STORAGE DRIVE AND A MINIMUM OF 8,000 POSITIONS OF CIRE STORAGE.

THIS PROGRAM SCRIS FIXEC LENGTH RECORDS IN THE MOVE MODE. THE MAXIMUM RECORD LENGTH THAT MAY BE SORTED VARIES FROM 1,200 CHARACTERS FOR AN 8K SYSTEM UP TO 3,000 CHARACTERS FOR AN 16K SYSTEM UP TO 10 CONTROL DATA FIELDS AND 189 CHARACTERS OF CONTROL DATA CONTAINED IN THESE FILELDS. THE MINIMUM MACHINE REQUIREMENTS FOR THE USE OF SORT 52 ARE-8K 1440, ONE 1311 CISK STORAGE DRIVE, 1443 PRINTER, 1442 CARD READ PUNCH.

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED.

BASIC PROGRAM MATERIAL—

DOCUMENTATION — PROGRAM WRITE-UP... OBJECT PROGRAM LISTING...

SPECIFICATIONS MANUAL... OPERATING PROCEDURES.

CARD DECKS — OBJECT PROGRAM DECK. /THIS DECK CAN BE

OBTAINED ON ONE REEL OF MAGNETIC TAPE/.

1440-SM+033 SORT 53 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-SM-033

THE IBM 1440 SORT 53, /1440-SM-033/ IS A GENERALIZED SORT PROGRAM DESIGNED FOR USE ON AN IBM 1440 EQUIPPED WITH AT LEAST ONE IBM 1314 IDSK STORAGE DRIVE, A MINIMUM OF 4,000 POSITIONS CF CORE STORAGE, AND THE DIRECT SEEK FEATURE.

THIS PROGRAM SORTS FIXED LENGTH RECORDS IN THE MOVE MODE. THE MAXIMUM RECORD LENGTH THAT MAY BE SORTED IS 400 CHARACTERS. THE SORTING CAN BE ACCOMPLISHED IN STITLE ASCENDING SECENDING SEQUENCE BASED UPON UP TO 10 CONTROL DATA FIELDS AND ISS CHARACTERS OF CONTROL LATA CONTAINED IN THESE FIELDS.

THE MINIMUM MACHINE REQUIREMENTS FOR THE USE OF SORT 53 ARE-4K 1440, CNE 1311 DISK STORAGE DRIVE, 1443 PRINTER, 1442 CARD READ PUNCH, AND THE DIRECT SEEK FEATURE.

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDRERED.

BASIC PROGRAM MATERIALDOCUMENTATION - PROGRAM WRITE-UP... OBJECT PROGRAM LISTING...
SPECIFICATIONS MANUAL... OPERATING PROCEDURES.
CARD DECKS - OBJECT PROGRAM DECK. /THIS DECK CAN BE OBTAINED
ON ONE REEL OF MACNETIC TAPE/.

1440-SM-034 SORT 54 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-SM-034

THIS PROGRAM SCRTS FIXED LENGTH RECORDS IN THE MOVE MODE.
THE MAXIMUM LENGTH RECORD THAT MAY BE SORTED VARIES FROM 1,200
CHARACTERS FOR AN 8K SYSTEM UP TO 3,00C CHARACTERS FOR A 16K
SYSTEM. THE SCRTING CAN BE ACCOMPLISHED IN EITHER ASCENDING OR
DESCENCING SEQUENCE BASED UPON UP TO 10 CONTROL DATA FIELDS AND
189 CHARACTERS OF CONTROL DATA CONTAINED IN THESE FIELDS.
THE MINIMUM MACHINE RECUIREMENTS FOR USE OF SORT 54 ARE- 8K
18M 1440 EQUIPPED WITH ONE 16M 1311 D15K STORAGE DRIVE,
AN 18M 1443 PRINTER, AN 18M 1442 CARD READ PUNCH, AND THE DIRECT
SEEK FEATURE.
THIS PROGRAM HAS BEEN GENERATED FROM THE 1440 SORT 5 LIBRARY,
PROGRAM #1440-SM-030, USING THE FOLLOWING PARAMETER CARDS.
CARD LABEL
CARD LABEL
UPTHEDIA
CARD DISK
CUTPHEDIA
DISK
SELECTIOLET
SELDELCLASS, CONTROLDATA

SELDELCLASS, CONTROLDATA CARD

ADDITIONS SEQHASH ALL DIRECT CHECKS DSKLABLOUT SYSTEMSPEC

BASIC PROGRAM MATERIAL COCCUMENTATION - PROGRAM WRITE-UP... PROGRAM LISTING...
SPECIFICATIONS MANUAL... OPERATING PROCEDURES.
CARD DECKS - OBJECT DECK.

1440-SM-035 SORT 51 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-SM-035

CONTINUED FROM PRIOR PAGE--

THE IBM 1440 SORT 51, /1440-SM-035/ IS A GENERALIZED SCRT PROGRAM DESIGNED FOR USE ON AN IBM 1440 EQUIPPED WITH AT LEAST ONE IBM 1311 DISK STORAGE DRIVE AND A MINIMUM OF 4,000 POSITICNS OF CORE STORAGE.

THIS PROGRAM SORTS FIXED LENGTH RECORDS IN THE MOVE MCDE. THE MAXIMUM RECORD LENGTH THAT MAY BE SORTED IS 400 CHARACTERS. THE SORTIME CAN BE ACCOMPLISHED IN EITHER ASCENDING OR DESCENDING SEQUENCE BASED UPON UP TO 10 CONTROL DATA FIELDS AND 189 CHARACTERS OF CONTROL DATA CONTAINED IN THESE FIELDS.

THE MINIMUM MACHINE REQUIREMENTS FOR THE USE OF SORT 51 ARE- 4K 1440, ONE 1311 DISK STORAGE BRIVE, 1443 PRINTER, 1442 CARD REAC PUNCH.

THE MUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED.

BASIC PROGRAM MATERIAL—

DOCUMENTATION - PROGRAM WRITE-UP... OBJECT PROGRAM LISTING...

SPECIFICATIONS MANUAL... OPERATING PROCEDURES.

CARD DECKS - OBJECT PROGRAM DECK. / THIS DECK CAN BE OBTAINED

ON ONE REEL OF MAGNETIC TAPE/.

1440-SM-036 IBM 1440 SORT 13
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1440-SM-036

ECIFY FILE NUMBER 1440-SM-036

SORT 13 PROGRAMS ARE GENERALIZED OBJECT SORT PROGRAMS CAPABLE CF SORTING FIXED LENGTH, BLOCKED OR UNBLOCKED, RECORDS IN MOVE MCCE IN EITHER ASCENGING OR DESCENDING SEQUENCE. THEY WILL ACCEPT INPUT FROM CARES, 1301 CISK STORAGE, OR MAGNETIC TAPE, AND WILL WRITE THE FINAL OUTPUT ON 1301 DISK STCRAGE OR TAPE. SORTING CAN BE CONTROLLED BY AS MANY AS TEN DATA FIELDS OF TOTAL LENGTH UP TO A MAXIMUM OF 189 CHARACTERS.

THERE ARE THO SEPARATE PROGRAMS AVAILABLE. THE FUNCTIONS OF EACH ONE ARE IDENTICAL EXCEPT FOR LABEL PROCESSING, PROGRAM NUMBER 1440-SM-036 WILL PROCESS TAPES WITH NO LABELS OR WITH 10CS TYPE B OC CHARACTER IDENTICAL EABLES /A TAPE MARK CANNOT FOLLOW LABELS /A PROFESSING, PROGRAM NUMBER 1440-SM-037 WILL PROCESS TAPES WITH NO LABELS /A TAPE MARK MUST FOLLOW LABELS /A TAPE MARK STERAGE MODULE, EITHER CNE 1442 CARO READE MICH HIS CONCENTRATED OF THE PROGRAM CAN USE, IF AVAILABLE, UP TO FIVE 1301 DISK STCRAGE MODULE, EITHER CNE 1442 CARO READE MICH HIS CONCENTRATE OF THE MODULES, ONE OR TWO 7335 TAPE DRIVES FOR INPUT/OUTPUT, AND 12K OR 13K STCRAGE MODULES, ONE OR TWO 7335 TAPE DRIVES FOR INPUT/OUTPUT, AND 12K OR

BASIC PROGRAM MATERIAL
DOCUMENTATION - PROGRAM MRITE-UP... OPERATING PROCEDURES...

SPECIFICATIONS MANUAL... TIMING MANUAL..

CARD DECKS - OBJECT PROGRAM DECK.

OPTIONAL PROGRAM MATERIAL-- SYSTEM LISTINGS... FLOW CHARTS. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-SM-037 IBM 1440 SORT 13 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-SM-037

ECIFY FILE NUMBER 1440-SH-037

SORT 13 PROGRAMS ARE GENERALIZED OBJECT SORT PROGRAMS CAPABLE CF SORTING FIXED LENGTH, BLOCKED OR UNBLCCKED, RECORDS IN MOVE MCCE IN EITHER ASCENDING OR DESCENDING SEQUENCE. THEY WILL ACCEPT INPUT FROM CARCS, 1301 DISK STORAGE, OR MAGNETIC TAPE, AND MILL WRITE THE FINAL OUTPUT ON 1301 DISK STORAGE, OR MAGNETIC TAPE, AND MILL WRITE THE FINAL OUTPUT ON 1301 DISK STCRAGE OR TAPE. SORTING CAN BE CCHTROLLED BY AS MANY AS TEN DATA FIELDS OF TOTAL LENGTH UP TO A MAXIMUM OF 189 CHARACTERS.

THERE ARE TWO SEPRATE PROGRAMS AVAILABLE. THE FUNCTIONS CF EACH ONE ARE IDENTICAL EXCEPT FOR LABEL PROCESSING. PROGRAM NUMBER 1440-SM-036 WILL PROCESS TAPES WITH NO LABELS OR WITH 120 CHARACTER IBM LABELS /A TAPE MARK CANNOT FOLLOM LABELS, FROGRAM HUMBER 1440-SM-036 WILL PROCESS TAPES WITH NO LABELS OR WITH 120 CHARACTER IGCS TYPE A 18M STANDARD LABELS /A TAPE MARK MUST FOLLOM LABELS /S. THERE IS NO PROVISION IN EITHER PROGRAM FOR HANDLING NON-STANDARD TAPE LABELS.

MINIMUM SYSTEM REQUIREMENTS —AN BK 1440 SYSTEM WITH ONE 1301 DISK STORAGE MODULE, EITHER CNE 1442 CARD READ PUNCH MOL I CR 2 CR CNE MINIMUM SYSTEM REQUIREMENTS —AN BK 1440 SYSTEM WITH ONE 1301 DISK STORAGE MODULE, EITHER CNE 1442 CARD READ PUNCH MOL I CR 2 CR CNE 1444 CARD READ PUNCH MOL I CR 2 CR CNE 1444 CARD RE

BASIC PROGRAM MATERIALCOCUMENTATION - PROGRAM WRITE-UP... OPERATING PROCEDURES...
SPECIFICATIONS MANUAL... TIMING MANUAL.
CARD DECKS - OBJECT PROGRAM DECK.

OPTIONAL PROGRAM MATERIAL -- SYSTEM LISTINGS... FLOW CHARTS. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-ST-02X MOTOR FREIGHT REVENUE ACCOUNTING ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-ST-02X

IDEN IPROUGH LOAL IND ANNUAL OF TALE

CEITY FILE NUMBER 1440-51-02X

ACCOUNTING AND CONTROL OF MOTOR FREIGHT REVENUE IS ONE OF THE
LARGEST CLERICAL PROBLEMS IN THE MOTOR FREIGHT INDUSTRY. EVER
SINCE THE INDUSTRY BEGAN EXTENDING CREDIT, INTERLINING SHIPPENTS,
AND EXPANDING TO LARGER NETWORKS SERVING MORE AND MORE POINTS,
REVENUE ACCOUNTING HAS GROWN MORE DIFFICULT, MORE TIME-CONSUMING,
AND MORE COSTLY. FASTER, MORE EFFICIENT REVENUE ACCOUNTING AND
CONTROL IS VITALLY NEEDED. TO MEET THIS NEED IBM HAS
DEVELOPED THE MOTOR FREIGHT INDUSTRY REVENUE ACCOUNTING
PROGRAM, HHICH PERFORMS THE FOLLOWING FUNCTIONS
- EDITING OF OAILY TRANSACTION DATA.

- PREPARATION OF DAILY TRANSACTION REGISTER WITH SIMULTANEOUS
POSTING OF REVENUE BY FREIGHT BILL NUMBER.

- PREPARATION OF CUSTOMER STATEMENTS WITH SIMULTANEOUS
POSTING TO CUSTOMER ACCOUNTS RECEIVABLE BALANCE.

- EDITING OF CASH REMITTANCE SOURCE CATA.

- APPLICATION OF CASH BY STATEMENT, FREIGHT BILL NUMBER,
AND CUSTOMER ACCOUNT NUMBER.

PREGRAM REQUIREMENTS- USERS OF THIS PROGRAM SHOULD OBTAIN IBM
1440 SCRT 5 /1440-540-307. MINIMUM SYSTEM REQUIREMENTS- A 4K
1440 SYSTEM WITH THO 1311 DISK STORAGE DRIVES... 1442 CARD
READ PUNCH... 1443 PRINTER... INDEXING AND STORE REGISTER
PRINT CONTROL, AND SCAN DISK. THIS PROGRAM IS ADAPTABLE BY
PRINT CONTROL, AND SCAN DISK. THIS PROGRAM IS ADAPTABLE BY
PRINT CONTROL, AND SCAN DISK. THIS PROGRAM IS ADAPTABLE BY
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PRINT CONTROL AND SCAN DISK. THIS PROGRAM IS ADA

PAGE 027

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CONTINUED FROM PRIOR COLUMN--

THE NUMBER OF TAPES INCICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROEN CARD.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... APPLICATION DESCRIPTION
MANUAL... PORGRAM INFORMATION MANUAL... OPERATORS
MANUAL... DETAILED PROGRAM DOCUMENTATION.
MACHINE READABLE - DBJECT PROGRAM DECKS... SAMPLE PROBLEM.

OPTIONAL PROGRAM MATERIAL - SOURCE CARD DECKS... ONE MAGNETIC TAPE CONTAINING ALL CARD DECKS.

1440-SV-090 1440-1070 PROCESS COMMUNICATION MCNITOR FOR 1401/40/60 AUTOCODER /ON DISK/ ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-SV-090

THE IBM 1440-1070 PCM, CONSISTS OF A SET OF 1401/1440/1460
AUTOCODER /ON CISK/ LIBRARY ROUTINES, USED TO GENERATE PROCESS
COMMUNICATION PROGRAMS ORIENTED TO MEET THE REQUIREMENTS OF THE
1070 PROCESS COMMUNICATION SYSTEM. THE ROUTINES ARE- MONITOR ROUTINE - CONTROLS THE HANDLING OF INTERRUPTS AND
SCHEOULING OF LINE OPERATIONS ON A PRIORITY BASIS. IT
SIMULATES A REAL-TIME CLOCK AND UP TO INNE INTERVAL TIMERS.
IN ADDITION, IT INFORMS OF ERRORS DETECTED AND RECORDS THE
STATUS OF THE LINES AND OF THE RENOTE, SYSTEMS.
- CONVERSION SUBROUTINE - CALIBRATES THE ADD OF 1070 SYSTEMS AND
CONVERS OR CONVERTED AND A STANDARD RANGE.
- DELTA/LIMIT CHECK SUBROUTINE - PERFORMS LIMIT AND/OR DELTA
CHECKS ON CONVERTED ACC REDINGS.
- CONTACT SENSE SUBROUTINE - COMPARES CURRENT CONTACT SENSE
READINGS WITH A MASTER MASK OR WITH PREVIOUS READINGS.
- THERMOCOUPLE SUBROUTINE - GENERATES TEMPERATURE VALUES FROM
CONVERTED THERMOCOUPLE READINGS.
- THERMOCOUPLE SUBROUTINE - PERFORMS OUTPUT CHECKS ON
TRANSMISSION LINES AND REMDIE SYSTEMS.

HE PROGRAM IS USED IN CONJUNCTION WITH 1401/1440/1440
AUTOCODER YON DISK/. THE PCM IS INSERTED IN THE AUTOCODER
LIBRARY DURING A LIBRARY RUN AND CALLED BY MACRO-INSTRUCTIONS
IN THE USESS PROGRAM. THE PCM CAN BE USED IN CONJUNCTION
MITH THE 1440-10CS OR 1401/1460 IOCS /CN DISK/.
MINTHUM SYSTEM CORNEGURATIONS—ONLY THOSE FEATURES RECUIRED BY
1401/1440/1440 AUTOCODER /ON DISK/ ARE NEEDED WHEN ASSEMBLING A
PROGRAM USING THE 1440-1070 PCM. FOR THE EXECUTION OF AN
OBJECT PROGRAM USING THE PCM. THE FOLLOWING IS REQUIRED—AN
K 1440 OR 1440 SYSTEM WHITH...1447 CONSOLE, MODEL 2...INDEXING
AND STORE ADDRESS REGISTER...WILLTIPLE (26 TRANSMISSION CONTROL
UNIT...INTERRUPT...THE ENLITER.

BASIC PROGRAM MATERIAL—

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP...SPECIFICATION MANUAL...
OPERATING PROCEDURES MANUAL.
MACHINE READABLE - LIBRARY ROUTINES CARD DECK.

OPTICNAL PROGRAM MATERIAL - PROGRAM LISTINGS...PROGRAM NOTE- PROGRAM DECK MAY BE OBTAINED ON ONE REEL OF MAGNETIC TAPE AS CARD IMAGES. CNLY ONE REEL IS REQUIRED IF ONE OR MORE PROGRAMS ARE ORDERED AT THE SAME TIME. CPTIONAL MATERIAL REQUESTED MUST BE ITENTIZED ON THE ORDER CARD. THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS CROERED. THE TAPE PROVICED MUST BE 2400 FEET IN LENGTH.

1440-SV-091 1440-1070 PROCESS
COMMUNICATION MONITOR FOR 1440 BASIC AUTOCODER
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1440-SV-091

THE IBM 1440-1070 PCH, CONSISTS OF A SET OF 1440 BASIC AUTCCCER ROUTINES, USED TO GENERATE PROCESS COMMUNICATION PROGRAMS OF THE ROUTINES, USED TO GENERATE PROCESS COMMUNICATION PROGRAMS OF THE ROUTINES ARE—
COMMUNICATION SYSTEM. THE ROUTINES ARE—
MONITOR ROUTINE—CONTROLS THE HANDLING OF INTERRUPTS AND SCHEOULING OF LINE OPERATIONS ON A PRIORITY BASIS. IT SIMULATES A REAL-TIME CLOCK AND UP TO INNE INTERVAL THRES. IN ADDITION. IT INFORMS OF ERRORS OFFICETED, AND RECORDS THE STATUS OF THE LINES AND OF THE REMOIT SYSTEMS.

CONVERSION SUBROUTINE—CALIBRATES THE ADD OF 1070 SYSTEMS AND CONVERTS AND RECORDS THE STATUS OF THE LINES AND OF THE REMOIT SYSTEMS.

CONVERSION SUBROUTINE—CALIBRATES THE ADD OF 1070 SYSTEMS AND CONVERTS AND RECORDS THE STATUS OF THE PROCESS OF THE REMOIT OF THE REMOIT SYSTEMS.

CONVERSION SUBROUTINE—CALIBRATES THE ADD OF 1070 SYSTEMS AND CONVERTS ON CONVERTED ACCORDS.

CONTACT SENSE SUBROUTINE—COMPARES CURRENT CONTACT SENSE READINGS WITH A MASTER MASK OR MITH PREVIOUS READINGS.

THERMOCOUPLE SUBROUTINE—GENERATES TEMPERATURE VALUES FROM CONVERTED THERMOCOUPLE READINGS.

HERMOCOUPLE SUBROUTINE—PERFORMS OUTPUT CHECKS ON TRANSMISSION LINES AND REMOIT SYSTEMS.

THE PROGRAM IS USED IN CONJUNCTION MITH 1440 BASIC AUTCCCORE. A PRE-ASSEMBLY WIN IS REQUIRED TO TAILOR THE PORT THE USERS INSTALLATION AND REQUIREMENTS BEFORE ASSEMBLY WIN THE USERS INSTALLATION AND REQUIREMENTS BEFORE ASSEMBLY WIN AND FOR MITH HERMOCOUPLE READINGS.

HERMOCOUPLE CONTROL OF THE PROGRAM SING THE PACH OF THE PROCESS OF THE PROGRAM.

HINIMUM SYSTEM ON BRECIFIED TO TAILOR THE PORT THE PROCLICE OF THE PROCESS OF THE PROGRAM. THE PROCESS OF THE PROGRAM SING THE 1440-1070 PCM. FOR A PRE-ASSEMBLY WIN AND FOR CLUCKES OF THE PROCESS OF THE PR

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BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP...SPECIFICATIONS MANUAL...
OPERATING PROCEDURES MANUAL...
MACHINE READABLE - 1440 BASIC AUTUCODER ROUTINES AND A
PRE-ASSEMBLY OBJECT PROGRAM DECK.

OPTICNAL PROGRAM MATERIAL - PROGRAM LISTINGS...PROGRAM FLOMCHARTS.

NOTE- PROGRAM DECK MAY BE OBTAINED ON ONE REEL OF MAGNETIC TAPE AS CARD IMAGES. ONLY ONE REEL IS REQUIRED IF ONE OR MCRE PROGRAMS ARE ORDERED AT THE SAME TIME.

OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CRORE CARD. THE NUMBER OF TAPES INDICATED MAY BE GROERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS CROERED. THE TAPE PROVICED MUST BE 2400 FEET IN LENGTH.

A-1440 PAGE 028

1440-UH-O1X HOSPITAL PATIENT BILLING ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-UH-01X

THE APPLICATION PROGRAM FOR PATIENT BILLING CONSISTS OF FOURTEEN IBM 1440 PROCESSING RUNS TO PROVIDE FOR THE ACCOUNTING AND CONTROL OF SERVICES RENCERED TO PATIENTS OF A HOSPITAL. PROCESSING IS COME UNDER A MONITOR WHICH ALLOWS FOR PROGRAM INTERRUPT TO SATISFY INTERIM REPORTS SUCH AS DISCHARGE/DEMAND BILLS OR PATIENT BALANCES. FEATURES-PROCESSING PROGRAMS ARE KEPT IN DISK STORAGE AND ARE CALLED IN, AS NEEDED, BY A UNIQUE CALL CARD. PROCESSED DATA IS PUNCHED INTO INPUT CARDS, THUS PRESERVING BASIC AND RESULTANT CATA. RUNNING PROGRAMS CAN BE INTERRUPTED FROM THE CONSOLE TO OBTAIN THE STATUS OF AN ACCOUNT.

THE STATUS OF AN ACCOUNT.

USE—AT THE TIME A PATIENT IS ADMITTED, A MASTER RECORD IS CREATED AND ENTERED TO DISK STORAGE. THROUGH—OUT THE PATIENTS STAY IN THE HOSPITAL, ALL CHARGES, CREDITS, ETC. ARE ACCRUED TO THE MASTER FILE. INTERIM REPORTS SUCH AS CENSUS AND IN-HOUSE BILLS ARE CREATED. UPON DISCHARGE BILLS CAN BE ISSUED. FINAL AND INSURANCE BILLS ARE PREAPRED FOLLOWING THE CUSTOMARY THREE—DAY ALLOWANCE FOR LATE CHANGES TO BE RECEIVED AT THE DATA PROCESSING CENTER. REVENUE DISTRIBUTION IS AVAILABLE FROM DATA RETAINED IN DISK STORAGE. MINIMUM MACHINE REQUIREMENTS—4K 1441 PROCESSING UNIT, MODEL A3 WITH— INDEXING AND STORE ADDRESS REGISTER FEATURE
1443 PRINTER ATTACHMENT FEATURE
1545 STORAGE CONTROL FEATURE
1446 PRINTER ATTACHMENT FEATURE
1447 CASOR READ PUNCH
1443 PRINTER, WITH PRINTER CONTROL FEATURE
1447 PURCHES, WITH PRINTER CONTROL FEATURE
1447 PURCHES, WITH PRINTER CONTROL FEATURE
1447 PURCHES, WITH SENSE SWITCHES
1311 DISK STORAGE ORIVE, MODEL 1

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... PROGRAM MANUAL... LISTINGS.
CARD DECKS - SOURCE PROGRAM DECKS... ROUTINE DECKS FCR
REASSEMBLIES.

1440-UH-02X HOSPITALS

ACCOUNTS RECEIVABLE FOR

GROER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-UH-02X

DER TIRKOUGH LUAZI IBM BRANCH UFFICE
CITY FILE NUMBER 1440-UH-02X

THE PROGRAM ACCOMPLISHES ALL FUNCTIONS NORMALLY REQUIRED BY
HOSPITALS TO MAINTAIN A MELL CONTROLLED ACCOUNTS, RECEIVABLE
OPERATION. IT INCLUDES ESTABLISHMENT OF NEW ACCOUNTS, CASH
POSTING OF RECEIPTS, AGED TRIAL BALANCE REPORTS, INQUIRY INTO
ACCOUNT STATEMENT WAITING AND FILE MAINTENANCE TO
CLOSE ACCOUNTS. PROCESSING PROGRAMS ARE KEPT IN DISK STORAGE
AND ARE CALLED IN, AS NEEDED, BY A CALL CARD. THEY CAN BE
INTERRUPTED FOR INQUIRY AND EXCEPTION REPORTS. INFORMATION
RECESSARY TO CONSTRUCT THE ACCOUNTS RECEIVABLE RECORD IN DISK
STORAGE IS AUTOMATICALLY CREATED BY THE PATIENT BILLING
PROCEDURES J1440-UH-OIX WHEN A PATIENT IS DISCHARGED, OR BY
KEY-PUNCHED DATA OBTAINED FROM OUT-PATIENT ACCOUNTING PROCEDURES.
CASH RECEIPTS ARE POSTED AS RECEIVED. STATEMENTS ARE MRITTEN AT
THE DISCRETION OF THE USER. THIS IS ACCOMPLISHED BY SPECIFYING
TO THE SYSTEM WHAT PORTION OF THE ACCOUNTS RECEIVABLE FILE
STATEMENTS ARE TO BE WRITTEN FROM. AGED THAT BALANCE CAN BE
MRITTEN AY ANY DESIRED INTERVAL TO PROVIDE UNIFORM LOAD
DISTRIBUTION. ACCOUNTS MAY BE SEQUENCED TO PROVIDE SELECTIVE
MORITOR CONTAINED IN THE 1BM 1440 HOSPITAL PATIENT BILLING
MOLL 1440-UH-OIX/ APPLICATION PROGRAM. MINIMUM MACHINE
RECUIREMENTS-4K 1441 PROCESSING UNIT, MODEL A3, WITH— INDEXING
AND STORE ADDRESS REGISTER FEATURE
1443 PRINTER ATTACHMENT FEATURE
101K STORAGE CONTROL FEATURE

BASIC PROGRAM MATERIAL -DOCUMENTATION - PROGRAM WRITE-UP... PROGRAM MANUAL... LISTINGS. CARD DECK - SOURCE CARD DECK.

1440-UH-03X HOSPITAL ACCOUNTS PAYABLE ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-UH-03X

HOSPITAL ACCOUNTS PAYABLE CONSISTS OF NINE 1440 PROCESSING PROGRAMS TO PROVIDE FOR ACCOUNTING AND CONTROL OF THE ACCOUNTS PAYABLE OF A HOSPITAL. A 1311 DISK STORAGE DRIVE WITH A 1316 DISK PACK IS THE MEDIUM USED FOR STORAGE OF ALL ACCOUNT PAYABLE AND DISTRIBUTION RECORDS AND IS ORGANIZED TO RECORD AN UNLIMITED NUMBER OF ENTRIES FOR EACH PAYABLE ACCOUNT. WHEN A PAYABLE INVOICE IS RECEIVED, IT IS POSTED TO THE MASTER PAYABLE FILE UNTIL MANAGEMENTS DECISION TO PAY THE INVOICE. AT THIS TIME, A CHECK RUN IS MADE AGAINST THE MASTER PAYABLE FILE AND THE INVOICE IS FLAGGED AS PAID. AT A LATER TIME, THE AND THE INVOICE IS FLAGGED AS PAID. AT A LATER TIME, THE AND THE AMOUNT OF DISCOUNT TAKEN ON THE INVOICE IS PUNCHED INTO THE INVOICE ARCONDED FROM THE MASTER PAYABLE FILE, AND THE AMOUNT OF DISCOUNT TAKEN ON THE INVOICE IS PUNCHED INTO THE INVOICE. INCLUDED IN HOSPITAL ACCOUNTS PAYABLE ARE ORGINAL INVOICE. INCLUDED IN HOSPITAL ACCOUNTS PAYABLE RECORDS, CREATE NEH ACCOUNTS PAYABLE RECORDS, PRINT SHORD INVOICES, PRINT CHECK AND ADMITTANCE ADVICE, AND CLOSE VENDOR INVOICES, PRINT CHECK AND ADMITTANCE ADVICE, AND CLOSE VENDOR INVOICES,

PROGRAM REQUIREMENTS— THESE PROGRAMS RUN UNDER THE MONITOR CONTAINED IN THE 18M 1440 HOSPITAL PATIENT BILLING /1440-UH-O1X/APPLICATION PROGRAM.

MINIMUM MACHINE REQUIREMENTS— A 4K 1441 PROCESSING UNIT, MODEL A3, MITH—INDEXING AND STORE ADDRESS REGISTER, PRINTER ATTACHMENT, DISK STORAGE CONTROL, CONSOLE ATTACHMENT, JOISK STORAGE CONTROL., CASC. 1447 CONSOLE, MODEL 1, MITH SENSE SWITCHES AND A 1447, MODEL 2... 1447 CORSOLE, MODEL 1, MITH SENSE SWITCHES AND A 1447, MODEL 2... 1311 CISK STORAGE DRIVE, MODEL 1.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP--- PROGRAM MANUAL INCLUDING
LISTINGS.
CARD DECKS - SOURCE PROGRAM DECKS.

1440-UH-04X HOSPITAL INVENTORY PROGRAM

ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1440-UH-04X

A PERPETUAL INVENTERY PROVICES FOR A CONTINUOUS RECORD OF SUPPLY RECEIPTS, ISSUES, AND STOCK ON HAND. ITEMS RECUIRING MANAGEMENT ATTENTION ARE LISTED ON EXCEPTION REPORTS. ON A PERICOLD BASIS, TRANSACTIONS POSTED TO THE INVENTORY RECORDS ARE TRANSFERRED TO GENERAL LEDGER ACCOUNTS WHICH REFECT THE AGGREGATE OF RECEIPTS AND ISSUES POSTED TO INDIVIDUAL INVENTORY LEDGER RECORDS. A 1311 DISK STORAGE DRIVE WITH A 1316 DISK PACK IS USED FOR STORAGE OF ALL INVENTORY ITEM AND OPEN PURCHASE ORDER RECORDS. THE FILE IS ORGANIZED AND CONTROLLED SEQUENTIALLY, AND, BECAUSE DISK PACKS ARE INTERCHANGEABLE, THERE IS VIRTUALLY NO LIMIT TO THE NUMBER OF ITEMS IT CAN HANDLE.

HANDLEFEATURES- COMPREHENSIVE EXTERNAL AND INTERNAL CONTROL WITH ALDIT TRAIL.
- SEQUENTIAL INVENTORY FILE ORGANIZATION WITH 5280 ITEMS IN
40 CYLINGERS.
- PROGRAMS ON CISK UNCER THE CONTROL OF A MONITOR.
- AUTOMATIC FLAGGING OF ITEMS BELOW MINIMUM INVENTORY LEVELS OR
CUIT OF STOCK.
- MEANINGFUL REPORTS FOR STOCK STATUS, PURCHASE ORDER,
ITAMSACTION REGISTER, GENERAL STORES INVOICE, ITEM
CISTRIBUTION, AND CONTROL UNITS.
- INCUIRY TO INVENTORY ITEM AND PURCHASE ORDER RECORDS.
PREGRAM REQUIREMENTSTHESE PROGRAMS RUN UNDER THE MONITOR CONTAINED IN THE IBM 1440
HOSPITAL PATIENT BILLING /1440-UH-OIX/ APPLICATION PROGRAMS.
MINIMUM SYSTEM REQUIREMENTS4 KI 1441 PROCESSING UNIT MODEL A3 WITH- INDEXING AND STORE
ADDRESS REGISTER, 1443 PRINTER ATTACHMENT, DISK STORAGE CONTROL,
1443 PRINTER WITH PRINTER CONTROL... 1447 CONSOLE MODEL 2 WITH
BRASE PROGRAM MATERIAL--

BASIC PROGRAM MATERIALDOCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL
INCLUCING PROGRAM LISTINGS.
CARD DECKS - SOURCE PROGRAM DECKS.

1440-UH-05X HOSPITAL GENERAL LEDGER GRDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-UH-05X

THE 1440 HOSPITAL GENERAL LEDGER PROGRAM /1440-UH-05X/ PACKAGE REDUCES THE TIME AND EFFORT REQUIRED BY HOSPITALS TO PROGRAM AND INSTALL A GENERAL LEDGER APPLICATION.
SEVEN PROGRAMS ARE PROVICED BHICH RESULT IN THREE MAJOR REPORTS AND A UNIFORM CHART OF ACCOUNTS. THE PROGRAMS ARE- LOAD MASTER LEDGER ACCOUNTS, ADD AND DELETE MASTER RECORDS, GENERAL LEDGER POSTING, TRIAL BALANCE RUN, INCOME AND EXPENSE REPORT, GENERAL LEDGER RUN, SEVEN PROGRAMS ARE RETAINED IN CISK STORAGE AND CALLED IN, AS NEEDED, BY UNIQUE CALL CARDS. GENERAL LEDGER ACCOUNTS MASTERS ARE RETAINED IN CISK STORAGE WITH THE PROVISION, THROUGH THE INQUIRY PROGRAM. PROCESSING PROGRAMS ARE RETAINED IN CISK STORAGE WITH THE PROVISION, THROUGH THE INQUIRY PROGRAM, TO BE CISPLAYED ON THE CONSCILE TYPERITER. PROGRAM REQUIRENENTS— THE PROGRAMS IN THIS PACKAGE RUN UNDER THE MONITOR CONTAINED IN THE 18M 1440 HOSPITAL PATIENT BILLING APPLICATION PROGRAM /1440-UH-01X/.

MINITUM SYSTEM REQUIREMENTS— 1441 PROCESSING UNIT MOL AS WITH INDEXING AND STORE ADDRESS REGISTER, 1443 PRINTER ATTACHMENT, DISK STORAGE CONTROL, CONSCILE /1447 NOL 2/ ATTACHMENT, 1142 CANSCILE MCL 2 WITH SENSE SWITCHES... 1311 DISK STORAGE DRIVE MOL 1.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL
INCLUDING PROGRAM LISTINGS.
CARD DECKS - OBJECT DECKS... SAMPLE PROBLEM.

OPTIONAL PROGRAM MATERIAL - SOURCE CARD DECKS. ALL CARD DECKS MAY BE CETAINED IN CARD IMAGE FORM ON ONE REEL CF MAGNETIC TAPE. THIS TAPE MAY BE ORDERED FROM YOUR 18M REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER CARD.

1440-UH-06X HOSPITAL PAYROLL ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-UH-06X

ECIFY FILE NUMBER 1440-UF-OCX

HGSPITAL PAYROLL IS DESIGNED TO ACCOMPLISH BASIC PAYROLL
FUNCTIONS OF A HCSPITAL. RECOGNIZING THAT THERE ARE SUBSTANTIAL
VARIATIONS IN PAYROLL POLICIES AMONG HCSPITALS, THE SYSTEM
CAN BE EASILY MODIFIED TO SPECIFIC RECURREMENTS. THO FILE DATA
LOAD PROGRAM—ARE USED TO INITIALIZE THE PAYROLL DISK PACK AND TO
SET UP THO-SECTOR EMPLOYEE RECORDS FOR EACH EMPLOYEE. THREE
PROGRAMS ARE INCLUDED WHICH PERFORM PAYROLL CALCULATIONS
AND PRINTED OUTPUT. THE PAYROLL REGISTER PROGRAM CALCULATES
PAY FOR SALARIED EMPLOYEES, PAID BI-MONTHLY, AND HOURLY
EMPLOYEES, PAID WEEKLY. THIS PROGRAM PRINTS THE PAYROLL REGISTER
SHOWING THE NUMBER OF MOURS WORKED, GROSS PAY, EXTRA EARNINGS,
FICA, FIIT, TOTAL DEDUCTIONS, AND NET PAY. DEPARTMENTAL TOTALS
ARE PRINTED AND PUNCHED AS DESIRED. THE CHECK AND STATEMENT
PROGRAM PRINTS CHECKS AND STATEMENTS AND THE PAY DEPARTMENTAL TOTALS
ARE PRINTED AND PUNCHED AS DESIRED. THE CHECK AND STATEMENT
PROGRAM PRINTS CHECKS AND STATEMENTS HALLE CALCULATION AND
CHECKING CONTROL TOTALS HELD IN DISK STORAGE FROM THE PAYROLL
REGISTER RUN. THE THIRD PROGRAM PRINTS A DEDUCTION REGISTER
REFLECTING EMPLOYEE NAME AND NUMBER, CURRENT GROSS, CURRENT
NET, AND ALL DEDUCTIONS TAKEN FOR THE PAYROLL PERIOD.

PROCRAM PECULIPEMENTS. THESE PROGRAM PRINTS AD DEDUCTION REGISTER
REFLECTING EMPLOYEE NAME AND NUMBER, CURRENT GROSS, CURRENT
NET, AND ALL DEDUCTIONS TAKEN FOR THE PAYROLL PERIOD.

PROGRAM REQUIREMENTS— THESE PROGRAMS RUN UNDER THE MONITOR CONTAINED IN THE 1BM 1440 HOSPITAL PATIENT BILLING /1440— UH-O1X/ APPLICATION PROGRAM.
MINIFUM MACHINE REQUIREMENTS— A 4K 1441 PROCESSING UNIT, MODEL A3, MITH—INDEXING AND STORE ADDRESS REGISTER, PRINTER ATTACHMENT, DISK STORAGE CONTROL, CONSCILE ATTACHMENT /1447, MODEL 2/... 1442 CARD READ PUNCH... 1443 PRINTER, WITH PRINTER CONTROL. 1447 CONSOLE, MODEL 1, MITH SENSE SWITCHES AND A 1447, MCDEL 2... 1311 DISK STORAGE ORIVE, MODEL 1.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP... PROGRAM MANUAL INCLUDING
LISTINGS.
CARD DECKS - SOURCE PROGRAM DECKS.
CINE MAGNETIC TAPE - CONTAINS ALL CARD DECKS IN CARD IMAGE FORM.
JTHIS TAPE MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE CR
SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH/.

1440-US-01X SECONDARY SCHOOL PROGRAMS /STUDENT SCHEDULING/ ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-US-01X

STUDENT SCHEDULING CONSISTS OF FIVE PROGRAMS— COURSE REQUEST TALLY, CONFLICT MATRIX, SCHEDULING, SCHEDULE PRINTING, AND UTILITY. THE COURSE REQUEST TALLY, CONFLICT MATRIX, SCHEDULING, SCHEDULE PRINTING, AND UTILITY. THE COURSE REQUEST TALLY AND CONFLICT MATRIX PROGRAMS ARE AN AID TO THE SCHOOL ADMINISTRATOR IN BUILDING HIS MASTER SCHEDULE. THE TALLY PROGRAM COUNTS THE STUDENT REQUESTS AND COMPUTES THE NUMBER OF SECTIONS BASED ON ONE FIXED FACTOR. CNLY ONE FACTOR IS USED FOR ALL COURSES. THE CONFLICT MATRIX PROGRAM DETERMINES THE NUMBER OF POTENTIAL CONFLICTS FOR A MAXIMUM OF 100 SINGLE AND DOUBLE SECTION COURSES. A MATRIX IS PRINTED SHOWING THIS INFORMATION. THE STUDENT SCHEDULING PROGRAM IS DIVIDED INTO TWO PHASES. PHASE I PROCESSES THE STUDENT RECUEST CARDS AGAINST THE MASTER SCHEDULE STORED IN THE DISK FILE TO DETERMINE CONFLICTS. STUDENT CONFLICTS ARE PRINTED SHCHING STUDENT INFORMATION, THE COURSE CAUSING THE CONFLICT AND ALL COURSES REQUESTED BY THE STUDENT. SCHEDULED INFORMATION FOR STUDENTS IS WRITTEN INTO THE DISK FILE. AT THIS POINT, DEPENDING ON THE NUMBER OF CONFLICTS, THE PROGRAM MAY GOT OP PHASE 2 WRITTES THE DETAIL COURSE INFORMATION FOR BEEN BEEN ENDER FOR THE STUDENT MASTER RECORD AREA. IT SCHEDULE PRINTING PROGRAM PRINTS THE STUDENT AND COURSE INFORMATION FOR THE FOURTH OR FIFTH PERIOD AND STUDY HALLS. IN SCHEDULE PRINTING PROGRAM PRINTS THE STUDENT AND COURSE INFORMATION FROM THE DISK FILE ONTO THE SCHEDULE IN THILL PRINT AND COURSES. AS SECTIONS PER PERIOD OR 3200 SECTIONS MAXIMUM. /EXPANDABLE WITH MORE DISK STORAGE/ USES EIGHT PERIOD CAY AND SEVEN STUDENT REQUESTS 3000 STUDENTS PER PICES WHERE APPLICABLE. FEATURES.

WILL HANDLE 799 COURSES, 4 SECTIONS PER PERIOD OR 3200 SECTIONS MAXIMUM. /EXPANDABLE WITH MORE DISK STORAGE/ USES EIGHT PERIOD CAY AND SEVEN STUDENT REQUESTS 3000 STUDENTS PER PICE SHERE AND FOLK.

PRINTS SCHEDULES AND PUNCHES GRADE CARDS AT EIGHT TO TEN STUDENTS PER PICE SHERE AND FOLK.

PRINTS SCHEDULES AND PUNCHES GRADE CARDS AT EIGHT TO TEN STUDENTS PER PROTOD TO THE CREASON

BASIC PROGRAM MATERIALDOCUMENTATION- PROGRAM WRITE-UP... REFERENCE MANUAL INCLUDING PROGRAM LISTINGS.
CARD DECKS- OBJECT PROGRAM DECKS... SAMPLE PROBLEM DECKS.

OPTICNAL PROGRAM MATERIAL-SOURCE DECKS. OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARC.

1440-US-02X SECONDARY SCHOOL PROGRAMS /GRADE REPORTING/ GROBER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-US-02X

GRADE REPORTING CONSISTS OF FOUR PROGRAMS ID AID SCHOOL PERSONNEL IN PREPARING GRADE REPORTS AND IN COMPILATION OF STATISTICS FROM THE GRADES RECEIVED BY STUDENTS. GRADE CARDS ARE USED TO PREPARE THE GRADE REPORTS, UPDATE STUDENT GRADE RECORDS ON DISK PACK AND PRINT AN HONDR LIST. GRADE DISTRIBUTION REPORTS ARE PRINTED REFLECTING IOTALS OF LETTER GRADES GIVEN BY A TEACHER AS RECEIVED IN A COURSE. FAILURE LISTS INDICATING STUDENT AND COURSE ARE PRINTED USING THOSE GRADE CARDS WITH FAILING GRADES. FEATURES

WILL HANDLE UP TO SEVEN COURSES PER STUDENT HONDR LIST IS AUTOMATICALLY AVAILABLE AFTER GRADE REPORT RUN 6600 STUDENTS PER DISK PACK
CAN PRINT PARENTS NAME AND ADDRESS ON THE GRADE REPORT PRINTS GRADE REPORTS AT 10 TO 15 STUDENTS PER MINUTE GRADE DISTRIBUTIONS SPEED AT 300 CARDS PER MINUTE
FAILURE LIST PRINTING AT UP TO 15C LINES PER MINUTE
MINIPUM MACHINE RECUIREMENTS A 4K 1440 SYSTEM WHITH INDEXING AND STORM AND STORM WHITH PARENT CONTROL...1447 CONSOLE WITH SENSE SMITCHES...1311 DISK STORAGE ORIVE.

BASIC PROGRAM MATERIAL-DOCUMENTATION- PROGRAM WRITE-UP... REFERENCE MANUAL INCLUDING PROGRAM LISTINGS. CARD DECKS- OBJECT PROGRAM DECKS... SAMPLE PROBLEM DECKS.

OPTIONAL PROGRAM MATERIAL— SOURCE DECKS. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1440-US-03X SECONDARY SCHOOL PROGRAMS /PAYRCLL AND PERSONNEL/ GREET THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-US-03X

PAYRCLL AND PERSONNEL PROGRAMS ARE AN AID TO SCHOOL PERSONNEL IN PREPARING THE MONTHLY SALARIED PAYROLL, WRITING PAYROLL CHECKS, PRINTING DEDUCTION REGISTER AND CHECK RECONCILIATION. THE TEACHER CONTRACT PROGRAM PRINTS PERTINENT TEACHER LATA CN CONTRACT FORMS. THE TEACHER LIST PROGRAM PROVIDES SCHOOL PRINCIPALS WITH A LIST OF TEACHERS IN THE SCHOOL. FEATURES WILL HANDLE UP TO 1C,000 PERSONNEL PAYROLL RECORDS PER DISK PACK

WILL HANDLE UP TO 10,000 PERSONNEL PAYROLL RECORDS PER DISK PACK
PAINT PAYROLL REGISTER AND DEDUCTION REGISTER AT SPEEDS OF 50 TO 60 EMPLOYEES PER MINUTE
PRINT PAYROLL CHECKS AT THE RATE OF 35 TO 40 PER MINUTE
PREPARE RECONCILITATION REPORT AT THE RATE OF APPROXIMATELY
300 CHECKS PER MINUTE
PREPARE TEACHER CONTRACTS AT THE RATE OF 30 TO 35 PER MINUTE
PREPARE TEACHER LISTS AT THE RATE OF 15C TEACHERS PER MINUTE
SENSE SWITCH CONTROL DETERMINES IF A PRE-PAYROLL OF PAYROLL REGISTER IS DESIRED
IF A PERSON RESIGNS, HIS FINDER CARD CAN BE HELD OUT OF THE
PAYROLL RUNS TO DELETE HIM FROM THE PAYROLL. THE RECORD
HILL REMAIN ON THE DISK FOR END OF YEAR REPORT WRITING AND
CAN BE ACCESSED BY REPLACING THE FINDER CARD.
MINIMUM MACHINE REQUIREMENTS A 4K 1440 SYSTEM WITH INDEXING AND
STORE ADDRESS...1442 CARD READ PUNCH...1443 PRINTER WITH PRINT
CONTROL...1447 CONSOLE WITH SENSE SWITCHES...1311 DISK STORAGE
DRIVE.

CONTINUED FROM PRIOR COLUMN--

BASIC PROGRAM MATERIAL-DOCUMENTATION- PROGRAM WRITE-UP... REFERENCE MANUAL INCLUDING PROGRAM LISTINGS. CARD DECKS- OBJECT PROGRAM DECKS... SAMPLE PROBLEM DECKS.

CPTICNAL PROGRAM MATERIAL—
SOURCE DECKS.

OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER CARD.

1440-US-04X ATTENDANCE RECORDING FOR SECONDARY SCHOOLS

GRORER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-US-04X

ATTENDANCE RECORDING CCNSISTS OF AN ATTENDANCE REGISTER WRITING PROGRAM HHICH WILL ALD SCHOOL PERSONNEL IN THE PREPARATION OF ATTENDANCE REGISTERS AND IN COMPILATION OF ATTENDANCE STATISTICS FOR STATE AND FEDERAL AGENCY REPORT REQUIREMENTS. THE ATTENDANCE RECORDING PROGRAM USES ATTENDANCE CARDS, WHICH ARE MARKED BY THE TEACHER OR ATTENDANCE CLERK AND THEM MARK SENSE PUNCHED, TO PREPARE AN ATTENDANCE REGISTER AND CALCULATE ATTENDANCE TOTALS AND PERCENTAGES. IT WILL ALSO UPDATE THE STUDENT MASTER RECORD ON THE DISK PACK.

- FOATE THE STOCENT MASTER RECORD ON THE DISK PACK.

 A HILL HANDLE DET DAY OF WHOLE DAY ATTENDANCE PERIOD.

 WILL HANDLE EITHER HALF DAY OR WHOLE DAY ATTENDANCE RECORDING.

 HILL UPDATE STUDENT MASTER RECORD ON THE DISK PACK WITH YEAR-TO-DATE ABSENCES AND TARDIES.

 CARDS ARE NOT MARKED WHEN STUDENTS ARE PRESENT.

 HILL HANDLE UP TO 95 ATTENDANCE CARDS PER MINUTE.

 AUTOMATICALLY CALCULATES- AGGREGATE ATTENDANCE, AGGREGATE MEMBERSHIP, AVERAGE DALLY ATTENDANCE, AVERAGE MEMBERSHIP, PERCENT OF ATTENDANCE. THESE CALCULATIONS ARE PERFORMED FOR MALE STUDENTS, FEMALE STUDENTS, AND OVERALL STUDENT POPULATION.

 CALCULATES ATTENDANCE FIGURES FOR EACH SCHOOL AND FOR THE ENTIRE SCHOOL DISTRICT.

MINIMUM MACHINE REQUIREMENTS- A 4K 1440 SYSTEM WITH INDEXING AND STORE ADDRESS... 1442 CARD READ PUNCH... 1443 PRINTER WITH PRINT CONTROL... 1447 CONSOLE WITH SENSE SWITCHES... 1311 DISK STCRAGE DRIVE.

THE NUMBER OF TAPES INDICATED MUST BE PROVIDED FOR EACH ITEM THAT IS ORDERED. OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL... PRCGRAM
LISTINGS.
CARD DECKS - SAMPLE PROBLEM DECK... PROGRAM DECKS.

OPTICNAL PROGRAM MATERIAL ONE MAGNETIC TAPE - CONTAINS PROGRAM DECKS IN CARD IMAGE FORM.

THESE ROUTINES WILL LOAD AND HAINTAIN 1301 OR 1311 DISK STORAGE FILES ON A 1440 SYSTEM. THE NEW YERSION INCORPORATES THE ADDITIONAL FEATURES OF MAGNETIC TAPE INPUT/OUTPUT, 1301 DISK STORAGE FILES ON A 1440 SYSTEM. THE NEW YERSION INCORPORATES THE ADDITIONAL FEATURES OF MAGNETIC TAPE INPUT/OUTPUT, 1301 DISK STORAGE AND 1444 CARD PUNCH OUTPUT CAPABILITIES. THERE ARE THE COMPLETE SETS OF ROUTINES ONE SET GENERATES OBJECT PROGRAMS FOR A RANDOM FILE. THE OTHER SET GENERATES OBJECT PROGRAMS FOR A RANDOM FILE. THE OSERS FILE ORGANIZATION OBJECT PROGRAMS ARE GENERATED BY THE 1401/1440/1460 AUTOCODER /ON DISK/ MACRO-GENERATOR FROM A SERIES OF 1440 IOCS, VERSION 2, LIBRARY ROUTINES AND THE DISK FILE ORGANIZATION LIBRARY ROUTINES. THE USER SUPPLIES THE APPROPRIATE PARAMETERS FOR GENERATION BY MEANS OF CONTROL CARDS. THE OBJECT PROGRAMS FOR LOADING AND MAINTAINING A RANDOM FILE USE THE CHAINING METHOD. BY THIS TECHNIQUE RECORDS ARE LOADED INTO A DISK LOCATION DETERMINED BY A CONTROL FELD MITHIN THE RECORD. RECORCS HOSE CONTROL DATA CONVERT TO THE SAME DISK ADDRESS ARE LINKED TOGETHER WITH A CHAIN OF ADDRESSES. THE ROUTINES CAN GENERATE COSJECT PROGRAMS TO AND RECORDS TO AND DELETE RECORDS FROM A FILE. RECORDS MAY BE LOADED OR NULOADED FROM OR TO CARCS, TAPE, OR DISK STORAGE. THE OBJECT PROGRAMS TO AND DELETE RECORDS FROM THE FILE MITHOUT DESTROYING THE SEQUENCE. A SEQUENCE-LINK IS USED FOR THIS PUPPOSS. A DISTRIBUTION INDEX IS BUILT BY THE PROGRAMS. THIS INDEX MAKES POSSIBLE QUICK ACCESS TO ANY GIVEN RECORD IN THE FILE. RECORDS MAY BE LOADED OR NULOADED FROM OR TO CARDS, TAPE, OR DISK STORAGE. THE REQUIREMENTS FOR GENERATION OF THIS PUPPOSS. A DISK STORAGE. THE SECORDS MAY BE LOADED OR UNLOADED FROM OR TO CARDS, TAPE, OR DISK STORAGE. THE REQUIREMENTS FOR GENERATION OF THE SUPPOSS. A DISK STORAGE. THE REQUIREMENTS FOR GENERATION OF THE SUPPOSS. A DISK STORAGE. THE REQUIREMENTS FOR GENERATION OF THE SUPPOSS. A DISK STORAGE. THE REQUIREMENTS FOR GENERATION OF THE SUPPOSS. A DISK STORAGE.

MAY BE LUADED UR UNLOADED FROM OR TO CARDS, TAPE, OR DISK STORAGE.
THE REQUIREMENTS FOR GENERATION OF THE USER/S FILE ORGANIZATION OBJECT PROGRAMS ARE THE SAME AS THOSE FOR 1401/1440/1460 AUTOCODER /ON DISK/, NC. 1401-AU-008, AND 1440 IOCS, VERSION 2, NC. 1440-10-010. THE EXECUTION REQUIREMENTS ARE — 4 K-1440 SYSTEM FOR 1311 USAGE OR 8K 1440 SYSTEM FOR 1301 USAGE WITH... ONE 1442 CARD READ PUNCH MOL 1 OR 2 OR 1442 CARD READ PUNCH HOL 1. OR 2 OR 1442 CARD READ READER MOL 4... ONE 1311 DISK STORAGE CRIVE OR 1301 DISK STORAGE ARRAY... 1403 PRINTER BOT 1447 CONSOLE MOL 2 OR 4 /IF A LOG IS TO BE KEPT DURING FILE LOADING, ADDITIONS, OR DELETIONS, THE 1443 PRINTER IS REQUIRED. IN THAT CASE, A 1447 CONSOLE MOL 1 MAY BE USED/... ONE 1444 CARD PUNCH /REQUIRED ONLY IF PUNCHED OUTPUT IS USED ON A SYSTEM HITH A 1442 CARD READER MOL 4/... CNE 7335 MACNETIC TAPE UNIT /REQUIRED CNLY IF TAPE INFUT THE FOLLOWING PROGRAMS ARE REQUIRED 1401-AU-008., 1440-10-010., 1440-UT-041.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... OPERATING
PROCEDURES, C24-3134.
HACHINE READABLE - THE CARD DECK FOR ONE OF THE FOLLOWING
THREE GROUPS MUST BE SPECIFIED ON THE ORDER CARD GROUP A - COMMON AND RANDOM
GROUP B - COMMON AND CONTROL SEQUENTIAL
GROUP C - COMMON, RANDOM AND CONTROL SEQUENTIAL

OPTICNAL PROGRAM MATERIAL - PROGRAM FLOWCHARTS.
PROGRAM DECK MAY BE OBTAINED ON ONE REEL OF MAGNETIC TAPE AS
CARD IMAGES. CNLY ONE REEL IS REQUIRED IF ONE OR MGRE 1440
PROGRAMS ARE ORDERED AT THE SAME TIME.

PAGE 030

A-1440

1440-UT-041 DISK UTILITY PROGRAMS
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1440-UT-041

THIS SYSTEM IS DESIGNED TO PERFORM CERTAIN FREQUENTLY REQUIRED OPERATIONS ON 1440 SYSTEMS WITH 1311 OR 1301 DISK STORAGE, WITHOUT PROGRAMMING EFFORT ON THE PART TO FINE USER. THE PROGRAMS PROVICED ARE—
CLEAR-DISK-STORAGE DISK-TO-CARD DISK-TO-TAPE
CLEAR-DISK-STORAGE DISK-TO-TAPE
CLEAR-DISK-STORAGE DISK-TO-TAPE
CARD-TO-DISK DISK-TO-TAPE
CARD-TO-DISK DISK-TO-TAPE
CARD-TO-DISK DISK-TO-TAPE
EACH PROGRAM IS GENERALIZED, MODIFYING ITSELF TO PERFORM
SPECIFIC DEPRATIONS BY INFORMATION RECEIVED THROUGH CONTROL
CARDS. EACH PROGRAM INCLUDES AN OPTIONAL DISK LABEL CHECKING
ROUTINE FOR USE WITH 1311 DISK STORAGE. THEY ARE DESIGNED FOR
USE ON 4K OR LARGER SYSTEMS., 8K OR GREATER IS NECESSARY WHEN
PROCESSING DISK CATA FOR WHICH THE TRACK RECORD SPECIAL FEATURE
IS REQUIRED. THESE PROGRAMS PERFORM SUCH FUNCTIONS AS CLEAR DISK
AND GENERATE ADDRESSES, SUPPLY OUTPUT FOR FILE PROTECTION
PURPOSES, DISPLAY DISK STORAGE ON THE PRINTER, CHANGE DATA CR
ADDRESSES IN DISK STORAGE, AND ON 1311 DISK STORAGE CREATE THE
LABEL TRACK OR REMOVE THE LABEL TRACK, AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
A 4K 1440 SYSTEM /8K REQUIRED IF TRACK, AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
A 4K 1440 SYSTEM /8K REQUIRED IF TRACK, AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
A 4K 1440 SYSTEM /8K REQUIRED IF TRACK, AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
A 4K 1440 SYSTEM /8K REQUIRED IF TRACK, AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
A 4K 1440 SYSTEM /8K REQUIRED IF TRACK AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
A 4K 1440 SYSTEM /8K REQUIRED IF TRACK, AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
A 4K 1440 SYSTEM /8K REQUIRED IF TRACK, AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
A 4K 1440 SYSTEM /8K REQUIRED IF TRACK, AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
A 5K 1440 SYSTEM /8K REQUIRED IF TRACK, AND ENTER, DELETE, CHANGE,
DISPLAY, AND PUNCH DISK LABELS.
AND A 1442 CARD READED ON THE RELED ON THE RELED ON THE

BASIC PROGRAM MATERIAL DOCUMENTATION - WRITE-UP... SPECIFICATIONS...
OPERATING INSTRUCTIONS.
CARC DECKS - NINE INCIVIDUAL DECKS/LISTED ABOVE/.

OPTIONAL PROGRAM MATERIAL - LISTINGS AND FLOWCHARTS.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE CROER CARD.

JT-043 TAPE UTILITY PROGRAMS ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-UT-043 1440-UT-043

THE 1440 TAPE UTILITY PROGRAMS INCLUDES THREE PROGRAMS TO TRANSFER DATA FILES BETWEEN CARDS AND TAPE AND FROM TAPE TO

- PRINTER.
 FEATURES
 ** CARD-TO-TAPE ** TAPE-TO-CARD ** TAPE-TO-PRINTER **
 FIELD SELECTION ALLOWS SELECTION OF UP TO 16 FIELDS IN THE INPUT RECORD. AND ARRANGEMENT OF THESE FIELDS IN ANY CRDER IN THE OUTPUT RECORD.

 EXCEPTION RECORDS- BYPASSES RECORDS IDENTIFIED BY THE PRESENCE OR ABSENCE OF UP TO 72 CONSTANT EXCEPTION CHARACTERS.

 SEQUENCE CHECKING AND NUMBERING- CHECKS SEQUENCE OF CARD INPUT FILES, GENERATES AND PUNCHES SEQUENCE NUMBERS IN CARD CUTPUT FILES.

 SELECTIVE FILE PROCESSING- SEARCHES TAPE FILES FOR THE FILE IDENTIFIED BY A PARTICULAR HEADER LABEL.

 CPTICNS FOR CFF-LINE PROCESSING- FACILITATES OFF-LINE TAPE PROCESSING FORFROM LARGE SYSTEMS. THEY ARE/1/ GROUP-MARK CONVERSION- THE CARD-TO-TAPE PROGRAM CAN CONVERT TOBE GROUP MARKS IN CARDS TO TOBE GROUP MARKS CN TAPE. THE TAPE-TO-CARD PROCRAM CAN CONVERT TOBE GROUP MARKS CN TAPE. THE TAPE-TO-CARD PROCRAM CAN CONVERT TOBE GROUP MARKS CN TAPE IN THE TAPE-TO-CARD PROCRAM CAN TAPE. THE TAPE-TO-CARD PROCRAM CAN TAPE-TO-CARD PROCRAM CAN TAPE FILES.

 /// BINARY RECORDS- THE CARD-TO-TAPE AND TAPE-TO-CARD PROGRAMS CAN PROCESS COLUMN-BINARY CARD FILES AND BINARY TAPE FILES.

 - TAPE FILES. EVEN OR OCC PARITY- TAPES CAN BE PROCESSED IN EVEN CR CDD

TAPE FILES.

73/ EVEN OR OCD PARITY— TAPES CAN BE PROCESSED IN EVEN CR CCD PARITY.

74/ FIRST CHARACTER FORMS CONTROL— THE TAPE—TO—PRINTER PROGRAM CAN PRINT FILES IN WHICH SPACE SUPPRESSION CR SPACING/SKIPPING BETWEEN RECORDS IS DETERMINED BY THE FIRST CHARACTER OF THE RECORD.

75/ TAPE LABELS—FILES WITH EITHER NC TAPE LABELS CAN BE ACCOMMCDATED BY THESE PROGRAMS.

76/ IF TAPE LABELS ARE TO BE CHECKED BY THE TAPE—TC—CARD CR TAPE—TC—PRINTER PROGRAM, THEY MUST BE THE IBM STANDARD 120—CHARACTER LABELS AND EN STANDARD LABEL CAN BE BYPASSED AND PRINTED /UP TO 120 CHARACTERS PRINTEC/CHARACTER LABELS MUST BE PRESENT BUT ARE USED CALLY TO INDICATE EGR OR EOF.

77/ HEADER LABELS OTHER THAN THE STANDARD 120—CHARACTERS PRINTEC/C. IN THIS CASE, TRAILER LABELS WUST BE PRECEDED AND FOLLOWED BY TAPE MARK.

TRAILER LABELS MUST BE PRECEDED AND FOLLOWED BY TAPE MARK.

THESE ARE GENERALIZED UTILITY PROGRAMS, SUPPLIED BY IBM AS CONCENSED CAND OBJECT DECKS. THE PROGRAMS MODIFY THEMSELVES TO FIT A SPECIFIC APPLICATION THROUGH THE USE OF A CONTROL CARC.

MINIMUM SYSTEM REQUIREMENTS—A 4K 1440 SYSTEM WITH... 7335

MECHANICAL TAPE UNIT... 143 PRINTER... ONE 1442 CARD READ PUNCH.

IF BINARY TAPE RECORDS CR COLUMN BINARY CARDS ARE TO BE
PRECESSED, THE 1442 MUST BE EQUIPPED WITH THE CARD IMAGE FEATURE.

BASIC PROGRAM MATERIAL CCCUMENTATION - PROGRAM WRITE-UP... PROGRAM LISTINGS...
SPECIFICATIONS... OPERATING PROCEDURES.
CARC DECKS - PRUGRAM DECKS.

OPTIONAL PROGRAM MATERIAL - FLOWCHARTS.

OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1460

1460-CX-08X SYSTEM ADMINISTRATIVE TERMINAL

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1460-CX-08X

THE PRIMARY CONCEPT OF THIS SYSTEM IS TO SUPPORT A TYPERRITER-LIKE TERMINAL FOR TEXT PROCESSING. INFORMATION IS ENTERED FROM THE TERMINALS IN EITHER FREE OR FIXED FORM. IT CAN BE CORRECTED, MODIFIED, OR REARRANGED. OLTPUT FORMATS ARE FLEXIBLE AND MAY BE SPECIFIED FROM THE TERMINAL. CUPPUT MAY BE TRANSMITTED TO ANY TERMINAL, STORED ON CISK

CCNTINUED FRCM PRIOR COLUMN-
OR TAPE, PRINTED BY AN ON-LINE PRINTER, WRITTEN AS CARD IMAGES
ON TAPE, CR PUNCHED. STORED INFORMATION MAY BE RECALLED FOR
FURTHER PROCESSING.

- FEATURES—
 DATA CORRECTION, MODIFICATION, AND REARRANGEMENT BY—
 BACKSPACING AND RETYPING DURING ENTRY... RETYPING BEGINNING
 MITH A PARTICULAR WORD... REPLACING A WORD OR PHRASE...
 ACDING TO A LINE OR TEXT UNIT... DELETING A LINE OR OTHER
 TEXT UNIT... MOVING CF GROUPS OF LINES OR TEXT UNITS...
 GATHERING OF STORED CATA IN ANY SEQUENCE... COPYING OF
 INFORMATION BY TRANSMISSION TO THE CRIGINATING TERMINAL.

 STCRAGE AND RETIEVAL OF DATA FROM DISK FILES OR TAPE.
 TRANSMISSION OF DATA TO ANY TERMINAL.
 OUTPUT FORMAT CONTROLLED FROM THE TERMINAL BY—LIMITING
 FREE-FORM TEXT LINE LENGIH... JUSTIFICATION OF RIGHT-HAND
 MARGIN... INTERNIX OF FREE-FORM TEXT WITH FILED FORMAT
 INFORMATION... PLACING SPECIFIED HEADING AND FOOTING LINES
 ON ALL PAGES OF A DECOUMENT... AUTOMATIC PAGE NUMBERING...
 CCOTROLLED VERTICAL SPACING... FALTING TO ALLOW OPERATOR
 INTERVENTION FOR TEXT INSERTION OR CHANGE OF PRINT ELEMENTS.
 DESK CALCULATOR FUNCTIONS- ADDITION... SUBTRACTION...
 MULTIPLICATION... OIVISION... ROOTS... POWERS... FACTORIALS...
 EVALUATION OF SIMPLE ALGEBRAIC EXPRESSIONS.

 USERS MAY ACD PROGRAMS TO DO SIMULTANGOUS PERIPHERAL
 OPERATIONS SUCH AS SIMPLE TAPE—TO—PRINTER AND CARD—TC—TAPE
 FUNCTIONS.

 AN IMPROVED DISK STORAGE ORGANIZATION SCHEME MILL GIVE
 IMPROVED TERMINAL RESPONSE ON REQUESTS INVOLVED EPRAMENT

- FUNCTIONS.
 AN IMPROVED DISK STORAGE ORGANIZATION SCHEME WILL GIVE
 IMPROVED TERMINAL RESPONSE ON REQUESTS INVOLVING PERMANENT
- IPPROVECT THERMINAL RESPONSE OF RESERVED.

 1301 DISK FILE IMPLEMENTATION SIGNIFICANTLY INCREASES PERMANENT STORAGE CAPACITY.

 IMPROVED STCRAGE REPORTING FACILITIES.

PRINCIPAL APPLICATION AREAS OF THE ADMINISTRATIVE TERMINAL SYSTEM ARE TECHNICAL MANUAL PREPARATION, PROPOSAL WRITING, TEST REPORT PREPARATION, FINANCIAL CREDIT REPORTING, STATISTICAL TYPING, AND SIMILAR AREAS. THE SYSTEM MAY ALSO BE USEC FOR SOURCE DATA ENIRY, CAPTURING DATA DIRECTLY FROM A TYPEMBLITER KEYBOARD. THIS HAS PARTICULAR SIGNIFICANCE IN THE COMPUTER PROGRAMMING AREA WHERE PROGRAM DECK CONTROL CARDS AND TEST DECKS MAY BE SELECTED, MODIFIED, COMBINED AND MACE AVAILABLE FOR RUNNING DIRECTLY FROM A TERMINAL.

THE SYSTEM, WHEN PROPERLY INSTRUCTED, CAN SAVE EVERY KEYSTRCKE MADE BY THE OPERATOR. TO ALTER THE TEXT, THE OPERATOR DIRECTS THE SYSTEM TO LOCATE THE CHARACTERS TO BE CHANGED AND INSTRUCTS IT IN WHAT MANNER THESE ARE TO BE ALTERED. IF A CDPY OF A DOCUMENT IS REQUESTED, THE SYSTEM WILL PRODUCE AND TRANSMIT IT TO THE TERMINAL. THE SOURCE PROGRAM LANGUAGE IS 1401/1440/1460 AUTOCODER /ON DISK/.

MINIPUM 1460 SYSTEM REQUIREMENTS— 16K 1460 WITH— BIT TEST, CONSCLE ATTACHMENT, DIRECT SEEK, DISK STORAGE CONTROL, INCEXING AND STORE ADDRESS REGISTER, TRANSMISSION CONTROL UNIT ADAPTER ON THE 1441 PROCESSING UNIT MODEL B& AND AN APPROPRIATE MODEL 1461 IMPUT/OUTPUT CONTROL...
CNE 1311 DISK STORAGE CRIVE MODEL 1 WITH DIRECT SEEK...
1447 CONSOLE MCDEL 1 WITH SENSE SWITCHES... 1447 CONSOLE MCDEL 1. 1448 TRANSMISSION CONTROL UNIT WITH THE 1050/1060 ATTACHMENT FEATURE AND RPQ E38485 AND, AS REQUIRED, COMMON CARRIER ADAPTER SETS OR LINE ADAPTER SETS... A 1402 CARD READ PUNCH MODEL 3 IS REQUIRED UNLESS ANOTHER 1401/1440/1460 SYSTEM IS AVAILABLE TO LOAD THE PROGRAM ON A 1316 DISK PACK.

IS AVAILABLE TO LOAD THE PROGRAM ON A 1316 DISK PACK.

CPTICNAL 1460 MACHINE REQUIREMENTS- TRANSLATE FEATURE ON THE 1441 PROCESSING UNIT... ONE TO FOUR 1311 DISK STORAGE DRIVES MODEL 2 WITH CIRECT SEEK AND SEEK OVERLAP /AT LEAST ONE 1311 MODEL 2 IS STRENGLY RECOMMENDED/... ONE TO FIVE MODULES CF 1301 DISK STORAGE /CNE 1311 MODEL 2 IS REQUIRED/... ONE TO SIX 729 MAGNETIC TAPE UNITS MODEL 2, 4, 5, 6 OR 7330 MAGNETIC TAPE UNITS ON THE PRINTS TORAGE FEATURE ON THE 1461 INPUT/OUTPUT CONTROL AND RPO M1349G... LINE GROUP FEATURES AND ROPE SIL1390, AS REQUIRED TO ATTACH MORE THAN 10 LINES TO THE 1448 TRANSMISSION CONTROL UNIT. 1F UPPERCASE AND LCHERCASE PRINTING WITH 12C CHARACTERS OF COURTER TYPE /MATCHING THE COURTER 72 PRINTING ELEMENT ON THE TERMINALS/ IS DESTRED USING A 1403 PRINTER MODEL 2, ADD. RPG/S 813148 AND 813029 ON THE 1641 INPUT/OUTPUT CONTROL... RPG/S 812033, 812034, 838039, 33 EACH 61 INPUT/OUTPUT CONTROL... RPG/S 812034, 812034, 838039, 33 EACH 61 INPUT/OUTPUT CONTROL... RPG/S 812034, 812034, 838039, 33 EACH 61 INPUT/OUTPUT CONTROL... RPG/S 812039, 71HE CHAIN/ ON THE 1443 MODEL 2... RPG 818019 ON THE 1441 PROCESSING UNIT.

TERMINAL REQUIREMENTS- 2741 COMMUNICATION TERMINALS // APT 10 40/, WITH COURIER 72 STANDARD SELECTRIC PRINTING ELEMENTS, AND LINE ADAPTERS IF REQUIRED. ATS SUPPORTS ONLY THE CERRESPONDENCE CODE 2741 TERMINALS WITHOUT THE INTERRUPT FEATURE.

BASIC PROGRAM MATERIAL —
CCCUMENTATION — APPLICATION DIRECTORY... APPLICATION
DESCRIPTION, H20-0129... TERMINAL OPERATORS MANUAL,
H20-0185... PROGRAMMERS MANUAL, H20-0228... CONSCLE
GPERATORS MANUAL, H20-0227.
MACHINE READABLE — PROGRAM DECKS.

CPTICNAL PROGRAM MATERIAL COCUMENTATION - SYSTEMS MANUAL /PROGRAM FLCW CHARTS/.
PACHINE READABLE - 1401/1440/1440 AUTOCODER /ON DISK/ OUTPLY
FILE ON TWO 1316 DISK PACKS FROM WHICH SCURCE
DECKS AND PROGRAM LISTINGS CAN BE CREATED USING
1401/1440/1460 AUTOCODER /ON DISK/ /1401-AU-008/.

NOTE- WHEN ORDERING THE OPTIONAL MATERIAL THE REQUESTOR MUST SUBMIT THE 1316 CISK PACKS.

*R

THE 1401/1460 COMMUNICATIONS IDCS /1448/7740/DDC/ CONSISTS OF A SET OF LIBRARY ROUTINES WHICH, WHEN CALLED FOR IN AN ALTOCCDER /ON DISK/ SOURCE PROGRAM BY MACRO INSTRUCTIONS, ARE SELECTED, TAILCRED, AND INCLUDED IN THE OBJECT PROGRAM-THESE ROUTINES PERFORM THE FUNCTIONS NECESSARY TO HANDLE 1402, 1403, 1404, 1311, 729, AND 7330 INPUT/OUTPLT FILES, TO TRANSPIT INFORMATION TO AND RECEIVE INFORMATION FROM REMOTE LOCATIONS, AND REMOTE PROCESSORS, AND TO PROVIDE LINKAGE TO THE USER/S PROGRAMS. THE SPECIFIC ROUTINES CENERATED AT ASSEMBLY TIME DEPEND LARGELY ON THE PARTICULAR SPECIFICATIONS CONTAINED IN THE USER/S SCURCE PROGRAM.
NOTE— THE 1448 IS NOT APPLICABLE TO THE 1401.

A-1460

CONTINUED FROM PRIOR PAGE—

THE NEW VERSION FACILITATES THE GENERATION OF PROGRAMS TO CONTROL 1448 COMMUNICATIONS MITH 1050 DATA COMMUNICATION SYSTEMS GVER COMMON CARRIER LEASED COMMUNICATION LINES, AND OVER CUSTOMER-OWNED COMMUNICATION LINES, WITH THE 1030 DATA COLLECTION SYSTEM, THE 1032 DIGITAL TIME UNIT, THE 357 DATA COLLECTION SYSTEM /VIA THE 1032 DIGITAL TIME UNIT, THE 357 DATA COLLECTION SYSTEM /VIA THE 1032 DATA COLLECTION SYSTEM /VIA THE 1408 TRANSMISSION UNIT/, THE 1604 DATA COLLECTION SYSTEM /VIA THE 1408 TRANSMISSION UNIT/, THE 1507 DATA COLLECTION SYSTEM /VIA THE 1408 TRANSMISSION UNIT/, THE 1507 DATA COLLECTION SYSTEM /VIA THE 1408 TRANSMISSION UNIT/, THE 1508 DATA COLLECTION SYSTEM /VIA THE 1408 TRANSMISSION UNIT/, THE 1508 DATA COLLECTION SYSTEM THE AND ATEXT OF THE ATEXT OF THE AND ATEXT OF THE AND ATEXT OF THE AND ATEXT OF THE ATEXT OF THE AND ATEXT OF THE ATEXT

BASIC PROGRAM MATERIAL COCUMENTATION - WRITE-UP... OPERATING INSTRUCTIONS... LIBRARY LISTING.
CARD DECKS - LIBRARY DECK OF MACRUS.

OPTICNAL PROGRAM MATERIAL - SYSTEM FLOWCHARTS.

OPTIONAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.

1460-SM-068 IBM 1460 SORT 14 ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1460-SM-068

SORT 14 PROGRAMS ARE GENERALIZED OBJECT SORT PROGRAMS CAPABLE CF SORTING FIXED LENGTH, BLOCKED OR UNBLOCKED, RECORDS IN MOVE PCOE IN EITHER ASCENDING DEDCKED OR UNBLOCKED, RECORDS IN MOVE PCOE IN EITHER ASCENDING DEDCKED. THEY WILL ACCEPT INFUT FROM CARDS, 1301 DISK STORAGE, OR MAGNETIC TAPE, AND WILL MRITE THE FINAL GUTPUT ON 1301 DISK STORAGE OR TAPE. SORTING CAN BE CONTROLLED BY AS MANY AS TEN CONTROL DATA FIELDS OF TOTAL LENGTH UP TO A MAXIMUM OF 189 CHARACTERS.

PROGRAM NO. 1460-SM-068 WILL PROCESS TAPES WITH NO LABELS OR WITH IOCS TYPE B BO CHARACTER 18M LABELS / A TAPE MARK CANNOT FOLLOW LABELS/. THERE IS NO PROVISION FOR HANDLING NON-STANDARD TAPE LABELS/.

LABELS.
MINIMUM SYSTEM REQUIREMENTS- AN 8K 146C SYSTEM MITH... CNE 1301
DISK STORAGE MODULE... 1402 CARD READ PUNCH... ONE 1403 PRINTER.
THE PREGRAM CAN USE, IF AVAILABLE, UP TO FIVE 1301 DISK STERAGE
MCDULES, ONE OR TWO MAGNETIC TAPE UNITS FOR INPUT/OUTPLT, AND 12K
CR 16K CORE STORAGE.

BASIC PROGRAM MATERIAL-COCUMENTATION - PROGRAM HRITE-UP... OPERATING PROCEDURES...
PROGRAM SPECIFICATIONS... TIMINGS MANUAL.
CARD DECKS - OBJECT DECK.

OPTIONAL PROGRAM MATERIAL-- SYSTEM LISTINGS... FLOW CHARTS OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1460-SM-069 IBM 1460 SORT 14 ORDER THROUGH LOCAL 18M BRANCH OFFICE SPECIFY FILE NUMBER 1460-SM-069

SORT 14 PROGRAMS ARE GENERALIZED OBJECT SORT PROGRAMS CAPABLE CF SORTING FIXED LENGTH, BLOCKED OR UNBLOCKED, RECORDS IN MOVE MCCE IN EITHER ASCENDING OR CESSCENDING SEQUENCE. THEY WILL ACCEPT INPUT FROM CARCS, 1301 DISK STORAGE, OR MAGNETIC TAPE, AND WILL WRITE THE FINAL OUTPUT ON 1301 DISK STORAGE OR TAPE. SCRTING CAN BE CCHTROLLED BY AS MANY AS TEN CONTROL DATA FIELDS CF TOTAL LENGTH UP TO A MAXIMUM OF 189 CHARACTERS.
PREGRAM NO. 1460-5M-069 HILL PROCESS TAPES WITH NO LABELS CR WITH 120 CHARACTER 10CS TYPE A 18M STANDARD LABELS /A TAPE MARK MUST FOLLCH LABELS/. THERE IS NO PROVISION FOR HANDLING NON-STANDARD TAPE LABELS.
MINIMUM SYSTEM REQUIREMENTS—AN 8K 1460 SYSTEM WITH... ONE 1301 DISK STORAGE HODULES, ONE OR TAME LABELS, UP TO FIVE 1301 DISK STORAGE MCDULES, ONE OR TAM MAENER! CAPABLE UNITS FOR INPUT/OUTPUT, AND 12K CR 16K CORE STORAGE.

BASIC PROGRAM MATERIALCOCUMENTATION - PRCGRAM HRITE-UP... OPERATING PROCEDURES...
PROGRAM SPECIFICATIONS... TIMING MANUAL.
CARD DECKS - OBJECT DECK.

OPTIONAL PROGRAM MATERIAL-- SYSTEM LISTINGS... FLOW CHARTS.
OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1460-SV-090 1460-1070 PROCESS
COMMUNICATION MONITOR FOR 1401 AUTOCODER /ON TAPE/
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1460-SV-090

CONTINUED FROM PRIOR COLUMN--

A-1460

THE IBM 1460-1070 PCM, CONSISTS OF A SET OF 1401 AUTOCCDER

/ON TAPE/ LIBRARY ROUTINES, USED TO GENERATE PROCESS
COMMUNICATION PROGRAMS ORIENTED TO MEET THE
REQUIREMENTS OF THE 1070 PROCESS COMMUNICATION SYSTEM. THE
ROUTINES ARE—
- MONITOR ROUTINE - CONTROLS THE HANDLING OF INTERRUPTS AND
SCHEOULING OF LINE OPERATIONS ON A PRIORITY BASIS. IT
SIMULATES A REAL—TIME CLOCK AND UP TO NIME INTERVAL TIMERS.
IM ADDITION, IT INFORMS OF FERRORS DETECTED, AND RECCROS
THE STATUS OF THE LINES AND OF THE REMOTE SYSTEMS.
- CONVERTSION SUBROUTINE - CALIBRATES THE ADC OF 1070
SYSTEMS AND CONVERTS ADC READINGS TO A STANDARD RANGE.
- CONTACT SENSE SUBROUTINE - COMPARES CURRENT CONTACT
SENSE READINGS WITH A MASTER MASK OR WITH
PREVIOUS READINGS.
- CONTACT SENSE SUBROUTINE - COMPARES CURRENT CONTACT
SENSE READINGS WITH A MASTER MASK OR WITH
PREVIOUS READINGS.
- THERMOCOUPLE SUBROUTINE - GENERATES TEMPERATURE VALUES
FROM CONVERTED THERMOCOUPLE READINGS.
- FERROR LOCATION ROUTINE - PERFORMS DUTPUT CHECKS ON
ITAMASHISSION LINES AND RENDIE SYSTEMS.

THE PROCRAM IS USED IN CONJUNCTION WITH 1401 AUTOCCOER
//N TAPE/. THE PCM IS INSERTED IN THE LIBRARY
//N TAPE/. THE PCM IS INSERTED IN THE LIBRARY
//N TAPE/. THE PCM IS INSERTED IN THE LIBRARY
//N TAPE/. THE PCM CAN BE USED IN CONJUNCTION WITH
THE 1401 IDCS. A PRE-ASSEMBLY RUN IS REQUIRED TO TAILER THE
PCM TO THE USERS INSTALLATION AND REQUIREMENTS BEFORE ASSEMBLY
MINTHUM SYSTEM COMPIGURATIONS ONLY THOSE FEATURES
REQUIRED BY 1401 AUTOCCOER /ON TAPE/ ARE NEEDED WHEN
ASSEMBLING A PROGRAM USING THE 1460-1C70 PCM. FOR A
PRE-ASSEMBLY RUN AND FOR THE EXECUTION OF AN OBSCIT PROGRAM
MITHIN THE YEAR TO COMPICE WORLD FOR CONVERSION AND
HEND SYSTEM COMPICURATIONS ONLY THOSE FEATURES
REQUIRED BY 1401 AUTOCCOER /ON TAPE/ ARE NEEDED WHEN
ASSEMBLING A PROGRAM USING THE 1460-1C70 PCM. FOR A
PRE-ASSEMBLY RUN AND FOR THE EXECUTION OF AN OBSCICT PROGRAM
MITH...1447 CONSOLE, MODEL 2...INDEXING AND STORE ADDRESS
REGISTER...MULTIPLY-DIVIDE /FOR CONVERSION AND
HERMOCOUPLE SUBROUTINES/...ONE 1026 TRANSMISSION CONT

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP...
MACHIME READABLE - LIBRARY ROUTINES AND PRE-ASSEMBLY OBJECT
PROGRAM DECKS.

OPTICNAL PROGRAM MATERIAL - PROGRAM LISTINGS...PROGRAM

OPTICNAL PROGRAM MAIERIAL - PHONKAM LISTINGS.--PRODRAM
FLOWCHARTS.
NOTE- PROGRAM CECK MAY BE OBTAINED ON ONE REEL OF MAGNETIC
TAPE AS CARD IMAGES. CNLY ONE REEL IS REQUIRED IF ONE
OR MCRE PROGRAMS ARE ORDERED AT THE SAME TIME.
OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE ORDER CARD.
THE NUMBER OF TAPES INCICATED MAY BE CRORECE FROM YOUR
IBM REPRESENTATIVE OR SUPPLIED FOR EACH TIEM THAT IS ORDERED.
THE TAPE PROVICED MUST BE 2400 FEET IN LENGTH.

1460-SV-091 1460-1070 PROCESS
COMMUNICATION MONITOR FOR 1401 BASIC AUTOCODER 2K
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1460-SV-091 *M

THE IBM 1460-1070 PCM, CONSISTS OF A SET OF 1401 BASIC
AUTOCODER 2K ROUTINES, USEE TO GENERATE PROCESS COMMUNICATION
PREGRARS ORIENTED TO MEET THE REQUIREMENTS OF THE 1070 PROCESS
CCHMUNICATION SYSTEM. THE ROUTINES AREMONITOR ROUTINE - CONTROLS THE HANDLING OF INTERRUPTS AND
SCHEDULING OF LINE OPERATIONS ON A PRIORITY BASIS. IT
SIMULATES A REAL-TITHE CLOCK AND UP TO INNE INTERVAL THERS.
IN ADDITION, IT INFORMS OF ERRORS DETECTED, AND RECORDS
THE STATUS OF THE LINES AND OF THE KENDIES SYSTEMS.
CONVERSION SUBROUTINE - CALIBRATES THE ADD OF 1070 SYSTEMS AND
CONVERSION SUBROUTINE - CALIBRATES THE ADD OF 1070 SYSTEMS AND
CONVERSION SUBROUTINE - PERFORMS LIMIT AND/OR DELTA
CHECKS ON CONVERTED ACC REDDINGS.
- CONTACT SENSE SUBROUTINE - OCHPARES CURRENT CONTACT
SENSE READINGS WITH A MASTER MASK OR WITH PREVIOUS REACINGS.
- HRENOCOUPLE SUBROUTINE - GENERATES TEMPERATURE VALUES
FROM CONVERTED THERMOCOUPLE READINGS.
- ERROR LOCATING ROUTINE - PERFORMS OUTPUT CHECKS ON
TRANSMISSION LINES AND REMOTE SYSTEMS.

THE PROGRAM IS USEE IN CONJUNCTION WITH 1401 BASIC AUTOCODER
ZK. A PRE-ASSEMBLY VAN IS REQUIRED TO TAILOR THE PCK TO
THIS USERS INSTALLATION AND REQUIREMENTS BEFORE ASSEMBLY
WITH THE USERS INSTALLATION AND REQUIREMENTS BEFORE SECULTED
BY 1401 BASIC AUTOCODER ZK ARE NEEDED WHEN ASSEMBLING
AND STANDARD OF THE RECUTTION OF AN OBJECT PROGRAM USING THE PCK,
THE FELLOWING THE RECUTTION OF AN OBJECT PROGRAM SING THE PCK,
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THE FELLOWING THE RECUTTION OF AN OBJECT PROGRAM SING THE PCK,
THE FELLOWING THE RESULT.—INTERRUPT.—ITHE EMITER.

BASIC PROGRAM SING THE RECUTTION OF AN OBJECT PROGRAM SING

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP...SPECIFICATIONS MANUAL...
OPERATING PROCECURES MANUAL.
MACHINE READABLE - BASIC AUTOCCODER 2K ROUTINES AND A
PRE-ASSEMBLY OBJECT PROGRAM DECK.

OPTIONAL PROGRAM MATERIAL - PROGRAM LISTINGS...PROGRAM FLOMCHARTS.

NOTE- PROGRAM ECK MAY BE OBTAINED ON ONE REEL OF MAGNETIC TAPE AS CARO IMAGES. ONLY ONE REEL IS REQUIRED IF ONE OR MORE PROGRAMS ARE ORDERED AT THE SAME TIME.
OPTIONAL MATERIAL REQUESTED MAY BE GROEKED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR ACAT ITEM THAT IS GROEKED. THE TAPE PROVICED MUST BE 2400 FEET IN LENGTH.

PAGE 031

1401

1401-01.1.006 FULL MAST /FULL MINNEAPOLIS OF SPS-2/ /REVISED/ D-Z/ /KEVISED/ AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-01.1.006

AUTHOR...RICHARD T. FIRTKO SYSTEMS ENGINEER IBM CORPORATION 1200 SECOND AVENUE SOUTH MINNEAPOLIS 3, MINNESOTA

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM IS A MODIFICATION OF THE 14G1 SPS II ASSEMBLY PREGRAM. IT WILL HANDLE MULTIPLE PROGRAMS AUTOMATICALLY FREP INPUT THROUGH POST-LIST AND PUNCHING, PERFORMING NECESSARY RETITERATIONS WITHOUT INTERVENTION. NO SPECIAL DEVICES REQUIRED. ALLOWS REASSEMBLY OF PREVIOUSLY ASSEMBLED PROGRAMS. SENSE SWITCH SELECTION OF CAME PER CARD, SPS CONDENSED OR AUTOCCORE CONDENSEE OUTPUT. THE PROGRAM IS CONTAINED ON A SYSTEMS TAPE WITH SIMPLE MEMORY PRINT AND TAPE PRINT PROGRAMS TO PROVIDE A COMPACT TESTING PACKAGE. MACHINE COMPICURATION—4K OR LARGER 1401, 1402, 1403 WITH 100 OR 132 PRINT POSITICES, 3 TAPE UNITS 7330 OR 729, READ RELEASE — FOR MORE SPEED, IF AVAILABLE—SENSE SWITCHES — FOR PUNCHING FLEXIBILITY, IF AVAILABLE—WRITE—UP CONTAINS MINOR CHANGES NECESSARY IO ELIMINATE THE REQUIREMENT FOR READ RELEASE AND SENSE SWITCHES.

1401-01.1.013 THO TAPE MINNEAPOLIS ASSEMBLY OF SPS THO ANALIABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-C1.1.013

AUTHOR...RICHARD T. FIRTKO
IBM CORPORATION
1200 SECOND AVENUE SOUTH
MINNEAPOLIS 3, MINNESOTA

DIRECT INQUIRIES TO AUTHOR

TINGUITIES TO AUTHOR
THIS PROGRAM IS A MODIFICATION OF THE 1401 SPS 11 ASSEMBLY
PROGRAM. IT WILL HANDLE MULTIPLE PROGRAMS AUTOMATICALLY
FROM INPUT THROUGH POST LIST AND PUNCHING, PERFORMING
NECESSARY REITERATIONS WITHOUT INTERVENTION. NO SPECIAL
DEVICES REQUIRED. THE PROGRAM IS CONTAINED ON A SYSTEM'S
TAPE WITH SIMPLE MEMORY PRINT AND TAPE PRINT PROGRAMS TO
PROVIDE A COMPACT TESTING PACKAGE. MACHINE CONFIGURATION—
1. 1401 WITH 4K OR LARGER MEMORY.
2. 1402.
3. 1403 WITH 100 OR 132 PRINT POSITIONS.
4. THO TAPE UNITS /7330 OR 729/.
5. READ RELEASE— FOR ADDED SPEED, IF AVAILABLE.
66. SENSE SHITCHES— FOR PUNCHING FLEXIBILITY, IF AVAILABLE.
RMITE—UP CONTAINS MINOR CHANGES NECESSARY TO ELIMINATE THE
REQUIREMENT FOR THESE CEVICES.

1401-01.1.014 AUTOEDIT-1401 EDIT FOR 1410 AUTOCODER PROGRAMS AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-01.1.014

AUTHOR...A. CUANE HILLS
ASSOCIATE SYSTEMS ENGINEER
IBM CORPORATION
110 W. 21ST STREET
NCRFOLK 17, VIRGINIA

DIRECT INQUIRIES TO AUTHOR

PROGRAM TO EDIT 1410 PROGRAMS WRITTEN IN AUTOCODER.
CHECKS VALIDITY OF OPCCCES AND MACROS. SPREADS THE
OPERANDS OF INSTRUCTIONS. COUNTS CORE USED BY
INSTRUCTIONS. PERFORMS SEVERAL MORE EDITING FUNCTIONS. 4K
1401 WITH ADVANCED PROGRAMMING PACKAGE, HI-LON-EQUAL
COMPARE, WITH 132 PRINTING POSITIONS.

1401-01.1.016 ACCELERATOR PACK - SYMBOLIC 4K PROGRAMMING SYSTEM ASSEMBLY AVAILABLE 157 QUARTER 1963. SPECIFY FILE NUMBER 1401-01.1.016

AUTHOR...JACK NETTENSTROM

IBM 6252 EAST TELEGRAPH ROAD LCS ANGELES 22, CALIFORNIA

DIRECT INQUIRIES TO AUTHOR

THE 4K ACCELERATOR PACK IS A PROGRAM FOR ASSEMBLING SPS PROGRAMS FOR 1.4-4K 1401S ON 4K CARD 1401S. IT HAS DEVELOPED TO ELIMINATE THE PARTIALLY PROCESSED CARDS THAT ARE PUNCHED OUT DURING THE FIRST PASS OF SPS 1 AND 2. SOURCE LANGUAGE 1401 SYMBOLIC PROGRAMMING SYSTEM. EQUIPMENT SPECIFICATIONS- 4K ANY MODEL - NO SPECIAL FEATURES REQUIRED.

1401-01.1.017 RAPID ASSEMBLY PROGRAM NO.

AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-01.1.017

AUTHOR...C. LERGY BORSTAD

DIRECT INQUIRIES TO..
CHARLES H. WILLIAMS
U. S. BUREAU OF PUBLIC ROADS
610 EAST FIFTH STREET
VANCOUVER, WASHINGTON

RAP WAS WRITTEN PRIMARILY TO ELIMINATE THE INTERNEDIATE PUNCHING OF CARDS WHEN ASSEMBLING SPS II PROGRAMS ON A CARD INPUT-OUTPUT 1401 SYSTEM. PROVISION WAS MADE TO OBSTAIN AN OBJECT LISTING, WITH OR WITHOUT AN OBJECT ONE-PER-CARD DECK AND MITH OR WITHOUT A CONDENSED DECK, AT THE TIME THE PROGRAM IS BEING ASSEMBLED. DUPLICATE LABELS ARE DETECTED

B-1401 PAGE 033

CONTINUED FROM PRIOR CCLUMN-AND PRINTED DURING THE FIRST PASS AND AT CONCLUSION OF THE
SECOND PASS A CUMP OF LABELS AND ADDRESSES AND UNREFERENCED
LABELS IS MADE. THE ONE-PER-CARD OBJECT DECK MAY BE
ASSEMBLED AS A SOURCE DECK AND MAY BE LISTED WITHOUT
ASSEMBLY. A MNEMONIC OF EQU HAS BEEN ADDED TO EQUATE A
LABEL TID A LABEL PREVIOUSLY DEFINED. EQUIPMENT
SPECIFICATIONS- 1401 CARD SYSTEM WITH ADVANCE PROGRAMING
PACKAGE, PRINT CONTROL ADDITIONAL, HIGH-LOW-EQUAL COMPARE
AND SENSE SWITCHES.

1401-01.1.018 THO-TAPE AUTOCODER ASSEMBLY FOR THE 1401. AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.1.018

AUTHOR...R. B. ROSENBERGER

DIRECT INQUIRIES TO..

R.B. ROSENBERGER, IBM CORP., 520 BOYLSTON ST., BOSTON 16, MASS.

R.B. ROSENBERGER, IBM CURP., 520 BUYLSIUM SI., BUSIUM 16,
THIS PROGRAM WILL ASSEMBLE SOURCE PROGRAMS WRITTEN IN THE
1401 AUTOCODER LANGUAGE, WITH RESTRICTIONS OUTLINED BELOW,
ON 1401 SYSTEMS WITH ONLY TWO TAPE UNITS. IT PROVIDES FOR
UNLIMITED REITERATIONS, AND PRODUCES AN ASSEMBLY LISTING
AND A PROGRAM DECK IN THE AUTOCODER CONDENSED FORMAT.
MACHINE COMPTIONATION
1. 1401 WITH 4K OR LARGER STORAGE.
2. 1402.
3. 1403 WITH 132 PRINT POSITIONS.
4. TMO TAPE UNITS /729 OR 7330/.
5. HIGH/LOW/EQUAL COMPARE FEATURE.
6. ADVANCED PROGRAMMING FEATURE.
SOURCE LANGUAGE - 1401 AUTOCODER.

THE CNE REEL OF TAPE REQUIRED TO OBTAIN THE OPTIONAL SOURCE CECK MAY BE ORDERED FROM YOUR 1BM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH. OPTIONAL MATERIAL REQUESTEC MUST BE ITEMIZED ON THE ORDER CARD.

1401-01.1.020 EDIT /EDITING DATA INPUT FOR VALIDITY/

AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-C1.1.020

AUTHOR...RCBERT M. JEWELL SAN FRANCISCO FINANCIAL OP DIV., NO. 393 420 MONTGOMERY STREET SAN FRANCISCO 4, CALIF.

DIRECT INQUIRIES TO AUTHOR

A PROGRAM FOR SCANNING CARCS AT 800 PER MINUTE FOR
VALIDITY ERRORS—1.E., INVALID MULTIPLE PUNCHES. USEFUL
FOR CHECKING DATA FILES CONVERTED AT TIME OF INSTALLATION
OF A SYSTEM, OR FOR CHECKING TRANSACTION IMPUT CAROS.
PREVENTS INTERRUPTIONS DURING JOB PROCESSING DUE TO
PRESENCE OF INVALID PUNCHING THAT MAY EXIST IN CARDS—THE
EDIT PROGRAM IDENTIFIES SUCH ERROR CARDS IN A PRIOR RUN,
RATHER THAM HAVING THE CARDS CAUSE A MACHINE HALT DURING
JOB PROCESSING. INVALID CARDS CAN BE IDENTIFIED IN VARI—
OUS MAYS UNDER SENSE SMITCH CONTROL. CARD RE USED FOR CARD
COUNTING IF NO OTHER MEANS IS AVAILABLE. CARD READE FROR
LATCH IS TESTEE FOR EACH CARD READ END DESIRED ACTION, TAKEN
ON ERROR CARDS ACCORDING TO SENSE SMITCH SETTINGS.
SSEMBLED FOR 4K 1401, MITH MODEL 2 PRINTER AND SENSE
SMITCHES. CORE POSITIONS 001 THRU 1184 USED. LANGUAGE 1401 SPS.

1401-01.1.026 AUTOCODER PRE-LIST DIAGNOSTIC USTIC AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-01.1.026

AUTHOR...C. B. CARSTEN IBM CORPORATION 1307 SOUTH BOULDER TULSA 19, OKLAHOMA

DIRECT INQUIRIES TO AUTHOR

A PROGRAM FOR MAKING STACKED PRE-LISTS OF 1401 AUTOCODER SOURCE PROGRAM DECKS. THE PURPOSE IS TO PROVIDE A MEMO OF PRELIMINARY CHECKING WHERE A 1401 TAPE SYSTEM MAY NOT BE AVAILABLE FOR PRELISTING AS A HEANS OF CHECKING PRIOR TO ASSEMBLY TO ATTEMPT LIMITING SOURCE DECK ERRORS. AN EDIT OF OPERATION CODES AND A MINOR EDIT OF OPERATION CODES AND A MINOR EDIT OF OPERATION CODES AND A MINOR EDIT OF OPERATION CODES AND A MEMORE ACCEPTED. DISK, BINARY, CALL, INCLO AND ACTUAL INSTRUCTIONS ARE NOT HANDLED. THE RUN REQUIRES A 4K 1401 WITH HI-LO-EQUAL COMPARE AND SENSE SWITCHES-1403 MODEL 2 PRINTER AND 1402 MODEL 1 CARD READ PUNCH. THIS PROGRAM WRITTEN IN SPS HAS 678 SOURCE CARDS, IS PRIMARILY CARD TO PRINTER HITH FORMATTING OF OUTPUT AND HAS BEEN TESTED SUCCESSFULLY INNUMERABLE TIMES.

1401-01.1.030 SYMBOLIC LABEL CHECKING, ANY MACHINE S.P.S. AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.1.030

45 SOUTH MAIN STREET CCNCORD, NEW HAMPSHIRE

DIRECT INQUIRIES TO AUTHOR

A PROGRAM FOR CHECKING SYMBOLIC LABELS USED IN AN S.P.S. SOURCE PROGRAM. AT THE END OF PROCESSING, A LIST OF UNREFERENCED, UNDEFINED AND CUPLICATE LABELS IS PRINTED. 69 LABELS CAN BE CHECKED ON A 1.4 K MACHINE, 154 ON 2 K, 440 ON 4K, 1012 ON 8K, 1583 ON 12 K, AND 2154 CN 16 K. THIS PROGRAM, WHICH IS WRITTEN IN S.P.S., EXECUTES AT 400 TO 800 CARDS PER MINUTE. ANY 1401 MAY BE USED.

PAGE 034

B-1401

1401-01.1.033 1401/1410 PRE-ASSEMBLY PROGRAM EDIT AND REFERENCE /PAPER/ AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.1.033

AUTHOR...LEN GREEN
IBM CORPORATION
1049 ASYLUM AVENUE
HARTFORD, CONNECTICUT

CIRECT INQUIRIES TO AUTHOR

T INQUIRIES TO AUTHOR

PAPER IS A SERIES OF THREE PROGRAMS. ITS PURPOSE IS TO DEVELOP AN ALPHABETIC LISTING OF SYMBOLIC NAMES AND THE INSTRUCTIONS IN MHICH THEY ARE USED FOR EACH SEGMENT OF EACH AUTOCODER STATEMENT IN A PROGRAM. FOR USE PRIOR TO ASSEMBLY, ALL UNDEFINED LABELS IN THE PROGRAM HILL BE INDICATED ON THE LISTING. FOR USE IN TESTING AND PROGRAM HILL BE INDICATED ON THE LISTING. FOR USE IN TESTING AND PROGRAM HILL BE INDICATED ON THE LISTING AND THE PROGRAM HILL BE INDICATED ON THE MASTRUCTIONS IN MHICH IT WAS USED. PROGRAM IS AGAIN TO A CARD-TO-TAPE PROGRAM TATE OF THE MASTRUCTIONS IN MHICH IT WAS USED. PROGRAM IS A TAPE RECORD IS DEVELOPED FOR EACH SEGMENT OF AN ATTEMPT OF THE STATEMENT—I TECNNISTS OF A SORT FIELD AND THE STATEMENT. THE SYMBOLIC NAME USED AND A CODE SPECIFYING THE USAGE OF THE NAME. A PROGRAM IS A DAY HIM SORD AND A CODE SPECIFYING THE PROGRAM. PROGRAM SORT FIELD AND THE STATEMENT OF THE NAME. A PROGRAM LISTING, WITH SUBSTITUTE TO THE PROGRAM. PROGRAM 3 / PRINT PROGRAM FOR MAY COMPUTER. PROGRAM 3 / PRINT PROGRAM FOR MAY THE ISSTING IS IN COLLATING SCOULDER, SKOUPED BY COURT SYMBOLIC NAMES. SYMBOLIC NAMES THAT REFERENT ID UNDEFINED LABELS ARE INDICATED. MACHINE CONFIGURATION—4K 14-01, 1 TAPE, 14-03 1 CR 2, ADVANCED PROGRAMING, 14-02, HI-LOW-EQUAL. MAY ALSO BE USED EN A 14-10 SYSTEM.

1401-01.1.035 TAPE SYSTEM LOADER AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.1.035

AUTHORS..RICHARD A. PESCEVICH IBM CORP. 240 BROADWAY PATERSON, NEW JERSEY

CIRECT INCUIRIES TO AUTHOR

THE TAPE SYSTEM LOADER PERMITS THE 1401 USER TO PLACE SEVERAL PROGRAMS ON ONE SYSTEM TAPE. THE SYSTEM LOADER CAN-SELECT A PROGRAM FOR LOADING, ADD A NEW PROGRAM TO THE SYSTEM FROM CONDENSED CARDS OR FROM AUTOCODER LOADABLE TAPE, DELETE A PROGRAM FROM THE SYSTEM, LIST ALL THE HEADER CONTROL RECORDS OF THE PROGRAMS ON THE THE SYSTEM, PLACE ITSELF ON THE SYSTEM TAPE, AND UPLICATE THE SYSTEM ONTO ANOTHER TAPE. REQUIRES AN 8K SYSTEM WITH THE FEATURES AND EQUIPMENT FOR TAPE AUTOCOER. HOWEVER, IT CAN BE EASLLY MODIFIED FOR A 4K 14C1 BY CHANGING SEVERAL MODIFY ADDRESS INSTRUCTIONS. WRITTEN IN 1401 TAPE AUTOCCCER.

1401-01-1-036 SPSS - AN IMPROVED SPS-ASSEMBLER

AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-C1.1.036

AUTHOR...H.J. KCEKKOEK 18M 1401 USERS CLUB SYSTEMS DEPT. P.O. BOX 9999 AMSTERDAM, THE NETHERLANDS

DIRECT INCUIRIES TO AUTHOR

TWO PASS ASSEMBLY OF SPS SOURCE PROGRAMS DIRECTLY INTO CONDENSED CARDS. PRE-AND POSTLIST INCLUDED. NO RESTRICTIONS. EXTENDED ERROR CHECKS. UNDEFINED, ETC. LABELS PRINTED AFTER PASS 1. 4K AFFCROS POSSIBILITY FOR USAGE OF OVER 250 LABELS PER ITERATION, SK OF OVER 8CO. NO SPECIAL FEATURES NEEDED. 4K-8K-12K-16K, 1402, 1403.

1401-01.1.039 PRE-LIST FOR AUTOCODER SOURCE DECK

AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-C1.1.039

AUTHOR...RCBERT STERN
IBM /ISRAEL/ LTC.
P.O.B. 2881
TEL AVIV, ISRAEL

CIRECT INQUIRIES TO AUTHOR

THIS PROGRAM WILL MAKE A THOROUGH CHECK ON AN AUTOCODER SCURCE DECK LISTING EACH STATEMENT AND PRINTING ANY ERRORS FCUND IN THAT STATEMENT ON THE SAME LINE. IN ACCITION THE PROGRAM WILL PRINT AT THE END OF THE LISTING A SYMBOL TABLE INDICATING UNDEFINED OPERANDS UNREFERENCED AND DUPLICABLE LABELS. IT WILL CHECK FCR PAGE/LINE OUT OF SEQUENCE, INVALID LABEL, INVALID OPERATION, COLUMN 19, FLAG ALL NON STANDARD MEMORNICS AS MACRCS, TEST FCR ALL LOGICAL ERRORS IN THE OPERAND AND COMPARE COLUMNS 73 - 75 TC BLANK. WRITTEN IN AUTOCODER. REQUIRES 8K STORAGE, ADVANCED PROGRAMMING AND HIGH-LOW-EQUAL COMPARE.

1401-01.1.040 1401/1410 CROSS REFERENCE LISTING PROGRAM

NG PRUGRAM AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.1.C40

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CONTINUED FROM PRIOR COLUMN--

THIS IS AN 8K, 2 TAPE 1401 PROGRAM WHICH WILL PRODUCE A CROSS REFERENCE LISTING OF LABELS AND ALL INSTRUCTIONS THAT REFERENCE HESE TO INDEX REGISTERS ARE ALSO LISTED. INPUT IS A 1401 OR 1410 AUTOCODER DECK. OPTIONS WILL PRODUCE A SEQUENCE CHECKED CARD HAGE LISTING AND A LISTING UP FALL REFERENCES MADE TO NON-EXISTENT TAGS. THIS IS A VALUBLE TOCL FOR PRE-ASSEMBLY AUDIT, AS WELL AS PROGRAM CHANGING AND MAINTERANCE.

1401-01.1.041 PREASSEMBLY TEST FOR AUTOCODER SOURCE DECKS AVAILABLE 2NO QUARTER 1964. SPECIFY FILE NUMBER 1401-01.1.041

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TINCUIRIES TO AUTHOR

THE PAT PROGRAM WILL ECIT AND SEQUENCE 1401 AUTOCODER
SOURCE DECKS, AND PROVIDE A LISTING FOR DESK-CHECKING. TWO
PASSES OF THE SOURCE INFORMATION ARE REQUIRED TO DO THIS. IN THE
FIRST PASS, THE CARDS ARE WRITTEN CHI 14PF, AND A LABEL IABLE IS
DEVELOPED. DURING THE SECOND PASS, THE TAPE IS READ AND A
LISTING IS CREATED, SHOWING THE PUNCHED CARD INSTRUCTIONS CN
THE LEFT SIDE OF THE LISTING, AND A QUASIASSEMBLED LISTING CN
THE RIGHT SIDE. ON THE RIGHT SIDE OF THE LISTING, PAGE AND
LINE NUMBERS OF THE INSTRUCTION MHICH FIRST REFERENCED THE
LABEL IN THE LABEL FIELD WILL BE SUBSTITUTED FOR THE LABEL. ANY
ERRORS WHICH MAY OCCUR ARE NOTED, AND A COUNT IS ACCUMULATED,
WHICH IS PRINTED AIT THE BOTTOM OF THE LISTING. LABELS IN THE
OPERAND WHICH ARE FUNCTIONS OF AUTCCODER WILL BE NOTED AS
VAUTCY. REFERENCES TO AREA DEFINING LITERALS WILL BE
SUBSTITUTED BY THE PAGE AND LINE NUMBER OF THE INSTILLIBLE
INSTRUCTION. ALL OPEN AND CLOSE INSTRUCTIONS WILL BE LABELED
/IDCS/. THE PAT PROGRAM CAN PROCESS INTERNALLY A MAXIMUM CF
340 LABELS. ANY EXCESS OF THIS ARE WRITTEN ON TAPE UNIT 1.
MACHINE REQUIREMENTS- BK STORAGE, ADVANCED PROGRAMMING, 1403
PRINTER, THO /2/ TAPE CRIVES, 1402 CARD READER.

1401-01.1.043 AUTOCODER PRE-LIST AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-01.1.043

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AUDITS BASIC AUTOCODER STATEMENTS FOR PAGE-LINE SEQUENCE, IDENTIFICATION, VALID MNEMONIC OR ACTUAL OPERATION INCLUDING STANDARD AUTOCCOER/IOCS MACROS, VALID SYMBOLIC OR ACTUAL OPERANDS INCLUDING INDEXING AND CHARACTER ADJUSTMENT, VALID DECLARATIVE STATEMENTS VALID D-MODIFIER TO MNEMONIC RELITIONSHIP, LOGICAL INSTRUCTION LENGTH, BLANKS IN CARD COLUMNS 73 - 75, AND OUPLICATE OR UNDEFINED LABELS WITHIN THE LIMITS OF STORAGE. REQUIRES 4K 1401, 1402, 1403 MOD. 1 OR 2, HIGH-LOW-EQUAL COMPARE, AND ADVANCED PROGRAMMING. LABEL CAPACITY IS 666 FOR 8K, 1333 FCR 12K AND 2000 FOR 16K. PROGRAM HAS 887 AUTOCODER SQURCE STATEMENTS OCCUPYING 3>76 POSITIONS OF STORAGE.

1401-01.1.045 SPS PRE-LIST AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-01.1.045

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A THC PASS, PRE-PROCESS LISTING FOR SPS PROGRAMS WHICH VERIFIES THE VALIDITY OF THE SYMBOLIC A AND B OPERANDS. IN ADDITION, THE PROGRAM CHECKS- /1/ PAGE AND LINE SEQUENCE, /2/ COUNT, AND /3/ PNEMONIC OPERATION CODES. THE PROGRAM HAS THE CAPACITY TO STORE CALLY 400 LABELS SC IT CAN VERIFY ONLY THE FIRST 400 ENCOUNTERED DURING PASS 1. STORAGE AND EQUIPMENT SPECIFICATIONS—THE PROGRAM IS DESIGNEC TO OPERATE ON A 4K 1401. THE PRINT CAN BE ACCOMMODATE ON EITHER A MODEL 1 OR A MODEL 2. NO SPECIAL FEATURES ARE REQUIRED FOR THE 1401, 1402 CR 1403.

1401-01.1.046 LABEL CHECKES /SPS/ AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-01.1.046

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THE LABEL CHECKER CHECKS 1401 SOURCE PROGRAMS WRITTEN IN SYMBOLIC PROGRAMMING SYSTEMS, /SPS/, LANGUAGE FOR UNREFERENCED AND DUPLICATE LABELS, AND UNREFERENCED OPERANDS. IT REQUIRES THO PASSES OF THE SOURCE DECK THROUGH THE 1402 CARD READER. PASS 1 LOADS THE LABEL TABLE. PASS 2 PRINTS THE LABEL TABLE IN ALPHA SEQUENCE OR THE HIGH ORDER POSITION OF THE LABEL CHECKS EACH OPERAND FIELD FOR A LABEL AND IF IT CONTAINS A LABEL, IT THEN CHECKS THE LABEL FOUND IN THE OPERAND FIELD AGAINST THE LABEL TABLE. TABLE. THE LABEL TABLE DOES NOT COMPARE EQUAL, THE UNREFERENCED OPERAND IS PRINTED WITH THE PAGE AND LINE NUMBER CF THE INSTRUCTION. AFTER READING ALL THE CARDS, THE LABEL TABLE SCANNED FOR OUPLICATE AND UNDERFERENCED OPERAND ASSENCE OF THE NORTHWENTED. A MAXIMUM OF 447 LABELS CAN BE PROCESSED ON A KM MACHINE WITH AN ADDITIONAL 666 LABELS FOR EACH ADDITIONAL 4K. EQUIPMENT SPECIFICATIONS ARE A 4K 1401 WITH A 1403 PRINTER AND A 1402 READER, ANY MODELS. SELECT STACK IS THE ONLY SPECIAL FEATURE USED.

B-1401 8-1401

1401-01.1.049 PATCH GENERATOR FOR AUTOCODER TESTING AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-01.1.049

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DIRECT INQUIRIES TO AUTHOR

PAGEN IS A PROGRAM THAT ENABLES THE USER IC CREATE PATCHES WITH A MINIMUM OF HRITING AND KEY-PUNCHING, AND MOST ESPECIALLY, NCT HAVING TO TRANSLATE FOUR POSITION ADDRESSES ID THREE. INSTRUCTIONS AND CONSTANTS MAY BE MIXED. CONSECUTIVE ITEMS NEED ONLY THE STARTING ADDRESS. MACHINE CONFIGURATION- 1401 WITH 8K OR LESS, 1402, ADVANGED PROGRAMMING PACKAGE, MODIFY ADDRESS, OCCUPIES 803 CORE LOCATIONS STARTING AT 0333. SOURCE LANGUAGE-MAITGROFFE.

1401-01.1.050 1401 ASAP AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-01.1.050

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AN SPS ASSEMBLY PROGRAM FOR 4K OR GREATER IBM 1401/1460 CARD
SYSTEM. IT DUES NOT REQUIRE SPECIAL FEATURES FOR ASSEMBLY, BUT
THE OBJECT PROGRAM MAY USE ANY OF THEM. LANGUAGE EXTENSIONS—B
OPERAND. OSE STATEMENT, EQUIVALENT TO DSA WITHOUT WORD MARK.
FIRST PASS GOES AT 800 CPM HITH PRELISTING OF ERRORS. SECOND
PASS GOES AT 300/600 CPM, PRINTING POST LIST AND/OR PUNCHING
AUTOCODER FORMAT CONDENSED DECK. A LABEL TABLE AND DUPLICATED
AND UNKEFRENCHED LABELS ARE PRINTED. RETTERATION IS POSSIBLE AND
NECESSARY IF THE NUMBER OF LABELS EXCEEDS 176, 620, 1065, CR 1509
FOR 4, 98, 12 OR 16K MEMORY. THE CONDENSED CARD NUMBER
CORRESPONDING TO EACH LINE IS PRINTED IN STATEMENT THE OUTPUT
OPTIONS ARE UNDER CIL CARD SPECIFICATIONS. MACHINE
CONTIGURATION—PROCESSOR MACHINE WITH 4000 OR MORE CORE
POSSITIONS, 1402 AND 1403. ANY OBJECT MACHINE. SOURCE LANGUAGE—
SPS.

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PACE BRINGS TO THE 1401/1460 USER AN EFFICIENT AND MEANINGFUL DIAGNOSTIC PROGRAM. IT WILL CHECK AND EDIT 1401 AUTOCODER AND AUTOCODER/IDCS SOURCE PROGRAMS BY DETECTING UNDEFINED LABELS, FORMAT AND PARAMETER ERRORS, CODING ERRORS AND KEY PUNCH ERRORS. THE PRINTEC OUTPUT PROVIDES A LABEL TABLE IN ALPHABETICAL CROER FOLLCKEED BY A LISTING OF THE SOURCE PROGRAM WITH ERRORS UNDERLINED BY SIGNIFICANT SPECIAL CHARACTERS. AN EDIT IS ALSO PERFORMED ON DIOCS AND OTF ENTRIES FOR ACCEPTABILITY AND SPELLING. THERE ARE THREE CHECKS OF AUTOCODES TATEMENTS.

PERTAINING TO LABELS, OPERATION CODES AND OPERANDS. THE CHECKING RESULTS ARE EQUAL TO AN AUTOCODER ASSEMBLY. THIS PROGRAM WILL RUN ON ANY 1401/1460 SYSTEM WITH A MINIMUM STORAGE OF 4,000 PROGRAMMING. PRINTED OUTPUT OPTIONS ARE AVAILABLE WITH SENSE SWITCHES. PACE WILL ALLOW PROGRAMMERS TO BECOME MORE PROCOUCTIVE BY MINIMIZING PROGRAM TESTING. SINCE IT AVERAGES BETWEEN 195 AND 265 CARDS PER MINUTE OPPENDING UPON THE MACHINE CONFIGURATION, IT WILL ALSO ELIMINATE A SUBSTANTIAL ANDUNT OF MACHINE TIME PREVIOUSLY USED FOR ASSEMBLY AND PROGRAM TESTING.

1401-01.1.052 SPS SINGLE PASS ASSEMBLER AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-C1.1.052

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THIS PROGRAM MAS DESIGNED SPECIFICALLY FOR 4K CARD SYSTEMS, AND COMPLETELY ELIMINATES THE CARD FOR CARD PUNCHING NORMALLY ASSOCIATED WITH CARD ASSEMBLERS. NO SPECIAL FEATURES ARE REQUIRED TO USE THIS PROGRAM. THE SOURCE DECK BEING ASSEMBLED IS READ TWICE. THE FIRST READING SETS UP AN INTERNAL LABEL TABLE, THE SECOND TIME THROUGH A CONDENSED DECK IS PUNCHED AND THE LISTING PRINTED. A LABEL TABLE IS ALSO PRINTED WITH UNREFERENCED AND CUPIL CATE LABELS INDICATED AS SUCH. MAS SAR, SBR, MIZ, MCM, BBE, AND INDEXING CANNOT BE ASSEMBLED WITH THIS PROGRAM. TAPE, BCS., AND CRUM INSTRUCTIONS OF ANY TYPE CANNOT BE ASSEMBLED. THERE IS A MAXIMUM NUMBER OF LABELS THAT CAN BE PROCESSED AND THIS VARIES FROM 224-252. DAS, DS. DC AND DCK CARDS ARE PLACED IN MEMORY WHERE THEY APPEAR IN THE SOURCE DECK.

4 K 1401 / ANY MODEL/, 1402, AND 1403 WITH NO SPECIAL FEATURES IS REQUIRED.

1401-01.1.053 CONDENSE FARGO AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01.1.053

AUTHORS...THOMAS E. HARDING KARL E. BRIGHAM

CONTINUED FROM PRIOR COLUMN--

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THIS PROGRAM, CONDENSE FARGO, MILL CONDENSE A 4K FARGO PROGRAM TO THE MINIMUM AMOUNT OF LOADABLE ACTUAL INSTRUCTION CARDS UTILIZING THE STANCARD AUTOCODER LCAD FORMAT. THE FINAL CONDENSED FARGO GOBJECT DECK MILL BE APPROXIMATELY 1/3 THE SIZE OF THE ORIGINAL FARGO SOURCE DECK. THE BENEFITS REALIZED ARE THOFOLO—PROGRAM LOAD TIME IS REDUCED MORE THAN TWO THIRDS. ASSEMBLY OF THE PROGRAM INTO STORAGE 8Y PHASES IS NO LONGER NECESSARY. THE OBJECT DECK LOADS INTO STORAGE IN THE STANCE ROWN NECESORY PROGRAM DECKS IS REDUCED BY APPROXIMATELY TWO THIRDS. TWO INSERT CARDS ARE REQUIRED IN EACH SOURCE DECK TO BE CONCENSED. A HEADER CARD WITH A LUZENGE 712—4-87 IN COLUMN 1 MUST BE PLACED ON THE FRONT OF EACH DECK. A LINKAGE CARD MUST BE INSERTED IMMEDIATELY PROGRAM THE PLACED ON THE FRONT CF EACH DECK. A LINKAGE CARD MUST BE INSERTED IMMEDIATELY PROFILED, CARD WHICH PRECEDES FARGO PHASE 4 HEADING CARDS. THE SPN CARD WILL HAVE A SLASH /0-1/ IN COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 40 USED IN THE SPS LOAD FORMAT OR COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 56 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN ME SPS LOAD FORMAT OR COLUMN 50 USED IN ME SPS LOAD FORMAT OR COLUMN 50 USED IN ME SPS LOAD FORMAT OR COLUMN 50 USED IN ME SPS LOAD FORMAT OR COLUMN 50 USED IN ME SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR COLUMN 50 USED IN THE SPS LOAD FORMAT OR CO

PAGE 035

1401-01.1.054 CROSS-REFERENCE PHASE OF 1401 AUTOCODER AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01.1.054

AUTHOR...LARRY M. HAIL

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DURING COMPILATION OF A 14C1 AUTOCODER AND/OR SPS SOURCE LANGUAGE PROGRAM, THIS PATCH TO THE 1401 AUTOCODER SYSTEM /1401-AU-0377 MILL ALLOW AUTOMATIC GENERATION OF A CROSS-REFERENCED LISTING OF LABELS, ADDRESS CONSTANTS, IMPLICITLY-DEFINED LITERALS, AND ALL INSTRUCTIONS WHICH REFERENCE THESE ITERAS. AND ALL INSTRUCTIONS WHICH REFERENCE THESE ITERAS. THIS INFORMATION IS VERY USEFUL IN DEBUGGING AND MAINTAINING PROGRAMS MITTEN IN 1401 AUTOCODER AND/OR SPS SOURCE LANGUAGE. THIS CROSS-REFERENCE PLASE IS EXECUTED AFTER PASS 7 OF A 1401 AUTOCODER COMPILATION. THE PRINTED CROSS-REFERENCE DISTING ON THE 11STING FOR COMPILATION. THE PRINTED CROSS-REFERENCE DISTING ON THE 1401 AUTOCODER LISTING TAPE 71APE 37. NO BLANKS ARE ALLOWED BETWEEN OPERANDS IN THE SOURCE LANGUAGE STATEMENTS. THIS DEED THE 1401-AUTOCODER LISTING TAPE 71APE 37. NO BLANKS ARE ALLOWED BETWEEN OPERANDS IN THE SOURCE LANGUAGE STATEMENTS. THIS DEED THE 1401-AU-037 VERSION 3 MODIFICATION LEVEL 10 SYSTEMS DECK. CAUTION SHOULD BE EXERCISED HEN INSERTING THESE CHANCES INTO ANY OTHER VERSION OR LEVEL CF 1401-AU-037. STORAGE REQUIREMENTS - 8,000 POSITIONS OF CORE STURAGE. EQUIPMENT SPECIFICATIONS—1401 WITH 8,000 POSITIONS OF CORE STURAGE, 4 /FOUR/ 729 II OR TV YAPE UNITS, 1403 PRINTER MOCEL 3 /CARRIAGE COURROIL TAPE MUST HAVE PUNCHES IN CHANNELS I AND 12/, 1402 CARD READ-PUNCH, ADVANCED PROGRAMMING FEATURES, HIGH-ICM-FOUNDL COMPARE. SOURCE LANGUAGE—1401 AUTOCODER. A PROGRAM CONSISTING OF 1173 AUTOCODER SOURCE LANGUAGE—1401 AUTOCODER. A PROGRAM CONSISTING OF 1173 AUTOCODER SOURCE LANGUAGE—1401 AUTOCODER. A PROGRAM CONSISTING OF 1173 AUTOCODER SOURCE LANGUAGE—1401 AUTOCODER. A PROGRAM ONSISTING OF 1173 AUTOCODER SOURCE LANGUAGE—1401 AUTOCODER. SOURCE LANGUAGE—1401 AUTOCODER SYSTEM NITHOUTS CONSISTING OF 1713 AUTOCODER SOURCE LANGUAGE STATEMENTS. CONTAINING OAL ABELS AND 1746 REFERENCES TO THOSE LABELS, WAS COMPILED IN 13.8 MINUTES USING AND AUTOCODER SYSTEM NITHOUTS USING AN AUTOCODER SYSTEM NITHOUTS OF 489 PRINTED LINES.

CNE REEL OF TAPE IS REQUIRED TO OBTAIN THE PROGRAM CARDS. THE TAPE MUST BE 2400 FEET AND MAY BE SUPPLIED OR ORDERED FROM YOUR IBM REPRESENTATIVE.

1401-01-1.055 LOAD AND GO ASSEMBLER AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01-1.055

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THIS PROGRAM ASSEMBLES AND EXECUTES INSTRUCTIONS WRITTEN IN A FIXED FORM SYMBOLIC LANGUAGE. THREE HUNDRED POSITIONS OF SIGRAGE ARE USED BY THE ASSEMBLER, PLUS SIX FOR EACH LABEL AND SIX FOR EACH LABEL AND SIX FOR EACH LANTED THE SOURCE DECK WAY CONTAIN UP TO FIVE INSTRUCTIONS PER CARD. THE PROCESSOR IS DESIGNED TO OPERATE ON 1401 SYSTEMS OF 2000 OR MORE POSITIONS OF STORAGE, BUT IS ADAPTABLE TO 1.44K SYSTEMS WITH MODIFICATIONS TO THE SOURCE DECK. NO SPECIAL FEATURES ARE REQUIRED.

1401-01.2.003 THREE TAPE SORT PROGRAM AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-01.2.003

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TO PROVIDE A SCRT PROGRAM FOR 1401 SYSTEMS USING 3
MAGNETIC TAPE UNITS. THE PROGRAM CONSISTS OF FOUR PHASES
AND MAY ALSO BE USED FOR MERGING THO TAPE FILES WHICH ARE
AREADY IN ASCENDING ORDER. 4000 POSITIONS OF CORE STORAGE
ADVANCED PROGRAMMING FEATURE HIGH-LOM-EQUAL COMPARE FEATURE
SENSE SWITCHES FEATURE THREE /3/ TAPE UNITS /733G CR 729 II
OR IV/

PAGE 036

1401-01.2.005 CARD FILE MERGE AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-01.2.005

AUTHOR --- R. R. LOVELACE

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THE PROGRAM IS DESIGNED TO MERGE TWO CARD FILES. 670 POSITIONS, 1401 WITH 1400 POSITIONS OF MEMORY, READ-PUNCH FEED DEVICE, HIGH-LOM-EQUAL COMPARE, RRY DEVICE READ STACKER SELECT DELAY, REFERENCE W92210, DEVICE CODE 1401-4235.

B-1401

1401-01.2.007 AUTO-LODER 8K, 12K, 16K AVAILABLE 3RO QUARTER 1963. SPECIFY FILE NUMBER 1401-01.2.007

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T INQUIRIES TO AUTHOR

1401 AUTO-LODER IS A LOAD-8-GO SUBSET OF AUTOCODER LOADED FRCM CARDS. TAPES ARE NEEDED ONLY IF DESIRED BY OBJECT PROGRAM FOR I/O THE USERS SOURCE PROGRAM IS PUNCHED IN AUTOCCODER SYMBOLIC LANGUAGE USING LABELS AND ACTUAL ADDRESSES OF 2 OR 3 CHARACIERS. AUTO-LODER PLUS SYMBOLIC DECK EQUALS OBJECT DECK. MACHINE REQUIREMENTS ARE 9,000 POSITIONS OF CORE STORAGE, 1402 CARC READER, ADVANCED PROGRAMMING FEATURE AND HIGH-LOW-EQUAL COMPARE-THIS PROGRAM HAS PROVED EXTREMELY USEFUL FOR ALL NOT-TOO-ELABORATE JOBS — JOBS WITH AT MOST A FEW HUNDRED PROGRAM SIEPS. THE NO-ASSEMBLY LOAD-8-GO FEATURE GIVES FASTER DELIVERY OF RUSH JOBS AND PERMITS EASY PROGRAM ALTERATION. IT IS ALSO VALUABLE FOR CACE-TIME-ONLY PROGRAMS SUCH AS EMERGENCY INFORMATICA RETITEVAL OR RESTART, AND CONVERTING CATA INTO NEW FORMAT. AUTOLOBER CONSISTS OF 76 CARDS. AUTO-LODGE SES 2327 STORAGE POSITIONS PLUS SIX FOR EACH USER LABEL. THIS IS LOADED INTO THE HIGHEST LOCATION DOWN. IF THERE IS NG ORG THE OBJECT PROGRAP WILL BEGIN AT 333.

1401-01.2.009 SEQER TO SEQUENCE CHECK A FILE CF CARDS ALPHANUMERICALLY AND/OR NUMERICALLY AVAILABLE 41H QUARTER 1963. SPECIFY FILE NUMBER 1401-01.2.009

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TO SEQUENCE CHECK A FILE OF CARDS. THE CONTROL WCRD MAY CCASIST OF 1 TO 13 SEPARATE CONTROL FIELDS. EACH SEPARATE CONTROL FIELD MAY BE SEQUENCED AS ALPHANIMERIC OR NUMERIC. THIS RCUTINE MILL ALLOW OR PROHIBITE EQUAL RECORDS. IF A SEQUENCE ERROR IS DETECTED /STEP COWN OR PROHIBITED EQUAL/, THE ERROR WILL BE REPEATED FOR EACH FOLLOWING CARD UNTIL AN EQUAL OR HIGH CONDITION IS REACHED. TO ELIMINATE THE REQUIREMENT OF WIRING COLLATOR BOARDS. RESTRICTIONS, RANGE—THE TYPE OF SEQUENCE AND THE NUMBER OF FILEDS TO BE SEQUENCE CHECKED IS BASED ON ONE CONTROL CARD WHICH FOLLOWS THE PROGRAM DECK. THE CONTROL CARD IS COMPLETELY ANALYZED, AND IF ANY ERRORS ARE DETECTED IN THE CONTROL CARD, THE PROGRAM WILL NCT PROCESS THE DETAIL FILE. STORAGE REQUIREMENTS 1401—2K 1401-2K EQUIPMENT SPECIFICATIONS 1. ADVANCED PROGRAMMING FEATURE 2. HIGH-LOW-EQUAL COMPARE 3. READ-RELEASE FEATURE

1401-01.2.011 THREE TAPE SORT PROCESSOR AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.2.011

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THIS PROCESSOR GENERATES A THREE TAPE SORT PROGRAM IN 1401 AUTOCODER LANGUAGE FROM A CONTROL CARD. THE GENERATED PROGRAM CAN BE EITHER A SOURCE OR OBJECT DECK. THE GENERATED PROGRAM HILL SORT UNBLOCKED FIXED LENGTH RECORDS INTO ASCENDING CAR DESCENDING GARDED FOR MAXIMUM OF IEN CONTROL FILLDS USING THREE TAPE DRIVES. RESTRICTIONS— THE SORT PROGRAM SHOULD CALLY BE USED ON SMALL VOLUME AS IT BECOMES INEFFICIENT ON MEDILM OR LARGE VOLUME FILES. EQUIPMENT SPECIFICATIONS— 1402 CARD READER PUNCH-1403 PRINTER—FOUR 729 II, IV, V, V, VI TAPE UNITS—1401 PROCESSING UNIT WITH MES STORAGE /MINIMUM/, HI—LO—GO COMPARE, ADVANCED PROGRAMMING, MULTIPLY—CIVIDE, SENSE SMITCHES— AUTOCODER SYSTEM TAPE.

1401-01.2.012 TTSRT - TWO TAPE SORT AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-01.2.012

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CIRECT INQUIRIES TO AUTHOR

B-1401

CONTINUED FROM PRIGR COLUMN--

THIS PROGRAM WILL SORT FIXED LENGTH, FIXED BLOCK RECORDS ON A TWO-TAPE 1401 PROVIDED THE CONTROL FIELDS ARE NUMERIC CNLY. INPUT AND QUIPPUT ARE ON TAPE. 4K MEMORY SIZE IS NEEDED AND SENSE SHITCHES ARE DESIREABLE FOR USE OF AN OPERATING OPTION IN THE READ ERROR ROUTINE. NO OTHER SPECIAL FEATURES REQUIRED. USER SPECIFIES HIS RECORD SIZE, CONTROL FIELDS, ECT ON A SINGLE CCNIROL CARD. PORTION OF DOCUMENTATION OF PROGRAM IS BUILT INTO LISTING USING COMMENTS AND COMMENTS CARDS. UP TO 5 NUMERIC CONTROL FIELDS ARE ALLCHED. MAXIMUM INPUT VOLUME IS ONE REEL OF TAPE, THEREFORE, ACTUAL NUMBER OF RECORDS WHICH CAN BE SORTED WILL VARY WITH BLOCK SIZE AND RECORD LENGTH. MAXIMUM INPUT BLOCK SIZE AND RECORD LENGTH. MAXIMUM INPUT BLOCK SIZE AND RECORD LENGTH. MAXIMUM INPUT BLOCK SIZE IS 1200 CHARACTERS. PROGRAM IS WRITTEN IN SPS.

1401-01-2-013 CARD SORTER AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-01-2-013

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TINGUIRIES TO AUTHOR

THIS THO PHASE PROGRAMMING SYSTEM PROVIDES AN COTIMUM METHOD FOR ARRANGING CARD FILES IN ASCENDING ORDER ON A 1401 TAPE SYSTEM. ATTRACTIVE FEATURES OF THE SYSTEM INCLUDE THE ABILITY TO INFUL CARD FILES DIRECTLY OR FROM MENDER TO THE ABILITY TO INFUL CARD FILES DIRECTLY OR FROM MENDER THE OFFICE OF THE CONTROL FILES OF THE SYSTEM INCLUDE THE ABILITY TO INFUL CARD FILES DIRECTLY OR FROM MACK, THE OFFICE OF THE CONTROL FILES, AND THE PROVISION TO INCLUDE THE RELATIVELY SHALL OBJECT DECKS IN ALARGE PROGRAMMING SYSTEM THROUGH AN OVERLAY MODE FEATURE. METHOD A THO PHASE PROCESS IS USED—17 PHASE ONE CHECKS THE PARAMETER AND, HAVING VERTIFIED ITS ACCEPTABILITY, PROCEEDS IT PRADICT OF THE PROPERTIES OF THE PROPERTIES OF THE PROPERTIES OF THE STATE OF THE PROPERTIES OF THE PROPERTIES OF THE STATE OF T

1401-01.2.016 TWO-TAPE SORT AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-01.2.016

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DIRECT INQUIRIES TO AUTHOR

CARDS ARE INPUT TO A PROGRAM WHICH SORTS ON AS MANY AS FIVE CONTROL FIELDS AND PROCUCES AS QUITPUT A TAPE WHOSE RECCROS-CCNTAIN BLOCKS OF FORTY CARD IMAGES IN ASCENDING SEQUENCE-MACHINE CONFIGURATION- 8K 1401, 2 TAPE UNITS, ADVANCED PROGRAMMING, HE COMPARE, READ RELEASE, CARD READER PUNCH,

1401-01.2.018 CARD MERGE AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1401-01.2.018

AUTHOR...P.B. MAYO
5622 7TH ROAD SOUTH
ARLINGTON, VIRGINIA

DIRECT INQUIRIES TO AUTHOR

THIS IS A CARD CCLLATING PROGRAM DESIGNED TO SEQUENCE CHECK. SEQUENCE CHECK WITH SELECTION, MERGE, MERGE WITH SELECTION, MATCH, AND MATCH HITH SELECTION. A MAXIMUM OF 16 PARAMETER CONTROLLED FIELDS MAY BE UTILIZED. MACHINE CONFIGURATION REGULTED IS A 1401 WITH 4K, HI-LC-EQ COMPARE AND ADVANCED PROGRAMMING FEATURES, A 1402 WITH PUNCH FEED READ AND READ FEED STACKER DELAY FEATURES AND ANY MCDEL 1403. SCURCE LANGUAGE IS AUTOCOCCE.

1401-01-2.019 SORT 71- SORT 7 WITH THREE TAPE UNBALANCED SORT CAPABILITY AVAILABLE 41H QUARTER 1965. SPECIFY FILE NUMBER 1401-01-2.019

AUTHORS..D.E. GATES

DIRECT INQUIRIES TO..
O.E. GATES
IBM CORP.
DEPT. 643, GPC CEVELOPMENT LAB.
ENDICOTI, N.V.

THIS PROGRAM WAS DEVELOPED AND IMPLEMENTED TO INVESTIGATE AND VERIFY MERGING TECHNIQUES AND THEIR ASSOCIATED REDISTRIBUTION PHASE. THE SAME AS THOSE DESCRIBED FOR SORT 7 IN THE SPECIFICATIONS DULLETIN, SORT 7 AND MERGE 7 FOR THE 18M 1401 SPECIFICATIONS, FORM C24-3075 EXCEPT THAIT SCAT 71 CAM, IN ACCITION, SORT FIXED LENGTH BLOCKED OR UNBLOCKED RECORDS WITHOUT LABEL HANDLING CAPABILITIES ON SYSTEMS EQUIPPED WITH CANDY 3 TAPE CRIVES. SORT 71 MAS IMPLEMENTED USING AS A BASIS THE 18M 1401 PROGRAM SORT 7 FILE NUMBER 1401-SM-06 GENERALIZED SORT PROGRAM VERSION 1. THE HINTHOW MACHINE RECUIREMENTS FOR SORT 71 ARE IDENTICAL TO THOSE RECUIRED FOR SORT 7 AS DELINEATED IN THE OPERATIONS BULLETIN, SORT 7 FCR THE 18M 1401, OPERATING PROCEDURES,, FORM C24-3107,

B-1401

CONTINUED FRCM PRIGR PAGE—

ONLY THREE TAPE CRIVES ARE NEEDED WHEN USING THREE TAPE

MULTIPHASE IN SORT 71. SORT 71 CAN RUN ON AN 8K SYSTEM. THE

TAPE FILE GENERATOR INCLUDED TO GENERATE INPUT FOR SAMPLE PREBLEM

UTILIZES A 12K 1401 WITH ONE TAPE UNIT. THE PROGRAM USED MCST OF

THE AVAILABLE CORE WHEN USING AN 8K SYSTEM. THE PROGRAM USES

APPRCXIMATELY 4000 POSITIONS OF CORE IN PHASE 1 AND 2815

POSITIONS OF CORE IN PHASE 2. THE PROGRAM MAS WRITTEN IN 1401

TAPE AUTOCODER, BUT DOES NOT USE THE AUTOCODER IOCS. THERE ARE

9883 SCURCE STATEMENTS.

OPTICNAL MATERIAL REQUESTED MUST BE ITEMIZED ON THE OFFICE CARC.

THE NUMBER OF TAPES INDICATED MAY BE GROERED FROM YOUR IBM

REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED.

THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL COCUMENTATION - PROGRAM WRITE-UP...
MACHINE READABLE - TAPE FILE GENERATOR AND CONTROL CARDS...
ONE REEL OF MAGNETIC TAPE CONTAINING OBJECT DECK AND
LISTINGS.

CPTICNAL PROGRAM MATERIAL - ONE REEL OF MAGNETIC TAPE CONTAINING THE SOURCE DECK.

1401-01.2.020 GENERALIZED THREE TAPE PROGRAM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.2.020 GENERALIZED THREE TAPE SORT

AUTHORS..G.C. STAMATOGIANNIS SYSTEMS ENGINEER IBM WORLD TRADE CORP. 1 MITROPOLECS ST. ATHENS 118, GREECE

DIRECT INQUIRIES TO AUTHOR

THIS IS A GENERALIZED SCRTING PROGRAM WRITTEN FOR A 3-TAPE, 4K 1401 SYSTEM, AND WILL SORT FIXED LENGTH RECORDS WRITTEN IN THE MOVE-MODE. IT SORTS IN ASCENDING OR DESCENDING SEQUENCE IN UP TO CONTROL FIELDS AS SPECIFIED BY THE CONTROL CARDS AND SENSE

RESTRICTIONS—

- INPUT BLOCKS LARGER THAN 800 POSITIONS MAY NOT BE SCRED.

- MAXIMUM NUMBER OF CONTROL FIELDS IS TEN.

- MAY NUMBER OF INPUT RECORDS MAY BE SORTED PROVIDED PERMISSIBLE BLOCK LIMITS ARE NOT EXCECTED.

- A RECORD CONTAINING A COT, /12-8-3 PUNCH, AS THE FIRST CHARACTER OF ITS FIRST CONTROL FIELD MAY NOT BE SCRIED.

- RECORDS CONTAINING A RECORD—MARK IN OTHER THAN THEIR LOW.

- RECORDS CONTAINING A RECORD—MARK IN OTHER THAN THEIR LOW.

- MACHINE CONFIGURATION— 4K 1401, 3 TAPE UNITS, HIGH—LOW—EQUAL, SBR, SAR, SENSE SMITCHES, MULTIPLY—DIVIDE, INDEX REGISTERS.

D1.2.021 THREE CISK SORT -SORT 72 AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.2.021

AUTHORS..D.E. GATES Jaka TONER

CIRECT INCUIRIES TO.

D.E. GATES, IBM CORP., DEPT. 643, SCC LAB., 11701 NORTH ST., ENDICOTT, N.Y.

THIS PROCRAM WAS DEVELOPED AND IMPLEMENTED TO INVESTIGATE AND VERTFY DISK MERGING TECHNIQUES AND THEIR ASSOCIATED REDISTRIBUTION PHASE. THE SPECIFICATIONS FOR SCRT 72 ARE SIMILAR ID THOSE DESCRIBED FOR SCRT 7 AND THE TYPE III PROGRAM, SCRT 71, IN THE SPECIFICATIONS BULLETIN ,, SCRT 7 AND MERGE 7 FOR THE 1.5.M. 1401 SPECIFICATIONS, FERM C24-3015 EXCEPT THAT SCRT 72 WILL SCRT FIXED LENGTH BLCCKED GR UNBLCKED RECORDS WITHOUT LABEL HANDLING CAPABILITIES CN SYSTEMS EQUIPPED WITH ONLY 3-1311 CISK DEVICES. THIS PROGRAM DOES NCT HANDLE TAPE SCRTING. SCRT 72 WAS IMPLEMENTED USING AS A BASIS THE PRESENTLY AVAILABLE TYPE III PROGRAM 1, SCRT 72 ARE IDENTICAL THE HINNING MACHINE REQUIREMENTS CORN TO ARE IDENTICAL TO THOSE REQUIRED FOR SCRT FOR A BELIEVE OF SCRT 72 ARE IDENTICAL TO THOSE REQUIRED FOR SCRT 7A SC DELINEATED IN THE OPERATIONS BULLETIN , SCRT 77 FOR THE BM 1401., CPRATIONS PROCECURES., FORM C24-3107 EXCEPT THAT SCRT 7.2 UTILIZES 3-1311 DISK DEVICES. 4282 SOURCE STATEMENTS.

BASIC PROGRAM MATERIAL CCCUMENTATION - PROCRAM WRITE-UP.
MACHINE READABLE - PROGRAM DECK... ONE REEL OF MAGNETIC TAPE
CONTAINING OBJECT CECKS AND THE ASSEMBLY LISTING.

OPTIONAL PROGRAM MATERIAL CNE REEL OF MAGNETIC TAPE CONTAINING THE SOURCE CARDS.

THE NUMBER OF TAPES REQUIRED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

CPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-01.2.022 8K THREE TAPE SORT MERGE AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-01.2.022

AUTHOR...FRANCIS GBEREMBT

CIRECT INQUIRIES TO.. F. CBEREMBT, ST. JOSEPH INDIAN SCH., CHAMBERLAIN, S. D.

THE PURPOSE IS TO PROVICE AN ALPHANUMERIC SORT PROGRAM FCR
1401 SYSTEM USING THREE MAGNETIC TAPE UNITS. IT IS A
MCDIFICATION OF 1401-01.2.003. INPUT IS FIXED LENGTH BLCCKED CR
UNBLICKED RECORDS. OUTPUT IS ASCENDING SEQUENCE ONLY. THE
PROGRAM CONSISTS OF FOUR PHASES AND MAY ALSO BE USED FCR
MERGING THO TAPE FILES WHICH ARE ALREADY IN ASCENDING SECUENCE.
EQUIPMENT SPECIFICATIONS- ADVANCED PROGRAMMING, HIGH-LCM-ECUAL
CCMPARE, SENSE SWITCHES, THREE TAPE UNITS /7330 CR 729 II CR IV./
AND 8000 POSITIONS OF CORE.

1401-01.2.023 IBM 1401/1440/1460/1311 DISK

AVAILABLE 4TH QUARTER 1966.

CONTINUED FROM PRIOR COLUMN--SPECIFY FILE NUMBER 1401-C1.2.023

DIRECT INQUIRIES TO..
A.E. SEYMOUR, IBM CORP., 2000 S.W. FIRST, PORTLAND, ORE. 97701

THIS PROGRAM IS A GENERALIZED DISK SORT AND WILL RUN CN 1440-1460-1401. DARTS-2 WILL SORT FIXED LENGTH BLOCKED CR UNBLOCKED RECORDS IN SECTOR MODE AND FIXED LENGTH RECORDS IN TRACK MODE. DARTS-2 WILL SORT ASCENDING OR DECENDING ALPHA OR NUMERIC. DARTS-2 WILL SPROVIDE EXITS FOR JOB TO JOB LINKAGE, NOMITOR LINKAGE, INQUIRY LINKAGE, CAN RESIDE ON DISK OR TAPE, AND USES A VERY SMALL WORK AREA. INPUT AND OUTPUT AREAS MAY BE PHYSICALLY THE SAME OR ADDRESSED THE SAME. DARTS-2 IS WRITTEN IN 1401-1440 AUTOCODER AND CONSISTS OF 2 PROGRAMMING, MINIMUM MACHIME REQUIREMENTS ARE 8K, ADVANCED PROGRAMMING, HI-LO-EQUAL, 1311, 1442-1402.

1401-01.3.003 GENERAL PURPOSE TAB-BACK PROGRAM

M AVAILABLE IST QUARTER 1962. SPECIFY FILE NUMBER 1401-01.3.003

AUTHOR...BERNARD T. SMITH
THE WARNER BROTHERS COMPANY
325 LAFAYETTE STREET
BRIDGEPORT 1, CONNECTICUT

CIRECT INQUIRIES TO AUTHOR

TO PROVIDE TABLEATIONS OR LISTINGS OF SUMMARY CARDS OR INITIAL DATA CARDS FOR CONTROL AND VERIFICATION PURPOSES. THIS PROGRAM MAY HAVE THE FOLLOWING I CARD A UP TO TEN, EIGHT COLUMN ADD FIELD CESCRIPTIONS
2 CARD B A/ UP TO TEN POSITIVE, TEN COLUMN ADD FIELDS, OR UP TO TEN NEGATIVE, EIGHT COLUMN ADD FIELDS, B/ UP TO THREE CLASSES OF COMPARING OF NOT MORE THAN TEN COLUMNS FOR EACH CLASS OF COMPARING, C/ UP TO FOUR CLASSES OF TOTALS. 3479 CORE POSITIONS ARE REQUIRED FOR THIS PROGRAM. EQUIPMENT SPECIFICATIONS 4K, 1401 CARD SYSTEM, WITH THE ADVANCED PROGRAMMING PACKAGE, AND 1403 PRINTER.

1401-01.3.004 SLIP /SYMBOLIC LANGUAGE INSERT PACKAGE/ /CARD/ AVAILABLE 2NO QUARTER 1962. SPECIFY FILE NUMBER 1401-01.3.004

AUTHOR...MAX WAGGNER
BENGIX PRODUCTS DIVISION
THE BENDIX CORPORATION
SCUTH BENC, INDIANA

DIRECT INQUIRIES TO AUTHOR

TO SIMPLIFY THE WRITING OF PROGRAMS FOR A BASIC CARD IBM 1401 SYSTEM BY ELIMINATING THE OVERALL LOOPED CONCEPT OF STORED PROGRAM LOGIC, THE FIRST AND LAST CARD IDIOSYNGRASIES, AND THE SETTING OF SWITCHES FOR REPORT HEADING AND TOTAL PROGRESSION ROUTINES. ALSO, TO SIMPLIFY PROGRAMMING EFFORT BUT AT THE SAME TIME TO RETAIN THE INMERENT FLEXIBILITIES OF THE ONE FOR CNE IBM SYMBOLIC PROGRAMMING SYSTEM. SLIP OCCUPIES 484 POSITIONS OF CORE AND USES AN ADDITIONAL 80 POSITIONS OF CORE FOR SCHEDULING AND STACKING OF CARDS FROM THE IBM 1402 READ FEED. 1401 CARD SYSTEM.

1401-01.3.005 REPORT PROGRAM GENERATOR
PRE-EDIT
AVAILABLE 2ND QUARTER 1962.
SPECIFY FILE NUMBER 1401-01.3.005

AUTHORS..JACK MELNICK

DIRECT INQUIRIES TO...
JACK MELNICK
IBM CORPORATION
215 W. STATE STREET
TRENTON 8, NEW JERSEY

AN IBM 1401 PROGRAM TO EDIT REPORT PROGRAM GENERATOR CONTROL, INPUT SPECIFICATIONS, DATA SPECIFICATIONS, CALCULATION SPECIFICATIONS, AND FORMAT SPECIFICATION CARDS FOR POSSIBLE CLERICAL AND LOGICAL ERRORS. THE PROGRAM SUPPLIES A CARC IMAGE LISTING AND SPECIFIC ERROR MESSAGES. 4K CORE. IBM 1401, IBM 1402 AND IBM 1403, MODEL 1 OR 2.

1401-01.3.008 SLIP III SYMBOLIC LANGUAGE INSERT PACKAGE AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-01.3.008

AUTHOR...MAX L. WAGGNER
BENDIX PRODUCTS DIVISION
THE BENDIX CORPORATION
SCUTH BEND INCIANA

I INQUIRTES TO AUTHOR

SLIP I AND II WERE DESIGNED FOR BASIC CARD IBM 1401

APPLICATIONS WHERE THE PUNCH FEED OF THE 1402 IS USED AS

A NORMAL PUNCH UNIT. SLIP III IS A COMPANION PACKAGE AND
IS DESIGNED FOR IBM 1461 OPERATIONS THAT REQUIRE INPUT DATA
TO BE READ FROM THE PUNCH FEED OF THE 1402. SLIP III DOES
NOT REPLACE OR OBSOLETE THE SLIP I AND II PACKAGES.
INCLUDED IN THE PACKAGE ARE FACILITIES FOR AUTOMATIC
SCHEDULING OF BOTH INPUT FEEDS SIMILAR TO AN IBM COLLATGR
MATCH CPERATION, SIMULTANEOUS REPORT PREPARATION WITH
HEADINGS AND A MAXIMUM OF FIVE 75/ LEVELS OF TOTAL, AND AN
CPTICNAL MACKO-LIKE METHOD FOR MULTIPLICATION AND/OR
CIVISION. SLIP III IS DESIGNED TO SIMPLIFY THE WRITING OF
PROGRAMS OF STREED FOR MICH STREET OF THE TOTAL STREET OF
STREED PROGRAM LOGIC, THE FIRST AND LAST CARD
IDIOSYNCRASIES, SCHEDULING OF FEEDING INPUT DATA FROM BOTH
FEEDS OF THE 1402, AND THE SETTING OF SWITCHES FOR REPORT
HEADING AND IDIAL PROGRESSION ROUTINES. ALSO, TO SIMPLIFY

PAGE 038

CONTINUED FROM PRIOR PAGE-PROGRAMMING EFFORT BUT AT THE SAME TIME TO RETAIN THE
INHERENT FLEXIEILITIES OF THE ONE FOR ONE IBM SYMBOLIC
PROGRAMMING SYSTEM. 4K BASIC IBM CARD SYSTEM, PUNCH-FEEDREAD AND HIGH-LOW-EQUAL COMPARE.

1401-01.3.010 SHORT IDCS FOR FIXED LENGTH RECORDS

AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-01.3.010

AUTHOR...LORETTA HARTFORD IBM CORP. 570 BROAD STREET NEWARK 2, NEW JERSEY

DIRECT INQUIRIES TO AUTHOR

COMPLETE IOS FOR 1-4 729 OR 7330 TAPES. USES 830-2000 POSITIONS. COVERS ALL IBM TAPE RECOMMENDATIONS EXCEPT ERROR STATISTICS AND RECORD LENGTH CHECK. COVERS SAME AREA AS AUTOCODER IOCS MACROS, USING LESS STORAGE. INCLUDES SEPARATE ROUTINES TO GET, PUT, OPEN, CLOSE, TEST FOR AND CORRECT TAPE ERRORS, FOR SINGLE OR MOLOCKED HANDLES SINGLE OR MULTI-REEL FILES. COUNTS RECORDS READ OR WRITTEN ON EACH TAPE. PRINTS COUNTS AT EQJ. ON TAPE ERROR CLAIMS TAPE AND RETRIES. DUNCHES RECORD CONTAINING PERMANENT READ ERROR AND HALTS. STANDARD HEADER AND TRAILER LABELS USED, BUT SHORTENED. INPUT FILES CHECKED FOR FILE NUMBER AND REEL. OLD LABELS ON OUTPUT TAPES CHECKED THAT RETENTION PRIOD IS PAST. REQUIRES ADVANCED PROGRAMMING. BLOCK DIAGRAMS AND SUBROUTINES ARE EASILY MODIFIED TO NEEDS OF USER. MACHINE CONFIGURATION - TAPE 1401 /4K

1401-01-3-011 ONE CARD 80-80 LIST AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01-3-011

AUTHOR...HILLEL BARDIN
NEW YORK UNIVERSITY
ENGINEERING RESEARCH DIVISION
DATA PROCESSINGSCOMPUTATION LAB
233 FORDHAM LANDING ROAD
BRONX 66, NEW YORK

DIRECT INQUIRIES TO AUTHOR

TO PROVIDE A COMPACT CARD LISTING PROGRAM FOR USE ON A 100 CR 132 POSITION PRINTER, WITH THE CARRIAGE BEING RESTORED AT THE START OF THE JOB AND ON FORMS OVERFLOW. EQUIPPENT SPECIFICATIONS ANY 1401 MODEL WITH 3 INDEX REGISTERS. OPERATING PROCEDURES PLACE DECK TO BE LISTED BEIND PROGRAM CARD IN READ HOPPER. LOAD PROGRAM. TO PRINT LAST CARD, PRESS START.

1401-01.3.013 SIMPLE METHOD OF ASSEMBLING REPORTS FROM TAPE OR CARDS /SMART/ AVAILABLE 41H QUARTER 1963. SPECIFY FILE NUMBER 1401-01.3.013

AUTHOR...MAURICE F. WHITNEY
SUPERVISOR OF MACHINE OPERATIONS
DEPARTMENT OF PUBLIC INSTRUCTION
OLYMPIA, MASHIMGION

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM PROVIDES THE CAPABILITY OF ACCOMPLISHING NORMAL TABULATOR OPERATIONS ON THE 1401 THAT COULD BE DONE ON A 402 CR A 407, WITH EITHER CARD OR TAPE INPUT. THE PROGRAM DOES NOT HAVE THE ABILITY TO OFFSET TOTALS. ALL TOTALS WILL BE PRINTED UNDER THE COLUMNS TO WHICH THEY PERTAIN. MACHINE CONFIGURATION—1. 1401 WITH 8K STORAGE.
2. 1402
3. 1403
4. THO TAPE UNITS /729 OR 7330/.
5. ADVANCED PROGRAMMING FEATURE.
6. MODIFY ADDRESS.
7. CONSOLE INQUIRY.
SOURCE LANGUAGE—1401 AUTOCODER.

1401-01.3.015 TABTEK, A PROGRAM TO GENERATE A PROGRAM FROM TABULAR INPUT AVAILABLE 151 QUARTER 1964. SPECIFY FILE NUMBER 1401-01.3.015

AUTHORS.-MRS. BARBARA F. YOUNG PAN AMERICAN WORLD AIRWAYS, INC. ELECTRONIC CATA PROCESSING DEPT. BLDG. 991-MAIL UNIT 938 PATRICK AIR FORCE BASE, FLA.

DIRECT INQUIRIES TO AUTHOR

TO GENERATE AUTOCODER OR FORTRAN PROGRAMS FROM TABULAR DECISION TABLE INPUT. THE IMPUT IS ANY COMBINATION OF SOURCE LANGUAGE CARDS AND CARDS IN TABULAR DECISION TABLE FORMAT. THE OUTPUT IS AAY, A PRINTED LISTING OF THE INPUT CARDS, DIAGNOSTIC MESSAGES IF ANY, AND THE PROGRAMS GENERATED AND /B/A PUNCHED DECK CONSISTING OF THE ORIGINAL SOURCE PROGRAM CARDS AND THE GENERATED PROGRAMS IN THE SOURCE LANGUAGE. /THE TABULAR CARDS ARE NOT PROCREMENT OF THE OUTPUT SOURCE LANGUAGE IS FORTRAN IF SWITCH B IS OFF, AUTOCODER IF SWITCH B IS ON. ONE INPUT DECK CAN CONTAIN AS MANY AS FITTY TABLES. MACHINE REQUIREMENTS BK 1401, HIGH-LOW-EQUAL COMPARE, AND ADVANCED PROGRAMMING PACKAGE. 5747 CORE LOCATIONS ARE REQUIREDED BY THE PROGRAM AND INPUT-OUTPUT AREAS. PROGRAM MAS WRITTEN IN 1401 AUTOCODER.

1401-01.3.016 GENERAL PURPOSE PROGRAMS FOR DATA REDUCTION ON THE IBM 1401 TAPE SYSTEM AVAILABLE 2ND QUARTER 1964-SPECIFY FILE NUMBER 1401-01.3.016

AUTHOR...T.E. DETMER

B-1401

CONTINUED FROM PRIOR COLUMN--

DIRECT INQUIRIES TO..
T.E. DETMER, IBM CORP., DEPT. 034, BLDG. 023-1, KINGSTON, N.Y.

THIS IS A DACKAGE OF THREE PROGRAMS FOR DATA REDUCTION. THE FIRST PROGRAM PERFORMS A TAPE SELECTION FUNCTION. IT CAN SELECT VARIOUS RECORDS, SELECT GROUPS OF RECORDS, HERGE RECORDS, COMBINE RECORDS OR ASSOCIATE HEADER INFORMATION WITH FOLLOWING RECORDS. THE SECOND PROGRAM IS A TAPE REARRANGE PROGRAM. DATA IN MAY PORMAT CAN BE REARRANGED INION ANY OTHER FORMAT. THE THIRD PROGRAM IS A TABLUATION PROGRAM WHICH PERFORMS FUNCTIONS THAT THE 407 DODS. IF SORTING IS REQUITED, A STANDARD SORT SHOULD BE USED. WITH A CARD-TO-TAPE UTILITY PROGRAM IT IS POSSIBLE TO PERFORM A WIDE RANGE OF DATA REDUCTION PROCESSING ON THE 1401 WITHOUT ANY PROGRAMMING. MACHINE CONFIGURATION—4K 1401 2 TAPE DITIES, TO NOEMING, STORE REGISTER HIGH-LOW EQUAL, MOYE RECORD AND SENSE SHITCHES. PROGRAM REQUIREMENTS—3786 POSITIONS FOR PROGRAM II., 983 POSITIONS FOR PROGRAM II., AND 2994 POSITIONS FOR PROGRAM II. SOURCE LANGUAGE—AUTOCODER.

REQUESTOR HUST SUBMIT ONE REEL OF MAGNETIC TAPE FOR BASIC PROGRAM MATERIAL. THIS TAPE CONTAINS THE ASSEMBLY OUTPUT OF JEEP 1, 2 AND 3. THE FOLLOWING IBM UTILITY PROGRAMS ARE REQUIRED TO ACQUIRE THE ASSEMBLY LISTIMGS & CONCENSED CARDS FROM THIS TAPE- 1401-UT-026 AND 1401-UT-028. OPTIONAL MATERIAL - SAMPLE PROBLEM PROGRAM. REQUESTOR MUST SUBMIT ONE REEL OF MAGNETIC TAPE. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-01.3.017 DOWGO LOAD AND GO REPORT GENERATOR

AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-01.3.017

AUTHOR...F.A. WHITACRE THE DOW CHEMICAL COMPANY MIDLAND, MICHIGAN

DIRECT INQUIRIES TO AUTHOR

DONGC IS A,, LOAD AND GC,, REPORT GENERATOR FOR THE IBM 1401 THAT CAN ACCEPT CARDS OR MAGNETIC TAPE AS INPUT, WITH CARDS AND/CR LIST AND/OR TAPE FOR OUTPUT. MANY TYPES OF LISTED OR GROUP PRINTED REPORTS MAY BE QUICKLY PREPARED. CAR TO THREE MAGNETIC TAPES ARE REQUIRED FOR TAPE INPUT, TAPE OUTPUT, AND CHECKPOINT. INPUT TAPE RECORDS MAY BE BLOCKED AND MAY BE FIXED OR VARIABLE LENGTH MITH OR MITHOUT RECORD MARKS. TAPE LABELS MAY BE USED IF DESIRED, AND IF USED, ARE CHECKED. MACHINE REQUIREMENTS—1401 BK, ADVANCED PROGRAMMING, HI-LO-EQUAL COMPARE, AND SENSE SMITCHES. IF AVAILABLE, A 1407 CONSOLE TYPERMITER CAN BE USED.

1401-01.3.018 SELF-CENTERING QUICK REPORT-QUICKIE

AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-01.3.018

AUTHOR...NELSON T. REDFERN
PACKAGE MACHINERY COMPANY
330 CHESTNUT STREET
EAST LONGMEADGM, MASS. 01028

PRODUCE QUICK GEOMETRICALLY SPACED PRINTED REPORT HITHCUT DESIGNING A SPECIFIC LAYOUT, AS A LISTING OR TABULATION, HITH CR HITHCUT SUMMARY PUNCHING, ONTO ONE OF THREE SPECIFIED SIZES OF PAPER MIDTHS /8 1/2 IN., 10 5/9 IN., 14 7/8 IN./ ACCORDING TO FIELD DEFINITION AND FIELD CONTROL ESTABLISHED BY PREPARATION OF SIMPLE CONTROL CARDS.

PREPARATION OF SIMPLE CONTROL CARDS.

SPECIAL FEATURES REQUIRED, HOMEVER, EQUIPMENT WITH LESS THAN 132 PRINT POSITIONS CANNOT SPECIFY USE OF 14 7/8 IN. WIDTH PAPER. WRITTEN IN SPS.

AUTHOR...MR. D.A. FLETCHER IBM CORP. 6252 E. TELEGRAPH RC. LCS ANGELES 22, CALIF.

I INQUIRIES TO AUTHOR

THE MODEL THENTY PRELISTER PROVIDES AN EDITING AND DOCUMENTATION TOOL FOR THE USERS MODEL 20 REPORT PROGRAM GENERATOR. SINCE THE MODEL 20 HAS RECEIVED SUCH WIDE CUSTOMER ACCEPTANCE, AND SINCE MOST MODEL 20 PROGRAMS ARE TO BE WRITTEN IN RRG, THERE IS AN URGENT NEED FOR AN EDITINE AND DOCUMENTING TOOL FOR MCDEL 20 RPG. THE MODEL THENTY PRELISTER PERFORMS A THOROUGH EDIT ON THE FIVE TYPES OF MODEL 20 RPG SPECIFICATION CARDS. FORTY THE TYPES OF SPECIFICATION CARDS IS FERNATED SIMILARLY TO SYSTEM 360 RPG CODING SHEETS, THUS REPLACING THEM TO BECOME THE PROGRAM DOCUMENTATION. PROGRAMS CAN BE STACKED TOCETHER WHEN USING THE MODEL TWENTY PRELISTER. THERE ARE 1547 SOURCE STATEMENTS. THE MODEL THENTY PRELISTER IS RRITTEN IN AUTOCODER. IT CAN BE RUN ON AN 18M 14C1 OR 1460 DATA PROCESSING SYSTEM WITH 8,000 POSITIONS OF STORAGE AND 120 PRINT POSITIONS. NO OTHER FEATURES ARE NECESSARY. THE WRITTED CONTAINS

1401-01.3.021 INSTALLATION PROGRESS REPORT FOR SMALL 1400 COMPUTER INSTALLATIONS AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01.3.021

AUTHOR...B.A. SHEPPARD IBM CORP. 1011 SAN JACINTO ST. AUSTIN, TEXAS 78701

B-1401

CONTINUED FROM PRIOR PAGE--

DIRECT INCUIRIES TO AUTHOR

THIS PROGRAM MAY BE USED WITH SMALL 14CC COMPUTER INSTALLATIONS TO GIVE CUSTOMER AND IBM MANAGEMENT ACCURATE INFORMATION ON THE PROGRESS OF THE INSTALLATION. THE PROGRAM IS DESIGNED TO BE RUN HITH FARGO 160-G, BUT COULD EASILY BE ADAPTED BY THE READER IC FARGO FORTY. IT IS QUICK, SIMPLE TO USE, EASY TO UPDATE, AND REQUIRES NOMINAL PREPARATION. IT PROVIDES IN ... BAR GRAPH., FORM A RUNNING WEEKLY HISTORY OF EACH INCOMPLETE JOB, AS WELL AS JOB TOTALS EY PROGRAMMER IN THESE CATEGORIES- NOT STATTED, BEING PROGRAMMER, BEING KEYPUNCHED, BEING TESTED, FINISHED THIS WEEK, AND FINISHED PREVIDUSLY. OVERALL TOTALS IN THESE CATEGORIES AS WELL AS CORRESPONDING PERCENTAGES, ARE GIVEN AT THE END CF THE REPORT. JOBS MAY BE ADDED ON DELETED AT ANY TIME WITHOUT AFFECTING THE PROGRAM. UPDATING TO REFLECT WEEKLY PROGRESS IS ACCOMPLISHED BY A SINGLE PUNCH FOR EACH JCB BEING WCRKED ON.

1401-01.3.022 SOMR- SPUR OF THE MOMENT REPORTING

AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.3.022

AUTHOR...MR. G.W. JUNKIN IBM CORPORATION 6900 FANNIN STREET HOUSTON, TEXAS 77025

DIRECT INQUIRIES TO AUTHOR

T INQUIRIES TO AUTHOR

PROVIDES AN EASY AND QUICK MEANS OF PRODUCING A PRINTED REPORT
FROM CARD INPUT. THIS PERMITS A SHORT RESPONSE TIME FOR ONE-TIME
REQUESTS AND PROVIDES A STOP-GAP PROGRAM TO ALLOW ADDITIONAL TIME
FCR PROGRAMHING A SPECIFIC JOB. SAVES PROGRAM STORAGE SPACE FCR
IT IS CNLY NECESSARY TO RETAIN A MAXIMUM OF EIGHT SETUP CARDS FOR
EACH JOB INSTEAD OF AN ENTIRE PROGRAM. THIS PROGRAM CAN TAKE THE
PLACE OF MANY PROGRAMS FOR LISTINGS AND TABULATIONS. LISTING,
TABULATING, AND GROUP INDICATING FIELDS CANNOT BE GREATER THAN
FOURTEEN FIELDS. MAXIMUM COUNTER SIZE IS TEN DIGITS IN ALL
CASES. MINOR, INTERMEDIATE AND MAJOR BREAKS ARE EACH CONTROLLED
BY ONE FIELD OF THIRTY COLUMNS MAXIMUM. REQUIRES A 1401 WITH
4,000 POSITIONS OF STORAGE AND HI-LOW-EQUAL COMPARE, 1402 AND
1403 MODEL 1 OR 2. USES 3,988 POSITIONS OF STORAGE. SOURCE
LANGUAGE IS SPS. 275 LINES PER MINUTE DUTPUT DURING A LISTING
JOB AND 400 CARDS PER MINUTE DUTPUT DURING A LISTING
JOB AND 400 CARDS PER MINUTE DUTPUT DURING A 1401
SYSTEM WITHOUT PRINT STORAGE.

1401-01.4.008 BINARY TAPE DUMP AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.008

AUTHOR...F. J. X. BERCKMAN
MESTINGHOUSE ELECTRIC CORPORATION
STEAM DIVISION, B. PLANT, ROOM 410
LESTER, PENNSYLVANIA

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM PROVIDES THE ABILITY TO DUMP A BINARY TAPE IN OCTAL EQUIVALENT. THE PRINTED RESULT IS IN WORD BLOCKS WITH EIGHT BLOCKS TO A LINE. 1401 STANDARD MODEL C3, TMC TAPES, COLUMN BINARY, ADVANCED PROGRAMMING PACKAGE, HIGHLOW-EQUAL COMPARE. SENSE SWITCHES /OPTIONAL/.

1401-01.4.009 ZIP /INSTANT PRINTING/ AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.009

AUTHOR...KEITH SWAN
SOUTHERN PERMANENTE SERVICES
143 SOUTH ALVARADO STREET
LOS ANGELES 57, CALIFORNIA

DIRECT INQUIRIES TO AUTHOR

A UTILITY LOAD AND GO PROGRAM FOR LISTING CARDS AT A RATE OF 600 LINES PER MINUTE. 10 FIELDS OF AMY SIZE CAN BE LISTED. READ RELEASE AND PRINT BUFFER REQUIRED FOR ANY 2K OR LARGER 1401.

1401-01.4.010 ESCAPE /EFFORTLESS SYSTEM OF CALCULATING AND PRINTING EVERYTHING/ AVAILABLE 15T QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.010

AUTHOR...W. J. TEAGARDEN
SCUTHERN PERMANENTE SERVICES
143 SOUTH ALVARADO STREET
LOS ANGELES 57. CALIFORNIA

DIRECT INQUIRIES TO AUTHOR

A UTILITY PROGRAM WHICH PROVIDES RAPIC CONVERSION OF 604, 602, AND 528 JCBS TO THE 1401. THIS LOAD AND GO PROGRAM ALSO MAY BE USED TO REPRODUCE CARDS AS WELL AS GAME PUNCHING, SEQUENCE NUMBERING, LISTING OR COMBINATIONS OF THESE OPERATIONS. TWO CARD ROUTINES AND ENCOPF-FILE ROUTINE MAY BE DEVELOPED. THE EFFECTIVE WORKING STORAGE OF THE OBJECT PROGRAM IS COMPRISED OF 20 COUNTERS AND 20 STCRAGE UNITS OF TEN POSITIONS EACH. MULTIPLICATION AND DIVISION CAN BE EXECUTED ONLY FROM COUNTERS. APPROXIMATELY 1800 POSITIONS OF CORE ARE AVAILABLE TO BUILD THE THREE ROUTINES OF 1,000 POSITIONS, 500 POSITIONS AND 300 POSITIONS, 4K 1401.

1401-01.4.011 INPUT OUTPUT TAPE CONTROL SYSTEM / REVISED/ AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.011

AUTHOR...R.J. MACARTNEY

B-1401

PAGE 039

CONTINUED FROM PRIOR COLUMN--IBM CORP. 6252 EAST TELEGRAPH ROAD LCS ANGELES 22, CALIF.

DIRECT INQUIRIES TO AUTHOR

THIS PACKAGE SUPPLIES OPEN, CLOSE, GET, AND PUT CLOSED SUBROUTINES FOR HANDLING TAPE INPUT AND DUTPUT GPERATION. ALSO INCLUDED IS AN OPTIONAL DATA LOADING ROUTINE. IT SUPPLIES THE ADVANTAGES OF IOCS LOGIC TO THOSE USERS WHO ARE UNABLE TO TAKE ADVANTAGE OF 1401 IOCS BECAUSE OF MACHINE CONFIGURATION OR STORAGE REQUIREMENTS. 1401 MODEL C. D. E. F-13-16. F-23-26. ADVANCEC PROGRAMMING. HIGH-LOW EQUAL COMPARE. THE PACKAGE IS AVAILABLE IN BOTH SPS AND AUTOCODER. FITS WILL NOT HANDLE BLOCKED, VARIABLE LENGTH RECORDS.

1401-01.4.012 SCOOP I AND II /SIMPLIFIED CONVERSION OF OTHER PUNCHES/
AVAILABLE 1ST QUARTER 1963.
SPECIFY FILE NUMBER 1401-01.4.012

AUTHOR...LCUIS P. POULIN
CALIFORNIA-MESTERN STATE
LIFE INSURANCE CO.
2020 L STREET SCARAMENTO 4. CALLE.

DIRECT INQUIRIES TO AUTHOR

TO PROVIDE A SIMPLE METHOD OF CONVERTING 90 COLUMN CARDS IN DESCENDING SEQUENCE TO 80 COLUMN CARDS /OR MAGNETIC TAPE/ IN ASCENDING SEQUENCE. 1401 with 4,000 POSITIONS OF STORAGE AND COLUMN BINARY DEVICE. SCOOP II REQUIRES THE ADVANCED PROGRAMMING PACKAGE. THE INTERCHANGEABLE BRUSH BLOCK /RPQ NO. 899287/ IS NOT REQUIRED WHEN USING SCOOP.

1401-01.4.015 TAPE EXECUTIVE PROGRAM AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.015

AUTHOR...H. LEE BAKER
THE DETROIT EDISON COMPANY
2000 SECOND AVENUE
DETROIT 26, MICHIGAN

DIRECT INQUIRIES TO AUTHOR

TO PLACE 1401 PROGRAMS ON AN EXECUTIVE SYSTEM TAPE. TO SELECT AND LOAD THESE PROGRAMS, BASED ON SENSE SWITCH SETTINGS, TO UPDATE THE EXECUTIVE SYSTEM TAPE. 4000 MEMORY POSITICAS TO LOAD COMPARE. 1401 MODEL C-3, TWO 729 MODEL IT OR IV TAPE UNITS, 1402 READ/PUNCH, 1403 PRINTER.

1401-01.4.022 TAPE UPDATE UTILITY PROGRAM /CARD/

AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.022

AUTHORS..JERRY KIMBALL MARVIN BADER

DIRECT INQUIRIES TO..
JERRY KIMBALL
US ARMY STRATEGY & TACTICS ANAL. GP.
4815 RUGBY AVENUE
BETHESDA 14, MARYLANC

TO UPDATE A BCC TAPE OF N FILES, WHOSE RECORDS ARE LESS THAN 880 CHARACTERS. ENTIRE FILES, OR INDIVIDUAL RECORDS NITHIN A FILE MAY BE DELETED, CHANGED, OR INSERTED BY THE USE OF CONTROL CARDS AND THE SENSE SWITCHES. NEMORY 4K MODEL C 1040 WITH THO TAPE UNITS, 1403 PRINTER, ADVANCED PROGRAMMING, MULTIPLY-CIVIDE, AND HIGH-LOW-EQUAL COMPARE.

1401-01.4.027 EXACT TAPE TO PRINTER /CARD/ AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.027

AUTHOR...HENRY M. BOCKE
WACHOVIA BANK & TRUST COMPANY
WINSTON-SALEM, NORTH CAROLINA

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM IS DESIGNED FOR EASE IN OBTAINING A PRINTED REPRODUCTION OF 1401 TAPE RECORDS, WRITTEN WITH OR WITHOUT WORD MARKS AND IN VARIABLE OR FIXED LANGIH FORMAT. THIS PROGRAM DOES NOT REQUIRE CONTROL CARDS TO PRINT TAPE. MAXIMUM TAPE RECORD LENGTH 2,700 CHARACTERS. 4K 1401 ADVANCE PROGRAMMING HIGH-LON-EQUAL COMPARE.

1401-01.4.029 GENERAL TAPE MAINTENANCE RUN

AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.029

AUTHOR...MAURICE BABB PRICE WATERHOUSE COMPANY 56 PINE STREET NEW YORK 5, NEW YORK

DIRECT INQUIRIES TO AUTHOR

TO PERMIT DELETION, INSERTION, OR ANY DESIRED MODIFICATION OF DATA ENTRIES NOT AFFECTING FILE SEQUENCE OF ANY SPECIFIED RECORD /AS DISTINGUISHED BY A COMBINATION OF NUMERIC SEQUENCE FACTORS NOT IN EXCESS OF 29 CHARACTERS/FOR ANY FILE CONTAINING FIXED LENGTH UNBLOCKED RECORDS NOT IN EXCESS OF 450 CHARACTERS 4000 CORES. EQUIPMENT SPECIFICATIONS 1401, ANY MODEL C WITH HIGH-LOW-EQUAL CCMPARE AND ADVANCED PROGRAMMING FEATURE 1402, ANY MODEL 2 729 TAPE UNITS, 1403.

PAGE 040

B-1401

1401-01.4.034 GENERAL APPROACH TO AUTOMATIC PROGRAMMED ADDRESS CONVERSION AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.034

AUTHOR...J. L. SMEENEY IBM CORPORATION 618 SOUTH MICHIGAN AVENUE CHICAGO 5, ILLINOIS

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM WILL COMPUTE A DISK ADDRESS FROM A CONTROL FIELD, SUCH AS A PART NUMBER, EMPLOYEE NUMBER, ETC., USING A GENERALIZED METHOD. AND WILL EVALUATE THE EFFICIENCY OF ADDRESSING METHODS. MAXIMUM SIZE OF THE CONTROL FIELD 20 POSITIONS. 1401 1. 4000 POSITIONS OF STORAGE. 2. ADVANCED PROGRAMMING. 3. HIGH/LOM/EQUAL COMPARE. 4. MULTIPLY/CDIVIDE. 5. SENSE SWITCHES. 1403 MODEL II 4 TAPE UNITS.

1401-01.4.036 SEE - SELECTIVE EIGHTY-EIGHTY PROGRAMS AVAILABLE ZON QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.036

AUTHOR...EARL E. HITT
IBM CORPORATION
3590 LINDELL BOULEVARC
ST. LOUIS 3, MISSOURI

DIRECT INQUIRIES TO AUTHOR

TO COMBINE ALL OF THE 80-80 TYPE PROGRAMS ON THE 1401 INTO ONE PROGRAM UNDER SWITCH CONTROL. TO PERMIT MULTIPLE OUTPUT COMBINATIONS AND HANDLE LARGE TAPE RECORDS WITH OR WITHOUT WORD MARKS. IF TAPE INPUT OR OUTPUT IS USED, ADVANCED PROGRAMMING PACKAGE MUST BE OM MACHINE. SIZE OF TAPE RECORD TO BE HANDLED MUST BE LESS THAN SIZE OF CORE MINUS 1300. 1. 4K ADVANCED PROGRAMMING FEATURE OF TAPE RECORDS TO BE HANDLED ALL 7 SENSE SWITCHES.

1401-01.4.037 MLR UTILITY PROGRAM AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.037

AUTHOR...BERNARD S. BALTER
SERVICE BUREAU CORPORATION
635 MADISON AVENUE
NEW YORK 22, NEW YORK

DIRECT INQUIRIES TO AUTHOR

THE PURPOSE OF THIS PROGRAM IS TO PRODUCE MLR JOBS UTILIZING THE HIGH SPEED OF THE 1403 PRINTER. NEITHER PANEL WIRING NOR PROGRAMMING IS NECESSARY, MAKING IT POSSIBLE TO ACCEPT AM MLR JOB AND BE READY FOR PRODUCTION WITHIN A MOMENT S NOTIFICATION. AN ADDED FEATURE OF THIS IS A LABELING OPTION, THE ABILITY TO PRINT LABELS 3 ACROSS ON THE SAME LINE OF PRINT. AUTOCODER 2,000 POSITIONS OF STORAGE. 1401 4K, 1403 PRINTER, HIGH-LOW-EQUAL COMPARE, AND INDEX REGISTERS.

1401-01.4.038 STORAGE PUNCHOUT PROGRAM AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.038

AUTHOR...FRANK T. MOY RAYTHEGN COMPANY WAYLAND, MASSACHUSETTS

DIRECT INQUIRIES TO AUTHOR

PROGRAM TO PUNCH OUT STORAGE IN CONDENSED RELOADABLE FORMAT. THIS IS A PUNCH STORAGE PROGRAM WITH THE ADVANTAGE OF CONDENSED FORMAT OUTPUT WITH CLEAR STORAGE CARDS AND REQUIRES FIXED LOCATIONS 001-332.

1401-01.4.039 MONITOR SYSTEM FOR TAPE AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.039

AUTHOR...BARRON A. MCDONALD
THE SERVICE BUREAU CORPORATION
IBM PLANT, BUILDING 10, ROOM 308
MCNTEREY AND COTTLE ROADS
SAN JOSE, CALIFORNIA

DIRECT INQUIRIES TO AUTHOR

THE MONITOR PROGRAM IS GENERATED AS THE FIRST TWO RECORDS OF A SYSTEM TABE. ACCESS TO ITS USE IS BY THE LOAD TABE BUTTON. THE PRIMARY FUNCTIONS OF THE MONITOR RAE TO 1/1 ADD ANY 1401 PROGRAM TO THIS TAPE AND, 72/ CALL ANY DESIGNATED PROGRAM FROM THIS TAPE INTO CORE FOR EXECUTION. ADDITIONAL FUNCTIONS PERFORMED BY THE MONITOR ARE /1/ TO DELETE ANY PROGRAM ON THIS TAPE AND, 72/ SYSTEM MAINTENANCE. ANOTHER MONITOR CONTROLLED FRATURE ALLOWS FOR CORE PROGRAM ON THE SYSTEM TAPE TO CALL ANY OTHER PROGRAM ON THAT TAPE FOR EXECUTION. A 1401 MODEL C. ONE OR THO TAPE PROGRAMMING. BUTTERS AND THE COLUMN BINARY FEATURE.

1401-01.4.040 ONE CARD 80-80 LIST AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.040

AUTHOR...HARRY CASTELLUCCI
FLUID DYNAMICS LABORATORY
LOCKHEED CALIFORNIA COMPANY
A DIV. OF LOCKHEED AIRCRAFT CORPBURBANK, CALIFORNIA

B-1401

CONTINUED FROM PRIOR COLUMN--

DIRECT INQUIRIES TO AUTHOR

TC CCMPACT ANY EXISTENT 80-80 LIST PROGRAMS INTO ONE CARU IN ORDER TO MINIMIZE PROGRAM DECK AND CARD HANDLING AS MUCH AS POSSIBLE. ANY 1401 MODEL.

1401-01.4.044 GENERALIZED TAPE ADD AND FILE SEARCH AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.044

AUTHOR...JAMES P. GREELEY STATE OF ILLINOIS SPRINGFIELD, ILLINGIS

DIRECT INQUIRIES TO AUTHOR

TO ACCUMULATE GRAND TOTALS AND RECORD COUNTS FROM A TAPE FILE, EITHER SELECTIVELY OR THE ENTIRE FILE. SELECTED RECORDS MAY BE WRITTEN ON AN OUTPUT TAPE. MAX. TAPE RECORD LENGTH 1000 CHARACTERS. MAX. TAPE RECORD LENGTH 1000 CHARACTERS. MAX. TAPE RECORD LENGTH COULD BE ENLARGED FOR 8K. 12K. AND 16K. SYSTEMS BY CHANGING THE CA CARD AND RE-ASSEMBLING THE SOURCE DECK. 4000 1403 PRINTER MODEL 1 *100 PDS.* SENSE SWITCHES A THRU G. HIGH, LOH. EQUAL COMPARE. 1 OR 2729 OR 7330 TAPE UNITS FOR ACCUMULATION. 2 REQUIRED TO FLIP FLOP INPUT TAPES. 3 UNITE REQUIRED FOR TAPE OUTPUT. /162 INP.

1401-01.4.045 CARD AND TAPE SELECTIVE LISTER

AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.045

AUTHOR...M. BADER

DIRECT INQUIRIES TO...
CHARLES P. HUGHES
STRATEGY AND TACTICS ANALYSIS GROUP
DEPT. OF THE ARMY
BETHESDA 14, MARYLAND

TO PRINT CARD OR TAPE RECORDS UP TO 8C CHARACTERS IN SIZE IN AN EXPANDED FORM. THE PROGRAM WILL HANDLE UP TO 30 SEPARATE FIELDS, IN 132 PRINT POSITIONS. A BAD TAPE RECORD CAUSES 9 TRIES TO READ, THEM HALTS. CONTROL CARDS FOLLOWING THE PROGRAM SPECIFY THE JOB TO BE PERFORMED. EACH PAGE OF THE PRINTOUT HAY BE HEADED BY THE USE OF A TITLE CARD, CONTAINING A T IN COLUMN ONE, AS THE FIRST CONTROL CARD. COLUMNS THO THEM EIGHTY CONTAIN THE DESIRED HEADING INFORMATION. IF NO HEADER IS DESIRED THIS CARD IS UNNECESSARY. 1.4K 1401, 1403, STORE ADDRESS REGISTER, HIGH-LGM-EQUAL COMPARE, ADDITIONAL PRINT CONTROL /132 PRINT POSITIONS/. TAPE UNIT IF NECESSARY.

1401-01.4.047 TAPE INPUT/OUTPUT MACROS AND SUBROUTINES FOR THE 1401

ANALIABLE 380 QUARTER 1962.

SPECIFY FILE NUMBER 1401-01.4.047

AUTHOR...L. E. JOHNSON
IBM CORPORATION
2911 CEDAR SPRINGS ROAD
DALLAS, TEXAS

DIRECT INQUIRIES TO AUTHOR

THIS SET OF ROUTINES PROVIDES THE PROGRAMMER WITH MACROS TO BLOCK AND UNBLOCK FIXED LENGTH TAPE RECORDS. A READ TAPE AND A WRITE TAPE MACRO ARE INCLUEDE FOR USE WHERE BLOCKING IS NOT NEEDED THE COMPLETE SET OF SUBROUTINES WILL DOCUPY 638 POSITIONS OF STORAGE. THE GENERATED ROUTINES REQUIRE THE ADVANCED PROGRAMMING FEATURE ON THE OBJECT MACHINE.

1401-01.4.048 SINGLE CARD LIST WITH SKIP AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.048

AUTHOR...ALEX PITEGOFF 30 CONRAD DRIVE NEW HAVEN 15 CONNECTICUT

DIRECT INQUIRIES TO AUTHOR

TO CCMBINE THE NEATNESS OF A LISTING WITH A SKIP TO A NEW PAGE ON PAGE OVERFLOW WITH THE CONVENIENCE OF A SINGLE CARD LISTING PROGRAM. A 1401 CENTRAL PROCESSING UNIT, A 1402 CARD READER PUNCH, AND A 1403 PRINTER /TYPE I OR TYPE II/ARE REQUIRED FOR THIS PROGRAM. ONLY LOCATIONS IN AND BELOW THE PRINT AREA ARE USEC FOR THE PROGRAM AND DATA AND CONSEQUENTLY ANY 1401 WILL SUFFICE.

1401-01.4.050 MEMORY ANNOTATION, POST-TEST AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.050

AUTHOR...R. L. BULINSKI IEM CORPORATION 520 N. DEARBORN STREET CHICAGO NORTH, ILLINOIS

DIRECT INQUIRIES TO AUTHOR

DESIGNED PRIMARILY AS A DEBUGGING AID, MAPT PRODUCES A HIGHLY LEGIBLE 1401 MEMORY PRINT-OUT OF ALL OR ANY PORTION/S/ OF CORE. PRINTS PROGRAM LOCATIONS AND INSTRUCTIONS IN MACHINE LANGUAGE AND CONVERTS ADDRESSES TO 5 DECIMAL-DIGIT FORM, WITH INDEX REGISTER IDENTIFICATION, IF TAGGED, DISTINGUISHES BETWEEN NUMERIC-CONSTANT FIELDS /FOR WHICH SIGN BITS ARE CONVERTED TO & OR -/, AND ALPHABETIC FIELDS. THE PROGRAM IS RELOCATABLE INTO ANY BLOCK OF 1,419 LOCATIONS. ANY MODEL 1401 WITH ADVANCED PROGRAMMING AND HILL-CHOCAL COMPAGE FEATURES. IF 4K OR BELOW, MUST HAVE MODIFY ADDRESS OP CODE. MAPT COULD BE REVISED TO

B-1401

CONTINUED FROM PRIOR PAGE-ACCOMMODATE LACK OF INCEX REGISTERS, SBR AND MA, AT THE
COST OF ADDITIONAL CORE POSITIONS. UTILIZES 132 PRINT
POSITIONS /1403 MODEL 2/, BUT COULD BE CONFINED TO MODEL 1
CAPACITY -100 POSITIONS PER LINE-.

1401-01.4.051 SELECTIVE REPRODUCE/GANG PUNCH FOR THE 1401 AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.051

AUTHCR...R. G. HARMON
D.C. GOVERNMENF
FINANCE DIVISION
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3RD C INDIANA AVE. N. N.
HASHINGTON D.C.

DIRECT INQUIRIES TO AUTHOR

MACHINE REQUIREMENTS 1,400 CORE STORAGE POSITIONS NO SPECIAL FEATURES REQUIRED . SELRP IS A CARD TO CARD REPRODUCE/GAME PUNCH ROUTINE WITH PROVISIONS FOR COLUMN SPLITTING. THE MASTER GANG PUNCH CARD MUST BE PLACED BEHIND THE PROGRAM DECK WHETHER GANG PUNCHING OR NOT.

1401-01.4.052 PROGRAM TAPE EXECUTIVE ROUTINE
AVAILABLE 3RD QUARTER 1962.
SPECIFY FILE NUMBER 1401-01.4.052

AUTHOR...B. J. MANRING APPLIED PHYSICS LABORATORY 8621 GEORGIA AVE. SILVER SPRING MC.

DIRECT INQUIRIES TO AUTHOR

TO WRITE AND MAINTAIN A 1401 PROGRAM TAPE FROM SPS OR AUTOCODER CONDENSED DECKS. THE PROGRAMS ON THE TAPE ARE LOADED BY SETTING SENSE SHITCHES AND PRESSING LOAD TAPE. 4K MINIMUM. ALSO TESTED ON 8 AND 16K. 1403, ADVANCED PROGRAMMING, HIGH-LOM-EQUAL COMPARE, CNE OR THO TAPES, SENSE SMITCHES.

1401-01.4.054 REPRO - REPRODUCER SIMULATOR ROUTINE FOR THE IBM 1401 AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.054

AUTHOR...R. WEBER
IBM CORP.
1933 W. WISCONSIN AVE.
MILWAUKEE 3 WISCONSIN

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM SIMULATES THE 514 REPRODUCER BY ASSEMBLING MITHIN CORE A PROGRAM TO DO SUCH OPERATIONS AS /1/ ADDING HOLERITH INFORMATION TO THE CARD /2/ REPRODUCING AND SHIFTING FIELDS OF INFORMATION /3/ SKIPPING OVER COLUMNS /4/ SEQUENTIALLY NUMBERING CARDS /5/ MOVING ZONES FROM ONE COLUMN TO ANOTHER AND /6/ ADDING OF ZONES TO THE DESIRED COLUMNS.

1401 MODEL B, WITH 1402 READER PUNCH, NO SPECIAL FEATURES.

1401-01.4.055 KEEP AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.055

AUTHOR...A. BRADLEY
IBM CORPORATION
CHICAGO DATACENTER
80 EAST LAKE STREET
CHICAGO ILLINOIS

DIRECT INQUIRIES TO AUTHOR

TO STORE SYMBOLIC PROGRAMS ON TAPE WITH THE ABILITY TO DELETE, ADD, OR CHANGE INSTRUCTIONS AND REASSIGN SEQUENCE NUMBERS TO THE ENTIRE PROGRAM.

4K 1401, 2 TAPE CRIVES, HIGH-LOW-EQUAL COMPARE, AND ADVANCED PROGRAMMING PACKAGE.

THE PACKAGE CONSISTS OF THREE PROGRAMS CREATE, UPDATE, OUTPUT.

1401-01.4.056 GENERALIZED TABULATE AND/OR SEQUENCE CHECKING PROGRAM AVAILABLE 41H QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.056

AUTHOR...L. R. DEBUYS III IBM CORP. P.O. BOX 19627 2640 CANAL ST. NEW ORLEANS LA.

DIRECT INQUIRIES TO AUTHOR

TO ELIMINATE THE NECESSITY FOR MANY INDIVIDUAL PROGRAMS REQUIRED AT A 1401 INSTALLATION TO TAKE CONTROL AND BALANCE TOTALS.

TO PROVIDE A RAPID MEANS OF CHECKING SEQUENCE OF A FILE OF CARDS PRIOR TO A LONG 1401 PROGRAM RUN. 1401-1.4K, 1402, 1403 MODEL 1 OR 2.

1401-01.4.058 TAPE SEARCH PROGRAM AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.058

B-1401

PAGE 041

CONTINUED FROM PRIOR COLUMN --

AUTHOR...G. ESTEP

AMERICAN AIRLINES M&E CENTER MANAGEMENT RESEARCH DIVISION 2000 NORTH MINGO ROAD TULSA OKLAHOMA

DIRECT INQUIRIES TO AUTHOR

TO SEARCH TAPE FILES FOR SPECIFIC RECORDS, AND EMIT VIA PRINTER, CARD AND/OR TAPE ANY OR ALL SUCH DATA CONTAINED WITHIN THE SELECTED RECORD/S IN AN ORGANIZED USABLE FORMAT.

8-16K, 2 TAPES, HI-LO-EQUAL COMPARE, ADVANCED PROGRAMMING.

1401-01.4.060 SEQUENTIAL NUMBER ASSIGNER FOR FOURTEEN-C-ONE USERS /SNAFU/ AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.060

AUTHOR...A. PITEGOFF 30 CONRAD DRIVE NEW HAVEN 15 CONN.

DIRECT INQUIRIES TO AUTHOR

THE PURPOSE OF THIS PROGRAM IS TO PROVIDE AN EASY TO CONTROL METHOD OF CHECKING AND ASSIGNING SEQUENTIAL NUMBER FIELDS IN DECKS OF CARDS.

A 1400 CORE POSITION 1401 WITH SENSE SWITCHES, A 1402 AND A 1403 / TYPE I OR TYPE II / ARE ALL THAT ARE REQUIRED FOR OPERATION. HIGH-LOM-EQUAL COMPARE MAY BE USED IF INSTALLED IN ORDER TO PERMIT THE CHECKING OF ALPHABETIC FIELDS.

1401-01.4.061 MODULAR PROGRAMMING CONCEPT FOR MACRO-ORIENTED PROBLEMS /MOPMOP/ AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.061

AUTHOR...J. BAYALIS
LUKENS STEEL COMPANY
SYSTEMS AND PROCEDURES DEPARTMENT
COATESVILLE PA.

DIRECT INQUIRIES TO AUTHOR

MOPMOP CONSISTS OF A GROUP OF MACRO-ROUTINES WHICH ENABLE THE USER TO PREPARE COMPLETE PROGRAMS WITH THE MINIMUM OF NON-MACRO INSTRUCTIONS. IT EMBODIES THE PRINCIPLE THAT PROGRAMS GENERALLY MAY BE SUB-DIVIDED INTO INDIVIDUAL AND INTERDEPENDENT ROUTINES AND FOR ALL INTENTS AND PURPOSES CONSIDERED AS SEPARATE ENTITIES. ANY SIZE IBM 1401 TAPE SYSTEM, ADVANCED PROGRAMMING AND HIGH-LOW-EQUAL COMPARE.

1401-01.4.062 GENERAL PURPOSE MACROS FOR DIV. CONVERSION OF DATES TO JULIAN DAYS, SIMPLE READ/WRITE TAPE IOCS AVAILABLE 41H QUARTER 1962.
SPECIFY FILE NUMBER 1401-01.4.062

AUTHOR...HENRY M. BOOKE
WACHOVIA BANK AND TRUST COMPANY
WINSTON-SALEM. N. C.

DIRECT INQUIRIES TO AUTHOR

1-DIVIDE II, A FASTER DIVIDE ROUTINE WHICH USES LESS CORE.
2. JULIAN-TO CONVERT DATE INTO JULIAN DAYS. 3. VERIFY-VERIFIES MOD 10 CHECK DIGITS FOR 5 OR 6 DIGIT NUMBERS. 4. READ/WRITE-A SIMPLE 10CS PACKAGE TO PROVIDE NORMAL TAPE READ AND/OR WRITE INSTRUCTIONS AND ERROR ROUTINES USING A MINIPUM MOUNT OF CORE. 5. ERVIP-A READ/WRITE ERROR ROUTINE USING 174 POSITIONS OF CORE. NOISE TESTS ARE NOT INCLUMED.

INCLUDED. RESTRICTIONS -

- 1. DIVIDE II-ADVANCE PROGRAMMING

- 1. DIVIDE IT—ADVANCE PROGRAMMING
 2. JULIAN-NONE
 3. VERIFY—NONE
 4. READ/WRITE—ADVANCE PROGRAMMING—
 MODIFY ADD. /THIS INSTRUCTION
 MAY BE CHANGED BY USER./
 5. ERVIP—SAME AS 4.

1401-01.4.063 MEMORY-DUMP IN BANDS OF 100 POS. /20 CARDS/ ANALIABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-01.4.063

AUTHOR...URI J. SHAFIR
IBM ISRAEL LTC.
P.O.B. 2881
TEL-AVIV, ISRAEL

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM WILL PRINT-OUT THE WHOLE MEMORY IN BANDS CF 100 PCS., WITH NUMBERING OF LOCATIONS. THE PRINTOUT FORMAT IS EASILY READABLE AND WELL SUITED FOR DEBUGGING.

SOURCE LANGUAGE-ACTUAL /CONDENSED/ 4K MACHINE ONLY, 1402, 1403 MODEL 1.

1401-01-4-064 MEMORY-DUMP IN WORDS /18 CARDS/

AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-C1.4.064

AUTHOR...URI J. SHAFIR
IBM ISRAEL LTD.
P.O.B. 2881
TEL-AVIV, ISRAEL

PAGE 042 8-1401 CONTINUED FROM PRIOR COLUMN--1 NEW BOND STREET WCRCESTER 6, MASSACHUSETTS CONTINUED FROM PRIOR PAGE--DIRECT INQUIRTES TO AUTHOR THIS PROGRAM WILL PRINT-OUT THE WHOLE MEMORY, ONE WORD PER LINE. PURPOSE IS TWO-FOLD-1. AS DEBUGGING AID-INSTRUCTIONS AND CONSTANTS ARE CLEARLY SEPARATED AND PERMIT EASY TRACING. 2. TO PRINT-OUT A PROGRAM IN CONDENSED FORM, IN A FORMAT WHICH PERMITS EASY TRACING. DIRECT INQUIRIES TO AUTHOR 4K MACHINE ONLY, 1402,1403 MODEL 1. 1401-01.4.065 TO 1410 SYMBOLIC ANALYZER
AVAILABLE 1ST QUARTER 1964.
SPECIFY FILE NUMBER 1401-01.4.065 AUTHOR...CHARLES CONE, JR. 1401-01.4.070 GUTS-1401 GENERAL UTILITY
TAPE SEARCH
AVAILABLE IST QUARTER 1963.
SPECIFY FILE NUMBER 1401-01.4.070 DIRECT INQUIRIES TO.. CHARLES CONE, JR., IBM CORP., 1439 PEACHTREE ST., N.E. ATLANTA, GA. THE SYMBOLIC ANALYZER-VERSION II IS A 1401 PROGRAM USED TO ENABLE A 1401 USER TO CONVERT HIS PROGRAMS TO THE 1410 AUTOMATICALLY USING HIS 1401 TO PERFORM THE CONVERSION. INPUT TO THE SYMBOLIC ANALYZER IS 1401 AUTOCODER SOURCE CARDS ALCNG MITH ONE TO SEVEN SYMBOLIC ANALYZER CONTROL CARDS. CUTPUT IS 1410 AUTOCODER SOURCE CARDS INCLUDING AUTOMATICALLY GENERATED CICCS, DTFS, ICCS MACROS, AREA ASSIGNMENTS, AND SUCH CORRECTIONS AS CAN BE ACCURATELY MACE TO ALLOW THE 1410 PROGRAMS TO BE BROUGHT UP TO THE STATUS OF RUNNING 1410 PROGRAMS HITH A MINIMUM OF MANUAL INTERVENTION. A DIAGNOSTIC LISTING IS ALSO SUPPLIED TO A1D IN THIS MANUAL PHASE. VERSION II OF THE SUMBOLIC ANALYZER IS WRITTEN IN 1401 AUTOCODER AND REQUIRES A 164 1501 /CR 1410 COMPATIBILITY MODE? WITH 3 TAPES, ADVANCED PROGRAMMING, HI-LC-EQUAL COMPARE, AND MULTIPLY-CIVIDE. THE 1407 CONSOLE PRINTER MAY BE USED IF AVAILABLE. AUTHOR...JCHN E. NACK CATERPILLAR TRACTOR CO. PEORIA, ILLINGIS DIRECT INQUIRIES TO AUTHOR 1401-01.4.071 CORE DUMP ROUTINE AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.071 OPTICNAL PROGRAM MATERIAL - ONE TAPE CONTAINING ASSEMBLY LISTING THE TAPE REQUIRED TO OBTAIN THE OPTIONAL PROGRAM MATERIAL MAY BE CROERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MOST BE 2400 FEET IN LENGTH.
OPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE CROER CARC. AUTHOR...RCBERT J. SPECK IBM CORPORATION CIVIL PROGRAM, FSC 1111 CONNECTICUT AVENUE WASHINGTON 6, D. C. 1401-01.4.066 GENERALIZED LIST PROGRAM AVAILABLE 15T QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.066 DIRECT INQUIRIES TO AUTHOR AUTHOR...L. R. DEBUYS, III IBM CORPORATION 2640 CANAL STREET NEW GRLEANS 19, LOUISIANA DIRECT INQUIRIES TO AUTHOR TO ELIMINATE THE NECESSITY FOR MANY INDIVIDUAL PROGRAMS REQUIRED TO PRODUCE LISTINGS ON THE 1401. TO PROVIDE A GENERALIZED LIST PROGRAM FOR USERS WHOSE MACHINES ARE UNABLE TO USE FARGO. TO PROVIDE A RAPID MEANS FOR PROGRAMHERS TO LIST TEST CARDS. 1401. 1.4K, 1402, 14C3 MCCEL 1 OR 2. 1401-01-4-074 CONTROL TOTAL ROUTINE AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-01-4-074 1401-01-4-067 UNPACK CONDENSED CARDS
AVAILABLE 1ST QUARTER 1963.
SPECIFY FILE NUMBER 1401-01-4-067 AUTHCR...LAWRENCE D. RGSS
GUSTIN-BACON MFG. CCRP.
210 W. 10TH.
KANSAS CITY, MISSOURI AUTHORS...J. J. HARDING W. W. PAPCIAK CIRECT INQUIRIES TO AUTHOR CIRECT INQUIRIES TO..
J. J. HARDING
1BM CORP
7700 2ND BLVD.
DETROIT 2, MICHIGAN THIS PROGRAM MAY BE USEC TO GET A CNE FOR ONE LISTING CF
AN SPS OR AUTOCOCER CONDENSED DECK. PROGRAM WILL LIST
SEQUENTIALLY ALL FIELDS IN CORE WHICH POSSESS A HIGH CROER
MARK. PROGRAM GIVES LOCATION OF HIGH CROER WORD MARK.
MACHINE CONFICURATION— BASIC 1401 WITH NO SPECIAL FEATURES.
HOWEVER, ALL ROUTINES AND SAMPLE PROBLEMS HAVE BEEN
ASSEMBLED WITH 441 CONTROL CARDS, WHICH PRODUCE PROGRAMS
SULTABLE ONLY FOR AN 8K OR LARGER SYSTEM. SOURCE LANGUAGE
IS SPS AND AUTOCOORE. 1401-01.4.068 REER /REPRODUCE, EMIT, ELIMIMATE, RE-ARRANGE/ AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-C1.4.068 AUTHOR...MR. SY BERLIN RESEARCH ANALYSIS CORP. 6935 ARLINGTON ROAD BETHESCA 14, NARYLAND AUTHOR...EVAN J. STAUCT E. I. CU PONT DE NEMCURS & CO-FILM DEPARTMENT PROCRAMMING GROUP BRANDYWINE BLOG. WILMINGTON 99, DELAMARE DIRECT INQUIRIES TO AUTHOR CIRECT INQUIRIES TO AUTHOR THIS PROGRAM WILL REPROCUCE CARDS, EMIT CHARACTERS INTO CUTPUT CARD COLUMNS, ELIMINATE INPUT CARD COLUMNS FROM OUTPUT CARD COLUMNS. AND RE-ARRANGE INPUT CARD COLUMNS IC OUTPUT CARD COLUMNS. SOURCE LANGUAGE 14C1 SPS. EQUIPMENT SPECIFICATIONSA. HIGH - LOM - EQUAL COMPARE.
B. ADVANCEO PROGRAMMING PACKAGE. 1401-01.4.078 SUPERVISOR FOR PROGRAM OVERLAYS AYS AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.078 AUTHOR...K. E. BROOKE
IBM CORPORATION
P. C. BCX 5008
DENVER 17, COLORADO 1401-01.4.069 STUMP /SPECIAL TAPE UTILITY DIRECT INQUIRIES TO AUTHOR AVAILABLE IST QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.069 A PROGRAM SUBROUTINE WHICH, IN EFFECT, EXPANDS 1401 MEMORY AND SIMPLIFIES THE USE OF PROGRAM CVERLAYS. OVERLAYS ARE LOADED ONTO A SCRATCH TAPE AS EXECUTE PHASES OF OBJECT PROGRAM LOADING. THEY ARE CALLED INTO MEMORY AS OFTEN AS NEEDED DURING THE PROGRAM RUN. STANDARD 80 CHARACTER TAPE AUTHOR...RCY F. STONE

OATA PROCESSING SUPERVISOR
NERTON COMPANY

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THIS PROGRAM WAS WRITTEN IC HANDLE THE ROUTINE TASKS OF DUMPING A TAPE ON THE 1403 PRINTER, THE DUPLICATING OF A TAPE, AND THE CCCASIONAL MINOR FILE MAINTENANCE FUNCTIONS FOR WHICH NO TAILORED PROGRAM EXISTS. EQUIPMENT SPECIFICATIONS—8-K OR GREATER 1401 WITH SENSE SWITCHES, ADVANCED PROGRAMMING, AND HIGH-LON-EQUAL COMPARE. THIS PROGRAM MAY ALSO BE RUN ON A 1410 IN THE 1401 MODE. TO OBTAIN THE MACHINE READBLE PORTION OF THE PROGRAM ONE FULL, 2400 FOOT, REEL OF MACNETIC TAPE IS REQUIRED. THE TAPE MAY BE SUPPLIED OR ORDERED FROM YOUR IBM REPRESENTATIVE.
                                                       USING INPUT CARDS CONTAINING THE CONTROL DATA, SEARCHES A TAPE FILE SEQUENTIALLY AND UPON FINDING AN EQUAL, PUNCHES FIRST 80 POSITIONS OF RECORD OR PRINTS FIRST 132 POSITIONS OF RECORD, OR EOTH. STORAGE REQUIREMENTS - 1210 POSITIONS OF STORAGE PLUS TAPE READ AREA EQUIPMENT SPECIFICATIONS-1402, 1403 & 1 TAPE DRIVE. HI-LO-EQUAL COMPARE- STORE 8 REGISTER, INDEXING.
                                                       THIS IS A SUBROUTINE MHICH ENABLES THE USER TO TAKE CORE DUMPS UNDER PROGRAM CONTROL WHILE TESTING HIS PROGRAM. THUS, A SPECIAL PROGRAM DOES NOT HAVE TO BE LOADED INTO THE MACHINE EACH TIME A CORE DUMP IS NEEDEC, NOR IS IT NECESSARY TO MANUALLY CUMP THE READ AND PUNCH AREAS. TEST TIME IS THEREBY MORE EFFICIENTLY UTILIZED. THIS SUBROUTINE CAN BE USED BY ANY 1401 WITH ADVANCED PROGRAMMING AND HIGH-LOW-COULL COMPARE. IT USES POSITIONS OF CORE. THE SUBROUTINE IS CONTAINED IN AN SPS SOURCE DECK.
                                                       ACCUMULATES CONTROL TOTALS FROM CARD INPUT. LISTED CR
TABBED TOTALS. ACCUMULATES UP TO FOUR DIFFERENT TOTALS.
/I.E.-- QUANTITY, POUNCS, GROSS, AND NET/ PROVIDES FCR
THEE CLASSES OF TOTALS.
MINDER - DETERMINED BY SPECIFICATION CARD.
INTERREDIATE - DETERMINED BY SPECIFICATION CARD.
FINAL - AUTOMATIC WITH LAST CARD RUNGUI.
PRINTS TOTALS AND CONTROL FIELDS ON 1463 PRINTER.
LIMITED TO CHE CARC FORMAT AT A TIME. MACHINE
CCNFIGURATION- BASIC 1401
1401-01.4.077 TAPE DUPLICATION OR COMPARE
FOR 8K 1401B
AVAILABLE 1ST QUARTER 1963.
SPECIFY FILE NUMBER 1401-01.4.077
                                                       THIS PROGRAM PERMITS MULTI-FILE DUPLICATION OR COMPARE OF BINARY AND BCD INFORMATION. THE INFORMATION MAY BE IN MIXEC CR SINGLE MOCE. 1401 MODEL C4, 2 IAPE DRIVES, CCLUMN BINARY FEATURE IS OPTICNAL. SOURCE LANGUAGE — S.P.S.
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CONTINUED FROM PRIOR PAGE-LABEL CONTROLS ARE OPTIONAL. THE SUPERVISOR REQUIRES 115
CORE POSITIONS AND IS AVAILABLE AS A 1401 AUTOCODER-VERSION 3-- MACRG. THE OBJECT PROGRAMS RUNS ON ANY 1401
WITH ADVANCED PROGRAMMING, HIGH-LOW-EQUAL COMPARE, AND CNE
TAPE DRIVE. WRITTEN IN AUTOCODER.

1401-01.4.081 DIVISION AND RADIX PROGRAMMED ADDRESS CONVERSION TECHNIQUES AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.081

AUTHORS..R. L. DUNKLE G. N. CADWALLAGER

DIRECT INQUIRIES TO..
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THE RANDOM ADDRESSING PROBLEM IS TO CONVERT AN UNEVENLY DISTRIBUTED SET OF NUMBERS HITTIN THE ACDRESS LIMITS OF A RANDOM ACCESS DEVICE. THE ADDRESSING TECHNIQUES USED IN THIS PROGRAM ARE DESIGNED TO ACCOMPLISH THIS TASK. THIS PROGRAM CAN CALCULATE A DISK ADDRESS FOR ANY ITEM NUMBER THAT IS TWENTY POSITIONS OR LESS IN LENGTH. THE MINIMUM 1401 CCKHIGURATION TO OPERATE THIS PROGRAM IS 1401 MODEL C. 4COC POSITIONS OF CORE STORAGE, HIGH-LOW-ELLAL COMPARE DEVICE, THO TAPE DRIVES /729 MODEL 2 OR 4 OR TYPE 73307, AND ADVANCED PROGRAMMING FEATURE. THE PROGRAM WAS WRITTEN AND ASSEMBLED USING SPS II.

1401-01.4.082 SYLVANIA PRINT ROUTINE AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.082

AUTHOR...EDWIN BENKHART SYLVANIA ELECTRIC PRODUCTS INC. 5700 W. GENESEE STREET CAMILLUS, NEW YORK

DIRECT INQUIRIES TO AUTHOR

TO PRINT A BCD TAPE DISPLAYING 100 CHARACTERS PER LINE, CR
TO A RECORD MARK WHICHEVER OCCURS FIRST. EACH TAPE BLCCK
IS NUMBERED /ON THE LEFT MARGIN/ AND A CUMULATIVE
CHARACTER COUNT BY LINE FOR THE TAPE BLOCK IS ALSO
RECORDED /ON THE RIGHT MARGIN/. ENCOUNTERING A TAPE MARK
CAUSES TAPE MARK TO PRINT AND PROGRAM HALT. SEGMENT MARK
/IBM 7070/ IS PRINTED AS SEGMENT MARK BUT PROGRAM DOES NOT
HALT. TAPE READ IN AREA STARTS AT ZCC1. THE MAXIMUM TAPE
BLCCK WHICH CAN BE PRINTED IS 1996, 5996, 5996 AND 13996
CHARACTERS FOR 4K, 3K, 12K AND 16K RESPECTIVELY. 1401 MODE
CA3, 1402 READER-PUNCH, 1400 MODEL 2 PRINTER, 729 MODEL 2 CR
4 TAPE UNIT, HI-LO-EQUAL COMPARE, ADVANCED PROGRAMMING FEATURES.

1401-01.4.091 SCANX MACRO FOR THE 1401 AUTOCCDER

AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-C1.4.091

AUTHOR...THOMAS F. MARRIE
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570 NORTH BROAD STREET
ELIZABETH, NEW JERSEY

DIRECT INQUIRIES TO AUTHOR

THE 1401 SCANX MACRO IS A TABLE LCCKUP MACRO INSTRUCTION. IT DOES NOT THE UP AN INDEX REGISTER. IT DOES USE THE ADVANCED PREGRAMMING FEATURE. IT CAN BE USED ON TABLES CONTAINING VARIABLE LENGTH FUNCTIONS. A SINGLE LINE OF CODDING WILL GENERATE SIXTEEN INSTRUCTIONS THAT WILL USE A MAXIMUM OF 80 PCSITIONS OF CORE STORAGE. BEFORE THE PROGRAM CAN BE ASSEMBLED THE 1401 AUTOCODER MUST BE UPDATED.

MACHINE CCNFIGURATION— TO GENERATE DURING ASSEMBLY WITH 1401 AUTOCODER - 4K CURE MEMORY, 4 TAPE UNITS /729 II OR 729 IV CR 7330/, 1 1402 CARD READER PUNCH, 1 1403 PRINTER, HI-LCh-EQUAL COMPARE ADVANCED PROGRAMMING. FOR OPERATING PROGRAM— 4K CCRE MEMORY, 1 1402 CARD REACER PUNCH OR 1 TO 4 TAPE UNITS, HI-LCA-EQUAL COMPARE ADVANCED PROGRAMMING. WITTEN IN AUTOCODER.

1401-01.4.092 TRACE AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.092

AUTHOR...K. KIMBALL HOLLAND SCIENTIFIC MARKETING DEPT. IBM CORP. 425 PARK AVE. NEW YORK 22, N.Y.

CIRECT INQUIRIES TO AUTHOR

T INQUIRIES TO AUTHOR

THE 1401 TRACE IS CESIGNED TO AID DEBUGGING A PROGRAM BY EXECUTING IT STEP BY STEP AND PRINTING A RUNNING LOG ON THE 1403 PRINTER DISPLAYING EACH INSTRUCTION AND VARIOUS ASSOCIATED FIELDS. AND REGISTERS. THE METHOD USED IS THE ACCESSING OF INSTRUCTIONS FROM THE PROGRAM BEING TRACED AND THEIR EXECUTION FROM WITHIN TRACE, ALONG WITH A PRINTOLL OF INFORMATION PERIINNIT TO THE OPERATION. NO RESTRICTION IS PLACED ON THE OBJECT PROGRAM BEING TRACED. TRACE WILL PROGESS AND RECOVER REGISTER SETTINGS FROM ALL 1401 INSTRUCTIONS. THE PROGRAM MAY BE USED EITHER IN SCURCE OR CONCENSED DECK FORM. TRACE CISPLAYS THE FOLLOWING INFORMATION FOR EACH INSTRUCTION—1. INSTRUCTION, INSTRUCTION LENGTH, 1, A, AND B ADCRESS REGISTERS, AND INDEX REGISTERS.
2. UP TO 98 CHARACTERS OF A AND 8 DATA FIELDS BEFORE AND AFTER RECOUND OR 3. FOR INPUT — OUTPUT INSTRUCTION, COMPLETE RECORDS WITH WORD MARKS ARE DISPLAYED AS TORAGE DUMPS.
1401 PROCESSOR /2-16K/, 1402 CARD READER, 1403 PRINTER /ANY MODELY, ADVANCED PROGRAMMING FEATURES /STORE REGISTERS, INDEXING/, OPTIONAL — SENSE SWITCHES. SOURCE LANGUAGE— SPS 1 /AUTCCODER ORIENTED/.

OPTICNAL PROGRAM MATERIAL - SOURCE DECK

PAGE C43

CONTINUED FROM PRIOR COLUMN-OPTICNAL PROGRAM MATERIAL MUST BE ITEMIZED ON THE GROER CARD.

1401-01.4.094 APTCO - AUTOMATIC PROGRAMMING, TESTING AND CONDENSING OPERATION AVAILABLE ZND QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.094

AUTHOR...MR. FRANK T. MOY
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ECUIPMENT DIVISION
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WAYLAND: MASS.

DIRECT INQUIRIES TO AUTHOR

I INQUIRIES TO AUTHOR

APTCC IS A LOAD-ANC-GO PROGRAM DESIGNEC TO MINIMIZE
PROGRAMMING, TESTING, AND CEBUGGING TIME REQUIRED FOR BUSINESS
PROGRAMS AND YET PROVICE THE FLEXIBILITY TO HANDLE A HIDE
VARIETY OF PROBLEMS FOR A CARD SYSTEM 1401, FROM SIMPLE LISTINGS,
REPROCUCTIONS AND GANGPUNCHINGS TO COMPLICATED REPORTS REQUIRING
EXTENSIVE USE OF LOGIC OPERATIONS. APTCO WILL AUTOMATICALLY
HANDLE UP TO 5 HEADING LINES, 9 TOTAL LEVELS, AND 198 SYMBOLIC
LABELS. IN ONE PASS, APTCO WILL PRINT A LISTING OF THE CONTROL
CARDS WITH FERCE INDICATIONS, PRINT A CORE DUMP IF DESIRED,
AND TEST GENERATED PROGRAM OR RUN ACTUAL DETAILS. 4K STORAGE
REQUIRED - ADDITIONAL STORAGE CAPACITY IS ENTIRELY AVAILABLE FOR
OBJECT PROGRAM. APTCO WILL AUTOMATICALLY GENERATE MULTIPLY/
DIVIDE SUBBOUTINE WHEN REQUIRED AND WILL HANDLE PUNCH FEED
READ PROBLEMS.

1401-01.4.096 UNIVERSAL MEMORY PRINT AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.096

AUTHOR...LCUIS J. COPITS
IEM CORPORATION
370 W. 1ST STREET
DAYTON, CHIC

CIRECT INQUIRIES TO AUTHOR

THIS PROGRAM IS CESIGNEC TO PROVIDE A LEGIBLE /DDI/ MEMCRY PRINT. IT WILL AUTOMATICALLY MODIFY ITSELF TO RUN ON A 1401 CF ANY MEMORY SIZE. ONLY THE OD BAND MUST BE PRINTED FROM THE CONSCLE. CORE FROM OBI TO THE UPPER LIMIT OF THE GRIECT MACHINE IS THEN PRINTEC. MACHINE CONFIGURATION IS 1401, ANY MCDEL 1402, 1403, MODEL 2. NO 1401 SPECIAL FEBTURES ARE REQUIRED. WRITTEN IN ABSCLUTE AND SPS. CONTAINS 322 SPS INSTRUCTION AND COMPENT CARDS IN 1 PER CARD FORMAT. THE COMDENSED OBJECT DECK CONTAINS 96 CARDS. CHECKED OUT CN 44, 8K AND 16K SYSTEMS OF VARYING COMPIGURATIONS. A SINGLE HIGH ORDER CORE POSITION/ I.E. 3999 CN 4K SYSTEM, 15999 ON A 16K SYSTEM/ IS DESTROYED, BUT A WORK MARK THERE IS UNCHANGED.

1401-01.4.097 SYMBOLIC BLOCK DIAGRAMMING SYSTEM

M AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.097

AUTHOR...P.J. HAMILTON
IBM CORPORATION
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DIRECT INQUIRIES TO AUTHOR

TINGUIRIES TO AUTHOR

THE SYMBOLIG BLOCK DIAGRAMMING SYSTEM ASSEMBLES AND PRINTS BLCCK DIAGRAMS IN A MANNER SIMILAR TO THAT IN WHICH A SYMBOLIC PROGRAMMING SYSTEM PROCESSES PROGRAMS. THE IMPUT TO THE SYSTEM IS CARCE PUNCHED FROM A , PBLOCK DIAGRAMS. THE IMPUT TO THE SYSTEM IS CARCE PUNCHED FROM A , PBLOCK DIAGRAMS. THE COCING SPECIFIES THE TYPE SHAPE/ OF THE BLOCK TO BED DRAMN FCR EACH CARD AND THE NARRATIVE TO BE PRINTED IN THE BLOCK. EACH BLCCK MAY BE ASSIGNED A LABEL, AND CHANGES TO THE NORMAL FLOW OF THE DIAGRAM ARE INDICATED BY REFERENCING THE LABELS OF OTHER BLOCKS. UP TO THREE LABELS CAN BE REFERENCED FROM A DECISION BLOCK, AND CNE LABEL CAN BE REFERENCED FROM OTHER BLOCKS. UP TO CODING FORM IS PROVIDED WITH THE PROGRAMMEN JUST AS A PROGRAMMER NEED NOT SPECIFY CORE LOCATIONS WHEN USING A SYMBOLIC PROGRAMMING SYSTEM, HE NEED NOT SPECIFY THE PAGE OR POSITION CONTINUED HITH THE PROGRAMMING SYSTEM, HE NEED NOT SPECIFY THE PAGE OR POSITION CONTINUED HITH THE PROGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMMING SYSTEM. THE SYSTEM ASSIGNS ALL LOCATIONS /PAGE AND DIAGRAMS AND REPRINTING THE DIAGRAM.

SINCE DIAGRAMS TO BE PROCESSED ARE CODED SEPARATELY FROM THE PROGRAM, THERE IS NO MACHINE OR LANGUAGE LIMITATION ON THE DIAGRAMS WHICH CAN BE PROCESSED. THE NUMBER OF LABELS AND REFERENCES IS LIMITED BY OBJECT CORE SIZE- 4K, 265 LABELS AND 290 REFERENCES- 8K, 665 AND 690- 12K, 1065 AND 1090- AND 16K, 1465 AND 1490. DIAGRAMS OF UP 10 59 PAGES CAN BE PROCESSED. AN IBM 1401 WITH 4, 8, 12, OR 16 THOUSAND POSITIONS OF CORE STCRAGE HILL-C-EC COMPARE, DAVANCED PROGRAMMING FEATURES, A 1403 MCDEL II, A 1402, AND AT LEAST THO MAGNETIC TAPE UNITS. SENSE SAITCHES ARE REQUIRED FOR PUNCHING RE-SEQUENCE INPUT DECKS AND FOR MULTIPLE PRINTINGS OF DIAGRAMS. SOURCE LANGUAGE- AUTOCCOBER

1401-01.4.098 RANDOM ADDRESS TRANSFORMATION EVALUATION PROGRAM AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.098

AUTHOR...R. EGELMAN
IBM CORPORATION
OP FIELD ASSISTANCE
OSC PLANT / SOUTH ROAC/
PCUGHKEEPSIE, NEW YORK

DIRECT INQUIRIES TO AUTHOR

PAGE 044

B-1401

CONTINUED FROM PRIOR PAGE--

THIS IS AN IBM 1401 PROGRAM FOR EVALUATING THE RANDOMNESS OF A SET OF GENERATEO ADDRESSES /FOR RANDOM ACCESS STORAGE DEVICES SUCH AS THE 18M 1301/ IN A RANGE FROM COOD UP TO A MAXIMUM CF 9999. LONGER RANGES CAN BE EVALUATED IN SEQMENTS. IMPUT IS UNSCRIED TAPE RECORDS IN ANY UNBLOCKED FORMAT. LOCATION OF THE ADDRESS FIELD IS SPECIFIED BY A CONTROL CARD. AN OPTION PERMITS DIRECT INPUT OF CUSTOMER RECORDS AND COMPUTATION OF SEMI-RANDOM ADDRESSES BY THE DIVISION REMAINDER METHOD. THE PRINTED OUTPUT ABBULATES ADDRESS UTILIZATION /RANGING FROM O TO 29 TIMES PER ADDRESS, AND COMPARES IT NITH A THEORETICAL RANDOM DISTRIBUTION FOR THE SAME PARAMETERS. THE MINIMUM SYSTEM IS A 4K 1BM 1401 WITH ADDRAGED PROGRAMMING, HE—LE COMPAGE, RECORD MOVE AND FOUR TAPE UNITS. THE SOURCE PROGRAM CONSISTS OF 1077 STATEMENTS IN AUTOCODER, SPS AND 18M 1401 MACHINE LANGUAGE.

1401-01-4-099 GENERAL PURPOSE CARD EDIT ROUTINE

AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.099

AUTHOR...JEAN FOX 165 N. CANAL STREET CHICAGO 6, ILLINGIS

DIRECT INQUIRIES TO AUTHOR

THIS GENERAL PURPOSE ECIT ROUTINE WAS DESIGNED TO HELP PURIFY THE INPUT MEDIA WITH A MINIMUM OF DEVELOPMENTAL EFFORT. ALL THAT IS REQUIRED IS AN EXACT DEFINITION OF THE VARIOUS CARD FIELDS AND THE PERMISSIBLE CHARACTERS CONTAINED IN EACH. AN ERROR CARD WILL BE PRINTED AND AN 80-80 IMAGE CARD HIS EP PUNCHED TO BE USED AS A LOCATER. THERE ARE NO RESTRICTIONS TO THE USE OF THIS PROGRAM. STORAGE REQUIREMENT—AT LEAST ZK. COMPONENTS NEEDED ARE 1401 WITH ADVANCED PROGRAMMING, SENSE SWITCHES, ADDITIONAL PRINT CONTROL, HI-LO-EQUAL COMPARE, AND COLUMN BINARY. ALSO NEEDED ARE A 1402 READ-PUNCH, AND A 1403 PRINTER.

1401-01.4.100 TAPE ANALYZE PROGRAM, 8K VERSION

AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.100

AUTHOR...L. PETERS
BELL TELEPHONE LABORATORIES
WHIPPANY, ROAD
WHIPPANY, NEW JERSEY

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM WILL CHECK A BCD OR BINARY MAGNETIC TAPE FORA. REDUNDANT RECORDS.
B. LENGTH OF EACH RECORD.
C. A RECORD SIZE ERROR IN AN ASSUMED FIXED RECORD LENGTH FILE.
D. A TCTAL RECORD COUNT OF A FILE.
E. THE OPTION TO PRINT ANY SIZE RECORD FROM I THRU 6,996
CHARACTERS IN LENGTH, FIXED OR VARIABLE.
1401 PROCESSING UNIT. 1402 CARD READ-PUNCH. 1403 PRINTER. 8K
STCRAGE. H-ILC-EG COMPARE FEATURE. ACVANCED PROGRAMMING
FEATURE. ONE TAPE DRIVE.

1401-01.4.102 CHECKPOINT AND RESTART PROCEDURE
AVAILABLE 3RD QUARTER 1963.
SPECIFY FILE NUMBER 1401-01.4.102

AUTHOR...RCBERT R. JCRCISON IBM CORPORATION 2116 GRAND AVENUE DES MOINES, IOWA

DIRECT INCUIRIES TO AUTHOR

I INQUIRIES TO AUTHOR

THE IBM 1401 CHECKPOINT AND RESTART PROCEDURE PROVIDES FOR THE WRITING OF CHECKPOINT RECORDS ON MAGNETIC TAPE AND AUTCHATIC RESTART AT A LAIRE TIME IN THE EVENT OF PROGRAM INTERREPTICA. IS OF MOST VALUE ON PROGRAMS INVOLVING EXCESSIVE RUNNING TIME A WHERE PROGRAM INTERRUPTION MAY BE REQLIRED OR UNAVOLDABLE. THE PROCESSARY PROGRAM INSTRUCTIONS TO WRITE CHECKPOINT RECORDS. A SEPARATE RESTART DECK IS PROVIDED WHICH RE-CREATES STORAGE FROM THE CHECKPOINT RECORDS. AS SEPARATING ANY CARD FILE, AND ENTERS THE DIEVES, PROVICES FOR RESTARTING ANY CARD FILE, AND ENTERS THE USERS PROGRAM TO CONTINUE PROCESSING. MACHINE COMPIGURES, SHOULD WITH ADVANCED PROGRAMMING, HI-LO-EQUAL COMPARE, SENSE SWITCHES AND ONE TAPE ORIGINATOR FOR ASSEMBLY. CHECKPOINT AND RESTART ROUTINES—310—360 POSITIONS OF STORAGE. SOURCE LANGUAGE—AUTOCODER

1401-01.4.103 RELOCATABLE TRACE PROGRAM AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.103

AUTHORS..JAMES L. MANNASMITH
IBM CORPORATION
100 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS

DIRECT INQUIRIES TO AUTHOR

THE PREGRAM TRACES TAPE, CARD RAMAC, BINARY AND STANDARD 1401
COMMANDS. IT SHOWS STEPS, DATA, ADDRESS REGISTERS AND INDEX
REGISTERS. QUIPUIT IS PRINTED ON THE 1403 WITH ONE LINE PER
PREGRAM STEP EXECUTED, 2/ THE ACTUAL STEP, 3/ VP TO 15 CHARACTERS
OF THE BITING EXECUTED, 2/ THE ACTUAL STEP, 3/ VP TO 15 CHARACTERS
OF THE BITIED BEFGRE TAKING THE STEP, 4/ THE BIELD AFTER
TAKING THE STEP, 5/ THE CONTENTS OF THE A AND B ADDRESS REGISTERS
AFTER THE STEP, 6/ THE CONTENTS OF THE A AND B ADDRESS REGISTERS
AFTER THE STEP, 6/ THE CONTENTS OF THE A AND B ADDRESS REGISTERS
AFTER THE STEP, 6/ THE CONTENTS OF THE A AND B ADDRESS REGISTERS
AFTER THE STEP, 6/ THE CONTENTS OF THE A AND B ADDRESS REGISTERS
AFTER THE MESTEP, 3/ THE CONTENTS OF THE A AND B ADDRESS REGISTERS
AFTER THE MESTEP, 3/ THE CONTENTS OF THE ADDRESS AND SHEET
THE ADPROPRIATE TRACE ANALYSIS ROUTHE AND ACTUALLY EXECUTING
THE APPROPRIATE TRACE ANALYSIS ROUTHE AND ACTUALLY EXECUTING
YOUR STEP WITHIN THE AREA OCCUPIED BY TRACE. THE MINIMUM MACHINE
REQUIREMENTS FOR OPERATION ARE 1/ 8000 POSITIONS OF CORE, 2/
ADVANCED PROGRAMMING, AND 3/ ANY FEATURES OR DEVICES CALLED FOR
IN THE OBJECT PROGRAM. SOURCE LANGUAGE— WRITTEN IN MACHINE

B-1401

CONTINUED FROM PRIOR COLUMN--LANGUAGE.

1401-01.4.106 NO RESTRICTIONS SELECTIVE TRACE

AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.106

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THE ATTY, ISRAEL

DIRECT INQUIRIES TO AUTHOR

THIS IS A UTILITY PROGRAM TO ALLOW A PROGRAMMER TO FOLLOW THE

PATH OF A PROGRAM BEING DEBUGGED BY PRINTING CERTAIN INFORMATICN

JUST PRIOR TO EXECUTING EACH INSTRUCTION OF THAT PROGRAM. THE

TRACE IS PLACED BEHIND THE OBJECT PROGRAM AND LOADED INTO UPPER

CORE. IT EXTRACTS INSTRUCTIONS SEQUENTIALLY FROM THE PROGRAM AND

EXECUTES THEM IN A SPECIAL AREA IN THE TRACE. JUST BEFORE

EXECUTION, IT PRINTS A LINE SHOWING WHICH INSTRUCTION IS BEING

EXECUTED, AS NELL AS THE CONTENTS OF THE INDEX REGISTERS AND THE

CONTENTS OF A 50 CHARACTER WORK AREA SPECIFIED BY THE USER. THE

PROGRAM WHICH IS BEING TRACED MUST USE NO MORE THAM 6770, 10,770

OR 14,770 LOCATIONS DEPENDING ON THE SIZE OF CORE.

MACHINE CONTENTATION OF ENSITINGER, ADVANCED PROGRAMMING,

HIGH-LOW EQUAL COMPARE. /MAY BE MODIFIED TO 4K/. 1401

TRACE USES 1230 POSITICNS OF CORE. SQURCE LANGUAGE— WRITTEN IN

SPS.

1401-01.4.107 STACK - STORAGE ON TAPE TO ABRIDGE CARD-KEEPING AVAILABLE 3RC QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.107

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DIRECT INQUIRIES TO AUTHOR

T INQUIRIES TO AUTHOR

A SET OF THREE PROGRAMS DESIGNED TO MINIMIZE PUNCHED CARC STORAGE BY STACKING CARC FILES ON MAGNETIC TAPE. SIZE AND FORMAT OF CARD FILES ARE VIRTUALLY UNLIMITED. THE EQUIVALENT OF UP TC TEN CASES OF CARDS MAY BE PLACED ON ONE 2400-FOOT REEL OF TAPE AT 556 CPI. THE SET CONSISTS OF
/// CARD TO TAPE PROGRAM /OTTAP/.

/// UPDATE PROGRAM /UPDAT/. IN ADDITION TO ADDING,
DELETING, OR REPLACING FILES, THIS PROGRAM MILL COPY THE
INPUT TAPE AND MILL FURNISH A LIST OF THE FILE-TITLES
MITH THE NUMBER OF RECORDS IN THE FILES.

/3/ SEARCH PROGRAM /SERCH/ TO RETRIEVE FILES IN PUNCHED AND
/OR PRINTED FORM.
AUTOCOCER MITH IDCS. MINIMUM MACHINE CONFIGURATIONUPDATE- 1401 8K 2 TAPES
SEARCH C CARD-TO-TAPE- 4K, 1 TAPE
ALL 3 PROGRAMS REQUIRE 1002, 1403, SENSE SHITCHES, ADVANCED
PROGRAMMING ANC HIGH-LCM-EQUAL COMPARE FEATURES. SOURCE
STATEMENT COUNT- CARD-TO-TAPE, 79- UPDATE, 601- SEARCH, 164.

1401-01.4.108 TAPE DUPLICATION AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.108

AUTHORS..MR. ROBERT J. HOYNES 18M CORPORATION 205 WHITNEY AVENUE NEW HAVEN 10, CONNECTICUT

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TO DUPLICATE BCD OR BINARY TAPE RECORDS FROM 13 TO 2300 CHARACTERS IN LENGTH. WITH THE SETTING OF SENSE SWITCHES IT WILL DUPLICATE SINGLE OR NULTIPLE FILES, AND WRITE A TRAILER LABEL. THE TAPE TO BE CUPLICATED IS MOUNTED ON UNIT 1 AND FILE PROTECTED. THE CUPPUT TAPE IS MOUNTED ON UNIT 2 WITH A FILE PROTECTED TRING. SENSE SWITCHES ARE SET FOR THE OPTIONS DESIRED. TAPE ONE IS READ INTO CORE, TESTED FOR SIZE, HEADERS, TRAILERS AND NOISE RECORDS AND WRITTEN ON TAPE THO. THE PROGRAM WILL NOT COPY RECORDS GREATER THAN 2300 CHARACTERS OR LESS THEN 12 CHARACTERS. MACHINE CONFIGURATION — A 1401 MODEL C, 4K SYSTEM-WITH /A/ THO TAPE UNITS, /B/ 1402, /C/ 1403, /D/ ADVANCED PROGRAMMING AND /E/ BINARY FEATURE /OPTIONAL/. SOURCE LANGUAGE-1401 AUTOCODER.

1401-01.4.109 TLUOI TABLE LOOKUP CLOSED SUBROUTINE AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.109

AUTHOR...MR. MAX L. WAGONER THE BENDIX CORPORATION BENDIX PRODUCTS DIVISION SCUTH BEND, INDIANA

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I INQUIRIES TO ADTHUK

TO SIMPLIFY PROGRAMMING OF DATA PROCESSING APPLICATIONS
REQUIRING TABLE OPERATIONS ON THE 16M 1401. THE CLOSED
SUBRCUTINE IS GENERALIZED IN NATURE, AND RELOCATABLE IN AN
UNASSEMBLED SPS FORM. INCLUDED WITHIN THE SUBROUTINE ARE THREE
/3/ ROUTINES AS FOLLOWS- 1. PROGRESSIVE TABLE LOADER. 2. TABLE
SEARCH HIGH-LOM-COUAL. 3. TABLE UPDATE. THE USER MUST SUPPLY
WITHIN HIS SOURCE PROGRAM A MINIMUM OF RELATED PARAMETERS, AND
SIMPLE LINKAGE TO THE CLOSED SUBROUTINE. THE TABLE FOLLOWS THE
LAST MEMORY POSITION OF THE USER/S OBJECT PROGRAM AND CAN
CONTINUE TO THE END OF MEMORY. THIS TECHNIQUE ALLOWS THE
MAXIMUM SIZE TABLE OF ARGUMENTS AND FUNCTIONS FOR A GIVEN USER/S
PROGRAM AND/OR MODEL OF 16M 1401. THE CLOSED SUBROUTINE USES 165
PCSITIONS OF MEMORY. EQUIPMENT SPECIFICATIONS— BASIC 18M 1401
SYSTEM MITH HIGH-LOM-EQUAL COMPARE. NC ADDITIONAL SPECIAL
FEATURES ARE REQUIRED.

B-1401

1401-01.4.110 SPECIAL FEATURE MULTIPLY AND DIVIDE MACROS AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.110

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MPYMC-A ROUTINE TO SIMPLIFY MULTIPLICATION USING THE MULTIPLY OP CODE /A SPECIAL FEATURE ON THE 1401./ THE USER MAY SET UP A 2, 3, 4, 0 R 5 MAY MULTIPLICATION SERIES AS A X B X C , A X B X C X D, OR A X B X C X D X E. HALF ADJUSTING MAY BE HANDLED BY THE MACRO. DUOMC-HIS ROUTINE IS USED TO SIMPLIFY DIVISION USING THE DIVIDE OP CODE /A SPECIAL FEATURE ON THE 1401./ THAT ADJUSTING MAY BE HANDLED BY THE MACRO. AUTOCODES EQUIPMENT— MULTIPLY-DIVIDE SPECIAL FEATURE, 1401, 1402, 1403.

1401-01-4-113 GENERAL TAPE CORRECTION PROGRAM

AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.113

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THIS PROGRAM WAS DEVELOPED TO SOLVE THE PROBLEM OF MAINTAINING THOSE TAPE FILES WHICH ARE NOT ORDINARILY MAINTAINED AT OBJECT PROGRAM TIME AND WOULD REQUIRE A SEPARATE PROGRAM FOR CORRECTING EACH FILE IN THE LIBRARY. IN ADDITION IT WILL PROVE VALUABLE IN CONVERTING CARE FILES TO TAPE BY OFF LINE PREPARATION OF THE INPUT CATA. THIS PROGRAM DIFFERS FROM OTHER KNOWN PROCRAMS IN THAT IT IS GENERAL IN NATURE AND IN 1TS ABILITY TO ACCESS ANY TAPE FILE WITHIN THE LIMITATION SET FORTH BELOW. MACHINE CONFIGURATION— 1401 BK, 1402, 1403–132 PRINT POSITIONS, HI-LCUM-EQUAL COMPARE, ADVANCED PROGRAMMING, 2 TAPE DRIVES, 729 II, IV, OR 7330.

WRITTEN IN SPS USING TCS AS THE I/O MEDIUM. HOWEVER, THE USER MAY EMPLOY ANY OTHER I/O PACKAGE BY PROVIDING THE NECESSARY LINKAGE. CAPABILITIES AND LIMITATIONS- THE PROGRAM PROVIDES THE FOLLOWING FEATURES1. INSERTING OR DELETING RECORDS.
2. CHANGING ANY FIELD/S/ IN THE RECORD.
3. UP TO 5 CONTROL FIELDS WHICH NEED NOT BE ADJACENT.
4. UP TO 50 CHARACTERS OF CONTROL. E.G. USER MAY HAVE AN AGGREGATE OF 50 CONTROL CHARACTERS MAKING UP 1 TO 5 CONTROL FIELDS IN ANY COMBINATION.

1401-01.4.115 CORP CODE-NUMERIC ENCODING OF BUSINESS, COMPANY AND CORPORATE NAMES AVAILABLE 41H QUARTER 1963. SPECIFY FILE NUMBER 1401-C1.4.115

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A PROGRAM TO NUMERICALLY ENCODE UP TO THE FIRST FIVE LETTERS CF THE FIRST THREE COMPANY NAMES OF ANY BUSINESS NAME. BY A TABLE LOCK-UP TECHNIQUE ON A 1000 NAME COMPANY TABLE. HERE DIGITS ARE ASSIGNED FOR EACH OF THE FIRST THREE ANABES FOR TOTAL OF ATTACH THE PROGRAM CIFFERS FROM AUTOPIC / ACI-1, CO. OF ATTACH THE PROGRAM CIFFERS FROM AUTOPIC / ACI-1, CO. OF ATTACH THE PROGRAM CIFFERS FROM AUTOPIC / ACI-1, CO. OF ATTACH THE PROGRAM CIFFERS FROM AUTOPIC / ACI-1, CO. OF ATTACH THE PROGRAM CIFFERS FROM AUTOPIC / ACI-1, CO. OF ATTACH THAN TROIVIDUAL ANABES TO THE RESULTANT CCCE IS ENTERLY DIGITAL TITS COMPATIBLE WITH THE SIZE OF THE AUMBER GENERATED BY AUTOPIC. IT IS, IN EFFECT, THE BUSINESS NAME COMPLEMENT OF THE INDIVIDUAL NAME AUTOPIC. USES A PROGRAMMED TABLE LCCK-UP TECHNIQUE. CAN SEARCH UP TO 70 ALPHABETIC POSITIONS OF A COMPANY NAME ISOLATING THE FIRST TYPE LETTERS OF THE FIRST THREE NAMES BY SEARCHING FOR BLANKS BETWEEN NAMES. AND THE PROGRAM PRESENTLY SEARCHES 23 LETTERS FROM COLUMNS 17-39 IN A CARD CR TAPE RECORD. THE RESULTANT CODE CAN BE PUNCHED OR WRITTEN ANYWHERE IN THE CARD OR TAPE OUTPUT. THE PRESENT PROGRAM PLACES OF THE FIRST NAME CODE IN COLUMNS 2-14-8 BY CHANGING 3 OUTPUT DATA THAP RECORD. THE RESULTANT CODE CAN BE PUNCHED OR WRITTEN ANYWHERE IN THE CARD OR TAPE OUTPUT. THE PRESENT PROGRAM CAN BE REASSEMBLED FOR ANY SPECIFIC JOB BY CHANGING 3 OUTPUT DATA TRANSFERS, THE OUTPUT COLUMNS CAN BE ALTERED. THE PROGRAM CAN BE REASSEMBLED FOR ANY SPECIFIC JOB BY CHANGING A TOTAL OF 5 CARDS. MACHINE COMPETICAL—READ—PUNCH RELEASE, 1 OR 2 TAPE REQUIRED ONLY TO PRINT OUT COMPANY TABLE. SOURCE LANGUAGE—SPS II, ASSEMBLED IN AUTOCODER.

1401-01.4.118 REPRO-REPRODUCE AND/OR EMIT ALPHANUMERIC /12-9/, NUMERIC/0-9/ONLY, AND NUMERIC ZONE/12-11/ONLY AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.118

AUTHOR...RCBERT C. KIRTZ HUGHES AIRCRAFT COMPANY BCX 90915 BLOG. 105 LCS ANGELES 9, CALIFCRNIA

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TO REPRODUCE CARDS, ALLOHING MANIPULATION OF NUMERIC FIELDS /0-9/, NUMERIC ZONING /12-11/, AND EMITTING OF CONSTANT DATA. TO ELIMINATE THE REQUIREMENT OF MIRING REPRODUCER BUARDS. TO PROVIDE A PROGRAM FOR GENERAL CONVERSION OF CARD FORMATS NORMALLY UTILIZED BY EAM INSTALLATIONS. THE PROGRAM DECK IS FOLLOWED BY CONTROL CARDS HICH SET UP THE OPERATIONS TO BE PERFORMED. THE CONTROL CARDS ARE COMPLETELY ANALYZED AND IF ANY ERRORS IN THE CONTROL CARDS ARE COMPLETELY ANALYZED AND IF ANY ERRORS IN THE CONTROL CARDS. THE PROGRAM WILL NOT PROCESS THE DETAIL FILE. STORAGE REQUIREMENTS-14C1-4K. EQUIPMENT

8-1401 PAGE 045

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CONTINUED FROM PRIOR COLUMN-SPECIFICATIONS-1. ADVANCED PROGRAMMING FEATURE. 2. HIGH-LCMEQUAL COMPARE. IT IS SIGNIFICANT TO NOTE THAT WITHIN THE
OPERATION OF THIS PROGRAM, 0-9 IS CONSIDERED NUMERIC AND 11-12 IS CONSIDERED ZONE.

1401-01.4.121 SELF-CHECKING NUMBER CALCULATION- MODULUS 10
AVAILABLE 3RC QUARTER 1963.
SPECIFY FILE NUMBER 1401-01.4.121

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CALCULATES THE SELF-CHECKING NUMBER FOR BASE NUMBERS OF THREE TO THELVE POSITIONS. A LEAD CARD INSTRUCTS THE PROGRAM IN THE SIZE OF THE BASE NUMBER AND THE DESIRED INPUT AND OUTPUT. CPITICNS FOR INPUT-1. GENERATES BASE NUMBER FROM 1 TO 975. 2. GENERATE BETHEEN SPECIFIED NUMBERS. 3. READ SPECIFIC NUMBERS FRCM CARCS. CPTIONS FOR OUTPUT-1. PUNCH BASE NUMBER AND ITS CHECK DIGIT. 2. PUNCH AND PRINT BASE NUMBER AND ITS CHECK DIGIT. PLEASE REFER TO IBM MANUAL 622-8502-0, ACCOUNT NUMBERING AND SELF-CHECKING NUMBER SYSTEMS. SERIES 1200 CHARACTER SENSING GOULP MENT FOR A DISCUSSION OF THE MODULUS 10 FORMULA AND ITS USES. FORMULA FOR MODULUS 10 CHECK DIGIT. TAKE THE BASE NUMBER, DOUBLE THE WAITS POSITION AND ALTERNATE POSITION TO THE LEFT. ADD THE DIGITS OF THE RESULTS AND THE EVEN POSITIONS OF THE BASE NUMBER. SUBTRACT THE RESULT FROM 110 AM MULTIPLE OF 107. THE UNITS OF ANSWER IS THE CHECK DIGIT. MACHINE CORFIGURATION—THIS PROGRAM SOME IS THE CHECK DIGIT. MACHINE CORFIGURATION—THIS PROGRAM SYSTEM. NO SPECIAL FEATURES ARE REQUIRED. PROGRAM REQUIREMENTS—THIS PROGRAM REQUIRES 2717 POSITIONS OF CORE STORAGE. THE

OPTIONAL PROGRAM MATERIAL - SOURCE DECK. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-01.4.123 TAPE COMPARE ERROR PRINT/DUPLICATE AVAILABLE 4TH QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.123

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THIS PROGRAM WILL COMPARE OR DUPLICATE MIXED BCD AND BINARY TAPES. ON A TAPE COMPARE, PRIOR PROGRAMS HALTED ON AN ERROR. THIS PROGRAM PRINTS OUT ONE OF THE TWO TAPES, 100 CHARACTERS PER LINE, DOUBLE SPACED, WITH WORD MARKS UNDER EACH DIGIT FAILING TO COMPARE. THIS PROGRAM IS USEFUL IN DEVELOPMENT TESTING, THE FILING OF MANY TAPE FILES ON ONE TAPE REEL AND ACCESSING THESE FILES, AND IN DAILY CHECKING OF EQUIPMENT PRODUCING MAGNETIC TAPE. THIS PROGRAM PROVIDES FOR ADDITIONAL PROGRAMMING VIA PROGRAM EXITS, IF DESIRED.

A 4K OR LARGER 1401 WITH TWO TAPE DRIVES AND INDEXING, A 1402 CARD READ PONCH, AND A 1403 PRINTER.

THE PROGRAM IS CODED IN SPS AND ASSEMBLED IN AUTCCODER CONDENSED FORMAT USING CARAT V.

1401-01.4.124 MODIFIED DUMP AVAILABLE 4TH QUARTER 1963. SPECIFY FILE NUMBER 1401-01.4.124

AUTHOR...MR. W.A. DELCHAMPS GENERAL ELECTRIC CO. APOLLO SUPPORT DEPT. P.G. BOX 294 HUNTSVILLE, ALABAMA

CIRECT INQUIRIES TO AUTHOR

THIS ROUTINE IS THE STANDARD IBM 1401 DUMP MODIFIED TO PROVIDE THE FOLLOWING ADDITIONAL CONVENTENCES
1. LOGIC INDICATORS INCLUDED IN PRINTOUT.

2. ALL GROUP MARKS ARE CHANGED TO LOZENGES.

3. BLANK BLOCKS OF MEMORY /XOC-X99/ ARE NOT PRINTED.

STORAGE REQUIREMENTS-POSITIONS 1-80 INITIALLY AND 81-399 AFTER CONTENTS HAVE BEEN PRINTED. EQUIPMENT SPECIFICATIONS-ANY MODEL OR SIZE MEMORY.

1401-01.4.126 PRINT CECISION TABLES
AVAILABLE 4TH QUARTER 1963.
SPECIFY FILE NUMBER 1401-01.4.126

AUTHCR...R.J. EVANS
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TO PRINT DECISION TABLES ON 1403 PRINTER. THE PRINCIPLE BENEFITS OF THIS METHOC ARE THE ABILITY TO QUICKLY UPDATE AND PRODUCE DECISION TABLES WHICH ARE SUITABLE FOR PHOTOGRAPHIC REPRODUCTION. THE INPUT CARRS /ONE OR THO PER LINE/ IDENTIFY THE LINE AS A TITLE, SETUP, CONDITION OR ACTION LINE. SOURCE LANGUAGE, 1401 AUTOCODER. THE DECISION TABLE TO BE PRINTED MAY CONTAIN ANY NUMBER OF LINES AND ALLOWS FOR 15 RULES AND AN ELSE RULE. IF LESS THAN 9 ENTRIES ARE ALL THAT ARE NEEDED, CNLY ONE CARD NEED BE PREPARED PER LINE. EXTENDED OR LIMITED ENTRY MAY BE USED. STORAGE REQUIREMENTS—THIS PROGRAM USES 1405 POSITIONS OF CORE STORAGE. EQUIPMENT SPECIFICATIONS—4K 1401, HI-LC-ECUAL CCMPARE, AUYANCE PROGRAMMING FEATURES, 1402 CARD READER PUNCH, 1403 PRINTER WITH 132 POSITIONS.

B-1401

1401-01.4.128 1401/1410 AUTOCODER PROGRAM LOGIC DIAGRAMMER AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-C1.4.128

AUTHORS..THOMAS O. HILTABIDLE IBM CORP. 2330 ST. PAUL STREET BALTIHORE 18, MARYLAND

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THIS PROGRAM HILL MACHINE DOCUMENT THE LOGIC OF A 1401 OR 1410 SYMBOLIC PROGRAM MRITTEN IN THE AUTOCODER LANGUAGE. THE DIAGRAPMER CONSISTS OF TWO PASSES. PASS I BULLOS UP A SYMBOL TABLE FROM THE SOURCE CARDS, PASS 2 PRINTS THE DIAGRAM. THE MAXIMUM NUMBER OF LABELS IN THE SOURCE PROGRAM BEINS DIAGRAMMED WARIES ACCORDING TO OBJECT MACHINE SIZE, FROM A MINIMUM OF 125 LABELS FOR A 4K MACHINE TO A MAXIMUM OF 875 LABELS IN A 16K MACHINE. THE PROGRAM ANALYZES MEDIMONIC OP CODES ONLY. MACRO INSTRUCTION ANALYSIS CANNOT BE GUARANTEED CORRECT. THIS PROGRAM MAY BE RUN ON ANY 1401 OR 1410 CARD SYSTEM WITH A MINIMUM OF 4K STURAGE AND ONE TAPE DRIVE. ALSO NECESSARY ARE THE ADVANCED PROGRAMMING, HIGH-LOW-EQUAL COMPOSE, EXPANDED PRINT SPECIAL FEATURES. SENSE SWITCHES ARE REQUIRED TO PROCESS 1410 SOURCE CARDS. THE PROGRAM MILL USE ALL OF THE AVAILABLE MEMORY SPACE IN THE OBJECT MACHINE. THE PROGRAM HILL USE ALL OF THE AVAILABLE MEMORY SPACE IN THE OBJECT MACHINE. THE PROGRAM IS WRITTEN IN 1401 AUTOCCOER.

1401-01-4-130 CARD LIST OVERFLOW AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01-4-130

AUTHOR...HARGLD E. THOMPSON BEACON MANUFACTURING CO. SWANNANCA, NORTH CAROLINA

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THIS ONE CARD PROGRAM WILL LIST 80 COLUMN CARDS, TEST FOR OVERFLOW CONDITIONS AND SKIP FORMS TO CARRIAGE CHANNEL 1 IF A 12 HAS BEEN SENSED IN THE CARRIAGE TAPE. ANY 1401 COMFIGURATION WILL ACCOMPLISH THESE RESULTS. THIS ONE PROGRAM, OF NECESSITY, WAS WRITTEN IN ACTUAL LANGUAGE UTILIZING NO PRESENT PROGRAMS, PROCEDURES OR PACKAGES. THE USER MUST PRESS HALT KEY TO STEP

1401-01.4.131 CONVERT SPS CARD FORMAT TO AUTOCCDER CARD FORMAT AVAILABLE 151 QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.131

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TO CONVERT PROGRAMS PREVIOUSLY PUNCHED IN SPS TO AUTOCODER. SIMILAR ROUTINES, I.B.M. 4 TAPE AUTOCODER. SOURCE LANGUAGE 1401 CARD AUTOCODER. HACHINE CONFIGURATION - 4K 1401 HITH THE ADVANCEO PROGRAMHING PACKAGE. 2,008 POSITIANS OF STORAGE ARE REQUIRED FOR THIS PROGRAM. A HINIMUM OF 4 K 1401 CARD SYSTEM WITH THE ADVANCED PROGRAMMING PACKAGE AND 1403 PRINTER.

1401-01.4.132 AUTOCODER SEQUENCE CHECKING PROGRAM

MM AVAILABLE IST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.132

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THE LCADER ENSURES THAT ALL OBJECT CARDS ARE PRESENT AND IN SEQUENCE EACH TIME THE PROGRAM IS USED. THE TWO CARDS MUST BE INSERTED AFTER THE BOOTSTRAP CARD IN THE OBJECT DECK. IF THE PROGRAM CONTAINS OVERLAYS, THE CARDS MUST BE INSERTED AFTER THE BCOTSTRAP. THIS MODIFICATION WILL DETECT HISPHACED CARDS BUT DOES NOT CHECK CONTENTS OF THE CARDS, A SEQUENCE ERROR CAUSES A HALT. FAILURE TO INSERT CARDS AFTER THE OVERLAY WILL CAUSE THE REMAINING CARDS TO BE UNCHECKED. THIS ROUTINE IS WRITTEN IN COMDENSED AUTOCODER MACHINE LANGUAGE AND CAN BE USED ON ANY 1401 ROUTINE OCCUPTES LOCATIONS 200-278 DURING PROGRAM LOADING ONLY.

1401-01.4.133 TRACE THAT NEEDS NO SPECIAL FEATURES AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.133

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THIS TRACE PROGRAM IS AN AID FOR DEBUGGING PROGRAMS. IT CAN BE USED ON A BASIC 1401 SYSTEM, THOUGH A PROGRAM USING MOST SPECIAL FEATURES CAN BE TRACED. IT IS SPECIFICALLY MEANT FOR SYSTEMS MITHOUT ADVANCED PROGRAMMING, AS THERE IS NO CHER TRACE PROGRAM FOR THESE SYSTEMS. IT MILL PRINT OUT THE I ADDRESS, INSTRUCTION, THE CONTENTS OF THE A FIELD, AND THE CONTENTS OF THE B FIELD BOTH BEFORE AND AFTER EVERY INSTRUCTION THE PROGRAM TO BE TRACED. MACHINE CONFIGURATION— BASIC 1401 DPS NO SPECIAL FEATURE REQUIRED. REQUIRES 700 TO 1,300 CORE LOCATIONS DEPENDING ON REFINEMENTS.

B-1401

CONTINUED FROM PRIOR COLUMN --

PROCEDURE DESCRIPTION THE METHOD INVOLVES PLACING EACH INSTRUCTION IN TURN INTO A WORKING AREA, EXECUTING IT FROM THAT HORKING AREA, AND PRINTING OUT THE CONTENTS OF THE A AND B FIELDS FOR EVERY PROGRAM STEP INVOLVING DATA TRANSFER. SCURCE LANGUAGE- SPS. IT CAN ALSO BE USED DIRECTLY IN MACHINE LANGUAGE.

1401-01.4.134 PROGRAM TO LOAD AUTOCODER

AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.134

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THE PROGRAM WILL ACCEPT CONDENSED PROGRAM CARDS FROM 1401
AUTOCODER AND LOAD THEM ON TAPE MAKING A TAPE LOADABLE PROGRAM
TAPE. THE SIGNIFICANT ADVANTAGES OF THIS PROGRAM ARE— 1/MINIMUM
USAGE OF STORAGE, 2/ABILITY TO HANDLE AN NUMBER OF GROUPMARKS
IN THE OBJECT PROGRAM, AND 3/ABILITY TO HANDLE EXECUTE TYPE
INSTRUCTIONS WITH PROGRAM OVERLAPS. A SEARCH PROGRAM IS
GENERATED TO LOOKUP THE REQUESTED PROGRAM ON A FIVE CHARACTER
FIELD. THE PROGRAM WILL ADD OR DELETE PROGRAMS UNDER SENSE
SWITCH CONTROL. SOURCE LANGUAGE— AUTOCODER THE LOAD
INSTRUCTIONS IN THE CONDENSED CARDS ARE OVERLAID BY A TAPE
INSTRUCTIONS IN THE CONDENSED CARDS ARE OVERLAID BY A TAPE
INSTRUCTION TO LOAD THE CARDS FROM TAPE. THIS USES POSITION 40
THROUGH 86 OF CORE. THESE ARE THE ONLY POSITIONS OCCUPIED BY THE
LOAD PROGRAMM. MACHINE CONFIGURATION 4K OR LARGER MODEL C3
ADVANCED PROGRAMMING HT-LO-EQ COMPARE SENSE SWITCHES ONE OR TMC
7330 OR 729 TAPE DRIVES.

1401-01.4.135 IMPACT SIMULATOR AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-C1.4.135

AUTHOR...BARBARA A. HOBBINS IBM CORP. 1048 UNION STREET SAN FRANCISCO, CALIF.

CIRECT INQUIRIES TO AUTHOR

A 1401 PROGRAM WHICH SIMULATES THE RESULTS OF AN IMPACT OPERATING SYSTEM. ACCOMPANYING PROGRAM DESCRIPTION OUTLINES NEED FOR PROGRAM AND METHOD OF GATHERING DATA REQUIRED. THE SIMULATE CALCULATES INITIAL VALUES OF FORECAST, MAD AND ECONOMIC ORDER QUANTITY. DEMAND CATA IS OPERATED UPON AS IN AN IMPACT SYSTEM AND FOR EACH ITEM SIMULATED THE PERCENTAGE OF SETVICE RENDERED AND AVERAGE TOTAL INVENTORY ACHIEVED DURING SIMULATION IS INDICATED. THE IMPACT SIMULATOR UNIS ON A 1401 8K CARO SYSTEM WITH HYGH-LOW-EQUAL COMPARE. SOURCE LANGUAGE IS 1401 SPS.

1401-01.4.136 HRITE AND READ TAPE CHECK AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.136

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THIS PROGRAM MAY BE USED TO CLASSIFY THE WORKABILITY OF TAPES AND/CR GIVE AN INDICATION OF THE READING AND WRITING TEMPERAMENT OF A TAPE UNIT. 1 TO 6 TAPE ORIVES MAY BE USED. IT MILL1. MEASURE TAPE FROM REFLECTIVE SPOT TO REFLECTIVE SPOT.
2. PRINT REROS IN FEET AND INCHES FROM LOAD POINT.
3. PRINT TAPE NUMBER-3 POSITION-AND UNIT NUMBER ON WHICH ERRCRS HAS OCCURRED.
4. STORE 15 ERRORS FOR EACH REEL. IF THERE ARE MORE THAN 15 ERRORS. THEY MILL PRINT OUT AS THEY OCCUR.
5. PRINT OUT AS THEY OCCUR WITH SENSE SWITCH B ON BEFORE 15 ERRORS. 5. PRI ERRORS

S. PRINT OUT AS THEY OCCUR WITH SENSE SWITCH B ON BEPTRE 19
ERRORS.

6. PRINT A LISTING OF ERRORS AT THE END OF EACH REEL.

7. REWIND AFTER WRITING AND HALT. REWIND AND UNLOAD AT THE END
OF READING.
THE PROGRAM WILL BEGIN BY WRITING A RECORD OF 1807 CHARACTERSPART OF WHICH WILL BE THE PROGRAM AND THE REMAINDER IN PERIODS
AB221. HIGH DENSITY READS OR WRITES 556 CHARACTERS PER INCH.
INTER-RECORD GAP IS 3/4 INCH. 556 X 3 1/4 INCHES IS 1807
CHARACTERS PLUS 3/4 INCH. 556 X 3 1/4 INCHES IS 1807
CHARACTERS PLUS 3/4 INCH INTER-RECORD GAP. THUS EACH TIME A
RECORD IS READ OR WRITTEN IT PASSES 4 INCHES OF TAPE MAKING IT
POSSIBLE TO MEASURE TAPE AND INDICATE POSITION OF ERROR.
FEATURES USED—1401 4000 CORE POSITIONS MIN. SENSE SWITCHES HIGHLOW-EQUAL COMPARE INDEXING

1401-01.4.139 TAPE TEST PROGRAM, 4K AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-C1.4.139

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THE NUMBER OF ERRORS IS ACCURATELY MEASURED. A NUMERIC ONE IS ADDECT TO THE ERROR COUNTER EVERY TIME A BRANCH IS TAKEN ON A BER COMMAND. EVERY TIME AN ERROR CONDITION IS ENCOUNTERED ON MRITING, THE TAPE IS BACKSPACED AND ANOTHER TRY IS MADE TO WRITE ON THAT SECTION OF TAPE. IF THIS ERROR PERSISTS AFTER TEN ATTEMPTS, THE TAPE IS SKIPPED OVER THAT PORTION. SIMILAR ACTION IS TAKE ON REACING EXCEPT THAT FIFTY ATTEMPTS ARE MADE TO READ A RECORD BEFORE IT IS CLASSIFIED AS A PERMANENT ERROR. THE PROGRAM IS CAPABLE OF TESTING ANY TAPE AT HIGH DENSITY. THERE IS A SLIGHT LIMITATION AS TO THE ACCURACY OF THE MEASUREMENTS MADE AS THE TAPE IS WRITTEN. THE RECORD WRITTEN IS 1806 CHARACTERS WHICH EQUALS 4.0008 INCHES INCLIDING THE INTER-RECORD GAP. THIS IS ADDED TO THE LENGTH OF THE TAPE AS BEING .33 FEET. A SXIP AND BLANK TAPE, WHICH IS APPROXIMATELY 8 INCHES IS ADDED AS .67 FEET.

PAGE 046

8-1401

CONTINUED FROM PRIOR PAGE--

THE PROGRAM REQUIRES A 4K MACHINE. THE PROGRAM ITSELF OCCUPIES 1499 POSITIONS OF CORE STORAGE AND THE RECORDS WRITTEN OCCUPY 1806 POSITIONS FOR A TOTAL OF 3305 POSITIONS. THE RECORDS ARE 1806 POSITIONS TO APPROXIMATE 3.25 INCHES SO THAT RECORD WRITTEN WILL AS CLOSELY AS POSSIBLE EQUAL 4 INCHES INCLUDING INTER-RECORD GAP. THIS IS THE LARGEST POSSIBLE WHOLE INCH INCREMENT THAT WILL CLOSELY EQUAL A TWO POSITION DECIMAL.

1401-01.4.141 SYMBOLIC CORE DUMP AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.141

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THIS PROGRAM PRINTS THE CONTENTS OF CORE STORAGE IN EITHER A DATA OR INSTRUCTION FORMAT AS DETERNINED BY INTERNAL CONTEXT. ALL POSSIBLE 64 BOC DHARACTERS ARE PRINTED ON CONVENTIONAL EQUIPMENT. INSTRUCTIONS RESEMBLE AUTOCODER FREE FORM HITH DECIMAL ADDRESSES. CORE IS RESTORED AFTER PRINTOUT. THE PROGRAM REQUIRES AN 8K OR LARGER MEMORY, ONE TAPE CRIVE, AND ADVANCED PROGRAMMING AND HIT—OFEQ COMPARE FEATURES. IT HAS WRITTEN AND ASSEMBLED IN AUTOCODER.

1401-01-4-144 AID /AUTOMATIC INPUT DEFINER/ /CARD/ AVAILABLE 1ST QUARTER 1964-SPECIFY FILE NUMBER 1401-C1-4-144

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THIS PROGRAM IS DESIGNED TO READ ANY CARD FORMAT AND TO SPACE ANY SIZE FIELD ACCORDINGLY ON THE PRINTED REPORT. FURTHERMORE, ADDITICN, SUBTRACTION, EDITING, COMPARING, AND SUMMARY PUNCHING CAN BE ACCOMPLISHED BY PUNCHING ONE CONTROL CARD. A QUICK AND EASY MAY OF DOING SIMPLE LISTINGS WITHOUT WRITING A SPECIFIC PROGRAM. FIVE CLASSES OF TOTALS ARE AVAILABLE WITH 10 ACCUMULATORS IN EACH ACCUMULATOR. THERE IS A MAXIMUM OF 20 COMPARING POSITIONS IN EACH ACCUMULATOR. THERE IS A MAXIMUM OF 20 COMPARING POSITIONS IN EACH ACCUMULATOR. THERE ARE 5 BLANK POSITIONS CAN NOT BE OBTAINED. HOWEVER, THERE ARE 5 BLANK POSITIONS CAN NOT BE OBTAINED. HOWEVER, THERE ARE 5 BLANK POSITIONS BETWEEN EACH FIELD ON THE PRINTED REPORT. STORAGE REQUIRMENTS—6K OR LARGER. EQUIPMENT SPECIFICATIONS—14-01 WITH ADVANCED PROGRAMMING AND 132 PRINT POSITIONS ARE REQUIRED. CONSOLE SHITCHES AND EXPANDED PRINT EDIT ARE ADVISABLE, BUT NOT REQUIRED.

1401-01-4-145 SELECT DATA RETRIEVAL SYSTEM AVAILABLE IST QUARTER 1964. SPECIFY FILE NUMBER 1401-01-4-145

AUTHOR...R.A. REGAN

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RETRIEVE INFORMATION FROM MAGNETIC TAPE FILES. IT WILL

RETRIEVE INFORMATION FROM MAGNETIC TAPE FILES. IT WILL

RETRIEVE INFORMATION FROM MAGNETIC TAPE FILES. IT WILL

AND AND AND AND AND AND SORT, LIST, EDIT, COUNT AND

TOTAL. IT COMPILES AN EXTRACT PROGRAM AND A REPORT WRITING

PROGRAM AND COMBINES THEM WITH SORT TO FORM A COMPLETE

SYSTEM. PERMITS UP TO NIME REPORTS FROM ONE PASS OF TAPE

FILE WITH UP TO 5,000 CHARACTERS IN THE INPUT RECORD.

FEATURES—SNOLISH LANGUAGE SPECIFICATION STATEMENTS, MULTIPLE

REPORTS PER PASS, AUTOMATIC EDITING, FAST COMPILER, UNLIMITED

LEVELS OF CRITERIA, MULTI-REEL FILES, SINGLE OR BLOCKED

RECORD, WITH OR WITHOUT LABELS, GOOD DIAGNOSTICS, AUTOMATIC

SECURITY CHECK, RESTART PROCEDURES, USERS EXITS.

AN IBM 1401 WITH 8K MEMORY, ADV. PROG., HI-LO-EQ, AND 4

TAPE UNITS IS REQUIRED.

THE PROGRAMS SOURCE DECKS ARE OPTIONAL MATERIAL. THEY ARE AVAILABLE ON A DTR. THE DTR WILL BE SUPPLIED BY THE PROGRAM INFORMATION DEPARTMENT. THE SOURCE DECKS MUST BE SPECIFICALLY REQUESTED ON THE ORDER CARD.

1401-01.4.148 CORE-TO-CARD DUMP AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.148

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I INQUIRTES TO AUTHOR

THIS FORTY CARC PROGRAM DUMPS THE CONTENTS OF ALL USED STORAGE
OUTSIDE THE READ AREA ONTO CARDS IN A CONDENSED, RELOADABLE
FORMAT, PRECEDED BY CLEAR STORAGE CARDS. ITS MAIN USE IS TO
ENABLE THE DEPRATOR TO STOP THE EXECUTION OF A PROGRAM, SAVE THE.
CONTENTS OF STORAGE AT THE TIME, GET OFF THE COMPUTER, AND
CONTINUE THE EXECUTION OF THE PROGRAM AT ANY LATER TIME. IT CAN
ALSO BE USED TO CONDENSE PROGRAMS OR TO GENERATE OBJECT DECKS FOR
TYPEO-IN PROGRAMS. THE ADVANTAGES OF CHAINING AND INDEXING HAVE
BEEN EXPLOITED. METHOD— THE DUMP PROGRAM CONSIDERS CHARACTERS
AND MORD MARKS IN SEPARATE PHASES IN ORDER TO SIMPLIFY THE
ASSEMBLY OF OUTPUT RECORDS AND MINIMIZE THE STORAGE USED BY THIS
PROGRAM. CHARACTER OUTPUT CARDS CONTAIN UP TO SIXTY—SIX DIGITS,
AND MORD MARK OUTPUT CARDS CAUSE TWENTY MORD MARKS TO BE SET,
AND MORD MARK SEQUENCE NUMBERED. THE DUMP PROGRAM CCUPIES NO
STORAGE OUTSIDE THE READ AREA UNTIL A SMALL AMOUNT OF STORAGE HAS
BEEN DUMPED IN INTERHEDIATE FORM, TO BE CONVERTED TO FINAL FORM
AND INTEGRATED WITH THE MAIN OUTPUT IN A SUBSEQUENT PHASE.

B-1401 PAGE 047

CONTINUED FROM PRIOR CCLUMN-STORAGE REQUIREMENTS- THE PROGRAM HAS BEEN WRITTEN FOR AN 8K
MACHINE. IT CAN EASILY BE MODIFIED FOR ANY CAPACITY MACHINE.
THE HIGHEST CORE OCCUPIED BY THE PROGRAM IS 539. EQUIPMENT
SPECIFICATIONS- ONE IBM 1401 OF AMY STORAGE CAPACITY. ONE 1402
CARD READ-PUNCH. THE FOLLOWING SPECIAL FEATURES--INDEXING,
STORE A- AND B-ADDRESS, AND MODIFY ADDRESS. LANGUAGE- WRITTEN
IN MACHINE LANGUAGE.

1401-01-4-149 DECK CLEANER I AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-01-4-149

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DIRECT INQUIRIES TO AUTHOR

T INQUIRIES TO AUTHOR

DECK CLEANER I IS DESIGNED TO READ A DECK OF DATA CARDS,
SCANNING EACH COLUMN IN EACH CARD FOR ERRONEOUS AND/OR INVALID
DATA. DECK- ANY GROUP OF CARDS STACKED FOR INPUT TO ANY
PROGRAM. INVALID PUNCH- ANY COMBINATION OF HOLES PUNCHED IN A
COLUMN MITCH WOULD CAUSE A VALIDITY CHECK ON THE 1401 AND,
UNDER NORMAL CIRCUMSTANCES, CAUSE THE 1401 TO STOP. UNWANTED
PUNCH- ANY COMBINATION OF HOLES / INCLUDING NO HOLES / PUNCHED IN
A CARD COLUMN HICH MICH CAUSE THE USERS PROGRAM TO FUNCTION
INCORRECTY. / INCLUDES INVALID PUNCH- XI.
EACH CARD COLUMN OF A DECK FOR INVALID PUNCHES OR UNNANTED
PUNCHES. BLANK FIELD- ANY NUMBER OF CONSECUTIVE COLUMNS AND
DECK CARD SUCH THAT NO HOLES ARE PUNCHED IN THESE COLUMNS AND
THESE BLANKS ARE UNMANTED PUNCHES. DECK
CLEANER I READS A CONTROL CARD, AND PERUSES EACH COLUMN OF THE
CONTROL CARD TO DETERMINE HHAT SORT OF PUNCHES WILL BE CONSIDERED
UNMANTED. READING A CARD FROM THE DECK, DECK CLEANER I THEN
SCANS EACH COLUMN OF THAT CAD, TO DETERMINE WHETHER OR NOT
THE PUNCHES IN THAT COLUMN ARE WANTED, DUCK CLEANER I THEN
SCANS EACH COLUMN OF THAT CAD, TO DETERMINE WHETHER OR NOT
THE PUNCHES IN THAT COLUMN ARE WANTED, DECK CLEANER I THEN
THEN EXAMINES THE NEXT COLUMN. IF THE INFORMATION IN ANY COLUMN IS WANTED, DECK CLEANER I
THEN EXAMINES THE NEXT COLUMN. IF THE INFORMATION IN ANY COLUMN IS WANTED, DECK CLEANER I
THEN EXAMINES THE NEXT COLUMN. IF THE INFORMATION THAY
IS UNMANTED OR INVALID, DECK CLEANER I
THE CORRESPONDING COLUMN OF A CARD FROM THE PUNCH HOPPER AND,
AFTER HAVING SCANNED THE ENTIRE CARD FOR RERONBOUS PUNCHES,
MERGES A CARD FROM THE PUNCH FEED INTO THE BYZ STACKER JUST
BEHIND THE CARD WITH THE INVALID OR UNMANTED PUNCHES. DECK
CLEANER I IS COMPLETELY SELF-INITIALIZING WITHIN THE LIMITATIONS
OF THE 1401. AFTER THE LAST CARD IS RERONBOUS PUNCHES.

PUSHING THE START BUTTON WILL MAKE DECK CLEANER I READ ANOTHER
CONTROL CARD AND PROCESS ANOTHER DECK.

1401-01.4.150 1401/407 SIMULATION UTILITY PROGRAM

AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.150

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THIS PROGRAM MAS MRITTEN TO SIMULATE THE 407 ACCOUNTING MACHINE WHEN IT MAS BEING REPLACED BY THE 1401. THIS PROGRAM WILL ACCOMPLISH MOST OF THE FUNCTIONS OF THE 407 AND ELIMINATES THE NEED TO WRITE MANY PROGRAMS THAT SIMPLY LIST AND TOTAL DECKS OF CARDS. IT IS ESPECIALLY USEFUL FOR OME-SHOT LISTINGS OR TABULATIONS OR JOBS THAT ARE SELDON RUN. AFTER THE PROGRAM IS READ IN. THE CONTROL CARDS SET MORD MARKS, SET HOVE AND ADD INSTRUCTIONS, COMPARE INSTRUCTIONS, ETC. IF A SENSE SWITCH IS TURNED TO JHE ON POSITION, THE CONTROL CARD THAT THE SMITCH CONTROLS MUST BE PRESENT. A PROCESS LIGHT WILL OCCUR IF A SWITCH IS ON AND THE CORRESPONDING CONTROL CARD IS NOT PRESENT. THE PROGRAM WILL PRINT UP TO FIFTEEN 7157 DIFFERENT FIELDS FROM INPUT CARDS, FOUR OF WHICH WILL PRINT IOTALS. THE FOUR TOTAL FIELDS CAN BE BOITED ONLY WITH A MINUS 7-7 TO INDICATE A CREDIT. MACHINE CONFIGURATION— A 4K 1401 WHIT CARD READER, PRINTER, HIGH-LCM-EQUAL COMPARE, AND SENSE SWITCHES B, C, D ARE NECESSARY. SWITCHES E, F, G ARE USED IN THE PROGRAM BUT NOT NECESSARY IN THE POPERATION OF IT. SOURCE LANGUAGE IS 1401 AUTOCODER. NO SPECIAL MACON INSTRUCTIONS ARE USED AND IOCS IS NOT USED.

1401-01.4.151 MULTIPLY AND DIVIDE MACROS AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.151

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THESE AUTOCODER MACROS WILL PRODUCE OPEN MULTIPLY OR DIVIDE ROUTINES TAILORED TO EXACT LENGTHS OF TERMS. 08-FCTIVE OF ROUTINES IS TO PROVIDE FLEXENILITY WHILE COMPROMISING BETWEEN SPEED AND CORE UTILIZATION. MACRO STATEMENTS ARE AUTOMATICALLY EDITED FOR FORMAT. FORMAT BASED ON 1440 MACROS. OPTIONS INCLUDE DECIMAL CONTROL AND MALF ADJUSTING OF ANSWER. NEGATIVE VALUES NOT PERMITTED. ADVANCED PROGRAMMING REQUIRED. MULTIPLY—DIVIDE SPECIAL FEATURE NOT USED. MULTIPLY 3 X 6 USES 87 POSITIONS OF STORAGE WITH AVERAGE EXECUTION OF 9-643 MS. 5 X 10 USES 99 POSITIONS WITH 19-010 MS. DIVIDE 7/3 USES 90 POSITIONS WITH AVERAGE EXECUTION OF 9-6-623 MS. 12/5 USES 104 POSITIONS WITH 58.742 MS.

1401-01.4.153 SORAL - SIMPLE OPTIMUM REPRODUCING ALL ANTIABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.153

AUTHOR...RCMANO ALBERTO IEM ITALIA FILIALE DI ROMA VIA IV NOVEMBRE 102 RCME, ITALY

PAGE 048

CONTINUED FROM PRIOR PAGE--

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UTILITY PROGRAM FOR REPRODUCTION, MULTIPUNCHING /EITHER SIMPLE
OR WITH MATRIX CARDS/ AND PROGRESSIVE NUMERATION. POSSIBILITIES
AND LIMITS- /1/ REPRODUCTION UP TO 10 DIFFERENT FIELDS.
/2/ ELIMINATION OF ZONES /MAX 4/ AND ADDITION OF X ZONES /MAX 5//3/ MULTIPUNCH WITH MATRIX CARDS, MAX 3 FIELDS OF 27 COLUMNS.
MATRIX CARDS MAY BE PUNCHED IN ONE OR THOS X PUNCHINGS. THIS
OPERATION MAY ALSO BE DONE WITH THE CARDS INTO THE CARD PUNCH
UNIT WHEN THE PUNCH FRACE FEED DEVICE IS CONNECTED.
/4/ REJECTION OF MATRIX CARDS WHEN MULTIPUNCH IS PERFORMED INTO
THE CARD PUNCH UNIT. /5/ PROGRESSIVE NUMERATION BEGINNING FROM
ANY MUMBER UP TO A MAXIMUM OF 6 FIGURES WITH POSSIBILITY OF
INCREASE FROM CARD TO CARD, UP TO A MAXIMUM OF 3 FIGURES.
/6/ SIMPLE MULTIPUNCHING- MAX 4 DIFFERENT FIELDS OF 8 COLUMNS.
MACHINER REQUIREMENTS - 4 K 1401 WITH A 1402. THE PUNCH FEED READ
DEVICE IS OPTIONAL. WRITTEN IN SPS.

1401-01.4.158 GENERAL PURPOSE TAPE DUMP AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.158

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T INCULTIES TO AUTHOR

THIS OPERATION WILL PRINT IN A HIGHLY LEGIBLE FORMAT THE CONTENTS OF BCD TAPE RECORDS. A MAXIMUM OF A HUNDRED CHARACTERS ON A LINE ARE PRINTED WITH PERIODS DEFINING LEFT AND RIGHT MARGINS. THE CORE CAPACITY OF THE COMPUTER IS DETERMINED AT OBJECT TIME AND A MAXIMUM OF /MEMORY SIZE - 959/CHARACTERS CAN BE DUMPED FROM EACH TAPE RECORD. THE CHARACTER COUNT OF EACH RECORD IS DISPLAYED ALONGSIDE THE PRINTED RECORD AND A RECORD COUNT IS DISPLAYED UPON EACH END-OF-FILE. SENSE SWITCH OPTIONS PERMIT ARBITRARY SUPPRESSION OF PRINTING AND HALTS ON END-OF-FILE. PARITY ERROR DIAGNOSTICS ARE VERY COMPLETE. WHEN A RECORD CANNOT BE CORRECTLY READ AFTER A CLEANING PROCEDURE HAS BEEN UTILIZED, IT IS PRINTED AS IT READ INTO CORE ALONG WITH AN ERROR WARNING MESSAGE. MEITTEN IN AUTOCODER. EQUIPMENT REQUIREMENTS- ONE MAGNETIC TAPE DRIVE... 1403
PRINTER -7132 POSITIONS/... 1402 CARD READER... ADDITIONAL SENSE SMITCHES... HIGH-LOW-EQUAL COMPARE... 4K OR GREATER CORE... ADVANCED PROCRAMHING... MODIFY-ADD INSTRUCTION... 1407 INQUIRY STATION /OPTIONAL/.

1401-01.4.159 1401/1311 CARD-TO-DISK CONSECUTIVE LOAD PROGRAM AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.159

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A LOAD-AND-GO PROGRAM FOR CONVERTING PRESENT CARD FILES TO CONSECUTIVE 1311 DISK FILES WITHOUT ANY REPUNCHING OF CARD FILES INTO A PRESCRIBED FORMAT. THE PROGRAM MILL HANDLE UP TO 6 USER SPECIFIED CARD FORMATS AND BUILD THEM INTO A USER SPECIFIED DISK RECORD FORMAT. FORMATS OF CARD INPUT AND DISK RECORD OUTPUT ARE SPECIFIED IN CONTROL CARD FORM AND SUPPLIED TO THE PROGRAM ON A LOAD-AND-GO BASIS. UP TO 10 DATA FIELDS FROM EACH CARD FORMAT SPECIFIED CAN BE ASSEMBLED INTO SINGLE DISK RECORDS. PROGRAM WILL ASSEMBLE FILES IN EITHER BLOCKED OR UNBLOCKED FORM. MACHINE REQUIREMENTS — THE PROGRAM WILL OPERATE ON ANY 1401-1311 SYSTEM HAVING AT LEAST 4K, MODIFY ADDRESS, STOKE B REGISTER AND INDEX REGISTERS. WILL AS 4K MACHINE 500 CHARACTER DISK RECORDS ARE THE LONGEST RECORDS THAT CAN BE PROCESSED. ON AN 8K MACHINE THE MAXIMUM RECORD LENGTH IS 4500 POSITIONS.

1401-01.4.160 CONVERSION OF SPS TO AUTOCODER

AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.160

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A PROGRAM MRITTEN IN SPS DESIGNED TO CONVERT 1401 SYMBOLIC PROGRAMS TO THE AUTOCODER FORMAT. INPUT—OUTPUT COMMANDS AND DSA/S WILL NOT BE CONVERTED. SPECIAL ATTENTION SHOULD BE PAID TO SS AND CC COMMANDS TO SEE THAT THEIR FORMAT IS ACCEPTABLE THE AUTOCODER FOR A SPECIFIC MACHINE. OUTPUT MAY BE PRINTED ONLY, OR PRINTED AND PUNCHED. ALL SPECIAL, JOPP., CODES WILL BE CONVERTED SO THAT THE OUTPUT SHOULD BE READY FOR AN AUTOCODER ASSEMBLY ONCE THE I/O COMMANDS AND DSA/S ARE CHANGED. THE PROGRAM SHOULD TAKE CARE OF ABOUT 58 PERCENT OF THE CONVERSION EFFORT. THIS PROGRAM MAS DESIGNED PRIMARILY FOR 1401 CARD SYSTEMS, BUT SHOULD BE HELPPUL IN THE CONVERSION OF TAPE AND RAMAC SYSTEMS BUT SHOULD BE HELPPUL IN THE CONVERSION OF TAPE AND RAMAC SYSTEMS IF THE PROGRAMS WERE WRITTEN IN SPS. REQUIRES-1401-A3, 1402, 1403 /MODEL 2 FOR FULL PRINTOUT/, SENSE SWITCHES.

1401-01.4.161 SELECTIVE LIST WITH FOUR CLASSES OF TOTAL AND HEADINGS AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.161

AUTHORS..BRANCH MOTOR EXPRESS CO. 8-1401

CONTINUED FROM PRIOR COLUMN--

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TO PROCESS A SIMPLE LISTING WITH UP TO FOUR LEVELS OF TCTALS AND FIELD HEADING BY MAKING UP A FEW CONTROL CARDS. STCRAGE REQUIREMENTS- 4K. EQUIPMENT SPECIFICATIONS- 1401 CARD 4K. PROGRAMMING LANGUAGE- AUTOCODER.

1401-01.4.162 CORE SEARCH FOR BRANCH INSTRUCTIONS TO A GIVEN ADDRESS AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.162

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THE PREGRAM ALLOWS THE CPERATOR TO MAKE A CORE SEARCH TO LOCATE ALL BRANCH INSTRUCTIONS, WHICH BRANCH TO A GIVEN ADDRESS DESIGNATED EITHER IN A CONTROL CARD OR MANUALLY ALTERED INTO CORE. MANY HOURS CAN BE SPENT SEARCHING FOR A BRANCH INSTRUCTION WHICH MAY OR MAY NOT EXIST, TRYING TO DETERMINE WHY THE ,,I,, ADDRESS RESISTER IS AT A GIVEN LOCATION. UNDER SENSE SWITCH CONTROL THIS PROGRAM CAN ALSO SEARCH FOR ALL ,,A,, OR ,,B,, ADDRESSE SEQUAL TO A GIVEN ADDRESS. THE ONLY APPARENT RESTRICTIONS ENTAIL THE PUNCHING OF A THREE POSITION ADDRESS AND A PROGRAM CVERLAY IF THE PROGRAM TO BE SEARCHED IS LENGTHY. THERE ARE TWO PROGRAMS — ONE FOR AN 8K 1401 WITH INDEXING AND ADDRESP PROGRAMMING AND THE OTHER FOR A 4K 14C1 WITH NO SPECIAL FEATURES. THE 8K PROGRAM REQUIRES 495 PGSITIONS BEEN WRITTEN IN SPS.

1401-01.4.163 FORM WRITING SUBROUTINE

AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.163

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FORM IS A 1401 SUBROUTINE WHICH MAY BE INSERTED INTO ANY 1401 PROGRAM. IT IS DESIGNED TO PRINT A FORM AT THE SAME TIME A REPORT IS BEING RUN, THUS ELIMINATING PRE-PRINTED FORMS. MACHINE CONFIGURATION - 1401 OR 1460 WITH 4K STORAGE, A 1402 MACHINE CONFIGURATION - 1401 OR 1460 WITH 4K STORAGE, A 1402 ACCORDANCE PROGRAMMING. THE SUBROUTINE REQUIAL COMPARE AND ADVANCED PROGRAMMING. THE SUBROUTINE REQUIRES 814 POSITIONS OF CORE. THIS MAY BE REDUCED BY UP TO 149 POSITIONS IN SOME CASES. SOURCE LANGUAGE IS SPS.

1401-01.4.164 TAPE TESTING ROUTINE FOR 1401 AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.164

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TO TEST MAGNETIC TAPE BY WRITING /PREDOMINANTLY/ ,,ALL BITS,,
RECORDS. PROVIDES A PRINTED RECORD OF LOCATION AND SERIOUSNESS
OF ,BAD-SPOTS,... ANY CENSITY. ONE OR TWO 729 DRIVES. CAN STOP
TO INSPECT-CLEAN TAPE AT ,,10 TRIES,, BAD-SPOTS. TWO PASSES/TAPE.
AT END OF SECOND PASS ABOUT 95 PERCENT OF THE TAPE HAS BEEN
TESTED. WRITES 2,75 /SIRG/ RECORDS OF ,TALL BITS, EXCEPT FOR
INTERNAL RECORD-COUNT. TRIES TO WRITE /UP TO/ 10 TIMES ON EACH
BAD-SPOT AND, THUS, IS SLOW HIGH TESTING VERY BAD TAPE. ANY PASS
MAY BE TERNIMATED BY S.S. OPTION. CANNOT BE INTERRUPTED/
RESTARTED—COUNTERS RESET ON LOADING. TESTS, FULL TAPE /TO E.C.T.
MARKER/ AND INSISTS ON TWO PASSES. STORAGE REQUIREMENT—
4000 CHARACTERS. EQUIPMENT SPECIFICATIONS—1401 4K,
ADVANCED PROGRAMMING FEATURE, SENSE SWITCHES, 1402 CARD REACPUNCH, 1403 PRINTER, AND ONE OR TWO 729 MAGNETIC TAPE
TRANSPORTS. LANGUAGE— SPS.

1401-01.4.165 SOPHISTICATED SPS TO AUTOCCDER CONVERTER AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-C1.4.165

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THOURIES TO AGREED TO CONVERT A PROGRAM IN THE AUTOCODER PROGRAM IN THE SPS SOURCE LANGUAGE TO A PROGRAM IN THE AUTOCODER PROGRAM IN THE SPS SOURCE LANGUAGE TO A PROGRAM IN THE AUTOCODER PRODUCED BY THE IBM DALLAS DATA CENTER. AN EXTREMELY SOPHISTICATED AUTOCODER PROGRAM IS PRODUCED DESIGNED TO BE AS CLOSE AS POSSIBLE TO A PROGRAM ORIGINALLY MRITTEN IN AUTOCODER. COMAC IS DESIGNED TO REPRODUCE AN SPS CONDENSED CARD FORMAT OBJECT PROGRAM, HIEN NO SOURCE LANGUAGE PROGRAM IS AVAILABLE, AND IT IS DESIGNAM, WHEN NO SOURCE LANGUAGE PROGRAM IS AVAILABLE, AND IT IS DESIGNABLE TO HAVE ALL OBJECT PROGRAMS IN ONLY ONE FORMAT. MACHINE REQUIREMENTS—1401 4K, CARD SYSTEM.

B-1401

1401-01.4.167 TUB FILE GANG PUNCH PROGRAM AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.167

AUTHOR...A.L. CGOK IBM CORP. 6252 EAST TELEGRAPH ROAD LCS ANGELES 22, CALIF.

CIRECT INQUIRIES TO AUTHOR

THE 1401 TUB FILE GAMG PUNCH PROGRAM IS A 1401 PROGRAM DESIGNED TO GAMG PUNCH TUB FILE CARDS FOR A CUSTOWER INSTALLATION. IT IS ESPECIALLY VALUABLE FOR A NEW UNIT RECORD INSTALLATION. ANY NUMBER OF CUPLICATES OF EACH MASTER CARD MAY BE PUNCHED AND THESE WILL BE COLLATED BEHIND THE MASTER CARD IN THE CENTER POCKET OF THE 1402. MASTER CARDS MAY BE REPRODUCED 80-80 OF FIELDS IN THE MASTER CARD MAY BE OFFSET OR ELIMINATED IN THE TUB FILE CARDS. ANY 1401G, 1401 OR 1460 WITH NO FEATURES MAY BE USED. PROGRAM REQUIRES 746 POSITIONS OF CORE PLUS ENQUEM CORE TO STORE INFORMATION FROM CONTROL CARDS IF CFFSET GAMG PUNCHING IS RECUIRED. SOURCE LANGUAGE IS SPS.

1401-01.4.170 FIXIT UTILITY PROGRAM AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.170

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DIRECT INQUIRIES TO AUTHOR

T INQUIRIES TO AUTHOR

THIS PROGRAM WAS WRITTEN TO PROVIDE A SIMPLE METHOD OF REPRCOUCING CARD FILES 80-20., 80-80 WITH GANGPUNCHING., 80-80 WITH CCLUMN ELIMINATION. AN EASILY PREPARED HEADER CARD IS REQUIRED TO GONTROL ALL THREE JOBS. IT IS EXTREMELY USEFUL IN A 1401 INSTALLATION HAVING NO REPRCOUCING PUNCH. THIS PROGRAM DIFFERS FROM ALL OTHERS IN THAT THE HEADER CARD REQUIRED CAN BE PREPARED BY SCHECNE WITH NO KNOWLEDGE OF PROGRAMMING. THE PROGRAM IS EXECUTED BY STORING AND SCANNING THE HEADER CARD. INSTRUCTIONS ARE MODIFIED TO INSERT THE INFORMATION IN THE STORED HEADER CARD INTO THE OUTPUT FILE. THIS IS ACCOMPLISHED BY TESTING FOR BLANK POSITIONS IN THE STORED HEADER CARD INTO THE OUTPUT FILE. THIS IS ACCOMPLISHED BY TESTING FOR BLANK POSITIONS IN THE STORED HEADER CARD. HHEAD ANDN-BLANK COLUMN IS DETECTED, THE INFORMATION IN THAT COLUMN OR A BLANK IS INSERTED INTO THE CORRESPONDING COLUMN OF THE OUTPUT FILE, DEPRONING UPCN THE POSITION OF THE OUTPUT FILE. AND SENSE SHIFTED, THE PROGRAM TO AN UNCONDITIONAL BRANCH.

1401-01.4.171 CHECK POINT SUBROUTINE AND RESTARTING PROGRAM FOR IBM 1401 TAPE SYSTEM AVAILABLE 414 QUARTER 1964.
SPECIFY FILE NUMBER 1401-01.4.171

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A PRCGRAM CESIGNED TO ENABLE RESTARTING OF A PROGRAM INTERRUPTED CURING NORMAL RUN DUE TO OPERATOR INTERVENTION OR MACHINE FAILURE. CP SUBROUTINE USES THE LAST 211 POSITIONS OF CORE STORAGE PLUS LOCATIONS 102-199 AND KEEPS THE CONTENTS OF MEMORY ON TAPE NO. 6, FOR EACH CP TAKEN DURING THE RUN. CAN BE ACAPTEE TO FIT 4-8-12-16K MACHINES, AND MILL HANDLE PROGRAMS USING UP TO THREE TAPE UNITS IN ADDITION TO NO. 6. THE PUNCH AND READ AREA INABCS ARE PUNCHED DURING EACH CP, AS WELL AS A CONTROL CARD FOR RESTARTING PURPOSES. THESE ARE SELECTED IN POCKET 2/8. IF THE OPERATOR DECIDES TO INTERRUPT THE RUN, CUTPUT TAPES WILL BE TAPE MARKED AND ALL UNITS INCLUDING TAPE NO. 6, UNLOADED, AFTER THE PROGRAM TAKES THE NEXT CP. RESTART CAN BE MADE FROM ANY CP DETAINED UNITED THE RUN BY USING THE APPROPRIATE RESTARTING CARC, AND CATA CARDS TO FULLOW.

1401-01.4.172 AUTOPAC II AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.172

AUTHER...ARLEN C. HICKMAN IBM CORP. 1307 S. BOULDER TULSA, CKLA.

DIRECT INCUIRIES TO AUTHOR

THIS IS A PACKAGE OF THREE 1401 PROGRAMS DESIGNED TO AID THE FILE ORGANIZATION PROBLEM ENCOUNTERED WITH DATA PROCESSING SYSTEMS UTILIZING DIRECT ACCESS STORAGE DEVICES. THE FIRST PROGRAM PROVIDES A DISTRIBUTION ANALYSIS OF THE CIGITS WITHIN THE KEYSET., THE SECCND PROGRAM USES THO ALGORITHMS /RADIX TRANSFCRMATION S OTUTOL/REMAINDREY UNDER SENSE WHICH CONTROL TO DEVELOP RANDOM ADDRESSES FROM THE KEYSET., AND THE FINAL PROGRAM EVALUATES THE CEVELOPE ACDRESSES IN TERMS OF UNIQUE ADDRESSES AND SYNONYMS, CYLINDER PACKING AND OVERFLOWS, TOTAL READS AND SYNONYMS, CYLINDER PACKING AND OVERFLOWS, TOTAL READS AND AVERGE NUMBER OF READS TO RETIREVE A RECORD FROM ANY CYLINDER OF READ STO RETIREVE A RECORD FROM ANY CYLINDER OF READS TO RETIREVE A RECORD FROM ANY CYLINDER OF REMS TO THERE THE ANY ONE OF THE PROGRAMS CAN BE RUN TO THE EXCLUSION OF THE OTHER THO AS LONG AS THE INPUT FORMAT REQUIREMENTS ARE MET. THE PROGRAMS WILL HANDLE A CONTROL FILED UP DIE 20 CHARACTERS LONG AND ADDRESSES GENERATED CAN HAVE A RANGE FROM COOCO TO 99599. THESE PROGRAMS WERE BRITTEN IN AUTOCODER AND REQUIRE A 4K 1401 WITH ADVANCED PROGRAMFING, HYLLE CUPPARE, SENSE SHITCHES, AND MULTIPLY/DIVIDE., A 1402, A 1403, AND 4 TAPE DRIVES.

1401-01.4.175 MONITOR SYSTEM FOR 8K, 12K, AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.175

B-1401

PAGE 049

CONTINUED FROM PRIOR COLUMN--

AUTHOR...MR. FRED L. PFAU

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AN EASY TO USE AND INSTALL MONITOR PROGRAM WHICH ALLOWS
AUTOMATIC JOB-TO-JOB TRANSITION FOR ALL 1401 AUTOCODER-ASSEMBLED
PREGRAMS. THE RESIDENT MONITOR PORTION RESIDES IN THE UPPER 300
POSITIONS OF MEMORY. IT ALLOWS AUTOMATIC LINKAGE FROM USER/S
PREGRAMS TO PROGRAMS, OR PROGRAM SECTIONS TO SECTIONS, BY USE CALL CARDS OR EMBEDDED CALLS. IT AUTOMATICALLY LOADS PROGRAMS
FROM THE MONITOR SYSTEM TAPE WHICH HAS BEEN CREATED DURING A
SYSTEM GENERATION RUN. IT CONTAINS A 42-POSITION STORAGE AREA
FOR REFERENCE OR USE BY A SERIES OF INDIVIDUAL PROGRAMS. THE
REMAINDER OF THE PROGRAM CONTAINS LIBRARY ROUTINES, INCLUDING
THE SYSTEM GENERATION RUN, UPDATING, LISTING, PUNCHING OR CCPYING
OF THE SYSTEM TAPE. THE SYSTEM ALSO HANDLES THE CURRENT SORT 7
PROGRAM. THE SYSTEM REQUIRES A MINIMUM OF ONE TAPE DRIVE, 1402,
1403, HIGH-LOM-EQUI COMPARE, ADVANCED PROGRAMMING, MINIMUM OF
TWO TAPES REQUIRED FOR UPDATING. MINIMUM OF FIVE TAPES REQUIRED
FOR SCRITING. TWO TAPES REG FOR SCRTING.

OPTICNAL PROGRAM MATERIAL - SOURCE DECKS.
OPTICNAL MATERIAL CESIRED MUST BE ITEMIZED ON THE ORDER CARC.

1401-01.4.176 1401/1311 DISK ADDRESS UTILITY AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.176

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THIS PROGRAM WAS WRITTEN TO HANDLE 1311 DISK MAINTENANCE REQUIREMENTS NOT COVERED HERETOFFRE IN ANY LIBRARY PROGRAM, BUT WHICH GCCUR IN MOST 1311 INSTALLATIONS. WITH THE USE OF THIS PROGRAM, IT IS NOW POSSIBLE TO CHANGE THE ADDRESSING STRUCTURE OF A DISK PACK TO ANY NATURAL OR UNNATURAL RANGE WITHOUT ALTERING THE CATA WRITTEN ON THE PACK. UNNATURALLY ADDRESSED PACKS, SUCH AS THE SYSTEM PACK FOR AUTOCODER, 1401-AU-COB MAY NOW BE COPIED., ABEL TRACKS MAY ALSO BE COPIED. THE STANDARD DISK UTILITY PROGRAMS DO NOT PROVIDE THESE OPERATIONS. OPTIONS ELECTED BY CONTROL CARDS ARE—1-CHANGE ADDRESSES WITHOUT DISTURBING DATA, 2-CHANGE ADDRESSES AND CLEAR DATA, 3-COPY ONE DISK PACK TO ANCTHER, AND 4-COMPARE ONE DISK TO ANOTHER. THE PROGRAM CAN BE RUN CN A 4K SYSTEM WITH HIGH-LOW-EQUAL COMPARE AND ADVANCED PROCRAMMING FEATURES AND WILL COPY A FULL PACK IN APPROXIMATELY SIX MINUTES.

1401-01.4.181 REPAIR DISK RECORD AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.181

AUTHOR...SIDNEY WALD FISCHER AND PORTER CCMPANY 7826 SPRING AVENUE ELKINS PARK, PA. 19117

DIRECT INQUIRIES TO AUTHOR

TO ALTER THE CENTENTS EF A 1311 DISK SECTOR, USING A CONTROL CARD WHICH CONTAINS- A/ THE DISK ADDRESS OF THE SECTER, B/ THE LOW ORDER POSITION OF THE PORTION OF THE SECTOR TO BE CHANGED, C/ THE NUMBER OF CHARACTERS TO BE ALTERED, AND D/ THE REPLACEMENT CATA. ANY NUMBER OF SUCH CHANGES MAY BE MADE WITH CNE LOADING OF THE PROGRAM. CONTROL CARDS MAY BE IN ANY ORDER. A 1600 POSITION, IBM 1401 WITH 1403 PRINTER, 1402 CARD READER AND 1 - 1311 CISK CRIVE IS REQUIRED.

1401-01.4.182 COPY 1311 DISK FILE TO 1EOF AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-C1.4.182

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TC CCPY A 1311 DISK FILE FROM ONE SET OF DISK PACKS TO ANOTHER, STOPPING WHEN THE END OF SYMBOL - 1EOF - HAS BEEN REACHED. A CCHTRCL CARD WITH STARTING DISK SECTOR ADDRESS PUNCHED IN CCLUMNS 1-6 IS PLACED BEHIND THE PROGRAM DECK. STORAGE OF ABOUT 6800 POSITIONS ON AN IBM 1401 WITH 1403 PRINTER, 1402 CARD READER AND Z - 1311 DISK DRIVES, DIRECT SEEK FEATURE.

1401-01-4-186 1401/1460-1311 DISK PROGRAM LOADER

R AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-G1.4.186

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THE CISK LOADER PROVIDES THE USER WITH MEANS OF STERING HIS PROGRAMS ON DISK AND CALLING THEM INTO CORE FOR EXECUTION WITH CNE CARD. THIS CARD IS A ONE CARD PROGRAM WHICH BRINGS IN THE LOADER FROM DISK. THE HIS CARD IS A ONE TO SEE THE CONDENSED CARD DISK. THE LOADER IS ALMOST IDENTICAL TO THE CONDENSED CARD LOADER EXCEPT THAT THE LOADER READS DISK RECORDS IN THE CONDENSED FORMAT INSTEAD OF CARDS, ALSO IT IS NOT RELOCATABLE. CVERLAYS ARE HADLED THE SAME AS WITH THE CONDENSED CARD LOADER. APPROXIMATELY 9 SECTORS OF DISK STORAGE ARE NEEDED FOR EVERY 800 CORE POSITIONS OF PROGRAMS AND LOADER NEED NOT BE CN THE SAME PACK. LOADING IS 25 PERCENT FASTER THAN WITH CARD LOADER. CNE CALC LOADER USES CORE LOCATIONS 1-330 AND REAC, PUNCH AND PRINT AREAS CAN BE CLEARED

PAGE 050 B-1401

CONTINUED FROM PRIOR PAGE—
AFTER PROGRAM HAS BEEN LOADED. THERE IS NO GROUP MARK WORD MARK RESTRICTION. CALL CARD IS COMPATIBLE WITH JOB STACKING BECAUSE A SELDCH USED SPECIAL CHARACTER, CARD CODE 0-6-8, IS IN COLUMN 80. SOURCE LANGUAGE IS 1401-1311 AUTOCCOER. MACHINE REQUIREMENTS - 1401 WITH MODIFY ADDRESS INSTRUCTION - AT LEAST CNE 1311 - PRINTER - 1402 READER PUNCH. IF MODIFY ADDRESS FEATURE IS NOT AVAILABLE PROGRAM MODIFICATION IS NECESSARY.

1401-01.4.187 1311 DISK RECORD FINDER AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-C1.4.187

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TO SEARCH AN 18M 1311 CISK FILE FOR RECORDS WHOSE CONTROL FIELD MATCHES A SEARCH ARGUMENT PUNCHED IN A CONTROL CARD. EACH SUCH RECORD, TOGETHER WITH ITS DISK SECTOR ADDRESS, IS PRINTED IN BLOCKED STYLE. RECORDS MUST BE FIXED LENGTH, MULTIPLES OF 5 CHARACTERS AND UP TO 125 CHARACTERS LONG. THE CONTROL FIELD MAY RANGE IN LENGTH FROM 1 TO 64 CONSECUTIVE CHARACTERS. STORAGE RECUIREMENTS ARE APPROXIMATELY 5,000 POSITIONS. AN 18M 1401 WITH 1403 PRINTER, 132 PRINT POSITIONS, ONE 1311 DISK DRIVE WITH DIRECT SEEK FEATURE IS REQUIRED.

1401-01.4.188 ONE OF ONE - 80X80 REPRODUCE MITH LAST CARD TEST AVAILABLE ZND QUARTER 1965. SPECIFY FILE NUMBER 1401-C1.4.188

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THIS ONE CARD PROGRAM READS A CARD AND MOVES THE DATA INTO THE PUNCH AREA BEFORE IT PUNCHES INSURING THAT THE FIRST CARD GUT IS A VALIO REPRODUCTION OF THE FIRST CATA CARD IN. THE PROGRAM DCES NOT HAVE TO BE RELOADEC IF MORE REPRODUCING IS DESIRED. THIS CARE CARD PROGRAM CORTAINS A LAST CARD TEST THAT HILL PROCESS THE LAST CARD AND GIVE A PROGRAM HALT, ELIMINATING THE CONTINGUS CYCLING OF THE 1402. THIS PROGRAM FEQUIRES NO SPECIAL FRATURES AND USES CNLY 400 POSITIONS OF STORAGE. SPEED IS 192 CARDS PER MIN.

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AT VARIOUS TIMES, IT BECOMES NECESSARY FOR A RESEQUENCED SOURCE PROGRAM DECK TC BE OBTAINED. RASP WAS DEVISED TO PERMIT RESEQUENCING BEFORE, AND COMPLETELY INDEPENDENT OF, VALUABLE ASSEMBLY PROCESSING TIME. RASP USES 31 CORE STORAGE POSITIONS FOR ACTUAL PROGRAM OPERATION AS WELL AS THE READ AND PUNCH STORAGE AREAS.
THE RESULTANT OUTPUT DECK CONTAINS THE ORIGINAL SOURCE CARD INFORMATION FROM COLUMN 6 THROUGH 72 AND THE NEW SEQUENCE NUMBERS IN COLUMNS 1 THROUGH 4, STARTING WITH ,,C101,, IN THE FIRST, OR ,JOBE,, CARD. REQUIRES 1401-1440 OR 1460 WITH NO SPECIAL FEATURES.

1401-01.4.190 MULTI-PURPOSE 80-80 REPRODUCING DUCING AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.190

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THIS 80/80 REPRODUCING PROGRAM HILL REPRODUCE EACH INPLI CARC INTO ONE, TWO, OR THREE OUTPUT CARDS AND STAKER SELECT THE OUTPUT CARDS. THIS IS AN ADVANTAGE OVER SINCEL CARD REPRODUCING PROGRAMS SINCE THE HANCLING TIME FOR CETTING SEVERAL COPIES CUT OF AN INPUT CARD DECK IS CONSIDERABLY REDUCED. ANY SIZE 1401 CENTRAL PROCESSING UNIT HITH SENSE SWITCHES AND A 1402 CARD READ PUNCH IS REQUIRED BY THE PROGRAM. EXECUTION TIME IS 73 CPM READ IN HHEN TRIPLE REPRODUCING, 100 CPM READ IN HEND DOUBLE REPRODUCING ANC 200 CPM READ IN HHEN SINGLE REPRODUCING.

1401-01.4.191 SELF CONDENSING MODIFIED FARGO

AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-C1.4.191

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B-1401

CONTINUED FROM PRIOR COLUMN --

1401-01.4.192 CHRISTMAS CLUB PROGRAMMING

∍E AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.192

AUTHOR...MR. ROBERT KAEMPF EAST NEW YORK SAVINGS BANK 2644 ATLANTIC AVE. BROOKLYN, N.Y.

CIRECT INQUIRIES TO AUTHOR

SET CF PROGRAMS /3/ TO PROCESS CHRISTMAS CLUB APPLICATION.,
THEY INCLUDE DAILY JOURNAL, DAILY UPDATE OF MASTER TAPE /MITH
RTALE BALANCE/, AND YEARLY CHECK WRITING & VOUCHER PUNCHING.
NO MORE THAN 10 MISSING PAYMENTS CAN BE STORED IN MASTER RECORD.
PROGRAM CAN HANDLE TWO CIFFERENT TYPE CLUBS /IE. TYPE 1CHRISTMAS CLUB, TYPE 2- CHANUKAH OR VACATION/, AND UP TO SIX
BRANCH OFFICES.
A 4K 1401 HITH THE ADVANCE PROGRAM PACKAGE, SENSE SHITCHES,
A 1402, 2 TAPE DRIVES, AND A 1403 IS REQUIRED BY THE PROGRAM.
WRITTEN IN SYMBOLIC PROGRAMMING SYSTEM.

1401-01.4.193 PAPER AND PROGRAM DOCUMENTATION EDITOR AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.193

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THIS IS A PROGRAM TO READ PUNCHED CARDS CONTAINING A TEXT IN FREE FORM, PACK IT TO CLOSE UP GAPS CAUSED BY DELETIONS, EXPANC IT TO ACCOMMODATE INSCRIPTION, AND PRINT IT SO AS TO OCCUPY AN 8 1/2 BY 11 INCH PAGE IN CONTINUOUS FORM. NEW PARAGRAPHS, PAGES, AND OTHER FUNCTIONS ARE HANDLED AUTOMATICALLY OR BY THE USE CONTROL CODES WITHIN THE TEXT ITSELF. AFTER THE FIRST COPY IS PRINTED, REVISIONS MAY BE MADE BY PUNCHING ADDITIONAL CARDS IN A PRESCRIBED CHANCE FORMATE. THE PROGRAM IS WRITTEN IN THE AUTOCODER LANGUAGE FOR AN IEM 1401 WITH AT LEAST 4K STORAGE, ADVANCED PROGRAMMING, H-L-E COMPARE, 1402 AND ANY MODEL 1403

1401-01.4.194 GENERAL TAPE INQUIRY PROGRAM AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.194

AUTHOR...MR. TOM SCHARF IBM NORGE A.S. HAAKON VIIS GT. 2 OSLO 1, NORHAY

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM WILL SEARCH TAPE FOR RECORDS WHICH CORRESPOND IC CONTROL CARDS AND PRINT OUT ALL SUCH RECORDS OR ALL RECORDS AFTER CERTAIN RECORDS ON THE TAPE. THE PROGRAM IS WRITTEN FOR A ONE TAPE 4K 1401 WITH READER AND PRINTER AND CAN HANDLE TAPE RECORDS AS LARGE AS 3004 POSITIONS IN ALL RECORD FORMS, ODD AND EVEN PARITY, MOVE AND LOAD MODE. THE PROGRAM CAN BE USED WITHOUT MODIFICATION ON LARGER MACHINES. SENSE SWITCHES, ADV. PROG. AND HLE COMPARE ARE USED. THE PROGRAM IS WELL SUITED FOR TRCUBLE-SHOOTING, TESTING AND AUDIT SAMPLING.

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1401-01.4.195 1401 SPS TO SYSTEM/360 BASIC ASSEMBLER LANGUAGE TRANSLATOR AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.195

AUTHOR...W.J. BARRY

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A PROGRAM CESIGNED TO ASSIST IN THE REPROGRAMMING OF 1401 SPS SYMBCLIC PROGRAMS INTO \$7360 BASIC ASSEMBLER LANGUAGE. TRANSLATION IS MADE OF COMMON 1401 STATEMENTS INTO THEIR \$7360 EQUIVALENT, WITH FLAGS INSERTED IF GENERATION IS QUESTIONABLE. THE PROGRAM IS WRITTEN IN 1401 AUTCCODER, AND REQUIRES THE FOLLOWING MINIMUM CONFIGURATION. 1401 OR 1460... 8000 PROSITIONS... ADVANCED PROG... HI-LO-EQ... SENSE SWITCHES... 1402 CARD READ/PUNCH... 1403 PRINTER.

OPTIONAL PROGRAM MATERIAL - SOURCE DECK.
OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-01.4.198 ANTIC A LIST OF CONDENSED CARDS

AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.198

AUTHOR...BJORN ENEMARK EDB-CENTRALEN GYLDENLOEVESGADE 15 CCPENHAGEN K, DENMARK

B-1401

CONTINUED FROM PRIOR PAGE--

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ANTIC TRANSLATES CONDENSED CAROS OF EITHER AUTOCODER OR SPS INTO SINGLE-INSTRUCTION PRINT. CONSTANTS ARE - TO A HIGH DEGREE - SEPARATED FROM INSTRUCTIONS. OP-CODES ARE TRANSLATED INTO AUTOCODER OR SPS MNEMONICS, ADDRESSES CONVERTED TO INDEXED NUMBERS AND - IN AUTOCODER - SOME DIGIT MODIFIERS ARE BUILT INTO THE MNEMONICS - BCV, BW, BSS, BPCB, A. S. O. EQUIPMENT SPECIFICATIONS ARE- 4K 1401 MODEL 3, 1402 READER, 1403.

1401-01.4.199 GENERALIZED TAPE COMPARE MARK III. AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.199

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G.T.C. MK. III IS DESIGNED TO COMPARE RECORDS ON ONE TAPE
FILE AGAINST THOSE ON ANOTHER, AND TO PRINT OUT A LISTING OF
THE DIFFERENCES ENCOUNTERED WITHIN THE TWO FILES. IT MILL
ALSO PRINT OUT INSERTED AND DELETER RECORDS. G.T.C. MK. III WILL
PRECESS MULTIPLE INPUT REELS, WILL DEBLOCK EACH TAPE FILE, AND
WILL PROCEED FROM ONE JOB TO ANOTHER WITH HINTHUM OPERATOR
INTERVENTION. RESTRICTIONS, RANGE- MAXIMUM RECORD LENGTH
IS 2896 CHARACTERS. STORAGE REQUIREMENTS- 8K OR MORE.
EQUIPMENT SPECIFICATIONS- 2 OR 3 TAPE DRIVES, CARD READER,
SENSE SWITCHES, COMPARE, STORE B REGISTER, AND INDEXING.
WRITTEN IN S.P.S. RUNNING TIME IS A FUNCTION OF THE NUMBER
OF RECCROS TO BE COMPARED, THE BLOCKING FACTORS, AND
THE AMOUNT OF PRINTING TO BE DONE AS A RESULT OF UNEQUAL
RECORDS. G.T.C. MK. III HAS BEEN RUN SUCCESSFULLY OVER 100
TIMES, AND EACH FEATURE HAS BEEN TESTED THOROUGHLY. 240 HOURS
WERE SPENT IN THE DESIGN AND PROGRAMMING OF G.T.C. MK. III.

1401-01.4.200 HEURISTIC CORRUGATOR SCHEDULING PROGRAM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.200

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TIME HEURISTIC CORRUGATOR SCHEDULING PROGRAM SCHEDULES A BOX PLANT CORRUGATOR TO PRODUCE RECTANGLES OF SPECIFIED DIMENSIONS GIVEN CUSTOMER ORDER REQUIREMENTS, CORRUGATOR PARAMETERS, AND ROLL STOCK INVENTORY AVAILABILITY. THE METHOD BY BOX PLANT SCHEDULERS IN THAT VARIOUS SLITTING COMBINATIONS ARE TESTED AND THE BEST IS CHOSEN FOR ENTRY INTO THE SCHEDULE. THE PROGRAM, AS PRESENTLY COMPILED, WILL HANDLE UP TO 24 DIFFERENT CUSTOMER ORDERS AND UP TO FIFTEEN DIFFERENT BOARD WIDTHS. EACH ORDER MAY CONTAIN UP TO 99,999 CORRUGATED BLANKS. THE OBJECT PROGRAM ANY CONTAIN UP TO 99,999 CORRUGATED BLANKS. THE OBJECT PROGRAM CAN BE EXECUTED ON A 12K 1401 WITH THE ADVANCED PROGRAMMING, HIGH-LOW-ECUAL COMPARE, AND MULTIPLY-DIVIDE FEATURES. IT REGUIRES A 1402 CARD READER-PUNCH AND A 1403 PRINTER, MODEL 1 OR 2. ONE IBM TAPE CRIVE WILL SPEED EXECUTION TIME SIGNIFICANTLY. THE PROGRAM WAS WRITTEN IN FORTRAN AND COMPILED BY 1401-FO-05C VERSION 3, LEVEL 3., AND IS COMPOSED OF THREE OVERLAYS.

1401-01.4.203 LATCH LIST ALL THE SPECIAL CHARACTERS

AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.203

GUNNAR HOLM

AUTHORS..TCM SCHARF

HAND HEIKVAM

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THIS PROGRAM LIST TAPES OR CARDS, AND ALL THE SPECIAL CHARACTERS ARE PRINTED ON TWO LINES. THE PROGRAM TAKES CARE OF EVEN OR OLD PARITY AND EVERY LENGTH OF RECORDS. READ-ERROR RECORDS ARE MRITTEN AFTER 50 TRIES. ALL RECORDS ARE NUMBERED. MAXIMUM FIRST 100 POSITIONS OF ANY TAPE RECORD ARE LISTED. TAPE RECORDS LARGER THAN 100 POSITIONS CAN DE HANDLED ALTHOUGH NO LISTING AFTER THE 100TH CHARACTER WILL TAKE PLACE. MACHINE CONFISURATION—A 44 1001 SYSTEM WITH ONE TAPE UNIT, A 1402, AND A 1403 IS REQUIRED. THE PROGRAM OCCUPIES 1814 CORE POSITIONS, AND MAS MRITTEN IN 1401 AUTOCOPER, BUT DOES NOT USE THE AUTOCODER FOLLOW AND APPENDIX TO THE PROGRAM MODIFICATION DESCRIBES FULLY A MODIFICATION VIA PATCHING WHICH ALLOWS THIS PROGRAM TO LIST EBOLIC 360 SPECIAL CHARACTERS, COMPLETE PL/1 CHARACTER SET INCLUDED.

1401-01-4-205 CARD SPS TO AUTOCODER FOR 1401/1460 AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01-4-205

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THIS PROGRAM WILL CONVERT 1401 SPS SOURCE STATEMENTS TO 1401, 1440, OR 1460 FULL AUTOCODER. SPS SOURCE MUST BE IN STANDARD SPS SOURCE FORMAT. IT PRINTS A SOURCE LISTING OF (HE SPS STATEMENT AND THE NEW AUTOCODER STATEMENT SIDE BY SIDE, AND PUNCHES THE AUTOCODER STATEMENT HITH A NEW SEQUENCE NO. RECUIRES 4K 1401 OR 8K 1460, 1402, 1403 WITH NO SPECIAL

B-1401

PAGE 051

CONTINUED FROM PRIOR COLUMN--FEATURES. PROGRAM OCCUPIES 3205 POSITIONS. THERE ARE 576 SOURCE STATEMENTS. MRITTEN IN 1401 AUTOCODER.

1401-01.4.206 GENERALIZED CARD IMAGE UPDATE PROGRAM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.206 GENERALIZED CARD IMAGE

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THE PURPOSE OF THIS PROGRAM IS TO PROVIDE AN EXTREMELY GENERAL TECHNIQUE FOR UPDATING FILES OF FIXED-LENGTH BCD RECORDS OF FROM 13 TO 84 C-MARACTERS, INCLUSIVE. CCNTROL CARDS ARE SUBMITTED DESCRIENCH. THE RECORD LENGTH, BLOCKING FACTOR, INPUT SEQUENCE, CODING FIELDS, DATA FIELDS, ETC. OF THE SPECIFIC APPLICATION. THE PROGRAM WHILL PROCESS TAPE BLOCKS OF AT MOST 20, PERMANENTY, CHANGE RECORDS. WHILE THE PROGRAM ASSUMES NO TAPE LABELS, IT CAN IGNORE THEM WITHOUT UNDUE DIFFICULTY. STORAGE REQUIREMENTS ARE 16K. FOLLCWING A REASSEMBLY THE PROGRAM CAN FUNCTION WITH LESS SCOPE ON A 12K OR 8K. EQUIPMENT SPECIFICATIONS—A 1401 WITH INDEX REGISTERS, STORE ADDRESS REGISTER FATURE, MODIFY ADDRESS HARDWARE, SHIGH-LCM-GUAL COMPARE, SENSE SWITCH FEATURE, MOVE RECORD FEATURE, FOUR TAPE ORIVES.

1401-01.4.207 RAPID SELECTIVE TRACE AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.207

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INSURGENTES SUR 100
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CIRECT INQUIRIES TO AUTHOR

T INQUIRIES TO AUTHOR

THIS IS A POWERFUL DEBUGGING, DOCUMENTATION AND TEACHING ALC THAT ACCURATELY SIMULATES THE FUNCTIONING OF THE 1401 UNDER CENTROL OF ANY OBJECT PROGRAM AND PRINTS OUT COMPLETE INFORMATION ABOUT WHAT THE PROGRAM IS COING IN AN EASY-TO-READ FCRMAT.

THE INSTRUCTION ADDRESS, A AND B ADDRESS REGISTER CONTENTS AT THE BEGINNING OF THE EXECUTION PHASE, THE INSTRUCTION, INDEX REGISTER CONTENTS AND UP TO 18 POSITIONS OF THE A-FIELD AND THE B-FIELD BOTH BEFORE AND AFTER INSTRUCTION EXECUTION ARE GIVEN ON A SINCLE PRINT LINE. ALL ACDRESSES ARE GIVEN IN CECIMAL FORM. COMPLETE OUMPS OF RECORDS READ, MRITTHEN, CHECKED OR MOVED ARE PRODUCED. RST OPPRATES MORE RAPIDLY THAN OTHER SIMILAR PROGRAMS BY CALCULATING THE A-ADDRESS ONLY MENN RECESSARY. MINIMUM RESTRICTIONS APPLY TO THE TRACED PROGRAM. LOADERS SUPPLIED PERMIT USE OF TRACE OBJECT DECK WITH ANY OBJECT PROGRAM IN STANDARD LOAD CARD OR TAPE FORMATS. REQUIREMENTS — 1385 CORE POSITIONS, HIGH-LOH-QUUAL AND ADVANCED PROGRAMMING. CAN BE USED WITH 4K MACHINES. SOURCE LANGUAGE—BASIC AUTOCODER 2K. ANY AUTOCODER PROCESSOR CAN BE USED FOR ASSEMBLY.

1401-01.4.208 SYSTEM/360 RUN TIMING 0 1401/1440 AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.208 SYSTEM/360 RUN TIMING ON THE

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THIS IS A PROGRAM HRITTEN TO COMPUTE SYSTEM/360 RUN TIMES BASED UPON PROCESSOR, DEVICE, RUN AND FILE SPECIFICATIONS. ANY COMBINATION UP TO 30 TAPES AND DISKS ON THREE SELECTOR CHANNELS MAY BE SPECIFIED. ALL CARR I/O DEVICES / TAPE AND DISKS ALSC/ ARE PROVIDED FOR ON THE MULTIPLEXOR CHANNEL. PROCESS TIME MAY BE SCHOOLD BASED UPON AVERAGE NUMBER OF INSTRUCTIONS EXECUTED PER RECORD OR AS A PERCENTAGE OF LINTING CHANNEL TIME. OVERLAPPING OF PROCESSING WITH SELECTOR AND MULTIPLEXOR CHANNEL IS PROVIDED. DETAIL RUNS LIST TIMES IN MINUTES. TIMES ARE CONVERTED TO HOURS ON MONTHLY RUN SUMMARY. PROGRAM REQUIRES AN 8K 1401 OR 1440 WITH MULTIPLY—DIVIDE, ADVANCE PROGRAMMING, HI-LO-EQUAL COMPARE AND SENSE SWITCHES. SCURCE PROGRAMMING, WRITTEN IN AUTOCODER.

1401-01.4.209 CVZZA TO CONVERT 1401 AUTOCODER OPS TO 1440 OPS ON 1401 AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.209

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THIS PROGRAM CONVERTS 1401 AUTOCODER OP CODES TO ACCEPTABLE 1440 OP CODES. IT ALSO PUNCHES OUT A FORM OF CARD & PRINTER I/C SUBROUTINES AND INCLUDES THEM IN THE NEW SOURCE DECK. THE SCURCE PROGRAM IS MRITTEN IN AUTOCODER. THERE ARE 293 SOURCE STATEMENTS. 4K-1401, INDEXING AND STORE ADDRESS REGISTER, HIGH-CUB-COUAL COMPARE, ONE 1402 CARD READER PUNCH, ONE 1403 PRINTER.

1401-01.4.210 GENERAL DISTRIBUTION CLOSED SUBROUTINES IN MACRO FORM FOR A TAPE AUTOCODER SYSTEM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.210

AUTHOR...RCBERT E. DEBCLT BUCKEYE UNION INSURANCE COMPANY

CONTINUED FROM PRIOR PAGE--1111 E. BROAD STREET COLUMBUS, OHIO 43216

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THE PURPOSE OF THE MACRO IS TO PROVIDE A MEANS OF SUMMARIZING DATA WITHOUT SORTING. THE MACRO CONSISTS OF A SERIES OF CLOSED SUBROUTINES WHICH BUILD A TABLE IN UNUSED MAIN STORAGE AND PROVIDE. A MEANS FOR THE PROGRAMMER TO EXTRACT DATA FROM THE TABLE IN EITHER SEQUENTIAL OR NON-SEQUENTIAL OR NON-SEQ

01.4.211 1401-1311 DISK PRINT PROGRAM AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.211

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THIS PROGRAM PROVIDES THE FOLLOWING DISK-PRINT CAPABILITIESPRINT INTERMIXED MOVE AND LOAD MODES AUTOMATICALLY,
OMIT PRINTING BLANK SECTORS, HITH DEFIONS TO SUMMARIZE THEM ON
A SINGLE LINE OR IGNORE THEM COMPLETELY,
OPTION TO SUMMARIZE ON SINGLE LINES ALL CONTIGUOUS SECTORS
MRITTER IN SAME MODE AND ETITER BLANK OR NON-BLANK,
PERMIT SPACING OPTION - SINGLE OR DOUBLE SPACING, AND ETHER
SOLIO BLOCK OF 90 OR 100 CHARACTERS OR SPLIT INTO BLOCKS OF
10 CHARACTERS. THE PROGRAM IS WRITTEN IN 1401 AUTOCODER, AU-OOR,
AND REQUIRES 8K, 1402. 1403 WITH 132 POSITIONS, 1311,
ADVANCEO PROGRAMMING, AND HI-LO-EQUAL COMPARE.

1401-01.4.212 CARD COLLATOR SIMULATOR AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.4.212

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THIS PROGRAM MILL PERFORM THE COLLATOR FUNCTIONS OF SEQUENCE CHECK, STRAIGHT MERGE, MERGE SELECTING EQUALS, MERGE REPLACING EQUALS, MERGE REPLACING EQUALS, THE CONTROL FIELD IS DESIGNATED BY A LEAD CARD. IT MAY BE BROKEN DOWN INTO IS SUB-FIELDS WHICH MAY CONTAIN 80 COLUMNS OF A CARD IN AMY ORDER. BOTH FILES ARE SEQUENCED CHECKED, AND THE CONTROL FIELDS MAY BE ALPHABETIC. THE PROGRAM REQUIRES 3,224 POSITIONS OF STORAGE, HI-LO-EQUAL COMPARE, PUNCH FEED READ, AND THE READ STACKER SELECT DELAY DEVICE RPQ ND. M92210. THE PROGRAM IS WRITTEN IN BASIC AUTOCODER 2K.

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THIS 1401/1440/1460 AUTOCODER SUBROUTINE DECODES AND ENCODES DATA IN THE BINARY CODED CENTESIMAL /BCC/ FORMAT TO BCC IS A STORAGE METHOD MHICH EFFECTIVELY PACKS NUMERIC DATA TMO-DIGITS-PER-CHARACTER ON DISK OR TAPE. TO BE OPERATED ON IN CORE, HONEVER, THE DATA MUST BE DECODED INTO BCD. THE CONVERSION SUBROUTINE MILL DECODE ANY NUMBER OF BCC CHARACTERS INTO BCD, THEN RESTORE THEM TO BCC WHEN PROCESSING IS COMPLETED. APPROXIMATELY 700 POSITIONS OF CORE ARE REQUIRED FOR THE SUBROUTINE, PLUS 17 FOR EACH CALL TO THE ROUTINE-HIGH-LOW-FOUAL COMPARE, ADVANCED PROGRAMMING, AND MODIFY ACCRESS SPECIAL FEATURES ARE REQUIRED.

1401-01.4.214 THO COLUMN ANALYSIS AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.214

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CIRECT INQUIRIES TO AUTHOR

PROGRAM TO ANALYZE SINGLE PUNCHES IN ANY SPECIFIED CARD COLUMN VERSUS SINGLE PUNCHES IN ANY OTHER SPECIFIED CARD COLUMN OF A DATA DECK. OUTPUT IS A 12 BY 12 MATRIX OF CARD COUNTS USEFUL IN APPLICATIONS SUCH AS PSYCHOLOGICAL TESTING, ANALYZING MOTOR VEHICLE VIOLATIONS BY SEX, RACE, ETC. AND OBTAINING CARD COUNTS BY CARD TYPE. CONTROL COLUMN AND TEST COLUMN, OR Y-AXIS AND X-AXIS RESPECTIVELY, ARE SPECIFIED IN A CONTROL CARD. DATA CARDS NEED NOT BE SORTED SINCE ALL CARDS ARE PROCESSED BEFORE MATRIX IS PRINTED. MRITTEN IN SPS. REQUIRES 4K STORAGE, 1402, AND 1403 MODEL 1 OR 2- 562 SOURCE STATEMENTS.

1401-01.4.215 DIRECT ACCESS STORAGE DEVICE INDEX SEQUENTIAL FILE ANALYZER DASDISFA AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.215

AUTHOR...W.E. MESSMANN IBM CORP. 1211 SC. HARRISON FT. WAYNE, IND.

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THIS IS A 1401/1440 PROGRAM MEANT TO ASSIST IN OBTAINING FILE STATISTICS FOR ORGANIZING OR REORGANIZING A 2311, 2302, 2321 OR 2314 UNDER THE INDEX SEQUENTIAL FILE MANAGEMENT SYSTEM OF EITHER OPERATING SYSTEM OR BASIC OPERATING SYSTEM AS SUPPORTED BY IBM PROGRAMMING SYSTEMS. STATISTICS PRODUCED FROM ONE CARD INPUT DATA RELATE TO THE ANALYSIS OF BLCCKING FACTORS, OVERFLOW AREAS, RECORD LENGTH, KEY LENGTH AND FILE SIZE. THE ODCUMENTATION INCLUDED SUFFICIENT DISCUSSION OF THE ISSEMS TO ALD THE USER IN EFFICIENT ANALYSIS OF THE CUIPPUT FROM THIS AUTGOODER PROGRAM. MINIMUM MACHINE REQUIRED IS EITHER A 1401 OR 1440 WITH CARD READER, PRINTER, 4K, STGRE-B-REGISTER AND HI-LO-EQUAL.

1401-01.4.218 LISTING OF IBM SYSTEM/360 PROGRAM SOURCE CARDS ON AN IBM 1401 AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.218

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A PROGRAM TO LIST 5/360 SOURCE DECKS ON A 1401, AND PRINT A TWO CHARACTER /ONE ABOVE THE OTHER /INDICATION OF CERTAIN S/360 SPECIAL CHARACTERS. CHARACTERS INDICATED ARE 12-5-8 LEFT PAREN, 11-5-8 RIGHT PAREN, 12-6-9 PLUS, 11-0 MINUS ZERC, 12-0 PLUS ZERC, 12-0 PLUS ZERC, 12-7-8 GROUP MARK, 5-8 QUOTE, 6-8 EQUAL, 7-8 TAPE MARK. ANY COMBINATION OF PUNCHES VALID TO THE 1401 BUT NOT IN TABLES OF PRINTABLE CHARACTERS IS INDICATED BY XX AND THE LINE FLAGGED. CARES CONTAINING CHARACTERS NOT VALID ON 1401 ARE STACKER SELECTED. PROGRAM IS DESIGNED FOR EASE IN CHARACTERS, AND ADDITION OF LINE EDITING.
HACHINE COMPFIGNATION IS 1401, 4K, ADVANCED PROG, HI-LO-EQ, 1402, 1403. SCURCE LANGUAGE IS SPS.

1401-01.4.219 IBM 1405 TO 1311 SIMULATION SUBROUTINES FOR 1401/1460 AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.219

AUTHORS..BARBARA WILLIAMS ALAN KAUFMAN

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THESE 1401/1460 SUBROUTINES WILL SIMULATE THE 14C5 DISK USING 1311 DRIVES. THE USER NEED SIMPLY SUBSTITUTE APPROPRIATE BRANCH INSTRUCTIONS TO THESE ROUTINES IN PLACE OF HIS 1405 INSTRUCTIONS. ALL DISK CONTROL FIELDS AND 1/1 AREA DIFFERENCES ARE CONVERTED AUTOMATICALLY TO 1311 FORMAT, THE FUNCTION IS PERFORMED, AND THEN CONTROL FIELD AND 1/10 AREAS RESIDRED TO 1405 FORMAT. SUBROUTINES ARE IN AUTOCCDER SOURCE FORM.

FORM.

ADVANTAGES OF USE ARE INCREASED EFFICIENCY OF 1311 DRIVE
OVER 1405 PLUS THE ABILITY TO RUN 1405 PROGRAMS ON S/360
USING THE EMULATOR.
REQUIREMENTS FOR USE ARE- 2K STORAGE /ADDITIONAL OVER CBJECT
PROGRAM/, HI-LO-EQUAL COMPARE, ADVANCED PROGRAMMING AND
ONE-1311 DRIVE FOR EVERY 2 MILLION CHARACTERS OF CONTIGUOUS
ON-LINE 1405 DISK STORAGE.

1401-01.4.220 1401/1440/1460 JOB CONTROL MONITOR ON DISK AVAILABLE 3RO QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.220

AUTHOR...MR. NEC E. PATTON

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MR. NED E. PATTON, IBM CORP., P.O. BOX 1039, FORT WORTH, TEXAS

JOBCO IS A PROGRAM THAT RESIDES ON 1311 DISK STORAGE.

JOBCO CAN MONITOR USER PROGRAM EXECUTION BY THE USE OF CONTRCL

CARDS. JOBCO LIADOS USER PROGRAMS ON DISK IN CORE-IMAGE FORM

IN THE AREA ASSIGNED BY THE USER AND CAN CONTROL 350 PROGRAMS

ON 1 DISK PACK. JOBCO CAN BE USED ON ANY 1311 DISK DRIVE

ON THE SYSTEM AND USES FILE PROTECTED ADDRESSES TO PREVENT

DESTRUCTION OF USER PROGRAMS ON DISK. JOBCO USES THE HIGH

ORDER 600 POSITIONS OF CORE STORAGE FOR PEMMANENT AND TRANSIENT

ROUTINES. THESE ROUTINES HAVE THE ABILITY TO LOAD PROCRAMS CN

DISK, CALL PROGRAMS FROM DISK, DELETE PROGRAMS ON DISK,

SIMULATE THE LOAD BUTTON FOR EXECUTION OF CARD DECK PROGRAMS, AND

PRINT A CORE DUMP AS DIRECTED BY THE USER. CYLINDER OVERFLCK

IS HANDLED BY JOBCO. JOBCO MAS WAITIEN IN AUTOCODER AND

MILL OPERATE ON 1401/1440/1460 SYSTEMS THAT HAVE 8, 12, 0R 16K

MITH HIT-LO-EQUAL, INDEXING, STORE REGISTERS MITH AT LEAST

I CARD READER, 1 PRINTER, AND 1 1311 DISK DRIVE.

1401-01.4.221 REPRODUCE ONLY CERTAIN COLUMNS ON THE 1BM 1401 AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.221

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B-1401

CONTINUED FROM PRIOR PAGE --

TO REPRODUCE ONLY CERTAIN CARD COLUMNS USING THE 1402 AS A VERSATILE AUXILIARY CARD REPRODUCER. THERE ARE NO RESTRICTIONS ON THIS PROGRAM. ANY NUMBER OF COLUMNS UP TO AND INCLUDING 80, ADJACENT OR NOM-ADJACENT, CAN BE REPRODUCED BY USING A CONTROL CARD. THIS PROGRAM IS SET UP SO THAT YOU CAN REPRODUCE A SERIES OF DECKS. WHEN ONE DECK HAS BEEN REPRODUCED, PLACE ANOTHER DECK HITH THE PROPER HEADER CARD IN THE READ HOPPER AND PRESS START.

1401-01.4.222 1401/1460 PROGRAM TO LABEL SYSTEM/360 7-TRACK TAPES AVAILABLE 3RD QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.222

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THE LABEL PROGRAM IS INTENDED FOR USERS WITH A SYSTEM/360 WITH 7-TRACK TAPE CRIVES. RATHER THAN USING THE BPS INITIALIZE TAPE UTILITY TO LABEL TAPES TO BE USED ON THESE DRIVES, SITUATIONS MAY OCCUR WHEN A 1401 PROGRAM MIGHT ACCEMPLISH THE SAME FUNCTION MORE CONVENIENTLY. THE PROGRAM REQUIRES A 1401/1405 SYSTEM WITH AT LEAST 4K, 5BR INSTRUCTION, A MINIMUM CFONE MAGNETIC TAPE UNIT /ADDITIONAL DRIVES CAN BE UTILIZED/, AND SENSE SMITCHES. A 1407/1447 WILL BE USED IF AVAILABLE. THE PROGRAM IS WRITTEN IN 1401 TAPE AUTOCOORE.

1401-01.4.223 DOCUMENT AND TESTING AIDS FOR COBOL THROUGH A LOGIC TRACE AND DATA-NAME CROSS REFERENCE LIST AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.223

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A SERIES OF THREE PROGRAMS—1401 AUTOCODER CARD TO TAPE SORT ON ANY COMPUTER, AND 1401 AUTOCODER TAPE TO PRINT WILL PRODUCE A LOGIC TRACE AND CATA—NAME CROSS REFERENCE LISTING TO AID IN THE DOCUMENTATION, MAINTENNANCE, AND TESTING OF COBCL PROGRAMS. THE FIRST PART OF THE LISTING IS AN ALPHABETICAL LIST OF ALL SECTIONS AND PARAGRAPHS CONTAINED IN THE PROCEDURE DIVISION OF A COBOL PROGRAM AND ALL DIRECTIVES TO THEM. THE DIRECTIVES WILL INDICATE THE PRECEDING SECTION OR PARAGRAPH NAME, AND GC TC, GO TO DEPENDING ON, PERFORM, PERFORM THRU INSTRUCTIONS AND THEIR ASSOCIATED PARAGRAPH NAME, THAT REFER TO THE SECTION OR PARAGRAPH NAME LISTED. THE SECOND PART OF THE LISTING IS AN ALPHABETICAL LIST OF ALL COBCL WORDS AND/OR DATA—NAMES USED IN THE PROCEDURE DIVISION AND, THE PARAGRAPH NAME THEY WERE USED IN. A USER OPTION IS PROVIDED TO ELIMINATE THE PRINTING OF ANY COBOL WORDS OR DATA NAMES NCT DESIRED ON THE LISTING. MACHINE CONFIGURATION—

1401-01.4.224 CODAC - 1401/1440/1460 CONDENSED OBJECT DECK TO AU-008 CORELOAD CONVERTER AVAILABLE 41H QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.224

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THE PROGRAM REAGS CONDENSED OBJECT DECKS AS PRODUCED BY 1401/1440/1460 AUTOCODER AU-008, AND USES INFORMATION PREVIDED BY TWO CONTROL CARDS PRECEDING THE DECK TO CONVERT THE CARDS TO CORELOAD FORMAT ON CISK. THE PROGRAM ON DISK MAY THEN BE CALLED AS A CONVENTIONAL CORELOAD-FORMAT PROGRAM VIA AN EXECUTION RUN UNDER THE AUTOCODER SYSTEM CONTROL PROGRAM, OR, ALTERNATIVELY, BY A STAND-ALONE DISK-LOADER, ITSELF LOADED TO PATCH EXISTING CORELOAD PROGRAMS ON DISK, UTILISING UP TO THE PROGRAM FOR THE PROGRAM HAY ALSO BE USED TO PATCH EXISTING CORELOAD PROGRAMS ON DISK, UTILISING UP TO THE DIDEPENDENT PATCHING AREAS, AND ESTABLISHING ALL NECESSARY LINKAGE INFORMATION MITH THE ORIGINAL PROGRAM. SOURCE LANGUAGE IS AUTOCODER. MACHINE REQUIREMENTS ARE AN 8K 1401/1440/1460, 1403/1447, 1402/1442, 1311 AND INDEXING AND STORE ADDRESS REGISTER FEATURES. 1407/1447 CAN BE UTILIZED.

01.4.225 UTILITY PRINT PROGRAM AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.225

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THIS PROGRAM ALLOWS THE USER TO DETAIL LIST
ANY CARD FILE IN ANY DESIRED PRINT FORMAT,
PRINT EDIT ANY OR ALL CARD FIELDS, ACCUMULATE ANY OR ALL
PRINTED FIELDS FOR - AZ TOTALING ON CONTROL BREAK. /8/ OVERALL
TOTALS AT END OF JOB, INCLUDING A CARD COUNT, SEQUENCE CHECK
INPUT FILE, PRINT HEADINGS ON PAGE OVERFLOW, EXTRA SPACE
AFTER PRINTING, BYPASS CETAIL LIST AND PRINT HINGR SUMMARY
TOTALS ON CONTROL BREAK AND PAGE OVERFLOW, OR CONTROL BREAK.
RESTRICTIONS- PRINT CAPACITY NO MOBE THAN 99 POSITIONS
OF OUTPUT PER LINE, CARD FIELD CAPACITY — MAXIMUM
OF EIGHT /8/ FIELDS OF PRINTING FROM CARD,
ANY NUMBER OF CARD COLUMNS PER FIELD, SEQUENCE
CHECKING REQUIRES HI, LOW, EQUAL COMPARE FEATURE AND
CONTROL BREAK CN ONE OF EIGHT FIELDS.

PROGRAM REQUIRES A 4K 14C1 WITH HIGH, LOW, EQUAL COMPARE.

1401-01.5.002 DIOS - 1311/1301 INPUT - OUTPUT SYSTEM FOR THE 1401/1440/1460 AVAILABLE 1ST QUARTER 1965.

8-1401

PAGE 053

CONTINUED FROM PRIOR CCLUMN--SPECIFY FILE NUMBER 1401-01.5.002

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A COMPLETE AUTOCODER MACRO SYSTEM FOR THE IBM 1311 ANC/OR 1301ALL DISK OPERATIONS ARE HANDLED IN BOTH THE MOVE AND LOAD MCDE
WITH THE EXCEPTION OF SECTOR COUNT OVERLAY. PRIMARY
CONSIDERATIONS ARE THE MINIMUM USE OF CORE STORAGE AND EASE OF
PROGRAMMING. ONE MACRO STATEMENT ESTABLISHED THE DIDS MAINLINE
IN HIGH CORE. CORE REQUIRECHENTS ARE 204 OR 245 HITH STAMOAND
SEEK AND 383 OR 428 WITH DIRECT SEEK ON THE 1311 DISK DRIVES.
THE 1301 DOES NOT REQUIRE CHECT SEEK AS NO SEEK CALCULATIONS ARE
REQUIRED. AN ERROR HALT LIST IS INCLUDED IN THE USER/S
AUTOCODER LISTING. TEN CORE POSITIONS ARE GENERATED FOR EACH
GET, PUT, SEEK OR SCAN. AN AUTOMATIC EXIT BETWEEN THE WRITE DISK
AND WRITE DISK CHECK IS PROVIDED WHEN DESIRED BY THE USER. THE
REGISTERS, AND HIGH-LOM-EQUAL COMPARE.

1401-01.5.003 TIOMS - /TAPE INPUT-OU MACRO SYSTEM/ A VAILABLE 4TH QUARTER 1963. SPECIFY FILE NUMBER 1401-01.5.003 TIOMS - /TAPE INPUT-OUTPUT

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T INCUIRIES TO AUTHOR

TIOMS IS A COMPACT INPUT/OUTPUT CONTROL SYSTEM FOR 1 TO 6 TAPE
UNITS. HEADER AND TRAILER LABELS COMPATIBLE WITH 1BM APPLIED
PROGRAMS ARE PROCESSED. TIOMS MAKES USE OF AN OVERLAID OPEN TO
INITIALIZE ALL FILES. IN THIS MAY, CONSIDERABLE STORAGE IS SAVED
FOR USERS NOT HAVING MULTIREEL FILES. EXITS ARE PROVIDED DURING
HEADDER AND TRAILER LABEL PROCESSING FOR USER ROUTINES. HALIS
ARE AVAILABLE AFTER HEADER LABEL READING OR WRITING TO CHANGE.
DENSITY, ETC.
RESTRICTIONS/RANGEPROCESSE FIXED LENGTH RECORDS, UNBLOCKED, OR BLOCKED WITH FIXED
BLOCKING AND RECORD MARK SEPARATION. /OTHER FORMATS MAY BE
PROCESSED BY THE USER/. HEADER AND TRAILER LABELS ARE ALWAYS
WRITTEN ON OUTPUT FILES. TAPE ERROR ROUTINES DO NOT INCLUDE TAPE
CLEANER.
STORAGE REQUIREMENTSVARIABLE DEPENDING ON USER SPECIFICATIONS. MAXIMUM IS ABOUT 1500
POSITIONS FOR THE WOBLCCKED OUTPUT FILES.
EQUIPMENT SPECIFICATIONS1401, 1403, HIGH LOW BEQUAL COMPARE, ADVANCED PROGRAMMING, SENSE
SWITCHES, AND ONE TO SIX 1BM TAPE UNITS. ROUTINE SETUP TO USE
THE MODIFY ADDRESS INSTRUCTION, HENSE IS READY FOR USE ON 8, 12,
OR 16K SYSTEMS. WITH SLIGHT USER MODIFICATION, IT CAN BE USED,
ON 4K SYSTEMS.

1401-01.5.008 AUTOCORRELOGRAM AND CROSSCORRELOGRAM AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.5.008

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TO COMPUTE A CORRELOGRAM OF AUTO-OR CROSSCORRELATION COEFFICIENTS FROM A LAG OF ZERO TO A SPECIFIED MAXIMUM LAG. MCRE THAN 10,000 4-CIGIT OBSERVATIONS MAY BE PROCESSED. MISSING DATA ARE PERNISSIBLE. A MAXIMUM LAG OF 87 MAY BE USED WITH 8K SYSTEM. INPUT IS EITHER CARD OR MAGNETIC TAPE. OUTPUT IS EITHER PRINTED OR PRINTED AND PUNCHED. INPUT DATA NEED NOT BE IN ANY GIVEN FORMAT. BATCH PROCESSING IS POSSIBLE, CONTROLLING ON AN IDENTIFICATION FIELD OF UP TO 10 CHARACTERS. MACHINE RECUIREMENTS-MINIMUM OF 8K CORE STORAGE, HIGH SPEED PRINTER, MULTIPLY-DIVIDE, MOVE RECORD, STORE B ADDRESS REGISTER, INDEX REGISTERS, AND SENSE SWITCHES. PROGRAMMING LANGUAGE-AUTOCODER.

1401-01.5.010 MULTI PURPOSE EXTRACT AND SELECT

AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-01.5.010

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THIS PROGRAM WILL ALLOW RECORD EXTRACTION FROM BCD TAPE INPUT, WITH AN OPTIONAL OUTPUT FLEXIBILITY. MULTIPLES OF THREE DIFFERENT TYPES CAN BE EXTRACTED, TO MULTIPLE OUTPUT CAPABILITIES OF EITHER/OR TAPE, CARD OR RINTER. OPERATOR CHOICE OF CARD OR TAPE OUTPUT CAN BE SELECTED TO A MAXIMUM OF THREE PUNCH POCKETS OR THREE TAPE UNITS. A MAXIMUM OF THREE TOTALS WITH RECORD COUNTS ARE ALLOWED FOR IN EACH OF THE THREE TYPES OF EXTRACT CONTROLS, AS WELL AS SPECIFYING OUTPUT RECORD LENGTHS UP TO 500 CHARACTERS. THE PROGRAM HAS AN ADDITIONAL USE IN THAT IT MAY BE USED AS A GENERAL PURPOSE PRINT AND PUNCH PROGRAM WITH RECORD COUNTS. MINIMUM MACHINE CONFIGRATION IS A 4K TAPE 1401, MITH ADVANCED PROGRAMMING, PRINT CONTROL FEATURE, ADDRESS MICOIFICATION, FIT-OM-EQUAL COMPARE AND SENSE SMITCHES. THE PROGRAM CAN ALSO BE MODIFIED FOR A 14C1 CARD SYSTEM WITH THE ABUVE FEATURES.

PAGE 054

8-1401

1401-01.5.018 SIOCS- A SHORT INPUT/OUTPUT CONTROL SYSTEM AVAILABLE 2NG QUARTER 1965. SPECIFY FILE NUMBER 1401-01.5.018

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THE PROGRAM DOES MUCH THAT STANDARD LCCS ACCOMPLISHES WITH LESS STORAGE REQUIREMENTS. ANY NUMBER OF TAPES ARE COMPLETELY GOVERNED BY THIS SET OF MACROS. IT IS ENTERED AS MACRO ON 1401 AUTOCODER SYSTEM TAPE. OPENS, CLOSES, READS DR WRITES TAPE IN NON-CVERLAP AND CVERLAP. VARIABLE LENGTH RECORDS MAY BE PROCESSED IN THE OVERLAP MODE. WORK AREAS MAY BE SPECIFIED OR MAY VARY. HEADER EXITS PROVIDED. FROM 1900-2500 POSITIONS CF CORE STORAGE ARE REQUIRED. THE 1401 MUST HAVE THE ADVANCED PROGRAMMINK FEATURE AND HILL ADDS 3-5 MINUTES TO A NORMAL AUTOCODER ASSEMBLY. ASSEMBLIES MAY TAKE ANYWHERE FROM 5 TO 20 MINUTES.

1401-01.5.019 MASTER UTILITY SYSTEM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-01.5.019

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TO ESTABLISH A LARGE NUMBER OF PROGRAMS ON ONE TAPE AS SINGLE RECORDS TO LOAC CUICKLY AND TO BE MAINTAINED EASILY AS WELL AS TO LEAD TO UNIFORMITY AND SIMPLICITY WITH SPEED. A 4K 1401 IS RECUIRED. SINCE THE BRANCH INSTRUCTION TO A STORE-B-REGISTER INSTRUCTION IS USED, INDEXING MUST BE AVAILABLE, THOUGH NOT USED BY THE SYSTEM FABECAUSE ON SYSTEMS WITHOUT IT, THE B-REGISTER CONTAINS A DIFFERENT ADDRESS AFTER A BRANCH/.

1401-01.5.020 SIMPLE IBM 1311 ID LABEL CHECKING MACROS FOR 1401/1440/1460 AVAILABLE 3RC QUARTER 1966. SPECIFY FILE NUMBER 1401-01.5.020

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CKUBL AND LABEL ARE TWO MACROS DESIGNED FOR SIMPLIFIED LABEL ID CHECKING ON 18M-1311 DISK DRIVES. THE MACROS ARE WRITTEN IN 1401/40/00 AUTOCODER LIBRARY FORMAT USING STANDARD LIBRARY SYMBOLIC LABBLES AND HILL CHECK STANDARD IBM LABEL 10S. ADVANTAGES GARED BY USING CKUBL AND LABEL ARE CORE SAVINGS BY OVERLAYING ALL LABEL DATA, LESS CODING, AND EASIER MODIFICATION IF ONE PROGRAM CHECKS SEVERAL FILES. MINIPUM MACHING REQUIREMENTS ARE AN 18M 1401, 1440, CR 1460 WITH INDEX REGISTERS AND AT LEAST CNE 18M-1311 DISK DRIVE.

1401-01.5.021 IBM 1405 TO IBM 1311 DISK FORMAT CONVERSION AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-C1.5.021

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MR. G. R. JAMES, IBM CORP., 121 STATE ST., ALBANY, N. Y.

A SERIES OF 4 PROGRAMS TO ALLOW CURRENT 1401—1405 USERS TO
GC TO \$7360 IN 1401—1311 COMPATIBILITY MODE. PROGRAM NO. 1
AUTOPATICALLY INSERTS BRANCH INSTRUCTIONS IN SPS SOURCE PROGRAMS
IN PLACE OF DISK READ OR NRITE OPERATIONS. IT IS IN SPS SOURCE
FORMAT AND REQUIRED A 8K 1401 WITH HI LO EQ AND ADVANCED
PROGRAMMING. PROGRAMS NO. 2 AND NO. 3 ARE PASS 1 AND PASS 2 CF
AN SPS COMPILER USING THE 1405 DISK. THEY ARE IN OBJECT
LANGUAGE AND REQUIRE AN 8K 1401 WITH HI LO EQ. IF THE 1311
VERSION IS USED, A 12K 1401 IS REQUIRED. PROGRAM NO. 4 IS A
CONTROL PROGRAM OCCUPYING THE TOP 4K UF STORAGE THAT CONVERTS
BETWEEN 1405 AND 1311 ACDRESSES AND FURMATS. IT CONTROLS DISK
DEPRATICNS ON THE 1311. IT IS IN 1401—1311 AUTOCODER FORMAT
WITH 1401—1311 ICCS, AND REQUIRES HI LO EQ, ADVANCED
PROGRAMMING AND OIRCT SEEK. SINCE IT REQUIRES 4K FOR ITSELF,
IT CAN ONLY HANDLE UP TO 12K PROGRAM.

1401-02.0.005 FARGO MODIFIED AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-C2.0.005

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TO PROVIDE FOR THE ABILITY TO WRITE ANY BASIC 1401 MACHINE LANGUAGE INSTRUCTION WITHOUT PATCHING ON EITHER THE DETAIL CONTROL CARD SPEET /PHASE 3/ OR THE TOTAL CONTROL CARD SHEET /PHASE 2/. TO PROVIDE FOR THE ABILITY TO CHARACTER ADJUST THE 1-ACCRESS, A-DPERAND, B-OPERAND OR BOTH THE A AND B OPERANDS IN THESE BASIC 1401 INSTRUCTIONS. SAME AS PUBLISHED FARGO. FARGO MAS EXPANDED TO PROVIDE FOR ANY LENGTH BASIC MACHINE INSTRUCTION IN PLASES 2 AND 3 OF FARGO PROCESSING AND TO INCORPORATE THESE INSTRUCTIONS IN

CONTINUED FROM PRIOR COLUMN--THE GENERATED PROGRAM. 1401 BASIC MACHINE LANGUAGE

1401-02.0.008 1405 STAR-SYSTEM FOR STORING, MAINTAINING AND RETRIEVING PROGRAMS ON THE 1405 DISK FILE AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-02.0.008

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THE 1405 STAR SYSTEM CREATED DISK RECCRDS FROM AUTOCCCER
CONDENSED OR SPS CONDENSED LOAD CARDS. THESE DISK RECCRDS
THEN BECOME INPUT FOR A SUPERVISOR ROUTINE WHICH WILL
RECREATE THE ORIGINAL PROGRAM IN CORE STORAGE AT OBJECT
TIME. IN ADDITION, THE SYSTEM IS CAPABLE OF HAINTAINING
THE FILE OF PROCRAMS THROUGH DOCUMENTATION AND PATCHING.
BY MAKING PROGRAMS IMMEDITATELY AVAILABLE, THROUGH EITHER A
CONSCLE ENTRY OR A CALLING CARD DEFINITE REDUCTIONS IN
STANDPOINT, REAL SAVINGS CAN BE OBTAINED BY STORING
NUMEROUS SUBROUTINES ON THE FILE. THIS HAS THE EFFECT OF
EXPANDING CORE STORAGE CAPACITY ON A GIVEN JOB FAR BEYCND
THE RESTRICTIONS OF THE FIXED CORE SIZE OF THE MACHINE.
HINTUM MACHINE CONFIGURATION—
1401 4K WITH ADVANCED PROGRAMMING /INDEXING/
/STORE ADDRESS REGISTERS & MOVE RECORD, AND HI—LON—EQUAL.
1407 NUMP ONE ACCESS AREA
1407
SUPER INCLUDES THE DISK ERROR ROUTINE AND THE 200 POSITION
DISK READ IN AREA. THE SECOND FORM OF SUPER IS AN SPS
SYMBOLIC DISK. THIS USES 8TS POSITIONS. THIS VERSION ALSC
ALLOWS DATA TO BE PLACEC IN THE INCEX REGISTERS. SOURCE
LANGUAGE IS SPS.

1401-02.0.009 FARGO STAGE II /EXPANDED 4K CARD 1401 VERSION/ 1401 VERSION/ AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-C2.0.009

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FARGO-STAGE II IS A MODULAR BUILDING BLOCK, CONTROL CARD ORIENTED, LOAD AND GO SYSTEM WHICH EXTENDS THE CAPABILITIES OF THE IBM 1401 DPS FAREO PROGRAM. STAGE II CONSISTS OF SIX ADDITIONAL PROGRAM PHASES WHICH MAY BE ADDED TO THE BASIC FOUR PHASES OF FAREO AS NEEDED. ONE OR ALL SIX OF THE STAGE II PPASES MAY BE CALLED INTO USE FOR A GIVEN JOB AS REQUIRED BY THE USER. EACH PHASE GENERATES ADDITIONAL MACHINE LANGUAGE INSTRUCTIONS AS NEEDED IN THE GENERATED CBJECT PROGRAM AREA OF CORE STORAGE ABOVE THE FIRST FOUR REUGLAR FAREO PHASES. IN ADDITION, ALL NECESSARY LINKAGE BETHEEN THE RECULAR FAREO PROGRAM AND THE NELLY GENERATED ROUTINES IS PREVIDED AUTOMATICALLY. 4K 1401, NO SPECIAL FEATURES REQUIREC. FAREO PROGRAM NO. 1401-RC-045 MUST PRECEDE FARGO-STAGE II. SCURCE LANGUAGE IS SPS.

1401-02.0.012 CONDENSING AFTER REPORT GENERATING OPERATION AVAILABLE 2NO QUARTER 1963. SPECIFY FILE NUMBER 1401-02.0.012

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THE PROGRAM MAKES IT POSSIBLE TO PRODUCE A CONDENSED OBJECT PROGRAM DECK IN AUTOCODER FORMAT DIRECTLY FROM CORE STORAGE WHEN THE PROGRAM WAS GENERATED USING FARGO. CARGO PROGRAM INSTRUCTIONS ARE STORED IN THE READ PUNCH AND PRINT AREAS DURING PHASE 1. AFTER FIRST 600 POSITIONS HAVE BEEN PUNCHED GLT, PHASE 2 LOADS INTO THIS AREA AND PROCEEDS TO CONDENSE AND PUNCH THE BALANCE OF CORE STORAGE. CARGO WILL PRODUCE AN AUTOCODER CONDENSE FORMAT OBJECT PROGRAM DECK FROM A FARGO PROGRAM WHICH HAS BEEN LOADED INTO 4K 1401 CORE STORAGE RANGING FROM POSITION OOOL TO 3999. MACHINE CONFIDENTATION 4K 1401 WITH 1402. NO SPECIAL FEATURES REQUIRED. SOURCE LANGUAGE— AUTOCODER

1401-02.0.013 CARD AUTOCODER PROGRAMMING SYSTEM /CAUTO/ AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-02.0.013

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TO ASSEMBLE, CONCENSE, AND LIST PROGRAMS WRITTEN IN ALTOCODER LANGUAGE, IN ONE COMPACT AND SPEEDY ROUTINE. COMPARISON TO SPS 1 & 2- AFTER LOADING CAUTO, TWO PASSES OF THE SYMBOLIC SOURCE PROGRAM /THE FIRST, AT UP 10 800 CARDS PER MINUTE, TO LOAD INE LABEL TABLE—THE SECONC, AT UP TO 300 CARDS PER MINUTE, TO UPUNCH CONDENSED CARDS AND PRINT A PROGRAM LISTING/TAKE THE PLACE OF FIVE PASSES WITH SPS 1 & 2. THE FIRST, AT UP TO 300 CARDS PER MINUTE, TO CROTTE INTERMEDIATE CARDS WITH SPS 0 CARDS PER MINUTE, TO CROTTE INTERMEDIATE CARDS WHICH WILL BE DISCARDED AFTER PASS THREE. THE THIRD, AT UP TO 250 CARDS PER MINUTE, TO UNCH SINGLE INSTRUCTION ABSCLUTE CARDS. THE FOURTH, AT UP TO 300 CARDS PER MINUTE, TO PRINT A

E-1401

CONTINUED FROM PRIOR PAGE—
PROGRAM LISTING. THE FIFTH, AT UP TO 600 CARDS PER MINUTE, TO
CONDENSE THE ABSQLUTE PROGRAM/. COMPARISON TO AUTOCODER
ASSEMBLY— CAUTO TAKES FROM 1/2 TO 3/4 FOR THE TIME REQUIRED FOR
AN AUTOCODER ASSEMBLY, AND SUPPLIES ALL THE DIAGNOSTICS SUPPLIED
BY AUTOCODER WITH THE EXCEPTION OF THE AUTOPHABETIC LABEL SORT AND
THE UNREFERENCED LABEL LISTING. CAUTO HAS THE ADVANTAGE OF NOT
REQUIRING ANY TAPE ORIVES TO ASSEMBLE AUTOCODER PROGRAMS. SCURCE
LANGUAGE 1401 SPS6

8K 1401 WITH THE ADVANCED PROGRAMMING PACKAGE FOR ASSEMBLY CF UP TO 268 LABELS, IN PROGRAMMS UP TO 15,959 CORE POSITIONS. 12K 1401 WITH THE ADVANCED PROGRAMMING PACKAGE FOR ASSEMBLY OF UP TC 713 LABELS, IN PROGRAMS UP TO 15,999 CORE POSITIONS. 16K 1401 WITH THE ADVANCED PROGRAMMING PACKAGE FOR ASSEMBLY OF UP 10 1157 LABELS, IN PROGRAMS UP TO 15,999 CORE POSITIONS. A MINIMUM CF 7,999 POSITIONS OF STORAGE ARE REQUIRED FOR THIS PROGRAM. A MINIMUM OF 8K, 1401 CARD SYSTEM, WITH THE ADVANCED PROGRAMMING PACKAGE AND 1403 PRINTER. THIS PROGRAM GIVES TO THE 1401 CARD SYSTEM USER AN ASSEMBLY PROGRAM WITH THE FLEXIBILITY AND SPEED OF A 1401 TAPE SYSTEM ASSEMBLY PROGRAM.

1401-02.0.014 FAST LOAD INSTRUCTION TAPE AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-02.0.014

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AN AUTOCODER PROGRAM SYSTEM THAT WILL PROVIDE THE GREATEST POSSIBLE SPEED AND FLEXIBILITY FOR MAINTAINING TAPE LOADABLE PROGRAMS. CAPABLE DE CREATING, SEARCHING, UPDATING, DUPLICATING, AND PRINTING THE MULTI-PROGRAM, MONITORED SYSTEM TAPE. TAPE LOADABLE PROGRAMS ARE GENERATED AS ONE OR MORE RECORDS OF VARYING LENGTH FROM AUTOCODER CONDENSED OBJECT CARDS, AND MAY BE CALLED THROUGH THE 1407 CONSOLE TYPEWRITER. THE SYSTEM MAINTENANCE PROGRAM REQUIRES 4K. THE GOO POSITION MONITOR THAT CONTROLS USER PROGRAM SEARCHING, LOADING, AND EXECUTION IS ACT KEPT IN CORE DURING OBJECT PROGRAM EXECUTION, BUT MAY BE RECALLED BY MACRO LINAKGE ROUTINES REQUIRING 36 TO 66 CORE POSITIONS. MINIMUM MACHINE CORTFIGURATION IS 1401 4K, H-L-E, ADV PROG, SS, 1407, 1403-2, 1402, AND 3 TAPE UNITS.

1401-02.0.015 FARGO MULTIPLY ROUTINE WITH AUTOMATIC PATCH LINKAGE AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-02.0.015

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THIS PROGRAM AND SUBROUTINE, MULTIPLY AND PATCH, WILL ALLOW 1401
USERS WHO DO NOT HAVE MULTIPLY/DIVIDE AND ADVANCED PROGRAMMING
FEATURES TO EITHER BEGIN USING OR EXPAND THEIR USAGE OF FARGC,
WHICH IS A LOAD-AND-OO REPORT PROGRAM GENERATION SYSTEM.
MULTIPLY IS DESIGNED TO HANDLE A NINE POSITION MULTIPLIER AND
ELEVEN POSITION MULTIPLICAN WITHOUT ALGERAGIC SIGN CONTROL.
THE SUBROUTINE IS WRITTEN TO ALLOW LINKAGE FROM SIX DISTINCT
TARGE LOCATIONS. THE NUMBER OF CORE LOCATIONS USED IS 191. IT
IS WRITTEN IN SPS. THE RESTRICTION PLACED ON THE USER IS THE
FIRST THERE CONSTANTS AREAS DEFINED IN FARGE MUST BE, A NINE
POSITION MULTIPLIER, ELEVEN POSITION MULTIPLICAND AND, THENTY-CHE
POSITION PRODUCT. PATCH AUTOMATICALLY SCANS STORAGE FOR NOOD AND
NABBERBB DEFINED UNDER PATCHING IN FARGE MUST AUTOMATIC ALLY
AND EXIT. THIS PROGRAM ELIMINATES THE NECESSITY OF CORE DUPPS,
NAMUAL CORE SCANS AND PATCH CARD CREDITIONS NECESSARY FOR
INCORPORATING THE MULTIPLY SUBROUTINE.

1401-02.0.016 CONTROLLER
AVAILABLE 2ND QUARTER 1964.
SPECIFY FILE NUMBER 1401-02.0.016

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THE 1401 CONTRCLLER IS A JOB SUPERVISOR SYSTEM CCNSISTING OF A GROUP OF 1401 PROGRAMS CESIGNED TO PROVIDE /A/ DISC STORAGE OF PROGRAMS, SUBROUTINES, OVERLAYS, ETC. B/J CONTROL CARD CALL DOWN OF PROGRAMS /C/ PROGRAM CALL DOWN OF PROGRAMS, SUBROUTINES, OVERLAYS, ETC. WITH A MINIMUM OF PROGRAMMING EFFORT.

RESTRICTIONS/RANGE1. ALL PROGRAMS, SUBROUTINES, OVERLAYS, ETC. ORIGINATE AT POS 333. 12. ALL PROGRAMS, SUBDOUTINES, OVERLATS, ETC. ORIGINATE AT POSS 333.

2. MAXIMUM NUMBER OF USER PROGRAMS IS 53.

3. CONTROLLER SYSTEMS PACK MUST BE ON DRIVE 0.

4. ALL USER PROGRAMS MUST BE IN THE 1401-1311 CONDENSED CARD FORMAT. MACHINE CONFIGURATION - 1401 CONTROLLER IS DESIGNED TO DPERATE ON THE FOLLOWING MINIMUM MACHINE CONFIGURATION 1401-4K STURAGE 2-1311 DISK ORTIVES ADVANCED PROGRAMMING FEATURE HIGH-LCH-EQUAL COMPARE FEATURE 1402 READER PUNCH 1403 PRINTER PROGRAM RECUITEMENTS — MLINK OCCUPIES 111 POSITIONS OF HIGH CORE. IN ADDITION, DURING AN OVERLAY OPERATION, POSITIONS 90-741 ARE USED BY MCALL. THE AREA FROM 333-741 MILL EVENTUALLY CONTAIN THE BEGINNING OF THE USERS ROUTINE— MOMEVER, ALL DATA COMMON TO BETH SECTIONS OF A PROGRAM MUST BE NO LOWER THAN POS 742. SOURCE LANGUAGE— 1401-1311 AUTOCCOER

1401-02.0.017 AUTOBLOCK II AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-02.0.017

AUTHOR...W.C. MILLHOFF IBM CORP.

PAGE 055

CONTINUED FROM PRIOR COLUMN--1955 THE ALAMEDA SAN JOSE, CALIF.

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AUTOBLOCK II AUTOMATICALLY PRODUCES CROSS-REFERENCE TABLES AND A DOCUMENTED BLOCK DIAGRAM, USING NEW SYMBOLS IN ACCORDANCE WITH ASII STANDARDS. IT PROVIDES THREE DIFFERENT TABLES, CHE OF WHICH IS THE BRANCH-PROM TABLE, AND ACCEPTS AN UNLIMITED NUMBER OF BRANCH POINTS, SINCE THE PROGRAM TAKES FULL ADVANTAGE OF CORE SIZE. IN ADDITION TO THE COMMON INSTRUCTIONS, AUTOBLOCK II HANDLES IDCS, MACKES, OVERLAYS, AND THE EXECUTE INSTRUCTION. AUTOBLOCK II IS AN EXTENSION AND REVISION OF AUTOELOCK I AND IS RUN AFTER THE AUTOCODER PROGRAM UTILIZING THE AUTOCODER CONFIGURATION— 4K MINIMUM, FOUR-TAPE ADVANCED PROGRAMMING, HIGH-LOW-EQUAL-COMPARE.

B-1401

1401-02.0.018 FARGO CNE-SIXTY-G AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-02.0.018

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FARGO ONE-SIXTY-G FOR THE 1401, 1460, AND 1401G IS A GREATLY EXPANDED NEW VERSION OF A LOAD AND GO REPORT GENERATOR WHICH GIVES ALL THE CAPABILITIES OF BASIC FARGO PLUS- /A/ UP TO SIX HEADER LINES WHICH CAN BE MODIFIED AT ANY TIME MITHIN CBJECT TIME. /B/ MULTIPLY-DIVIDE WITH OR MITHOUT THE FEATURE. /C/ MULTIPLE AND/OR IF/NOT CONDITIONS IN DEFINING UP TO TEN CARD TYPES. /C/ SEQUENCE CHECK UF INPUT FILE AT ANY LEVEL /THINDLY STRIPPED ZONES FOR DEFINING EACH OF FOUR FILES WITH OR MITHOUT STRIPPED ZONES FOR DEFINING EACH OF FOUR TOTAL LEVEL. /F/ TOTAL FORCE HEADING OR HEADING FORCE TOTAL, DIVORCED MINDS AND SUPPRESS COMPARE OF A CARD TYPE AT ANY TOTAL LEVEL. /C/ AND MORE.....THE PROGRAM IS FULLY COMPATIBLE WITH THE FARGO-FORTY PROGRAM BY C.P. DODLITTLE, THE LATEST VERSION CF FARGO FOR THE 1440.

OPTICNAL PROGRAM MATERIAL - ONE TAPE CONTAINING SOURCE DECKS AND LISTINGS.

THE TAPE REQUIRED TO OBTAIN OPTIONAL MATERIAL MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH.

OPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-02.0.019 AUTOMATIC FLOW CHART TECHNIQUE AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-02.0.019

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A PROGRAM WHICH PRODUCES FLOWCHARTS FROM A LANGUAGE SIMILAR TO 1400 SERIES AUTOGODER. ALL INFORMATION PERTAINING TO ONE SYMECL IS CONTAINED ON ONE KEYPUNCH FORM LINE. FREE FORM CODING OF TEXT INFORMATION IS USED. THE PROGRAM FLOATS AND CENTERS THE TEXT WITHIN THE SYMBOL, THUS RELIEVING THE WRITER OF THIS TECIOUS TASK. PAGE AND CONNECTOR NUMBERS ARE ASSIGNED AUTOMATICALLY BY THE PROGRAM. THELVE UNIQUE SYMBOLS ARE AVAILABLE. ALL OF HIHICH HAVE BEEN APPROVED BY THE AMERICAN STANCARDS ASSOCIATION. FLOW CHARTS PRODUCED ARE MACHINE INDEPENDENT. BY USE OF SPECIAL COMMENT CARDS, LINE TEXT INFORMATION MAY BE PRODUCED WITH OPTIONS FOR CENTERING, LEFT, RIGHT OR FULL JUSTIFICATION. MACHINE REQUIREMENTS—1401 4K, THO MAGNETIC TAPES AND ADVANCED PROGRAMMING FEATURE. SOURCE LANGUAGE OF THE PROCESSOR PROGRAM IS ALICOODER.

1401-02-0-020 FARGO MULTIPLY-DIVIDE II AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-02-0-020

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FARGE MULTIPLY/DIVIDE IS AN INTERPRETIVE PROGRAM FOR 1401 COMPUTERS THAT DO NOT HAVE THE MULTIPLY AND DIVIDE FEATURE. THE FLEXIBILITY OF THE ORIGINAL FARGO PROGRAM IS NOT HAMPERED IN ANY WAY EXCEPT THAT MITH EIGHTEEN MULTIPLIES OR DIVIDES, 1634 POSITIONS OF CORE ARE AVAILABLE WHICH IS GENERALLY QUITE AMPLE. THIS PROGRAM CAN BE USED ON ANY BASIC 1401 WITH 4000 OR MORE POSITIONS OF CORE. IF THE 1401 HAS THE MULTIPLY/DIVIDE FEATURE, IT WILL NOT BE UTILIZED AND THE INCLUDED MACROS WILL BE USED. NO ADDITIONAL 1401 FEATURES ARE UTILIZED DURING THE ASSEMBLY OF THE LINKAGES. THE MULTIPLY SUBBOUTINE UTILIZED, DESCRIBED IN THE 1BM 1401 GENERAL PROGRAM LIBRARY PAMPHLET—3.C..COI., IS THE 9 X 9, 10 MILLISECOND SUBROUTINE. THE DIVIDE SUBBOUTINE UTILIZED IS THE STANGARD DIVIDE DESCRIBED IN THE DIVIDE SUBBOUTINE UTILIZED IS THE STANGARD DIVIDE DESCRIBED IN THE BW GENERAL PROGRAM LIBRARY BULLETIN- PROGRAMS FOR 1401 CARD SYSTEMS, NO. 129-0209-1. THE MULTIPLICATION AND OIVISION IS CODED AS IF THE FEATURE IS PRESENT, THE ANSWERS ARE DEVELOPED IN A THIRD PRE-DEFINED AREA.

1401-02.0.021 1401/1311 MONITOR FOR PROGRAMS ON DISK PACKS AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-02.0.021

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PAGE 056 B-1401 CONTINUED FROM PRIOR PAGE--

THIS PROGRAM CONSISTS OF TWO PARTS. THE FIRST, SRCI, LOADS USER'S PROGRAMS ON DISK PACKS AND CREATES AN ENTRY IN A PROGRAM TABLE STORED ON THE FIRST FOUR SECIORS OF A DISK PACK. THE TABLE IS CHECKED BEFORE A PROGRAM IS LOADED TO PREVENT OVERLAP MITH PROGRAMS ALREACY STORED ON THE DISK PACK. THE SECOND, SRC2, PROVIDES FOR STANDARD CATES TO BE USED BY THE USER'S PROGRAM, INCURIES, /BOTH DIRECT ADDRESS AND SCAN TYPE/, PROGRAM PULLDCHN THROUGH USE OF A SENTINEL CARD, COPYING OF PROGRAMS AND TABLE TO NEW PACK ON DISK-TO-DISK UPDATING JOBS, AND A LOG OF PROGRAM ACTIVITY ON AN 16M 1407. MACHINE REQUIREMENTS — DOWNNED PROGRAMMING, HIGH-LOW-EQUAL COMPARE, SCAN DISK SF IS OPTIONAL FOR SCAN INQUIRIES. STORAGE USED— APPROX. 2K. SOURCE LANGUAGE—1401/311 AUTOCODER.

1401-02.0.022 FLOGEN - IBM 1401 FLOW CHART GENERATOR AVAILABLE 4TH QUARTER 1904. SPECIFY FILE NUMBER 1401-C2.0.022

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THIS 1401 PROGRAM WILL PRODUCE A PRINTED FLOW CHART WITH BLCCK TEXT, COMMENTS, BLOCK LABELS, AND ECEISION BLOCK CONNECTOR CONDITIONS. THE PROGRAM PROCESSES SINCLE CARD ENTRIES FOR EACH BLCCK AND IS CAPABLE OF PRODUCING SUCCESSIVE CHARTS OF FIFTY 75 BY 107 BLOCKS. A SIMPLIFIED CODING SYSTEM IS EMPLOYED WHICH PRODUCES FLOW CHARTS OF ASA APPROVED SYMBOLS FOR ANY PROGRAMMING SYSTEM IN A FORM MUCH LIKE 7074 AUTOCHART. AN 8K WITH MODEL 2 PRINTER AND ADVANCED PROGRAMMING FEATURE IS REQUIRED.

1401-02.0.023 TAPE FARGO FOR IBM 1401 AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-02.0.023

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A MOLIFICATION TO BASIC FARGO /1401-RG-045/ TO ALLOH PRINTING REPORTS FROM A TAPE FILE INSTEAD OF FROM CAROS. PHASES 1, 2, AND 4 CF RG-045 ARE USED INTACT. PHASE 3 HAS BEEN REGRITTEN, AND PHASE 5 HAS BEEN ADDED. FARGO CONTROL CAROS ARE NOT CHANGED. ACCEPTS LABELED GR UNLABELED TAPE FILES FIXED LENGTH, UNBLOCKED. OR FIXED LENGTH, BLOCKED, VARIABLE LENGTH, UNBLOCKED. RECCROS MUST BE MOVE MODE, EVEN PARITY WITH MAXIMUM LENGTH OF 2498. EXIT IS PROVIDED TO BY PASS RECORDS OR OD ADDITIONAL PROCESSING. REQUIRED BK, HI-LO-EQUAL COMPARE, INDEXING AND STORE REGISTER CCMMANDS AND AT LEAST CNE TAPE DRIVE, 1402, 1403. THE SCURCE LANGUAGE IS AUTOCODER WITH IOCS.

1401-02.0.024 FLOWCHARTING AND DOCUMENTATION AID PROGRAM AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-02.0.024

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THIS PROGRAM PROVICES FACILITY FOR COMPUTER PREPARATION OF FLOWCHARTS AND TEXTUAL DOCUMENTATION BY MEANS OF AN EASY TO LEARN AND USE PROBLEM GRIENTED CHARTING LANGUAGE. THE FLOWCHART MATRIX IS 3 X 10 BLOCKS AND ALL BLOCK CONNECTION ARE COMPUTER GENERATED. SYMBOLS CONFORM TO ASA STANDARDS AND NORMAL FLOWCHARTING CONVENTIONS. PAGES OF TEXT CONTAIN 57 CHARACTERS PER LINE, AND MANY OPTIONS ARE AVAILABLE FOR ADJUSTMENT AND CHARACTER SPACING. THE FLOWCHARTING LANGUAGE IS COMPATIBLE WITH THE LANGUAGE USED IN ANOTHER PROGRAM NOW AVAILABLE FROM THE TYPE III LIBRARY UNDER CATALOG NUMBER 2.0.019, REQUIRES AN IBM 1401 WITH 8K STORAGE, 4 TAPES, HI-LO-EQUAL COMPARE, ADVANCED PROGRAMMING AND SENSE SWITCHES.
BASIC PROGRAM MATERIAL —
DOCUMENTATION - PROGRAM WRITE-UP.
MACHINE READABLE — SYSTEMS TAPE.

OPTICNAL PROGRAM MATERIAL - ONE REEL GF TAPE CONTAINING SOURCE CARCS.

THE NUMBER OF TAPES INDICATED MAY BE URDERED FROM YOUR IBM REPRESENTAITVE OR SUPPLIED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

CPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-02.0.025 FORTRAN MODIFICATION WHICH ELIMINATES THE MULTIPLY-DIVIDE SPECIAL FEATURE REQUIREMENT AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-02.0.025

AUTHOR...R. STEFFANSON, JR

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K. SIEFFANSCN, JR., POTLATCH FORESTS, INC., LEWISTON, IDAKC
BY INSERTING THIS CHANGE INTO THE 1401 FORTRAN II COMPILER,
PROGRAMS CODED IN FORTRAN MAY BE COMPILED AND RUN ON 1401
MACHINES NOT HAVING THE MULTIPLY-DIVIDE SPECIAL FEATURE.
THE CRLY PROGRAMMING CONSIDERATION NECESSARY IS THAT THE
ADDRESS IN THE PARAMETER CARD SHOULD BE APPROXIMATELY
1000 POSITIONS LESS THAN THE MACHINE CORE CAPACITY. OPERATING
CONVENIENCE IS NOT SERTICUSLY AFFECTED.
THESE ADVANTAGES OF THE FORTRAN COMPILER ARE RETAINED—
RAPIC COMPILE TIME VAROUND 2 MINUTES/... DIAGNOSTICS...
COMPILE—AND-GO CAPABILITY... OPTIONAL PUNCHED OBJECT DECK
VREACY TO USE/... COMPILER MAY BE CN CARDS OR TAPE.
CORE RECUIRED FOR THE SUBROUTINE REDUCES BY APPROXIMATELY
1000 POSITIONS THE CORE AVAILABLE FOR COMPILING THE SCURCE
PROGRAM.

CONTINUED FROM PRIOR COLUMN-EQUIPMENT SPECIFICATIONS- FORTRAN WITH THIS CHANGE REQUIRES
8K, HI-LO-EQUAL COMPARE, ADVANCED PROGRAMMING, READER-PUNCH,
AND PRINTER.

1401-02-0-028 SYSTEM/360 BASIC ASSEMBLER PROGRAM

AM AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-C2.0.028

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THIS 1401 PROGRAM ASSEMBLES S/360 BASIC ASSEMBLY LANGUAGE INSTRUCTIONS AS DESCRIBED IN MANUAL C28-65C3, BASIC ASSEMBLY LANGUAGE, PLUS EXTENDED FRANCH MMEMONICS AND PACKED AND ZONED DECIMAL CONSTANTS AS DESCRIBED IN MANUAL C28-6514. THE PREGRAM DOES EXTENSIVE ERROR CHECKING AND PRODUCES AN EDITED LISTING CF SOURCE LANGUAGE, HEXADECIMAL REPRESENTATION OF COMPILED LOCATIONS AND INSTRUCTIONS, AND EFFECTIVE ADDRESS OF OPERANDS. A PUNCHED DECK IN HEXADECIMAL FORMAT IS OPTIONAL. THE ONE REEL OF TAPE REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH.

1401-02.0.029 BCDIC/EBCDIC/BCDIC CHARACTER TRANSLATION PROGRAM AVAILABLE IST QUARTER 1965. SPECIFY FILE NUMBER 1401-C2.0.029

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PCUGHKEEPSIE, N.Y.

DIRECT INQUIRIES TO AUTHOR

THIS IS A CHARACTER CODE TRANSLATION PROGRAM. IT WILL TRANSLATE FROM BCD INTERCHANGE CODE TO EXTENDED BCD INTERCHANGE CODE AND VICE VERSA. THE TRANSLATION CAN BE PERFORMED FROM EITHER CARD OR TAPE INPUT /TAPE RECORDS UP) TO 560 CHARACTERS/TO EITHER CARD OR TAPE OUTPUT. MOST OPTIONS /INPUT, OUTPUT, DIRECTION OF CONVERSION, INTERRUPTION AND CONTROL CARD/ ARE SENSE SWITCH CONTROLLED BUT THERE ARE THREE OPTIONS AVAILABLE FROM A CONTROL CARD., STARTING POINT OF SCAN., AND CARD., STARTING POINT OF SCAN., AND CONVERSION OF COLLAR SIGN OR RECORD MARK TO AMPERSAND. THE PROGRAM REQUIRES A 4K 1401 WITH ADVANCED PROGRAMMING PACKAGE, 1402, 1403, SENSE SWITCHES AND ZERC TO TWO TAPE ORIVES DEPENDING ON DESIRED INPUT-OUTPUT REQUIREMENTS. THE PROGRAM IS WRITTEN IN 1401 MUTCOCORP. 1401 AUTOCODER.

1401-02.0.031 AUTOCHART AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-02.0.031

AUTHORS..JCSEPHINE CARTER PETER FONDIS HEDY STOY WILLIAM JOHNSON

CIRECT INQUIRIES TO..
JCSEPHINE S. CARTER, IBM CORP., 4C SAW MILL RIVER RD.,
HAWTHORNE, N.Y.

HANTHORNE, N.Y.

THIS PROGRAM GIVES 1401 USERS THE ABILITY TO PRODUCE FLOWCHARTS SIMILAR TO THOSE WHICH CURRENTLY CAN COLY BE PRODUCED ON THE 18M 7070/74. IT REQUIRES AN 8K 1401 WITH FOUR TAPE DRIVES, 1402, 1403, ADVANCED PROGRAMMING PACKAGE, SENSE SWITCHES, HIGH-LGN FECUAL COMPARE, AND MULTIPLY-DIVIDE FEATURES. THE PROGRAM HAS TEN PHASES PLUS A SUPERVISOR. IT WILL ALSO ACCEPT INPUT PREPARED FOR THE 18M 7070/74 AUTOCHART PROGRAMS. FILE MAINTENANCE CE THE INPUT HAS NOT BEEN INCLUDED IN THE PROGRAM. INTITAL THING RUNS INDICATE THAT THE PRODUCTION OF EACH FLOWCHART TAKES APPROXIMATELY CINE-HALF MINUTE, INCLUDING PRINTING. RESTART PROCEDURES ARE INCLUDED STHAT THE PROGRAM CAN BE INTERRUPTED AT THE ENC OF ANY PHASE AND CONTINUED AT A LATER TIME. SYSTEM TAPE CREATION IS ALSO INCLUDED. THE PROGRAM USES THE AUTOCHART LANGUAGE FOR INPUT. IT IS AN EASILY LEARNED LANGUAGE AND IS MACHINE INDEPENDENT. THE OUTPUT IS A PRINTED CHART, STANDARDIZED FOR CLARITY AND REACABILITY AND SUITABLE FOR REPRODUCTION. THIS IS A TOOL TO HELP THE USER MAINTAIN BETTER PROGRAM DOCUMENTATION BY PROVIDING FLOMCHARTS WHICH COMPORM TO BOTH IBM CORPORATE STANDARDS AND TO THE DECOMENTATION BY PROVIDING FLOMCHARTS WHICH COMPORM TO BOTH IBM CORPORATE STANDARDS AND TO THE PROCRED AMERICAN STANDARDS ASSCCIATION FLOWCHARTS AND THE PROFEDED AMERICAN STANDARDS ASSCCIATION FLOWCHARTS AND THE CHARTS. ASSEMBLY QUITTUT FOR OBJECT DECK AND LISTING, SAMPLE PROBLEM INPUT DATA, AND SOURCE DECK ARE BASIC PROGRAM MATERIAL.

THE CNE REEL OF TAPE REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVICES MUST BE 2400 FEET IN LEWGIH.

1401-02.0.032 MODIFIED FORTRAN COMPILER AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-02.0.032

AUTHORS..B. RADHAKRISHNAN A.N. SMITH

DIRECT INQUIRIES TO..

B. RADHAKRISHNAN

BICMETRIC LABGRATORY

THE GEORGE MASHINGTON UNIVERSITY

1145 - 19TH STREET, N.W.

ROOM 618

MASHINGTON, D.C.

THIS PAPER OESCRIBES THE IBM 1401 MODIFIED FORTRAN
COMPILER AND ILLUSTRATES THE METHOD FOR CONVERTING THE IBM 1401
FORTRAN COMPILER TO A MCDIFIED COMPILER TO REDUCE COMPILATION
TIME AND EXCESS PAPER USAGE.
EQUIPMENT SPECIFICATIONS ARE IBM 1401 COMPUTER, 'ANY MCOBEL'...
ADVANCE PROGRAMMING FEATURE... HIGH-LCW-EQUAL COMPARE FEATURE...
MULTIPLY-DIVIDE FEATURE... 1402 CARD READER AND PUNCH...
1403 PRINTER... 1 MAGNETIC TAPE UNIT.

CONTINUED FROM PRIOR CCLUMN--SPECIFY FILE NUMBER 1401-02.0.038

AUTHOR...R.C. MILLER

CIRECT INQUIRIES TO.. W.H. WALLACE, IBM CORP., 515 OLIVE ST., ST. LOUIS, MC. 63101

THIS PROGRAM IS USED FCR ORIGINAL CREATION AND SUBSECUENT MAINTENANCE OF DECISION TABLE FORM DOCUMENTATION. A 1401 8K 3 TAPE SYSTEM IS THE MINIMUM CONFIGURATION. SOURCE LANGUAGE IS 1401 AUTOCOPER. THE PROGRAM PROVIDES A DOCUMENTATION LIBRARY MAINTAINED ON MAGNETIC TAPE. IT HAS THE ABILITY TO PRODUCE COPIES OF DOCUMENTATION IN PRINTED, PLUNCH CARD AND MAGNETIC TAPE FORM. DOCUMENTATION CAN BE RETRIEVED BY INDIVIDUAL TABLE OR GROUPS OF TABLES. MAINTENANCE CAN BE PERFORMED ON INCIVIDUAL LINES MITHIN A TABLE. THE PROGRAM MAKES POSSIBLE CONVENIENT AND ECCNOMIC MAINTENANCE OF CURRENT PROJECT DOCUMENTATION.

PAGE 057

THE SOURCE DECKS ARE OPTIONAL MATERIAL AND MUST BE SPECIFICALLY RECUESTED.

1401-02.0.039 SYSTEMS FLOW CHARTER
AVAILABLE 4TH QUARTER 1966.
SPECIFY FILE NUMBER 1401-02.0.039

AUTHOR...MR. D.L. FISHER

DIRECT INQUIRIES TO..

MR. C.L. FISHER, IBM CORP., MONTEREY & COTTLE RCS., BLDG. 051,
SAN JOSE, CALIF.

THE PROGRAM IS A 16K 1401 SYSTEMS FLOW CHARTER, WRITTEN IN AUTCODER. THE MACHINE MUST HAVE /1/ INDEX REGISTERS, /2/ HI-LO-EQ CCMPARE, /3/ ADVANCED PROGRAMMING, /4/ 1402, /5/ 1403 AND /6/ 1 TAPE /USING CARD PROGRAM OR 2 TAPES USING LOADBUE TAPE. THE PROGRAM HILL DRAW SYSTEMS FLOW CHARTS, CREATE A, SYSTEMS TABLE AND PROGRAM-FILE CROSS-REFERENCE... THE SYMBOLS DRAWN ARE CLERICAL OPERATION, STORAGE BIN, WIDE PROGRAM OFF-PAGE CONNECTOR, ADDING MACHINE, TRANSMITTAL TAPE, MULTIPLE CARD FILE, TAPE, RANDOM FILE, CARD, DOCUMENT, GRAPHIC DISPLAY, TERMINAL, KEYBOARD, PAPER TAPE, COMMENTS AND SEQUENCE OF FILE. MACHINE CONFIGURATION PROGRAM REQUIRES A 1401 WITH 16K MEMORY, ADVANCED PROGRAMMING, SBR AND INDEXING, SENSE SWITCHES, THO TAPES, A 1403 PRINTER AND 1402 CARD READER. THE PROGRAM HAS BEEN SUCCESSFULLY EMULATED ON AN IBM S/360 MCDEL 30. BASIC 1401 AUTOCODER WAS USED EXCEPT FOR THE TOYLY MACRO. THE PROGRAM IS TAPE LOADED USING THE TAPE GENERATED BY THE AUTOCCCER ASSEMBLER.

TO OBTAIN THE MACHINE READABLE PORTION OF THE PROGRAM CNE FULL, 2400 FOOT, REEL OF MACNETIC TAPE IS REQUIRED. THE TAPE MAY BE SUPPLIEC OR ORDERED FROM YOUR IBM REPRESENTATIVE.

1401-02.0.040 TYPEWRITER MACROS FOR 1401/1440/1440 DISK AUTOCODER AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-02.0.040

AUTHOR...A.P. DELCACE

CIRECT INQUIRIES TG..

A.P. DELCACH, IBM CORP., 450 JAMES ROBERTSON PKWY.,
NASHVILLE, TENN. 37202

THESE TWO MACRCS WERE CESIGNED WITH THE IDEA OF MAKING THE CONSCLE TYPEWRITER VERY EASY TO USE. THE MSG MACRC ALLOWS THE USER TO TYPE OUT A MESSAGE BY SIMPLY CODING MSG IN THE OP-CCE FIELD AND THE ACTUAL MESSAGE IN THE OPERAND FIELD. THE ECJ MACRG TYPES OUT , FEDJ, ON THE TYPERRITER AND CONES TO A DEAD HALT WITH 999 IN THE A AND B STARS. AS AN OPTION, THE USER MAY TYPE A MESSAGE OUT INSTEAD OF , FEDJ, BY SIMPLY MAITING THE ACTUAL MESSAGE IN THE OPERAND FIELD. PROGRAM THE ALL INCLUDES MACROS TO INSERT IN THE MACRO LIBRARY AND A SAMPLE PROGRAM TO ASSEMBLE TO TEST THEIR OPERATION. SOURCE LANGUAGE IS DISK AUTOCODER MACRO LANGUAGE. MACHINE CONFIGURATION REQUIRED IS 4K 1401/40/60 WITH ONE 1311 AND CISK AUTOCODER MACRO LANGUAGE. TYPEWRITER IS REQUIRED FOR EXECUTION.

1401-02.0.041 COBOL EXPANDER PROGRAM AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-02.0.041

AUTHCR...J.G. TATE

CIRECT INQUIRIES TO..

J.G. TATE, IBM CCRP., 1013 E. COLCNIAL DR., ORLANDO, FLA.

J.G. TATE, IEM CCRP., 1013 E. COLCNIAL CR., ORLANDC, FLA.

THE CCEOL EXPANCER PROGRAM PERMITS THE USER TO CODE CCBCL
PREGRAMS IN A YERY ABBREVIATED FORM. THIS PROGRAM EXPANDS THE
ABBREVIATIONS USED AND PUNCHES A DECK READY FOR THE CCBCL
CCMPILER.
CURRENT USE INCICATES A SAVINGS CF 25 TO 60 PERCENT CF CCDING
AND KEYPUNCHING EFFORT. A STANDARD COEDL CODING SHEET IS USEC.
ABBREVIATIONS AND SUBSTITUTIONS MAY BE CHOSEN BY THE USER.
APPLICABLE FOR CCBCL FOR ANY MACHINE. HILL CONVERT PERCENT,
COZENGE, POUND SIGN, AT SIGN AND APPERSANC TO S/360 CHARACTERS
CPEN PARENTHESIS, CLOSE PARENTHESIS, EQUAL MARK, QUOTE MARK
AND PLUS SIGN IF DESIREC. WILL RESEQUENCE AND IDENTIFY CUTPUT
DECKS. PROGRAMS MAY BE STACKED. PERMITS EXPLOITATION OF
INHERENT SELF DOCUMENTING FACILITY OF COBOL HITHOUT VOLUMIACLS
COCING AND KEYPUNCHING EFFORT NORMALLY REQUIRED. WRITTEN IN
SPS FOR A 4K OR ABCVE 1401 CARO SYSIEM, USING ADVANCED
PROGRAMMING FEATURE, HI-LO-EQUAL AND SENSE SWITCHES.
412 SOURCE STATEMENTS.

1401-03.0.001 9 X 9 TEN MILLISECOND MULTIPLY SUBROUTINE AVAILABLE IST QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.001

AUTHCRS..R. B. FEASTER

1401-02.0.033 CONVERTER TO EBCDIC OF HEXADECIMAL OUTPUT OF SYSTEM/360 BASIC ASSEMBLER AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-02.0.033

AUTHOR...D.E. JOHNSON

DIRECT INCUIRIES TC.. ARS. J.S. CARTER, IBK CCRP., 40 SAW MILL RIVER RC., HAMTHORNE, N.Y.

THIS PROGRAM WILL CONVERT HEXADECIMAL CARDS PRODUCED BY THE S/360 BASIC ASSEMBLER ON THE 1401 / PROGRAM NO. 2.0.028 / INTO S/360 LOAD DECKS -- EITHER ABSOLUTE OR RELOCATABLE -- AS SPECIFIED IN THE S/360 SPECIAL SUPPORT UTILITY PROGRAMS MANUAL. MINIMUM MACHINE REQUIREMENTS ARE 8K 1401, ADVANCED PROGRAMMING, HILLC-EO, 1402 READ-PUNCH, AND COLUMN BINARY FEATURE. 619 SCURCE STATEMENTS.

1401-02.0.035 DISASSEMBLER OF 1401/1460 PROGRAMS FROM OBJECT TO AUTOCODER SOURCE AVAILABLE 414 QUARTER 1965. SPECIFY FILE NUMBER 1401-02.0.035

AUTHOR...MR. R. MACKINNON IBM CORP. 520 BOYLSTON ST. BCSTON, MASS. 02116

DIRECT INQUIRIES TO AUTHOR

THIS GROUP OF 4 PROGRAMS WAS WRITTEN TO ASSIST DOCUMENTATION AND CONVERSION EFFORTS WHERE THE USER HAS ONLY AN OBJECT DECK FROM WHICH TO WORK. IT CONVERTS AN OBJECT PROGRAM INTO MEANINGFUL AUTOCOCER SOURCE STATEMENTS, SUITABLE FOR ASSEMBLY OR AUTOCORE SOURCE STATEMENTS, SUITABLE FOR ASSEMBLY OR FLOWCHARTING.

THE FINAL OUTPUT IS A LISTING /A PUNCHED DECK IS OPTIONAL/ IN WHICH THE STATEMENTS ARE LABELLED AS REQUIRED IN THE FORM SCHOOL OF THE FORM OF THE PROPERTY OF THE PROPERTY

TO OBTAIN THE EASIC PROGRAM MATERIAL SUBMIT ONE FULL 2400 FCCT REEL OF MAGNETIC TAPE IN A STANDARD CONTAINER.

THE NUMBER OF TAPES INDICATED MAY BE GROERED FROM YOUR
IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS GROERED.

1401-02.0.036 1401 FARGO TO SYSTEM/360 RPG MODEL 20 CONVERSION PROGRAM AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-02.0.036

AUTHORS..FRED M. HANEY S. EDMONSTON STEPHEN M. LICHTER

DIRECT INQUIRIES TO..

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IEM CORPORATION
330 MADISON AVE.
NEW YORK, N.Y.

THIS PROGRAM CONVERTS IBM 1401 FARGO CONTROL CARDS
TO SYSTEM/360 MODEL 20 RPG SPECIFICATION CARDS. SOURCE
LANGUAGE IS 1401 AUTOCODER. THE OBJECT PROGRAM REQUIRES
16K, ADVANCED PROGRAMMING FEATURE, AND 2 TAPE UNITS.
THIS PROGRAM CAN BE DF GREAT VALUE WHEN CONVERTING FROM 1401
TO IEM SYSTEM/360. INPUT HAY BE ANY FARGO PROGRAM WHICH
CONFORMS TO THE SPECIFICATIONS IN FARGO FOR IBM 1401 /C22-1462/.
CUTPUT CONSISTS OF SYSTEM/360 MODEL 20 RPG SPECIFICATION CARDS
AND A LISTING OF FARGO SPECIFICATIONS WHICH WERE NOT CONVERTED BY
THE PROGRAM. CNE MAGNETIC TAPE -2400 FEET IN LENGTH- IS REQUIRED
TO GETAIN THE BASIC PROGRAM MATERIAL. THE TAPE MAY BE SUPPLIEC
CR ORDERED FROM YOUR IBM REPRESENTATIVE.

1401-02.0.037 TAPE MACROS AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-C2.0.037

AUTHOR...MR. CHARLES LEE IBM CORP. 3833 N. FAIRFAX DR. ARLINGTON, VA.

DIRECT INQUIRIES TO AUTHOR

THAOURTES TO AUTHOR

THIS PROGRAMHING SYSTEM IS A SET OF SOURCE LANGUAGE /AUTCCCCER/
LIBRARY ROUTINES DESIGNED TO AID THE COMMERCIAL USER WITH MANY
OF THE DAY-TO-CAY REQUIREMENTS OF A 14c1/1460 TAPE SYSTEM. BY
MEANS CF MACROS IN HIS SOURCE PROGRAM HE CAN CALL FOR RCUTINES
TC PERFORM THE FOLLOWING TASKS1. MULTIPLICATION AND CIVISION WITH OR WITHOUT THE
SPECIAL FEATURE. THIS INCLUDES ANY SHIFTING, ROUNDING, AND/CR
DECIMAL ALIGNMENT THAT MIGHT BE NECESSARY.
2. TABLE LOOK-UPS.
3. CLEARING AND SETTING WORD MARKS.
4. ECITING ONE OR MORE FIELDS.
5. TESTING FIELDS FOR BLANKS MOD/OR NON-NUMERIC CHARACTERS.
6. TESTING FIELDS FOR BLANKS MOD/OR NON-NUMERIC CHARACTERS.
6. TESTING FIELDS FOR BLANKS MOD/OR NON-NUMERIC CHARACTERS.
7. PRINTING ALINE, PAGE SKIPPING, AND CLEARING THE PRINT AREA.
THESE MACROS RESIDE ON THE AUTOCODER SYSTEM TAPE AND CAN BE USED
BY ANY 1401/1460 TAPE SYSTEM MITH ADVANCED PROGRAMMING AND AT
LEAST 4,000 POSITIONS OF MEMORY.

1401-02.0.038 DECISION TABLE MAINTENANCE ON THE IBM 1401 TAPE AVAILABLE 3RD QUARTER 1966.

PAGE 058

B-1401

CONTINUED FROM PRIOR PAGE--

OIRECT INQUIRIES TO..
R. B. FEASTER
IBH CORPORATION
340 MARKET STREET
SAN FRANCISCO 11, CALIFORNIA

THIS PROGRAM WILL MULTIPLY TWO NINE POSITION FIELDS TOGETHER, WITH SIGN CONTROL. 10 MS. PER MULTIPLICATION. 334 POSITIONS. 1401 - ANY MODEL.

1401-03.0.003 SQUARE ROOT SUBROUTINE AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.003

AUTHOR...KENNETH JOHNSON
BUREAU OF PUBLIC ROACS
DEPARTMENT OF COMMERCE
WASHINGTON 25, D. C.

DIRECT INQUIRIES TO AUTHOR

COMPUTES THE SQUARE ROOT OF A SINGLE-PRECISION FIXED POINT 10 DIGIT NUMBER. ACCURACY - 1 IN UNITS POSTITION 314 POSITIONS OF CORE STORAGE. MINHUM 1401 WITH AUTOMATIC MULTIPLY-DIVIDE AND HIGH, LOW, EQUAL COMPARE FEATURES.

1401-03.0.004 FLOATING POINT SUBROUTINES /NORMALIZED/ AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.004

AUTHOR...H. P. NUCCI U. S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROACS WASHINGTON 25, D. C.

DIRECT INQUIRIES TO AUTHOR

COMPUTES FLOATING POINT ADD, ADD ABSOLUTE, SUBTRACT, SUBTRACT ABSOLUTE, MULTIPLY, AND DIVIDE. 806 CORES OF MEMORY. 1401 WITH INDEX REGISTERS, MULTIPLY-DIVIDE, HIGH-LOW-EQUAL COMPARE.

1401-03.0.005 SIN-COS SUBROUTINE AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-C3.0.005

AUTHOR...KENNETH JOHNSON
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BUREAU OF PUBLIC ROACS
HASHINGTON 25, D. C.

DIRECT INQUIRIES TO AUTHOR

COMPUTES SIN AND/OR COS CONVERTING DEGREES TO RADIANS PRODUCING A NIME DECIMAL PLACE RESULT. 700 POSITIONS OF CORE STORAGE. 1401 WITH AUTOMATIC MULTIPLY-DIVIDE AND HIGH, LOW, EQUAL COMPARE FEATURES.

1401-03.0.006 SYMBOLIC A TO THE X POMER SUBROUTINE AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.006

AUTHOR...W. W. GILLETTE CCLORADO INTERSTATE GAS COMPANY POST OFFICE BCX 1087 CCLORADO SPRINGS, CCLORADO

DIRECT INQUIRIES TO AUTHOR

A SYMBOLIC SUBROUTINE FOR COMPUTING A TO THE FRACTIONAL EXPONENT X. THIS SUBROUTINE WILL USE 1081 CORE POSITIONS, INCLUDING POSITIONS 0333-0530 MHICH ARE USED IN ABSOLUTE FORM. THE ORIGIN OF THE MAIN PROGRAM USING THIS SUBROUTINE MAIN BE AT 0531. 4K 1401 WITH HIGH-LOM-EQUAL COMPARE AND MULTIPLY-DIVIDE SPECIAL FEATURE.

1401-03.0.008 NEPCO MULTIPLY ROUTINE /CARD/

AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-C3.0.008

AUTHOR...R. J. BOUVIN NEKCOSA-EDWARDS PAPER COMPANY PORT EDWARDS, WISCONSIN

DIRECT INQUIRIES TO AUTHOR

THIS MULTIPLY ROUTING IS FOR 1401 INSTALLATIONS NOT EQUIPPED WITH THE MULTIPLY-DIVIDE FEATURE. IT USES 11.44 MS. TO MULTIPLY 5 DIGITS X 5 DIGITS AND 29.9 MS. FOR 10 DIGITS. THIS ASSUMES THAT THE DIGITS OF THE MULTIPLIER HAVE AN AVERAGE VALUE OF 4.5. THIS ROUTINE IS ESPECIALLY ADVANTAGEOUS FOR SMALL FACTORS. IT GIVES ONLY A SLIGHT ADVANTAGE OVER OTHER ROUTINES ON LARGE FACTORS. 1401 SYSTEM

1401-03.0.010 SQUARE ROOT SUBROUTINE AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.010

AUTHOR...RICHARD O. BARKER ITEK CORPORATION LEXINGTON, MASSACHUSETTS

DIRECT INQUIRIES TO AUTHOR

B-1401

CONTINUED FROM PRIOR COLUMN--

THIS PROGRAM WILL CALCULATE THE SQUARE ROOT OF ANY SIX-DIGIT NUMBER. 600 POSITIONS ARE RECUIRED TO STORE THE PROGRAM. 403 OF THESE POSITIONS ARE USED TO STORE THE DIVIDE SUBROUTINE. 14C1 - ANY MODEL

1401-03.0.011 CALCULATE NUM. OF DAYS BETWEEN TWO DATES SUBROUTINE /DTCALC/ AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.011

AUTHOR...WILLIAM B. MORGAN IEM CORPORATION 99 PARK AVENUE NEW YORK NEW YORK

CIRECT INQUIRIES TO AUTHOR

THIS SUBROUTINE CALCULATES THE NUMBER OF CALENDAR DAYS BETHEEN THO DATES PROVIDING ACCURATE ACCOUNTING FOR LEAP YEAR DAY. SOURCE LANGUAGE SPS. DATES MAY BE IN SEPARATE ADJACENT CENTURIES, BUT CANNOT BE MORE THAN 199 YEARS AND 365 DAYS APART. 395 POSTIONS PLUS 24 POSITIONS FOR EACH TIME A SUBROUTINE IS USED. 1401-ANY MODEL, NO SPECIAL FEATURES ARE REGUIRED.

1401-03.0.013 E TO THE X AND E TO THE -X SUBROUTINE /FIXED POINT/ AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.013

AUTHCR...JCSEPH J. DIT U. S. DEPT. OF COMMERCE BUREAU OF PUBLIC ROADS WASHINGTON 25, D. C.

DIRECT INQUIRIES TO AUTHOR

TG PROVIDE A SUBROUTINE FOR DEVELOPING CO-LGGARITHMS
TO THE BASE E. HASTINGS APPROXIMATIONS FOR DIGICAL
COMPUTERS APPROXIMATELY 1,200 POSITIONS OF CORE STORAGE
IBM 1401 WITH 4,COO OR MORE POSITIONS OF CORE STORAGE AN
MULTIPLY-DIVIDE, HIGH-LON-EQUAL COMPARE, AND INDEXING
FEATURES.

1401-03.0.014 SQUARE ROOT SUBROUTINE USING ODD INTEGER METHOD AVAILABLE 3RO QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.014

AUTHOR...BURR PRESTON
18M CORPORATION
520 NORTH DEARBORN STREET
CHICAGO 10 ILLINOIS

THIS GENERALIZED, CLOSEC SUBROUTINE EXTRACTS THE SQUARE ROCT OF ANY NON-NEGATIVE NUMBER. IF THE ARGUMENT IS NEGATIVE, THE SQUARE ROOT OF THE ABSOLUTE VALUE OF THE ARGUMENT IS GENERATED, AND CONTROL TRANSFERS TO THE MAIN PROGRAM VIA AN ERROR RETURN. THE ARGUMENT SIZE IS VARIABLE AND LIMITED ONLY BY AVAILABLE CORE. THE ROOT CONTAINS HALE AS MANY CIGITS AS THE ARGUMENT. AN EXTREMELY GENERAL AND EASY TO USE LINKAGE ALLOWS THE PROGRAMMER TO HAVE NO KNOWLEGGE OF THE WORK AREAS OR SYMBOLIC LABELS USED BY THE SUBROUTINE. 285 POSITIONS ARE REQUIRED FOR A 10 DIGIT ARGUMENT OF LENGTH L. ADVANCED PROGRAMMING /INDEX REGISTERS, MOVE RECORD, STORE A AND B REGISTERS, MOVE RECORD, STORE A AND B REGISTERS, MOVE RECORD, STORE A AND B REGISTERS, THE LATTER THE FEATURES MAY BE ELIMINATED BY MINOR PROGRAM MOCIFICATIONS.

1401-03.0.015 SQUARE ROOT ROUTINE AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.015

AUTHCR...M. J. KENNY
IBM CORP.
7321 LAKE STREET
RIVER FOREST, ILLINGIS

DIRECT INQUIRIES TO AUTHOR

A CLCSED SPS SQUARE ROOT ROUTINE USING NO SPECIAL FEATURES AND CONLY 262 PESITIONS OF CORE. OPERATES ON ANY 1401. EXECUTION THE ESTIMATED AT 20 TO 30 MILLESECONDS DEPENDING ON THE SUM OF DIGITS IN RADICAND. WETHED OF SUCCESSIVE SUBTRACTIONS BASED ON FORMULA S/M/ EQUALS /N/A. B. M/2. FIXED POINT ARITHMETIC GIVING A SIX SIGNIFICANT DIGIT ANSWER. RANGE, LARGEST NUMBER IS 99998BBCCCO36; IRRESPECTIVE OF HHERE LECIMAL POINT IS LOCATED IN THE NUMBER. ROUTINE HAS BEEN USED ON SAMPLE PROBLEMS AND A WIDE RANGE OF CUSTOMER DATA.

1401-03.0.016 A CLOSED SUBROUTINE FOR THE COMPLETE SOLUTION OF QUADRATIC EQUATIONS ON THE IBM 1401 AVAILABLE 4TH QUARTER 1962.

SPECIFY FILE NUMBER 1401-03.0.016

AUTHOR---E- FLINN
IBM CORPORATION
2601 SOUTH MAIN STREET
HCUSTON 2 TEXAS

DIRECT INQUIRIES TO AUTHOR

THE PURPOSE OF THE SUBROUTINE IS THE SCLUTION OF QUADRATIC EQUATICNS OF THE FORM PLUS OR MINUS A TIMES X SQUARE PLUS PLUS OR MINUS C EQUALS O.

B-1401

CONTINUED FROM PRIOR PAGE--

THE MINIMUM MACHINE REQUIREMENTS ARE A BASIC 1.4K 1401 CARD OR TAPE SYSTEM,554 CORE STORAGE POSITIONS AND THE MULTIPLY AND DIVIDE SPECIAL FEATURE.

1401-03.0.019 A SQUARE ROOT SUBROUTINE FOR THE 1401 USING NORMAL EXTRACTION METHOD AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-03.0.019

AUTHOR...GEGRGE F. NARDIN

DIRECT INQUIRIES TO..
DIANN C. HANSEN
IEM CORP.
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SAN FRANCISCO, CALIFORNIA

THE PURPOSE OF THIS WRITEUP IS TO PRESENT A FLEXIBLE SUBRCUTINE FOR TAKING THE SQUARE RCOT OF ANY SIZE NUMBER USING THE NORMAL EXTRACTION METHOD. DOES NOT REQUIRE MULTIPLY-DIVIDE AND CAN BE USED WITH /METHOD I/ OR WITHOUT /METHOD I/ OR WITHOUT /METHOD I/ CORWITHOUT SIBUST OF CARE AND METHOD IREQUIRES 183 POSITIONS OF CORE. THE SAMPLE PROGRAM INCLUDED IN THE WRITEUP IS FOR A 14 DIGIT RADICAND WITH A 7 DIGIT ROOT.

THE WRITEUP ALSO INCLUDES EXPLANATION OF TERMINOLOGY USED IN THE SUBROUTINE, COMMENTS ON HOW TO ADJUST TO ANY SIZE RADICAND, A CHART OF HOK THE METHOG ACTUALLY WORKS, FLOW CHARTS, SPS SQURCE DECKS, PROGRAM DECKS AND LISTINGS OF TEST DATA AND RESULTS. 1401-ANY SIZE, METHOD I-ADVANCED PROGRAMMING-METHOD II-NO ADDITIONAL FEATURES.

1401-03.0.020 FIXED POINT SQUARE ROOT SUBROUTINE

AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-03.0.020

AUTHOR...MR. S. NORDIN
IBM SVENSKA AKTIEBOLAG
NCRDENFLYCHTSVAGEN 7C
STOCKHOLM 3C, SWEDEN

DIRECT INQUIRIES TO AUTHOR

THIS SUBROUTINE WILL COMPUTE THE SQUARE ROCT OF THE ABSOLUTE VALUE OF A FIXED POINT NUMBER OF ARBITRARY LENGTH /1-20 DIGITS/. THE RESULT WILL CONTAIN ONE DIGIT MORE THAN THE ARGUMENT, AND THE MAXIMUM ERROR IS LESS THAN FIVE /5/ IN THE LAST DIGIT. 1401-ANY MODEL EQUIPPED WITH MULTIPLY-DIVIDE AND ADVANCED PROGRAMMING FEATURES. WRITTEN IN SPS.

1401-03.0.021 SINE-COSINE SUBROUTINE AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-03.0.021

AUTHOR...E.B. WEIDNER
CAPE COMPUTER FACILITY
RCA, MISSILE TEST PROJECT
BLOG. 2-1655, MU 574C
PATRICK AIR FORCE BASE, FLORIDA

DIRECT INQUIRIES TO AUTHOR

TO CALCULATE SINE OR COSINE VALUES FROM RADIANS. 4K 1401 WITH NC SPECIAL FEATURES.

1401-03.0.022 BINARY AUTOMATIC MULTIPLY SUBROUTINE /BAMS/ AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-03.0.022

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DIRECT INQUIRIES TO AUTHOR

TO PROVIDE A MULTIPLY SUBROUTINE WHICH WOULD REQUIRE A MINIMUM OF CORE STORAGE AND ALLOW FLEXIBILITY. THIS SUBROUTINE MAY BE INSERTED IN A PROGRAM EITHER AS A CLOSED ROUTINE OR OPEN ROUTINE, AND HANDLE MULTIPLICATIONS FROM A 121 TO 20X20 /OR GREATER, WITHOUT LIMITATIONS. THIS METHOD WAS DEEMED PREFERABLE GVER THE EXISTING MULTIPLY. AND 2 DUE TO 113 COMPLETE FLEXIBILITY, EASE OF UNDERSTANDING, SPEED AND LESS CORE STORAGE REQUIREMENTS. OR SIGN CONTROL MAY BE INITIATED IN THE MAIN PROGRAM HIT LITTLE EFFORT. THIS PROGRAM FLOURIES 94 POSITIONS OF STORAGE FOR A 1X1 TO 227 POSITIONS FOR A 20X20 MULTIPLICATION. 1401 CARD SYSTEM WITH HIGH-LOW-EQUAL FEATURE. THIS PROGRAM IS WRITTEN IN SPS LANGUAGE.

1401-03.0.025 FAST DIVIDE SUBROUTINE FOR 1401/1440/1460 AVAILABLE 4TH QUARTER 1963. SPECIFY FILE NUMBER 1401-03.0.025

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THIS PROGRAM HAS BEEN CESIGNED TO ACCOMPLISH DIVISION, FOR MACHINES MITHOUT THE MULTIPLY-DIVIDE HARDWARE, IN THE SKCRTEST POSSIBLE AMOUNT OF TIME. THE PROGRAM PRINTS OUT THE DIVIDEND, DIVISOR, QUOTIENT AND REMAINDER. THE DIVIDEND AND THE DIVISOR CAN BE OF UNLIMITED SIZE EXCEPT THAT THE DIVIDEND CANNET BE SAPLLER THAN THE DIVISOR. THE ARITHMETIC IS FIXED POINT. THE ONLY SPECIAL FEATURE REQUIRED IS THE HIGH-LOH-EQUAL COMPARE FEATURE ON THE 1401. THE 1440 AND 1460 REQUIRE NO SPECIAL

B-1401

PAGE 059

CONTINUED FROM PRIOR COLUMN--FEATURES. THE PROGRAM REQUIRES 399 POSITIONS OF CORE FOR A 7 PLACE DIVIDEND AND A 3 PLACE DIVISOR. THE PROGRAM IS WRITTEN IN AUTOCCCER.

1401-03.0.027 SQUARE ROOT SUBROUTINE AVAILABLE 4TH QUARTER 1963. SPECIFY FILE NUMBER 1401-03.0.027

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WILL COMPUTE SQUARE ROOT OF 20-DIGIT INTEGER TO 10-DIGIT ACCURACY. DOD INTEGER METHOD 20-DIGIT ARGUMENT- 10-DIGIT RESULT. STCRAGE REQUIREMENTS-237 STORAGE POSITIONS. EQUIPMENT SPECIFICATIONS-MOVE RECORD, MODIFY ADDRESS, STORE B ADDRESS REGISTER, AND INDEX REGISTERS. MAY BE RE-MRITTEN FOR CTHER MACHINE CONFIGURATIONS. EXECUTION TIME VARIES FROM 77.4 MS. /ALL ZEROS/ TO 175.2 MS. /ALL NINES/.

1401-03.0.028 MULTIPLY SUBROUTINE /130 POSITION/ AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-03.0.028

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THIS IS A MULTIPLY SUBROUTINE FOR THE 1401 WHICH IS FASTER THAN THE STANDARD MPY I SUBROUTINE AND WHICH REQUIRES A MINIMUM AMOUNT OF CRE STORAGE - 130 POSITIONS. MACHINE CONFIGURATION- THIS SUBROUTINE REQUIRES THE ADVANCED PROGRAMMING SPECIAL FEATURE. EXCEPT FOR THIS REQUIREMENT, IT CAN BE USED ON ANY SIZE 1401 SYSTEM, WITH ANY COMPLEMENT OF INPUT/OUTPUT EQUIPMENT AND SPECIAL FEATURES.

THIS SUBROUTINE PERFORMS ITS MULTIPLICATION FUNCTION BY SUCCESSIVE ADDITION TO THE PRODUCT AREA. STARTING WITH THE UNITS POSITIONS OF THE MULTIPLIER, THE SUBROUTINE SUBTRACTS ONE FROM THE MULTIPLIER EACH TIME THAT THE MULTIPLICAND IS ADDED UNTIL THE MULTIPLIER DIGIT IS REDUCED TO ZERO. AS EACH SUCCESSIVE DIGIT OF THE MULTIPLIER IS USED, THE PARTIAL PRODUCT IS SHIFTED ONE POSITION MIGHT. THE FINAL PRODUCT IS ALMAYS RIGHT-ADJUSTED IN THE PRODUCT AREA AT THE COMPLETION OF THE SUBROUTIME. SOURCE LANGUAGE. THIS SUBROUTIME IS MULTIPLIED ON THE SUBROUTIME. SOURCE LANGUAGE. THIS SUBROUTIME IS MULTIPLE NI SPS IN ORDER TO ALLOW ITS INCLUSION IN EITHER AN SPS PROGRAM OR AN AUTOCODER PROGRAM /THROUGH USE OF THE ENT SPS COMMAND/.

1401-03.0.029 AUTOCODER MULTIPLY-DIVIDE

AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-03.0.029

AUTHOR...R.T. STEFFANSON
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TO PROVIDE A HARDWARE COMPATIBLE MULTIPLY-DIVIDE CAPABILITY FOR 1401 MACHINES NOT EQUIPPED MITH MULTIPLY-DIVIDE SPECIAL FEATURE. MITH MINDR RESERVATIONS, IS A MACRO-DUPLICATE OF THE 1401 MULTIPLY-DIVIDE SPECIAL FEATURE. STORAGE REQUIREMENTS-MULTIPLY 285 PCSITIONS. DIVIDE 415 POSITIONS. EQUIPMENT SPECIFICATIONS. INDEX REGISTERS, STORE ADDRESS REGISTERS. ASSEMBLY REQUIREMENTS-MULTIPLY SEQUIPE AND ASSEMBLY REQUIREMENTS. AND MITH 4K 1401, 4 TAPE UNITS, 1402 READER, 1403 PRINTER, ADVANCED PROGRAMMING, AND HILLO-EQUAL COMPARE. LANGUAGE—AUTOCODER. AN ASSEMBLED VERSICN IS USEABLE MITH FARGO.

1401-03.0.030 LOOK-UP - BINARY TABLE LOOK-UP MACRO AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-03.0.030

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THIS IS A TABLE LOOK-UP MACRO FOR 1401 AUTOCODER ASSEMBLIES OPTIMIZED BY USING THE BINARY TECHNIQUE. GIVEN AN INDEXED TABLE OF SEQUENCED ITEMS. IT SEARCHES FOR AN EQUAL ENTRY AND EXITS IC A FCUND OR NOT FCUND ADDRESS ACCORDINGLY. IF FOUND, INDEX REGISTER IS PROPERLY SET. MACHINE REQUIREMENTS-MODIFY-ADDRESS, HIGH-LOM-EQUAL COMPARE, MULTIPLY-DIVIDE AND ADVANCED PROGRAMMING FEATURES. MACRO USES 177 CORE POSITIONS. IT CAN HANDLE ANY NUMBER OF TABLE ENTRIES THROUGH 4096 AND ANY SIZE ENTRY THROUGH 9099. NO LINEAR COMPARES ARE USED AND THE MAXIMUM NUMBER OF COMPARES RECECT TO FIND ANY ITEM IS TWELVE.

1401-03.0.034 BINARY TABLE SEARCH TECHNIQUE USING INDEX REGISTERS ON THE 8K-16K 1401 AVAILABLE 41H QUARTER 1964. SPECIFY FILE NUMBER 1401-03.0.034

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PAGE 060

8-1401

CONTINUED FROM PRIOR PAGE--

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THIS IS A WRITTEN ARTICLE WHICH WAS DESIGNED TO FAMILIARIZE THE INQUIRER WITH THIS TECHNIQUE AND ALLOW HIM/HER TO ADAPT THIS TECHNIQUE TO HIS/HER SPECIFIC NEED. A SAMPLE PROGRAM DECK AND PROGRAM LISTING WHIL BE SENT TO THE INQUIRER UPON REQUEST ALCNOWITH THE WRITTEN ARTICLE. THIS METHOD WAS CHOSEN ABOVE ALL OTHERS BECAUSE IT IS EXTERNELY RAPID, EASY TO PROGRAM, AND VERY CONSERVATIVE OF CORE. THE ONLY RESTRICTION TO THIS TECHNIQUE IS THE SIZE OF THE TABLE WHICH MAY BE PLACED IN CORE STORAGE, HHICH IS A FUNCTION OF THE SIZE OF CORE STORAGE. STORAGE REQUIREMENTS—ANY IBM 1401 OR 1460 WITH 8K OR LARGER MEMORY. EQUIPMENT SPECIFICATIONS—1401 8-16K WITH INDEXING... CARD READER... PRINTER... ADDRESS MODIFICATION FEATURE... HI-LO-EQUAL CCMPARE FEATURE. /THIS TECHNIQUE MAY BE ADAPTED TO A 4K OR LESS 1401 BY USING MODOULUS 4 ARITHMETIC./ THE SAMPLE DEMONSTRATION PROGRAM IS WRITTEN IN S.P.S. LANGUAGE AND THE BBJECT DECK IS CONCENSED. THE RUNNING TIME IS DEPRENDENT UPON THE TYPE OF OPPRATION TO BE DONE USING THIS TECHNIQUE. AS FAR AS INFORMATION RETRIEVAL TIME, THE TECHNIQUE IS EXTREMELY RAPID.

1401-03.0.036 AUTOCODER SERCH BINARY SEARCH MACRO

AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-03.0.036

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BINARY SEARCH IS A HIGHLY EFFICIENT METHOD OF TABLE LCCK-UP AND HAS NOTHING TO DO WITH COLUMN BINARY OR BINARY ARITHMETIC. THE SERCH MACRO GENERATES AN OPEN SUBROUTINE TO COMDUCT A BINARY SEARCH OF A TABLE. SERCH DOES NOT SET UP THE TABLE, IT MERELY SEARCHES THE TABLE AND EXITS TO THE NEXT SEQUENTIAL INSTRUCTION IF THE DATA RECORD IS MATCHED, OR EXITS TO AN ADDRESS SUPPLIED AS A PARAMETER IF THE DATA IS NOT MATCHED. INDEX REGISTER 3 CONTAINS THE ADDRESS OF THE TABLE ENTRY WHICH COMPARED EQUAL. EMPHASIS IS ON EASE OF USE. SERCH USES A MACRO-GENERATED ACCRESS TABLE TO DIVIDE THE TABLE OF ENTRIES INTO SUCCESSIVELY SMALLER HALVES AND DOES NOT REQUIRE THE MULTIPLY-OUTDE SPECIAL FEATURE. SIZE AND NUMBER OF ENTRIES IN THE TABLE IS RESTRICTED ONLY BY CORE STORAGE AVAILABLE. SIGNAGE REQUIREMENTS VARIES. TYPICAL REQUIREMENTS ARE LOT POSITIONS FOR 31 ENTRY TABLE, 149 POSITION FOR 4095 ENTRY TABLE. 8 ADDITIONAL POSITIONS - ADVANCED PROGRAMMING, HI-LO-CQUAL COMPARE. ASSEMBLY REQUIRES 1401 AUTOCODER SYSTEM. LANGUAGE—AUTOCODER.

1401-03.0.041 1401/1460 SIMULTANEOUS MULTIPLY DIVIDE SUB-ROUTINE AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1401-03.0.041

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THIS PROGRAMMEC SUB-ROUTINE PROVIDES THE ABILITY TO MULTIPLY AND DIVIDE SIMULTANEOUSLY IN ONE OPERATION WITH ALGEBRAIC SIGN CONTROL AND DECIMAL CONTROL UP TO FIVE ADDITIONAL PLACES. BOTH THE MULTIPLICATION AND DIVISION IN ANY COMBINATION IS ACCOMPLISHED IN APPROXIMATELY HALF THE TIME II TAKES IC USE TWO SEPRARTE MULTIPLY AND DIVIDE ROUTINES. THIS ROUTINE ALLOWS USE OF EITHER MULTIPLICATION, OR DIVISION OR THE COMBINATION WITH COMPLETE LINKAGE TO USERS PROGRAM. IT PROVIDES FOR THE MULTIPLICATION, DIVISOR AND MULTIPLIER/DIVIDEND TO BE UP TO IC POSITIONS EACH AND SUPPLIES A 20 POSITION SIGNED ANSWER AND 10 POSITION REMAINDER. USES LESS THAN 26C POSITIONS OF ANY 1401-1460 WITH ADVANCEC PROGRAMMING.

1401-03.0.043 1401/1440 MORDIMER-MULTIPLY OR DIVIDE UTILITY PROGRAM AVAILABLE 151 QUARTER 1966. SPECIFY FILE NUMBER 1401-03.0.043

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MORDINER IS A PROGRAM THAT WILL MULTIPLY OR DIVIDE AND GIVE IMMEDIATE RESULTS. QUANTITIES OF VARYING LENGTHS ARE PROCESSED BY USING CONVENTIONAL MULTIPLY AND DIVIDE SUBROUTINES. START INPUT DATA CARD IN COLUMN I AND PUNCH ANY COMBINATION OF TWO QUANTITIES SEPARATED BY AN X FOR MULTIPLICATION OR A / FOR DIVISION. THE FIRST QUANTITY CAN BE UP TO 11 DIGITS, THE SECOND UP TO 9 DIGITS. THE INPUT AND RESULTS FOR EACH CARD ARE PRINTED ON ONE LINE. DATA CARD INPUT 222/11 GIVES IMMEDIATE PRINTED OUTPUT— 222 / 11 EQUALS 20 REMAINDER 02. DATA CARD THO 123456789X 123456789 RPINTS—
123456789 X 123456788 EQUALS 1524157763507942. CARD THREE 12345678901/9787 PRINTS—
12345678901/97

1401-03.0.044 TRIGONOMETRIC SUBROUTINES AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-03.0.044

B-1401

CONTINUED FROM PRIOR COLUMN--

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THIS PACKAGE IS DESIGNED TO PERFORM THE BASIC TRIGONOMETRIC FUNCTIONS. THE INCLUDED CLOSED SUBROUTINES AND THEIR STORAGE REQUIREMENTS ARE AS FOLLOWS-DEGREES TO RADIANS 17257, RADIANS TO DEGREES / 1457, SQUARE ROOT / 1447, ARCTAM-ARCCOI / 3487, ARCSIN-ARCCOIS / 4847, STAM-COTAM-6277. IF ONLY ANGLES LESS THAN 90 DEGREES ARE TO BE USED AND THE TAN AND COI ARE NOT NEEDED, THE SIN-COS SUBROUTINE CAN BE REDUCED FROM 627 TO 262 CHARACTERS. HASTINGS APPROXIMATIONS USED FOR TRIGONOMETRIC FUNCTIONS, EXCEPT FOR THE SIN-COS WHICH USES A SERIES. WILL ACCEPT ANY POSITIVE ANGLE LESS THAN TEN RADIANS. ACCURACY TO SEVEN DECIMAL PLACES OR ONE-TENTH OF A SECOND FOR ANGLAR MEASURE. SQUARE ROOT OF A NINTETERN DIGIT NUMBER WILL YIELD TEN DIGITS. TEN DIGITS.
STORAGE REQUIREMENTS OF THE COMBINED PACKAGE - 1,493 CHARACTERS.
EQUIPMENT SPECIFICATIONS- ADVANCED PRGGRAMMING, MULTIPLY-DIVIDE,
HIGH-LCM-EQUAL CCMPARE.
WRITTEN IN S.P.S. THE COMBINED PACKAGE USES COMMON FIELDS,
THEREBY REQUIRING LESS STORAGE THAN THE TOTAL OF THE
INDIVIDUAL SUBROUTINES.

1401-03.0.045 AUTOCODER DECISION TABLE TRANSLATOR

LATUR AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-03.0.045

AUTHOR...E.R. HARRIS

DIRECT INQUIRIES TO... E.R. HARRIS, IBM CORP., 1001 WHITAKER ST., SAVANNAH, GA.

A SUPROUTINE AND ASSOCIATED TECHNIQUE. THE TECHNIQUE IS FOR WRITING LIMITEC ENTRY DECISION TABLES IN AUTOCODER IN A FORMAT CONGRUOUS WITH STANDARD DECISION TABLE, AND IS WRITIEN IN AUTOCODER. MACHINE REQUIREMENTS ARE A 1401/1440/1460 WITH INDEX REGISTERS AND STORE ADDRESS REGISTER AND MODIFY ADDRESS INSTRUCTIONS. THIS SUBROUTINE AND TECHNIQUE, AS WELL AS PROVIDING DIRECT TRANSLATION OF DECISION TABLES INTO AUTOCODER, AUGMENTS DOCUMENTATION CLARITY, FACILITATES MODULAR PROGRAMMING, AIDS DEBUGGING, AND FERMITS LARGE SCALE CHANGES OF PROGRAM LOGIC WITHOUT RE-ASSEMBLY OR EXTENSIVE PATCHING.

1401-03.0.046 CALOG, IBM 1401 CALOG SUBROUTINE AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-03.0.046

AUTHOR...HERBERT PRINZ

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HERBERT PRINZ, IBM CORP., D.P. BASIC RESEARCH, P.C. BOX 66, 7032 SINDELFINGEN, GERMANY

BY A PROCESS OF ITERATION THE NUMBER IS BROUGHT TO A PRODUCT OF CORRESPONDING DIFFERENT FACTORS. THESE FACTORS ARE CHOSEN IN SUCH A MANNER THAT THE MULTIPLICATIONS AND DIVISIONS CAN BE REPLACED BY SIMPLE ABOUTIONS.
STORAGE REQUIREMENTS- 21 POSITIONS MAIN PROGRAM IN CONNECTION WITH CALOG SUBROUTINE. 160 INSTRUCTIONS CALOG SUBROUTINE, 1247 POSITIONS /MACHINES WITHOUT MAFEATURE/, 1119 POSITIONS /MACHINES WITH MAFEATURE/, 1119 POSITIONS /MACHINES WITH MAFEATURE/, MAXIMUM REGURACY /EXACT/ OF MANTISSA 20 POSITIONS.
BEFORE ASSEMBLING, EXACT, /DESIRED ACCURACY OF LOCARITHMY/ MUST BE DEFINED BY THE USER. THE AUTOCODER PROGRAM IS RELOCATABLE.
THE PURPOSE OF CALOG IS TO PROVIDE A FAST CALCULATION OF LOGARITHMS, THE HIGHER THE DESIRED ACCURACY OF LOGARITHMS, THE MORE THE AUTOCODER PROGRAM IS THE PURPOSE OF CALOG IS TO PROVIDE A FAST CALCULATION OF LOGARITHMS, THE HIGHER THE DESIRED ACCURACY OF LOGARITHMS, THE MORE TIME AND COMPUTATION EFFORT IS SAVED BY THIS SUBROUTINE.

1401-05-0.001 MIP /MATRIX INVERSE PROGRAM FOR THE IBM 1401/ /CARD/ AVAILABLE 2ND QUARTER 1962-SPECIFY FILE NUMBER 1401-05-0.001

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TO INVERT AN /N/ BY /N/ MATRIX USING FLOATING POINT ARITHMETIC. DATA FORMAT - SIX SIGNIFICANT FIGURES. MULTIPLY - DIVIDE FEATURES, INDEX REGISTERS, AND HI-LC-EQUAL COMPARE.

1401-05.0.003 MULTIPLE SIMULTANEOUS EQUATION AND MATRIX INVERSION PROGRAM AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-05.0.003

AUTHOR...H.J. MYERS IBM CORP. 2330 ST. PAUL ST. BALTIMCRE 18, MARYLANC

DIRECT INQUIRIES TO AUTHOR

UP TO 37 SIMULTANEOUS EQUATIONS ARE SOLVED. MATRICES UP TO 38 X 38 MAY BE INVERTED AS MILL BE THE COEFFICIENT MATRIX OF THE SIMULTANEOUS EQUATIONS. ALL CALCULATIONS ARE CARRIED OUT IN EIGHT-DIGIT PRECISION. NO ROUNDING IS

8-1401

CONTINUED FROM PRIOR PAGE--

THE PROGRAM RECUIRES THE HIGH-LOW-EQUAL COMPARE, MULTIPLY-DIVIDE AND ADVANCED PROGRAMMING FEATURES AND 4, 8, 12 CR 16K POSITIONS OF CORE STORAGE. WRITTEN IN AUTOCODER.

1401-05.0.005 SOLUTION TO SIMULTANEOUS LINEAR EQUATIONS AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-05.0.005

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1401-05.0.006 SOLUTION OF BANK COST ALLOCATION BETWEEN DEPARTMENTS USING SIMULTANEOUS LINEAR EQUATIONS AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-05.0.006

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CIRECT INQUIRIES TO AUTHOR

THIS PROGRAM PACKAGE IS DESIGNED TO PROVIDE A READY SCLUTION TO THE PROBLEM OF BANK DEPARTMENTAL INTERACTIONS. THE FIRST PROGRAM CREATES THE INPUT FOR THE SECOND BY TAKING DECIMAL INPUT, CONVERTING IT TO FLOATING POINT AND PUNCHING IT IN THE REQUIRED FORMAT. THE SECOND PROGRAM SOLVES A SYSTEM OF LINEAR EQUATIONS TO CETEMPINE THE RESULT OF THE DEPARTMENTAL INTERACTIONS. THE THIRD PROGRAM CONVERTS THE RESULTS OF THE LINEAR EQUATION SOLUTION FROM FLOATING POINT TO DECIMAL AND PRINTS THEM OUT IN A DEPARTMENTAL EXPENSE LISTING. THIS PACKAGE IS MRITTEN IN AUTOCODER AND REQUIRES AN 84 1401, WITH HIGH-LUST-EQUAL-COMPARE, AND ADVANCED PROGRAMMING, 1402, 1403 AND TWO TAPE UNITS.

1401-06.0.001 SEASONAL ADJUSTMENT OF MONTHLY TIME SERIES AVAILABLE 3RC QUARTER 1962. SPECIFY FILE NUMBER 1401-06.0.001

AUTHOR...FABIO TOMCHINSKY IEM CORP. 230 S. 15TH ST. PHILADELPHIA, PENNSYLVANIA

DIRECT INQUIRIES TO AUTHOR

COMPUTES A PRELIMINARY SEASONALLY ADJUSTED SERIES FOLLOWING THE CONVENTIONAL RATIO TO MOVING AVERAGE TECHNIQUE. THEN IT UTILIZES A KEIGHTED FIFTEEN-MONTH MOVING AVERAGE AS THE ESTIMATE OF THE TREND CYCLE CURVE USED TO OBTAIN THE FINAL SEASCNALLY ADJUSTED SERIES. COMPUTES THE IRREGULAR, CYCLICAL AND SEASONAL COMPONENTS. CARD 1401-4K NO SPECIAL DEVICE SHISKIN METHOD THE PROGRAM HAS BEEN MRITTEN IN SPS. THE PROGRAM HILL HANDLE UP TO 15 YEARS OF MONTHLY DATA WITH ONE DATA CARD FOR EACH YEAR. EACH CARD MUST HAVE INFORMATION FOR ALL 12 MONTHS OF A CALENDAR YEAR.

1401-06.0.002 LINEAR REGRESSION ANALYSIS AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-06.0.002

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A THE PASS 1401 FERTRAN PREGRAM THAT WILL ACCOMMENTE EIGHT INDEPENDENT VARIABLES ON A 1401 8K SYSTEM. EASILY MODIFIED TO THE NUMBER OF VARIABLES FOR USE ON A LARGER SYSTEM 1401 8K.

1401-06.0.003 MULTIPLE REGRESSION PROGRAM AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-C6.0.003

AUTHORS. FEDERAL RESERVE BANK OF KANSAS CITY RESEARCH DEPARTMENT FEDERAL RESERVE BANK OF KANSAS CITY FEDERAL RESERVE P. C. STATION KANSAS CITY 6, MISSCURI

A MULTIPLE REGRESSION ANALYSIS DESIGNED TO HANDLE UP TO 10 VARIABLES. COMPUTES PARTIAL REGRESSION AND STANDARDIZED PARTIAL REGRESSION COEFFICIENTS, STANDARD ERRORS, T VALUES, PARTIAL AND MULTIPLE CORRELATION COEFFICIENTS, AND THE DURBIN WATSON RATIO. MACHINE CONFIGURATION 1401 CARD SYSTEM WITH 8K MEMORY, MULTIPLY-DIVIOE, INDEXING, STORE ADDRESS REGISTER, HI-LC-EQUAL COMPARE, EXPANDED PRINT EDIT.

B-1401

PAGE 061

1401-06.0.004 MULTIPLE LINEAR REGRESSION ANALYSIS AVAILABLE 3RC QUARTER 1963. SPECIFY FILE NUMBER 1401-06.0.004

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THIS PROGRAM IS DESIGNED TO ACCOMPLISH A REGRESSION ANALYSIS OF UP TO 14 INDEPENDENT VARIABLES ON THE SMALLEST 1401 WITH FORTRAN CAPABILITIES. IT SACRIFICES SPEED AND ELEGANCE TO ACCOMMODATE LARGER PROBLEMS THAN ANY OTHER SUCH PROGRAM NOW AVAILABLE. EASILY MODIFIED BY USER WITH FORTRAN KNOWLEGGE. TO METHOD USED IS LEAST SQUARES AND STATISTICS ARE CALCULATED FOR THE EVALUATION OF OVERALL FIT AND INDIVIDUAL COMPONENTS. DATA FORMAT MAY BE MODIFIED BY USER. REQUIRES SK 1401 WITH FORTRAN FEATURES. 152 SCURCE STATEMENTS. WRITTEN IN FORTRAN.

1401-06.0.005 MULTIPLE CORRELATION- VARIABLES OF IMPORTANCE DETERMINED /VOID/ AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-06.0.005

AUTHOR...DR. J.R. JOHNSON
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TO DETERMINE THE ORDER OF IMPORTANCE OF THE INDEPENDENT VARIABLES IN A MULTIPLE CORRELATION PROBLEM, TO FIND THE COEFFICIENTS OF MULTIPLE CORRELATION FOR THE VARIABLES AS THEY ARE INTRODUCED, TO FIND THE COEFFICIENTS OF SIGNIFICANCE OF THESE CEFFICIENTS, TO FIND THE COEFFICIENTS OF THE REGRESSION EQUATION FOR THE VARIABLES SELECTED, AND / IF DESERVED/ TO CALCULATE PREDICTED VALUES OF THE DEPENDENT VARIABLE. WHERRY-DOCLITILE VARIABLES WITH 220 DISSERVAITORS, HOR THE THE NUMBER OF OBSERVATIONS HOST EXCEED THE VARIABLES. WE CAN ADD THE OBSERVAITONS FOR EVERY VARIABLES NOT NEEDED. STORAGE REQUIPMENTS PECFFICIATIONS—IN 1401 LOK WITH THE FOLLOWING FEATURES—ADVANCED PROGRAMING, HIGH-ICH-EQUAL COMPARE, AND PUNCH., 1403 PRINTER., AND HIGH-SPEED SORIER. A CARD REPREDUCER IS HELPFUL.

1401-06.0.006 CORL-8 THIRTEEN VARIABLE SIMPLE CORRELATION AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-C6.0.006

AUTHORS..MR. RUPERT J. LISSNER PCST OFFICE BOX 7256 STANFORD UNIVERSITY STANFORD, CALIFORNIA

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CORLB MILL CORRELATE UP TO THIRTEEN VARIABLES AND PRINT THE CORRELATION COEFFICIENTS ALONG WITH HEADINGS SPECIFIED BY THE USER. THROUGH HEADER CARDS, THE USER SPECIFIES NUMBER OF VARIABLES /12-13/, TITLE OF EACH VARIABLE /FOR IDENTIFICATION OF PRINTED REPORT/, AND DATA CARD LOCATION OF VARIABLES. AN OFFICMAL HEADER CARD WILL PRINT UP TO 78 COLUMNS OF INFORMATION AT THE TOP OF THE REPORT. NUMBER OF DATA CARDS CANNOT EXCEED 99,999. IF INPUT DATA IS NOT ON CARDS, THE SPS LANGUAGE SOURCE DECK SHOULD BE REQUESTED, AS MODIFICATIONS WILL BE NECESSARY. MACHINE REQUIREMENTS— IBM 1401 WITH MULTIPLY—DIVIDE. 1402 CARD READER/PUXCH, 1403 PRINTER. 4K CORE STORAGE. SOURCE LANGUAGE—SYMBCLIC PROGRAMMING SYSTEM, SPS.

1401-06.0.007 REGRESSION ANALYSIS COMPUTER PROGRAM

AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-C6.0.007

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BUREAU OF PUBLIC ROACS, MASHINGTON 25, D.C.

TO PROVIDE A PROGRAM FOR THE SOLUTION OF SIMPLE AND MULTIPLE REGRESSION EQUATIONS INVOLVING FROM 2 TO 26 VARIABLES AND FROM 2 TO 9999 OBSERVATIONS.

DATA TO BE ENTERED MUST BE IN 10 DIGIT FORM WITH THE DECIMAL POINT ASSUMED TO BE BETWEEN THE FIFTH AND SIXTH DIGITS. NO IS MADE OF THE MATRIX TO SEE IF THERE ARE IDENTICAL ROMS OR COLUMS. 16000 POSITIONS OF CORE STORAGE. BIM 1401 /OR WITH COMPATIBILITY SWITCH!. ADVANCED PROGRAMMING PACKAGE. FOUR

OPTICNAL PROGRAM MATERIAL - ONE REEL OF TAPE CCNTAINING THE SOURCE CARCS FOR PHASES 1, 2 AND 3. THE REEL OF TAPE REQUIRED TO OBTAIN THE OPTIONAL MATERIAL MAY BE CROERED FROM YOUR 18M REPRESENTATIVE OR SUPPLIED. THE TAPE PROVICED MUST BE 2400 FEET IN LENGTH.

OPTICNAL MATERIAL DESIREO MUST BE ITEMIZED ON THE CROER CARD.

1401-06.0.008 REGAN - 4K REGRESSION ANALYSIS AND CORRELATION COEFFICIENTS PROGRAM AVAILABLE 380 QUARTER 1963-SPECIFY FILE NUMBER 1401-C6.0.008

AUTHOR...L. E. HANNEMAN

PAGE 062 8-1401

CONTINUED FROM PRIOR PAGE--

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REGAN COMPUTES SIMPLE CORRELATION COEFFICIENTS AND PERFORMS A LINEAR REGRESSION AMALYSIS UTILIZING A MINIMUM AMOUNT OF CORE SPACE. THE PROGRAM HANDLES UP TO CNE HUNDRED OBSERVATIONS, AND ACCEPTS UP TO EIGHT INCEPENDENT VARIABLES AND ONE DEPENDENT VARIABLE. MACHINE CONFIGURATION— A 4K 14C1 WITH ADVANCED PROGRAMMING IS REQUIRED. THE PROGRAM INSTRUCTIONS OCCUPY CORE POSITIONS 0100-03098. THE MATRIX OCCUPIES POSITIONS 31C0-3999. POSITIONS 0100-0312 ARE CLEARED BEFORE PRINTING CCCURS. THE SCURCE PROGRAM IS WRITTEN IN 1401 SPS.

CPTICNAL PROGRAM MATERIAL - SOURCE DECKS... CNE-PER-CARD OBJECT DECK.
CTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARG.

1401-06.0.009 SEASONAL ADJUSTMENT-CENSUS METHOD II, X-9 VERSION, 4K, LONG PROGRAM AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-06.0.009

AUTHOR...HR. E.C. CHRIST FECERAL RESERVE BANK OF PHILADELPHIA DEPARTMENT OF RESEARCH PHILADELPHIA, PENNA.

DIRECT INCUIRIES TO AUTHOR

TO ACJUST SEASCHALLY MONTHLY TIME SERIES AND TO PROVIDE ADDITIONAL MEASURES AS AIDS TO AMALYZING THE DATA. THE BASIC PROCEDURE MAY BE FOUND IN ELECTRONIC COMPUTERS AND BUSINESS INDICATORS BY JULIUS SHISKIN, PUBLISHED BY THE NATIONAL BURGAU OF ECONOMIC RESEARCH AS OCCASIONAL PAPER 57. THE X-9 VERSION IS GENERALLY DESCRIBED IN BUSINESS CYCLE DEVELOPMENTS, MARCH 1962, PUBLISHED BY THE BURGAU OF THE CENSUS, U.S. DEPARTMENT OF CONGRESS. MAXIMUM OF 15 YEARS OF MONTHLY DATA. EACH YEAR PUST BE COMPLETE, MITH NO MINUS OR ZERO VALUES. MONTHLY VALUES NOT TO EXCEDE 0 GOIGITS. ANY CONSECUTIVE 12 MONTHS MUST TOTAL LESS THAN 10,000,000.

EQUIPMENT SPECIFICATIONS— 4K, 132 PRINT POSITIONS, CARD SYSTEP, NO SPECIAL FEATURES.

1401-06.0.010 SEASONAL ADJUSTMENT, CENSUS METHOD II, X-9 VERSION, 4K, SHORT PROGRAM AVAILABLE 380 QUARTER 1963. SPECIFY FILE NUMBER 1401-06.0.010

AUTHCR...MR. E.C. CHRIST FEDERAL RESERVE BK. CF PHILADELPHIA DEPARTMENT CF RESEARCH PHILADELPHIA, PENNA.

TO SEASONALLY ADJUST MONTHLY TIME SERIES AND TO CHART THE ORIGINAL AND THE SEASONALLY ADJUSTED DATA. THE BASIC PROCEDURE MAY BE FOUND IN ELECTRONIC COMPUTERS AND BUSINESS INDICATORS BY JULIUS SHISKIN, PUBLISHED BY THE NATICNAL BUREAU OF ECCNOMIC RESEARCH AS OCCASIONAL PAPER 57. THE X-9 VERSION IS GENERALLY DESCRIBED IN BUSINESS CYCLE DEVELOPMENTS, MARCH 1962, PUBLISHED BY THE BUREAU OF THE CENSUS, U.S. DEPARTMENT OF CONGRESS. MAXIMUM OF 15 YEARS OF MONTHLY DATA. EACH YEAR MUST BE COMPLETE, WITH NC MINUS OR ZERO VALUES. MONTHLY VALUES NOT TO EXCEED 6 DIGITS. ANY CONSECUTIVE 12 MONTHS MUST TOTAL LESS THAN 10,000,000.

1401-06.0.011 METHOD OF RECORDING COMPUTER
UTILIZATION AND 3 1401 PROGRAMS TO FICILITATE STATISTICAL ANALYSIS
AVAILABLE 2ND QUARTER 1964.
SPECIFY FILE NUMBER 1401-06.0.011

AUTHOR...J.W. SYROTCHEN

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THIS PROGRAM EXPLAINS IN DETAIL THE BASIC CONCEPTS AND REQUIREMENTS OF A CONSCLE OPERATIONS LOG, SPECIFICALLY CRIENTED TO A CONSCLE OPERATIONS LOG, SPECIFICALLY CRIENTED TO A CONSCRETA ENOUGH TO BE ADAPTED FOR ANY INSTALLATION. TO SUPPLEMENT THE METHCE CUTILINED, THREE 1401 4K PROGRAMS ARE PROVICED TO ENABLE A MEANS OF ANALYZING THE CARCS PURCHED FROM THE LOG. EIGHT REPORTS ARE ILLUSTRATED. MACHINE CONFIGURATION—NO SPECIAL FEATURES OR DEVICES ARE USED EXCEPT SENSE SMITCHES AND 132 PRINT POSITIONS. BASIC SYSTEM CONFIGURATION NECESSARY TO UTILIZE PROGRAMS, 4K 1401, 1402 AND 1403. SOURCE LANGUAGE—CODING IS IN BASIC SPS TO ACCOMMODATE THE NON-AUTOCOCER USER.

OPTIONAL PROGRAM MATERIAL - SOURCE DECK FOR LOG 1, 2 AND 3. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARC.

1401-06.0.012 ANALYSIS OF VARIANCE, 2 TO THE N POWER FACTORIAL DESIGN AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-C6.0.012

AUTHORS..DR. J. ROBERT JCHNSCN, JR.
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DIRECT INQUIRIES TO AUTHOR

ANALYSIS OF VARIANCE OF CATA FOR A 2 TO THE N POWER FACTORIAL DESIGN. AS GIVEN IN MANUAL OF EXPERIMENTAL STATISTICS BY FREUNC, LIVERNGRE, AND MILLER, PRENTICE - FALL, 1960. MRITTEN IN FORTRAN. HES THAN 1 LESS THAN 5. THE NUMBER OF REPLICATIONS MUST BE MORE THAN ONE AND LESS THAN 2. THEN NUMBER OF REPLICATIONS MUST BE MORE THAN ONE AND LESS THAN 26. THEN 15. AMPLE ROOM IN STORAGE FOR EXPANDING THE LIMITS ON THE RESTRICTIONS./ 9300 POSITIONS. MODULUS IS 5, MANTISSA IS 8. EQUIPMENT SPECIFICATIONS - 1401, 12K OR 16K, WITH THE FOLLOWING FEATURES ADVANCED PROGRAMMING, HIGH-LCK-EQUAL

B-1401

CONTINUED FROM PRIOR CCLUMN--COMPARE, AND MULTIPLY-DIVIDE- CARD READER AND PUNCH- 1403 PRINTER.

1401-06.0.013 DATA TRANSFER - PROGRAM FOR CENSUS METHOD II AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-06.0.013

AUTHOR...LAWRENCE SALZMAN IBM CORPORATION 590 MADISON AVENUE NEW YORK, NEW YORK

THE PROGRAM TAKES THE FINAL SEASONALLY ADJUSTED SERIES GENERATED BY THE 4K 1401 VERSIONS OF CENSUS METHOD II, A SEASCNAL ADJUSTMENT PROGRAM, APPLIES A SPENCER FIETEEN-TERM SHOOTHING FORMULA, AND PUNCHES OUT RESULTS WHICH ARE INPUT FOR THE 16K 1401 PROGRAM TITLED POLYMOMIAL CURVE FIT FOR ECCHOMIC ANALYSIS AND FORECASTING, FILE NUMBER 7.0.003. THE SPENCER SMOOTHING IS APPLIED TO ADJUST FOR THE IRREGULAR COMPCINENT, THEREBY LEAVING A TREND-CYCLE COMPONENT SERIES FOR FINAL ANALYSIS.

1401-06.0.014 ONE-MAY ANALYSIS OF VARIANCE AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-06.0.014

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DIRECT INQUIRIES TO AUTHOR

COMPUTATION OF .,F RATIO., FOR ONE WAY ANALYSIS OF VARIANCE. THE PREGRAM IS DESIGNED FOR BOTH VARIABLE AND CONSTANT SAMPLE SIZES PER COLUMN. THE PROGRAM IS LIMITED TO A MATRIX OF 99 CCLUMNS AND 999 ROKS. EQUIPMENT SPECIFICATIONS- BK 1401 CARD SYSTEM WITH A 132 POSITION PRINTER, AND STANDARD FORTRAN CONFIGURATION. SCURCE LANGUAGE- FORTRAN.

1401-06.0.015 TIME SERIES ANALYSIS & DATA REDUCTION PROGRAM AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-06.0.015

AUTHCR...R.A. KOPP
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PROCUCT FORECASTING
HARRISON, N.Y.

CIRECT INQUIRIES TO AUTHOR

PERFORMS DATA REDUCTION AND SMOOTHING OF TIME SERIES FUNCTIONS BY CLASSIFYING SERIES DATA INTO RUNS OR GROUPS OF POINTS HAVING POSITIVE OR NEGATIVE RATES OF CHANGE OR TREND. REPEATED AVERAGING OF RUNS PRODUCES SMOOTHING AND REDUCES THE NUMBER OF OBSERVATIONS IN A SERIES TO A LEVEL WHERE MAJOR TRENDS CAN BE REASCHABLY ISOLATED. USES METHODOLOGY FROM THE PAPER THE ANALYSIS OF ECCNOMIC TIME SERIES FOR PROGABILITY FORECASTING AND CONTROL, Z.Z. SZATROWSKI, JULY, 1963. ACCOMODATES SERIES WITH FIXED OR VARIABLE TIME INTERVALS AND PROVIDES FOR ASSIGNMENT OF CONSTANT OR VARIABLE WEIGHTING FACTORS TO EACH SERIES CBSERVATION. CUTPUT IS ON TAPE AND PRINTER. AUTOCODER PROGRAM USES BK 1401 WITH FOUR TAPE CRIVES, AUVANCED PROGRAMMING, SENSE SWITCHES, MULTIPLY/DIVICE, AND 1403 MCC. 2 OR 3.

1401-06.0.016 FIRST AND SECOND DEGREE ORTHOGONAL CURVE FIT AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-C6.0.016

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TC FIT FIRST AND SECOND DEGREE POLYNOMIALS TO SET OF EQUALLY SPACED POINTS AND TO EXTRAPOLATE FOR A SPECIFIED NUMBER OF POINTS. A 16K- 1401, 1402, 1403 / MODEL 2/, MULTIPLY, DIVIGE, HIGH-LOW, EQUAL COMPARE, ADVANCED PROGRAMMING. THIS PROGRAM CAN BE REASSEMBLED FOR A SMALLER MACHINE.

1401-06.0.017 ORTHOGONAL POLYNOMIAL CURVE SMOOTHING FOR ACTUARIAL DEPRECIATION STUDIES AND TEST OF FIT AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1401-06.0.017

AUTHOR...A. MCFARLANE
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CAMADA

DIRECT INQUIRIES TO AUTHOR

TC SMCCTH A SET OF RETIREMENT RATICS FOR A CLASS OF DEPRECIABLE PLANT. THE ASSOCIATED SMCOTHED AND OBSERVED RATICS ARE CALCULATED ALONG WITH THE SMOOTHED AND OBSERVED LIFE TABLES. THE SMCOTHED RESULTS ARE ALSO EXTRAPOLATED BEYOND THE COSERVED REGICN.

AN 8K 1401, 1402, 1403 /MODEL 2/, MULTIPLY-DIVIDE, HIGH-LCW-ECUAL CCMPARE, ADVANCED PROGRAMMING, SENSE SHITCHES.

THIS ROUTINE CORSISTS OF A CURVE SMOOTHING /SPS/ PROGRAM AND A CORRELATION COEFFICIENT, TEST OF FIT, AND AVERAGE SERVICE LIFE /FORTRAN/ PROGRAM.

B-1401

1401-06.0.018 TRADING-DAY ADJUSTMENT FOR 1401 VERSIONS OF CENSUS METHOD II AVALLABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1401-06.0.018

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NEW YORK, N.Y. 10022

THIS 8K-1401 FCRTRAN PROGRAM IS AN ADAPTION OF THE BUREAU OF THE CENSUS TRADING-DAY ADJUSTMENT WHICH WILL BE INCLUDED IN THE X-11 VERSION OF CENSUS METHOD II. THE SUBJECT PROGRAM WAS MRITTEN TO BE COMPLETELY COMPATIBLE AND AUTOMATED WITH THE X-9 AND CRIGINAL VERSIONS OF CENSUS METHOD II AVAILABLE FROM THE 1401 GENERAL PROGRAMS METHOD II AVAILABLE FROM THE 1401 GENERAL PROGRAMS METHOD II AVAILABLE IN THE PROFER CARD FORMAT FROM THE CENSUS METHOD II PROGRAMS MENTIONED ABOVE/-, DEVELOPS THE IRREGULAR COMPONENT., FURTHER DEVELOPS TRADING-DAY ADJUSTMENT FACTORS FOR EACH MONTH IN A SERIES, ADJUSTS THE ORIGINAL SERIES FOR TRADING-DAY VARIATIONS., AND PRINTS AND PUNCHES OUTPUT WHICH BECOME INPUT TO THE SEASONAL ADJUSTMENT PROGRAMS SOLTPUT WHICH BECOME INPUT TO THE SEASONAL ADJUSTMENT PROGRAMS SOLTPUT WHICH BECOME INPUT TO THE SEASONAL ADJUSTMENT PROGRAMS SOLTPUT WHICH BECOME INPUT TO THE SEASONAL ADJUSTMENT PROGRAMS SOLTPUT WHICH BECOME INPUT TO THE MEASONAL ADJUSTMENT PROGRAMS SOLTPUT WHICH BECOME INPUT TO THE MEASONAL ADJUSTMENT PROGRAMS SOLTPUT WHICH BECOME INPUT TO THE MEASONAL ADJUSTMENT PROGRAMS SOLTPUT THE VARIOUS MEASURES AND FACTORS CAN BE COMPUTED AFTER CORRECTION FOR TRADING-DAY VARIATIONS. THE MACHINE RECUIREMENT IS AN 8K-1401 WITH AT LEAST ONE TAPE DRIVE FOR WHICH A FORTRAN COMPILER HAS BEEN WRITTEN.

OPTICNAL PROGRAM MATERIAL - SOURCE PROGRAM DECK.
OPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARG.

1401-06.0.019 LOG SCALE VERSUS TIME SCALE GRAPHICAL PRINTOUT AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-06.0.019

AUTHCR...W.M. ROBBINS IBM CG., LTC. 1255 LAIRD BLVD. MCNTREAL 16, P.Q., CANADA

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THIS PROGRAM HAS BEEN WRITTEN TO REPLACE THE S - 5 PHASE OF THE SEASONAL ADJUSTMENT, CENSUS METHICD II, X-9 VERSICN, SHCAT PROGRAM NO. 1401 - 06-0.010. A GRAPHICAL PLOT ON A SINGLE CYCLE STANCARD LOCARITHMIC SCALE VERSUS A MENTHLY TIME SCALE IS OBTAINED WHICH ALLOWS THE COMPARISON OF THE OTHERDES VEN THOUGH THE MONTHLY VOLUMES MAY BE FAR APART. SOME FEATURES OF THE PROGRAM ARE - 12 DIFFERENT LOS SCALES CAN BE REQUESTED, HIGH AND LOW GFF-SCALE VALUES ARE HANDLED, AND BOTH THE ORIGINAL AND THE SCASONALLY ADJUSTED VALUES ARE PLOTTED. THE PROGRAM REQUIRES AN 8K - 1401 WITH THE ADVANCED PROGRAMMING FEATURE. IT ACCEPTS THE CATA FROM THE SEASONALLY DATE OF THE PROGRAM FOUTIRES.

1401-07.0.002 SELF-CHECKING NUMBER CALCULATION MODULUS 11

AVAILABLE IST QUARTER 1964.
SPECIFY FILE NUMBER 1401-07.0.002

AUTHORS..MRS. NANCY N. MERRILL IBM CORP. 1730 CAMBRICGE STREET CAMBRIDGE, MASSACHUSETTS

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CALCULATES THE SELF-CHECKING NUMBER FOR BASE NUMBERS, 3-15
PCSITIONS. A LEAD CARD INSTRUCTS THE PRUGRAM IN THE SIZE OF THE
BASE NUMBER AND THE DESIRED INPUT AND OUTPUT. OPTIONS FOR INPUT1/ GENERATE BASE NUMBERS FROM 1 TO 95, 2/ GENERATE BETWEEN
SPECIFIED NUMBERS, 3/ READ SPECIFIC NUMBERS FROM CARDS. OPTIONS
FOR CUTPUT - 1/ PUNCH BASE NUMBER AND ITS CHECK DIGIT, 2/ PRINT
AND PUNCH BASE NUMBER AND ITS CHECK DIGIT, 2/ PRINT

1401-07.0.003 POLYNOMIAL CURVE FIT FOR ECONOMIC ANALYSIS AND FORECASTING AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-07.0.003

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TINGUIRIES TO AUTHOR

THIS PROGRAM IS WRITTEN IN FORTRAN FOR A 16K-1401 AND IS COPPATIBLE WITH THE 16K-1401 VERSICN OF THE DATA TRANSFER PROGRAM FOR CENSUS METHOD II, NO. 06.0.013. THESE TWO PROGRAMS IN COMJUNCTION WITH THE 4K-1401 VERSIONS OF CENSUS METHOD II NC. 06.0.009 FORM AN AUTOMATED PACKAGE FOR FORECASTING. THIS PROGRAM TAKES TIME-SERIES CATA AND FITS A FIRST, SECCIND, AND/OR THIS PROGRAM TAKES TIME-SERIES CATA AND FITS A FIRST, SECCIND, AND/OR THIS DETECTION. THE FUNCTION, FITTING POINTS TO THE EQUATION AND SUBTRACTING AND DIVIDING THE FITTED FROM THE OBSERVED DATA. THIS GIVES THE DEVIATIONS ABOUT AN ASSUMED TREND WHICH TENDS TOWARD THE CYCLE FOR THOSE SERIES THAT HAVE A CYCLE. AS AN OPTION, THE TREND CAN BE PROJECTED 24 THE PERCICS INTO THE FUTURE, I.E., IF MONINY DATA ARE USED THIS GIVES A 2-YEAR PROJECTION. THE CECEFFICIENTS ARE COMPLIED BY THE LEAST SQUARES TECHNIQUE. THE CALLULATIONS UTILIZE FORTRAN FLOATING POINT ARTHMETIC. A MODIFIED SAUSSTAN ELIMINATION TECHNIQUE IS USED TO SCLIVE THE RESULTING SET OF LINEAR EQUATIONS.

1401-07.0.005 1401/1460 SUBROUTINE FOR MODULUS II CALCULATIONS FOR A 9 DIGIT NUMBER AVAILABLE 3RD QUARTER 1965.
SPECIFY FILE NUMBER 1401-C7.0.005

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8-1401

PAGE 063

CONTINUED FROM PRIOR COLUMN--

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TO GENERATE OR VERIFY A 1-POSITION CHECK DIGIT FOR A 9-DIGIT NUMBER - BASED UPCN MODULUS 11 - WHOSE DIGITS ARE WEIGHTED BY VALUES IN GEOMETRIC PROGRESSION. IT CAN BE USED MHERE TIME IS AT A PREMIUM. STRAGE REQUIREMENTS ARE 3C5 POSITIONS. NC SPECIAL 1401 FEATURES ARE REQUIRED.
THE TIME CONSUMED IS NC MORE THAN 2.4 MILLISECONDS BASED UPCN AN 11.5 MICROSECOMD MEMORY CYCLE. FOR A 1400, MITH 1TS 6
MICROSECOMD MEMORY CYCLE, THE TIME IS NO MORE THAN 1.1
MILLISECOMDS. THERE IS ANOTHER SUB-RCUITINE WHICH TAKES TWICE AS MUCH TIME BUT REQUIRES ABOUT HALF THE STORAGE.

1401-09.2.007 HIGHWAY EARTHWORK QUANTITIES AND DESIGN DATA AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-09.2.007

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THE PURPOSE OF THE PROGRAM IS TO COMPUTE CUT AND FILL QUANTITIES, MASS DIAGRAM ORDINATES, AND CRITICAL TEMPLATE OFFSETS AND ELEVATIONS, FOR SUCH PROJECTS AS HIGHWAYS, EVELOSE, AND CHANNELS, FROM GROUND CROSS SECTIONS EXPRESSED EITHER BY RODS AND OFFSETS OR BY ELEVATIONS AND CFFSETS, A PROFILE GRADE LINE, AND A RODOMBY TEMPLATE OF NOT MORE THAN 20 POINTS ON EACH SIDE OF CENTERLINE. TWO CUT SLOPES AND THREE FILL SLOPES OF ANY SELECTED RATE OF SLOPE MAY BE USED. ALL TEMPLATE POINTS ARE DEFINED BY VERTICAL AND HORIZONTAL OFFSETS FROM THE PRECEDING POINT, SO THAT THE DIMENSIONS OF ANY POINT MAY BE CHANGED AT ANY CROSS SECTION STATION WITHOUT AFFECTING THE RELATIVE POSITION OF OTHER UNCHANGED POINTS ON THE TEMPLATE. THE PROGRAM MAY BE USED FOR MULTIPLE RODOMAYS SO LONG AS CNE-HALF WIDTH CAN BE DEFINED BY NOT MORE THAN 20 TEMPLATE POINTS.

IBM 14C1 COMPUTER SYSTEM WITH 16K MEMCRY.

1401-09.2.015 DESIGN EARTHHORK /CARD/ AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-09.2.015

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THIS PROGRAM IS PATTERNED AFTER THE 1BM 650 CUT AND FILL PROGRAM DEVELOPED BY J. M. KIBBEE AND J. W. ROBINSON OF 1BM IN HOUSTON, COPMONLY CALLED THE HAVI PROGRAM. A DETAILED EXPLANATION OF THIS PROGRAM MAY BE FOUND IN THE 1BM 650 PROGRAM LIBRARY, FILE NO. 9.2.004. THIS PROGRAM COMPUTES EARTHMORK CUANTITIES USING ORIGINAL GROUND DATA WITH EITHER RCADMAY TEMPLATE DATA OR FINAL GROUND REMEASURE DATA. IT USES THE AVERAGE END AREA FORMULA TO DEVELOP THE VOLUMES. SLOPE STAKES AT THE CATCH POINTS ARE GIVEN. CUMULATIVE CUT AND FILL VOLUMES AND THE MASS ORDINATE ARE GIVEN AT EACH STATION. EQUIPMENT SPECIFICATIONS— USES ADVANCE PROGRAMMING, PRINT CONTROL ADDITIONAL, EXPANDED PRINT ECIT, HIGH-LCW-EQUAL COMPARE, SENSE SWITCHES AND MULTIPLY-DIVIDE.

1401-09.2.017 GEOMETRIC COMPUTATION PROGRAM INCLUDING SPIRAL CURVES AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-C9.2.017

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CIRECT INQUIRIES TO AUTHOR

THIS PROGRAM PROVIDES FOR SOLUTION OF UNKNOWNS IN A TRAVERSE, INVERSION BETWEEN COORDINATES, AREA AND CIRCULAR SEGMENT COMPUTATION, FINDING THE STATIONING OR BEARING AT THE P.O.C. IN HORIZONTAL CURVES, SOLVING FOR POINTS ON THE SPIRAL OR OFFSET SPIRAL, INTERSECTING LINES AND SPIRALS, INTERSECTING CIRCULARS WITH SPIRALS, PRIMARY USES OF PROGRAM INCLUDE ERIDGE AND HIGHMAY DESIGN, SURVEYING, AND BUILDING CONSTRUCTION. STORAGE RECUITEMENTS—12K— ONLY NINE POSITIONS ARE UNUSED. ECUIPMENT—MULTIPLYZOTYJOE, ADVANCED PROGRAMMING. SENSE SWITCH REQUIREC FOR DATA CHECK OPTION.

1401-09-2-022 FLOOD PLAIN ANALYSIS PROGRAM AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUKBER 1401-09-2-022

AUTHCR...J.R. HAMILTCN,JR. IBM CORP., 3833 N. FAIRFAX DR. ARLINGTCN, VA.

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THIS PROGRAM MAKES THE NECESSARY CALCULATIONS AND EXTENSIONS FROM BASIC FLOCD PLAIN CATA TO CHECK, BY MEANS OF AN ENERGY BALANCE BETWEEN ANY SUCCESSIVE PAIR OF CROSS SECTIONS, THE ACCURACY OF A FLOOD PLAIN SURVEY. ACCEPTED ENGINEERING METHODS ARE EMPLOYDED. INPUT-OUTPUT FORMATS, AS MELL AS ALL SUBROUTINES, ARE IN FIXED POINT NOTATION, WITH FOUR PLACE ACCURACY. PROGRAM WILL OPERATE ON ANY 4K 1401 WITH HILD-EQUAL CCMPARE, ACVANCED PROGRAMMING, AND MGCEL 2 1403. SPS SOURCE LANGLAGE.

PAGE 064 B-1401

1401-09.6.001 FLANGE TAP-OFFICE AND DISPLACEMENT METER CALCULATIONS AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-09.6.001

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THIS PROGRAM DOES NATURAL GAS, FIRTH AVE., SCATTLE, WASH.

THIS PROGRAM DOES NATURAL GAS, FLANGE TAP, GRIFICE AND
DISPLACEMENT HETER VOLUME CALCULATIONS BASED ON THE
RECOMMENDATIONS OF THE AMERICAN GAS ASSOCIATION. THE PROGRAM
ALSO PROVIDES FOR A COMPLETE AUDIT LISTING AND AUTOMATIC FILE
MAINTENANCE. MACHINE CONFIGURATION—8K1401 CARD SYSTEM WITH
ADVANCED PROGRAMMING, HIGH-LOR-EQUAL COMPARE, AND
MULTIPLY-DIVIDE. PROCECURE- THE PROGRAM CONVERTS ALL CONSTANTS
TO FLOATING POINT QURINE (CADDING, AS MELL AS COMPUTING MCL
FRACTICN OF N SUB 2 AND CO SUB 2, THETA AND P1. USING
RECOMMENDED CORRECTION FACTORS, BILLING COSTS ARE COMPUTED. A
COMPLETE AUDIT TRAIL IS PRINTED AND AUTOMATIC FILE
MAINTENANCE IS PROVIDED. SOURCE LANGUAGE—SPS. ACCURACY—ALL
COMPUTATIONS ARE DONE IN FLOATING POINT, AND CONFORT TO THE
RECOMMENDED PROCEDURE OF THE AGA. ALL EQUATIONS USED IN THE
PROGRAM ARE INCLUDED IN THE WRITEUP. MEMORY REQUIREMENTS—7981
POSITIONS OF 8K STORAGE.

THE CNE REEL OF TAPE REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVICED MUST BE 2400 FEET IN LENGTH.

1401-10.1.002 LINEAR PROGRAMMING AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-10.1.002

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THE PREGRAM MAXIMIZES A LINEAR GBJECTIVE FUNCTION OF N VARIABLES, SUBJECT TO M CONSTRAINTS. THE VALUES FOR M & N MUST BE SPECIFIED BY THE USER FOR EACH PROBLEM. THE SIMPLEX METHOD IS USED, BUT IS REVISED TO PERMIT THE BASIS TO BE CARRIED AS ONLY A COLUMN MATRIX.

THE PROGRAM RECUIRES 1500 POSITIONS. 1401 CPU 2K, 4K, 8K, 12K, GR 16K. 1402 CARC READER, 1403 MCDEL I OR MCDEL II PRINTER. NG SPECIAL FEATURES ARE REQUIRED.

SCURCE DECK IS OPTIONAL MATERIAL AND MUST BE REQUESTED SPECIFICALLY.

1401-10.1.003 RAMAC LINEAR PROGRAM AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-10.1.003

AUTHORS..J. K. GCODE D. D. PAISLEY

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TO SCLVE PROBLEMS APPLICABLE TO USE OF LINEAR PROGRAMMING TECHNIQUES WHICH REQUIRE MEMORY CAPACITY FAR BEYOND BASIC 14G1 CORE MEMORY. IMMEDIATE APPLICATION IS IN MEAT PACKING INDUSTRY, BUT THE PROGRAM HAS CAPABILITIES IN THE AREA OF METAL, GRAIN AND PAPER INDUSTRIES FOR SUCH APPLICATIONS AS THE TRIM PROBLEM. MACHINE CONFIGURATION— 4K 14G1, 1C MEG 14G5 RAMAC WITH ADVANCED PREGRAMMING AND HIGH-LCW-EQUAL COMPARE. /DOES NOT USE MORE THAN 1 MEG CF RAMAC/. SOURCE LANGUAGE-SPS.

1401-10.1.004 LINEAR PROGRAMMING, REV SIMPLEX METHOD AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-10.1.004 LINEAR PROGRAMMING, REVISED

AUTHORS..CR. J. ROBERT JOHNSON, JR.
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TO SCLIVE A GENERAL LINEAR PROGRAMMING PROBLEM. REVISED SIMPLEX METHOD, PRODUCT FORM OF THE INVERSE. FCRIRAN. UP TO 108 EQUATIONS WITH ANY NUMBER OF UNKNOWNS. STORAGE REQUIREMENTS 16000 POSITIONS. MODULUS IS 5 AND MANTISSA IS 8.483 MINUTES OR 21 EQUATIONS IN 53 UNKNOWNS /30 ITERATIONS/. THE TIME IS MORE LARGELY A FUNCTION OF THE NUMBER OF VARIABLES INVCLIVED AND CF THE NUMBER OF FIGURATIONS THAN OF THE NUMBER OF EQUATIONS. ECUIPMENT SPECIFICATIONS 1401, 164 WITH THE FOLLOWING FEATURES—ADVANCED PROGRAMMING, HIGH-LOW-EQUAL COMPARE, AND MULTIPLY—DIVIDE—THREE 7330 TAPE DRIVES—CARD READER AND PUNCH—1403 PRINTER. 1402 CARC REAC PUNCH.

1401-10.2.003 INVENTORY MANAGEMENT SIMULATOR AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-10.2.003

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DIRECT INQUIRIES TO AUTHOR

B-1401

CONTINUED FREM PRICE COLUMN--

1401 INVENTORY MANAGEMENT SIMULATOR IS A SMALL SIZE BASIC INVENTORY MANAGEMENT SIMULATOR WHICH OFFERS AN EASY METHOD OF SIMULATING THE BEHAVIOR OF VARIOUS INVENTORY POLICY OF USING HISTORICAL SALES CATA. MANY DIFFERENT POLICY OPTIONS ARE AVAILABLE AND THE ROUTINES ARE EASILY MODIFIABLE. MEMORY 4K 1401 PROCESSOR 1402 CARD READER/PUNCH 1403 MCDEL /132 PRINT POSITIONS/

1401-10.2.005 MONTHLY INVESTMENT INTEREST AND PRINCIPAL ACCUMULATION AVAILABLE 157 QUARTER 1964. SPECIFY FILE NUMBER 1401-10.2.005

AUTHORS..HARTLEY FREDRICKSON IBM CORPORATION 348 E. SOUTH TEMPLE STREET SALT LAKE CITY 11, UTAH

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM WILL CALCULATE INTEREST PER DIVIDEND PERIOD OR YEAR, ACCUMULATED INTEREST, ACCUMULATED PRINCIPAL AND A TOTAL CF ACCUMULATED PRINCIPAL AND INTEREST FOR A CONSTANT MONTHLY INVESTMENT. IT WILL PRINT A SCHEDULE OF THESE ITEMS FOR THE PERICD OF TIME SPECIFIEC DR UNTIL A GIVEN TOTAL AMOUNT IS REACHED. A SAVINGS ACCOUNT IS A TYPICAL EXAMPLE. AS TO THE RESTRICTIONS AND RANGE OF THE PROGRAM, AN ARITHMETIC OVERFLOW WILL OCCUR IF THESE LIMITS ARE EXCEEDED — \$10,000.00 MCNTHLY INVESTMENT AT 4.5 PERCENT FOR 100 YEARS. THE REQUIRED MACHINE CONFIGURATION MUST INCLUDE A 4K 1401 WITH 15 PRINT POSITIONS, THE MULTIPLY-DIVIDE FEATURE, AND THE HIGH-LOW-EQUAL COMPARE FEATURE. THE PROGRAM IS WRITTEN IN AUTOCODER.

1401-10.2.006 MORTGAGE AMORTIZATION SCHEDULE

AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-10.2.006

AUTHORS..HARTLEY FRECRICKSON IGM CORP. 348 EAST SOUTH TEMPLE SALT LAKE CITY, UTAH

THIS PROGRAM WILL BE WRITTEN TO AMORTIZE A MORTGAGE AND PRINT A SCHEDULE OF THIS AMORTIZATION. THE PRINTED LIEMS FOR A GIVEN DATE WOULD INCLUDE—DATE OF EACH PAYMENT, AND NUMBER CF REMAINING PAYMENTS. AT THE END OF THE PROGRAM IT WILL PRINT THE AMOUNT OF PRINCIPAL AND INTEREST PAID. THE VARIBBLES THAT THE USER CAN SPECIFY WILL BE—PRINCIPAL AMOUNT—INTEREST RATE—AMOUNT OF PAYMENT, AND CATE OF FIRST PAYMENT. THE PROGRAM WILL HAVE THE ABILITY TO STOP IT ON A CERTAIN DATE, AFTER A CERTAIN AMOUNT OF PAYMENT IS REACHED, OR UNTIL THE MORTGAGE IS COPPLETELY AMORTIZED. EXTRA PRINCIPAL PAYMENTS MAY BE INCLUDED IF DESIRED. REQUIRES &K 1401 HIGH—LCH—EQUAL COMPARE, MULT. & DIVIDE AND 132 PRINT POSITIONS.

1401-10.2.007 MANAGEMENT DECISION MAKING LABORATORY AUTOMATIC PLOTTING OF RESULTS AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-10.2.007

AUTHOR...STEPHEN B. LUCAS IBM CORP. 520 N. DEARBORN CHICAGO, ILL.

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T INCUTRIES TO AUTHOR

MADMAP IS A PROGRAM UTILIZING HISTORY AND DECISION CARDS
FROM EACH PERIOD OF PLAY TO AUTOMATICALLY CENERATE NINE GRAPHS
OF LABCRATORY RESULTS ON THE 1403 PRINTER. BY USING THIS
PROGRAM, THE DECISION MAKING LABORATORY ADMINISTRATOR ELIMINATES
THE NEED FOR PERSONNEL TO MANUALLY GRAPH RESULTS. ANY
COMBINATION OF GRAPHS CAN BE SELECTED BY SENSE SWITCHES AND
ADDITIONAL COPIES MADE WITHOUT RELOADING THE PROGRAM OR DATA.
1401 REQUIREMENTS ARE THE SAME AS THOSE FOR THE 18M 1401
MANAGEMENT DECISION MAKING LABORATORY. WRITTEN IN AUTCCODER
LANGUAGE, THE CBJECT PROGRAM CAN BE ON CARDS OR TAPE. GRAPHS
AVAILABLE ARE—PRICE BY AREA, MARKETING BY AREA, TOTAL MARKETING,
TOTAL DOLLAR SALES AND UNIT SALES, RESEARCH AND DEVELOPMENT AND
UNIT COST, PRODUCTION GUANTITY AND PRODUCTION AS PERCENT OF
CAPACITY, INCOME, ASSETS AND RETURN OR ASSETS. IN ADDITION,
A SUMMARY REPORT OF INCOME, ASSETS, AND RETURN IS ALSO KRITTEN
FOR THE USE OF THE ADMINISTRATOR. MACHINE CONFIGURATION—1401
PROCESSING UNIT WITH 40C0 POSITIONS OF STORAGE, ADVANCED
PROGRAMMING FEATURE, HI—LOW—EQUAL COMPARE FEATURE, SENSE SALTCHES
FEATURE, MULTIPLY—CIVICE FEATURE, 1402 CARO-READ PUNCH, 1403
PRINTER— 729 OR 7330 MAGNETIC TAPE UNITS ///

1401-10.2.008 GENERAL PURPOSE SIMULATOR GPSS-2

Z AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-10.2.008

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THIS PROGRAM IS BASED ON THE 7090 APPLICATION PROGRAM, GENERAL PURPOSE SYSTEMS SIMULATOR, WRITTEN IN AUTOCODER, FOR A 16K 1401 WITH ONE TAPE, ADVANCED PROGRAMMING AND HIGH-LOW-EQUAL COMPARE, FOR GENERAL PURPOSE SYSTEMS SIMULATION. IT CONTAINS MOST FEATURES OF GPSS II EXCEPT FORTRAN-TYPE EXPRESSIONS. IT IS LIMITED TO 75 BLOCKS, 15 FACILITIES, 15 STORAGES, 10 QUEUES, 10 LOGIC SWITCHES, 20 SAVEX LOCATIONS, 10 FUNCTIONS, 10 TABLES, WITH 150 TRANSACTIONS IN THE SYSTEM CONCURRENTLY. THE 1401 GENERAL PURPOSE SIMULATION IS USEFUL FOR DEMONSTRATIONS, ECUCATION, PRELIMINARY SIMULATION STUDIES OR SIMULATION OF COMPLETE SMALL SYSTEMS.

8-1401

THE CNE REEL OF TAPE REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL MAY BE ORDERED FROM YOUR 1BM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH.

1401-10.2.009 TELLER SIMULATION DATA CONVERSION AND SUMMARIZATION PROGRAM AVAILABLE 4TH QUARTER 1964-SPECIFY FILE NUMBER 1401-10.2.009

CONTINUED FROM PRIOR PAGE--

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PROGRAM SHOULD BE USED IN CONJUNCTION WITH ANOTHER PROGRAM, COMMERCIAL AND SAYINGS TELLER SIMULATION USING NABAC MODEL CN 1BM 1401. A PRACTICAL METHOD IS SUGGESTED FOR THE RECORDING CF CUSTCHER ABRIVALS AND TRANSACTION MIX VIA AN IBM 010 KEYPUNCH. PROGRAM SUMMARIZES THESE STATISTICS AND PROVIDES PRINTED AND PUNCHED CARD OUTPUT SUITABLE FOR USE AS INPUT TO THE TELLER STMULATOR PROGRAM. USER IS ALLOWED 9 TRANSACTION TYPES WITHIN ANY WINDOW GROUP AND A MAXIMUM OF 25 TIME PERIODS. PROGRAM REQUIRES—4K CARD 1401, PRINTER, AP, H/L/E, M/D. SCURCE LANGUAGE IS 1401 AUTOCOCER WITH IOCS.

1401-10.2.010 COMMERCIAL AND SAVINGS TELLER SIMULATION USING NABAC MODEL AVAILABLE 4TH QUARTER 1964-SPECIFY FILE NUMBER 1401-10.2.010

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PROGRAM SIMULATES TELLER OPERATION, PROVIDING SUMMARY STATISTICS WHICH REFLECT LEVELS OF CUSTOMER SERVICE AND TELLER UTILIZATION. MODEL MAS DEVELOPED BY NABAC. THE SIMULATION UTILIZES MONTE CARLO TECHNIQUE OF RANDOM SELECTION IN THE ASSIGNMENT OF TRANSACTION TYPE AND PROCESSING INE TO SIMULATED CUSTOMERS. CUSTOMER ARRIVALS ARE GENERATED ASSUMING ARRIVAL WITHIN TIME PERIOD FITS A POLISSON DISTRIBUTION FUNCTION. THE USER IS ALLOWED A MAXIMUM OF 5 MINDOW TYPES, TOTAL WINDOWS NOT TO EXCEED 30, AND MAXIMUMS CF 29 TIME PERIODS, 20 TRANSACTION TYPES, QUEUE LENGTH OF 9. PROGRAM REQUIRES NABAC/S TELLER PERFORMANCE STANDARDS TO DETERMINE PROCESSING TIME FOR EACH CUSTOMER BY TRANSACTION TYPE. IT IS SUGGESTED THAT DATA ON CUSTOMER ARRIVALS AND FRANSACTION MIX BE GATHERED BY A SEPRANTE PROGRAM, TELLER SIMULATION DATA CONVERSION AND SUMMARIZATION PROGRAM FOR IBM 1401. MACHINE REQUIREMENTS— BK, 1401. 2 TAPE DRIVES, 1402, 1403, ADVANCED PROGRAMMING, H-L-E, MULTIPLY DIVIDE. SOURCE LANGUAGE— 1401 AUTOCODER 10CS.

1401-10.2.011 CAPERTSIM - COMPUTER
ASSISTED PROJECT EVALUATION AND REVIEW TECHNIQUE SIMULATOR
AVAILABLE 1ST QUARTER 1965.
SPECIFY FILE NUMBER 1401-10.2.011

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TO TRAIN PERSONNEL IN THE USE OF PERT NETWORK AS

/// A PLANNING AND CONTROL DEVICE FOR COMPLEX PROJECTS.

/// TO EMBELE STUDENTS TO EXPERIENCE THE SIGNIFICANCE
OF TIME-COST TRADE-OFFS.

/// TO ACQUAINT STUDENTS WITH THE USE OF THE COMPUTER AS AN AID
TO MANAGEMENT.

METHOD- A PERT NETWORK IS READ IN FOLLOWED BY CONTROL CARD
FCLLCAMED BY THE STUDENT CHANGES TO THE PERT NETWORK. AMALYSIS OF
THE STUDENT CHANGES IS MADE, THE PERT NETWORK IS UPDATED, THE
CHANGE IN COST IS COMPUTED AND THE NETWORK IS PERTED AND A
NEGATIVE SLACK SCRT IS PRINTED. IBM BK 1401 WITH ADVANCED
PROGRAMMING, MULTIPLY/CIVICE, 1402 AND 1403. THE SOURCE
LANGUAGE IS- SPS.

1401-10.2.012 1401/1440 DISK MANAGEMENT DECISION MAKING LABORATORY AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1401-10.2.012

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THIS PROGRAM MAKES AVAILABLE THE MANAGEMENT DECISION MAKING LABORATORY ON A 1401/1311 OR 1440/1311 DISK SYSTEM. THE PROGRAM USES THE SAME ECONOMIC MODEL AND GENERATES THE SAME REFORTS: AS THE PRESENT 1401 TAPE VERSION. IN ADDITION, PARAMETERS AND INITIAL HISTORY ARE STORED ON DISK. PROGRAM AND RUNNING HISTORY CAN BE STORED ON DISK OR RUN WITH CARD INPUT/CUTPUT. CHANGE CARD FORMATS ARE USED TO EASILY ALTER PARAMETERS AND HISTORY ON DISK. THE BUSINESS INDEX CAN BE INCREASED OR DECREASED AND ADDITIONAL INDUSTRY AND CONFIDENTIAL REPORTS CAN BE WRITTEN BY SENSE SHITCH SELECTION. AT THE END OF ANY DECISION RUN, RESULTS STORED ON DISK CAN BE PLOTTEC, ELIMINATING THE NEED FOR POST-LABORATORY GRAPFING. THE MINIMUM 1311 SYSTEM CONSISTS OF AN 8R 1401 CR 1440 WITH ADVANCED PROGRAMMING, HIGH-LCW-EQUAL CCMPARE, AND SENSE SHITCHES. ONE 1311 DRIVE AND ONE 1310 DRIVE AND ONE STATEMENT.

B-1401

PAGE 065

CONTINUED FROM PRICE COLUMN--

OPTIONAL PROGRAM MATERIAL - SOURCE DECK.
OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARC. * M.

1401-10.3.001 LESS -- LEAST-COST ESTIMATING AND SCHEDULING /4K-SCHEDULING PHASE ONLY/ /REVISED/ AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.001

AUTHORS..LCU J. GRANATO JIM BORDEN

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LCU J. GRANATO
IEM CORP. 631 COOPER STREET 631 COOPER STREET CAMEEN 2, N.J.
PRCGRAM IS A HIGH SPEEC METHOD OF CETERMINING CRITICAL
JOBS AND RELATEC INFORMATION /FLOAT TIMES, ETC., FCR
PRCJECTS WHERE SCHEDULING IS IMPORTANT- PRCGRAM WILL
HANDLE 574 EVENTS /MODES/ WITH ANY NUMBER CF ARRCKS /JCBS/THE LENGTH OF THE CRITICAL PATH CANNOT EXCEED 6 DIGITS
/999999. 1401 CARD SYSTEM, 4K MEMORY, NG SPECIAL FEATURES
REQUIRED. WRITTEN IN SPS II-

1401-10.3.002 LESS /LEAST-COST ESTIMATING AND SCHEDULING/ 8K, 12K, AND 16K AVAILABLE 15T QUARTER 1962. SPECIFY FILE NUMBER 1401-10.3.002

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CARDEN 2, NEW JESSE.

THIS PROGRAM IS A HIGH SPEED METHOD OF DETERMININING
CRITICAL PATH AND RELATED INFORMATION /FLOAT TIME ETC./ FOR
PROBLEMS WHERE SCHEDULING IS IMPORTANT. THE PROGRAM MILL
HANDLE 8K KEMDRY - 985 EVENTS/ 12K MEMORY - 1555 EVENTS/
16K MEMORY - 2125 EVENTS/
/ANY NUMBER OF JOBS /ARROWS/ CAN BE HANDLED. LENGTH CF THE
CRITICAL PATH CANNOT EXCEED 7 DIGITS /999599/. WILL
HANDLE 1000 ARROWS IN APPROXIMATELY 12 MINUTES INCLUDING
CARD HANDLING TIME. THIS IS A THREE /3/ PHASE, THO /2/
PASS PROGRAM. 1401 CARD SYSTEM WITH &, 12 OR 16K MEMCRY
MULTIPLY DIVIDE FEATURE HIT-LO-EQUAL COMPARE

1401-10.3.004 SDI 3 FOR THE IBM 1401 DATA PROCESSING SYSTEM AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-10.3.004

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THE IBM 1401 DATA PROCESSING SYSTEM WILL ESTABLISH AND MAINTAIN A CURRENT LIST OF PEOPLE WHO JOIN THE SOI SYSTEM. EACH PERSON, WITH A LIST OF KEYMORDS URIGINATED BY HIT HAT DESCRIBE HIS MORK INTERESTS, IS RECORDED ON MAGNETIC TAPE. THEN, AS NEW DOCUMENTS ARE PUBLISHED, A LIST OF KEYMORDS FROM EACH DOCUMENT IS ENTERED INTO THE IBM 14CL DATA PROCESSING SYSTEM. THE COMPUTER THEN MAICHES EACH NEW DOCUMENT AGAINST ALL OF THE USERS RECORDED ON TAPE, PUNCHING OUT A NOTIFICATION CARD ONLY FOR USERS WHICH THE PS SYSTEMS SELECT AS INTERESTED IN A PARTICULAR DOCUMENT. 4000 POSITIONS OF MAGNETIC CORE STORAGE. IBM 1401, EQUIPPED WITH THE HIGH-LOW-ECUAL COMPARE FEATURE, AN IBM 14C2 CARR REACH-PUNCH, AN IBM 14C3 PRINTER, AND TWO MAGNETIC JAPE UNITS / ANY MODEL COMPARE FEATURE, AND TWO MAGNETIC JAPE UNITS / ANY MODEL COMPARE FEATURE, AND TWO MAGNETIC JAPE UNITS / ANY MODEL COMPARE FEATURE,

1401-10.3.006 INVERTED CARD FILE-IBM 1401 INFORMATION RETRIEVAL SYSTEM AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-10.3.006

AUTHOR...MR. NEWKIRK IBM CORP. 1026 QUARRIER ST. CHARLESTON WEST VIRGINIA

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THE SYSTEM PERFORMS LITERATURE SEARCHES ON PUNCHED CARD LECKS REPRESENTING LIBRARY INFORMATION OR DUCUMENT COLLECTIONS WHICH HAVE BEEN ENCODED BY COORDINATE INDEXING TECHNIQUES. IT USED THE INVERTED FILE ORGANIZATION WITH EIGHTEEN DOCUMENT NUMBERS PER CARD. A MAINTEMANCE PROGRAM PRODUCES NEW AND UPDATES OLD KEYMORD CARDS AUTOMATICALLY. THERE ARE TWO PRINT PROGRAMS. ONE WILL PRINT ONE DOCUMENT NUMBER PER LINE, AND THE OTHER WILL PRINT SELECTED INFORMATION FROM A BIBLICGRAPHY CARD FILE. BOOLEAN OPERATIVES—AND, AND NOT, OR—ARE USED IN DOCUMENT NUMBER COMPARISIONS. A 4K 1401 WITH THE MIGH, 10H, EQUAL COMPARE FEATURE IS REQUIRED. MOCIFICATIONS NEGESSARY TO USE OTHER SIZES OF CORE AND INDEX REGISTERS ARE DISCUSSED.

1401-10.3.uu? PERT AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-10.3.007

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PAGE 066

B-1401

CONTINUED FROM PRIOR PAGE--

DIRECT INQUIRIES TO AUTHOR

TO AID IN THE PLANNING, COORDINATION AND CONTROL FUNCTION OF PROJECTS WHERE SCHEDULES ARE IMPORTANT. EVALUATES AND SECURENCES JOBS WITHIN THE OVERALL PROJECT WITH RESPECT TO THEIR EFFECT ON THE OVERALL PROJECT AND OTHER JOBS WITHIN THE PROJECT. SIMILAR TO THE LESS PROGRAMS FOR 1401 AND ALSO THE EXISTING PERT PROGRAMS. PROVIDES FOR THE USE OF THREE/3/ TIME ESTIMATES BUT DOES NOT CALCULATE PR. 1.E., THE PROGRAMISTED WITH MEETING PREDETERMINED SCHEDULE DATES. 1401 MODEL C-3,4,5 OR & WITH, MULTIPLY-DIVIDE FEATURE HI-LOW-EQUAL COMPARE FEATURE 1402 CARD READ-PUNCH 1403 PRINTER, MOCEL 2 729 MODEL II OR IV TAPE UNITS WRITTEN IN S.P.S. ASSEMBLED WITH AUTOCODER.

FORECASTING BY EXPONENTIAL 1401-10.3.008 SMOOTHING

AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-10.3.008

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THIS PROGRAM IS USED TO FIND THE CORRECT SMOOTHING PARAMETER FOR EACH OF A FIRMS PRODUCTS AND THEN USED TO FORECAST MONTHLY DEMAND FOR ONE, THO, THREE, AND FOUR MONTHS IN ADVANCE FOR THESE PRODUCTS. 1401 WITH 4 K STORAGE 1402 MODEL 1 1403 MODEL 2 /132 PRINTING POSITICNS/ NO OTHER SPECIAL FEATURES ARE REQUIRED. THE EXPONENTIAL SMOOTHING METHOD OF FORECASTING IS USED WITH OPTIONAL FEATURES OF ADJUSTMENTS FOR SEASONAL VARIATION AND VARYING NUMBER OF DAYS IN A MONTH.

1401-10.3.009 ASK INFORMATION RETRIEVAL PROGRAM FOR THE 1401 AVAILABLE 3RD QUARTER 1962. SPECIFY. FILE NUMBER 1401-10.3.009

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ASK IS AN INFORMATION RETRIEVAL PROGRAM. IT WILL SELECT RECORDS FROM TAPE THAT SATISFY RANGES, AND, AND NOT, CR, OR NOT, CONDITIONS. FREE FORM INQUIRY FORMAT IS USED AND MULTIPLE INQUIRIES MAY BE PROCESSED WITH ONE PASS OF THE MASTER TAPE. SIGNIFICANT FEATURES ARE THE ABILITY TO MAKE MULTIPLE INQUIRIES, THE USE OF FREE FORM INQUIRY, AND THE OMISSICN OF ANY NECESSITY FOR CONTROL CARDS. 4K 1401 THOT TAPE ORIVES ADVANCED PROGRAMHING PACKAGE HI-LOW-EQUAL COMPARE FEATURE 1402 CARD READER 1403 PRINTER.

1401-10.3.010 KNIC SYSTEM AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-10.3.010

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THE SIX PROGRAMS, RUNS 1 THROUGH 6, TOGETHER WITH AN PROGRAMMING SYSTEMS SORT PACKAGE, WILL PERMIT THE PREPARATION OF A PUBLICATION CONSISTING OF A BIBIGGRAPHY, KWIC INDEX, ANC PERSONAL AUTHOR INCEX.

IBM 1401 SYSTEM - 4K MEMORY - 6 SENSE SHITCHES, 2 TAPE DRIVES, HI-LO-EQUAL COMPARE FEATURE, ADVANCED PROGRAMMING FEATURE / INDEXING, MOVE RECORD, STORE A AND B/, 1402 CARD READ-PUNCH, ANC 1403 PRINTER.

1401-10.3.011 COST CURVE ESTIMATION AND PROJECTION BY LEARNING CURVE THEORY AVAILABLE 414 QUARTER 1962. SPECIFY FILE NUMBER 1401-10.3.011

AUTHOR...D.F.A. BRIGHT IBM AUSTRALIA MHQ. BCS 3318, G.P.O. SYDNEY, AUSTRALIA

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TWO PROGRAMS USING LEARNING CURVE THEORY TO PROJECT COSTS INTO FUTURE. FIRST PROGRAM CONVERTS RAW COST VS PRODUCTION SERIAL NUMBER TO LOGARITHMS AND DETERRINES LINE OF BEST FIT PUNCHING AND PRINTING PROGRESS RATE AND CO-ORDINATES OF REFERENCE POINT, TO ALLOW PLOTTING OF CURVE ON LCG-LOG PAPER. SECEND PROGRAM TAKES ABOVE OUTPUT OR ESTIMATES OF PROGRESS RATE AND REFERENCE POINT AND PREDICTS COSTS DURING UP TO TWELVE PERIODS FOR WHICH PRODUCTION HAS BEEN ESTIMATED. UP TO SEVEN COST ELEMENTS ARE SUMMARIZED INTO SUB-GROUPS, AND ANY NUMBER OF SUBGROUPS INTO TOTAL FACTORY COST.

1401 CARD MACHINE WITH ADVANCED PROGRAMMING, HIGH-LOW-EQUAL COMPARE, MULTIPLY-DIVIDE, MODIFY ADDRESS AND AT LEAST 4K STORAGE. WRITEUP INCLUDES CHANGES FOR 4K MACHINE WITH NO MODIFY ADDRESS.

B-1401

1401-10.3.012 LESS PRE-EDIT AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.012

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THIS PROGRAM PROVIDES A LIST OF UNMATCHED IS AND JS, REMOVES DUPLICATE JOBS, CHECKS FOR I EQUAL TO OR GREATER THAN J /OPTIONAL/, AND DOES AN ASCENDING OR DESCENDING SECUENCE CHECK ON ANY CONSECUTIVE CARD COLLUMNS /OPTICNAL MITH A MAXIMUM OF 8 COLUMNS/. THE I AND J MAY CENTAIN 1-4 DIGITS AND BE LOCATED IN ANY CARD COLUMNS/S. IT REQUIRES ONE PASS OF THE CRITICAL PATH DECK THROUGH THE 1401 AT 800 CPM ANC APPROXIMATELY ONE MINUTE FOR LODAING AND A TABLE SEARCH AT THE END. IT PROVIDES A 10 OR 15 TO 1 SAVINGS OVER THE UNIT RECORD APPROACH. MACHINE CONFIGURATION—4K CARD 1401 WITH NO SPECIAL FEATURES. SOURCE LANGUAGE—1401 SPS

1401-10.3-013 CRITICAL PATH SCHEDULER /BASIC 1401/ AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3-013

AUTHOR...HENRY M. STEELE IBM CORP. 2830 VICTORY PARKWAY CINCINNATI 6, OHIO

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A PRCGRAM FOR CRITICAL PATH SCHEDULING ON ANY 14C1 SYSTEM WITH A 1402 ANC 1403. PURPOSE WAS TO USE A CARD IMPUT FORMAT COMPATIBLE WITH. THE 1620 LESS PROGRAM AND TO EXPAND AND IMPROVE UPON THE 1401 LESS PROGRAM. SOME OF THE MANY CHANGES TO 1401 LESS INCLUDE— MISSING NODE NUMBERS PERMITTED, ELINIMATION OF HEMORY TO NINES CARD PREPARATION FOR PHASE 1. ELINIMATION OF HEADER AND TRAILER CARCS FOR JOB CARD INPUT DECKS, AND MANY REPORT FORMAT CHANGES. A FOUR PHASE PROGRAM. PHASE 1 COMPUTES LATE FINISH TIME. PAHSE 2 COMPUTES EARLY START TIME. PHASE 3 COMPUTES EARLY FINISH TIME, LATE START TIME, TOTAL FLOAT, FREE FLOAT, AND THE CRITICAL PATH. PHASE 4 ACCUMULATES PROJECT CCST AND EDITS FIELDS INTO REPORT FORMAT. RESTRICTIONS AND RANGE CRITICAL PATH MAY NOT EXCED 99,999 TIME UNITS. THE MAXIMUM EVENT OR NODE NUMBER IS 711 ON A 4K SYSTEM, 315 CM 2X, AND 191 ON 1.4K. MACHINE COMPILERS ARE USED. WRITTEN FOR A 4K SYSTEM, SUSTEM. NO SPECIAL FEATURES ARE USED. WRITTEN FOR A 4K SYSTEM, BUT AND SYSTEM. PROGRAM REQUIREST IN SEX ALL STORAGE AVAILABLE ON 1.4K, 2K, AND 4K SYSTEMS. SOURCE LANGUAGE— SPS.

1401-10.3.014 ASK II AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.014

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ASK II IS AN INFORMATION RETRIEVAL PROGRAM FOR A 1401 CARD SYSTEM. IT WILL SELECT AND PRINT CARDS FROM A FILE THAI SATISFY DATA RANGES, AND, AND NOT, OR, OR NOT CONDITIONS FREE FORM INQUIRY FORMAT IS USED AND MULTIPLE INQUIRIES MA' BE PROCESSED WITH: ONE PASS OF THE MASTER FILE.

SIGNIFICANT FEATURES ARE THE ABILITY TO MAKE MULTIPLE INCUIRIES, THE USE OF AND/OR LOGIC, AND THE USE OF FREE FORM INQUIRY. NO CONTROL CAPOS ARE NEEDED TO MAKE AN INQUIRY. 4K 1401 MYADVANCED PROGRAMMING PACKAGE AND HI-LO-EQUAL COMPARE. THE ASK II PROGRAM IS WRITTEN USING THE IBM 1401 SYMBOIL OR PROGRAMMING SYSTEM YSSY LANGUAGE. THE PROGRAM COMES IN SKELETAL, UNASSEMBLED FORM.

1401-10.3.015 PIECEWORK-TIMEWORK PAYROLL
AVAILABLE 2ND QUARTER 1963.
SPECIFY FILE NUMBER 1401-10.3.015

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THE PIECEMORK-TIMEMORK PAYROLL PROGRAM, PHASE 1, COMPUTES EMPLEYEE EARNINGS TO FIRST GROSS, AND PRINTS A PRELIMINARY PAYROLL REGISTER FOR SUPERVISORY AUDIT. IT PROVIDES FOR AN EMPLEYEE MORKING A COMBINATION OF PIECEMORK WITH A SPECIAL RATE FOR EVERY JOB, AND TIMEWORK WITH EITHER A SPECIAL RATE FOR EVERY JOB, OR WITH EITHER A SPECIAL RATE FOR EVERY DIFFERENTIALS ARE CALCULATED IF THE WORK WAS PERFORMED ON CITHER THAN FIRST SHIFT- TOTAL HOURS WORKED PIECEMORK PLUS TIMEWORK/ ARE ADJUSTED IF UNEQUAL TO TIMECARD HOURS— AND LOST LABOR IS COMPUTED IF PRODUCTIVE EARNINGS ARE LESS THAM GUARANTEED EARNINGS. PHASE 2 PRODUCES THE ERROR REGISTER. REMAINING CORE MAY BE USED TO DEVELOP MORE SOPHISTICATED ERROR DIAGNOSTIC ROUTINES.

WITHOUT MCDIFICATION, THE PROGRAM REQUIRES A 1401 SYSTEM WITH 8K, 27330 TAPE DRIVES, 1405, 1407, MULTIPLY-DIVIDE, H-L-E COMPARE, AND ADVANCED PROGRAMMING. PHASE I REQUIRES 6643 POSITIONS OF CORE AND 1015 SOURCE STATEMENTS. PHASE 2 REQUIRES 2211 PCSITIONS OF CORE WITH 309 SOURCE STATEMENTS. SOURCE LANGUAGE- WRITTEN IN AUTOCODER.

B-1401

1401-10.3.016 CAPITAL INVESTMENT ANALYSIS

AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.016

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A 1401 PROGRAM TO CALCULATE THE RATE OF RETURN OF AN INVESTMENT BASED ON THE DISCOUNTED CASH FLOW METHOD. THIS PROGRAM PROVIDES A STANCARD TECHNIQUE FOR RANKING PROPOSED CAPITAL EXPENDITURES, OR, THE RATE OF RETURN MAY BE COMPARED WITH A MINIMUM ACCEPTABLE RATE TO HELP DETERMINE WHETHER OR NOT A PROPOSED PROJECT SHOULD BE UNDERTAKEN. MACHINE CONFIGURATION THE PROGRAM IS WRITTEN FOR AN 8K 1401 WITH MULTIPLY-DIVIDE, ADVANCED PROGRAMMING AND SENSE SWITCHES. SOURCE LANGUAGE- WRITTEN IN AUTOCOCER.

1401-10.3.017 LESS PROGRAM 4K AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.017

AUTHORS..WILLIAM C. MILLHOFF IBM CORPORATION 1955 THE ALAMEDA SAN JOSE 26, CALIFORNIA

THIS PROGRAM REVISES THE 1401 LESS 4K PROGRAM, #10.3.COL, BY LCU GRANTO, JIM BORDEM, AND JOE ROSE TO INCLUDE A FOURTH PHASE HHICH PREPARES A GANTI CHART. THIS REVISION INCLUDES CHANGES TO PHASE 1, 2, AND 3 TO PROVIDE PUNCHED OUTPUT FROM PHASE 3 FOR SUBSECUENT PREPARATION OF GANTI CHART PICTURIAL SCHEDULES IN PHASE 4. THE MAXIMUM NUMBER OF EVENTS HAS BEEN REDUCED FROM 575 TO 544. CHER FEATURES OF REFERENCED PROGRAM, 10.3.COL REMAIN THE SAME— ANY NUMBER OF ARROWS—JOBS—AND A 6-DIGIT LIMIT ON THE LENGTH OF THE CRITICAL PATH. DETAILED SCHEDULES IN PHASE 4 CANNOT EXCEED 93 DAYS. BASIC 4K 1401 WITH A 1402 AND A MODEL 2 1403 PRINTER. NO SPECIAL FEATURES ARE RECUIRED. PHASE 1 573 CORE POSITIONS, PHASE 2 522 CORE POSITIONS, PHASE 3 723 CORE POSITIONS, PHASE 4 1018 CORE PCSITIONS. SOURCE LANGUAGE— SPS

1401-10.3.018 LESS 1 AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.018

AUTHOR...W. J. BRYAN III IBM CORPORATION 3590 LINDELL BOULEVARD ST. LOUIS 3, MISSOURI

T INQUIRIES TO AUTHOR

LESS 1 IS A 1401 CARD PROGRAM TO HANDLE THE SCHEDULING PHASE OF LEAST COST ESTIMATION AND SCHEDULING /LESS/. PREVIOUS 1401 PROGRAMS REQUIRED THAT THE INPUT DATA REPRESENTING PROJECT NETWORKS HAVE NODE NUMBERS WHERE THE 1 NODE MUST BE NUMERICALLY LESS THAN THE J NODE AND THAT THE NODE MUST BE CONSECUTIVELY NUMBERED STARTING WITH THE BEGINNING IN ODE. LESS 1 DOES NOT PLACE THIS RESTRICTION ON THE PLANNER WISHING TO UTILIZE LESS. THE SECOND AREA OF IMPROVEMENT IS ILLUSTRATED BY THE FACT THAT PAST PROGRAMS GAVE THE USER FINDER CARDS FOR OUTPUT WHILE THE ANSWERS REMAINED IN CORE STORAGE. LESS 1 HOMEVER PUNCHES OUT ALL THE NEEDED ANSWERS IS CARDS. THUS ANY LATER LISTING CAN BE PRODUCED IN ANY DESIRED SEQUENCE. UP TO 1000 NODE NUMBERS. THE SIZE OF NETWORK WHICH THE 1401 16K SYSTEM CAN ACCOMMODATE CAN BE DETERMINED FROM FOLLOWING FORMULA. 10X /THE HIGHEST NUMBERCAL VALUED NODE NUMBERS PLUS 10X /THE NUMBER OF ACTIVITY CARDS/ THE SUM MUST BE LESS THAN OR EQUAL TO 14,740. 16K, HI-LOW-EQUAL COMPARE. STORAGE SIZE MAY BE ALTERED TO 8K OR 12K, BUY BK STORAGE IS THE LIMIT SINCE MODIFY ADDRESS INSTRUCTIONS ARF USEC. SCURCE LANGUAGE— WRITTEN IN 1401 SPS

1401-10.3.019 CRITICAL PATH SCHEDULING WITH ARBITRARY NODE NUMBERING- 4K VERSION AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.019

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THE PROGRAM COMPUTES START, FINISH AND FLOAT TIMES AND FINDS THE CRITICAL PATH THROUGH AN ARROW DIAGRAM. THE NUMBERING OF THE NODES IS ARBITRARY. WRITTEN IN SPS- CHE VERSICH FOR A 4K MACHINE, THE OTHER FOR AN 8K-WITH TWO TAPES AND HI-LON-EQUAL COMPARE. THE 4K PROGRAM CAN HAVE A MAXIMUM OF 250 NODES, 8K CAN HAVE THE METERS OF THE MAXIMUM HUMBER OF ACTIVITIES IS LIMITED ONLY BY THE LENGTH OF THE SCRATCH TAPES.

1401-10.3.020 CRITICAL PATH SCHEDULING PROGRAM WITH ARBITRARY NODE NUMBERING 8K AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.020

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TO COMPUTE START, FINISH, AND FLOAT TIMES FOR ACTIVITIES IN AN ARROW DIAGRAM AND INDICATE THE CRITICAL PATH THROUGH THE DIAGRAM. NUMBER OF NODES LESS THAN OR EQUAL TO 250 FOR A K MACHINE. 750 FOR AN 8K MACHINE. THO VERSIONS OF THE PROGRAM, ONE REQUIRING 4K, THE OTHER 8K. EQUIPMENT SPECIFICATIONS.

B-1401

PAGE 067

CONTINUED FROM PRIGR COLUMN--COMPARE, TWO TAPES. ADDITIONAL REMARKS- WRITTEN IN SPS. THE NUMBERING OF THE MODES IN THE ARROW DIAGRAM IS ARBITRARY WITHIN THE RESTRICTION THAT THEY ARE A 1 TO 4 DIGIT INTEGER.

1401-10.3.022 GENERALIZED KWIC COMPILE AND GO INDEX SYSTEM 4K TAPE AVAILABLE 41H QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.022

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THIS IS A SOPHISTICATEC BUT STRAIGHT FORMARD PROGRAM WHICH ALLOWS THE USER TO TAILOR THE GENERALIZED SYSTEM SUPPLIED ACCORDING TO HIS INDIVIDUAL KWIC INDEXING NEEDS. THE PROGRAM WILL PRINT A BIBOILGRAPHIC INDEX, AN AUTHOR INDEX, NORAL KWIC OUTPUT OR ANY COMBINATION OF THESE. IT WILL ROTATE OR NOT ROTATE THE BIBLIOGRAPHIC INDEX AS DESIRED. IT ALLOWS THE USER TO EITHER ACCEPT ONLY OR IGNORE ONLY A WORD LIST HE SUPPLIES IN PRODUCING THE INDEX.

THIS PROGRAM CAN RUN ON A 3 TAPE 1401 IF TAPE SORTING IS DONE ELSEWHERE. THE FULL SYSTEM CAN RUN ON 5 TAPES WITH DERATOR INTERVENTION. ON 6 TAPES IT IS FULLY AUTOMATIC. THE MAXIMUM LENGTH ENTRY IS APPROXIMATELY 800 CHARACTERS. MODIFICATIONS TO THE AUTOCODER DECK COULD ALLOW THIS RESTRICTION TO BE LIFTED. THE SYSTEM READS FREE FORMAT CONTROL CARDS CONTAINING VERBS AND SUBVERBS SPECIFYING WHICH OF THE PHASES WILL BE USED, THE INPUT FORMAT, THE OSITION DETHOD OF INDEXING, THE OUTPUT FORMAT, ETC. THE SYSTEM MODIFIES ITSELF ACCORDINGLY AND WRITES A SPECIFIC SYSTEM STAPE.

THIS IS A HIGHLY DESIRABLE SYSTEM FOR INSTALLATIONS WITH 5-6 TAPE ORIVE 1401S AND ALLOWS SUFFICIENT FLEXIBILITY TO SATISFY DIVERSE INCEXING NEEDS. THIS PROGRAM IS AVAILABLE ONLY CN MAGNETIC TAPE.

THE REEL OF TAPE REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL MAY BE ORDERED FROM YOUR 18M REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH.

1401-10.3.023 INVENTORY MANAGEMENT ANALYSIS PROGRAM AVAILABLE 4TH QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.023

AUTHOR...CHARLOTTE SCOTT IBM CORP. 425 PARK AVE. NEW YORK, NEW YORK

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THE INVENTORY MANAGEMENT ANALYSIS PROGRAM PROVIDES ANALYSIS AND CLASSIFICATION BY INVESTMENT VALUE AND PROFIT STANDING. ALSO, THE PREGRAM PROVIDES FOR THE CALCULATION OF EGG, HUMBER OF ORDERS PER YEAR BASED ON ORDER QUANTITY, FIXED ORDER POINTS AND PROJECTED TURNOVER RATIOS. INDIVIDUAL ANALYSIS IS MADE FOR EACH INVENTORY TYPE, I.E., FINISHED GOODS, PURCHASED PARTS, MANUFACTURED PARTS AND RAM MATERIAL. THIS PROGRAM PROVIDES A MEANS FOR SELECTING DATA FOR INVENTORY MANAGEMENT SIMULATION, BY DEFINING THE AREA OF GREATEST POTENTIAL RETURN.

STRATIFICATION OF INVENTORY ITEMS MAY BE MADE BY CORRELATING DEMAND, COST AND NET PROFIT. THERE ARE MAY OTHER FACTORS WHICH SHOULD BE CONSIDERED FOR A COMPLETE ANALYSIS SUCH AS STORAGE CAPACITY, OBSOLESCENCE, SHELF LIFE, MOVEMENT INVENTORY AND SEASONAL DEMAND. MACHINE REQUIREMENTS—IBM 1401 CARO SYSTEM, 4K, MULT./CIVIDE, 132 PRINT POSITIONS.

1401-10.3.024 LOT-SIZE INVENTORY MANAGEMENT INTERPOLATION TECHNIQUE /LIMIT/ AVAILABLE 414 QUARTER 1963. SPECIFY FILE NUMBER 1401-10.3.024

G.W. PLOSSE AUTHORS..J.D. HARTY O.W. WIGHT W.J. ABRANSON

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111 ELM ST.
NEH BRITAIN; CONN.

LOT-SIZE INVENTORY MANAGEMENT INTERPOLATION TECHNIQUE /LIMIT/
IS A PROGRAM WHICH ATTACKS THE PROBLEM OF INVENTORY CARRYING
COST FOUND IN THE CLASSICAL BOO FORMULA BY DISTRIBUTING A
DEPARTMENT OR PLANTS SETUP HOURS IN A MORE REASONABLE MANNER.
OUTPUT IS THE BEST ORDER QUANTITY FOR ALL ITEMS HITHIN THE
LIMITATION OF A PRESCRIBED SETUP COST AND A MATRIX FOR GRAPHING
SHOWING THE RELATIONSHIP OF INVENTORY TO SET UP COST FOR
VARICUS POINTS. REQUIRES 4K, MODEL 2 1403, MULTIPLY-DIVIDE,
ADVANCED PROGRAMMING, AND HI-LO-EQ. REFERENCES APICS RESEARCH
PROJECT NO. 1 FOR MORE CETAILS.

1401-10.3.026 ONE HUNDRED THOUSAND MODE LESS PROGRAM FOR THE 4K IBM 1401 CARD SYSTEM AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.026

AUTHOR...ERNEST HINDS IBM CORP. 1933 FIFTH AVENUE SEATTLE, WASHINGTON

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A PROGRAM FOR THE SOLUTION OF EXTREMELY LARGE CRITICAL PATH SCHEDULING REQUIREMENTS. A NEW APPROACH TO THE PROBLEM MAKES SOLUTION VIRTUALLY INDEPENDENT OF MACHINE SIZE. THE PROCEDURE IS PROGRAMMED FOR AN IBM 1401 WITH NO SPECIAL FEATURES BUT AT LEAST FOUR-THOUSANC POSITIONS OF CORE STORAGE. SIMPLE RESTRICTIONS ARE IMPOSEC ON THE NUMBERING OF NODES. NCDES MUST BE NC MORE THAN 499 APART, AND THE SUCCESSOR MUST BE HIGHER IN NUMBER THAN THE PREDECESSOR. THE PROGRAM IS A MULTIPLE PASS PROCEDURE. THE FIRST PASS COMPUTES EARLIEST STARTING TIME AND/

PAGE 068

CONTINUED FREM PRIOR PAGE-OR CHECKS FOR NETWORKS ERRORS. THE SECOND PASS COMPUTES LATEST
FINISH TIME REFERRED TO THE END OF THE PROJECT. PASS THREE GIVES
ALL CTHER RESULTS AND ALLOWS FOR THE INSERTION OF AM END OF
PROJECT SCHEDULE TIME. THE OUTPUT OF PASS THREE IS IN THE FCRM.
OF A PRINTED REPORT AND IN PUNCHED CARD FORM.

1401-10.3.027 LESS NODE NUMBERING PROGRAM AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.027

AUTHOR...WM. B. MORGAN IBM CORP. 99 PARK AVE. NEW YORK, NEW YORK

DIRECT INQUIRIES TO AUTHOR

A PROCRAM TO NUMBER THE NODES OF A CRITICAL PAIH NETWORK IN ASCENDING AND CONTINUOUS ORDER ACCORDING TO THE REQUIREMENTS OF THE 1401 LESS PROGRAM. WILL RUN ON ANY SYSTEM 4K OR BETTER, REQUIRING ONLY THE 1402 AND A MODEL 1 1403. CAN PROCESS 544 ACTIVITY CARDS USING ALPHA/NUMERIC NODE IDENTIFICATIONS ENTERED IN RANDOM ORDER. OUTPUT CONSISTS OF CROSS REFERENCE INDEX LISTINGS AND THO CARD DECKS CONTAINING NEW NUMBERS. THESE DECKS ARE SUITABLE FOR PROCESSING BY THE 1401 LESS PROGRAM BUT MUST FIRST BE SORTED IN ACCORDANCE WITH LESS INPUT REQUIREMENTS.

1401-10.3.028 CRITICAL PATH LISTING AND RESOURCE ANALYSIS GE ANALYSIS AVAILABLE IST QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.028

AUTHOR...RGBERT J. BLAIR IBM CORP. 9250 WILSHIRE BLVD. BEVERLY HILLS, CALIF.

DIRECT INCUIRIES TO AUTHOR

TINCULTIES TO AUTHOR

THIS PROGRAM PERFORMS THO MAJOR FUNCTIONS. FIRST, IT LISTS CRITICAL PATH CUTPUT IN ANY CARD FORMAT. SECOND, IT PERFORMS PRELIMINARY ANALYSIS OF RESOURCE REQUIREMENTS PRIOR TO RESOURCE SIMULATION. THIS ANALYSIS DEFORE PROCEEDING HITH REASONABLENESS OF THE RESOURCE REQUIREMENTS. THESE REQUIREMENTS MAY BE REVISED AS A RESULT OF THIS ANALYSIS BEFORE PROCEEDING HITH RESOURCE SIMULATION. THE PROGRAM HAS FOUR OPTIONS.

A. INCLUDE TOTAL FLOAT, FREE FLOAT, RESOURCE ANALYSIS
B. INCLUDE TOTAL FLOAT, FREE FLOAT, RESOURCE TO THE PROGRAM OPTIONS AND DATA FIELD LOCATIONS ARE SPECIFIED BY A CONTROL CARD. THE PROGRAM OPTIONS AND DATA FIELD LOCATIONS ARE SPECIFIED BY A CONTROL CARD. THE PROGRAM CAN HANDLE STACKED NETWORKS. MULTIPLY/OIUTOR, AND A 1403 MITH 132 PRINT POSITIONS. PROGRAM STURAGE REQUIREMENTS 3568 POSITIONS OF CORE USED. SOURCE LANGUAGE SPS II

1401-10.3.030 INVENTORY MANAGEMENT SIMULATOR SELECTION PROGRAM AVAILABLE IST QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.030

AUTHORS.-GEORGIA-LEE V. MELVIN IBM CORP. 2330 ST. PAUL STREET BALTIMORE 18, MARYLAND

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THIS PROGRAM IS DESIGNED TO BE USED WITH THE 1401 MODULAR INVENTORY MANAGEMENT SIMULATOR /1401-CS-03X/ TO SELECT THE DESIRED SUBROUTINE DECKS PRIOR TO FORTRAN COMPILATION. THE MASTER SIMULATOR DECK MAY BE ON CARDS OR TAPE. METHOD- ONE COMMENT CARD IS READ IN FOR EACH ROUTINE DESIRED. THESE ROUTINES ARE THEN SELECTED FROM THE MASTER DECK /OR, IF TAPE OPTION IS USED, DESIRED ROUTINES ARE PUNCHED/- MACHINE CONFIGURATION 1401 WITH CARD I/O. TAPE CAN BE UTILIZED IF AVAILABLE. SENSE SWITCHES AND ADVANCED PROGRAMMING ARE REQUIRED FOR TAPE OPTION. PROGRAM RECUIREMENTS 970 STORAGE POSITIONS /INCLUDING I/O AREAS AND CONTROL FIELDS/- USED IN CONJUNCTION WITH 1401-CS-03X. SOURCE LANGUAGE- AUTOCCORE.

1401-10.3.031 NODE NUMBERING AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.031

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TO ORDER AN ARBITARILY NUMBERED PERT NETWORK SO THAT THE NETWORK IS CONSECUTIVELY NUMBERED AND THAT EACH ACTIVITY HAS ITS END NODE GREATER THAN ITS START NODE. THE METHOD USED TO CROEM THE NETWORK IS BASED ON THO RULES. ANY NODE WHICH DOES NOT HAVE ACTIVITY VECTORS GOING TO IT MAY BE NUMBERED AND ONCE A NODE IS NUMBERED ALL ACTIVITY VECTORS ORIGINATING AT THAT NODE MAY BE REMOVED FROM THE NETWORK. MACHINE CONFIDENTIATION S, 12, OR 16K., ADVANCE PROGRAMMING HIGH LOW EQUAL, SENSE SMITCHES. STORAGE REQUIREMENTS-8K MINIMUM, THE CONDENSED DECK IS ASSEMBLED FOR 16K.

1401-10.3.032 PERT NETWORK RANKING PROGRAM AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.032

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B-1401

CONTINUED FROM PRIOR COLUMN--DIRECT INQUIRIES TO AUTHOR

A PROGRAM WHICH WILL ACCEPT A RANDOMLY NUMBERED PERT NETWORK AND SEQUENTICALLY NUMBER IT ACCORDING TO RANK. PROGRAM PUNCH CARD CUTPUT MAY BE USEG AS IMPUT INTO THE 1401 PERT PROGRAM. MINIMUM MACHINE CONFIGURATION—1401 MODEL C-3, ADVANCED PROGRAMMING PACKAGE, HI-LO-EQ COMPARE, TWO /2/ TAPE DRIVES, 1402 READER-PUNCH, AND A 1403 PRINTER.

1401-10.3.034 TAPE INQUIRY PROGRAM /TIP/ AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.034

AUTHOR...LT. N.J. KING
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CT INQUIRIES TO AUTHOR

MITH THE ADVENT OF AUTOMATIC DATA PROCESSING, MANAGEMENT HAS ACHIEVED THE ABILITY TO ACCURATELY STORE VAST AMOUNTS OF DATA ON MAGNETIC TAPE. THIS ABUNDANT AMOUNT OF DATA CAN PROVIDE MANAGEMENT THE MEANS TO MAKE STATISTICALLY SOUND DECISIONS, CNLY IF HE CAN QUICKLY SELECT THOSE ITEMS OF DATA WHICH ARE RELATIVE TO THE PROBLEM AT HAND. THE EXTRACTION OF THE DATA MAY REQUIRE A DIFFERENT PROGRAM FOR EACH DIFFERENT REQUEST. THE LAG TIME THAT IS CREATED IN WRITING THE PROGRAMS TO GOTAL THE LAG TIME THAT IS CREATED IN WRITING THE PROGRAMS TO GOTAL THE LAG TIME THAT IS CREATED. IN WRITING THE PROGRAMS TO GOTAL THE LAG TIME LARGELY DEPENDS UPON THE DEGREE OF SELECTIVITY OF THE LAG TIME LARGELY DEPENDS UPON THE DEGREE OF SELECTIVITY OF THE REQUEST. ONE CAN READILY APPRECIATE THE NEED FOR A PROGRAM WHICH MILL RETRIEVE CATA BY SIMPLY PUNCHING A FEW INQUIRY CARDS. IN DECIDING TO USE A GENERAL PURPOSE INQUIRY PROGRAM, ONE MUST TAKE INTO CONSIDERATION THE AMOUNT OF CATA TO BE SEARCHED. IF THE QUANTITY OF CATA INVOLVED IS SEVERAL RELS OF TAPE, OPTIMUM PROGRAM SELECTION EFFICIENCY IS DESIRED. HENCE, ONE MAY DESIRE TO CREATE A SPECIAL PURPOSE PROGRAM. NO DEDIGING TIME OF THE POLLDRING PURPOSE PROGRAM, ONE MUST TAKE INTO CONSIDERATION THE FOLLDRING PURPOSE PROGRAM. WILL THE MACHINE THE MEDED OF THE FELCIAL PURPOSE PROGRAM. WILL THE MACHINE THE MEDED OF THE SECIEL PURPOSE PROGRAM. WILL THE MACHINE THE MEDED OF THE SECIEL PURPOSE PROGRAM. WILL THE MACHINE THE MEDED OF THE SECIEL HAND OF THE SECREC THE TIME SAVED IN USING THIS SPECIAL PURPOSE PROGRAM. AND ARE THE MAY DESIRE TO RESPONSE.

1. ASSEMBLY, PROGRAM TESTING AND DEBUGGING THEE OF THE SECIEL PURPOSE PROGRAM BE INTERPREDED FOR REQUEST TO RESPONSE.

5. THE NUMBER OF THE SENT HE REQUEST HILL BE MADE.

6. THE LUCK OF SOPHISTICATION NEEDED IN THE PROGRAM SOURCE PROGRAM HAS THE FOR THE SEARCHED.

7. THE PROGRAM HAS ATTEMPTED TO MININIZE THE NUMBER OF THE STREET TO A SEGREMAN HILL RESPONDE DEFICE TO THE PROGRAM THAT SEARCHES THE TAPE.

8. THE YOUNDER OF THE TH

10.3.035 QUICK KWIC INDEX AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401~10.3.035 1401-10.3.035

AUTHOR...J.M. BAIN IBM CORP. 1123 BEAVER HALL HILL MCNTREAL, QUEBEC, CANADA

DIRECT INQUIRIES TO AUTHOR

THIS IS A ONE PASS PROGRAM TO PRODUCE A SIMPLE KHIC INDEX FROM CARDS USING ONLY CNE CARD FOR EACH ENTRY TO THE INDEX. PREVIOUS PROGRAMS HAVE GENERALLY REQUIRED SEVERAL MACHINE RUNS TO PRODUCE A KHIC INDEX. THE PROGRAM REQUIRES A 4K 1401 WITH 1402 AND 1403 AND 4 TAPE DRIVES. ADVANCED PROGRAMMING AND HIGHLUM-EQUAL COMPARE FEATURES ARE REQUIRED. THE PROGRAM IS WRITTEN IN AUTCCODER AND USES THE FULL 4000 MEMORY POSITIONS.

1401-10.3.036 GENERAL RETRIEVAL AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.036

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DIRECT INQUIRIES TO AUTHOR

GENERAL RETRIEVAL IS A TAPE TO TAPE PARAMETER-TYPE PROGRAM DESIGNED TO PERFORM A MULTI-LEVEL RETRIEVAL CN ANY FORMAT FIRED RECORD LENGTH MAGNETIC TAPE FILE. THIS ELIMINATES THE NECESSITY OF A SEPARATE PROGRAM FOR EACH TYPE OF RETRIEVAL, AND ACCOMODATES ANY UNUSUAL REQUESTS WHICH MAY OCCUR. AN CPTICN TO PRINT THE OUTPUT FILE WHILE RETRIEVING IS PROVIDED. THE OPPRATION CAN BE INTERRUPTED AT ANY TIME BY TURNING ON A SENSE SWITCH, AND REMOVED COMPLETELY FROM THE COMPUTER. RESTART PROCEDURES CONSIST ONLY OF RELOADING THE PROGRAM AND TAPES, AND SETTING A SENSE SWITCH. MINIMUM MACHINE REQUIREMENTS—4000 POSITIONS OF CORE, 2 MAGNETIC TAPE DRIVES, CARD READER, PRINTER, INDEXING FEATURE, SENSE SWITCH. BY THE PROGRAM AND TAPES, CAND READER, PRINTER, INDEXING FEATURE, SENSE SWITCH. BY THE PROGRAM AND TAPES, CAND READER, PRINTER, INDEXING FEATURE, SENSE SWITCH. BY THE PROGRAM AND TAPES, SURCE LANGUAGE—AUTOCODER.

1401-10.3.037 PROGRAM TO PRODUCE MULTIPLE INDEXES

AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.037

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POUGHKEEPSIE, N.Y.

POUGHKEEPSIE, N.Y.

THIS PROGRAM SYSTEM CONSISTS OF THREE PROGRAMS USED IN SEQUENCE. THEY SELECT NECESSARY INFORMATION FROM A FILE OF DATA, SORT IT, AND PRODUCE UP TO FOUR DIFFERENT INDEXES OF THE ORIGINAL DATA IN A SINGLE PASS. 1/ PROGRAM TO SELECT INFORMATION FOR INDEXES / IPSEL/ - SELECTS FROM A COMPLETE FILE OF DATA ALL THE INFORMATION NEEDED TO PRODUCE THE INDEXES DESIRED. THE CATA FILE IS IN A SPECIFIED FORMAT, PREVIOUSLY CHECKED FOR SEQUENCE AND ACCURACY. 2/ A SORT II PROGRAM - SCRIS THE DATA SELECTED BY IPSEL. THE SORTED OUTPUT IS USED AS IMPUT TO IPPIP. 3/ PROGRAM TO PRINT INDEXES / IPPIP/ - PROCESSES THE SORTED OUTPUT AND REPARES A MAGNETIC TAPE CONTAINING THE INDEXES IN PRINT FORMAT. REQUIREMENTS—IPSEL AND IPPIP RUN ON AN IBM 1401 WITH 16+COO MEMORY POSITIONS, TWO TAPE ORIVES, 1401 CONSOLE, ADVANCED PROGRAMMING AND HIGH-LOM-EQUAL COMPARE FEATURES. THE SORT II PROGRAM REQUIRES AT LEAST TWO ADDITIONAL TAPE DRIVES. SOURCE LANGUAGE—1401 AUTOCODER WITH ICCS. ONE REEL OF MAGNETIC TAPE IS REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL. THIS TAPE MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH.

1401-10.3.038 LESS AND DATE CONVERSION PROGRAM

AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.038

AUTHOR...EARL E. HITT

CIRECT INQUIRIES TO..

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THIS IS A 1401 PROGRAM WRITTEN TO PERFORM THE SCHEDULING PORTION OF LESS AND CONVERSION OF OUTPUT TIMES TO CALENDAR DATES IN ONE PROCESSING RUN, IF DESIRED. PRIMARY AIMS ARE ABILITY TO HANDLE INPUT TIMES OF HOURS, DAYS OR WEEKS, ADAPI TO USER SPECIFIED STANDARD MORK MEEK MITH SPECIAL DATE HANDLING, AUTOMATIC UTILIZATION OF ALL CORE 4K-16K, SEVERAL TYPES OF OUTPUT CPTIONS, TRACKING OF ERROR LOOPS, SIMPLICITY AND SPEED OF OPERATION. A TECHNIQUE OF A SELF-CREATING PROGRAM TAPE IN SMALL PHASES, CALLED BY A CONTROL PROGRAM IS USED, THEREBY MAKING MAXIMUM USE OF CORE FOR LESS AND DATE TABLES. TWO WORK TAPES ARE UTILIZED TO AVOID RELOADING OF DATA MULTIPLE TIMES, BUT THE MAIN TABLES RESIDE IN CORE FOR FASTER OPERATION. PROGRAM REQUIREMENTS— ADVANCE PROGRAMMING PACKAGE, MODIFY ADDRESS, HILL—LO-EQUAL COMPARE, SENSE SWITCHES, THREE TAPES AND A CORE SIZE OF 4COO TO 1600C.

THE REEL OF TAPE REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVICED MUST BE 2400 FEET IN LENGTH.

1401-10.3.039 THE TRAVELING SALESMAN AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.039

AUTHOR...M.O. DUKE IBM CORP. 1933 FIFTH AVE. SEATTLE, WASHINGTON 981C1

DIRECT INQUIRIES TO AUTHOR

A PROCRAM TO SOLVE THE TRAVELING SALESMAN PROBLEM, WHERE IT IS DESIRED TO FIND THE MINIMUM DISTANCE REQUIRED TO VISIT A NUMBER OF CITIES AND RETURN. THE PROGRAM USES AN ALGORITHM CEVELOPED BY THE AUTHOR, WHICH SELECTS AN INITIAL CONTINUOUS PATH, AND SEARCHES FOR IMPROVEMENTS THAT CAN BE MADE THAT WILL NOT DESTROY CONTINUITY. MAXIMUM PROBLEM SIZE FOR AN 8K 1401 IS 11 CITIES, WHICH CAN BE SOLVED IN LESS THAN 3 MINUTES. THE PROGRAM WAS MITTHEN IN FORTRAN, AND HAS BEEN COMPILED AND TESTED ON THE 1620, THE 1410, THE 709, AND THE 7094. COMPUTATIONS ARE DONE IN FIXED POINT ARITHMETIC. MULTIPLY-DIVIDE, HI-D-EQUAL COMPARE, AND ADVANCED PROGRAMMING ARE REQUIRED. PROGRAM IS STRUCTURED TO USE ALL AVAILABLE MEMORY. ADDITIONAL CORE MAY BE USED TO SOLVE PROBLEMS OF UP TO 45 CITIES WITH 16K CORE.

1401-10.3.040 BOND INVENTORY OR VALUATION AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.040

AUTHOR...KENNETH M. JAEGER C. MCCORMACK

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THIS TWO PASS PROGRAM WAS DESIGNED AS A WORKING TOOL FOR HCLDERS OF BOND PORTFOLIOS. FIRST PASS IS AN INPUT VALIDITY CHECK.
SECOND PASS PRODUCES SIRPLE INVENTORY AND/OR VALUATED INVENTORY REPORTS FOR ANY NUMBER OF PORTFOLIOS. FOUR REPORTS ARE PRODUCED FOR EACH PORTFOLIO AS FOLLOWS- /1/ AN ITEMIZED SCHEDULE GROUPING INFORMATION BY YEAR OF MATURITY. /2/ A RECAP BY TYPE OF SECURITIES. /3/ A RECAP BY YEAR OF MATURITY. /4/ A WEIGHTED AVERAGE MITHITY OF THE PORTFOLIO. / SIMPLE INVENTORY OUTPUT INCLUDES DESCRIPTIVE DATA AND COMPUTED PAR VALUE AND LINEARLY AMORTIZED BOOK VALUE. AND VARIATION BETWEEN CURRENT MARKET PRICE AND BOOK VALUE. PROGRAM INPUT IS COMPATIBLE WITH BOND TRADE AMALYSIS PROGRAM AND THE OUTPUT IS SUGGESTED FOR USE WITH THAT PROGRAM. OUTPUT ALSO HAS MANY ACCOUNTING VALUES. PROGRAM REQUIREMENTS—BK 1401 WITH HIGH-LOW-EQUAL COMPARE AND ADVANCED PROGRAMMING, 1402, AND 1443.

OPTIONAL MATERIAL - AUTOCODER SOURCE DECKS FOR THE EDIT PASS AND MAIN PASS.

PAGE 069

1401-10.3.041 FAST - FULLY AUTOMATIC SCORING TECHNIQUE AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.041

AUTHOR...MR. C.F. WILKES 1550 ELMSFORD AVENUE LA HABRA, CALIFORNIA 90632

DIRECT INQUIRIES TO AUTHOR

A COMPLETE SYSTEM OF TEST SCORING AND REPORTING. THE SYSTEM USES THE IBM 1401 CARD DATA PROCESSING SYSTEM. THE INPUT SCURCE DOCUMENT IS A MARK-SENSE TEST ANSWER CARD. METHOD- BASICALLY, TABLE LOCKUP AND COMPUTATION. WILL SCORE UP TO TEN DIFFERENT TESTS FOR AN INDIVIDUAL STUDENT, USING ALL NORMAL FORMULA'S OR SCORING TECHNIQUES. UP TO SIXTEEN RAM SCORE POINTS SUMMARIZED INTO A SINGLE OUTPUT CARD PER STUDENT. STORAGE REQUIREMENTS—4K EQUIPMENT SPECIFICATIONS—CARD SYSTEM, COLUMN BINARY, ADVANCED PROGRAMMING, HIGH-LON-EQUAL COMPARE, SENSE SHITCHES, 1403 PRINTER MODEL 2, 1402 CARD READ PUNCH. LANGUAGE—CARD AUTOCODER /BASIC/.

1401-10.3.042 INFORM 2 - GENERALIZED INFORMATION RETRIEVAL SYSTEM AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.042

L.J. PITTARD AUTHORS..MR. J.A. LUKE

CIRECT INQUIRIES TO..

MR. JAMES A. LUKE
IEM CORP.

MASHINGTON SYSTEMS CENTER /FSD/
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BETHESDA 14, MARYLAND

BETHESDA 14, MARYLAND

INFORM-2 IS A GENERALIZED BASIC INFORMATION RETRIEVAL SYSTEM

DESIGNED FOR USE ON AN IBM 1401 WITH 4K MEMORY AND 2-3 MAGNETIC

TAPE DRIVES. EACH FILE ITEM IS ORGANIZED TO PERMIT STORAGE OF UP

TO 6000 CHARACTERS OF TEXTUAL INFORMATION. INFORM-2 EMPLOYS 9
CHARACTER KEY WORK MATCH LOGIC TOGETHER WITH THE OPTICNAL USE

OF OTHER SPECIFIC CRITERIA-AUTHOR, SOURCE, DATE RANGE, AND

SUBJECT. A FILE ITEM MAY BE INDEXED USING UP TO 54 UNLINKED

KEY MORDS. QUERIES MAY USE A LIKE NUMBER OF KEY WORDS, COMBINED

IN VARIOUS AND/OR RELATIONSHIPS. INFORM-2 MAY BE USED

INOIVIDUALLY OR IN CONJUNCTION WITH THE IBM 1401 KNIC INDEX

SYSTEM AND/OR THE IBM 1401 SDI-3 SYSTEM. THE 4K 1401 MUST, IN

ADDITION TO THO MAGNETIC TAPE DRIVES, HAVE THE HI-LO-ECUAL

COMPARE FEATURE, A 1403 PRINTER /132/, THE ADVANCED PROGRAMMING

FEATURE, AND SENSE SWITCHES. THE PROGRAM IS WRITTEN IN 1401

AUTOCODER.

1401-10.3.043 DETERMINATION OF PAYROLL HOURS FROM 357 JOB-IN AND CLOCK-OUT CARDS. AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.043

AUTHOR...JAMES R. ALMY
IBM CORP.
801 MCCALLIE AVE.
CHATTANOGGA, TENNESSEE 37403

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM HAS BEEN CESIGNED TO PRODUCE LABOR DISTRIBUTION CARDS FROM EACH JOB-IN CARD AND ONE CLOCK CARD FOR EACH MAN, SUMMARIZING HIS REGULAR HOURS, OVERTIME HOURS, DOUBLE TIME HOURS AND TOTAL HOURS. THE LABOR DISTRIBUTION CARDS PRODUCED ARE ESSENTIALLY THE SAME AS THE JOB CARDS AND ARE ONLY PUNCHED HERE TO PROVIDE COMPATIBILITY WITH LATER PROGRAMS WHICH HAC BEEN IN USE PRIOR TO THE 357 SYSTEMS INSTALLATION. THE PROGRAM HANDLES AUTOMATICALLY, SITUATIONS INVOLVING A THREE-SHIFT OPERATION AND ALL DAYS OF THE WEEK.

1401-10.3.044 PROJECT PROGRESS REPORT PHASE I

I AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.044

AUTHOR...MR. E.E. LAMBERT CCMPUTER COORDINATOR DEERE & COMPANY MCLINE, ILLINOIS 61265

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM EVALUATES THE PROGRESS OF PROJECTS BY INDIVIDUAL WITH TOTALS FOR INDIVIDUALS, GROUPS AND THE ENTIRE REPORT. COMPLETED PROJECTS CAN BE ENTERED FOR HISTORY AND MAN-DAYS EARLY OR LATE ARE COMPUTED. FUTURE PROJECTS CAN BE ENTERED FOR INFORMATION AND ARE PICKED UP AS CURRENT PROJECTS WHEN THE START DATE IS PASSED. CURRENT PROJECTS AND KARNINGS PRINTED ON CONDITION, AND PROJECTED COMPLETION DATES AND MAN-DAYS DEVIATION FROM THE SCHECULED COMPLETION DATE ARE CALCULATED AND PRINTED ON AND THE SCHECULED COMPLETION DATE ARE CALCULATED AND PRINTED ON AND THE CONDITION. SIX MONTHLY PROJECTIONS OF MAN-DAY WORK LOAD ARE COMPUTED FOR CURRENT AND FUTURE PROJECTS FOR EACH INDIVIDUAL. MINIMUM MACHINE REQUIREMENTS—1401 8K, MULTIPLY—DIVIDE, ADVANCED PROGRAMMING PACKAGE AND HIGH-LOM-EQUAL COMPARE. SOURCE LANGUAGE IS AUTOCODER. PROGRAM USES 5000 POSITION OF CORE. 1402 CARD READER 132 POSITION 1403 PRINTER.

1401-10.3.045 SYNTRAN AN INDEXING ABSTRACTING AND RETRIEVAL SYSTEM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.045

AUTHORS..L.L. BRINER D.C. BEAL S.C. STRICKLAND J.V. LINDLEY R. HEUVELHORST G.B. SZOKOLOCZY

DIRECT INQUIRIES TO.. L.L. BRINER IBM CORP. 1111 CONNECTICUT AVE., N.W. WASHINGTON, D.C.

PAGE 070 B-1401

CONTINUED FROM PRICE PAGE--

SYNTRAN IS AN IBM 1401 INFORMATION RETRIEVAL SYSTEM. IT
IS DESIGNED TO INDEX, ABSTRACT, AND RETRIEVE INFORMATION
RECORDED IN HOLLISH PROSE LANGUAGE. IT IS EFFECTIVE ON TEXTS CF
ANY LENGTH, COVERING ANY NON-FICTION SUBJECT. IT ESTABLISHES
AN INDEX IN DEPTH WITH A HINIMUM OF KEY WORDS /3 PER CENT OF
TEXT WORD TOTAL/. ITS INDEX FACILITATES BOTH PREFARATION CF A
THESAURUS /10-3-05-4/ AND RETRIEVAL OF UP TO 80 PER CENT OF
TEXT FILE INFORMATION RELEVANT TO PROSE STYLE QUERIES WITH UP TO
80 PER CENT OF RETRIEVAL SCTUALLY RELEVANT. SYNTRAM ABSTRACTS
WITH SUFFICIENT ACCURACY TO PROVIDE VIRTUALLY HE SAME
INFORMATION AS MOULD BE ABSTRACTED MANUALLY. MOREOVER, SYNTRAM
ABSTRACTING CAM BE BIASED TO SERVE A PARTICULAR INTEREST.
SYNTRAN IS PROGRAMMED FOR AN 8K 1401 WITH 4 TAPE DRIVES, 1402,
1403, ADVANCED PROGRAMMED FOR AN 8K 1401 WITH 4 TAPE DRIVES, 1402,
THOSE MANUAL THE MASIC PROGRAM MARERIAL MAY BE GROBERD FREM YOUR ER
PROGRAMS ARE WRITTEN IN AUTOCODER. THE ONE REEL OF TAPE REQUIRED
TO OBTIAN THE BASIC PROGRAM MARERIAL MAY BE GROBERD FREM YOUR ER
PERFESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH.

1401-10.3.046 PERT INPUT GENERATOR AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.046

AUTHORS..H.R. DUNCAN

CIRECT INQUIRIES TO..

H.R. DUNCAN

NORTH AMERICAN AVIATION, INC.

RCCKETOYNE CIV.

6633 CANOGA AVE.

CANGGA PARK, CALIF.

CANCOA PARK, CALIF.

A 1401 SYSTEM TO SIMPLIFY AND INCREASE THE USABILITY OF IBM PERT COST II PROGRAM. 1/ UTILIZING FORMS THAT ARE MEANINGFUL, EASILY REAL AND UNDERSICOD, MINIMIZE CUPLICATION AND REDUCE THE POSSIBILITY OF ENTERING OR PUNCHING DATA IN THE MENNG PLACE 2/ ASSIGN AND RECORD CATEGORY AND SEQUENCE CODES TO INPUT, ALLOMING PROGRAM OFFICE KNOWLEDGE AND CONTROL, TOGETHER WITH MECHANICAL ARRANGING, AND MODULAR PROGRAMMING 3/ PRE-EDIT AND SEQUENCE INPUT TO PRECLUDE A MAXIMUM NUMBER OF ERROR CONDITIONS, AS MELL AS INCREASING THE POTENTIAL OF OBTAINING MEANINGFUL REPORTS 4/ ALLOW CHANGES TO IBSYS CARDS CONTROLLING DATE AND TYPE OF RUN 5/ MINIMIZE OPERATOR INTERVENTION AND HANDLING. RANGE-99 SUB-METWORKS FOR EACH NETWORK. 1 IN THORK PER RUN. RESOURCE SATEGORY FILED LIMITED TO 4 DIGITS. EQUIPMENT SPECIFICATIONS—8K 1401, 4 TAPE DRIVES.

1401-10.3-047 INFORMATION STORAGE AND RETRIEVAL PROGRAM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.047

AUTHORS...C. PRENTICE G. DE GRAW A. SMITH I. A. WARHEIT

CIRECT INCUIRIES TO..

1. A. MARHEIT, 18M CORPORATION, DEPT. 599, BLDG. 064, SYSTEMS
DEVELOPMENT DIVISION, MONTEREY & CCTILE ROADS, SAN JOSE,
CALIFORNIA.

THE INCOMPATION STORAGE AND RETRIEVAL /ISF/ SYSTEM IS ALSO MONES, AS THE INCOMPATION STORAGE AND RETRIEVAL /ISF/ SYSTEM IS ALSO MACKIN AS THE COMBINED FILE SEARCH SYSTEM/CFSS/. II OPERATES ON AN IBM 8K, 1401 WITH THE ADVANCED PROGRAMMING PACKAGE, SENSE SWIICHES, 4 TAPE UNITS, A CARR PEABLEY, SYSTEM IS ALSO MAN IBM 8K, 1401 WITH THE ADVANCED PROGRAMMING PACKAGE, SENSE SWIICHES, 4 TAPE UNITS, A CARR PEABLER, AND A PRINTER. TO IMPROVE THROUGHPUT IN THE SEARCH ONE 1311 MAY BE USED ON AN OPTICHAL BASIS. THE SYSTEM IS GENERAL PURPOSE, IT ACCOMPICATES IN ACCOMPICATIONS, III AS AN UNUSUALLY FAST SEARCH, AND IT IS DESIGNED TO GRADUATE INTO MICE ELABORATE SYSTEMS. CFSS IS TESTED, OPERATIONAL, AND READY FOR IMMEDIATE USE. ITS SIGNIFICANCE IS THAT IT UTILIZES A LCA COST, SMALL COMPUTER CONFIGURATION, YET PROVIDES SCPHISTICATED FUNCTIONS. OUT OF THE STARCT OF THE STRUCTURE AND THE SEARCH TECHNIQUE. THE FILE STRUCTURE AND THE SEARCH TECHNIQUE TO CONTROL THE SEARCH THE SEARCH TECHNIQUE TO THE SEARCH

CONTINUED FROM PRIOR COLUMN—
AVAILABLE TO THOSE WITH ISR NEEDS. THIS PROGRAM ALSO PERMITS
TRUNCATION OF SUBDESCRIPTORS, ALLOWS FOR LARGER SEARCH
QUESTIONS /UP TO 2200 CHARACTERS/, ALLOWS CARD OR TAPE INPUT
/SEARCH/, ALLOWS UP TO 16 SCOPE NOTES IN DICTIONARY PROGRAM
/MAXIMUM SIZE PERMISSIBLE BY SORT II OR SORT VII/, PROVIDES INPUT
PRINT PROGRAM IN UTILITIES SECTION AND ADDS A MAINT 7 MHICH
PROVIDES FOR DUPILCATION OF MASTER FILE, MERGING OF
MULTIPLE MASTER FILES AND RECONSTRUCTION OF DESCRIPTOR FILE
FROM MASTER FILE. ONE-REEL OF MACNETIC INPE IS REQUIRED TO
OBTAIN THE BASIC PROGRAM MATERIAL. THIS TAPE MAY BE
SUPPLIED OR ORCERED FROM YOUR IBM REPRESENTATIVE. THE TAPE
PROVIDED MUST BE 2400 FEET IN LENGTH.

1401-10.3.048 SYSTEM FOR INFORMATION STORAGE, RETRIEVAL, AND DISSEMINATION AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-10.3.048

AUTHORS..D.C. ROPER W.C. TIMBERLAKE

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D.C. ROPER, IBM CORP., DEPT. A05, BLDG. 946, POUGHKEEPSIE, N.Y.

THE SYSTEM DESCRIBED IN THIS WRITE-UP CONSISTS OF SEVEN DISTINCT
PROGRAMS JIPBUL, 1PDUP, 1PDUD, 1PDUD, 1PSOD, 1PPAP, 1PANS.
THESE PROGRAMS ARE DESIGNED TO PERFORM THE NECESSARY PROCEDURES
OF INFORMATION STORAGE, RETRIEVAL, AND DISSEMINATION. THE
SELECTION PROCESS IS BASED ON FIVE DIFFERENT CRITERIA
INCLUDING BOTH BOOLEAN EXPRESSION AND PERCENTAGE FACTOR SELECTION
CAPABILITIES. IN THE RETRIEVAL PORTION THE ANSWERS CAN BE
LIMITED TO THE NUMBER OF MOST RELEVANT DOCUMENTS DESIRED BY THE
RECUESTOR. SEARCH TERMS CAN BE WEIGHTED. COMPLETE ABSTRACTS OF
ALL DOCUMENTS RETRIEVED OR DISSEMINATED CAN BE LISTED. IN THE
DISSEMINATION PORTION NOTIFICATION CARDS ARE ALSO PREPARED.
DURING THE DISSEMINATION OF NEW DOCUMENTS THE INFORMATION
REGARDING THESE DOCUMENTS IS ADDED TO THE FILE OF DOCUMENTS, IN
DESCRIPTOR SEQUENCE, WHICH ARE SEARCHED DURING THE RETRIEVAL
PHASE. THE SYSTEM REQUIRES A LOK 401 HITH A MINIMUM OF FOUR
APPE DRIVES, CONSOLE INQUIRY STATION, HI—LO-EQUAL COMPACE, AND
ADVANCED PROGRAMMING FEATURES. THE SYSTEM MAS WRITTEN USING 1001
AUTOCCOER WITH 10CS. MODIFICATIONS CAN BE MADE TO THE INGUIR USING 1001
AUTOCCOER WITH 10CS. MODIFICATIONS CAN BE MADE TO THE INGUIRD THE
AUTOCCOER WITH 10CS. MODIFICATIONS CAN BE MADE TO THE INDUIVABLE
PROGRAMS TO ELIMINATE THE 1407. A REDESIGN OF SOME PROGRAMS
COULD ENABLE THE USER TO RUN THE SYSTEM ON A 1401 SMALLER THAN
166.

THE THC REELS OF TAPE REQUIRED TO CETAIN THE BASIC PROGRAM MATERIAL MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

* M

*M *M

*M *M

1401-10.3.049 SKILLS INVENTORY SYSTEM AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.049

AUTHGR...MRS. B.K. PAVELLE

DIRECT INCUIRIES TO..

S.M. BAILES, IBM CORP., ASDD, 2651 STRANG BLVO.,
YCRKTOWN HEIGHTS, N.Y.

THE SKILLS INVENTORY SYSTEM IS AN INFORMATION RETRIEVAL SYSTEM WHICH ALLOWS ACCESS TO PRECODED DATA CONCERNING EMPLOYEE SKILLS AND BACKGROUND. THE SYSTEM HAS THE ABILITY ID SELECT EMPLOYEES RETRIEVED FOR AVAILABLE POSITIONS. STATISTICAL ANALYSES MAY ALSO BE PERFORMED. A FILE CODED EMPLOYEE INFORMATION IS BUILT WHICH CAN BE UPDATED, SEARCHED AND RETRIEVED IN UNCODED FORM /EMGLISH RATHER THAN CODESS. RECHIEVED TO REPORT OF THE PROPERTY OF THE P

THE REEL OF TAPE REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL MAY BE ORDERED FROM YOUR IEM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVICED MUST BE 2400 FEET IN LENGTH.

1401-10.3.050 1401/1311 TRANSPORTATION PROBLEM

EM AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.050

AUTHOR...MR. C.E. ROCT

DIRECT INQUIRIES TO..
C.E. ROOT, 1BM CORP., 1307 S. BOULDER, TULSA, OKLA.

THE TRANSPORTATION PROBLEM OPTIMIZES THE COST OF SHIPPING A PRODUCT FROM A NUMBER OF WAREHOUSES /SUPPLIERS/ TO A NUMBER OF RETAILERS / DEMANDERS / THIS CLASS OF PROBLEM INCLUDES PERSCENNEL ASSIGNMENT, PRODUCTION SCHEDULING, DISTRIBUTION PROBLEMS, CONTRACT AMARDS, ETC. THE SOURCE LANGUAGE IS AUTOCOBER. THE MAXIMUM PROBLEM SIZE IS 300 SUPPLIERS BY 999 DEMANDERS. THE TIME RECUIRED TO SOLVE A PROBLEM DEPENDS UPON THE PROBLEM SIZE AND THE NUMBER OF ITERATIONS TAKEN. A 15223 PROBLEM RAIN IN 10 MINUTES. A 50X400 RAN 7 HOURS. THE PROGRAM IS MRITTEN FOR A 16K 1401 WITH ADVANCED PROGRAMMING, MULTIPLY—DIVIDE FEATURE AND ONE 1311 DISK CRIVE WITH DIRECT SEEK.

GPTIGNAL PROGRAM MATERIAL - SOURCE DECKS.
OPTIGNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1401-10.3.053 LESS IV AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.053

AUTHOR...M.C. KALNITZ IBM CORP. 2651 STRANG BLVC. YCRKTOWN HEIGHTS, N.Y.

DIRECT INCUIRIES TO AUTHOR

TO CONVERT THE OUTPUT FROM 1401 LESS /LEAST COST ESTIMATING AND SCHEDULING/ 8K, 12K, 16K - PRESENTLY IN AN ELAPSED DAY FORMAT, TO AN ACTUAL CALENDAR DATE FORMAT. THIS PROGRAM STARTS AT ANY PRESELECTED DAY, INCLUDES MEEKENDS AND HOLIDAYS OR ELIMINATES THEM SELECTIVELY. ELAPSED DURATION CANNOT EXCEED 36 MCNTHS. 1401 CARD SYSTEM WASK, MULTIPLY-DIVIDE FEATURE. HI-LCH-EQUAL COMPARE. SOURCE LANGUAGE IS AUTOCODER.

B-1401

B-1401		B-1401 PAG	E 071
1401-10.3.054 THESAURUS PREPARATION FOR	≠N	CONTINUED FROM PRIGR CCLUMN	
INFORMATION RETRIEVAL AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.054		CIRECT INQUIRIES TO BURTON E. LAMKIN, IBM CORP., MONTEREY AND COTTLE ROADS, SAN JOSE, CALIF.	*
AUTHORSG.B. SZCKOLCCZY SYLLABA L.L. BRINER		THESE 1401 PROGRAMS WERE DESIGNED TO ESTABLISH, UPDATE, CONTROL,	
DIRECT INQUIRIES TO G.B. SZOKOLCZY,IBM CORP.,1111 CONNECTICUT AVE., N.K. MASHINGTON, D.C.	* P	PRINT AND PUNCH ORDER/RECEIVING TYPE DATA AS ENCOUNTERED IN A TECHNICAL LIBRARY STUATION. HOWEVER, IT WOULD BE APPLICABLE TO NCN-TECHNICAL LIBRARIES AS WELL. THE PROGRAMS ARE WRITTEN IN 1401 AUTOCOBER FOR AN 8K 1401 MITH ADVANCED PROGRAMFING, 4 TAPE DRIVES, 1402, 1403. OUTPUTS OF THE PROGRAMS INCLUDE—	
THIS THESAURUS PREPARATION PROGRAM WAS DEVELOPED IT PROVIDE INTELLIGENCE FOR EFFECTIVE RETRIEVAL AND CLASSIFICATION OF INFORMATION RECORDED IN PROSE FORM. THE PROGRAM RELATES WORDS ASSOCIATED IN MEANING SUCH AS ADENAUER TO GERMANY, GERMAN, BONN,		EXPECTED RECEIPTS TUB FILE, OVERDUE NOTICES IN CARD AND/OR PRINTED FORM, REQUESTOR CROSS REFERENCE, TITLE AND REPORT NUMBER CROSS REFERENCE, FILE PRINT-OUTS, ETC.	**
WEST, FRENCH, CHANCELLOR,, FOOD TO CROP., AND FLOOD TO RIVER AND TIDE. THESE ARE ACTUAL SAMPLES. IT RELATES WORDS BY DETERMINING WHICH INDEX WORDS SELECTED BY SYNTRAN /NUMBER 10.3.045/ CO-OCCUR IN THE SAME TEXTS. THE LOGIC FOR		OPTICNAL PROGRAM MATERIAL - SOURCE DECKS. OPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE CROER CARD.	*
RELATING WORDS IS THAT THE MORE TEXT CO-OCCURRENCES OF INDEX WORDS, THE STRONGER THE SEMANTIC RELATIONSHIP BETWEEN THEM. A		1401-10.3.059 CRITICAL PATH MANAGEMENT GAME	
THESAURUS PREPARED BY THIS PROGRAM HELPS PROVIDE MORE POTENTIAL RESPONSES TO QUERIES THAN BEFORE BUT MORE IMPORTANT IT		AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-10.3.059	
FACILITATES RANKING THESE RESPONSES IN ORDER OF IMPORTANCE. THIS ENABLES SELECTION OF BEST RESPONSES AND MINIMIZES FALSE DROPS. IT IS PROGRAMMED FOR A 16K 1401 WITH FOUR TAPE DRIVES, ONE 1311, 1402, 1403, ADVANCED PROGRAMMING AND MULTIPLY/DIVIDE.	*M	AUTHORD.G. DOUGLAS, JR. IBM CORPURATION 570 GROAD ST.	
THE REEL OF TAPE REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED.	* M * M	NEWARK, N.J. 07102 Direct inquiries to author	
THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH.	*M	THE CRITICAL PATH MANAGEMENT GAME CONSISTS OF THREE PROGRAMS	
1401-10.3.055 INDIVIOUAL LEDGER EXTRACT PROGRAM FOR CREDIT UNIONS AVAILABLE IST QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.055	*M	WHICH CAN BE USED FOR TEACHING AND DEMONSTRATING THE TECHNIQUES OF LESS CRITICAL PATH SCHEDULING. AT SELECTED STAGES DURING THE GAME PARTICIPANTS VARY ACTIVITY DURATIONS BY MANIPULATION OF RESOURCES. THE OBJECTIVE IS TO COMPLETE PROJECT WITH MINIMUM EXPENDITURE. PHASE I PREPARES A	
AUTHORJ.A. ATKINSON		MASTER TAPE USED BY PHASE III. PHASE II COMPUTES PROJECT SCHECULES WITH OUTPUT SIMILAR TO THAT PRODUCED BY	
DIRECT INQUIRIES TO J.A. ATKINSON, IBM CORP., MONTEREY AND COTTLE ROADS, SAN JOSE, CALIF.	* M	LESS PROGRAMS. PHASE III SIMULATES THE GAME PROJECT AND REPCRTS ON THE STATUS OF ALL ACTIVITIES. THE GAME PROJECT IS RESTRICTED TO 100 ACTIVITIES AND MINOR RESTRICTIONS ON NODE NUMBERING AND MAXIMUM DURATION. REQUIRES 12K, 1401 WITH AUDANCED PROGRAMMING, MULTIPLY-OIVICE, HIGH-LOW-EQUAL COMPARE,	
THIS PROGRAM PRODUCES MEMBER/S STATEMENTS COVERING DIVIDEND ACCOUNTING PERIODS. AT THE START OF A NEW DIVIDEND PERIOD A NEW RECORD IS STARTED FOR EACH ACCOUNT WITH SHARE AND LOAN BALANCES CARRIED FORWARD. DIVIDENDS ARE CALCULATED AND		1402 CARD READER, 1403 PRINTER AND AT LEAST THO MAGNETIC TAPE UNITS. PHASE III REQUIRES 11,152 POSITIONS. WRITTEN IN FORTRAN.	
POSTED. INSURANCE PREMIUMS ARE CALCULATED. PROGRAM OCCUPIES 13141 POSITIONS AND LOCATIONS 7003 TO 10410 AND 10666 TO 10740 ARE USED FOR IMPUT - OUTPUT. THERE ARE 1783 SOURCE STATEMENTS. THIS PROGRAM SHOULD BE USED IN CONJUNCTION WITH INDIVIDUAL LEDGER UPDATE PROGRAM FOR CREDIT UNIONS. THE PROGRAM REQUIRES		1401-10.3.060 CIRCULATION SYSTEM AVAILABLE IST QUARTER 1966. SPECIFY FILE NUMBER 1401-10.3.060	*1
16K 1401 PROCESSOR, 1402 CARD READER, 1403 PRINTER //132 POSITIONS/, 3 TAPE UNITS, HIGH-LOW-EQUAL COMPARE, ADVANCED		AUTHORBURTON E. LAMKIN	
PROGRAMMING AND SENSE SWITCHES.		CIRECT INQUIRIES TO RCNALD KOSS,IBM CORP.,MONTEREY AND COTTLE ROADS,	*1
OPTIONAL PROGRAM MATERIAL - SOURCE DECKS. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.	* M * M	SAN JOSE, CALIF.	*1
1401-10.3.056 INDIVIDUAL LEDGER UPDATE PROGRAM FOR CREDIT UNIONS AVAILABLE IST QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.056	*H	THESE 1401 PROGRAMS WERE DESIGNED TO ESTABLISH, UPDATE, CONTRGL, PRINT AND PUNCH CIRCULATION TYPE DATA AS ENCOUNTERED IN A TECHNICAL LIBRARY SITUATION. HOWEVER, IT WOULD BE APPLICABLE TO NON-TECHNICAL IEBRARIES AS WELL. THE PROGRAMS ARE HRITTEN IN 1401 AUTOCODER FOR AN 8K 1401 WITH ADVANCED PROGRAMMING, 4TAPE CRIVES, 1402, 1403. DUTPUTS OF THE PROGRAMS INCLUCELIST OF OUTSTANDING ITEMS, OVERDUE LIST, CARDS FOR DEVERDUE TIEMS	i
AUTHORJCHN A. ATKINSON		LIST OF ITEMS ON RESERVE, SELECTED BORROWER LISTING, BORROWER	•
DIRECT INQUIRIES TO J.A. ATKINSON, IBM CORP., MONTEREY AND COTTLE ROADS,	*M	INVENTORY. OPTICNAL PROGRAM MATERIAL - SOURCE DECKS.	**
SAN JOSE, CALIF.	*M	OPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.	*1
THIS PROGRAM WILL POST ALL TRANSACTIONS TO EACH MEMBER/S ACCOUNT. WILL AUTOMATICALLY CALCULATE INTEREST TO PRINCIPAL FCR LOANS REPAID MCNTHLY. PROVIDES FOR SHARE TO SHARE TRANSFERS IF ACCOUNTS INVOLVED HAVE THE SAME BASIC SERIAL NUMBER. PROGRAM UCCUPIES 12837 POSITIONS AND LOCATIONS 7574 - 7648 AND 7732 -		1401-10.3.061 SERVICE INFORMATION SYSTEM AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-10.3.061	•1
11138 ARE USED FOR INPUT - OUTPUT. THERE ARE 1783 SOURCE		AUTHORBURTON E. LAMKIN	
STATEMENTS. THIS PROGRAM SHOULD BE USED IN CONJUNCTION WITH INDIVIDUAL LEDGER EXTRACT PROGRAM FOR CREDIT UNIONS. THE PROGRAM REQUIRES 16K 1401 PROCESSOR, 1402 CARD READER, 1403 PRINTER, /132 POSITIONS/, 3 TAPE UNITS, HIGH-LOW-EQUAL CCMPARE, ADVANCED PROGRAMMING AND SENSE SWITCHES.		DIRECT INQUIRIES TO RCMALD KOSS,18M CORP.,MONTEREY AND COTTLE RCADS, SAN JOSE, CALIF.	*!
OPTIONAL PROGRAM MATERIAL - SOURCE DECKS. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.	₩ ₩	THESE 1401 PROGRAMS HERE DESIGNED TO SATISFY THO OBJECTIVES. FIRST, TO PRESENT STATISTICAL DATA REGARDING THE USAGE OF PROFESSIONAL SERVICES BY TYPES OF SERVICE, SUBJECT CLASSIFICATION, INDIVIDUAL USER AND USING DEPARTMENT.	
1401-10.3.057 PERIODICAL CONTROL SYSTEM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.057	*M	SECOND, SINCE THE INPUT FORM, FORMAT AND CENTENTS OF THE ORDER/RECEIVING SYSTEM AND THE PERIODICAL CONTROL SYSTEM CLOSELY APPROXIMATE THE SERVICE INFORMATION SYSTEM INPUT, THE LIB-S PROGRAM WAS GEARED TO ACCEPT THESE INPUTS IN BOTH MULTI AND MIXED FASHION.	•
AUTHORBURTON E. LAMKIN		THE SIX REPORTS IN THIS SYSTEM ARE SELECTIVELY GENERATEDOR NOTAS CETERMINED BY THE PUNCHING OF THE CONTROL	
CIRECT INQUIRIES TO BURTON E- LAMKIN-IBM CORP., MONTEREY AND COTTLE ROADS, SAN JOSE, CALIF.	* M * M	CARD. THE PROGRAMS ARE WRITTEN IN 14GI AUTCCODER FOR AN BK 1401 TAPE SYSTEM WITH ACVANCED PROGRAMMING PACKAGE, AND 4 TAPE DRIVES IS REQUIRED. NO FILE IS ESTABLISHED OR MAINTAINED BY THIS SYSTEM.)
THESE 1401 PROGRAMS WERE DESIGNED TO ESTABLISH, UPDATE, CONTROL, PRINT AND PUNCH PERIODICAL CONTROL TYPE DATA AS ENCOUNTERED IN A TECHNICAL LIBRARY SITUATION. HOWEVER, IT WOULD BE APPLICABLE TO NON-TECHNICAL LIBRARIES AS WELL. THE PROGRAMS ARE WRITTEN IN 1401 AUTOCODER FOR AN 8K 1401 WITH		OPTIONAL PROGRAM MATERIAL - SOURCE DECKS- OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.	*!
ADVANCED PROGRAMMING, 4 TAPE DRIVES, 1402 AND 1403. CUTPUTS OF THE PROGRAMS INCLUDE- EXPECTED RECEIPTS TUB FILE, NON-RECEIPT NOTICES, BINDING NOTICES, EXPIRATION NOTICES, CURRENT RECEIPT NOTICES, FILE PRINTOUTS, ETC.	*M	1401-10.3-062 HISTORY REPORTING SYSTEM LIBRARY ACTIVITY DATA STATISTICAL RECAP AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-10.3.062	
OPTICNAL PROGRAM MATERIAL - SOURCE DECKS. OPTICNAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.	* M	AUTHORBURTON E. LAMKIN	
		DIRECT INQUIRIES TO RCNALD KOSS,18M CORP.,COTTLE & MONTEREY RDS.,SAN JCSE,CALIF.	
1401-10.3.058 ORDER RECEIVING SYSTEM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1401-10.3.058	*H	THESE 1401 PROGRAMS WERE DESIGNED TO CLASSIFY, SUMMARIZE AND PREPARE DATA ON THE ACTIVITY EXPERTENCED BY THE LIBRARY IN	
AUTHORBURTON E. LAMKIN		AND PREPARE DAIR ON THE ALTIVITY EAPERTENDED BY THE LIBRARY IN THE AREAS OF SERVICES, ORDER/RECEIVING, CIRCULATION AND PERICOICALS. THE PROGRAMS ARE WRITTEN IN 1-01 AUTOCODER FOR A 12X 1-401 HITH ADVANCED PROGRAMMING 4 TAPE DRIVES, 1402, 1403. IT CAN BE MODIFIED TO FIT AN 8K BY ELIMINATION OF THE COUNTS OF ACTIVITY BY DEPARTMENT IN THE LIB-H PROGRAM.	

AGE 072 B-14

CONTINUED FROM PRIGR PAGE—

LIB-H IS THE ONLY PROGRAM CURRENTLY REQUIRING 12K. FCUR

OF THE OPERATING SYSTEMS OF THE LIBRARY MANAGEMENT SYSTEMS
CCMPRISE THE NORMAL INPUTS TO THIS SERIES OF PROGRAMS,
HOWEVER, HISTORICAL DATA CAN BE ENTERED DIRECTLY INTO THIS
SYSTEM. OUTPUTS OF THE PROGRAMS INCLUDE—TRANSACTION CODE
COUNTERS BY BATCH, COUNTS OF ACTIVITY BY DEPARTMENTS AND
BY USERS, TABULATED REPORTS BY AREA/DEPARTMENT/MAN THREE
OPTICNS/. SUBJECT/DEPARTMENT /THO OPTIONS/, SUBJECT/MAN
/THO OPTIONS/ BULLDING. ADOITIONAL REPORTS AVAILABLE AS A
BRANCH OF THIS SYSTEM WILL BE AVAILABLE IN A LATER RELEASE
ANC INCLUDE—A RECAP OF ACTIVITY BY VENDOR /OPTIONAL IN TAB
OR LIST FORM/, A RECAP OF ACTIVITY BY TITLE OF CIRCULATED
ITEMS, A RECAP OF ACTIVITY BY TITLE BY THE REQUESTOR WHO
ORDERED THE LITEM.

TO OBTAIN THE BASIC MACHINE READABLE MATERIAL ONE FULL, 2400 FOOT, REL OF MAGNETIC TAPE IS REQUIRED. THIS TAPE MAY BE SUPPLIED OR ORCREADE FROM YOUR IBM REPRESENTATIVE.

1401-10.3.063 FAST - FULLY AUTOMATIC SCORING TECHNIQUE - PHASE 1 PROGRAM PACKAGE AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1401-10.3.063

AUTHOR...MR. C.F. WILKES

DIRECT INQUIRIES TO..

MR. C.F. WILKES, IBM CORP., 9045 LINCOLN BLVD.,
LCS ANGELES, CALIF.

FAST PROGRAMS ARE DESIGNED TO ACCEPT-FAST-TEST ANSWER CARDS, A VERTICALLY DRIENTED, TWO-COLUMN PER SIDE MARK-SENSE CARD CN WHICH A TEST SUBJECT MARKS HIS RESPONSES. ITIS TYPE OF MESPENSE HILL BE SCOREE WITHIN THE COMPUTER. IN ADDITION, KEY PUNCHED OR 1230/534 PUNCHED RAM SCORES CAN BE ACCOPMEDATED. REGARDLESS OF INPUT METHOD, RAM SCORES ARE CONVERTED TO DERIVED SCORES, LISTED IN VARIOUS SEQUENCES, PRINTED CN PRESSURE-SENSITIVE LABELS, AND PRODUCE PROFILE CARDS. A FIVE-POINT FREQUENCY DISTRIBUTION CAN BE PRODUCED. CAN BE RUN ON 1401, 1440 OR 1406 SYSTEMS, WITH 8K, ONE 1311 DISK DRIVE, ADVANCED PROGRAMMING, HIGH-LOW-EQUAL COMPARE, BIT-TEST, AND ANY 1401/40/60 1/10 HARDWARE. IF FAST MARK-SENSE CARDS ARE USED, MUST HAVE COLUMN BINARY OR CARD IMAGE FEATURE. ONE ADDITIONAL 1311 DRIVE REQUIRED IF DISK RECORDS ARE SORTED FOR ADDITIONAL LISTING SEQUENCES.

1401-11.0.003 A PROGRAM FOR SOLVING SYSTEMS OF LINEAR EQUATIONS ON THE IBM 1401 AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-11.0.003

AUTHOR...SCREN NGRDIN IBM SVENSKA BA NORDEN FLYCHT SVAGEN 70 FACK STOCKHOLM 30, SWEDEN

DIRECT INQUIRIES TO AUTHOR

A PROGRAM FOR SOLVING LINEAR EQUATION SYSTEMS. IT IS ALSO WELL SUITED AS A DEMONSTRATION PROGRAM. 4,000 POSITIONS 1401 MODEL C3 1402 CARC READ PUNCH 1403 PRINTER 2 TAPE UNITS

1401-11.0.005 REACTION TIMING PROGRAM FOR IBM 1401 /CARD/ AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-11.0.005

AUTHORS..L. R. DEBUYS J. F. NAUGHTON

CIRECT INQUIRIES TO..
L. R. DEBUYS
IBM CORPORATION
2640 CANAL STREET
NEW ORLEANS 19, LOUISIANA

THE REACTION TIMING PROGRAM FOR THE 18M 1401 IS DESIGNED PRIMARILY AS A DEMONSTRATION. HOWEVER, THE PROGRAM CAN BE USED TO MEASURE REACTION TIME AS A FUNCTION OF WAITING TIME. 1401 - 1. 4K /SENSE SWITCHES DESIRABLE/ 1402, 1403 MCCEL 1 OR 2.

1401-11.0.007 FALLOUT AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-11.0.007

AUTHOR...THOMAS P. CALLAHAN IBM CORP. 701 WEST BROAD STREET BETHLEHEM PENNSYLVANIA

CIRECT INQUIRIES TO AUTHOR

FALLOUT IS A PACKAGE OF CEMONSTRATION PROGRAMS DESIGNED TO EMPHASIZE AUDIENCE PARTICIPATION AND VISUAL IMPACT WHILE DEMONSTRATING 1401 CAPPALITIES. SOURCE LANGUAGE SPS 4K CARC 1401 WITH SENSE SWITCHES REQUIRED FOR BASIC PACKAGE. FALLOUT IS DESIGNED TO DEMONSTRATE 1401 CAPABILITIES TO ANYONE, PARTICULARLY PERSONS WITH NO DATA PROCESSING KNOWLEGGE WHATSGEVER. SOME CAPABILITY. SET DEMONSTRATED ARE DUTPUT PRINTING SPEED, INTERNAL STORAGE CAPACITY, INTERNAL ARITHMETIC SPEEC, DECISION—MAKING ABILLITY, COMPUTER LOGIC, AND COMPUTER FLEXIBILITY.

1401-11.0.009 INFORMATION RETRIEVAL DEMO AVAILABLE 4TH QUARTER 1962. SPECIFY FILE NUMBER 1401-11.0.009

AUTHOR...H. STERN
IBM CORP.
447 EAST BROAD ST.
CCLUMBUS, CHIO

B-1401

CONTINUED FROM PRIOR COLUMN-DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM IS A COMPLETE SELF CONTAINED DEMONSTRATION OF 1401 INFORMATION RETRIEVAL. DOCUMENTS, TITLES, ABSTRACTS AND KEYWORDS ARE STORED ON TAPE. INQUIRIES TO THE FILE IS MADE BY A SERIES OF REQUEST CARDS CONTAINING KEYWORDS. IF THE DOCUMENT CONTAINS ALL OF THE KEYWORDS THEN 175 ITTLE AND ABSTRACT ARE PRINTED ON THE 1403.

4K. ADVANCE PROGRAMMING.

1401-11.0.010 THE GAME BRIDG-IT ON THE

AVAILABLE 1ST QUARTER 1963. SPECIFY FILE NUMBER 1401-11.0.010

AUTHOR...GUNTER MENZEL

IBM DEUTSCHLAND DP BASIC RESEARCH
INTERNATIONALE BUERO MASCHIMEN GMBH
SINGELFINGEN/WURTTEMBERG GERMANY

DIRECT INQUIRIES TO AUTHOR

THIS DEMONSTRATION PROGRAM PLAYS THE GAME BRIDG-IT. IT MUST HAVE THE FIRST MOVE AND MILL THEN SUCCEED IN EVERY CASE AGAINST THE OPPONENT. THE MINNING STRATEGY IS FROM CLIVER GROSS, RAND CORPORATION. MACHINE CONFIGURATION- 4K 1401, NO SPECIAL FEATURES REQUIRED. THE INPUT CHOICE BETWEEN 1402 AND 1407 IS POSSIBLE.

1401-11.0.012 HUSIC - HUSIC SIMULATION ON A 1401 COMPUTER AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-11.0.012

AUTHOR...M.J. PESKIN
THE MITTE CCRPORATION
BGX 208
BEDFORC, MASSACHUSETTS

CIRECT INQUIRIES TO AUTHOR

MUSIC IS A 1401 PROGRAM WHICH DEMONSTRATES A TECHNIQUE FCR PRODUCING MUSIC ON THE 1403 PRINTER. THE DISTRIBUTED DECK IS SET UP TO PLAY RAVELS BOLERO. THIS WRITE-UP DESCRIBES THE PROCEDURES BY WHICH ANY DESIRED MUSIC MAY BE PRODUCED. MUSIC MILL LCAD AND OPERATE IN 14013 OF ANY SIZE. THE GENECT MACHINE, HOWEVER, MUSI HAVE SENSE SWITCHES AND ADVANCED PROGRAMMING.

1401-12.1.003 AUTOCODER SUBROUTINE TO VERIFY MODULUS 10 CHECK DIGITS AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-12.1.003

AUTHOR...MR. R. B. MORRON IBM CGRP. 80 E. LAKE STREET CHICAGO 1, ILL.

CIRECT INQUIRIES TO AUTHOR

OPEN, FLEXIBLE ROUTINE TO VERIFY MCDULUS 10 CHECK DIGITS, WITH EXITS FOR VARIOUS ERROR CONDITIONS. OPERATES ON BASIC NUMBERS FROM 1 TO 15 CHARACTERS IN LENGTH. REQUIRES NO MORDMARKS IN USERS AREA. 1401 WITH ADVANCED PROGRAMMING, H-L-E CCMPARE. SOURCE LANGUAGE 1S 1401 AUTOCODER.

1401-12.1.004 AUTOCODER SUBROUTINE TO VERIFY MODULUS 11 CHECK DIGITS AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-12.1.004

AUTHOR...R. B. MORRON
IBM CORPORATION
80 E. LAKE STREET
CHICAGO 1, ILLINOIS

CIRECT INQUIRIES TO AUTHOR

CPEN, FLEXIBLE ROUTINE TO VERIFY MODULUS 11 CHECK DIGITS, WITH EXITS FOR VARIOUS ERROR CONDITIONS. OPERATES ON BASIC NUMBERS FROM 1 TO 15 CHARACTERS IN LENGTH. REQUIRES NO WORDMARKS IN USERS AREA. MACHINE CONFIGURATION—1401 WITH AUDVANCED PROGRAMMING, H-L-E COMPARE. PROGRAM REQUIREMENTS—307 POSITIONS INCLUDING AREAS AND CONSTANTS. SOURCE LANGUAGE—1401 AUTCCODER SCURCE STATEMENT COUNT—61.

1401-13.1.001 TAPE DUPLICATION OR COMPARE AVAILABLE 1ST QUARTER 1962. SPECIFY FILE NUMBER 1401-13.1.001

AUTHOR...SY BERLIN NCRTH AMERICAN AVIATION, INC. 4300 EAST 5TH AVENUE CCLUMBUS 16, GHIO

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM PERMITS MULTI-FILE DUPLICATION OR COMPARE OF BINARY AND BOD INFORMATION. THE INFORMATION MAY BE IN MIXEC OR SINGLE MODE. PROGRAM OCCUPIES BOD POSITIONS IN CORE. MODEL C 3, 2 TAPE DRIVES, OPTIONAL COLUMN BINARY.

1401-13.1.009 RGCP - REPRODUCE, GANG-PUNCH, COUNT & PRINT AVAILABLE IST QUARTER 1962. SPECIFY FILE NUMBER 1401-13.1.009

AUTHOR...B. J. MANRING 8621 GEORGIA AVENUE SILVER SPRING, MARYLAND B-1401

CONTINUED FROM PRIOR PAGE--

CIRECT INQUIRIES TO AUTHOR

TO REPRODUCE CARCS, PERFORMING OPERATIONS WHICH WOULD OTHERWISE ENTAIL WIRING A SEPARATE REPRODUCER BOARD, TO LIST CARDS WHERE A REFORMATING OF THE CARD IMAGE IS DESIRED, AND TO SERIALLY NUMBER CARDS AND/OR LINES ON A PAGE. 4K 1401, 1402, 1403 MODEL 2, SENSE SWITCHES B-D, ADVANCED PROGRAMMING FEATURE, HIGH-LOM-EQUAL CCMPARE.

1401-13.1.025 TAPE-TG-TAPE FOR THE SHARE LIBRARY

AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-13.1.025

AUTHORS...A.F. BLOSSOM R. HOYNES

CIRECT INQUIRIES TO..

A.E. BLOSSOM

IBM CORP.

112 EAST POST RC.

WHITE PLAINS, N.Y.

WHITE PLAINS, N.Y.

UPCATE SHARE PROGRAM TAPES STARTING WITH REEL NUMBER 5. SHARE MEMBERS MAY BUILD TAPE 5 BY DUPLICATING DISTRIBUTIONS DISSEMINATED FROM THE LIBRARY. THE USER IS REFERRED TO THE MEMORANDUM TO SHARE MEMBERS DATEO NOVEMBER 14, 1962. THIS PROGRAM IS THE THIRD IN A SET DESIGNED FOR USE WITH THE AFCREMENTIONED TAPES.

THE TAPE TO BE UPDATED IS TO THE MEMORITHM OF THE MEMORITHM OF THE SHOULD BE EITHER BLANK OR CONTAIN THE MOST CURRENT SHARE DISTRIBUTIONS. THE INPUT TAPE CONTAINING THE NEW DISTRIBUTIONS IS FILE PRETECTED AND MOUNTED ON UNIT ONE. TAPE TWO IS SEARCHED FOR A TAPE MARK, BACKSPACED GVER THE TAPE MARK, AND A IAPE TO TAPE OPERATION IS INITIATED. TAPE ONE IS INPUT., TAPE TWO IS SUTPUT. MACHINE SPECIFICATIONS — 1401 4K, TWO TAPE UNITS, 1402, 1403, COLUMN BINARY, SENSE SWITCHES, AND LOCATION 3901 IS THE LAST CORE POSITION USEC.

1401-13.1.026 CARD-TO-TAPE FOR THE SHARE LIBRARY

AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-13.1.026

AUTHORS..A.E. BLOSSOM R.J. HOYNES

DIRECT INQUIRIES TO..

A.E. BLOSSOM

IEM CORPORATION

PROGRAM INFERMATION DEPARTMENT

112 EAST POST ROAD

WHITE PLAINS, NEW YORK

TO LCAD SOURCE AND OBJECT PROGRAM CARL DECKS, SUBMITTED THROUGH THE SHARE ORGANIZATION ON MAGNETIC TAPE IN BLOCKED FORMAT. MACHINE SPECIFICATIONS—1401 4K, ONE TAPE UNIT, 1402 CARD REACER, 1403 PRINTER, COLUMN BINARY, ADVANCED PROGRAMMING AND SENSE SWITCHES. THE PROGRAM USES THE BLOCK OF STORAGE FROM 333 TC 1874 PULS 1601 LOCATIONS FOR A RECORD AREA. SPS ASSEMBLED WITH AUTOCODER.

1401-13.1.027 DELETE-MERGE FOR THE SHARE

RY AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-13.1.027

AUTHCR...A.E. BLOSSOM IBM CORP. 112 E. POST RC. WHITE PLAINS, NEW YORK

DIRECT INQUIRIES TO AUTHOR

PERMITS USERS OF THE SHARE LIBRARY TAPES TO MAINTAIN CARD DECKS ON THESE TAPES IN A CURRENT STATUS. THE DELETE AND MERGE METHOD USED IS STRAIGHT FORWARD AND CAN BE ACCOMPLISHED WITH A CNE-PHASE PROGRAM ON A 1401 TAPE SYSTEM. THE ONLY SPECIAL FEATURE USED IS COLUMN BINARY. THIS PROGRAM IS A THREE TAPE OPERATION. UNIT I CONTAINS THE MASTER REEL, UNIT 2 IS THE CHANGE TAPE, AND UNIT 3 IS THE CUTPUT. THE PROGRAM DOES NOT REWIND TAPES, THEREFORE, THE CHANGE TAPE AND CONTAIN MORE THAN CHE FILE. EACH FILE IS DEVOTED TO A PARTICULAR LIBRARY TAPE. AS WRITTEN, THIS PROGRAM HILL NOT ADD NEW PROGRAMS, I.E., IF THE PROGRAM DOES NOT EXIST ON THE MASTER TAPE /UNIT 1/, THEN IT CANNOT BE PLACED ON THE CHANGE TAPE /UNIT 2/. ONLY A DIRECT SWAP IS VALID. MACHINE CONFIGURATION— 1401 4K, 1402, THREE /3/TAPE UNITS, AND COLUMN BINARY. SOURCE LANGUAGE—AUTOCODER.

1401-13.1.028 TAPE-TO-CARD FOR THE SHARE LIBRARY

AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-13.1.028

AUTHORS..A.E. BLOSSOM R.J. HOYNES

CIRECT INQUIRIES TO:
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WHITE PLAINS, NEW YORK

TO RETRIEVE PROGRAM CARD DECKS FROM THE SHARE PROGRAM LIBRARY TAPES. DESIGNED FOR USE WITH SHARE PROGRAM LIBRARY TAPES CNLY. MACHINE SPECIFICATIONS— 1401 4K, ONE TAPE UNIT, 1402, COLUMN BINARY FEATURE, 1403 PRINTER — USED ONLY FOR MESSAGES TO THE

1401-13-1-029 SHARE ORDER CARD LIST AND PUNCH

AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1401-13.1.029

B-1401

PAGE 073

CONTINUED FROM PRIGR COLUMN--

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PRCVIDE USERS OF THE SHARE PROGRAM LIBRARY TAPES WITH A LISTING AND/OR THE ORDER CARDS PRECEDING EACH DECK ON THE TAPE. DESIGNED FOR USE WITH SHARE PROGRAM LIBRARY TAPES ONLY. MACHINE SPECIFICATIONS—1401 4K, ONE TAPE UNIT, 1403 PRINTER, 1402 CARD PUNCH, COLUMN BINARY.

1401-13.1.032 DISTRIBUTION TAPE REEL FOR SHARE

AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-13.1.032

AUTHOR...A.E. BLOSSOM
IBM CORP.
112 EAST POST ROAD
WHITE PLAINS, N.Y.

DIRECT INQUIRIES TO AUTHOR

I INQUIRIES TO AUTHOR

THIS PROGRAM MRITES MAGNETIC TAPE WITH SHARE CATALOG, CRDER AND PROGRAM DECKS, TOGETHER WITH 1401 RETRIEVAL ROUTINES. THE CREATEC TAPE CONTAINS AN ENTIRE SHARE CISTRIBUTION OF CARD MATERIAL AND IS CUPILCATED TO SMALL 220 FOOT REELS OF MAGNETIC TAPE CALLED A DIR-DISTRIBUTION TAPE REEL. THE DISTRIBUTION TAPE REEL JOTNAY MAS THE PRINCIPLE REASON FOR RITING FITS PACKAGE OF PROGRAMS. TOGETHER, THEY PROVIDE A CONVENIENT AND EFFICIENT MEANS OF DISSEMINATING CARD DISTRIBUTION MATERIAL TO SHARE MEMBERS. THE DIR IS A 220 FOOT REEL OF MAGNETIC TAPE USED AS A DISTRIBUTION MEDIUM. MAGNETIC TAPE USED AS A DISTRIBUTION MEDIUM. MAGNETIC TAPE USED AS A DISTRIBUTION MEDIUM. MAGNETIC TAPE IS MITTEN WITH 1401 CORE CARDS. 2. LIST AND PUNCH CATALOG CARDS. 3. LIST AND PUNCH CATALOG AND CATA CARDS TO CREATE A 1401 TAPE LOADABLE RETRIEVAL SYSTEM WITH TAPE TO CARD KATALOG CARDS. 3. LIST AND PUNCH CATALOG CARDS. 4. TAPE TO CARD KATALOG CARDS. 3. LIST AND PUNCH CREER CARDS. 4. TAPE TO CARD KATALOG CARDS. 3. LIST AND PUNCH CREER CARDS. 4. TAPE TO CARD KATALOG CARDS. MACHINE CONFIGURATION—A 4K 1401 WITH THREE /3/ TAPE UNITS. SENSE SWITCHES, 1402, 1403, COLUMN BINARY, ADVANCED PROGRAMMING, AND HI-LC-EQ.

1401-13.2.002 FORTRAN PREPROCESSOR, DDT /AN L201/ /CARD/ AVAILABLE 2ND QUARTER 1962. SPECIFY FILE NUMBER 1401-13.2.002

AUTHOR...NANCY CLARK
ARGENNE NATIONAL LABORATORY /AN/
9700 SOUTH CASS AVENUE
ARGENNE, ILLINOIS

CIRECT INQUIRIES TO AUTHOR

TO SCAN FORTRAN SOURCE LANGUAGE PROGRAMS FOR ERRORS SO
THAT THEY MAY BE ELIMINATED BEFORE COMPILING. AFTER ALL
STATEMENTS OF A SOURCE PROGRAM HAVE BEEN SCANNED, THE DC,
FORMAT, DIMENSIONED VARIABLES, AND STATEMENT NUMBER TABLES
WHICH HAVE BEEN FORMED ARE EXAMINED FOR ERRORS. MAKES USE
OF THE FIRST 3985 CHARACTERS OF CORE. A 1401 HAVING AT
LEAST 4000-CHARACTER CORE, HT-LOM-EQUAL COMPARE, 3 INDEX
REGISTERS, STORE ADDRESS REGISTERS, AND IWO MAGNETIC TAPE

1401-13.4.002 OPTRAIN -- OPERATOR TRAINING ON THE 1401 AVAILABLE 2NC QUARTER 1963. SPECIFY FILE NUMBER 1401-13.4.002

AUTHCR...MR. SY BERLIN RESEARCH ANALYSIS CCRP. 6935 ARLINGTON ROAC BETHESDA 14, MARYLANC

THIS PROGRAM THRU A RANCOM SELECTION OF 6 SUBROUTINES, PUTS THE CPERATOR THRU MOST SITUATIONS WHICH ARE PUTS THE CPERATOR THRU MOST SITUATIONS WHICH ARE THE PREGRAMMABLE. IT ATTEMPTS TO MAKE THE OPERATOR ALERT ON THE FREIPHERAL GEAR AND TESTS HIS KNOWLEDGE OF BIT CONFICURATIONS ON THE CONSOLE. IT IS OUR BELIEF THAT A GOOD FOUNCATION ON THIS COMPUTER WILL BE ACVANTAGEOUS AND EXPEDITE TRAINING ON LARGER COMPUTERS WHERE RECUIRED. WRITTEN IN AUTCCODER FOR A 8K, 1401 WITH INDEXING, SENSE SWITCH B AND TWO TAPE CRIVES.

L4.0.001 PLOT IA /REVISED/ AVAILABLE 2ND QUARTER 1963. SPECIFY FILE NUMBER 1401-14.0.001 1401-14.0.001

AUTHOR...G. S. INGERSOLL IBM CORPORATION 2930 W. IMPERIAL BLVC. INGLEWCCD, CALIFORNIA

THIS IS A PROGRAM TO SIMULTANEOUSLY PLCT SEVERAL CURVES TWENTY POINTS TO THE INCH BOTH HORIZONTALLY AND VERTICALLY CN THE 1403 PRINTER. THIS ACCURACY MOULD SATISFY THE REQLIREMENTS OF A LARGE NUMBER OF GRAPHING PROBLEMS AT A RELATIVELY LOW COST. SCALING-MINIMMO RORINATE AND ROBLINATE INCREMENT ARE FED TO THE 1401, WHICH DOES THE NECESSARY SCALING TO THE DATA. ABSCISSA LIE CN THE AXIS PARALLEL TO THE FORMS MOVEMENT AND ARE UNLIMITED. MACHINE CONFIGURATION—1401 4K MEMORY, HI-LÓN-EQUAL COMPARE, MULTIPLY-DIVIDES—1403 PRINTER WITH TEN LINES PER INCH**, SPACE SUPPRESSION, SIX NON-STANDARC CHARACTERS.

MAY BE PROGRAMMED. **DESTRABLE FOR GUTPLIF FORMAT, BUT NOT NECESSARY TO THE PROGRAM. SOURCE LANGLAGE—1401 SPS

PAGE U74

B-1401

1401-14.0.002 GENERALIZED PLOT PROGRAM AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-14.0.002

AUTHORS...H. W. VAN NESS R. D. WARING

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IBM CORPORATION.
1212 S. W. 61H AVENUE
PCRTLAND OREGON

THE 1401 GENERALIZED PLOT PROGRAM HAS BEEN WRITTEN TO TAKE DATA FROM CARDS, AND PREPARE A GRAPHIC REPRESENTATION OF THAT DATA. IT PLOTS TO LINEAR SCALES FOR BOTH AXES WITH DEPENDENT VARIABLE VY-AXIS/ BEING PLOTTED PARALLEL TO THE PRINT CHAIN OF THE 1403. UP TO FIVE PIECES OF DATA MAY BE PLOTTED ON ONE RUN AND CAN BE TAKEN FROM NUMEROUS CONFIGURATIONS OF DATA ON THE CARD. CONTRCL CARDS ARE PREPARED FOR THE PROGRAM TO INDICATE SCALES, ORIGIN VALUES, INCREMENTS DATA FIELD LOCATIONS ON THE CARD, AND HEADING INFORMATION. MACHINE CONFIGURATION— A BASIC 1401 MITH 4000 POSITIONS OF CRESTORAGE AND 132 PRINT POSITIONS ON THE 1403 IS REQUIRED. PROYISION HAS BEEN MADE FOR PLOTTING AT 10 LINES TO THE INCH, IF THIS SPECIAL FEATURE IS AVAILABLE. PROGRAM REQUIREMENTS— PHASE 1 USES 3024 LOCATIONS, PHASE 2 USES 3916 LOCATIONS. SOURCE LANGUAGE—THE PROGRAM IS WRITTEN IN SPS, AND UTILIZES THE DIVIDE SUBROUTINE.

1401-14.0.004 FOURTEEN O ONE OFFSET REPRODUCING AND GANGPUNCHING OR EMITTING AVAILABLE 3RD QUARTER 1962. SPECIFY FILE NUMBER 1401-14.0.004

AUTHOR...A. H. TORESON AEROJET GENERAL CORPORATION NIMBUS CALIFORNIA

DIRECT INQUIRIES TO AUTHOR
TO PROVIDE A GENERALIZED PROGRAM FOR THE FOLLOWING
FUNCTIONS. STRAIGHT 80-80 OFFSET REPRODUCING, STRAIGHT OR
OFFSET REPRODUCING WITH GANG PUNCHING, PRODUCING PREDETERMINED QUANTITIES FROM SINGLE MASTERS. THE PROGRAM AS
WRITTEN UTILIZES MODILUS 16 ARITHHETIC FOR ADDRESS
MODIFICATION. HODELS WITH ONLY 4,000 POSITIONS OF STORAGE
WILL HAVE TO MAKE SEVERAL PROGRAM CHANGES, EMPLAIMED IN THE
WRITEUP, TO SATISFY THE REQUIREMENTS OF MODULUS 4
ARITHMETIC. THE PROGRAM WILL NOT ACCOMMODATE PROCESSING
INVOLVING SELECTION OR INTERSPERSING. 4000-16,000 POSITION
CORE STORAGE HIGH-LOW-EQUAL COMPARE SENSE SWITCHES

1401-14.0.005 F A P I PROGRAM /FOURTEEN-O-DNE AUTOMATIC PLOTTER I/ AVAILABLE IST QUARTER 1963. SPECIFY FILE NUMBER 1401-14.0.005

AUTHOR . . . RCBERT HARRIS .RCBERT HARRIS IBM 240 BROADWAY PATERSON, N. J.

DIRECT INQUIRIES TO AUTHOR

PROGRAM IS DESIGNED TO PRODUCE A LINEAR PLOT WITH DESCRIPTIVE INFORMATION FROM ANY SOURCE CARDS. MACHINE REQUIRED- 1401 CARD SYSTEM 1.4K OR MORE 132 PRINT POSITIONS ADVANCED PROGRAMMING FEATURE MULTIPLY-DIVIDE FEATURE SOURCE LANGUAGE- S P S

1401-14.0.008 SUBROUTINE TO CONVERT DOLLARS AND CENTS DIGITS TO CHECK-FORM WORDS AVAILABLE 3RD QUARTER 1963. SPECIFY FILE NUMBER 1401-14.0.008

AUTHOR...MR. F.M. EDWARDS IBM CORPORATION 215 WEST STATE STREET TRENTON, NEW JERSEY

DIRECT INQUIRIES TO AUTHOR

A SUBROUTINE WHICH CONVERTS NUMERICAL VALUES OF DOLLARS AND CENTS TO THE TRADITIONAL SPELLED-OUT CHECK FORM. VALUES UP TO AND INCLUDING \$9999-99 CAN BE CONVERTED. MACHINE CONFIGURATION—THE SUBROUTINE REQUIRES 1401 HITH ADVANCED PROGRAMMING AND HLE COMPARE. THE PROGRAM UTILIZES 735 POSITIONS OF CORE STORAGE /133 STATEMENTS/. SOURCE LANGUAGE- SUBROUTINE IS WRITTEN IN 1401 AUTOCODER AND COULD BE INCLUDED IN THE SYSTEMS TAPE LIBRARY AS A CLOSED SUBROUTINE.

1401-14.0.012 STATE AND LOCAL INCOME TAXES FOR IBM 1401 TAPE SYSTEM AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-14.0.012

AUTHOR...JOHN W. WILSON

DIRECT INQUIRIES TO..

J.W. WILSON, IBM CORP., 303 N. LAKE ST., AURORA, ILL.

A PROGRAM FOR IBM 1401 4 TAPE SYSTEM WITH ADVANCE PROGRAMMING AND HI-LO-EQUAL COMPARE, HHICH COMPUTES ALL STATE AND LOCAL /CITY/ INCOME TAXES FOR A WEEKLY PAYROLL APPLICATION. EACH STATE TAX ROUTINE IS HANDLED AS A SEPARATE ENTITY THROUGH THE USE CF OVERLAYS. BY ALTERING CONSTANTS, BI-WEEKLY, SEMI-MONTHLY AND MONTHLY PAYROLLS CAN BE HANDLED. PROGRAM OCCUPIES 8K WHEN WRITTEN IN AUTOCODER USING IOCS, VERSION 2, LEVEL2. WITHOUT IOCS, USE MAY MODIFY FOR USE ON A 4K SYSTEM. THROUGH THE USE OF EXECUTE COMMANDS, PROGRAM IS APPLICABLE TO CARD SYSTEMS. PROGRAM FOR CREATION AND UPDATING OF MASTER PROGRAM TAPE AND TAX ROUTINES INCLUDED.

8-1401

CONTINUED FROM PRIOR COLUMN-

THREE REELS OF TAPE ARE REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL. THESE TAPES MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPES PROVIDED MUST BE 2400 FEET IN LENGTH.

1401-14.0.013 PLOTTING SUBROUTINE FOR IBM 1401/ 1403 AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1401-14.0.013 PLOTTING SUBROUTINE FOR THE

AUTHOR...A. DEAN HINCSON IBM CORP.

18M CORP. 3800 LINDELL BLVD. ST. LOUIS 8, MISSOURI

DIRECT INQUIRIES TO AUTHOR

A PROGRAM SUBROUTINE FOR PLOTTING UP TO 104 VALUES IN THE FORM OF INTEGERS OR FIXED-POINT ACROSS THE PAGE. NEGATIVE OR SPECIALLY CODED VALUES ARE RECOGNIZED AND INDICATED BY A SPECIAL CHARACTER SINCE ALL PLOTTING IS IN A POSITIVE DIRECTION. THE SUBROUTINE IS SELF-INITIALIZING DEPENDENT ON THE VALUES TO BE PLOTTED AND FIVE DEFINED PARAMETERS. THE RANGE OF VALUES IS FROM 2 TO 70 DIGITS WITH MAXIMUM NUMBER OF VALUES BEING 104. THE MAXIMUM HEIGHT IS 98. THE SUBROUTINE REQUIRES A MAXIMUM OF 1056-POSITICNS OF STORAGE PLUS STORAGE TO CONTAIN THE VALUES, FIGH. 728 MAXIMUM. THE MACHINE CONFIGURATION IS A 1401/1403 WITH ADVANCED PROGRAMMING, MULTIPLY/DIVIDE, HIGH/LOW/EQUAL COMPARE, AND SENSE SWITCHES. THE SOURCE LANGUAGE OF THE SUBROUTINE IS AUTOCODER.

1401-14.0.014 LEASE VS. ANALYSIS, BOB CIRCULAR A-54 AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1401-14.0.014

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THIS PROGRAM COMPUTES LEASE COSTS VS. PURCHASE COSTS AND LEASE—WITH-OPPTION TO PURCHASE COSTS AS REQUIRED FOR ALL GOVERNMENT AGENCIES PRIOR TO ACQUISITION OF DATA PROCESSING EQUIPMENT BY THE U.S. BUREAU OF THE BUDGET, CIRCULAR A - 54, OCTOBER 14, 1961. FOR EACH UNIT OF EQUIPMENT, CUMULATIVE COSTS FOR EACH PLAN CF ACQUISITION AND CUMULATIVE COSTS FOR EACH PLAN CF ACQUISITION AND CUMULATIVE COSTS. IN COSTS ARE LISTED. CUMULATIVE TOTALS ARE LISTED BY SYSTEM. CARD INPUT INCLUDES MONTHLY MAINTENANCE, ACQUISITION DATE, EXTRA SHIFT PERCENTAGES FOR RENTAL AND MAINTENANCE PROJECTED SHIFT UTILIZATION BY MONTHS FOR SIX YEARS, PURCHASE OPTION. PROGRAM IS WRITTEN IN 1401 AUTOCODER. REQUIREMENTS—BK 1401 CARD SYSTEM WITH MULTIPLY/DIVIDE, ADVANCED PROGRAMMING, AND HIGH-LOM-EQUAL COMPARE.

R.T. MACK

1401-14.0.015 1401/360 TIMING CALCULATION AID PROGRAM

AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-14.0.015

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THIS IS A SERIES OF PROGRAMS TO AID THE SYSTEMS ENGINEER IN THE FIELD IN THINING SYSTEM/360. /REAL TIME SYSTEMS ARE EXCLUDED./
THE PROGRAM AT PRESENT WILL ESTIMATE TIMES FOR OVERLAP AND NON-GYERLAP PROCESSING, DIRECT ACCESS DEVICES /2311, 1302, 2321/, TAPE /ANY THO MODELS/, CARD READER, CARD PUNCH, PRINTER, PAPER OCCUMENT READER, AND SETUP TIMES. PROVISION IS MADE FOR THE INSERTION OF PRECALCULATED SORT TIMES. THE PROGRAMS PRODUCE A SERIES OF LISTINGS, DETAIL AND SUMMARY, FOR EACH JOB AND RUN WITHIN JCB. TIMES ARE GIVEN FOR INPUT/OUTPUT DEVICES, SORTS, NON-OVERLAP AND OVERLAP PROCESSING, AND SETUP. SOURCE STATEMENT COUNT IS 1408. THE BASIC MACHINE CONFICURATION IS 1401, 8K, SENSE SWITCHES, ADVANCED PROGRAMMING, AND HI-LO-EQUAL COMPARE. ONE TAPE DRIVE MAY BE USED TO PREPARE MULTIPLE LISTINGS.

1401-14.0.016 AUTOMATIC EDITING AND LINE LENGTH MODIFICATION OF RUNNING TEXT AVAILABLE 1517 QUARTER 1965. SPECIFY FILE NUMBER 1401-14.0.016

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THE CLOSED SUBROUTINE EDITS AND/OR ALTERS THE LENGTH OF SEGMENTS OF RUNNING TEXT IN A SINGLE SCAN. NUMBERS PREVIOUSLY ASSIGNED THE GRIGINAL TEXT SECHENTS, AND MORDS THEREIN, ENABLE THE KULTIME TO LOCATE THE POINTS OF ALTERATION. MORDS OF THE ORIGINAL TEXT CAN BE DELETED, INSERTED OR REPLACED. ANY INPUT-OUTPUT DEVICE CAN BE EMPLOYED BY A PROGRAM UTILIZING THE ROUTINE. THE MAIN LINE PROGRAM SUPPLIES THE ROUTINE WITH SUCCESSIVE SECMENTS OF THE GRIGINAL AND EDIT TEXT, AND ACCEPTS FROM IT NENLY-CREATED SECMENTS, EDITED AND/OR ALTERED IN LEASTH. WRITTEN IN 1401 SPS SOURCE LANGUAGE, THE ROUTINE OCCUPIES 2611 POSITIONS OF CORE. THE ROUTINE REQUIRES A MINIMUM OF 4K CORE, HIGH-LOW-EQUAL COMPARE, AND ADVANCED PROGRAMMING.

1401-14.0.018 1401/1440/1460 TYPE COMPOSITION PROGRAM AVAILABLE 1ST QUARTER 1965.

B-1401

CONTINUED FROM PRIGR PAGE--SPECIFY FILE NUMBER 1401-14.0.018

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UNDER THE CIRECTION OF THIS PROGRAM, THE COMPUTER ACCEPTS INPUT IN THE FORM OF A SIX-CHANNEL PAPER TAPE CONTAINING PRINTER INDUSTRY-ORIENTED FORMAT CONTROL INSTRUCTIONS, ALONG MITH THE COPY THAT IS IC APPEAR IN PRINT. THE PROGRAM INTERPRETS THESE FORMAT INSTRUCTIONS AND PRODUCES A TAPE SUITABLE FOR CONTROLLING THE OPERATION OF A LINECASTING MACHINE. THE OUTPUT TAPE CONTAINS THE ORIGINAL COPY IN THE FORM OF PROPERLY JUSTIFIED LINES ARRANGED ACCORDING TO STYLE AND GRAPHIC CONSIDERATIONS DESCRIBED BY THE USER WITH THE FORMAT INSTRUCTIONS. A MAXIMUM OF 20 PAPER TAPE READERS AND 20 PAPER TAPE RUCKES CAN BE ACCOMMIDATED. MACHINE CONFIGURATIONS—12K, 1440, 1401, OR 146C WITH INDEXING, STORE ACCESS REGISTERS, OP CODE XLATE 1 TO 2 CHAR, CONSOLE TYPEWRITER, SENSE SMITCHES, DP CODE XLATE 1 TO 2 CHAR, CONSOLE TYPEWRITER, SENSE SMITCHES, TO PROPER TAPE FUNCHES MOST CHANNEL PAPER TAPE READERS AND 6 CHANNEL PAPER TAPE PUNCHES MUST BE PROVIDED BY USER. CM 146G THRUPUT IS 11,000 — 12,000 30 CHAR LINES/HOUR. SOURCE LANGUAGE IS AUTOCODER.

1401-14.0.019 STANDARD NAME ALTERATION PROGRAM

AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1401-14.0.019

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THIS SUBROUTINE WILL CONVERT NAMES THAT ARE LAST NAME FIRST OR LAST NAME LAST IN A FREE FORMAT TO ANY CONFIGURATION IN A FIXED FORMAT. THE USER IS GIVEN THE ADDRESSES OF THE AREAS WHICH CONTAIN THE FIRST NAME, FIRST INITIAL, MIDDLE INITIAL, LAST NAME, AND SUFFIX. ALL OUTPUT IS LEFT JUSTIFIED IN THE RESPECTIVE AREAS. THE SUBROUTINE WILL ACCOMMEDATE EIGHT OF THE MORE COMMON PREFIXES TO LAST NAMES AND FOURTEEN OF THE MORE COMMON SUFFIXES. THE OPTION EXISTS TO PLACE THE SUFFIX TO REPOSITION TO THE RIGHT OF THE LAST NAME. THE SUBROUTINE IS EASILY MODIFIABLE TO INSERT ANY EXTRA SUFFIXES OR PREFIXES WHICH ARE DESIRED. 1401 WITH 4K, HI-LC-EQUAL ANC ADVANCED PROGRAMMING.

1401-14.0.021 THE IBM 1012 TAPE PUNCH AS A TAPE READER

AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1401-14.0.021

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THIS PROGRAM PROVIDES THE FACILITY TO USE THE IBM 1012 TAPE PUNCH AS A TAPE READER, WITH THE IBM 1401. TRANSLATION, CHECKING, ETC., IS ACCOMPLISHED BY STORED PROGRAM TECHNIQUES. THIS PROGRAM OFFERS THE FOLLOWING ADVANTAGES.

1. ONE UNIT MAY BE USED FOR BOTH IMPUT AND OUTPUT.

2. ANY TAPE CODE MAY BE TRANSLATED.

3. ENTIRE READING FUNCTION IS AT A MAXIMUM 1012 SPEED.

4. MOST CHARACTER CHECKING TECHNIQUES ARE ACCEPTED SUCH AS ODD OR EVEN PARITY, 2/5, 4/8, ETC.

5. ERROR CONTROL PERMITS RE-SCANNING A CHARACTER FOR ADDITIONAL READING ATTEMPTS.

THE MACHINE COMFIGURATION REQUIRED IS—A 1401 PROCESSING UNIT WITH SERIAL I/O ADAPTERS, 1402 CARD READ PUNCH, 1403 PRINTER AND THE 1012 PUNCH WITH READ FEATURE.

SCURCE LANGUAGE — 1401 AUTOCODER.

1401-14.0.023 CLASSIFICATION USING RATING FORM DATA

DATA AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1401-14.0.023

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1440

1440-01.0.001 PACE - PRE-ASSEMBLY CHECK AND EDIT LISTING AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1440-01.0.001

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B-1440

PAGE 075

CONTINUED FROM PRIOR COLUMN--SANTA BARBARA, CALIFORNIA 93105

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PACE BRINGS TO THE 1440 USER AN EFFICIENT AND MEANINGFUL DIAGNOSTIC PROGRAM. IT WILL CHECK AND EDIT 1440 AUTOCODER AND AUTOCODER/IOCS SOURCE PROGRAMS BY DETECTING UNDEFINED LABELS, FORMAT AND PARAMETER ERRORS, CODING ERRORS AND KEYPUNCH ERRORS. THE PRINTED OUTPUT PROVIDES A LABEL TABLE IN ALPHABETICAL CRORE FOLLCAMED BY A LISTING OF THE SOURCE PROGRAM HITH ERRORS BY SIGNIFICANT SPECIAL CHARACTERS. AN EDIT IS ALSO PERFORMED ON DICCS AND OTF ENTRIES FOR ACCEPTABILITY AND SPELING. THERE ARE THREE CHECKS OF AUTOCODER STATEMENTS PERTAINING TO LABELS, OPPERATION CODES AND OPPERANDS. THE CHECKING RESULTS ARE EQUAL TO AN AUTOCODER ASSEMBLY. MACHINE REQUIREMENTS—1440 4K, DONE 1311 AND INDEXING AND STORE ADDRESS REGISTER. PRINTED CUPPUT OPTICNS ARE AVAILABLE WITH SENSE SWITCHES. PACE WILL ALLOW PROGRAMMERS TO BECOME HORE PRODUCTIVE BY MINIMIZING PROGRAM TESTING. SINCE IT AVERAGES BETWEEN 75 AND 120 CARDS PER MINNED EPENDING UPON THE MACHINE CONFIGURATION, IT MILL ALSO ELIMINATE A SUBSTANTIAL AMOUNT OF MACHINE TIME PREVIOUSLY USED FOR ASSEMBLY AND PROGRAM TESTING.

THE SOURCE DECKS ARE AVAILABLE AS OPTIONAL MATERIAL AND MUST BE SPECIFICALLY REQUESTED.

1440-01.1.001 CONTROLLER AVAILABLE 1ST QUARTER 1964. SPECIFY FILE NUMBER 1440-01.1.001

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THE 1440 CONTROLLER IS A JOB SUPERVISOR SYSTEM CONSISTING OF A GROUP OF 1401 PROGRAMS DESIGNED TO PROVIDE /A/ DISC STORAGE OF PROGRAMS, SUBROUTINES, OVERLAYS, ETC. /B/ CONTROL CARD CALL DOWN OF PROGRAMS /C/ PROGRAM CALL DOWN OF PROGRAMS, SUBROUTINES, OVERLAYS, ETC. WITH A MINIMUM OF PROGRAMMING EFFORT.

RESTRICTIONS/RANGE
1. ALL PROGRAMS, SUBROUTINES, OVERLAYS, ETC. ORIGINATE AT POS 345
2. MAXIMUM NUMBER OF USER PROGRAMS IS 53.
3. CCNTROLLER SYSTEMS PACK MUST BE ON DRIVE O.
4. ALL USER PROGRAMS MUST BE IN THE 1440 AUTOCODER CARD FORMAT.
MACHINE CONFIGURATION— 1440 CONTROLLER IS DESIGNED TO OPERATE
ON THE FOLLOWING MINIMUM MACHINE CONFIGURATION— 1441 4K STCRAGE,
2—1311 DISK ORIVES, INDEXING AND STORE ADDRESS REGISTER FEATURE,
1440 READER PUNCH, 1443 PRINTER. PROGRAM REQUIREMENTS— MLINK
OCCUPIES III POSITIONS OF HIGH CORE. IN ADDITION, OURING AN
OVERLAY OPERATION, POSITIONS 90—741 ARE USED BY MCALL. THE AREA
FROM 345—741 MILL EVENTUALLY CONTAIN THE BEGINNING OF THE USERS
ROUTINE— HONEVER, ALL DATA COMMON TO BOTH SECTIONS OF A PROGRAM
MUST BE NO LOWER THAN POS. 742. SOURCE LANGUAGE— 1440 AUTOCCCER.

1440-01.1.002 PROGRAM TO LOAD PROGRAMS ON DISK

AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1440-01.1.002

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A PROGRAM TO LOAD CORE IMAGE OF PROGRAMS ONTO DISK FOR USE EITHER AS MONITOR PROGRAMS OR AS OVERLAYS. USING ONLY THE RESTRICTION OF NO GROUPMARK-MORDMARKS IN THE INITIAL ASSEMBLY, THE USERS PROGRAM CAN BE LOCATED ANYWHERE IN ANY DISK. THE OBJECT PROGRAM REQUIRES APPROXIMATELY 125 CORE POSITIONS AND HAS THE OPTION OF PUTTING THIS ROUTINE ANYWHERE IN CARE BY REASSEMBLING. THE OBJECT PROGRAM REQUIRES A PARAMETER CARD DESCRIBING WHERE THE PROGRAM IS TO BE LOADED, ITS LENGTH, AND HARES THE DOF REQUIRED OF WRITE THE PROGRAM OUT IS LOCATED. MACHINE REQUIREMENTS—1440/1311 NO SPECIAL FEATURES.

1440-01.1.003 1440-1026-1070
MULTIPROGRAMMING SUPERVISORY MONITOR
AVAILABLE IST QUARTER 1966.
SPECIFY FILE NUMBER 1440-01.1.003

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THIS PROGRAM PERMITS MULTIPROGRAMMED RUNNING OF BASIC ACCOUNTING—TYPE PROGRAMS WITH TELEPROCESSING/PROCESS CONTROL. RESIDENT IN CORE, IT INCLUDES 1311-1026-1070 IDCS AMC ROUTINES TO HANDLE AUTOMATIC INTERRUPT, STATUS PROTECT AND AUTOMATIC RESTORATION AND EXECUTION OF INTERRUPTED PROGRAMS, AND JOB STACKING. PRESENT OPERATING CORFIGURATION IS 12K 1440, INDEXING AND SIDRE ADDRESS FEATURE, BIT TEST, AUTOMATIC INTERRUPT, AUTOMATIC EXTERNAL RESTART /RPQ 36871/, 3 1311 WITH DIRECT ACCESS, 1442-1, 1443-2 WITH PRINT STORAGE, 1447-1, 1026-1 AND 107C-2 /600 BPS/ SYSTEM WITH 1039 PRINTER ATTACHED. THE PROGRAM OCCUPIES 4000 PCSITIONS OF MEMORY.

1440-01.2.003 BASIC AUTOCODER REVISED FOR USE ON 1974 DATA TRANSMISSION PROCESSOR AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1440-01.2.003

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PAGE 076

B-1440

CONTINUED FROM PRIOR PAGE--

THIS PROGRAM IS A MAJOR REVISION OF 1440-4K BASIC AUTCCODER
/1440-AU-001/, WHICH GIVES THE 1974 THE CAPABILITY OF ASSEMBLING
SOURCE PROGRAMS WRITTEN ACCORDING TO 1440 BASIC AUTOCODER SPECS.
NO FACILITY HAS KNOWINGLY BEEN ALITERD OR REMOVED IN THE REVISED
ASSEMBLER. OPTIONS AND OPERATING PROCEDURES ARE IDENTICAL. 1974
USER MAY ASSEMBLE PROGRAM ON HIS OWN SYSTEM WITH A WINIMUM OF
UNITS /1440-4K, 1443, 1442/. ALL INSTRUCTIONS HAVE BEEN MOVED
INTO THE LOWER ZK OF CORE. THE UPPER ZK IS USED FOR SYMBOL
TABLE, CONSTANTS, MORKING STORAGE, AND I/O AREAS.

1440-01.3.001 MACODER - MATHEMATICAL CODING SYSTEM AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1440-01.3.001

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THE MACODER-COMPILER TRANSLATES PROGRAMS WRITTEN IN THE MACODER-LANGUAGE. THE MACODER-LANGUAGE IS IDENTICAL TC FORTRAN II FOR THE IBM 1401 SYSTEM WITH THE EXCEPTION OF INPUT/CUTPUT STATEMENTS FOR TAPE DRIVES WHICH HAVE TO BE REPLACED BY THUSE FOR DISK DRIVES. MACHINE REQUIREMENTS- 1404 8K, MULT./DIV. FEATURE, INDEXING, STORE ADD REG., 1442 AND 1443. FOR COMPILATION THE COMPILER CAN BE PUNCHED INTO CARDS OR PLACED ON A DISK PACK. IF IT IS CN DISK PACKS, THE MACODER-SYSTEM LOADER IS RECUIRED. THE COMPILER CONSISTS OF 61 PHASES WHICH ARE FED INTO THE CORE STORAGE. PAHSE 99 SERVES TO READ THE COMPILER INTO DISK STERAGE. AT THE END OF COMPILATION, THE PROGRAM IS IN CORE STORAGE AND CAN BE STARTED IMMEDIATELY. I.E., LOAD AND GO. CARD GUTPUT OPTICK IS AVAILABLE, SO RECOMPILATION IS NOT NECESSARY FOR SUBSEQUENT RUNS.

1440-01.3.002 MACBADY 8K 1440 FORTRAN AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1440-C1.3.002

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MACBADY IS A MCDIFICATION OF IBM 1401 FORTRAN, VERSION II. THE SCURCE LANGUAGE IS AUTOCODER. THERE ARE 3262 CORE POSITIONS AVAILABLE FOR USER CODE. THE COMPILER IS CARD OR DISK RESIDENT. MINIPUM MACHINE CONFIGURATION IS AN 8K IBM 1441, STORE ADDRESS REGISTER FEATURE, FIOM 1442 CARD READ PUNCH, AND IBM 1443 PRINTER. THE SOURCE CARDS AKE OPTIONAL MATERIAL AND MAY BE OPTIAINED BY SUBMITTING ONE FULL REEL OF MAGNETIC TAPE. TAPE.

TAPE. THE NUMBER OF TAPES INCICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS CRDEREC. THE TAPE PROVICED MUST BE 2400 FEET IN LENGTH.

1440-01.4.001 RADIO - RANDOM DISK INPUT/ OUTPUT SUBRCUTINE AVAILABLE IST QUARTER 1965. SPECIFY FILE NUMBER 1440-01.4.001

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AN AUTOCOBER LIBRARY MACRO WHICH HANDLES 1311 DISK I/C FUNCTIONS AND ERROR ROUTINES. IT CAN HANDLE CYL. DVERFLOW AND USE DIRECT SEEK, SCAN DISK, AND TRACK RECORD, IF AVAILABLE, CN UP TO FIVE DRIVES. THE SUBROUTINE IS GENERATIVE, PROVIDING CNLY THE ROUTINES CALLED FOR. IT IS INTENDED TO REPLACE ICCS RANDOM GIVING THE USER GREATER EASE OF PROGRAMMING AND FLEXIBILITY. METHCO- THE ROUTINE WAS PATTERNED AFTER THE PAL WHOLESALE GRECERY MACRO UPPIO TO INCLUDE- SPECIAL FEATURES, CYLINDER CYEFFLCH, SAME CYLINDER TEST, AND IOCS TYPE CODED HALT. THE ROUTINE DOES NOT DO ANY LABEL CHECKING. THE DISK CONTROL FIELD MUST BE SET BY THE USER AND IS RESTORED AFTER THE DPERATION. THE SCAN ROUTINE CAN SCAN 999 SECTORS IN DIME OPERATION. STORAGE REGUIREMENTS- FROM 369 PDS. TO 841 DEPENDING ON FEATURES USED. EQUIPMENT SPECIFICATIONS- 4K-1440 1442-MODEL 1 1443 MODEL 1 GNE 1311 DISK CRIVE INDEXING AND STORE ADDRESS REGISTER SPECIAL FEATURE.

1440-01.4.002 RAPID SELECTIVE TRACE AVAILABLE 3RD QUARTER 1966. SPECIFY FILE NUMBER 1440-01.4.002

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THE RAPID SELECTIVE TRACE PROGRAM IS A POWERFUL DEBUGGING, DOCUMENTATION AND TEACHING AID THAT ACCURATELY SIMULATES THE FUNCTIONING OF THE 1440 UNDER CONTROL OF ANY OBJECT PROGRAM MAD PRINTS OUT COMPLETE INFORMATION ABOUT HHAT THE PROGRAM IS DOING IN AN EASY-TO-READ FORMAT. THE INSTRUCTION ADDRESS, THE INSTRUCTION, A, AND B ADDRESS REGISTER CONTENTS AT THE BEGINNING OF THE EXECUTION PHASE, INDEX REGISTER CONTENTS AND UP TO 18 POSITIONS OF THE A-FIELD AND THE BEFILD THE LATTER BOTH BEFORE AND AFTER INSTRUCTION EXECUTION/ ARE GIVEN ON A SINGLE PRINT LINE. ALL ADDRESSES ARE GIVEN IN DECIMAL FORM. COMPLETE CUMPS OF RECORDS READ, WRITTEN OR MOVED, WITH ASSOCIATED WORD MARKS, ARE PRODUCED. RSI OPERATES AT APPROXIMATELY 100 INSTRUCTION PER SECOND WHILE CUTSIDE OF THE LIMITS SUPPLIED BY A CONTROL CARD AND

B-1440

CONTINUED FROM PRIGR COLUMN—
AT MAXIMUM 1403 OR 1443 PRINTING SPEED HITHIN LIMITS. THIS
SPEED IS ACHEVED BY CALCULATING THE OLD A-ADDRESS FOR CHAINING
CNLY WHEN NEEDED. REQUIREMENTS — 1310 CORE POSITIONS,
INDEXING AND STORE ADDRESS REGISTER SPECIAL FEATURE. READY
FOR USE MITH MK MACHINES. THE SOURCE LANGUAGE IS BASIC
AUTOCODER 2K. DISK AUTOCODER CAN BE USED FOR ASSEMBLY.

1440-01.5.001 FARGO FORTY AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1440-01.5.001

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AN ENTIRELY NEW VERSION OF THE SUCCESSFUL FARGO REPORT GENERATOR DESIGNED FOR THE 1440 PROVIDES- ALL 1401 FARGO CAPABILITIES, MULTIPLE COLUMN OR FIELD IDENTIFICATION OF CARD TYPES, MULTIPLE AND/OR/IF NOT TESTS FOR EACH TYPE OF CARD CONDITION, SIMPLIFIED MULTIPLY/DIVIDE, UP TO 6 HEADING LINES /TOP AND/OR BOTTOM/, HEADING MODIFICATION DURING REPORT PREPARATION, ETC. RETAINS THE SIMPLE TO USE PHILOSOPHY, AND SELF DESCRIPTIVE TYPE CONTROL SHEETS OF FARGO, INCORPORATES THE MOST SIGNIFICANT CONTRIBUTIONS FROM THE FIELD AND WILL OPPERATE WITH NO DEVICES ON 4K 1440/S. INITIAL VERSION IS A CARD ORIENTED SYSTEM.

OPTIONAL MATERIAL - SOURCE DECK OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-01.6.001 SORT 54 DISK RESIDENT AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1440-01.6.001

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A MODIFIED SORT 54 RESIDENT ON 1311 DISK STORAGE. THE SORT IS STORED IN THE LOAD MODE IN A SELF-LOADING FORMAT. IT RECUIRES 1540 CONSECUTIVE SECTORS ON ANY DRIVE, AND CAN BE FILE-PROTECTED. THE PROGRAM LOADER RESIDES IN THE HIGHEST 4K CF CARE. PROGRAM LOADING IS ACCOMPLISHED IN ABOUT 15 SECCIOS. THE SORT IS A TAILGRED VERSION OF SORT 5 FOR DISK-TO-DISK SORTING WITHOUT DISK LABEL CHECKING. THIS IMPROVES PERFORMANCE 20 TC 30 PERCENT.

COMPATIBLE WITH: 1440 CONTROLLER. MACHINE REQUIREMENTS—12K MEMORY, 1311 DISK CRIVE, DIRECT SEEK, CONSCLE TYPENRITER, SENSE SWITCHES.

1440-02.1.001 1440/1311 CARD-TO-DISK CONSECUTIVE LOAD PROGRAM AVAILABLE 3RC QUARTER 1964. SPECIFY FILE NUMBER 1440-02.1.001

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A LOAD-AND-GO PROGRAM FOR CONVERTING PRESENT CARD FILES TO CONSECUTIVE 1311 DISK FILES WITHOUT ANY REPUNCHING OF CARD FILES INTO A PRESCRIEGE FORMAT. THE PROGRAM WILL HANDLE UP TO 6 LSER SPECIFIED CARD FORMATS AND BUILD THEM HINTO A USER SPECIFIED OISK RECORD FORMAT. FORMATS OF CARD INPUT AND DISK RECORD CUTPUT ARE SPECIFIED IN CONTRCL CARD FORM AND SUPPLIED TO THE PROGRAM ON A LOAD-AND-GO BASIS. UP TO 10 DATA FIELDS FROM EACH CARD FORMAT SPECIFIED CAN BE ASSEMBLED INTO SINGLE DISK RECORDS. PROGRAM WILL ASSEMBLE FILES IN EITHER BLOCKED OR UNDICCKED FORM. MACHINE REQUIREMENTS—THE PROGRAM WILL OPPRATE ON ANY 1440-1311 SYSTEM HAVING AT LEAST 4K, MODIFY ADDRESS, STORE B REGISTER AND INDEX REIGHTS. WITH A 4K MACHINE SOC CHARACTER BISK RECORDS ARE THE LONGEST RECORDS THAT CAN BE PROCESSED. ON AN 8K MACHINE THE MAXIMUM RECORD LENGTH IS 4500 POSITIONS.

1440-02.1.002 1440/1311 DISK ADDRESS UTILITY

AVAILABLE 1ST QUARTER 1965. SPECIFY FILE NUMBER 1440-02.1.002

AUTHOR...R.J. TAYLOR IBM CORP. 1776 JOHN F. KENNEDY BLVD. PHILADELPHIA, PA. 19103

THIS PROGRAM WAS WRITTEN TO HANDLE 1311 DISK MAINTENANCE RECUIREMENTS NOT COVERED HERETOFORE IN ANY LIBRARY PROGRAM, BUT WHICH OCCUR IN MOST 1311 INSTALLATIONS. WITH THE USE OF THIS PROGRAM, IT IS NON POSSIBLE TO CHANGE THE ADDRESSING STRUCTURE OF A DISK PACK TO ANY NATURAL OR UNNATURAL RANGE WITHOUT ALTERING THE DATA MRITTEN OR THE PACK. UNNATURALLY ADDRESSED PACKS, SUCH AS THE SYSTEM PACK FOR AUTOCODER, 1401-AU-000 HAY NOW BE COPIEC., LABEL TRACKS MAY LISU BE CUPIEC. THE STANDARD DISK UTILITY PROGRAMS DO NOT PROVIDE THESE OPERATIONS. OPTIONS ELECTED BY CONTROL CARDS ARE 1-CHANGE ADDRESSES WITHOUT DISTURBING DATA, 2-CHANGE ADDRESSES AND CLEAR ATA, 3-COPY ONE DISK POK TO ANOTHER, AND 4-COMPARE ONE DISK TO ANOTHER. THE PROGRAM CAN BE RUN ON A 4K SYSTEM WITH INDEXING AND STORE ADDRESS REGISTERS AND WILL COPY A FULL PACK IN APPROXIMATELY SIX MINUTES.

1440-02.1.003 1440-1311 DISK SORT PACKAGE AVAILABLE 3RC QUARTER 1965. SPECIFY FILE NUMBER 1440-C2.1.003

B-1440

CONTINUED FROM PRIOR PAGE--

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A SET OF THREE PROGRAMS WHICH WILL PROVIDE A SPECIALIZED SCRT FOR FREQUENTLY RUN JOBS. THE FIRST PROGRAM INTERPRETS A CONTRCL CARD AND PRODUCES A FILE OF RANDOM CONTROL FIELDS TO TEST THE SORT, THEN PUNCHES A SERIES OF CARDS. THESE CARDS ARE MERGED INTO THE SECOND PROGRAM WHICH IS IN AUTOCODER SOURCE FORMAT. ASSEMBLY OF THIS SECOND PROGRAM PRODUCES AN DBJECT SCRT. THE THIRD PROGRAM TESTS THE SORT TO INSURE CORRECT ASSEMBLY BY SEQUENCE CHECKING THE SORTED OUTPUT AND PRINTING ALL ERROR SEQUENCE CONDITIONS WITH THEIR LOCATION IN THE FILE. RUN TIMES ARE CONSIDERABLY FASTER THAN FOR SORT 5, PARTICULARLY FOR SHORT RECORDS. TEN THOUSAND RECORDS, THIRTY CHARACTERS LONG ARE SCRTED IN LESS THAN THIRTEEM MINUTES. INPUT AND OUTPUT RECORDS WIST BE BLOCKED WITHIN THE FIRST EIGHTEEN SECTIORS OF EACH TRACK. REQUIRES SR, 2 DISK DRIVES, DAVANCED PROGRAMMING, AND HILLC-EQUAL. 1139 SOURCE STATEMENTS.

1440-02.3.001 VARIABLE CARD REPRODUCER FOR 1440/1311

AVAILABLE 3RD QUARTER 1964. SPECIFY FILE NUMBER 1440-02.3.001

AUTHOR...JOHN F. COLE

IBM CORP.
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DIRECT INQUIRIES TO AUTHOR

A LOAD-AND-GO CONTROL CARD ORIENTED PROGRAM FOR REPRODUCING CARDS ON A 1440 DISK SYSTEM WHICH HAS ONLY ONE CARD READ-PUNCH. CARD IMAGES ARE FIRST WRITTEN ON DISK, THEN READ FROM DISK AND PUNCHED INTO BLANK CARDS. SIMPLE CONTROL CARD PROVISION ALLCWS FOR RELOCATING FIELDS, ONLITING FIELDS, AND/OR EMITTING CHARACTERS. OPTIONAL PRINT CONTROL CARD PROVIDES PRINTED ANALYSIS OF CONTROL CARDS, LISTING IMPUT DECK AND/OR LISTING OUTPUT DECK. DECK. LISTING SINCLUDE CARD COUNTS AND COLUMN-NUMBER HEADINGS.

1440-02.3.002 ONE CARD 80-80 CARD TO PRINTER PROGRAM WITH BRANCH ON OVERFLOW AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1440-02.3.002

AUTHOR...J.G. OREILLY
H.P. MOTOR POLICIES AT LLOYDS
25 AVONDALE HOUSE
AVONDALE SQUARE
LCNDON, S.E.I., ENGLAND

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM LISTS CARCS AND BRANCHES TO CHANNEL ONE ON SENSING CHANNEL TWELVE. STORAGE REQUIREMENTS—181 POSITIONS. EQUIPMENT SPECIFICATIONS—1440 WITH 1443 AND 1442/1402.

1440-02-3-003 1440/1311 80-80 REPRODUCE PROGRAM

AM AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1440-C2.3.003

AUTHOR...MR. W.T. BATTEN

DIRECT INQUIRIES TO..
MR. W.T. BATTEN, IBM CORP., TEST CENTER, 570 BROAD ST.,
NEWARK, N.J. 07102

NEMARK, N.J. 07102

THIS PROGRAM WILL ENABLE 1440/1311 USERS WITH ONLY ONE 1442
ON LINE TO REPRODUCE PUNCHED CARD DECKS. BEHIND THE PROGRAM
OBJECT DECK PLACE THE CARDS TO BE REPRODUCED, FOLLOWED BY
AN END-INDICATOR-CARD, FOLLOWED BY BLANK CARDS. THE PROGRAM
LOADS THE MASTER CARDS CONTO A NATURAL ZERO SCRATCH PACK ON
DRIVE ZERO. IMMEDIATELY AFTER THE END-INDICATOR-CARD IS
REACHED AND LOADED, THE REPRODUCED CARDS ARE PUNCHED OUT.
AS MANY COPIES AS DESIRED OF THE ORIGINAL CARDS CAN BE OBSTAINED
SIMPLY BY PRESSING START ON THE CONSOLE WITHOUT RELOADING THE
PROGRAM OR MASTERS. THE NUMBER OF CARDS THAT CAN BE
ACCOMMODATED IS LIMITED ONLY BY THE NUMBER OF SECTORS
AVAILABLE ON THE SCRATCH PACK STARTING AT ADDRESS OCCCCO AND
ALLOWING ONE SECTOR PER CARD. PROGRAM IS WRITTEN IN AUTOCCODER
FOR ANY SIZE 1440 WITH ONE 142 READER-PUNCH AND ONE
1311 DRIVE ZERO ON LINE. OBJECT DECK CONSISTS OF 14 CARDS AND
USES ABOUT 500 CORE POSITIONS. NO SPECIAL FEATURES ARE REQUIRED.

1440-02-3-004 OBJECT DECK LISTING PROGRAM AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1440-02-3-004

AUTHOR...MR. J.M. NEWCOMER

DIRECT INQUIRIES TO..

MR. J.M. NEWCOMER, ANDERSON & GILBERT ASSOCIATES, INC.,
35 W. PITTSBURGH ST., GREENSBURG, PA. 15601

THIS PROGRAM MAS DESIGNED PRIMARILY TO LIST OBJECT DECKS
IN THE CONDENSED-LOADER FORMAT ON A PRINTER WITH THE
STANDARD 52-CHARACTER TYPE-BAR. ANY OTHER CARDS WHICH
CONTAIN THE 11 UNPRINTABLE SPECIAL CHARACTERS MAY ALSO BE
LISTED. WHEN LISTING AN OBJECT DECK IN THE CONDENSED LOADER
FORMAT IT IS NORMALLY IMPOSSIBLE TO TELL IF A BLANK PCSITICN
IS A BLANK, WORD-SEPARATOR CHARACTER, GROUP MARK, OR CNE
OF THE LESS FREQUENT SPECIAL CHARACTERS. THIS PROGRAM WILL
PRINT THE CARD IMAGE AND THEN PRINT A SECOND LINE INDICATING
THE SPECIAL CHARACTERS BY APPROPRIATE CODES. IF THE CARDS
BEING LISTED ARE AN OBJECT DECK THE 5-CHARACTER ADDRESS
BEING LISTED ARE AN OBJECT DECK THE 5-CHARACTER ADDRESS
COLUMNS IS PRINTED ON THIS LINE. IF THE FIRST THREE
COLUMNS IS PRINTED ON THIS LINE. IF THE FIRST THREE COLUMNS
WILL NOT SERRATE A VALID ADDRESS YOLD ARCADS, CARDS WITH
SPECIAL CHARACTERS, A APHA CHARACTER IN COLUMN 2, ETC./
THE ADDRESS IS NOT PRINTED. THIS ADDRESS MAY ALSO BE BYPASSED

8-1440

PAGE 077

CONTINUED FROM PRIOR COLUMN—
BY A CONSOLE SWITCH. THE PROGRAM MAY BE MODIFIED TO PRINT
DIFFERENT CODES OR HANDLE A DIFFERENT TYPEBAR CONFIGURATION.
WITH THE BASIC PROGRAM, WHEN USED ON A 4K MACHINE THE ADDRESS IN
THE FIRST THREE COLUMNS WILL NOT BE COMPUTED IF IT IS ABOVE
THIS MAY BE CORRECTED IF THE MACHINE HAS THE MODIFY-ADDRESS
SPECIAL FEATURE. THIS RESTRICTION DOES NOT APPLY TO BK
AND LARGER MACHINES. IF THE ADDRESS LOT /2307/ APPEARS THE
EQUIVALENT WILL NOT BE COMPUTED, AS THIS IS USED TO DETECT
A LOADER CARD.

SYSTEM REQUIREMENTS- MINIMUM OF 4K ON A 1440 WITH 1-1442 CARD READ/PUNCH MODEL 1 OR 2 OR 1-1442 CARD READER MODEL 4., 1443 OR 1403 PRINTER WITH A MINIMUM OF 120 PRINT POSITIONS., INDEXINE AND STORE-ADDRESS-RESISTERS SPECIAL FEATURE., SENSE SWITCHES B THROUGH G. MODIFY ADDRESS IS ASSUMED ABSENT ON AK MACHINES AND THE PROGRAM MUST BE MODIFIED IF THE FEATURE IS PRESENT. SOURCE LANGUAGE 1401/1440/1460 AUTCCODER ON DISK /FILE AU-008/., RUNNING TIME DEPENDENT UPON PRINT SPEED AND BUFFER FEATURE., CN a 1443 MODEL 2 THE PROGRAM CAN LIST APPROXIMATELY 110 CARDS PER MINUTE.

ONE CARD INVALID CHARACTER

1440-02-4-001 ONE CARD INVALID CHARAC DETECTION PROGRAM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1440-02-4-001

AUTHOR...J.G. OREILLY
H.P. MOTOR POLICIES AT LLOYDS
25 AVONDALE HOUSE
AVONDALE SQUARE
LCNCON, S.E.1., ENGLAND

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM SELECTS CARDS CONTAINING INVALID CHARACTER/S TO STACKER 2 AND PRINTS THEM. CARDS CONTAINING NO INVALID CHARACTERS GO TO STACKER 1 AND ARE NOT PRINTED. STORAGE REQUIREMENTS- 181 POSITIONS. EQUIPMENT SPECIFICATIONS- 144C WITH 1443 AND 1442/1402.

1440-02.4-002 1231 READ MACRO FOR 1401/1440/1460 DISK SYSTEMS AVAILABLE IST QUARTER 1966. SPECIFY FILE NUMBER 1440-02.4-002

AUTHOR...C.B. FINKELSTEIN
IBM AUSTRIAIA PTY. LTD. BCX E288 G.P.C. PERTH, WEST AUSTRALIA

DIRECT INQUIRIES TO AUTHOR

TINQUIRIES TO AUTHOR

A PROGRAM MAGRO TO ENABLE THE 1231 OPTICAL MARK PAGE READER
TO OPERATE MITH A 1440, 1401 OR 1460 DATA PROCESSING SYSTEM.
THE MAGRO IS WRITTEN FOR USE WITH 1401 AUTOCODER /ON DISK/,
PROGRAM NO. 1401-AU-008, AND ALLOWS A SPECIFIC 1231 READ
SUBROUTINE TO BE GENERATED. BOTH CONTINUOUS AND ON-DEMAND
FEEDING CAN BE SPECIFIED, AND ALL 1231 INDICATORS ARE TESTED.
A ROUTINE IS INCLUDED FOR TRANSLATION OF THE 1231 INPUT TO
NUMERIC DATA. ALTERNATIVELY, THE USER CAN PROVIDE HIS OWN
TRANSLATE TABLE TO TRANSLATE TO OTHER CODES, USING THE SUPPLIED
1231 TRANSLATE ROUTINE. A NUMBER OF EXITS ARE PROVIDED AT
VARIOUS PLACES IN THE 1231 READ SUBROUTINE, SO ALLOWING THE
USER TO MODIFY, OR BYPASS, PARTS OF THE SUBROUTINE THE
MINIMUM MACHINE REQUIREMENTS ARE 4K 1401, 1440 OR BK 1460 WITH
INDEXING AND STORE ADDRESS REGISTER FEATURE ON 1440 OR 1460, CR
ADVANCED PROGRAMMING ON 1401, AND SENSE SWITCHES.

1440-02.5.002 CVOOA TO CONVERT 1401 AUTOCCDER OPS TO 1440 OPS ON 1440 AUTOCCDES TO 1440 OPS ON 1440 AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1440-02.5.002

AUTHOR...W.B. KUENEMANN IBM CORPORATION 6900 FANNIN STREET HCUSTON, TEXAS 77025

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM CONVERTS 1401 AUTOCODER OF CODES TO ACCEPTABLE 1440 OF CODES. THE PROGRAM RUNS ON A 4K-1440 WITH ONE 1311, INDEXING AND STORE ADDRESS REGISTER, HIGH-LOK-EQUAL CUMPARE, CNE CARD READER PUNCH - 1442, AND CNE PRINTER - 1443. THE SOURCE PROGRAM IS WRITTEN IN AUTOCODER. 208 SOURCE STATEMENTS.

1440-02.6.002 LEFT ZERO CHECK PROGRAM AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1440-02.6.002

AUTHOR...RCBERT E. HANSON IBM CORPORATION 273 STATE ST. SPRINGFIELD, MASS.

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM WILL TAKE A DECK OF USER KEYPUNCHED CARDS AND COUNT THE NUMBER OF LEADING ZEROS IN UP TO TEN USER DEFINED FIELDS. THE OUTPUT IS A SHORT REPORT SHOWING CARD COUNT, TOTAL CHARACTERS, NUMBER OF LEADING ZEROS, AND PERCENT LEADING ZEROS. THE PROGRAM IS CESIONED TO LET ANY DATA PROCESSING INSTALLATION EVALUATE THE LEFT ZERO FEATURES OF THE 029 KEY PUNCH AND 059 KEY VERIFIER. 89 SOURCE STATEMENTS.

1440-02.7.001 AUTOCODER SYMBOLIC CORE
DUMP ROUTINE
AVAILABLE 2ND QUARTER 1964.
SPECIFY FILE NUMBER 1440-02.7.001

AUTHCR...DAVID R. ELLS IBM CORP., 100 SO. WACKER DR.,

PAGE 078

8-1440

CONTINUED FROM PRIOR PAGE--CHICAGO 6, ILL.

DIRECT INQUIRIES TO AUTHOR

THIS IS A PROGRAM MRITTEN IN 1440 AUTOCODER TO PROVIDE CORE DUMPS ON A 1443 PRINTER. EACH CHARACTER FROM MEMORY IS DISTINCTLY INDEXED FOR EASE OF LOCATION. MORD MARKS ARE PRINTED AS THE NUMBER ONE ON A SEPARATE LINE. GROUP MARKS ARE INDICATED ON THE SAME LINE AS WORD MARKS AND HOLGATED ON THE SAME LINE AS WORD MARKS HIT THE DIGIT TWO, AND GROUP MARKS MITH MORD MARKS AS THE DIGIT THREE. THE PROGRAM USES 606 TO 705 POSITIONS OF CORE AND IS IN SYMBOLIC FORM SO THAT IT CAN BE ASSEMBLED MITH ANY 1440 AUTOCODER PROGRAM. THIS PROGRAM CAN BE USED ON ANY 1440 MITH A 1443 PRINTER, INDEX REGISTERS, AND THE STORE ADDRESS REGISTERS SPECIAL FEATURE. THE PROGRAM CAN BE USED ON ANY SIZE 1440.

1440-02.7.002 CORE PRINT AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1440-02.7.002

AUTHOR...P.G. LANDOLT IBM CORP. 600 EGLINTON AVE. E. TORCNIO 12, ONTARIO

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM WILL GIVE A 4K, 8K, 12K OR 16K CORE PRINT. NO ADVANCED PROGRAMMING IS REQUIRED. ALL GROUP MARKS ARE CHANGED TO ADVANCED PROGRAMMING IS REQUIRED. ALL GROUP MARKS ARE CHANGED TO SEPARATELY. CORE POSITION INDICATORS ARE SUPPLIED FOR DUTPUT ABOVE 501. MORD MARKS ARE PRINTED AS ONE'S BELOW THE DATA LINE. CORE POSITIONS OOI TO 100 MUST BE PRINTED MANUALLY. THIS PROGRAM WILL BE USEFUL FOR NON-DISK USERS AND TO OVERCOME THE 4K-12K AUTOTEST SHORTCOMINGS. THE PROGRAM FOR ALSO BE USED AS AN UTILITY PROGRAM FOR PRODUCTION ROWS. 1440 CORE PRINT CAN BE USED ON ALL 1440 SYSTEMS 4K TO 16K. THE PROGRAM HAS BEEN MRITTEN IN MACHINE LANGUAGE IN ORDER TO BYPASS THE NEED FOR A PROGRAM LOADER.

1440-02-7-003 CORE DUMP ROUTINE IN ACTUAL FORM

AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1440-02.7.003

AUTHOR...PAUL D. HAMILTON IBM CORP. 1500 N. 2ND ST. HARRISBURG, PA.

DIRECT INQUIRIES TO AUTHOR

THIS IS A PROGRAM IN ACTUAL 1440 MACHINE LANGUAGE TO PROVIDE CORE DUMPS OF ANY SIZE MEMORY 1440 ON A 1443 PRINTER. A SEPARATE MEMORY ADDRESS INDEX LINE IS PRINTED FOR EACH 100 POSITIONS STARTING WITH LOCATION 101. WORD MARKS ARE PRINTED ON A SEPARATE LINE AS A NUMBER 1. GROUP MARKS 12-7-8 ARE REPLACED AND PRINTED AS A PROGRAMMERS BLANK 2-8. THE PROGRAM DESTROYS ONLY THE FIRST 86 POSITIONS OF CORE. PRINT OUT IS ALSO GIVEN OF INDEX REGISTER CONTENTS LAST COMPARE STATUS AND SENSE SWITCHES ON. BLANK 100 POSITION BANDS WITH NO W/M ARE NOT PRINTED.
THIS PROGRAM CAN BE USED WITHOUT MODIFICATION ON ANY 1440 WITH INDEX REGISTERS AND STORE ADDRESS REGISTER SPECIAL FEATURE.

1440-02.7.004 CORE DUMP AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1440-02.7.004

AUTHOR...W.C. WORTHINGTON IBM CORPORATION 180 SOUTH MAIN STREET PROVIDENCE, R.I. 02903

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM GIVES A CCRE DUMP FOR 4K, 8K, 12K OR 16K 1440
SYSTEMS. IT WAS DESIGNED BECAUSE MOST OF THE EXISTING
MEMORY DUMPS DESTROYED A PART, OR PARTS, OF STORAGE AS THEY
WERE LOADED. THIS PROGRAM USES ONLY THE FIRST EIGHTY
INITIALLY AND PRINTS ALL REMAINING POSITIONS OF STORAGE. WORD
MARKS ARE PRINTED AS ONES ON THE LINE FOLLOWING EACH DATA BAND
OF STORAGE. GROUP MARKS ARE PRINTED AS G/S IN THE DATA LINE
AND WOR HIN THE WORD MARK LINE DEPENDING ON THE PRESENCE CR
ABSENCE OF AM ASSOCIATEC WORD MARK. THERE ARE TWO
DECKS AVAILABLE - A 4K DECK AND ONE FOR 8K AND LARGER SYSTEMS.
TO FACILITATE THE LOADING OF THE PROGRAM AND THE CONSERVATION
OF CORE USED, THE PROGRAM HAS BEEN WRITTEN IN SELF-LOADING,
MACHINE LANGUAGE.

1440-02.7.005 TRACE WITH EASY ENTRY AND

AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1440-02.7.005

AUTHOR...M.N. DAVID
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IHIS TRACE PROGRAM IS AN AID FOR DEBUGGING PROGRAMS. IT WILL PRINT OUT THE I ADDRESS, INSTRUCTION AND THE CONTENTS OF THE A AND B FIELD AFTER EACH INSTRUCTION IN THE PROGRAM TO BE TRACED. PROVISION IS MADE FOR PART TRACTION. CERTAIN VERY UNUSUAL TYPES OF CHAINING CANNOT BE TRACED. MACHINE CONFIGURATION—1440 D.P.S. MITH S.A.R. AND M.A.. STORAGE REQUIREMENTS ARE 1380 LOCATION. SOURCE LANGUAGE IS AUTOCODER. PROGRAM EXECUTION TIME—1000 STEPS ARE TRACED PER MINUTE. 359 SOURCE STATEMENTS.

1440-02.7.006 SELF-LOADING CORE DUMP AVAILABLE 3RD QUARTER 1966. SPECIFY FILE NUMBER 1440-C2.7.006 8-1440

CONTINUED FROM PRIOR COLUMN--

AUTHOR...W.N. HOLMES

CIRECT INQUIRIES TO..

W.N. HOLMES, IBM AUSTRALIA PTY. LTD.,P.O. BOX 88,ST. KILDA,
VICTORIA, AUST.

THIS PROGRAM DUMPS CORE FROM POSITION 81 ONWARDS, UNIQUELY IDENTIFYING ALL CHARACTERS NOT NORMALLY PRINTED WITH THE 52 CHARACTER SET. NO SPECIAL FEATURES ARE REQUIRED. THE OPERATION CODE PATCHES TO THE PROGRAM AS SUPPLIED RENDER IT USABLE ON A 4K 1440 WITH 1443 PRINTER AND CARD READER.

1440-02.7.007 UNRESTRICTED SELECTIVE TRACE ROUTINE

AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1440-02.7.007

AUTHOR...MR. J.M. NEWCOMER

ACTHORASSING JOHN MERCONER

DIRECT INQUIRIES TO..

MR. J.M. NEMCOMER, ANDERSON & GILBERT ASSOC., INC.,

35 M. PITTSBURGH ST., GREENSBURG, PA. 15601

THE TRACE ROUTINE IS DESIGNED TO AID IN THE DEBUGGING OF COMPLEX PROGRAMS BY ALLOWING THE PROGRAMMER TO OBSERVE THE LOGIC FLOW MITHIN THE PROGRAM. PRIOR TO EXECUTING EACH INSTRUCTION THE TRACE ROUTINE PRINTS A LINE OF INFORMATION SHOWING THE INSTRUCTION, INDEX REGISTERS, HEE INDICATOR STATUS, THE DISK CONTROL FIELD ON DISK OPERATIONS, AND THE A- AND B-REGISTER CONTROLS. THE TRACING MAY BE RESTRICTED TO A SPECIFIC AREA IN CORE.

MACHINE COMPIGURATION- BK OR LARGER 1440 WITH INDEXING AND STORE ADDRESS REGISTERS SPECIAL FEATURE. A 4K MACHINE MAY BE USED IF MODIFY ADDRESS IS AVAILABLE. 1443 OR 1403 PRINTER WITH ANY NUMBER OF PRINT POSITIONS. IF PRINT STORAGE IS AVAILABLE THE TRACE MAY BE REASSEMBLED TO RESIDE ABOVE THE PREDEFINED CORE POSITION.

1440-02-9-001 NAME AND ADDRESS FILE MAINTEMANCE PROGRAM AVAILABLE 3RD QUARTER 1964-SPECIFY FILE NUMBER 1440-02-9-001

AUTHOR...MR. J.C. LOCHIS
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DIRECT INCUIRIES TO AUTHOR

THE PROGRAM CREATES AND MAINTAINS A SEQUENTIAL FILE OF NAMES AND ADDRESSES BY STORING THEM AS VARIABLE-LENGTH BLOCKED RECCRDS ON THE DISK PACKS IN EITHER SECTOR OR TRACK RECORD MODE. THE NUMBER OF CHARACTERS PER LINE AND NUMBER OF LINES PER ADDRESS IS VARIABLE. APPROXIMATELY 39,000 ADDRESSES CAN BE STORED ON ONE PACK WITH THE TRACK RECORD FEATURE. A LOG IS PRINTED SHOWING ADDRESS. SK 1440 WITH INDEX RECISTERS, 1442 CARD FILE CHANGES. 8K 1440 WITH INDEX REGISTERS, 1442 CARD READER/PUNCH 1443 PRINTER, AND 1311 DISK DRIVES. THE PROGRAM IS WRITTEN IN 1440 AUTCOODER.

1440-02.9.002 SOURCE REGENERATION OF 1401 SPS TO 1440 AUTOCODER /AUTOC/ AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1440-02.9.002

AUTHOR...MR. R. CARELLI
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DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM WAS DESIGNED TO CONVERT THE SPS SOURCE PROGRAMS CF A 1401 CARD ORIENTED SYSTEM TO THE AUTOCODER FORMAT OF THE 1440 SYSTEM UTILIZING 1440 HARDMARE. THIS PROGRAM WILL NOT CONVERT 1401 MAGNETIC TAPE OR DISK INSTS. A 1440 SYSTEM WITH 8,000 POSITIONS OF STORAGE... ADVANCED PROGRAMMING PACKAGE... 1441 CENTRAL PROCESSING UNIT... 1442 READ/PUNCH /2 UNITS ARE RECUIRED/ OR 1444 PUNCH /1 UNIT REQUIRED/... 1443 PRINTER OR 1403 PRINTER WITH 1446 CONVERTER.

1440-02.9.003 PUNCH CORE IN PROGRAM LOAD

AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1440-02.9.003

AUTHOR...JEAN M. HARVEY
IBM CORP.
1200 FIFTH AVE.
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DIRECT INQUIRIES TO AUTHOR

THE 1440 PUNCH DUMP PROGRAM WILL PUNCH IN THE CONDENSED LOADER FORMAT, CORE STORAGE STARTING WITH LOCATION 321. THE PRIMARY PURCES OF THE PROGRAM IS TO PROVIDE FOR 015ASTER - RESTART PROCEDURES FOR A 1440 DISK SYSTEM. IF A PROGRAM FAILS TO GET TO END OF JOBS CORE CAN BE DUMPED INTO CARDS. THIS CORE IMAGE CAN BE RELOADED /WITH NECESSARY MODIFICATIONS/ THEREBY SAVING TOTAL ACCUMULATIONS, DISK STATUS AND INPUT/DUT INFORMATION. THIS ALLOHS FOR ADDITIONAL OPERATOR INDEPENDENCE, SAVES POSSIBLE LENGTHY RERUNS AND PRESERVES DISK INFORMATION INTACT. THE PROGRAM IS WRITTEN FOR A 1440 EQUIPPED WITH A CARD/READ PUNCH IN AUTCCODER LANGUAGE.

1440-02-9-004 GULP 4 AVAILABLE 4TH QUARTER 1966. SPECIFY FILE NUMBER 1440-02-9-004

AUTHOR...MR. T. PATTERSON

R-1440

CONTINUED FROM PRIOR PAGE--

DIRECT INQUIRIES TO..
MR. T. PATTERSON, GRANITE CONSTRUCTION CO., P.O. BGX 900
WATSONVILLE, CALIF.

WATSONVILLE, CALIF.

THIS PROGRAM PROVIDES A LOAD AND GO OBJECT DECK FOR PRODUCING OULCK AND SIMPLE REPORTS OR REPRODUCE CARDS IN NEW FORMATS PUNCHING ONLY AS MANY CCLUMNS AS NECESSARY. GANG A SINGLE CONTROL FIELD. NUMBER OF COLUMNS IN THE PUNCHING FEATURE ARE INDICATED IN THE CONTROL CARD, CUITING DOWN PUNCH TIME. ARE INDICATED IN THE CONTROL CARD, CUITING DOWN PUNCH TIME. THE PROGRAM PROVIDES ITS OWN BOIT HORRS, ZEROS, BLANKS AND NUMBERS FROM O TO 9 SO THAT SEPARATE CONSTANTS NEED NOT BE SET UP IN CONTROL CARDS BUT MERELY CALLED FOR. COLUMN HEADINGS ARE PROVIDED FOR AND PRINTING IS AUTOMATIC. IT ACCUMULATES TOTALS AND PRINTS THEM ON RUN OUT OF CARDS. INTERSPERSE GANG PUNCHING CAN BE ACCOMPLISHED ON THE REPUNCHED CARDS. ALL CONTROL CARDS FOLLOW THE OBJECT DECK INSTEAD OF BEING INSERTED. ANYONE CAN MAKE CONTROL CARDS WITH A MINIMUM OF PROGRAMMING BACKGROUND. CONSTANTS AND EDIT MORKS SUPPLIED BY THE PROGRAM ARE ADDRESSED IN EASY TO UNDERSTANC TERMS I.E.., FOR ELEVEN BLANKS CALL FOR BIJ. FIFTEED ZEROS CALL FOR BIJ. FIFTEED ZEROS CALL FOR ZIJ., THE CONSTANT NUMBER 8 IS KOR, ACCUMULATORS ARE A10, A20 ETC.

— 444 1440 SYSTEM WITH

— 1NOEXING AND STORE ADDRESS SPECIAL FEATURE,

— 1442 CARD READ-PUNCH MODEL 1,

— 1443 PRINTER MODEL 1 ANC

— ONE 1311 DISK STORAGE DRIVE.

SOURCE LANGUAGE IS AUTCCODER.

1440-03.1.001 SIMULATOR REPRODUCE GANG PUNCH

AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1440-03.1.001

AUTHOR...DENNIS P. LEE C/O COMMODITY SERVICE CO. /JA./ LTD. 7-9, HARBOUR STREET KINGSTON, JAMAICA

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM HAS BEEN CESIGNED TO PERFORM ANY/ALL OF THE FUNCTIONS OF AN I.B.M. 519 WITHOUT PROGRAMMING EFFORT ON THE USERS PART. THE SYSTEM ON WHICH THE CONJECT FROGRAM IS TO BE RUN MUST HAVE AT LEAST 4000 POSITIONS OF CORE STORAGE WITH NO SPECIAL FEATURES. ONE I.B.M. 1442 CARD READ-PUNCH. CNE I.B.M. 1443 PRINTER. IF THE REPRODUCTION PHASES ARE DESIRED THE OBJECT PROGRAM ALSO REQUIRES ONE I.B.M. 1311 DISK STORAGE DRIVE.

1440-03-3-001 SPS TO AUTOCODER CONVERSION PROGRAM

AVAILABLE 3RD QUARTER 1966. SPECIFY FILE NUMBER 1440-03.3.001

AUTHOR...MR. J.M. NEWCOMER

DIRECT INQUIRIES TO..

MR. J.M. NEMCOMER, ANDERSON & GILBERT ASSOC., INC.,
35 M. PITTSBURGH ST., GREENSBURG, PA. 15601

35 M- PITISEURGH ST., GREENSBURG, PA. 15601

SPSCV TRANSLATES SOURCE DECKS WRITTEN IN 1401 SPS INTO A SOURCE DECK FOR 1440 AUTOCODER PROCESSORS. THE RESULTING OBJECT DECK CAN THEN BE RUN ON A 1440. ALL 1401 OPCODES ARE REPLACED BY 1440 OPCODES, ALL 1/0 INSTRUCTIONS MAY BE TRANSLATED TO 1440 EQUIVALENTS UNDER SWITCH CONTROL. UNIQUE AUTOCODER MEMENDISC REPLACE ALL BRANCH, DISK, AND TAPE INSTRUCTIONS. AN OPTICNAL LISTING AND SOURCE DECK MAY BE OBTAINED WITH SENSE SWITCH CONTROL. UP TO 100 PERCENT TRANSLATION MAY BE OBTAINED ON MANY PROGRAMS. EQUIPMENT SPECIFICATIONS- 8K 1440 WITH EITHER ONE 1442 READ/PUNCH OR 1442 READ/PUNCH UNIT FOR INPUT, A 1403 OR 1443 PRINTER WITH A MINIMUM OF 120 PRINT POSITIONS, BUFFERED OR UNBUFFERED, SENSE SWITCHES BY TROUGH G, INDEXING AND STORE ADDRESS REGISTERS SPECIAL FEATURES. MODIFY ADDRESS IS NOT USED, AND REGULTION IN THE FEATURE. MODIFY ADDRESS IS NOT USED, AND REGULTION IN THE FEATURES.

VENDOR ANALYSIS RATING 1440-09.3.001 SYSTEM

AVAILABLE IST QUARTER 1966. SPECIFY FILE NUMBER 1440-09.3.001

AUTHOR...HOWARD KATZ IBM CORP. 17666 PARTHENIA NCRTHRIDGE, CALIF.

CIRECT INQUIRIES TO AUTHOR

THIS SYSTEM OF FOUR PROGRAMS TAKES RECEIVING INSPECTION DETAIL INFORMATION PERTAINING TO INDIVIOUAL LOTS OF PURCHASED GOODS, ACCUMULATES THE DATA, AND BY A WEIGHING FACTOR, RATES EACH VENDOR AS TO THE QUALITY OF HIS WORK. ALL RATINGS ARE BASED UPON SAMPLING PLANS FOR RECEIVING INSPECTION AS SPECIFIED BY MILITARY SPECIFICATION 105-D. PROGRAMMING LANGUAGE USED IS AUTOCODER ON DISK-140/1340/1460. MACHINE CONFIGURATION RECUIRED IS A 1440-8K-2 /1311/ DRIVES - ADVANCED PROGRAMMING-SENSE SWITCHES. IT WOULD BE HELPFUL TO HAVE DIRECT-SEEK SPECIAL FEATURE.

1440-10.2.002 1240/1440 PROOF OF DEPOSIT AND CASH LETTER WRITING AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1440-10.2.002

AUTHOR...J.L. BROOKS
IBM CORP.
618 S. MICHIGAN AVE.
CHICAGG, ILL.

B-1440

PAGE 079

CONTINUED FROM PRIOR COLUMN--

DIRECT INQUIRIES TO AUTHOR

DEPOSITS, CHECKS, CASH SLIPS, CONTROL SLIPS AND SUBSTITUTE DOCUMENTS ARE ENTERED INTO THE 1412 OR 1240. AN IN-PROCF JOURNAL IS PREPARED, A PRIMARY DISTRIBUTION OF THE DOCUMENTS IS PERFORMED, AND GOOD DATA RECORDED IN DISK STORAGE. THE DATA RECORDED IN DISK STORAGE. THE DATA RECORDED IN DISK STORAGE IS THEN READ AND CASH LETTERS FOR KILL-POCKETS PREPARED. THERE ARE 1944 SOURCE STATEMENTS.

MACHINE CONFIGURATION FOR 1440 IS— A 1441—A4 8K CPU WITH NO. 4631 INDEX REGISTERS AND STORE REGISTERS... NO. 5561 PRINTER ATTACHMENT... NO. 3321 DISK STORAGE CONTROL... NO. 7080 SERIAL I/O ADAPTER... NO. 2260 CONSOLE ATTACHMENT. A 1442—1 OR 2 CARD READ PUNCH HITH NO. 1632 CARD READ PUNCH ADAPTER. A 1443—2 PRINTER WITH NO. 5567 PRINTER CONTROL... NO. 5559 PRINT POSITIONS, 24 ADDITIONAL... NO. 5569 PRINT SIGNAGES... NO. 6401 SELECTIVE CHARACTER RET... A 1447—1 CONSOLE WITH NO. 7600 SENSE SHITCHES... A 1412 MACHETIC CHARACTER READER WITH 1311—1 DISK STORAGE DRIVE... 1311—2 DISK STORAGE DRIVE...

MACHINE CONFIGURATION FOR 1240 IS- A 1241 A4 8K CPU WITH NC.
4631 INDEX AND STORE REGISTERS... NO. 5561 PRINTER ATTACHMENT...
NO. 3321 DISK STORAGE CONTROL... NO. 2260 CONSOLE ATTACHMENT. A
1442 1 OR 2 CARD READ PUNCH WITH NO. 1632 CARD READ PUNCH
ADAPTER. A 1443 2 PRINTER WITH NO. 5567 PRINTER CONTROL... NC.
5559 PRINT POSITIONS ADDITIONAL 24... NO. 0. 5585 PRINT STORAGE.
NO. 4601 SELECTIVE CHARACTER SET. A 1447-1 CONSOLE WITH NO. 7655
SENSE SWITCHES. A 1311-1 DISK STORAGE DRIVE 1311-2 DISK STORAGE
DRIVE.

1440-10.2.003 INSTALLMENT LOAN ACCOUNTING AVAILABLE 3RD QUARTER 1965. SPECIFY FILE NUMBER 1440-10.2.003

AUTHOR...MR. ERNEST WONG

DIRECT INQUIRIES TO.. ERNEST WONG, IBM CORP., 420 MONTGOMERY ST., SAN FRANCISCO, CALIF. 94104

SAN FRANCISCO, CALIF. 94104

THE COMPLETE INSTALLMENT LOAN ACCOUNTING FOR A SMALL TO MEDIUM SIZED BANK CAN BE ACCOMPLISHED ON THE IBM 1440 DATA PROCESSING SYSTEM MITH THIS PACKAGE OF 15 PROGRAM RUNS. THE RUNS ARE IN 3 MAIN CATEGORIES, AND CONSIST OF NEW LOAN, DAILY, AND PERIODIC PROCESSING. THE HANDLING OF NEW LOANS IS DONE IN 4 RUNS WHICH EDIT AND CONVERT FROM CARD TO FILE, PRINT A NEW LOAN JOURNAL, PRINT AN ALPHABETIC REFERENCE CARD, AND PRODUCE COUPONS AND COVERS. DAILY PROCESSING INVOLVES MASTER FILE MAINTENANCE, BATCH PROOF, POSTING TO MASTER AND DEALER FILES, AND REPORT OUTPUT. PERIODIC (WEEKLY AND MOINTHLY RUNS ARE MADE ON DEALER FILE MAINTENANCE, AND PRINT-OUT OF DELINQUENCY NOTICES, TRIAL BALANCE, AND WEEKLY AND MONTHLY REPORTS. INTEREST REBAIES ARE COMPUTED BY THE 78THS METHOD AND ACCRUAL OF UNEARNED INCOME IS DONE BY THE STRAIGHT LINE METHOD. PROGRAMS ARE WRITTEN IN 1440 AUTOCODER WITH DISK IOCS AND REQUIRE BK, INDEXING AND STORE ADDRESS REGISTER FEATURE, 1442, 1443 MITH 144 PRINT POSITIONS, SENSE SMITCHES, AND 2 — 1311 CISK DRIVES. THERE ARE 9067 SQURCE STATEMENTS.

SOURCE DECKS ARE OPTIONAL MATERIAL.

OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-11.3.001 /TARS/ TALLY ANALYSIS REGISTRATION AND SCHEDULING AVAILABLE IST QUARTER 1966. SPECIFY FILE NUMBER 1440-11.3.001

AUTHOR...MR. W.R. JOHNSON

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TINGUIRIES TO...

W.R. JOHNSON, IBM CORP., 121 STATE ST., ALBANY, N.Y.

TARS — 1440 IS A SERIES OF PROGRAMS DESIGNED TO GIVE THE PROFESSIONAL SCHOOL ADMINISTRATOR THE MOST COMPLETE FREEDOM AND FLEXIBILITY IN THE PREPARATION OF CONFLICT FREE STUDENT PROGRAMS. UTILIZING THE FULL POWER AND RANDOM ACCESS CAPABILITIES OF THE IBM 1440 COMPUTER SYSTEM, THE PROGRAMS HAVE ENCOMPASSED THE BEST ATTRIBUTES OF THE TWO BASIC METHODS OF STUDENT SECTIONING. THE TWO METHODS PRESENTLY IN USE IN MANUAL, SEMI-AUTOMATIC, UNIT RECORD AND EVEN IN LARGE-SCALE COMPUTER SYSTEMS ARE , SECTIONING BY SECTION,. /THE SCRIET PLANY AND ,, SECTIONING BY SUDDENT, /THE BIN PLANY. ALTHOUGH BOTH OF THESE SYSTEMS HAVE PERFORMED WELL OVER THE YEARS, EACH HAS CENTRAL ILHIBITIONS. SECTIONING BY STUDENT /BIN PLANY REQUIRES THE PRE-SELECTION OF THOSE STUDENTS RESURED TO BE THE MOST DIFFICULT TO SCHEDULE, I.E., THOSE STUDENTS REQUESTIONS SEVERAL SINGLE OFFERING, SINGLE SECTION/CURSES. AFTER THIS PRE-SELECTION, ARBITRARY DECISIONS CONCERNING WHICH SECTION, OF A MULTIPLE-SECTION COURSE OFFERING, TO USE ARE MADE MANUALLY BY A PROFESSIONAL OR AUTOMATICALLY BY A COMPUTER. BECAUSE A MAJOR FACTOR IN THESE ARBITRARY DECISIONS IS THE NUMBER OF REMAINING SEATS IN A SECTION, THIS METHOD HAS THE ADVANTAGE OF BLANCHING THE NUMBER OF SUDDENTS IN EACH OF SEVERAL SECTIONS OF A PARTICULAR COURSE. THE DISADVANTAGE OF THE SYSTEM OR APPROACH IS OF COURSE THE ARBITRARY DECISION MAKING. THE ARBITRARY DECISIONS MADE FOR THE EARLIER SECTIONED STUDENTS SUBSEQUENTLY SECTIONED. THIS THAT WALL SHOW THE PLANY DOES NOT MAKE THESE ARBITRARY DECISIONS FOR THE ARBITRARY DECISION HAS THE ADVANTAGE OF THE MAJOR THE MAJOR DIFFICULTY WITH THIS METHOD ALSO THE SECTION SOLD A PARTICULAR COURSE. THE ARBITRARY DECISION MAKING. THE ARBITRARY DECISIONS MADE FOR THE EARLIER SECTIONED THE SYSTEM OF APPROACH SECTION SUBJECTS ARE SECTIONED. THIS METHOD ALSO HAS THE DISADVANTAGE OF PLACING LESS EMPHASIS ON CLASS BALANCING. HEEPER ARD THE MAJOR DIFFICULTY WITH THIS METHOD ALSO HAS THE DISADVANTAGE OF PL

BECAUSE OF THE TREMENDOUS POWER AND RANDOM ACCESS
CAPABILITIES OF THE 1BM 1440 COMPUTER SYSTEM, THE
SIGNIFICANT ADVANTAGES OF BOTH OF THE AFORE-MENTIONED SYSTEMS
HAVE BEEN INCORPORATED IN TARS - 1440. AS STATED BEFORE,
TARS - 1440 IS A SETTES OF PROGRAMS DESIGNED TO GIVE FREEDOM

CONTINUED FROM PRIOR PAGE—
AND FLEXIBILITY TO THE SCHOOL ADMINISTRATORS IN PREPARING
CONFLICT-FREE STUDENT PROGRAMS.
THIS SERIES OF PROGRAMS IS AS FOLLOWS—THE REQUEST COUNT
TALLY... THE POSSIBLE CONFLICT ANALYSIS... THE FILE LOAD... THE
STUDENT REQUEST LOADING AND SINGLE OFFERING SECTIONING...
MAIN SECTIONING — PHASE A — BY SECTION... MAIN
SECTIONING — PHASE B — BY STUDENT... BACKTRACKING FOR
CONFLICTS... UPDATED MASTER SCHEDULE... CONFLICT STUDENTS
PRINTOUT... FILE MAINTENANCE OR CHANGE PROGRAM... SCHEDULE
WRITING AND GRADE CARD PUNCHING. THE IBM 1440 MACHINE SPECIFICATIONS AND CONFIGURATION ARE AS FCLLOWS1441 - PROCESSING UNIT MODEL A-3 /4K/
/EXCEPT PHASE 3D BACKTRACKING WHICH REQUIRES 8K/
INDEXING AND STORE ADDRESS REGISTER FEATURE
DISK STORAGE CONTROL FEATURE
1443 PRINTER ATTACHMENT FEATURE
SENSE SWITCHES
1442 CARD READ PUNCH MODEL 1
1433 PRINTER MODEL 1
PRINTER CONTROL FEATURE
STANDARD S2-CHARACTER-SET TYPEBAR
1447 CONSOLE MODEL 1
311 DISK STORAGE GRIVE
NCTE- IT IS FELT THAT THE USE OF THE DIRECT SEEK FEATURE
WOULD REDUCE RUNNING TIME UP TO 30 PER CENT. HOULD REDUCE RUNNING TIME UP TO 30 PER CENT.

1. MAXIMUM OF 2500 STUDENTS.
2. MAXIMUM OF 13 REQUESTS PER STUDENT /UP TO 12 IN ONE SEMESTER/.
3. MAXIMUM OF 12 PERIODS /TIME INCREMENT PER DAY/.
4. MAXIMUM OF 19 PERIODS /TIME INCREMENT PER DAY/.
5. LUNCH MAY BE SPECIFIED OR NOT.
6. ALL CLASSES FOR THIS PROGRAM, ARE SCHEDULED FOR A FULL YEAR RATHER THAN TWO // SEPARATE SEMESTERS.
7. A SINGLE COURSE SECTION MAY NOT SPAN MORE THAN 5 DIFFERENT PERIODS /TIME INCREMENTS, ALTHOUGH II MAY MEET ANY OR ALL DAYS OF THE WEEK DURING THOSE TIME INCREMENTS.
8. EACH STUDY HALLS WILL BE TREATED INDIVIDUALLY BY DAY AND PERICO.
10. NO STUDENT MAY BE IN MORE THAN OR SECTION OF STUDY HALL DURING A PERIOD.
11. NO STUDENT MAY BE IN MORE THAN OR SECTION OF STUDY HALL SECTIONS.
2. TUDENT MAY BE IN MORE THAN BOIFFERENT STUDY HALL SECTIONS.
3. THE TALLY PROGRAM HILL /A/ COUNT COURSE REQUESTS, CODES.

13. THE TUNITLIT ANALYSIS WILL HANDLE OP TO 100 COURSE OFFERING CODES.

13. THE TALLY PROGRAM WILL /A/ COUNT COURSE REQUESTS, /B/ SPREAD REQUESTS BY GRADE AND SEX, /C/ PRINT REQUESTS BY STUDENT AND /D/ PRINT STUDENTS REQUESTING EACH COURSE.

14. FORMAT OF REQUEST CARDS AND SECTION MASTERS IS THE SAME AS CLASS 7070.

15. FORMAT OF LUNCH AND STUDY HALLS IS SAME AS OTHER SECTION MASTERS IS PROGRAM WILL HANDLE CRE DURING PERICD.

16. PROGRAM WILL HANDLE UP TO 3000 COURSE SECTION WITH A MAXIMUM OF 50 SECTIONS ALLOWED FOR ANY ONE COURSE.

17. ABILITY TO USE ONE OF THE 12 PERIODS OF THE DAY AS A CUMMY PERICO. OPTIONAL PROGRAM MATERIAL - SOURCE DECK.
CPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARC.

1440-11.5.001 HOSPITAL CANCER CERVICAL CASEFINDING SUMMATION AND REPORT AVAILABLE 2ND QUARTER 1965. SPECIFY FILE NUMBER 1440-11.5.001

AUTHCR...R.W. GATCOMBE IBM CORP. 1 STRATHMORE ROAD NATICK, MASS.

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM PROCESSES CARDS PUNCHED FROM CASE-FINDING SDURCE DOCUMENTS. THE CODES IN THE CARDS ARE CHECKED FOR LOGIC AND ACCURACY AND ARE ACCUMULATED ON THE 1311 PACK BY TOTALS BASED CN CCDES. AS THE CARDS ARE PROCESSED, INCORRECTLY CODED CARDS ARE LISTED AS BAD CARDS. WHEN ALL CARDS ARE PROCESSED THEN EACH EXAMAND CUT PATIENT CLASS GROUP IS PRINTED IN REPORT FORMAT. TCTALS OF ALL CARDS PROCESSED AND ALL BAD CARDS ALSO ARE LISTED. MACHINE REQUIRED - 1440-4K, 1442 AND A 1443 WITH 52 CHART/BAR AND A 1311 DISK STORAGE DRIVE.

1:40-12.3.001 BILL OF MATERIAL PROCESSOR STRUCTURE FILE ADDRESS REDRGANIZATION MAINTENANCE PROGRAM AVAILABLE 1ST QUARTER 1966. SPECIFY FILE NUMBER 1440-12.3.001

AUTHOR ... RAMON L. FRITSCH

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RAMEN L. FRITSCH, IBM CORP., 7321 W. LAKE ST., RIVER FOREST, ILL.

THE PURPOSE OF THIS PREGRAM IS TO FACILITATE THE REORGANIZATION
OF AN INSTALLED 1440 BILL OF MATERIAL PROCESSOR SYSTEM,
APPLICATION PROGRAM 1440-ME-OZX. DUE TO THE ADDITIONS AND
DELETIONS TO THE PART NUMBER /P/N/ MASTER FILE IN THE B/M
PROCESSOR SYSTEM, IT BECOMES NECESSARY OR EDGGANAZE THE
RECORDS PERIODICALLY TO RETAIN EFFICIENT PROCESSING. SINCE
THE PHYSICAL LOCATION OF THE MASTER P/N RECORDS MAY BE
CHANGED AFTER THE FILE REORGANIZATION, THE LINKAGE ADDRESSES
IN THE PRODUCT STRUCTURE AND PART INDEX FILES MUST BE CHANGED
TO REFLECT THE NEW P/N MASTER FILE IN SEQUENCE,
ACCESSING SECORGANIZATION MAINTENANCE /SFAMP PROGRAM PERFORMS
THESE CHANGES BY PROCESSING THE P/N MASTER FILE IN SEQUENCE,
ACCESSING EACH PRODUCT STRUCTURE RECORD IN THE WHERE-USED
CHAIN, THEN IN THE COMPONENT SEQUENCE AND THEN RANDOMIZES
THE P/N TO ACCESS THE PART INDEX RECORD. SEARM ELIMINATES
THE PROGRAM IS WRITTEN IN 1440 AUTOCODER AND HILL RUN ON
A 4K 1440 DISK SYSTEM.

1440-12.3.002 LABOR AND MATERIAL PROGRAM AVAILABLE 3RD QUARTER 1966. SPECIFY FILE NUMBER 1440-12.3.002

CONTINUED FROM PRIOR COLUMN--

AUTHORS..J.D. CALLON R.L. FRITCH J. WITT PATRICIA ROCHE

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LOS ANGELES, CALIF. 90005

LOS ANGELES, CALIF. 90005

THIS IS A DEMONSTRATION PROGRAM WHICH IS AN EXTENSION OF THE 1440 BILL OF MATERIAL PROCESSOR. IT INCLUDES.
LOADING AND MAINTENANCE OF INVENTORY AND PRODUCT STRUCTURE RECORDS.
COROSS TO NET TIME SERIES PLANNING REPORT WITH REQUIREMENTS OF THE STRUCTURE REPORTS OF THE THE SERIES PLANNING REPORT WITH REQUIREMENTS OF THE PERIOD.
RETRIEVAL REPORTS /EXPLOSIONS AND IMPLOSIONS/.
CALCULATION AND MAINTENANCE OF LOW LEVEL CODES.
THIS PROGRAM OFFERS MANUFACTURING COMPANIES AN EXCELLENT BASE FOR DEVELOPING MECHANIZED PRODUCTION CONTROL PROGRAMS.
BY TAKING ADVANTAGE OF THESE STANDARDIZED ROUTINES THE USER CAN BENEFIT FROM EARLIER IMPLEMENTATION AS WELL AS MINIMIZATION OF PLANNING AND PROGRAMMING EXPENSES.
THE PACKAGE MAKES EIGHT PROGRAMS AVAILABLE TO THE USER, WHICH ENABLE HIM TO LOAD AND MAINTAIN HIS PART NUMBER AND MACHINE MINIMUM SYSTEMS REQUIREMENTS ARE—8K 1440 CPU...
1442 CARD READ PUNCH... 1443 PRINTER 120 PRINT POSITION...
1447 MODEL 2 CONSOLE HITH SENSE SWITCHES...
1471 MODEL 2 CONSOLE HITH SENSE SWITCHES...
CPTICNAL MATERIAL CONSISTS OF SOURCE DECKS.

1440-13.0.001 A PROGRAM TO DEMONSTRATE THE USE OF THE 1BM 1440/1311 FOR LIBRARY CIRCULATION CONTROL AVAILABLE 2ND QUARTER 1964. SPECIFY FILE NUMBER 1440-13.0.001

AUTHOR...B.J. OCGNNELL IEM CORP., 401 GRAND AVENUE OAKLAND, CALIFORNIA

DIRECT INQUIRIES TO AUTHOR

THIS IS A PROGRAM WHICH HAS ALREADY BEEN USED SUCCESSFULLY
TO DEMONSTRATE THE USE OF THE IBM 1440/1311 FOR LIBRARY
CIRCULATION CONTROL. THE PROGRAM REQUIRES PHYSICAL PARTICIPATION
OF PROSPECTS WHO MAY NEVER HAVE SEEN A COMPUTER BEFORE. PROSPECT
PARTICIPATION IS DIRECTED BY MESSAGES ON THE CONSOLE
TYPEHRITER. THE PROGRAM CONSISTS OF FIVE PHASES. /1/ WRITING
RECORDS ON DISK, /2/ ENTERING BORROWER NUMBER ON CONSOLE AND
LISTING ALL BOCKS CHARGED TO I HAT BORROWER, /3/ ENTERING
DATA ON CONSOLE AND LISTING ALL BOCKS CVERDUE AND UNRETURNED
AS OF THAT DATE, /4/ ENTERING RETURNS ON CARD READER AND
LISTING RETURNED OVERDUE BOOKS WITH ACCRUED FINES, /5/ ENTERING
CALL NUMBER ON CONSOLE AND PRINTING STATUS OF BOOK ON CONSOLE.
PRESPECT MAY CHANGE HOLD OR DUE DATE AND RECORD IS REWRITTED.
ON DISK HITH CHANGES. MINIMUM MACHINE REQUIREMENTS—8 WHITH CRE
1311, ONE DISK PACK, CARD READER, PRINTIER, CONSOLE TYPEWRITER,
SCAN, DIRECT SEEK, MULTIPLY-DIVIDE, SENSE SWITCHES.

List of Program Deletions

ALPHABETIC KEY - REASON FOR REMOVAL

- A. THIS PROGRAM HAS BEEN DELETED BECAUSE OF LOW USAGE.
 C. THIS PROGRAM HAS BEEN DELETED BECAUSE OF LIMITED USEFULNESS.
 D. THIS PROGRAM IS OBSOLETED AND REPLACED BY FILE NUMBER -----F. THIS PROGRAM HAS BEEN WITHORAWN BY THE AUTHOR.

Deletions Appearing for The First Time

FILE NUMBER

TITLE

REASON FOR DELETION

1401 DELETIONS

	TRAN USER FUNCTION TO COMPARE TWO VARIABLES NSIT ITEM PAS OPTIMIZER	4
GF-01X CIV	VILIAN PAS OF THE PER STATE OF THE PER S	

11.5.002

SCORING OF THE MINNESOTA HARTFORD PERSONALITY ASSAY

Previous Deletions

FILE NUMBER

TITLE

REASON FOR DELETION

1401 DELETIONS

01.1.005	MAST /MINNEAPOLIS ASSEMBLY OF SPS TWO/	A
01.1.010	PASS-CNE PROGRAM ASSEMBLER	A
01.1.012	SPS-BP&PL-BP PUNCH-FEED-READ VERSION OF SPS-2	A
01.1.015		A
01.1.042		A
01.2.008	MATCH OR MERGE /MOM/ SIMULATION OF COLLATOR	A
01.2.017	A PROGRAM TO RELOCATE THE PHASE 4 DUTPUT OF SORT 5 OR 6	A
01.3.014	RPG VERSICN 048 MODIFICATION TO GENERATE SKIP AND SPACE AFTER	A
01.4.019	TRAP /TAPE RECORD ANALYZER PRINT/	A
01.4.043	KIOCS-KCLLSMAN INPUT CUTPUT CONTROL SYSTEM	A
01.4.053		A
01.4.087	SUBROUTINE FOR MCDULES II CALCULATION FOR A 7-DIGIT NUMBER	AAA
01.4.095	ACDRESS LABEL PRINTING PROGRAM	A
01.4.116	PRE-EDIT LIST PROGRAM FOR THE GENERAL PURPOSE SYSTEMS	A
		A
01.4.140	STORAGE PRINT IDENTIFYING SPECIAL CHARACTER	A
01.4.146	TAPE TO TAPE UTILITY COMPARE	A
01.4.155	ALOGEN - ALLIED CHEMICAL TEST TAPE GENERATOR	A
01-4-156	READABLE-ACTUAL PROGRAM PUNCH ROUTINE	A
01.4.157	PROGRAM FCR ECONOMICAL SPLITTING OF TAPES	A
01-4-178		A
01-4-184		A
01-4-216	SELECTIVE TAPE READ AND PRINT-STRAP	A
01-4-217		A
01.5.017	VARIABLE INPUT FORMAT COMPILER	A
02.0.006	UTILITY CALCULATING PROGRAM	A
02.0.027	1401 MACODER /MATHEMATICAL CODING SYSTEM/ 1401/1460	A
02.0.030	REYNOLDS TOBACCO - STANCARD DATA GENERATOR AND UPDATING SYSTEM	A
03.0.009	DIVIDE SUBROUTINE FOR 1401	A
05.0.002	HISFIT - MATRIX INVERSION SOLUTION FOR THE 1401 INCLUDING	A
10.3.021	ANALYSIS OF SPS PROGRAMS	A
12.1.001		À
13.1.031		A
14.0.020	AUTO INSURANCE RATE GENERATION - AURAT	A

1440 DELETIONS

01.2.002	A LOADER FOR IBM 1440 AND IBM 1974 AUTOCODER PROGRAMS ASSEMBLED ON THE 1401	A
02.5.001 10.2.001 13.0.002	BINARY TO BCD CONVERSION - DEMANO DEPOSIT ACCOUNTING APPLICATION PROGRAM WITHOUT MICR AUTOMATED MANUFACTURING PLANNING DEMONSTRATION	A A
DR-01X	RETAIL MERCHANDISE CONTROL	c

IBM Technical Newsletter

File Number 1401/1440-20

Re: Form No. C20-1601-5

This Newsletter No. N20-0013-10

Date April 30, 1967

Previous Newsletter Nos. None

CATALOG OF PROGRAMS FOR IBM 1240, 1401, 1420, 1440 and 1460 DATA PROCESSING SYSTEMS - April 1967 Supplement

This publication is a Supplement to the "Catalog of Programs for IBM 1240, 1401, 1420, 1440 and 1460 Data Processing Systems", Form No. C20-1601-5.

Complete instructions for using the KWIC Index and for ordering programs are included in the Catalog. Programs will not be supplied by authors and should not be requested from them.

It is possible to obtain card decks for one or more card programs on a single reel of magnetic tape. The decks will be copied in card image format. The tape supplied must be a full reel (2400 feet) and in a standard tape container.

This Supplement contains information about changes in the status of the Libraries since the publication of the December 1966 Catalog, (Form No. C20-1601-5). It incorporates the changes that have occurred since then. It consists of the following sections:

- 1. A list of new programs appearing for the first time.
- 2. A list of Types III and IV program corrections and modifications (if applicable).
- 3. A Keyword-in-Context (KWIC) Index on new and revised programs.
- 4. Abstracts for the new and revised programs.
- 5. A list of program deletions (if applicable).

The following codes appear at the extreme right end of the title line for each abstract that is new or that has been revised in this issue of the Supplement:

- *N This symbol indicates a new program.
- *M This symbol indicates that the title of the program has been modified when it appears only at the extreme right end of the title line.
- *M This symbol indicates that the text of the abstract has been modified when an additional *M or * alone appears at the extreme right end of each line of the abstract that has been modified.
- *R This symbol indicates that the entire text of the abstract has been revised.

TABLE OF CONTENTS

																																		PAGE
LI	ST	CF	N	ΕW	PΕ	ROG	RA	MS																										
	CON	TR.	ΙBΙ	JTE	D	PR	CG	RA	MS	;																								
	I	ВМ	1	401	(TAC	Α	PR	CC	ES	SS	ING	;	SY	\$1	E	4	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	iii
	I	В₩	14	440	[TAC	Α	PR	CC	ES	SS	I N (}	SY	S1	E	М	•	•	•		•	•	•	•	•	•	•	•			•	•	iii
LΙ	ST	CF	P	ROG	R/	M	CC	RR	EC	TI	101	٧S	A	ND	F	۱E	VI:	SI	ON:	S														
	I	ВМ	1	401	C	TAC	Α	PR	00	ES	SS	ING	;	SY	S1	E	M	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	iii
	I	BM	14	440		TAC	Α	PR	CC	ES	SS	I NO	;	SY	S1	EI	4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	iii
KW	IC	IN	DE:	X O	F	NE	W	ΑN	D	RE	V :	I S E	D	Ρ	RC	G	RAI	45	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	iv
ΑB	STR	AC.	ГS	OF	١	IE	i A	ND	R	EV	/I:	SEC)	PΚ	00	R	ΔM:	S																
	IBN	P	200	GRA	MS	5																												
	I	ВМ	14	401	[TAC	Α	PR	CC	ES	SS	INC	;	SY	S1	EI	4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	001
	1	ВМ	14	440	(TAC	Α	PR	CC	ES	SS	INC	;	SY	\$1	E	М	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	001
	CON	TR:	ΙB	JTE	D	PR	GG	RA	MS	;																								
	I	BM	1	401	[TAC	Α	PR	00	ES	SS	ING	;	SY	S1	EI	Vļ.	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	003
	I	BM	1	440	C	TAC	Α	PR	00	ES	SS	ING	;	SΥ	S1	E	М	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	004
LI	ST	CF	ΡI	ROG	R/	M	DE	LE	ΤI	CN	١S		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	004

List of New Programs

New Entries - Contributed Programs

FILE NUMBER	TITLE	PAGE
	1401 NEW ENTRIES	
01-2-024 01-3-024 01-4-227 10-3-065 10-3-066 14-0-024	ALPHABETIC NAME FILE SEARCHING BASED ON PHOENETICS 1401/1460 PRINT LARGE CONSECUTIVE NUMBERS ON LABELS VARILIST SOCRATES STUDENT SCHEDULING SYSTEM FAST - FULLY AUTOMATIC SCORING TECHNIQUE COPY 1401-AU-008 SYSTEMS PACK TO TAPE THEN TAPE TO 360/2311 IN COMPATIBILITY MODE	3 3 3 3 4
	1440 NEW ENTRIES	
11.5.003	COMPUTER PROGRAM FOR THE IBM 1080 ANALYTICAL DATA ACQUISITION SYSTEM	4

List of Program Corrections and Revisions

PROGRAM Number	MACHINE AREA	DATE
01.5.021	1401	12-02-66
10.3.063	1401	03-13-67
10.3.064	1401	03-13-67
13.1.032	1401	12-05-66
09.3.001	144C	02-02-67

Keyword-in-Context (KWIC) Index

TITLE S	YSTEM	FILE NC.	PAGE
TECH PHASE 2 PKG., UNIT #FAST - FULLY AUTO SCORING	1401	10.3.064	003
#RETAIL ACCOUNTS RECEIVABLE		DR-02X	001
# ACQUISITION SYSTEM		11.5.003	004
PHOENETICS #ALPHABETIC NAME FILE SEARCHING BASED ON	1401	01.2.024	003
AM FCR THE IBM 1080 ANALYTICAL DATA #COMPUTER PROGR	1440	11.5.003	004
AM FCR THE IEM 1080 ANALYTICAL DATA . #CCMPUTER PROGR #FAST - FULLY AUTO SCORING TECH PHASE 2 PKG., UNIT #FAST - FULLY AUTOMATIC SCORING TECHNIQUE - PHASE 1 PR CGRAM #FAST - FULLY AUTOMATIC SCORING TECHNIQUE - PHASE 1 PR	1401	10.3.064	004
CGRAM #FAST - FULLY AUTOMATIC SCORING TECHNIQUE - PHASE 1 PR	1401	10.3.063	003
#AUTOPAC II	1401	01.4.172	003
#BANK MANAGEMENT SIMULATOR	1401	FB-02X	001
AIN AND EXPLODE #BILL OF MATERIAL PROGRAMS TO LOAD, MAINT # EM FILES		12.3.003	004
NARY/ #THE 62 CFO PROGRAM /CONSCLIDATED FUNCTIONS ORDI	1440 1401		004
FREC. DIST. & CORR. CCEFF. MATRIX # POINT PLOT	1401		003
# 360/2311 IN COMPATIBILITY MODE	1401	14.0.024	004
ICAL CATA #CCMPUTER PROGRAM FOR THE IBM 1080 ANALYT	1440	11.5.003	004
	1401	01.3.024	003
ATE WITH CR WITHOUT CONTROL FIELDS #GENERALIZED TABUL #INPUT/CUTPUT CONTROL SYSTEM	1401	01.4.226 IC-065	003
EN TAPE TC #CCPY 1401-AU-008 SYSTEMS PACK TO TAPE TH	1401	14.0.024	004
T PLCT FREG. DIST.& CCRR. COEFF. MATRIX # POIN		10.3.064	003
# PCINT PLOT FREC. DIST.8 CCRR. COEFF. MATRIX	1401	10.3.064	003
TIMING PROGRAM FOR CCS/360 AND TCS/360 TAPE #IBM 1401/60 LCAD, MAINTAIN AND EXPLOCE #BILL OF MATERIAL PROGRAMS TO	1401	LM-010	001
CR WITHOUT CONTROL FIELDS #GENERALIZED TABULATE WITH	1440	01 6 226	004
#ALPHABETIC NAME FILE SEARCHING BASED ON PHOENETICS	1401	01.2.024	003
# BM FILES	1440	12.3.CO3	004
# PGINT PLOT FREG. DIST.& CORR. COEFF. MATRIX	1401	10.3.064	003
CGRAM /CCNSCLICATED FUNCTIONS ORDINARY/ #THE 62 CFO PR TRCL FIELDS #GENERALIZED TABULATE WITH OR WITHOUT CON	1401		001
#INPUT/GUTPUT CONTROL SYSTEM	1401		001
SECUTIVE NUMBERS ON LABELS #14C1/146C PRINT LARGE CON	1401	01.3.024	003
ATERIAL PROGRAMS TO LCAD, MAINTAIN AND EXPLODE #BILL OF M			004
L PREGRAMS TE LEAD, MAINTAIN AND EXPLODE #BILL OF MATERIA #BANK MANAGEMENT SIMULATOR			004
EXPLODE #BILL OF MATERIAL PROGRAMS TO LOAD, MAINTAIN AND	1440	FB-02X 12.3.003	001 004
DIST.& CCRR. COEFF. MATRIX # POINT PLCT FREQ.	1401	10.3.064	003
11 IN COMPATIBILITY MODE # 360/23	1401	14.0.024	004
#ALPHABETIC NAME FILE SEARCHING BASED ON PHOENETICS T LARGE CONSECUTIVE NUMBERS ON LABELS #14C1/1460 PRIN		01-2-024	003
T LARGE CONSECUTIVE NUMBERS ON LABELS #14C1/1460 PRIN SCLICATED FUNCTIONS ORDINARY/ #THE 62 OFD PROGRAM /CON	1401	U1.3.024	001
1401-AU-008 SYSTEMS PACK TO TAPE THEN TAPE TO #COPY	1401	14.0.024	004
# PACKAGE	1401	10.3.063	003
SCCRING TECHNIQUE - PHASE 1 PROGRAM #FAST - FULLY AUTOMATIC UTC SCCRING TECH PHASE 2 PKG., UNIT #FAST - FULLY A		10.3.063	003
SEARCHING BASER ON PHOENETICS #AI PHARETIC NAME GILE	1401	01 2.024	003
ING TECH PHASE 2 PKG., UNIT #FAST - FULLY AUTO SCOR POINT PLOT FREC. DIST.8 CORR. COEFF. MATRIX RIX # PEINT PLCT FREC. DIST.8 CORR. COEFF. MAT	1401	10.3.064	003
# POINT PLOT FREG. DIST-8 CORR. COEFF. MATRIX	1401	10.3.064	003
RIX # PCINT PLCT FREC. CIST.& CORR. COEFF. MAT S #1401/1460 PRINT LARGE CONSECUTIVE NUMBERS ON LABEL	1401	10.3.064	003
S #1401/1460 PRINT LARGE CONSECUTIVE NUMBERS ON LABEL #RETAIL ACCOUNTS RECEIVABLE		DR-02X	003
#RETAIL ACCOUNTS RECEIVABLE		DR-02X	001
#FAST - FULLY AUTO SCORING TECH PHASE 2 PKg., UNIT	1401	10.3.064	003
T - FULLY AUTOMATIC SCORING TECHNIQUE #FAS	1401	10.3.066	004
T - FULLY AUTOMATIC SCORING TECHNIQUE - PHASE 1 PROGRAM #FAS LPHABETIC NAME FILE SEARCHING BASED ON PHOENETICS #A	1401	10.3.063	003
#IEM 1405 TC 1311 SIMULATION SUBROUTINES FOR 1401/1460		01.4.219	003
#BANK MANAGEMENT SIMULATOR	1401	FB-02X	001
#SCRT 5		SM-030	002
# SCRT/MERGE PROGRAM #GENERALIZEC TABULATE WITH CR WITHOUT CONTROL FIELDS	1401	LM-010 01.4.226	001 003
DCS/360 AND TCS/360 TAPE #IBM 1401/60 TIMING PROGRAM FOR		LM-010	001
COS SYSTEMS PACK TO TAPE THEN TAPE TO #CCPY 1401-AU-	1401	14.0.024	004
S PACK TO TAPE THEN TAPE TO #COPY 1401-AU-008 SYSTEM			004
FULLY AUTO SCCRING TECH PHASE 2 PKG., UNIT #FAST - YSTEMS PACK TO TAPE THEN TAPE TO #COPY 1401-AU-OC8 S	1401	10.3.064	003
APE #IEM 14C1/60 TIMING PROGRAM FOR DOS/360 AND TOS/360 T	1401	14.0.024 LM-010	004
RAM FCR CCS/360 AND TCS/360 TAPE #IBM 1401/60 TIMING PROG	1401	LM-010	001
CH PHASE 2 PKG., UNIT #FAST - FULLY AUTO SCORING TE			003
#VARILIST PREGRAM FOR THE IBM 1080 ANALYTICAL DATA #COMPUTER	1401		003 004
O #IBM 1405 TO 1311 SIMULATION SUBROUTINES FOR 1401/146	1440		004
PE TC #CCPY 1401-AU-CO8 SYSTEMS PACK TO TAPE THEN TA	1401	14.0.024	004
ICN SUBROUTINES FOR 1401/1460 #IBM 1405 TO 1311 SIMULAT	1401	01.4.219	003
S CN LABELS #1401/146C PRINT LARGE CONSECUTIVE NUMBER CS/36C TAPE #IBM 1401/60 TIMING PROGRAM FOR DCS/36O AND T	1401	01.3.024	003
1401/1460 #IEM 1405 TO 1311 SIMULATION SUBROUTINES FOR	1401	01.4.219	001
# 360/2311 IN COMPATIBILITY MODE	1401	14.0.024	004
RCINARY/ #THE 62 CFC PROGRAM /CONSOLIDATED FUNCTIONS O	1401	IL-01X	001

1401

1401-AU-037 AUTOCODER PROGRAM
ORDER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 1401-AU-037

PURPOSE TO PROVIDE MORE POWERFUL TOOLS FOR PROGRAMMERS TO ENABLE THEM TO CONCENTRATE THEIR EFFORTS ON THE PROBLEMS OF PROGRAM LOGIC RATHER THAN CODING. IN ADDITION, TO PROVIDE AN EXTREMELY FAST ASSEMBLY SYSTEM. EQUIPMENT SPECIFICATIONS 4000 CORE-STORAGE POSITIONS 4 /FOUR/ 729 II OR IV TAPE UNITS 1403 PRINTER MODEL 3 1402 CARD READ-PUNCH ADVANCED PROGRAMMING FEATURES HIGH-LOW-EQUAL COMPARE THE MUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE TAPES MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL —
DOCUMENTATION — PROGRAM WRITE—UP, OPERATING PROCEDURES.
MACHINE READABLE — ONE TAPE /SYSTEM TAPE AND LISTINGS/.

1401-FB-01X PACKAGE DEMAND DEPOSIT PROGRAM

ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-FB-01X

THE APPLICATION PROGRAM CONTAINS A SERIES OF PROGRAMS FOR PERFORMING THE ENTIRE DEMAND DEPOSIT APPLICATION. SCAND OF THE RUNS HAVE OPTIONS WHICH MAY BE SELECTED BY THE USEW OF THE RUNS HAVE OPTIONS WHICH MAY BE SELECTED BY THE USEW AS SERVICE CHARGE CALCULATIONS, THE USER MUST ENTER HIS OWN PARTICULAR SUB-ROUTINE. THE FOLLOHING RUNS ARE PROGRAMMED. EDIT AND CONVERSION RUN, VALID ITEM RELEASE RUN, TRANSACTION SORT, TRANSACTION MERGE, POSTING RUN, POSTED DETAIL MERGE, SNORT STATEMENT RUN, DETAILED STATEMENT RUN, POSTED DETAIL MERGE, SNORT STATEMENT RUN, DETAILED STATEMENT RUN, NSF RUN. THE PURPOSE OF THIS APPLICATION PROGRAM IS TO ASSIST THE USER IN SYSTEMATICALLY DEFINING THE PROGRAMS HILD ASSIST THE USER IN SYSTEMATICALLY DEFINING THE PROGRAM SECTIONS TAILOR—MAKE HIS PROGRAM BY EASILY SUBSTITUTING SECTIONS TAILOR—MAKE HIS PROGRAM BY EASILY SUBSTITUTING SECTIONS TAILOR—MAKE HIS PROGRAM BY EASILY SUBSTITUTING SECTIONS TAILOR—MAKE TO?9 II SO RO 7330 S. SPECIAL DEVICES RECUIRED INCLUDE ADVANCED PROGRAMMING PRINT STORAGE, HIGH-LOW-EQUAL, SERIAL I/O ADDAFTER, ADDITIONAL PRINT CONTROL AND READ PUNCH RELEASE.

THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE TAPES MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... LISTINGS... FLOWCHARTS.
MACHINE READABLE - SYSTEM TAPE.

FB-02X BANK MANAGEMENT SIMULATOR ORDER THROUGH LOCAL IBM BRANCH OFFIC SPECIFY FILE NUMBER 1401-FB-02X

THE BANK MANAGEMENT SIMULATOR IS AN EXERCISE WHICH SIMULATES THE FEFECTS OF MANAGEMENT DECISIONS IN A \$50 MILLION COMMERCIAL BANK. EACH TEAMS OBJECTIVE IS TO MAKE DECISIONS IN THE MOST PROFITABLE USE OF ITS ASSETS. IN ONE DAY, THE PLAYERS MAKE DECISIONS SIMILAR TO THOSE WHICH MOULD BE MADE OVER A PERIOD OF SEVERAL YEARS. THIS EXPOSING OFFICERS TO ASSET MANAGEMENT DECISIONS IN ANY OTHER WAY. THE COMPUTER APPLIES THE DECISIONS ACAINST A MATHEMATICAL MODEL OF THE BANK, CALCULATES THEIR EFFECT BASED ON THE STATE OF THE ECONOMY THAT HIGHT TAKE PLACE DURING THE PARTICULAR QUARTER OF PLAY. THE RESULTS ARE PRESENTED TO THE PARTICULAR QUARTER OF PLAY. THE RESULTS ARE PRESENTED TO THE PARTICULAR QUARTER OF PLAY. THE RESULTS ARE PRESENTED TO THE PARTICULAR QUARTER OF PLAY. THE RESULTS ARE PARTICULAR QUARTER OF PLAY. THE RESULTS AND THE ACTION OF THEIR VARIOUS DECISIONS. ONE TO NINE TEAMS MAY PARTICULAR FOR THE COMPONIC CLIMATE ESTABLISHED IN THE GOME. A 44 (1401 SYSTEM WITH, THREE TAPE DITYES, CARD INPUT/QUIPDIT, HIGH-LOW-EQUAL, ADVANCED PROGRAMMING AND MULTIPLY-DIVIDE SPECIAL FEATURES.

THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENDED SPECIAL FEATURES.

THE NUMBER OF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENDED SPECIAL FEATURES.

BASIC PROGRAM MATERIAL
DOCUMENTATION - PROGRAM WRITE-UP... OPERATORS GUIDE... PLAYERS

AND EXAMINER INSTRUCTIONS.

CARD DECKS - INITIALIZER PHASE GBJECT PROGRAM DECK... INITIALIZER

DATA DECK... SAMPLE PROBLEM DECK.

ONE MAGNETIC TAPE - CALCULATIONS PHASE OBJECT PROGRAM.

OPTIONAL PROGRAM MATERIAL - ONE MAGNETIC TAPE - ASSEMBLY LISTINGS.

1401-IL-01X THE 62 CFO PROGRAM /CONSOLIDATED FUNCTIONS ORDINARY/ ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-IL-01X

THIS SERIES OF FOURTEEN PROGRAMS IS DESIGNED TO CCMPUTE NET PREMIUNS AND TERMINAL RESERVES FOR MOST PLANS OF INSURANCE. COMPUTE ADJUSTED PREMIUNS AND MINIMUM CASH VALUES FOR THOSE PLANS REQUIRING SUCH VALUES. STORE COMPUTED RESULTS ON MASTER RATE TAPES FOR USE IN THE COMPUTED THE COMPUTED RESULTS IN REPORT FORM FOR VISUAL REFERENCE AND OTHER PURPOSES. MINIMUM INPUT IS REQUIRED FOR MOST PLANS OF INSURANCE. A WHOLE LIFE PLAN REQUIRES THENTY—SIX COLUMNS OF DATA. 62 CFO TERMINAL RESERVE, NET PREMIUMS, AND MINIMUM CASH VALUE PROGRAMS PROVIDE EXTREME FLEXIBILITY IN THE CALCULATION OF TERMINAL RESERVES AND MINIMUM CASH VALUE PROGRAMS PROVIDE EXTREME FLEXIBILITY THE CALCULATION OF TERMINAL RESERVES AND MINIMUM CASH VALUE OF THE PROPERTY OF PROPERTY OF PROPERTY OF PROPERTY. MORTALITY TABLES, INTEREST CARRES, AND METHODS OF VALUATION. USE OF THESE PROGRAMS MILL PROVIDE AN ECOMOMIC MEANS OF PREPARING CONSCLIDATED FILES FOR CONVERSION TO 62 CFO DAILY CYCLE WHICH WILL BE AVAILABLE IN THE THITD QUARTER OF 1963. EACH PLAN OF INSURANCE MUSTING AND PROCESSED THROUGH THE APPROPRIATE CFO PROGRAMS. INITIAL OUTPUT IS IN THE FORM OF MAGNETIC TAPE CONTAINING THE STRUCTURE OF THE THIS SERIES OF FOURTEEN PROGRAMS IS DESIGNED TO COMPUTE

A-1401 PAGE 001

CONTINUED FROM PRIOR COLUMN—
PLAN, THE PREMIUMS, AND RELATED POLICY VALUES. A PRINT
PROGRAM IS PROVIDED WHICH GENERATES DESCRIPTIVE INFORMATION
AND PREPARES A COMPLETE REPORT ION EACH PLAN OF INSURANCE.
THIS SERIES OF PROGRAMS WAS WRITTEN AND ASSEMBLED USING
1401 SPS. 12K 1401 TAPE SYSTEM HITH, 1402 CARD READ PUNCH
MDL 1, 1403 PRINTER MDL 2, FOUR TAPE DRIVES, ADVANCED PROGRAMMING, EXPANDED PRINT EDIT, HIGH-LOW-EQUAL COMPARE,
MULTIPLY-DIVIDE, PRINT CONTROL ADDITIONAL, AND SENSE
SWITCHES SPECIAL FEATURES.
THE NUMBER CF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM
REPRESENTATIVE OR SUPPLIED FOR EACH IJEM THAT IS ORDERED. THE
TAPES MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL
DOCUMENTATION - PROGRAM WRITE-UP... 62 CFO VOLUMES I AND II.

ONE MAGNETIC TAPE - CONTAINS PROGRAM CARDS... MCRTALITY TABLES...

SELECTED THENTY-PAY LIFE PREMIUMS... SELECTED ADJUSTED LIFE PREMIUMS.

CARD DECKS - TAPE-TO-CARD PROGRAM DECK... SAMPLE PROBLEM DECK.

1401-IO-065 INPUT/OUTPUT CONTROL SYSTEM
CREER THROUGH LOCAL IBM BRANCH OFFICE
SPECIFY FILE NUMBER 14C1-IC-065

PURPOSE THE 1401 IOCS CONSISTS OF A SET OF LIBRARY ROUTINES WHICH, WHEN CALLED FOR IN A 1401 AUTOCODER SOURCE PROGRAM BY MACRO INSTRUCTIONS, ARE SELECTED AND TAILORED AND INCLUDED IN THE OBJECT PROGRAM. THESE ROUTINES PERFORM I/O FUNCTIONS AND PROVIDE LINKAGE TO THE USERS OBJECT PROGRAM. THE SPECIFIC STATEMENTS GENERATED AT ASSEMBLY THE OPEND COMPLETELY ON THE PARTICULAR SPECIFICATIONS CONTAINED IN THE USERS SOURCE PROGRAM. USE OF PROGRAM THE 1401 IOCS LIBRARY ROUTINES ARE TO BE PLACED IN THE 1401 AUTOCODER SYSTEM VVERSION 3 OR LATER VERSION/ THROUGH A LIBRARIAN RUN. MACHINE CONFIGURATION THE 1401 IOCS WILL PERFORM THE 1/0 FUNCTIONS AND ASSOCIATED HOUSEKEEPING FOR TAPE, CARD PUNCH AND PRINTER. THE OBJECT MACHINE MUST HAVE, IN ADDITION TO ANY OF THE ABOVE I/O UNITS, ACVANCED PROGRAMMING FEATURES AND THE HIGH-LCM-EQUAL COMPARE FEATURE. THE AMOUNT OF CORE STORAGE REQUIRED VARTES WIDELY FROM PROGRAM TO PROGRAM AND MUST BE DETERMINED AT ASSEMBLY TIME.

THE NUMBER CF TAPES INDICATED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED FOR EACH ITEM THAT IS ORDERED. THE TAPES MUST BE 2400 FEET IN LENGTH.

BASIC PROGRAM MATERIAL
DOCUMENTATION - PROGRAM WRITE-UP... DOCUMENTATION OF THE 1401 IOCS

SYSTEM INCLUDING LANGUAGE SPECIFICATIONS... FLOWCHARTS...

SAMPLE PROBLEM.

CNE MAGNETIC TAPE - 1401 MODEL STATEMENTS IN CARD IMAGE FORM.

1401-LM-010 IBM 1401/60 TIMING PROGRAM FOR DUS/360 AND TOS/360 TAPE SORT/MERGE PROGRAM GROER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1401-LM-010

THIS PROGRAM PROVIDES TIMING ESTIMATES FOR DOS AND TOS TAPE SORT/MERGE PROGRAM WHEN DEPRATING ON A SYSTEM/360 MCDEL 2030 OR MCDEL 2040 MITH A MAXIMUM DOF 256K BYTES OF MAIN STORAGE, A CHANNEL CONFIGURATION OF EITHER ONE MULTIPLEXOR CHANNEL, ONE SELECTOR CHANNEL, OR TWO SELECTOR CHANNELS, OR 2404 MAGNETIC TAPE UNIT AND CONTROL, A 2804 TAPE CONTROL, OR A 2816 SMITCHING UNIT, AND USING 2401, 2402, 2403, OR 2404 TAPE GRIVES. TIMING ESTIMATES FOR THE MODEL 2030 ASSUME A 1.5 MICROSECOND CYCLE TIME. THE PROGRAM WILL PROVIDE ONE MULTIPLEXOR, ONE SELECTOR OR TWO SELECTOR CHANNEL SORT TIMING ESTIMATES FOR SORTING FIXED LENGTH RECORDS WITH A SINGLE CONTROL FIELD. TIMINGS CAN BE OBTAINED FOR SPECIFIC RECORD VOLUMES PREDETERMINED BY THE TIMING PROGRAM. IN ADDITION, MAIN STORAGE UTILIZATION AND MAXIMUM FILE SIZE ARE INCLUDED IN THE PROGRAM OUTPUT. CONTROL CARDS ARE USED TO SUPPLY A DESCRIPTION OF THE SYSTEM AND RECORDS/FILE CONFIGURATION FOR WHICH ESTIMATES ARE REQUIRED. MULTIPLE RECORD/FILE CANDIGURATION FOR WHICH ESTIMATES ARE REQUIRED. MULTIPLE RECORD/FILE CANDIGURATION FOR WHICH ESTIMATES ARE REQUIRED. MULTIPLE RECORD/FILE CANDIGURATION FOR WHICH ESTIMATES ARE REQUIRED. MULTIPLE CANDIGURATION FOR WHICH ESTIMATES ARE REQUIRED. MULTIPLE CANDIGURATION FOR WHICH ESTIMATE AND SYSTEM ACRO TO ESTIMATE TIMES FOR MANY FILE CONFOLURATIONS ON THE SAME SYSTEM. OR, MANY SYSTEMS CHANTED THE TIME FOR SORTING ONE FILE ON SEVERAL DIFFERENT SYSTEMS. MULTIPLE CONTROL CARD SETS CAN BE STACKED TO PROVIDE MULTIPLE ESTIMATES AT THE SAME TIME.

HINTHOM SYSTEM REQUIREMENTS— A LOK 1401 SYSTEM WITH...

ONE 1402 CARD READ PUNCH MODEL 1... UNE 1403 MODEL 2 OR MULTIPLE FEATURE... MULTIPLY/DIVIDE FEATURE... SENSE SWITCHES... ADVANCED PROGRAMMING FEATURE... INDEXING AND STORE ACCRES ARE ADDRESSED FEATURE... SENSE SWITCHES... ADVANCED PROGRAMMING FEATURE... INDEXING AND STORE ACCRESS REGISTER FEATURE... SENSE SWITCHES... SENSE SWITCHES... BADE STORED THE MATERIAL... SENSE SWITCHES... SENSE SWITCHES... SENSE SWITCHES... SENSE SWITCHES... SENSE SWITCHES..

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM MATERIAL LIST... 1401/60 TIMING
PROGRAM FOR BASIC OPERATING SYSTEM/360 TAPE SORT/MERGE
PROGRAM /16K/ MANUAL C24-3439... TAPE SORT/MERGE
/16K/ SPECIFICATIONS MANUAL C24-3438.
MACHINE READABLE - OBJECT UŁCK

1440

* M

1440-DR-02X RETAIL ACCOUNTS RECEIVABLE ORDER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-DR-02X

THIS PROGRAM IS A SYSTEM OF SIXTEEN 1440 RUNS DESIGNED TO AUTOMATICALLY PERFORM RECEIVABLES MAINTENANCE AND BILLING IN MEDIUM-SIZED DEPARTMENT OR SPECIALTY STORES. THE PROGRAM HAS BEEN DESIGNED AS A SERIES OF ROUTINES WHICH PERFORM SPECIFIC FUNCTIONS. BY SELECTING AND COMBINING THESE ROUTINES, SPECIALIZED PROGRAMS FOR A PARTICULAR STORE ARE DEVELOPED-MODIFICATIONS AND REFINEMENTS TO PARAMETERS OF THESE ROUTINES CAN BE MADE TO HAVE THEM APPLY TO A SPECIFIC STORE. THE SYSTEM IS DESIGNED TO ACCOMMODATE FOUR TYPES OF CHARGE ACCOUNTS. THESE ARE- 1/1 30-CAY CHARGE ACCOUNTS... /2/ FIRET REVISION ACCOUNTS.—A MONTHLY PAYMENT BASED ON A PERCENTAGE OF THE BALANCE. TINCLUDES OPTION ACCOUNTS./ ... /3/ FIRED REVOLVING ACCOUNTS.—A FIRED MONTHLY PAYMENT BASED ON THE CREDIT LIMIT OF THE ACCOUNT.—/4/ CONTRACT ACCOUNTS. OR REPREPED PAYMENT ACCOUNTS—A DISTINCT OF THE REPORT OF THE ACCOUNTS.—A CONTRACT ACCOUNTS OF THE REPORT OF THE ACCOUNTS.—ANY GIVEN STORE WILL PURCHASE WITH FIXED MONTHLY PAYMENTS. ANY GIVEN STORE WILL

IBM Programs

PAGE 002

PAGE 002

CONTINUED FROM PRIOR PAGE—

REGBABLY NOT HAVE ALL FOUR TYPES OF ACCOUNTS. HOWEVER, RUNS CAN BE MODIFIED TO DELETE THOSE TYPES OF ACCOUNTS WHICH ARE NOT NEEDED. TRANSACTIONS ARE ENTERED INTO THE SYSTEM IN THE FORM OF PUNCHED CARDS. EDIT AND ACCOUNTING CONTROL FUNCTIONS ARE PEFFORMED, AND THE FOLLOWING MAJOR DUTPUTS ARE PRODUCED BY THE SYSTEM. ADJUSTMENTS LISTING, SERVICE CHARGE ADJUSTMENTS LISTING, CHARGE-OFFS LISTING, CREDITS LISTING, SERVICE CHARGE ADJUSTMENTS LISTING, TRANSACTION REGISTER, SIGNAL MESSAGES, CUSTOMER STATEMENTS, DELINQUENT ACCOUNT LISTING, AGED TRIAL BALANCE LISTING, CONTROL BALANCE LISTING.

FEATURES

DIAGNOSTIC AGED TRIAL BALANCE DESIGNED SPECIFICALLY FOR AUTHORIZATION PURPOSES.

DELINQUENT LISTING TO AUTOMATICALLY SELECT FOR REVIEW AND FOLLOW-UP THOSE ACCOUNTS REQUIRING CREDIT ACTION.

UP TO 20,000 MASTER ACCOUNTS REQUIRING CREDIT ACTION.

SIGNAL MESSAGES PREPARED AS A BY-PRODUCT OF FILE MAINTENANCE WHEN SPECIAL ACTION IS REQUIRED ON ACCOUNT.

AUTOMATIC AGING OF CUSTOMER ACCOUNTS TO 150 DAYS.

AUTOMATIC POSTING OF TRANSACTIONS.

OPERABLE WITH EITHER INTERNAL OR EXTERNAL ACCOUNT NUMBERS.

AUTOMATIC FURSING OF TRANSACTIONS.

OPERABLE WITH EITHER INTERNAL OR EXTERNAL ACCOUNT NUMBERS.

AUTOMATIC RESIDENT OF TRANSACTIONS.

PERPARATIC AGEN CUSTOMER STATEMENTS THROUGH PREPUNCHING OF THE CUSTOMER STATEMENT STUROUR PREPUNCHING OF THE CUSTOMER STATEMENT STUROUR HERDIT OF THE CUSTOMER STATEMENT STUROUR PREPUNCHING OF THE CUSTOMER STATEMENT STUROUR HERDIT OF THE CUSTOMER STATEMENT STUROUR PREPUNCHING OF THE CUSTOMER STATEMENT STUROUR HERDITONS.

PREPARATION OF LABELS FOR PROPODITIONAL MAILINGS ON A SELECTIVE BASIS.

COMPLETE AND AUTOMATIC CONTROLS.

- PREPARATION OF LABELS FOR PROMOTIONAL MAILINGS ON A SELECTIVE BASIS.

- COMPLETE AND AUTOMATIC CONTROLS.

MINIMUM SYSTEM REQUIREMENTS--A 4K 1440 SYSTEM HITH... 1442 CARD READ PUNCH... 1443 PRINTER... 1311 DISK STORAGE DRIVE... INDEXING AND STORE ADDRESS REGISTER, SELECTIVE STACKER, 24 ADDITIONAL PRINT POSITIONS, SELECTIVE CHARACTER SET, 39 CHARACTER SET.

BASIC PROGRAM MATERIAL DOCUMENTATION - PROGRAM WRITE-UP... REFERENCE MANUAL
INCLUDING LISTINGS.
MACHINE READABLE - OBJECT AND SAMPLE PROBLEM DECKS.

OPTIONAL PROGRAM MATERIAL - SOURCE DECKS.
OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-SM-030 SORT 5 CRCER THROUGH LOCAL IBM BRANCH OFFICE SPECIFY FILE NUMBER 1440-SM-030

SORT 5 IS A GENERATIVE SORT PROGRAM DESIGNED FOR GENERATION AND USE ON AN 1EM 1440 WITH AT LEAST ONE 1BM 1311 DISK STORAGE DRIVE, AND A MINIMUM OF 400C POSITIONS OF CORE STORAGE.

THE PROGRAM NOW HAS THE ABILITY TO USE 7335 MAGNETIC TAPE FOR INPUT/OUTPUT FILES AND THE DYTION TO RELOCATE PHASE FOUR OUTPUT TO THE BEGINNING OF THE WORK AREA. THE PROGRAM REQUIRES THE USE OF 1401/144C/1460 AUTOCODER, YOU DISK/ FOR GENERATION OF A SCRI OBJECT PROGRAM. IT IS A GENERATIVE SORT PROGRAM-ALSO NEEDS ID-010 OR UNBLOCKEC, RECORDS IN MOVE MODE INTO EITHER ASCENDING OR DESCENDING SCRUENCE. SORTING CAN BE CONTROLLED BY AS MANY AS TEN CONTROL DATA FIELDS OF TOTAL LENGTH UP TO A MAXIMUM OF 189 CHARACTERS. SORT 5 CAN GENERATE AN OBJECT PROGRAM THROUGH USE OF THE AUTOCODER MACRO-GENERATOR AND PARAMETER CARDS. IT IS FURTHER CLASSIFIED SA A GENERATIZED PROGRAM THROUGH USE OF THE AUTOCODER MACRO-GENERATOR AND PARAMETER CARDS. IT IS FURTHER CLASSIFIED SA GENERATIZED PROGRAM THROUGH USE OF THE AUTOCODER MACRO-GENERATOR AND PARAMETER CARDS. IT IS CURTED SA GENERATIOR FOR THE MACRO-GENERATOR AND PARAMETER CARDS. IT IS CURTED SA GENERATIOR FOR THE MACRO-GENERATOR AND PARAMETER CARDS. IT IS CURTED SA GENERATIOR FOR THE MACRO-GENERATOR AND PARAMETER CARDS. IT IS CURTED SA GENERATIOR FOR THE MACRO-GENERATOR AND PARAMETER CARDS. IT IS CURTED SA GENERATION FOR THE MACRO-GENERATION AND OBJECT TROCRAM CAN USE. IF AVAILABLE, UP TO 5 DISK STORAGE DRIVES AND 8K, 12K, OR 16K CORE STORAGE CAPACITY.

BASIC PROGRAM MATERIAL —
DOCUMENTATION — WRITE-UP... SPECS. AND OPERATING
PROCEDURES... LIBRARY DECK LISTING... PREPHASE PROGRAM
LISTING.
CARD DECKS — LIBRARY ROUTINES FROM WHICH OBJECT PROGRAMS MAY
BE GENERATED... PREPHASE DECK.

1401

1401-01.2.024 ALPHABETIC NAME FILE SEARCHING BASED ON PHOENETICS AVAILABLE 2ND CUARTER 1967. SPECIFY FILE NUMBER 1401-01.2.024

AUTHOR...ROGER A. ROOT

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LCS ANGELES, CALIF.

THIS IS A DEMONSTRATION PROGRAM FOR SEARCHING ALPHABETIC-KEYED NAME FILES ON DISKS USING PHONETIC TECHNIQUES. THE PACKAGE IS EQUIPPED WITH A SAMPLE NAME FILE. IT ALSO CONTAINS PROGRAMS WHICH ALLOW THE USER TO GENERATE THE SPECIFIED FILE FORMAT FROM HIS OWN NAME FILE. INQUIRIES CAN BE MADE FROM THE CONSCLE, REMCTE 1050, OR IN BATCH FORM FROM THE CARD READER. CONTAINS FILE ORGANIZATION AND SEARCH TECHNIQUES BASED ON SOUND OF NAME NOT SPELLING. RETRIEVES DIRECT HITS PLUS NEAR MISSES. CATCHES TRANSCRIPTION ERRORS AND SOUND-ALIKE-BUT SPELLED-CIFFERENT SITUATIONS. NO DEPRATOR CODING. APPLICABLE FOR INSURANCE, BANKING, AIRLINE, STATE AND LOCAL GOVERNMENT-PROVEN RESULTS. FOR 1401, 1440, OR 1460 / INTERCHANGEABLE/, 12K, 1402, 1403, 1407-1447, UP TO FIVE 1311, ONE TAPE DRIVE, ADD POM, SS, AND MPY-DIV. WRITTEN IN AUTOCCOER WITH IDCS. /1448-1050 CPTIONAL/.

THE BASIC PROGRAM MATERIAL IS AVAILABLE ON ONE 2400 FOOT REEL OF MAGNETIC TAPE. THE TAPE REQUIRED MAY BE CROERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED.

1401-01.3.024 1401/1460 PRINT LARGE CONSECUTIVE NUMBERS ON LABELS AVAILABLE 2ND CUARTER 1967. SPECIFY FILE NUMBER 14C1-01.3.024

AUTHOR...PAUL K. CUERR

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PAUL K. CUERR, IBM CORP., DEPT. 317, OMEGO, N.Y. 13827

THE PROGRAM WAS DESIGNED SPECIFICALLY TO EXPLIDE THE SIZE OF CONSECUTIVE NUMBERS TO BE PRINTED ON INCH HIGH LABELS, BUT ANY NUMBERS OF FROM ONE TO NINE DIGITS MAY BE PRINTED. THE NUMBERS PRINTED ARE ALL SLIGHTLY LESS THAN 7/8 INCH IN HEIGHT. ONLY DIGITS, 10, THROLGH, 19, AND BLANKS MAY BE PRINTED. THE PROGRAM MAY BE RIN ON ANY 1401 OR 1400. CORE SIZE IS 1329 LOCATIONS AND NO SPECIAL FEATURES ARE RECUIRED. A CONTROL CARD IS NEEDED FOR EACH APPLICATION. USER ROUTINES MAY BE EASILY INCLUDED. THE SCURCE LANGUAGE FOR THE PROGRAM IS 1401 AUTOCODER.

1401-01.4.172 AUTOPAC II AVAILABLE 4TH QUARTER 1964. SPECIFY FILE NUMBER 1401-01.4.172

AUTHOR...ARLÔN O. HICKMAN IBM CCRP. 1307 S. BOULDER TULSA, OKLA.

THIS IS A PACKAGE OF THREE 1401 PROGRAMS DESIGNED TO AID THE FILE ORGANIZATION PROBLEM ENCOUNTERED MITH DATA PROCESSING SYSTEMS UTILIZING DIRECT ACCESS STORAGE DEVICES. THE FIRST PROGRAM PROVIDES A DISTRIBUTION ANALYSIS OF THE DIGITS WITHIN THE KEYSET., THE SECOND PROGRAM USES TWO ALGORITHMS /RADIX TRANSFORMATION & DIVIDE/REMAINDREM/ UNDER SENSE SWITCH CONTROL TO DEVELOP RANCOM ADDRESSES FROM THE KEYSET., AND THE FINAL PROGRAM EVALUATES THE DEVELOPED ADDRESSES IN TERMS OF UNIQUE ADDRESSES AND SYNONYMS, CYLINDER PACKING AND OVERFLOWS, TOTAL READS AND SYNONYMS, CYLINDER PACKING AND OVERFLOWS, TOTAL READS CYLINDER OF READS TO RETRIEVE A RECORD FROM ANY CYLINDER OF READS TO RETRIEVE A RECORD FROM ANY CYLINDER OF FROM THE ENTIRE FILE. ANY DIME OF THE PROGRAMS CAN BE RUN TO THE EXCLUSION OF THE OTHER TWO AS LONG AS THE INPUT FORMAT REQUIREMENTS ARE MET. THE PROGRAMS LILL HANDLE A CONTROL FILED UP TO 20 CHARACTERS LONG AND ADDRESSES CHERATED CAN HAVE A RANGE FROM COODO TO 99999. THESE PROGRAMS HER WRITTEN IN AUTOCODER AND REQUIRE A 4K 1401 WITH ADVANCED PROGRAMMING, H/L/E COMPARE, SENSE SHITCHES, AND MULTIPLYDIVIDE., A 1402, A 1403, AND 4 TAPE DRIVES.

ONE REEL OF TAPE IS REQUIRED TO OBTAIN THE BASIC PROGRAM MATERIAL. THIS TAPE MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED SHOULD BE 2400 FEET IN LEMGTH.

1401-01.4.219 IBM 1405 TO 1311 SIMULATION SUBROUTINES FOR 1401/1460 AVAILABLE 157 CUARTER 1966. SPECIFY FILE NUMBER 1401-01.4.219

AUTHORS..BARBARA WILLIAMS ALAN KAUFMAN

DIRECT INCUIRIES TO..
BARBARA WILLIAMS, IBM CORP., 330 MADISON AVE., NEW YORK, N.Y.

THESE 1401/1460 SUBROUTINES WILL SIMULATE THE 1405 DISK USING 3311 CRIVES. THE USER NEED SIMPLY SUBSTITUTE APPROPRIATE BRANCH INSTRUCTIONS TO THESE ROUTINES IN PLACE OF HIS 1405 INSTRUCTIONS. ALL DISK CONTROL FIELDS AND I/L AREA DIFFERENCES ARE CONVERTED AUTOMATICALLY TO 1311 FORMAT, THE FUNCTION IS PERFORMED, AND THEN CONTROL FIELD AND 1/O AREAS RESTORED TO 1405 FORMAT. SUBROUTINES ARE IN AUTOCODER SOURCE RESIDERE 10 1405 FORMAL ASSESSMENT AND ANTAGES OF USE ARE INCREASED EFFICIENCY OF 1311 DRIVE OVER 1405 PLUS THE ABILITY TO RUN 1405 PROGRAMS ON S/360 USING THE EMULATOR.
REQUIREMENTS FOR USE ARE— 2K STORAGE /ADDITIONAL OVER OBJECT PROGRAM, HI-LO-EQUAL COMPARE, ADVANCED PROGRAMMING AND ONE-1311 DRIVE FOR EVERY 2 MILLION CHARACTERS OF CONTIGUOUS ON-LINE 1405 DISK STORAGE.

1401-01.4.226 GENERALIZED TABULATE WITH OR WITHOUT CONTROL FIELDS
AVAILABLE 1ST CUARTER 1967.

B-1401

PAGE 003

CONTINUED FROM PRIOR COLUMN--SPECIFY FILE NUMBER 1401-01-4-226

AUTHOR...E. STAUDT

DIRECT INCUIRIES TO..
E. STAUDT, AVISUN CORP., RIVER RD., NEW CASTLE, DEL. 19720

THE PURPOSE OF THE PROGRAM IS TO ELIMINATE THE NECESSITY FOR MANY INDIVIDUAL PROGRAMS REQUIRED AT A 1401 INSTALLATION TO TABULATE CONTROL AND BALANCE TOTALS AND TO PROVIDE FOR UP TO THREE CONTROL FILLDS TOTAL INDICATIONS AS WELL AS A FINAL TOTAL. A MAXIMUM OF FIVE FIELDS PER ANY GIVEN CARD FILE CAN BE TABBED WITH OR WITHOUT CONTROL FIELD TOTALS AND A FINAL TOTAL. THE USER MAY SPECIFY UP TO THREE CONTROL FIELD CHECKS. THE USER MAY ASD LIST EACH CARD /CONTROL FIELD CEVELS. THE USER MAY ASD LIST EACH CARD /CONTROL FIELDS/ WITH THE ASSOCIATED TAB FIELDS. REQUIRES 4K STORAGE.

1401-01.4.227 VARILIST AVAILABLE 2ND CUARTER 1967. SPECIFY FILE NUMBER 1401-01.4.227

AUTHOR...ECWARD GIEGLER

DIRECT INCUIRIES TO..

MR. GRAHAM KIMBLE, DIRECTOR OF DATA PROCESSING,
CARLETON COLLEGE, NORTHFIELD, MINN.

VARILIST - A LOAD AND GO PROCESSOR FOR GENERATING FAST RUNNING LISTING PROGRAMS. USES A SINGLE CONTROL CARD PLUS HEADING CARCS. FOR USE ON A 4K 1401 WITH SENSE SWITCHES, EXPANDED PRINT EDIT, AND 120 PRINT POSITIONS.

1401-10-3-063 FAST - FULLY AUTOMATIC SCORING TECHNIQUE - PHASE 1 PROGRAM PACKAGE AVAILABLE 4TH CUARTER 1966. SPECIFY FILE NUMBER 1401-10-3-063

AUTHOR...MR. C.F. WILKES

DIRECT INCUIRIES TO..
MR. C.F. WILKES, IBM CORP., 112 E. POST RD., WHITE PLAINS, N.Y.

MR. C.F. MILKES, IBM CORP., 112 E. POST RD., HHITE PLAIRS, N.Y. FAST PROGRAMS ARE DESIGNED TO ACCEPT-FAST—TEST ANSMER CARDS, A VERTICALLY ORIENTED, TWO-COLUMN PER SIDE MARK-SENSE CARD ON MHICH A TEST SUBJECT MARKS HIS RESPONSES. ITHIS TYPE OF RESPONSE HILL BE SCORED WITHIN THE COMPUTER. IN ADDITION, KEY PUNCHED OR 1230/534 PUNCHED RAM SCORES CAN BE ACCOMMODATED. RECARDLESS OF INPUT METHOD, RAM SCORES ARE CONVERTED TO DERIVED SCORES, LISTED IN VARIOUS SEQUENCES, PRINTED ON PRESSURE—SENSITIVE LABELS, AND PRODUCE PROFILE CARDS. A FIVE-POINT FREQUENCY DISTRIBUTION CAN BE PRODUCED. CAN BE RUN ON 1401, 1440 OR 1446 SYSTEMS, WITH MK, ONE 1311 DISK DRIVE, ADVANCED PROGRAMMING, HIGH-LOME-EQUAL COMPARE, SIT-TEST, AND ANY 1401/40/60 I/O HARDWARE. IF FAST MARK-SENSE CARDS ARE USED, MUST HAVE COLUMN BINARY OR CARD IMAGE FEATURE. ONE ADDITIONAL 1311 DRIVE REQUIRED IF DISK RECORDS ARE SORTED FOR ADDITIONAL LISTING SEQUENCES.

THE BASIC PROGRAM MATERIAL IS AVAILABLE IN CARD FORM OR ON ONE 7-TRACK /OATA CONVERSION FEATURE REQUIRED/ OTR.
THE DTE MILL BE SUPPLIED BY PID - NO TAPE SUBMITTAL IS REQUIRED.

1401-10.3.064 FAST - FULLY AUTO SCORING TECH. - PHASE 2 PKG., UNIT POINT PLOT FREQ. DIST.& CORR. COEFF. MATRIX AVAILABLE 2ND CUARTER 1967. SPECIFY FILE NUMBER 1401-10.3.064

AUTHORS..MR. C.F. WILKES M.N. SAMUEL

DIRECT INCUIRIES TO...
MR. C.F. MILKES,IBM CORP.,112 E. POST RD.,MHITE PLAINS, N.Y.

THIS PACKAGE CONTAINS TWO PROGRAMS. THE FIRST PRINTS AND PLOTS A UNIT POINT FREQUENCY DISTRIBUTION. A MORMAL CURVE IS GVERLAID FOR COMPARATIVE PURPOSES. STATISTICS INCLUDE THE MEAN, STANDARD ERROR OF THE MEAN, MEAN DEVIAITON, STANDARD DEVIAITON, STANDARD DEVIAITON, STANDARD STANDARD DEVIAITON, STANDARD DEVIAITON, STANDARD STANDARD DEVIAITON, STANDARD STANDARD PROGRAMP OF THE MEDICAL PROCESSION OF THE SECOND PROGRAM PRINTS A MATRIX OF COVARIANCE CORRELATION COEFFICIENTS. UP TO 15 SCORES CAN BE CORRELATED SIMULTANEOUSLY, WITH OUTPUT OF A 14314 TRIANGULAR MATRIX. BOTH PROGRAMS RUN ON A 1401, 1440 OR 1460 WITH 8K, ONE 1311, ADVANCED PROGRAMMING, HIGH-LON-EQUAL COMPARE, BIT TEST, AND ANY I/O HARDWARE.

NOTE- FAST-FULLY AUTOMATIC SCORING TECHNIQUE-PHASE I IS A NECESSARY PREREQUISITE FOR THE USE AND UNDERSTANDING OF THIS PROGRAM. IF NOT ALREADY IN THE USERS POSSESSION IT SHOULD BE ORDERED FROM PID BY REQUESTING FILE NUMBER 1401-10-3-063.

THE BASIC PROGRAM MATERIAL IS AVAILABLE IN CARD FORM OR ON ONE 7-TRACK /OATA CONVERSION FEATURE REQUIRED/OTR-. THE DTR MILL BE SUPPLIED BY PID - NO TAPE SUBMITTAL IS REQUIRED.

1401-10.3.065 SOCRATES STUDENT SCHEDULING SYSTEM

AVAILABLE 2ND QUARTER 1967. SPECIFY FILE NUMBER 1401-10.3.065

AUTHORS...C.F. WILKES B.J. NEVIL J.R. COTTRELL J.N. KESSELMAN M.N. SAMUEL

DIRECT INQUIRIES TO...
CHARLES F. WILKES, IBM CORP., 112 E. POST RD.,
WHITE PLAINS, N.Y. 10601

2200000\$SOCRATES PROVIDES AN IN-HOUSE SYSTEM FOR SCHEDULING SECONDARY SCHOOL STUDENTS INTO CLASSES OF GRADES SEVEN THROUGH TWELVE. THE SYSTEM SCHEDULES PERIODS ZERO THROUGH TEN FOR TWO REGULAR SEMESTERS SIMULTANEOUSLY, OR ONE SPLIT-WEEK SEMESTER. FEATURES INCLUDE ABILITY GROUPINGS, TEACHER SELECTION, GRADE RANGE SELECTION, SEX SELECTION, ALTERNATE COURSE RECUESTS, STUDY HALL SCHEDULING, BLOCKED COURSES, AND MAXIMUM CLASS BALANCING CONSISTENT WITH MINIMUM REJECTS.

CONTINUED FROM PRIOR PAGE--

INCLUDES A COMPLETE SERIES OF PROGRAMS TO SIMPLIFY DATA COLLECTION, CORRECTIONS, SCHEDULING AND ANALYSIS. FILE MAINTENANCE PROGRAMS PERMIT INDIVIDUAL OR MASS CHANGES. OUTPUT REPORTS INCLUDE VERTIFICATION LISTINGS, SIMPLE TALLY, COMFLICT MARIX, ANALYSIS OF REJECTS, CLASS LOAD ANALYSIS IN SECUENCE BY ROOM, TEACHER, PERIDD AND COURSE, AND STUDENTS SCHEDULE LISTING MITH CARD OUTPUT OPTION. COMPREHENSIVE EDIT PROGRAMS ASSURE CLEAN DATA PRIOR TO SCHEDULING, RUNS ON MINIMUM EX 1401/40/60 MITH BIT TEST, HIGH-LOM-EQUAL COMPARE, ADVANCED PROGRAMMING, ONE 1311 DISK DRIVE, AND ANY 1/0 CONFIGURATION.

\$TC OBTAIN THE BASIC PROGRAM MATERIAL THE REQUESTOR MUST SUBMIT ONE 1316 DISK PACK.

1401-10.3.066 FAST - FULLY AUTOMATIC SCORING TECHNIQUE AVAILABLE 2ND CUARTER 1967. SPECIFY FILE NUMBER 1401-10.3.066

AUTHOR...CHARLES F. WILKES

DIRECT INQUIRIES TO..
CHARLES F. WILKES, IBM CORP., 112 E. POST RD.,
WHITE PLAINS, N.Y. 10601

WHITE PLAINS, N.Y. 10601

THIS PROGRAM PRODUCES A TEST ITEM ANALYSIS FCR UP TO FIVE VALID RESPONSES, PLUS ONITS OR INVALIDS FOR EACH TEST QUESTION. INDIVIDUAL RESPONSE TALLIES ARE PRINTED ON A SINCLE LINE FOR THREE GROUPINGS OF STUDENTS WITHIN EACH TEST PART - TOTAL STUDENTS, THE UPPER 27 PER CENT AND THE LOWER 27 PER CENT AND THE LOWER 27 PER CENT AND THE LOWER 27 PER CENT THE REPORT PRINTS THE QUESTION NUMBER, IDENTIFIES THE CORRECT RESPONSE, AND SHOWS THE COUNT AND PERCENTAGE OF STUDENTS SELECTION EACH POSSIBLE RESPONSE FOR THE THREE GROUPS. THIS PERMITS EVALUATION OF ITEM DIFFICULTY AND DISCRIMINATION, OR USE WITH A TABLE FOR DETERMINE THE NORMALIZED BI-SERIAL COEFFICIENTS OF CORRELATION. PROGRAM RUNS ON A 1401/40/40 MITH 8K, THO 1311 DISK DRIVES, ADVANCED PROGRAMMING, HIGH-LOM-EQUAL COMPARE, COLUMN BINARY OR CABD INAGE, BIT TEST, AND ANY 1/O HARDWARE. FAST CARDS MUST HAVE BEEN USED MITH THE FAST PHASE ONE PROGRAM PACKAGE, FILE NUMBER 1401-10.3.063.

THE BASIC PROGRAM MATERIAL CAN BE OBTAINED IN CARD FORM OR ON ONE 7-TRACK /DATA CONVERSION FEATURE REQUIRED/ DT. THE DTR WILL BE SUPPLIED BY PID - NO TAPE SUBMITTAL IS REQUIRED.

1401-14.0.024 COPY 1401-AU-008 SYSTEMS
PACK TO TAPE THEN TAPE TO 360/2311 IN COMPATIBILITY MODE
AVAILABLE 2ND QUARTER 1967SPECIFY FILE NUMBER 1401-14.0.024

DIRECT INQUIRIES TO..

MR. J.A. WINGER, IBM CORP., 1211 SOUTH HARRISON ST.,
FORT WAYNE, IND.

THIS PROGRAM WILL COPY A 1401-AU-008 AUTOCODER SYSTEMS PACK
TO TAPE IN ODD PARITY ON A 1440 OR 1401 AND BY CHANGING
SENSE SWITCH SETTINGS WILL COPY TAPE TO DISK ON EITHER 1400
SERIES OR ANY 360 EQUIPPED WITH COMPATABILITY. RECORDS ARE READ
AND WRITTEN ON DISK IN THE TRACK SECTOR FORMAT. MOVE MODE
RECORDS ARE WRITTEN ONTO TAPE WITHOUT MODIFICATION. LOAD
MODE RECORDS ARE WRITTEN ONTO TAPE IN MOVE MODE WITH AN
ADDITIONAL RECORD WHICH INDICATES WORD MARK LOCATIONS.
BECAUSE THE SYSTEMS PACK CONTAINS WORD-SEPARATOR CHARACTERS,
CURRENT IBM UTILITY PROGRAMS WILL NOT WORK. THERE ARE MANY
DIFFERENT COMBINATIONS OF INFORMATION ON A 1401-AU-008
SYSTEMS PACK., THEREFORE, THE MUTHOR HAS MADE THE PROGRAM
GEMERAL EMOUGH TO HANDLE ANY SITUATION.
PROGRAM REQUIRES 8K, ADVANCED PROGRAMMING, SENSE SWITCHES,
120 PRINT POSITIONS, 1 DISK AND 1 TAPE. DIRECT SEEK IS USED
IF AVAILABLE.

1440

1440-11.5.003 COMPUTER PROGRAM FOR THE IBM 1080 ANALYTICAL DATA ACQUISITION SYSTEM AVAILABLE 2ND.CUARTER 1967. SPECIFY FILE NUMBER 1440-11.5.003

AUTHOR...W.R. WHITTLE

DIRECT INCUIRIES TO.. W.R. WHITTLE, IBM CORP., 2651 STRANG BLVD., YORKTOWN HEIGHTS, N.Y. 10598

YUKKIOHN HEIGHTS, N.Y. 10598

THIS IS A 1440 RROGRAM DESIGNED TO PROCESS THE PUNCHED CARD OUTDUT OF THE 18H 1080 ANALYTICAL DATA ACQUISITION SYSTEM SERVICING TECHNICON AUTO ANALYZERS AND ONE OR MORE 18M 1084 SAMPLE IDENTIFICATION TURNIBABLES, ALL OPERATING IN A CLINICAL LABORATORY ENVIRONMENT. IT MATCHES SPECIMEN IDENTIFICATION NUMBERS MITH THEIR RAM DATA VALUES, MAKES ADJUSTMENTS FOR DRIFT, BASELINE SHIFT, AND INTERACTION. INCRAFIZES THE DATA, AND COMPUTES SPECIMEN CONCENTRATIONS. A QUALITY CONTROL REPORT IS PRODUCED MHICH SUMMARIZES THE AUTO ANALYZER RUNS, AND EACH TEST RESULT AND SPECIMEN IDENTIFICATION NUMBER IS STORED IN DISK MEMORY. THE USER THEN MUST WRITE A PROGRAM TO STORE THE RESULTS IN THE PATIENT FILE. THE PROGRAM TO STORE THE RESULTS IN THE PATIENT FILE. THE PROGRAM REQUIRES &K CORE STORAGE, A 1447-2, ONE 1311, A 1442, AND A 1443.

OPTIONAL MATERIAL - SOURCE DECKS. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440-12.3.003 BILL OF MATERIAL PROGRAMS TO LOAD, MAINTAIN AND EXPLODE BM FILES AVAILABLE 1ST QUARTER 1967. SPECIFY FILE NUMBER 1440-12.3.003

AUTHOR...MR. JCHN VONJESS

IBM

International Business Machines Corporation Data Processing Division 112 East Post Road, White Plains, N.Y. 10601 (USA Only)

IBM World Trade Corporation 821 United Nations Plaza, New York, New York 10017 (International)

CONTINUED FROM PRIOR COLUMN--

DIRECT INQUIRIES TO..
MR. JOHN VONJESS, IBM CORP., 4CO NYMAN ST., WALTHAM, MASS.

THESE PROGRAMS, DESIGNED FOR THE 4K USER, WILL LOAD A BILL CF MATERIAL FILE, MAINTAIN THE FILE WITH ADDITIONS, DELETIONS AND CHANGES. THE LOADING PROGRAM REDUCES THE PART NUMBER OF THE COMPONENTS DOWN TO A FIVE DIGIT ADDRESS SO THAT APPROXIMATELY SIX COMPONENTS CAN BE LOADED IN A SECTOR WITH A COMPLETE WHERE-USED INDEX GENERATED AT THE SAME TIME. CONTROLS ARE MAINTAINED IN EACH PROGRAM. THE EXPLOSION PROGRAM PREMITS THE EXPLOSION OF A BILL WITH SUBSTITUTIONS. INCLUDED ARE THO INQUIRY PROGRAMS WHICH WILL GIVE A COMPLETE WHERE-USED REPORT FOR 1 LEVEL UP AND A BM LISTING OF 1 LEVEL UP AND A BM LISTING OF THE CUSTOMER COUNTY OF THE CONTROLS TO SUIT HIS NEEDS. MACHINE REQUIREMENTS—1440—4K PLUS, 1442, 1443, 1447 MODEL 2 1311 AS REQUIRED—MINIMUM 1, ADVANCED PROGRAMMING, SCAN, AND SENSE SMITCHES.

List of Program Deletions

ALPHABETIC KEY - REASON FOR REMOVAL

- THIS PROGRAM HAS BEEN CELETED BECAUSE OF LOW USAGE.
 THIS PROGRAM HAS BEEN DELETED BECAUSE OF LIMITED USEFULNESS.
 THIS PROGRAM IS OBSOLETED AND REPLACED BY FILE NUMBER ————
 THIS PROGRAM HAS BEEN WITHDRAWN BY THE AUTHOR.

Deletions Appearing for The First Time

FILE NUMBER

TITLE

REASON FOR DELETION

1401 DELETIONS

01.1.030	SYMBOLIC LABEL CHECKING, ANY MACHINE S.P.S.	
01.1.046	LABEL CHECKES /SPS/	
01.2.011	THREE TAPE SORT PROCESSOR	-
01.2.016	THO-TAPE SORT	
01.3.004	SLIP /SYMBOLIC LANGUAGE INSERT PACKAGE/ /CARD/	
01.3.008	SLIP III SYMBOLIC LANGUAGE INSERT PACKAGE	
01.3.015	TABTEK, A PROGRAM TO GENERATE A PROGRAM FROM TABULAR INPUT	
01.4.009	ZIP /INSTANT PRINTING/	
01.4.036	SEE - SELECTIVE EIGHTY-EIGHTY PROGRAMS	
01.4.045	CARD AND TAPE SELECTIVE LISTER	
01.4.055	KEEP .	
01.4.060	SEQUENTIAL NUMBER ASSIGNER FOR FOURTEEN-O-ONE USERS /SNAFU/	
01.4.061	MODULAR PROGRAMMING CONCEPT FOR MACRO-ORIENTED PROBLEMS /MOPMOP/	,
01.4.062	GENERAL PURPOSE MACROS FOR DIV. CONVERSION OF DATES TO	
	JULIAN DAYS, SIMPLE READ/WRITE TAPE IOCS	
01.4.082	SYLVANIA PRINT RCUTINE	
01-4-109	TLU01 TABLE LOOKUP CLOSED SUBROUTINE	,
01.4.110	SPECIAL FEATURE MULTIPLY AND DIVIDE MACROS	
01.4.118	REPRO-REPRODUCE AND/OR EMIT ALPHANUMERIC /12-9/, NUMERIC	
	/0-9/ ONLY, AND NUMERIC ZONE /12-11/ ONLY	
01-4-144	AIC /AUTOMATIC INPUT DEFINER/ /CARD/	
01.4.182	COPY 1311 DISK FILE TO 1EOF	
01.4.192	CHRISTMAS CLUB PROGRAMMING PACKAGE	
01.4.206	GENERALIZED CARD IMAGE UPDATE PROGRAM	-
01.4.213	1401/1440/1460 BCC-BCD CONVERSION SUBROUTINE	,
01.4.214	THO COLUMN ANALYSIS	
01.5.008	AUTOCORRELOGRAM AND CROSSCORRELOGRAM	
01.5.010	MULTI PURPOSE EXTRACT AND SELECT	
01.5.018	SIOCS- A SHORT INPUT/OUTPUT CONTROL SYSTEM	
01.5.019	MASTER UTILITY SYSTEM	
02.0.032	MODIFIED FORTRAN COMPILER	-
03.0.004	FLOATING POINT SUBROUTINES /NORMALIZED	-
03.0.013	E TO THE X AND E TO THE -X SUBROUTINE /FIXED POINT/	
03.0.020	FIXED POINT SQUARE ROOT SUBROUTINE	,
03.0.028	MULTIPLY SUBROUTINE /130 POSITION/	-
05.0.001	MIP /MATRIX INVERSE PROGRAM FOR THE IBM 1401/ /CARD/	
07.0.005	1401/1460 SUBROUTINE FOR MODULUS II CALCULATIONS FOR A 9 DIGIT NUMBER	1
10.3.030	INVENTORY MANAGEMENT SIMULATOR SELECTION PROGRAM	-
10.3.037	PROGRAM TO PRODUCE MULTIPLE INDEXES	
11.0.003	A PROGRAM FOR SOLVING SYSTEMS OF LINEAR EQUATIONS ON THE IBM 1401	,
14.0.021	THE IBM 1012 TAPE PUNCH AS A TAPE READER	,

1440 DELETIONS

A PROGRAM TO DEMONSTRATE THE USE OF THE IBM 1440/1311 FOR LIBRARY CIRCULATION CONTROL 13.0.001

Previous Deletions

FILE NUMBER

1401 DELETIONS

REASON FOR DELETION

01.1.033	1401/1410 PRE-ASSEMBLY PROGRAM EDIT AND REFERENCE /PAPER/	,
01.2.013	CARD SURTER	
01.2.020	GENERALIZED THREE TAPE SORT PROGRAM	
01.2.021	THREE DISK SORT -SORT 72	A
01.4.008	BINARY TAPE DUMP	A
01.4.040	CNE CARD 80 - 80 LIST	A
01.4.091	SCANX MACRO FOR THE 1401 AUTOCODER	A
01.4.132	AUTOCODER SEQUENCE CHECKING PROGRAM	Á
02.0.005	FARGC MODIFIED	A
03.0.022	BINARY AUTOMATIC MULTIPLY SUBROUTINE /BAMS/	A
09.2.022	FLOOD PLAIN ANALYSIS PROGRAM	A
10.3.004	SDI 3 FOR THE IBM 1401 DATA PROCESSING SYSTEM	A
10.3.031	NODE NUMBERING	A

Technical Newsletter

File Number 1401/1440-20

Re: Form No. C20-1601-7

This Newsletter No. N20-0013-13

February 29, 1968 Date

Previous Newsletter Nos. None

CATALOG OF PROGRAMS FOR IBM 1240, 1401, 1420, 1440 and 1460 DATA PROCESSING SYSTEMS - February 1968 Supplement

This publication is a Supplement to the "Catalog of Programs for IBM 1240, 1401, 1420, 1440 and 1460 Data Processing Systems", Form No. C20-1601-7.

Complete instructions for using the KWIC Index and for ordering programs are included in the Catalog. Programs will not be supplied by authors and should not be requested from them.

It is possible to obtain card decks for one or more card programs on a single reel of magnetic tape. The decks will be copied in card image format. The tape supplied must be a full reel (2400 feet) and in a standard tape container.

This Supplement contains information about changes in the status of the libraries since the publication of the December, 1967 Catalog, (Form No. C20-1601-7). It incorporates the changes that have occurred since then. It consists of the following sections:

- 1. Abstracts for the new and revised programs.
- 2. A list of Types III and IV program corrections and modifications (if applicable).
- A list of program deletions (if applicable).

The following codes appear at the extreme right end of the title line for each abstract that is new or that has been revised in this issue of the Supplement:

- *N This symbol indicates a new program.
- *M This symbol indicates that the title of the program has been modified when it appears only at the extreme right end of the title line.
- *M This symbol indicates that the text of the abstract has been modified when an additional *M or * alone appears at the extreme right end of each line of the abstract that has been modified.
- *R This symbol indicates that the entire text of the abstract has been revised.

1401

1401-14.0.026 REAL ESTATE TAX BILL SYSTEM FOR THIRD CLASS PENNSYLVANIA COUNTIES AVAILABLE 1ST QUARTER 1968-SPECIFY FILE NUMBER 1401-14.0.026

AUTHOR...J.G. WALTERICK

DIRECT INQUIRIES TO..

J.G. WALTERICK, IBM CORP., 413 W. STATE ST., TRENTON, N.J.

THIS PROGRAM CALCULATES AND PRINTS REAL ESTATE TAX BILLS GIVEN THE ASSESSMENT AND MILLAGE RATES TO PROVIDE SUMMARY CARDS DURING CALCULATION TIME FOR LATER GENERATION OF MONTHLY REPORTS.

SOURCE LANGUAGE- AUTOCODER.

MINIMUM SYSTEM REQUIREMENTS- 1401, 4K, 1403, 1402, ADVANCED PROGRAMMING.

NOTE- THE BASIC PROGRAM MATERIAL CAN BE OBTAINED IN CARD FORM.

1401-14.0.027 EXTENDED PERFORMANCE COMPUTER ASSISTED INSTRUCTION OPERATING SYSTEM FOR 1401-1026 AVAILABLE IST QUARTER 1968. SPECIFY FILE NUMBER 1401-19.0.027

AUTHORS...JUDITH MILLER MR. W.S. WENGERT

DIRECT INQUIRIES TO..

JUDITH MILLER, IBM CORP., 1825 K ST., N.W.,
WASHINGTON, D.C. 20036

THIS SYSTEM OF AUTOCODER PROGRAMS IS AN EXPANSION OF THE IBM 1401, 1440 OR 1460 CAI OPERATING SYSTEM PROVIDING EXTENDED CAPABILITIES FOR COURSE GENERATION AND SYSTEM CONTROL, INCLUDING SUPPORT FOR AUDIOLYSIAUA DEVICES, ADDITIONAL LANGUAGE FEATURES, A CARD INPUT SYSTEM, ADDITIONAL ADMINISTRATIVE CONTROL AND IMPROVED SYSTEM PERFORMANCE. THE SYSTEM PACK, INITIALIZE THE SYSTEM, EXTRACT AND PRINT RECORDINGS AND PERFORM VARIOUS OFF—LINE OPERATIONS SUCH AS PRINTING COURSE MATERIAL AND/OR STUDENT INFORMATION.

MINIMUM CONFIGURATION IS A 12K 1401-1026 WITH ADVANCED PROGRAMMING, BIT TEST, HIGH-LOW-EQUAL COMPARE, AMD SENSE SMITCHES. ONE 1311 DISK DRIVE, DIRECT SEEK, DNE 1026 AND 1 1050.

ALL PROGRAMS ARE CODED IN THE DISK AUTOCODER SOURCE LANGUAGE. TWO 1311 DISK DRIVES WILL BE REQUIRED IF THE MAIN PROGRAM IS RECOMPILED.

BASIC PROGRAM MATERIAL- CAN BE OBTAINED IN CARD FORM OR ON ONE 7-TRACK DTR. THE DTR WILL BE SUPPLIED BY PID - NO TAPE SUBHITTAL IS REQUIRED.

OPTIONAL PROGRAM MATERIAL- AVAILABLE ON ONE 7-TRACK REEL OF MAGNETIC TAPE.

NOTES- THE TAPE REQUIRED MAY BE ORDERED FROM YOUR IBM REPRESENTATIVE OR SUPPLIED. THE TAPE PROVIDED MUST BE 2400 FEET IN LENGTH. IF THE TRACK REQUIREMENT IS NOT INDICATED 9-TRACK WILL BE FORMANDED. OPTIONAL MATERIAL DESIRED MUST BE ITEMIZED ON THE ORDER CARD.

1440

1440-02.3.002 ONE CARD 80-80 CARD TO PRINTER PROGRAM WITH BRANCH ON OVERFLOW AVAILABLE 4TH QUARTER 1965. SPECIFY FILE NUMBER 1440-02.3.002

AUTHOR...J.G. OREILLY 155, HONEY LANE WALTHAM ABBEY ESSEX ENGLAND

DIRECT INQUIRIES TO AUTHOR

THIS PROGRAM LISTS CARDS AND BRANCHES TO CHANNEL ONE ON SENSING CHANNEL TWELVE. STORAGE REQUIREMENTS- 181 POSITIONS. EQUIPMENT SPECIFICATIONS- 1440 WITH 1443 AND 1442/1402.

List of Program Corrections and Revisions

ORDER Number MACHINE AREA DATE DOCUMENTATION CHANGE ONLY 02.3.002 1440 1-08-68

List of Program Deletions

ALPHABETIC KEY TO REASONS FOR REMOVAL.

- THIS PROGRAM HAS BEEN DELETED BECAUSE OF LOW USAGE.
 THIS PROGRAM HAS BEEN DELETED BECAUSE OF LIMITED USEFULNESS.
 THIS PROGRAM IS OBSOLETED AND REPLACED BY ORDER NUMBER ----THIS PROGRAM HAS BEEN WITHDRAWN BY THE AUTHOR.
- Deletions Appearing for the First Time

REASON FOR DELETION ORDER NUMBER TITLE

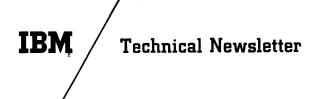
1401 DELETIONS

01.1.006		A
01.1.013		A
01.1.040		A
01.1.045		A
01.1.049		A
01.1.050		A
01.1.054		A
01.2.007		A
01.2.009	SECER TO SEQUENCE CHECK A FILE OF CARDS ALPHA NUMERICALLY AND/OR NUMERICALLY	Α
01.2.019		Α
01.3.016	GENERAL PURPOSE PROGRAMS FOR DATA REDUCTION ON THE IBM 1401	
	TAPE SYSTEM	A
01.3.017	DOWGO LOAD AND GO REPORT GENERATOR	A
01.4.038		A
01.4.048	SINGLE CARD LIST WITH SKIP	A
01.4.050		Δ
01.4.052		A
01.4.064		A
01.4.065		A
01.4.098	RANDOM ADDRESS TRANSFORMATION EVALUATION PROGRAM	A
01.4.163	FORM WRITING SUBROUTINE	A
02.0.023		A
02.0.029		A
06.0.019	LOG SCALE VERSUS TIME SCALE GRAPHICAL PRINTOUT	A
10.3.027	LESS NODE NUMBERING PROGRAM	A
10.3.038		A
10.3.040	BOND INVENTORY OR VALUATION	A
10.3.043	DETERMINATION OF PAYROLL HOURS FROM 357 JOB-IN AND CLOCK-OUT CARDS	
10.3.045	SYNTRAN AN INDEXING ABSTRACTING AND RETRIEVAL SYSTEM	A
10.3.048	SYSTEM FOR INFORMATION STORAGE, RETRIEVAL, AND DISSEMINATION	A
10.3.058	ORDER RECEIVING SYSTEM	A
10.3.060	CIRCULATION SYSTEM	A
10.3.061	SERVICE INFORMATION SYSTEM	A
10.3.062	HISTORY REPORTING SYSTEM LIBRARY ACTIVITY DATA STATISTICAL RECAP	Δ
14.0.005	F A P I PROGRAM /FOURTEEN-O-ONE AUTOMATIC PLOTTER I/	A
14.0.014	LEASE-VS. ANALYSIS, BOB CIRCULAR A-54	A
14.0.015	1401/360 TIMING CALCULATION AID PROGRAM	A
14.0.016	AUTOMATIC EDITING AND LINE LENGTH MODIFICATION OF RUNNING TEXT	Δ

02.4.001	ONE CARD INVALID CHARACTER DETECTION PROGRAM
02.7.006	SELF-LOADING CORE DUMP
02.9.001	NAME AND ADDRESS FILE MAINTENANCE PROGRAM
03.3.001	SPS TO AUTOCODER CONVERSION PROGRAM
00 2 001	UPNDOD ANALYSIS DATTIS SYSTEM

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File Number 1401/1440-20

Re: Form No. C20-1601-9

This Newsletter No. N20-0013-18

Date June 1, 1969

Previous Newsletter Nos. None

CATALOG OF PROGRAMS FOR IBM 1240, 1401, 1420, 1440, 1450 and 1460 DATA PROCESSING SYSTEMS — June 1969 Supplement

This publication is a Supplement to the "Catalog of Programs for IBM 1240, 1401, 1420, 1440 and 1460 Data Processing Systems", Form No. C20-1601,-9.

Complete instructions for using the KWIC Index and for ordering programs are included in the Catalog. Programs will not be supplied by authors and should not be requested from them.

LIST OF PROGRAM DELETIONS

Alphabetic key to reasons for removal.

- A. This program will be deleted because of low usage.
- B. This program will be deleted at user organization direction.
- C. This program will be deleted because of limited usefulness.
- D. This program is obsoleted and replaced by order number ---.
- F. This program has been deleted by the author.

PLANNED DELETIONS

PAGE 1

The following Type I Programming Systems will be withdrawn by the Program Information Department on July 3, 1969. Until that date, orders for these programs will be accepted by PID.

Program No.	Program Name	ode
1401-10-077	IBM INPUT/OUTPUT CONTROL PROGRAM /IOCP/ FOR IBM 1401/1440/1460 WITH 1285 OPTICAL READER	А
1401-IO-152	7040/44- 1401 INPUT/OUTPUT CONTROL PROGRAM	A
1401-LM-062	1401/1460 SORT 5 AND 6 TIMING PROGRAM	A
1401-LM-077	SORT 13 AND 14 TIMING PROGRAM FOR 1401/1460	A
1401-LM-079	1401/1460 TIMING PROGRAM FOR BPS S/360	
1401-114-075	SORT MERGE PROGRAM 8K DISK	А
404 74 000		A
1401-LH-080	1401/1460 TIMING PROGRAM FOR S/360 BASIC PROGRAM SUPPORT TAPE SORT/MERGE PROGRAM /FOR THE 2415/	A
1401-PR-925	PERIPHERAL INTEGRATED PROCESSING SYSTEM	A
1401-SM-029	SORT 1	A
1401-SM-046	SORT 3 PROGRAM	A
1401-SM-047	SORT 4	A
1401-SM-065	SORT 63	Α
1401-SP-133	ASSEMBLY PROGRAM FOR 7750 USING THE	
	IBM 1401	Λ
1401-SP-156	1401/7740 ASSEMBLY PROGRAM USING THE IBM 1401	A
1401-UT-066	UTILITY PROGRAMS FOR THE 1401-1009	Α
1401-UT-067	HYPERTAPE UTILITY PROGRAMS	A
1401-UT-069	TAPE UTILITY SYSTEM FOR THE 7710	Α
1401-UT-076	DATA COMMUNICATIONS UTILITY PROGRAM IBM 1009) A
1401-UT-153	7040/44 - 1401 AUXILIARY PROGRAMS	Α
	•	
1420-AU-001	BASIC AUTOCODER	A
1420-IO-010	IOCP WITHOUT PROCESS OVERLAP	Α
1420-10-011	OVERLAP IOCP	A
1.20 20 0	0.11.001	••
1440-AT-060	AUTO-TEST 16K	Α
1440-AU-006	BASIC AUTOCODER 2K	A
1440-IO-011	COMMUNICATIONS IOCS FOR THE 1449 / DIRECT	••
1440-10 011	DATA CHANNEL	А
1440-MI-701	STERLING SUBROUTINES	A
1440-MI-701	1440 STERLING MACRO INSTRUCTIONS	A
1440-05-090	OPERATING SYSTEM COMPUTER ASSISTED	15
1440-05-090		А
1000 00 001	INSTRUCTION COURSEWRITER LANGUAGE 1440-1026 OPERATING SYSTEM COMPUTER	А
1440-OS-091	ASSISTED INSTRUCTION	
1440 50 001		A
1440-RG-021	BASIC REPORT PROGRAM	A
1440-RG-024	REPORT PROGRAM GENERATOR 2K	A
1440-RG-720	1440/1311 STERLING REPORT PROGRAM	
4000 00 704	DEVELOPMENT	A
1440-RG-721	1440 STERLING BASIC REPORT PROGRAM GENERATOR	
1440-SM-036	IBM 1440 SORT 13	A
1440-SM-037	IBM 1440 SORT 13	Α
1440-SV-090	1440-1070 PROCESS COMMUNICATION MONITOR	
	FOR 1401/40/60 AUTOCODER /ON DISK/	Α
1440-SV-091	1440-1070 PROCESS COMMUNICATION MONITOR	
	FOR 1440 BASIC AUTOCODER	Α
1460-IO-011	1460/1401 COMMUNICATIONS IOCS /1448-DDC/	Α
1460-SM-068	IBM SORT 14	Α
1460-SM-069	IBM 1460 SORT 14	Α
1460-SV-090	1460-1070 PROCESS COMMUNICATION MONITOR	
	FOR 1401 AUTOCODER /ON TAPE/	A
1460-SV-091	1460-1070 PROCESS COMMUNICATION MONITOR	
	FOR 1401 BASIC AUTOCODER 2K	А

The functions of the following additional programs being deleted are included in other programs that are currently available in the same system type.

Program No.	Program Name	Code
rrogram not	1109101111110	
1240-SM-030	BANK DOCUMENT SORT PROGRAM	A
1401-AT-072	AUTO-TEST	A
1401-AT-082	1401/1311 AUTO-TEST 16K	A
1401-FO-050	FORTRAN	A
1401-IO-040	TAPE READING WRITING SUBROUTINES	A
1401-IO-074	TAPE PUNCH ROUTINES FOR THE 1401-1012	A
1401-LM-010	IBM 1401/60 TIMING PROGRAM FOR DOS/360 AND)
	TOS/360 TAPE SORT/MERGE PROGRAM	A

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CONTINUED FROM PRIOR COLUMN

1401-LM-012	1401/1460 TIMING PROGRAM FOR SYSTEM/360 DISK	
	AND TAPE OPERATING SORT/MERGE PROGRAMS	A
1401-LM-060		A
1401-LM-078	1401/1460 TIMING PROGRAM FOR S/360 BASIC	
	PROGRAM SUPPORT TAPE SORT/MERGE PROGRAMS	
	/2401 THROUGH 2404/	7
1401-SM-064	SORT 62	A
1401-SM-066	SORT 64	A
1401-SM-067	SORT 61	A
1401-SP-021		Α
1401-UT-019		
	/120-CHARACTER LABEL/	Α
1401-UT-039		
	TAPE SYSTEM	Α
	FILE UTILITIES	A
1401-UT-057	FILE ORGANIZATION ROUTINES	Α
4000 004	- Time mineral Ori	_
	AUTO-TEST 8K	A
	BASIC AUTOCODER	A A
1440-CB-073		A
1440-SM-032	SORT 52	Α
1440-SM-033		A
1440-SM-034	SORT 54	A
1440-SM-035		Α
1440-UT-043	TAPE UTILITY PROGRAMS	Λ

The following Type III Contributed Programs will be withdrawn by the Program Information Department on July 3, 1969. Until that date, orders for these programs will be accepted by PID.

Program No.	Program Name	Code
1401-01.4.097	SYMBOLIC BLOCK DIAGRAPHING SYSTEM	A
1401-01.4.134	PROGRAM TO LOAD AUTOCODER CONDENSED	
	PROGRAM	Λ
1401-01.4.139	TAPE TEST PROGRAM, 4K	A
1401-01.4.141	SYMBOLIC CORE DUMP	A
1401-01.4.150	1401/407 SIMULATION UTILITY PROGRAM	A
1401-01.4.223	DOCUMENT AND TESTING AIDS FOR COBOL	A
1401-06.0.015	TIME SERIES ANALYSIS + DATA REDUCTION	
	PROGRAM	A
1401-10.3.053	LESS IV	A
1401-14.0.026	REAL ESTATE TAX BILL SYSTEM FOR THIRD	
	CLASS PENNSYLVANIA COUNTIES	Α
1440-02.1.001	1440/1311 CARD-TO-DISK CONSECUTIVE	
1440-02:1:00	LOAD PROGRAM	A

The following Type IV Contributed Programs will be retired by the Program Information Department on July 3, 1969. Until that date, orders for these programs will be accepted by PID. After that date, only the documentation associated with these programs, recorded on microfiche cards, will be available from PID.

Program No.	Program Name Co	<u>ode</u>
1401-01.4.010	ESCAPE / EFFORTLESS SYSTEM OF CALCULATING AND PRINTING EVERYTHING	A
1401-01.4.022 1401-01.4.227 1401-09.2.007	TAPE UPDATE UTILITY PROGRAM VARILIST HIGHWAY EARTHWORKS QUANTITIES AND	A A
	DESIGN DATA	A
1440-01.4.001	RADIO-RANDOM DISK INPUT/OUTPUT SUBROUTINE	A

READER'S COMMENT FORM

Catalog of Programs for IBM 1240, 1401, 1420, - 1440, and 1460 Data Processing Systems, December, 1966

Form C20-1601-5

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