

High Absolute Loader Listing

```

ICTL 25
* IBM SYSTEM/360 BASIC PROGRAMMING SUPPORT ALDR0000
* BASIC UTILITIES ALDR0001
* ALDR0002
* ALDR0003
* HIGH (8K) ALDR0004
* ABSOLUTE LOADER ALDR0005
* PROGRAM NUMBER 360P-UT-017 ALDR0006
* VERSION 2, LEVEL 1 ALDR0007
* ALDR0008
* THE INTERNAL NAME ASSIGNED TO THIS PROGRAM ALDR0009
* IS IBAABS. ALDR0010
* ALDR0011
* THE ABSOLUTE LOADER LOADS PROGRAM SEGMENTS ALDR0012
* INTO STORAGE AT THE ADDRESSES ASSIGNED TO ALDR0013
* THEM BY THE ASSEMBLER AND TRANSFERS CONTROL ALDR0014
* TO THE PROGRAM FOR EXECUTION, AND ALLOWS THE ALDR0015
* USER TO MAKE CORRECTIONS OR ADDITIONS TO THE ALDR0016
* ASSEMBLED PROGRAM AT LOAD TIME. ALDR0017
* ALDR0018
* THE OPERATION OF THIS PROGRAM, EXCEPT AS ALDR0019
* NOTED BELOW, DEPENDS UPON AN INTERNAL REPRE- ALDR0020
* SENTATION OF THE EXTERNAL CHARACTER SET ALDR0021
* WHICH IS EQUIVALENT TO THE ONE USED AT AS- ALDR0022
*SEMBLY TIME. THE CODING HAS BEEN ARRANGED SO ALDR0023
* THAT REDEFINITION OF CHARACTER CONSTANTS, BY ALDR0024
* REASSEMBLY, WILL RESULT IN A CORRECT MODULE ALDR0025
* FOR THE NEW DEFINITIONS. ALDR0026
* ALDR0027
* ALDR0028
* THOSE STATEMENTS MARKED WITH AN * IN COLUMN ALDR0029
* 71 BELOW DO NOT DEPEND UPON A PARTICULAR IN- ALDR0030
* TERNAL REPRESENTATION OF THE EXTERNAL CHAR- ALDR0031
* ACTER SET EXCEPT THAT THE DECIMAL NUMBERS ALDR0032
* MUST BE CODED SO THAT THE LOW ORDER FOUR ALDR0033
* BITS, WHEN CONSIDERED AS A BINARY INTEGER, ALDR0034
* IDENTIFY THE VALUE OF THAT DIGIT. ALDR0035
* ALDR0036
* THE CONSTANT MARKED WITH A DOUBLE * IN ALDR0037
* COLUMNS 70 AND 71 REPRESENT THE DIFFERENCE ALDR0038
* BETWEEN THE HEXIDECIMAL VALUE OF THE NUMBER ALDR0039
* A AND THE INTERNAL BINARY VALUE OF THE CHAR- ALDR0040
* ACTER A, AND MUST BE ALTERED SHOULD THE IN- ALDR0041
* TERNAL REPRESENTATIONS OF THE LETTERS A ALDR0042
* THROUGH F CHANGE. ALDR0043
* ALDR0044
* THE CONSTANTS WITH *** IN COL. 69-71 REQUIRE ALDR0045
* THE X'02' EQUAL A T-2-9 PUNCH AND MUST BE ALDR0046
* MODIFIED IF THE PROPERTIES OF THE CHARACTER ALDR0047
* SET ARE CHANGED. ALDR0048
* ALDR0049

```

```

001480 ABSLDR START 5248 HIGH FOR 8K ALDR0051
      ENTRY ALPHA ALDR0052
      ENTRY BETA ALDR0053
      ENTRY IOTA ALDR0054
      ENTRY OMEGA ALDR0055
* LOADER ENTRY POINT ALDR0056
*ENTRY LOAD1 ALDR0057
*ENTRY RESUME ALDR0058
* HEX TO BINARY CONVERSION ENTRY ALDR0059
*ENTRY HEXB ALDR0060
*ENTRY SINTRY ALDR0061
*ENTRY SNTRY2 ALDR0062
000030 ORTPW EQU 48 TAPE DEVICE ADDRES ALDR0063
00000C QMMSW EQU 12 MESSAGE DEVICE ADDR ALDR0064
000038 IOOP EQU 56 ALDR0065
000040 CSW EQU 64 ALDR0066
000048 CAW EQU 72 ALDR0067
* EXTERNAL NEW PSW ALDR0068
000058 EXNPSW EQU 88 ALDR0069
* PROGRAM NEW PSW ALDR0070
000068 NPROC EQU 104 ALDR0071
000070 MKNEW EQU 112 ALDR0072
000078 IONP EQU 120 ALDR0073
001480 ALPHA EQU * ALDR0074
* ALDR0075
* USED FOR A HI ASSEMBLY ALDR0076
0013E0 IOTA EQU *-160 FOR HIGH ASSEMBLY ALDR0077
* ALDR0078
* BETA EQU * ALDR0079
* ABOVE THIS CARD FOR HI-LDR ASSEMBLIES ALDR0080
* ADD THE INITIALIZATION ROUTIN ALDR0081
**XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX ALDR0082
* ALDR0083
* ALDR0084
* ALDR0085
* INITIAL ENTRY ROUTINE (IER) ALDR0086
* ALDR0087
**XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX ALDR0088
* ALDR0089
001480 BETA EQU * ALDR0090
* ALDR0091
001480 IER EQU * ALDR0092
* ALDR0093
001480 05 FO BALR 15,0 ALDR0094
      USING *,15 ALDR0095
      001482 *LOD BASE ADDR ALDR0096
      L 15,BREG1 ALDR0097
      USING ALPHA,15 ALDR0098
001486 1B EE SR 14,14 ALDR0099
001488 50 E0 0 078 ST 14,IONP ALDR0100
*LOAD BUFFER ADDRESS ALDR0101
00148C 58 10 F 0EC L 1,IOUADR ALDR0102
*CMP UNIT FIELD FOR BLANKS ALDR0103
001490 95 40 1 010 CLI 16(1),C' ' ALDR0104
*BR, IPL CAME FROM SYSIN ALDR0105

```

001494	47 80 F 028	BC	8,DIFF	ALDR0106
		*CONVERT	LA 4,4	ALDR0107
001498	41 40 0 004	* DEVICE ADDRESS	LA 5,16(1)	ALDR0108
00149C	41 51 0 010	* TO BINARY	LA 1,HEXB	ALDR0109
0014A0	41 10 F 0F0	*GO TO HEXB	BALR 0,1	ALDR0110
0014A4	05 01	*SAVE DEVICE ADDR IN REG-8	LR 8,0	ALDR0111
0014A6	18 80	*CHANGE LOADER CONSTANT	DIFF STH 8,TPADR	ALDR0112
0014A8	40 80 F 2F0	** DETERMINE I/O MESSAGE UNIT ADDRESS HERF	*LOD ADDR OF IOTA	ALDR0113
			L 13,IQUADR	ALDR0114
0014AC	58 00 F 0EC	*CMP FOR I/O UNIT ADDR	CLI 20(13),C'	ALDR0115
0014B0	95 40 D 014	*BR IF NO UNIT AVAIL	BC 8,CINST1+4	ALDR0116
0014B4	47 80 F 056	*CONVERT	LA 4,4	ALDR0117
0014B8	41 40 0 004	* HEX TO	LA 5,20(13)	ALDR0118
0014BC	41 50 0 014	* BINARY	LA 1,HEXB	ALDR0119
0014C0	41 10 F 0F0	*BR TO HEXB	BALR 0,1	ALDR0120
0014C4	05 01	*ST ADDR IN I/O TBL	L 1,INPUT	ALDR0121
			LDI 0,QWMSW+6(1) ST DEVICE ADDR IN TBL	ALDR0122
0014C6	58 10 F 2EC		BC 15,CINST2	ALDR0123
0014CA	40 01 0 012	*DUMMY INST	CINST1 BC 15,**4	ALDR0124
0014CE	47 F0 F 068	*CONSTRUCT INST	MVC CINST1+2(2),CINST+2	ALDR0125
0014D2	47 F0 F 056	*MOVE BR INST	MVC CINST-8(4),CINST1	ALDR0126
0014D6	D2 01 F 054 F 262		MVC SAGINW+4(4),SINDW	ALDR0127
0014D0	D2 03 F 258 F 052		CINST2 EQU *	ALDR0128
0014E2	D2 03 F 536 F 57E		LA 7,CCW2	ALDR0129
0014E8			ST 7,CAW	ALDR0130
0014E8	41 70 F 000		ST 8,WAIT5+4	ALDR0131
0014EC	50 70 0 048		LA 7,IRUPP	ALDR0132
0014F0	50 80 F 00C		ST 7,INDP+4	ALDR0133
0014F4	41 70 F 090		TIO 0(8)	ALDR0134
0014F8	50 70 0 07C		RC 7,**4	ALDR0135
0014FC	9D 00 8 000		SSM UT1	ALDR0136
001500	47 70 F 07C		SIO 0(8)	ALDR0137
001504	80 00 F 0E0		LPSW WAIT5	ALDR0138
001508	9C 00 8 000	IRUPP	CH 8,INDP+2	ALDR0139
00150C	82 00 F 0D8		BC 8,**8	ALDR0140
001510	49 80 0 03A		LPSW INDP	ALDR0141
001514	47 80 F 09C		TM CSW+4,X*04'	ALDR0142
001518	82 00 0 038		BC 8,IRUPP-4	ALDR0143
00151C	91 04 0 044		CLC UT1+1(5),UT2+1	ALDR0144
001520	47 80 F 08C			ALDR0145
001524	D5 04 F 0E1 F 0E7			ALDR0146

00152A	47 80 F 0BE	BC	R,RDR	ALDR0162
00152E	40 80 F 2F0	STH	R,TPADR	ALDR0163
001532	41 00 0 030	LA	0,ORTPW	ALDR0164
001536	5A 00 F 2EC	A	0,INPUT	ALDR0165
00153A	50 00 F 2EC	ST	0,INPUT	ALDR0166
00153E	58 F0 F 0C8	RDR	L 15,BREG2	ALDR0167
001542	07 FF		BCR 15,15	ALDR0168
		*BASE ADDR OF LOADER	BREG1 DC A(ALPHA)	ALDR0169
001544	00001480	*INITIAL LOADING ENTRY	BREG2 DC A(LOAD1)	ALDR0170
001548	000015D8		DS 00	ALDR0171
001550		*SENSE OPERATION CODE	CCW2 DC X*04'	ALDR0172
001550	04		DC AL3(UT1)	ALDR0173
001551	001560		DC XL4*8'	ALDR0174
001554	0000000R		DC X'FF060000'	ALDR0175
001558	FF060000	WAIT5	DC XL4*0'	ALDR0176
00155C	00000000		DC X'FFFFFFFFF'	ALDR0177
001560	FFFFFFFFFFFF	UT1	DC X'FFFFFFFFF'	ALDR0178
001566	FFFFFFFFFFFF	UT2	DC X'FFFFFFFFF'	ALDR0179
00156C	000013E0	IQUADR	DC A(IOTA)	ALDR0180
		DROP	15	ALDR0181
	00000F	*IER	EQU *	ALDR0182
		* BELOW THIS CARD FOR HI-LDR ASSEMBLIES		ALDR0183
		* ADD THE INITIALIZATION ROUTINE		ALDR0184
		*		ALDR0185

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
*           HEX-BIN CONVERSION ROUTINE
*
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* PLACE THE NUM OF CHAR IN REG-4
* ADDR OF HIGH ORDER IN REG-5
* LINKAGE-- L      1,HEXADD
*           BALR 0,1
* RETURN ADDR IN REG-0
* ANSWER RETURNED IN REG-0
*
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
001570 001570  HEXB EQU *
        USING HEXB,1
001570 50 00 1 058      ST 0,RETT
001574 18 33           SR 3,3
001576 16 03           LR 0,3
001578 41 20 1 04E     LA 2,ERR2
* TEST FOR ZERO
00157C 95 F0 5 000     L1 CLI 0(5),C'0'
* BR IF NOT 0 THRU 9
        BC 4,L3
001580 47 40 1 036     CLI 0(5),C'9'
001584 95 F9 5 000     BCR 3,2
001588 07 32
* CLEAR HIGH ORDER BITS OF CHAR
00158A 94 0F 5 000     NI 0(5),X'0F'
00158E 43 30 5 000     IC 3,0(0,5)
001592 89 00 0 004     L2 SLL 0,4
001596 1A 03           AR 0,3
001598 41 55 0 001     LA 5,1(5)
00159C 46 40 1 00C     BCT 4,L1
0015A0 58 20 1 058     L 2,RETT
0015A4 07 F2           BCR 15,2
0015A6 95 C1 5 000     L3 CLI 0(5),C'A'
0015AA 07 42           BCR 4,2 BR IF STORAGE LOW
0015AC 95 C6 5 000     CLI 0(5),C'F'
0015B0 07 32           BCR 3,2 BR IF GREATER
0015B2 43 30 5 000     IC 3,0(0,5)
0015B6 4B 30 1 056     SH 3,CONS
0015BA 47 F0 1 022     BC 15,L2
0015BE 50 F0 0 05C     ERR2 ST 15,EXNPSW+4
* ILLEGAL HEX CHAR HALT
        LPSW PSW6
0015C2 82 00 1 060     CONS DC X'00B7'
0015C6 00B7           RETT DS 1F
0015C8 0015C8           DS 0D
* INVALID HEX CHAR WAIT
0015D0 0106000000      PSW6 DC X'0106000000'
0015D5 03D2C1         DC C'LKA'
* RETURN ADDR SAVE AREA
000001 DROP 1
ALDR0189
ALDR0190
ALDR0191
ALDR0192
ALDR0193
ALDR0194
ALDR0195
ALDR0196
ALDR0197
ALDR0198
ALDR0199
ALDR0200
ALDR0201
ALDR0202
ALDR0203
ALDR0204
ALDR0205
ALDR0206
ALDR0207
ALDR0208
ALDR0209
ALDR0210
ALDR0211
ALDR0212
ALDR0213
ALDR0214
ALDR0215
ALDR0216
ALDR0217
ALDR0218
ALDR0219
ALDR0220
ALDR0221
ALDR0222
ALDR0223
ALDR0224
ALDR0225
ALDR0226
ALDR0227
ALDR0228
ALDR0229
ALDR0230
ALDR0231
ALDR0232
ALDR0233
ALDR0234
ALDR0235
ALDR0236
ALDR0237
ALDR0238
ALDR0239
ALDR0240
ALDR0241

```

```

*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* INITIALIZATION ROUTINE XXXXX
*
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0015D8 0015D8 05 F0 0015DA LOAD1 FQU *
        BALR 15,0
        USING *,15
* SETUP PROGRAM NEW PSW
* MACH CK AND WAIT
0015DA 02 07 0 068 F 16E MVC NPROG(8),PNPSW
0015E0 96 02 0 071       DI 4KNWE+1,X'02'
ALDR0242
ALDR0244
ALDR0245
ALDR0246
ALDR0247
ALDR0248
ALDR0249
ALDR0250
ALDR0251
ALDR0252
ALDR0253
ALDR0254

```

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* BASIC UTILITIES ABSOLUTE LOADER
*
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
0015E4 RESUME EQU *
0015E4 05 F0 BALR 15,0
                                USING *,15
                                * EOF OR EOT INDICATION
                                MVI MSG+1,C'E'
                                MVI MSG+2,C'D'
                                L 1,INPUT
                                L 1,0(1) INPUT DEVICE TAB ADDR
                                * INPUT BUFFER ADDR
                                LA 2,SPEC
                                * TP ADDR AND COUNT
                                L 3,TPADR
                                * EOF OR EOT RETURN
                                LA 4,ERROR
                                BALR 0,1
                                MVI MSG+2,C'A'
                                SR 6,6
                                LA 13,1(0,0)
                                LA 9,SPEC
                                L 10,SPEC
                                * CMP FOR TEXT CARD
                                C 10,TEST
                                * BR TO TXT CRD ROUTINE
                                BC 8,C907
                                * CMP FOR REPLACE CRD
                                C 10,TEST+4
                                * REP CRD ROUTINE
                                BC 8,C908
                                * CMP FOR END CRD
                                C 10,TEST+8
                                * END CRD ROUTINE BR
                                BC 8,C909
                                * RETURN TO RD
                                BCR 15,15
0015E6
0015E6 92 C5 F 178
0015EA 92 C4 F 179
0015EE 58 10 F 186
0015F2 58 11 0 000
0015F6 41 20 F 112
0015FA 58 30 F 18A
0015FE 41 40 F 0EC
001602 05 01
001604 92 C1 F 179
001608 18 66
00160A 41 D0 0 001
00160E 41 90 F 112
001612 58 A0 F 112
001616 59 A0 F 196
00161A 47 80 F 04A
00161E 59 A0 F 19A
001622 47 80 F 09A
001626 59 A0 F 19E
00162A 47 80 F 0CC
00162E 07 FF
ALDR0256
ALDR0257
ALDR0258
ALDR0259
ALDR0260
ALDR0261
ALDR0262
ALDR0263
ALDR0264
ALDR0265
ALDR0266
ALDR0267
ALDR0268
ALDR0269
ALDR0270
ALDR0271
ALDR0272
ALDR0273
ALDR0274
ALDR0275
ALDR0276
ALDR0277
ALDR0278
ALDR0279
ALDR0280
ALDR0281
ALDR0282
ALDR0283
ALDR0284
ALDR0285
ALDR0286
ALDR0287
ALDR0288
ALDR0289
ALDR0290
ALDR0291
ALDR0292
ALDR0293
ALDR0294
ALDR0295

```

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* TEXT CARD ROUTINE
*
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* NUM OF BYTES SPECIFIED
C907 LH 11,10(9,0)
STC 6,SPEC+4
* STORAGE ADDRESS
L 12,SPEC+4
LA 1,C919
* CMP FOR ABOVE LOADER
C914 C 12,LEND
* BR- ADDR ABOVE LDR
BC 10,ENT
LR 7,12
* ADDR PLUS LENGTH
AR 7,11
* LOADER OVERLAY ERROR
MVI MSG+1,C'D'
* CMP FOR BELOW LOADER
C 7,BELOW
BC 2,ERROR
LA 8,128
* SHOULD ADDR BE SAVED
CR 12,8
* BR- ADDR BELOW FIRST 128 BYTES
BCR 4,1
* HAS AN ADDR BEEN SAVED
ENT C 6,BRAD
* BR- ADDR SAVED
BCR 7,1
ST 12,BRAD
RCR 15,1
C919 SR 11,13
STC 11,MOVE+1
* TEXT TO PP CORE
MOVE MVC 0(1,12),16(9)
* TO READ
BCR 15,15
001630 48 89 0 00A
001634 42 60 F 116
001638 58 C0 F 116
00163C 41 10 F 086
001640 59 C0 F 182
001644 47 A0 F 07A
001648 18 7C
00164A 1A 7B
00164C 92 D6 F 178
001650 59 70 F 16E
001654 47 20 F 0EC
001658 41 80 0 0RO
00165C 19 C8
00165E 07 41
001660 59 60 F 18E
001664 07 71
001666 50 C0 F 18E
00166A 07 F1
00166C 18 8D
00166E 42 80 F 08D
001672 D2 00 C 000 9 010
001678 07 FF
ALDR0297
ALDR0298
ALDR0299
ALDR0300
ALDR0301
ALDR0302
ALDR0303
ALDR0304
ALDR0305
ALDR0306
ALDR0307
ALDR0308
ALDR0309
ALDR0310
ALDR0311
ALDR0312
ALDR0313
ALDR0314
ALDR0315
ALDR0316
ALDR0317
ALDR0318
ALDR0319
ALDR0320
ALDR0321
ALDR0322
ALDR0323
ALDR0324
ALDR0325
ALDR0326
ALDR0327
ALDR0328
ALDR0329
ALDR0330
ALDR0331
ALDR0332
ALDR0333
ALDR0334
ALDR0335
ALDR0336

```

```

00167A 41 40 0 006
00167E 41 59 0 006
001682 58 10 F 10E
001686 05 01
001688 18 C0
00168A 41 80 0 002
00168E 41 59 0 010
001692 45 10 F 05A
001696 41 40 0 004
00169A 58 10 F 10E
00169E 05 01
0016A0 40 00 C 000
0016A4 95 68 5 000
0016A8 07 7F
0016AA 1A 5D
0016AC 1A CB
0016AE 47 F0 F 0AC

```

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* REPLACE CARD ROUTINE
*
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* CONVERT HEX ADDRESS
C908 LA 4,6(0,0)
* HIGH ORDER ADDR
LA 5,6(9,0)
L 1,HEXBB
BALR 0,1
LR 12,0
LA 11,2(0,0)
* FIRST CORRECTION ADDR
LA 5,16(9,0)
* CHECK ADDR
C912 BAL 1,C914
* CONVERSION CHARACTER COUNT (CCC)
LA 4,4(0,0)
L 1,HEXBB
BALR 0,1
* CORR TO STG
STH 0,0(0,12)
* CMP FOR COMMA
CLI 0(5),C', '
* BR TO RD
BCR 7,15
AR 5,13
AR 12,11
BC 15,C912

```

```

ALDR0338
ALDR0339
ALDR0340
ALDR0341
ALDR0342
ALDR0343
ALDR0344
ALDR0345
ALDR0346
ALDR0347
ALDR0348
ALDR0349
ALDR0350
ALDR0351
ALDR0352
ALDR0353
ALDR0354
ALDR0355
ALDR0356
ALDR0357
ALDR0358
ALDR0359
ALDR0360
ALDR0361
ALDR0362
ALDR0363
ALDR0364
ALDR0365
ALDR0366
ALDR0367

```

```

0016B2 58 19 0 004
0016B6 59 19 0 008
0016BA 47 80 F 0E4
0016BE 50 10 F 15E
0016C2 50 60 F 18E
0016C6 82 00 F 15A
0016CA 58 10 F 18E
0016CE 47 F0 F 0DB

```

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* FND CARD ROUTINE
*
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
C909 L 1,4(9,0) LOAD TO TEST FOR ADDR
C C 1,8(9,0)
* BR-ADDR EQU BLKS
BC 8,C913
C910 ST 1,PSW1
* CLEAR SAVE AREA
ST 6,BRAD
* RELEASE CTL TO PRNG
LPSW PSW
* FIRST ADDR LOADED INTO
C913 L 1,BRAD
BC 15,C910
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* ERROR STOP ROUTINES
*
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

```

ALDR0369
ALDR0370
ALDR0371
ALDR0372
ALDR0373
ALDR0374
ALDR0375
ALDR0376
ALDR0377
ALDR0378
ALDR0379
ALDR0380
ALDR0381
ALDR0382
ALDR0383
ALDR0384
ALDR0385
ALDR0386
ALDR0387
ALDR0388
ALDR0389
ALDR0390
ALDR0391
ALDR0392
ALDR0393
ALDR0394
ALDR0395
ALDR0396
ALDR0397
ALDR0398
ALDR0399
ALDR0400
ALDR0401
ALDR0402
ALDR0403
ALDR0404
ALDR0405
ALDR0406
ALDR0407

```

```

0016D2
0016D2 D2 07 0 058 F 16A
0016D8 41 20 F 177
0016DC 41 30 0 008
0016E0 41 40 F 108
0016E4 58 10 F 192
0016E8 58 11 0 000
0016EC 05 01
0016EE 82 00 F 172

```

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* ERROR STOP ROUTINES
*
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* ERROR EQU *
* SETUP EXTERNAL NEW PSW
MVC EXNPSW(R),RESTR
* ADDRESS OF MESSAGE
LA 2,EMSG XX
* NUM OF BYTES TO PRT
LA 3,R XX
* ERROR RETURN
CINST LA 4,ERRR1 XX
* I052 ROUTINE ADDRESS
L 1,MOADR LOD DEVICE TRL ADDR
L 1,0(1) LOD DEVICE ADDR
* BR TO WRITE
BALR 0,1 XX
* LOD WAIT PSW
ERRR1 LPSW PSWMSG

```

```

ALDR0392
ALDR0393
ALDR0394
ALDR0395
ALDR0396
ALDR0397
ALDR0398
ALDR0399
ALDR0400
ALDR0401
ALDR0402
ALDR0403
ALDR0404
ALDR0405
ALDR0406
ALDR0407

```

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX ALDR0409
*
*          CONSTANTS AREA
*
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX ALDR0412
ALDR0410
ALDR0411
ALDR0412
ALDR0413

0016F2 0000
0016F4 00001570
HEXBB DC A(HEXB) ALDR0414
* INPUT BUFFER OF 72 BYTES ALDR0415
SPEC DS 9D ALDR0416
* SV STATE, MCH CK ON, DISABLED ALDR0417
001740 00040020 PSW DC X'00040020' OBJECT PROG PSW ALDR0418
001744 PSW1 DS 1F ALDR0419
* PROGRAM INTERRUPT PSW ALDR0420
001748 0106000000 PNPSW DC X'0106000000' ALDR0421
00174D D3D7C1 DC C'LPA' ALDR0422
001750 01040000 RESTRT DC X'01040000' ALDR0423
001754 00001480 BELOW DC A(ALPHA) ALDR0424
001758 0106000000 PSHMSG DC X'0106000000' ALDR0425
00175D D3D2C140E6C1C9E3 EMSG DC C'LKA WAIT ' ALDR0426
001765 404040
001768 00001788
LEND DC A(THEEND) ALDR0427
* CRD RD ROUTINE ALDR0428
00176C 00001788 INPUT DC A(SINTRY) I/O TBL ADDR ALDR0429
* CARD IMAGE BYTE COUNT ALDR0430
001770 00000048 TPADR DC XL4'48' ALDR0431
001774 00000000 BRAD DC XL4'0' ALDR0432
001778 00001794 MOADR DC A(SINTRY+QWMSW) MSG DEVICE ADDR ALDR0433
*
* TXT, REP, END. ALDR0434
00177C 02 TEST DC X'02' *** ALDR0435
00177D E3E7E3 DC C'TXT' ALDR0436
001780 02 DC X'02' *** ALDR0437
001781 D9C5D7 DC C'REP' ALDR0438
001784 02 DC X'02' *** ALDR0439
001785 C5D5C4 DC C'END' ALDR0440
00000F DROP 15 ALDR0441
* END OF LOADER ALDR0442

```

```

001788 THEEND EQU * ALDR0444
* ALDR0445
* ALDR0446
* ALDR0447
001788 SRSD EQU * DEFINE BASE ADDRESS ALDR0448
* FOR I-D ROUTINES ALDR0449
* ALDR0450
* ALDR0451
* ALDR0452

```

I-O CALL ENTRY GROUP

ALDR0454

PRIMARY CALL ENTRY TABLE

ALDR0455

ALDR0456

ALDR0457

ALDR0458

NOTE -- FOR CALL TO ONE SELECTED PRIMARY
FUNCTION OF THE INDICATED DEVICE.
EACH CALL UNIT BLOCK -- 3 WORDS --
IN THIS TABLE CONTAINS A POINTER TO
THE ENTRY TO THE FUNCTION ACTION
ROUTINE, THE DEVICE UNIT ADDRESS,
AND AN EXCEPTIONAL CONDITION RETURN
ADDRESS AS SUPPLIED OPTIONALLY BY
THE USER IN SREGL. ANY OTHER
FUNCTIONS OF THIS DEVICE WILL EXIST
IN THE SECONDARY CALL ENTRY TABLE
WHICH WILL REFER TO THE PRIMARY
CALL TABLE TO OBTAIN THE DEVICE
UNIT ADDRESS AND EXCEPTIONAL
RETURN ADDRESS

ALDR0459

ALDR0460

ALDR0461

ALDR0462

ALDR0463

ALDR0464

ALDR0465

ALDR0466

ALDR0467

ALDR0468

ALDR0469

ALDR0470

ALDR0471

ALDR0472

ALDR0473

ALDR0474

NOTE -- EACH ENTRY ADDRESS BELOW WHICH IS
INCLUDED IN THE CURRENT ASSEMBLY
REQUIRES THE PRESENCE OF ITS
INDICATED ACTION ROUTINE

ALDR0475

ALDR0476

ALDR0477

ALDR0478

ALDR0479

NOTE -- ALL ASSOCIATED ENTRY + EXTRN CARDS
MAY BE OMITTED IF LINK I-O ROUTINES
ARE ASSEMBLED WITH USER PROGRAM

ALDR0480

ALDR0481

ALDR0482

ALDR0483

NOTE -- SO THAT A SEPARATELY ASSEMBLED USER
PROGRAM MAY ADDRESS THE SINTRY
TABLE THROUGH THE USE OF A SINGLE
EXTRN-ENTRY PAIR --
AND THE USE OF SINTRY-PLUS-INCRE-
MENT NOTATION -- THE FORMAT OF THE
SINTRY TABLE SHOULD REMAIN FIXED.
ONLY THE EXTENT OF THE TABLE DOWN
TO THE LAST ENTRY USED NEED BE
INCLUDED, BUT A DUMMY 12 BYTE SPACE
-- UNIT ADDRESS FFF -- MUST REPLACE
ANY ENTRY BLOCK SPANNED BUT WITH
NO REFERENCE AND WHOSE ACTION
ROUTINE IS NOT INCLUDED

ALDR0484

ALDR0485

ALDR0486

ALDR0487

ALDR0488

ALDR0489

ALDR0490

ALDR0491

ALDR0492

ALDR0493

ALDR0494

ALDR0495

ALDR0496

ALDR0497

ALDR0498

ALDR0499

001788

SINTRY DS

OD

DEFINE ENTRY POINT
TO TABLE AND
ALIGN TO DOUBLE
WORD BOUNDARY

ALDR0500

ALDR0501

ALDR0502

ALDR0503

I-O CALL ENTRY GROUP
PRIMARY CALL ENTRY TABLE
- CONTINUED -

ALDR0505

ALDR0506

ALDR0507

ALDR0508

ALDR0509

00178C

SUTAB EQU

SINTRY+4

DEFINE 1ST DEVICE
ADDRESS LOG

ALDR0510

ALDR0511

ALDR0512

001788 0000FFFF
00178C 00000FFF
001790 00000000

DC
SCRDR DC
DC

A(65535)
A(4095)
A(0)

READ CARD AND WAIT
CARD READER ADDR
AREA FOR U E PFT

ALDR0513

ALDR0514

ALDR0515

ALDR0516

001794 0000FFFF

DC

A(65535)

WRITE MESSAGE AND
WAIT

ALDR0517

ALDR0518

001798 00000FFF
00179C 00000000

STYPR DC
DC

A(4095)
A(0)

TYPRWRITER ADDRESS
AREA FOR U E PFT

ALDR0519

ALDR0520

ALDR0521

0017A0 0000FFFF

DC

A(65535)

PRINT A LINE AND
WAIT

ALDR0522

ALDR0523

0017A4 00000FFF
0017A8 00000000

SPRTR DC
DC

A(4095)
A(0)

PRINTER ADDRESS
AREA FOR U E PFT

ALDR0524

ALDR0525

ALDR0526

0017AC 0000FFFF

DC

A(65535)

PUNCH

ALDR0527

0017B0 00000FFF

*SPNCH DC
DC

A(4095)
A(4095)

PUNCH ADDRESS --
PUNCH ADDRESS --
OVERLOAD WITH
CORRECT ADDRESS

ALDR0528

ALDR0529

ALDR0530

0017B4 00000000

DC

A(0)

AREA FOR U E PFT
NOTE -- THIS
UNIT BLOCK USED
ONLY FOR PUNCH
WHOSE UNIT ADDR
DIFFERS FROM THE
CARD READER

ALDR0531

ALDR0532

ALDR0533

ALDR0534

ALDR0535

ALDR0536

ALDR0537

ALDR0538

ALDR0539

0017B8 0000FFFF

DC

A(65535)

READ TAPE RECORD
AND WAIT

ALDR0540

0017BC 00000FFF

*STAP DC

A(4095)

TAPE ADDR -- OVRFL
FOR SINGLE TAPE

ALDR0541

0017C0 00000000

DC

A(0)

AREA FOR U E PFT

ALDR0542

0017C4 00000000
0017C8 0000F000

*SDUMD DC
DC
DC

A(0)
A(0)
A(61440)

DUMMY ENTRY
DUMMY ENTRY
DUMMY ENTRY --
TERMINATOR

ALDR0543

ALDR0544

ALDR0545

ALDR0546

ALDR0547

ALDR0548

ALDR0549

ALDR0550


```

*          I-O BASE ROUTINE - GROUP 1          ALDR0628
*          I-O BASE ROUTINE                    ALDR0629
*
*
*          I-O INTERRUPT ENTRY                  ALDR0630
*
*
*          ALDR0631
*          ALDR0632
*          ALDR0633
*          ALDR0634
*          ALDR0635
00180C 50 F0 0 014   SNTPIN ST   SBSRG,SHOLD   SAVE ENTRY BASE RG   ALDR0636
001810 05 F0          BALR   SBSRG,0     SET TEMPORARY BASE   ALDR0637
          001812     USING  *,SBSRG      ALDR0638
001812 58 F0 F 726   L       SBSRG,SBADR   SET UP I-O BASE RG   ALDR0639
          00178R     USING  SBSAD,SBSRG  ALDR0640
*
*          TM   SWICH,64     CHK IF INT SWT ON    ALDR0642
001816 91 40 F 782   BC       1,SNTPN2     BRANCH IF ON          ALDR0643
00181A 47 10 F 0A0   STM     SRGF,SRGL,SSV4 NOT ON - SAVE REGS    ALDR0644
00181E 90 F8 F 758   MVC     SSV4(4),SHOLD  SAVE ENTRY BASE       ALDR0645
001822 02 03 F 758 0 014  SNTPN2 LA   SLUBRG,SUTAB     L INITIAL UNIT        ALDR0646
001828 41 60 F 004   *          *          TABLE LOCATION      ALDR0647
*          *          *          L UNIT ADDRESS        ALDR0648
00182C 48 76 0 002   SNTPN1 LH   SUREG,2(SLUBRG) CHK IF SAME AS        ALDR0649
001830 49 70 0 03A   CH      SUREG,58     INTERRUPT UNIT        ALDR0650
*          *          *          BRANCH IF SAME        ALDR0651
001834 47 80 F 182   BC      8,SNTPA      BRANCH IF MINUS FOR   ALDR0652
001838 12 77          LTR     SUREG,SUREG  LIST EXHAUSTED        ALDR0653
*          *          *          BRANCH IF MINUS        ALDR0654
00183A 47 40 F 108   BC      4,SNTPIR     SET FOR NEXT          ALDR0655
00183E 41 66 0 00C   LA     SLUBRG,12(SLUBRG) UNIT                          ALDR0656
*          *          *          GO TO CHECK NEXT      ALDR0657
001842 47 F0 F 0A4   BC     15,SNTPN1    GO TO CHECK NEXT      ALDR0658
*          *          *          UNIT ADDRESS          ALDR0659
001846 0200          DC     X'0200'      (VL) - THIS CHAR      ALDR0660
*          *          *          MUST BF UPDATFD      ALDR0661
*          *          *          WITH EACH CHANGE     ALDR0662
*          *          *          RELEASE              ALDR0663
*          *          *          ALDR0664
001848 D2 00 0 014 0 014  SCLR   MVC   SHOLD(1),SHOLD  DUMMY INSTRUCTION     ALDR0665
*          *          *          OVERLOAD BY MVC      ALDR0666
*          *          *          TO CLEAR SFNSE      ALDR0667
*          *          *          BYTF AREA IF IT      ALDR0668
*          *          *          EXISTS              ALDR0669

```

```

*          I-O BASE ROUTINE - GROUP 1          ALDR0671
*          I-O BASE ROUTINE                    ALDR0672
*
*
*          SET UP RETURN                        ALDR0673
*
*
*          ALDR0674
*          ALDR0675
*          ALDR0676
*          ALDR0677
00184E 90 03 F 748   00178R USING  SBSAD,SBSRG   RESERVE CALL          ALDR0678
          SWAIT1 STM   SREGR,SREGN,SRESR  PARAMETERS            ALDR0679
*          *          *          *          *          *          ALDR0680
001852 82 00 F 720   SWAIT  LPSW SWAYT   WAIT FOR I-O COM-    ALDR0681
*          *          *          *          *          *          ALDR0682
*          *          *          *          *          *          ALDR0683
001856 94 7F F 782   SLOWA NI   SWICH,127  CLEAR CCI FLAG       ALDR0684
00185A 05 01 F 74E F 7CE CLC     SRESR+6(2),SZROS  CHK IF ANY            ALDR0685
*          *          *          *          *          *          ALDR0686
*          *          *          *          *          *          ALDR0687
001860 47 80 F 0EC   BC      8,SLOW+4     BRANCH IF NOT         ALDR0688
001864 98 03 F 748   LM     SREGR,SREGN,SRESR  RESTORE CALL          ALDR0689
*          *          *          *          *          *          ALDR0690
*          *          *          *          *          *          ALDR0691
001868 D2 01 F 74E F 7CE MVC     SRESR+6(2),SZROS  CLEAR RESERVE        ALDR0692
*          *          *          *          *          *          ALDR0693
*          *          *          *          *          *          ALDR0694
00186E 07 F1          BCR     15,SREGZ      GO TO RESERVE CALL    ALDR0695
001870 96 01 6 000   SLOW  OT   0(SLUBRG),SBSYF  SET UNIT BUSY FLAG    ALDR0696
001874 05 01 F 780 F 7CE CLC     SWADE(2),SZROS  CHK IF WAIT SWT ON   ALDR0697
00187A 47 70 F 0CA   BC      7,SWAIT      BRANCH IF YES         ALDR0698
00187E 49 70 F 7C6   CH     SUREG,SNTCU    NO -- CHK IF IS      ALDR0699
*          *          *          *          *          *          ALDR0700
*          *          *          *          *          *          ALDR0701
001882 47 70 F 10E   BC      7,SLOW1      INTERNAL CALL          ALDR0702
001886 D2 01 F 7C6 F 7CE MVC     SNTCU(2),SZROS  BRANCH IF NO         ALDR0703
*          *          *          *          *          *          ALDR0704
*          *          *          *          *          *          ALDR0705
00188C D2 00 F 104 F 104 SLOWB MVC  *(1),*     DUMMY MVC -- OVERL   ALDR0706
*          *          *          *          *          *          ALDR0707
*          *          *          *          *          *          ALDR0708
*          *          *          *          *          *          ALDR0709
001892 18 10          LR     SREGZ,SREGR    GO TO RETURN TO      ALDR0710
001894 07 F1          BCR     15,SREGZ      INTERNAL CALL          ALDR0711
001896 47 F0 F 112   SLOW1 BC   15,***     DUMMY BC -- OVERL    ALDR0712
*          *          *          *          *          *          ALDR0713
*          *          *          *          *          *          ALDR0714
*          *          *          *          *          *          ALDR0715
00189A 47 F0 F 116   *          *          *          *          *          ALDR0716
*          *          *          *          *          *          ALDR0717
*          *          *          *          *          *          ALDR0718
00189F 94 8F F 782   SLOW3 NI   SWICH,191  CLEAR INTERNAL SWT    ALDR0719
0018A2 D2 07 0 038 F 730 MVC     56(8),SRTSN  SET UP RETURN         ALDR0720
0018A8 98 F8 F 758   LM     SRGF,SRGL,SSV4 RESTORE REGISTERS     ALDR0721
0018AC 82 00 0 038  SLOW  LPSW  56     RETURN TO CALL        ALDR0722

```

```

*
* I-O BASE ROUTINE - GROUP 1
* I-O BASE ROUTINE
*
*
* INITIATE I-O ACTION
*
001880 47 F0 F 12C *SXTRN BC 15,*** DUMMY BC -- OVERL ALDR0717
* WITH BC 15,SXTRIN ALDR0718
* TO EXTERNAL INTPT ALDR0719
* BASE ROUTINE ALDR0720
* ALDR0721
* ALDR0722
* ALDR0723
* ALDR0724
* ALDR0725
* ALDR0726
* ALDR0727
* ALDR0728
* ALDR0729
* ALDR0730
* ALDR0731
* ALDR0732
* ALDR0733
* ALDR0734
* ALDR0735
* ALDR0736
* ALDR0737
* ALDR0738
* ALDR0739
* ALDR0740
* ALDR0741
* ALDR0742
* ALDR0743
* ALDR0744
* ALDR0745
* ALDR0746
* ALDR0747
* ALDR0748
* ALDR0749
* ALDR0750
* ALDR0751
* ALDR0752
* ALDR0753
* ALDR0754
* ALDR0755
* ALDR0756
* ALDR0757
* ALDR0758
* ALDR0759
* ALDR0760
* ALDR0761
* ALDR0762
* ALDR0763
* ALDR0764
* ALDR0765
* ALDR0766
* ALDR0767
* ALDR0768
* ALDR0769
* ALDR0770

001884 9D 00 7 000 TIO 0(SUREG) CHK ERR DEV PATH
001888 47 80 F 140 BC 8,SIOIN BC IF PATH FREE
00188C 47 30 F 21E BC 3,SAGIN1 BC IF NOT CLEAR
0018C0 91 F8 0 044 TM 68,251 CHK FOR D E ALONE
0018C4 47 70 F 21E BC 7,SAGIN1 BC IF NOT LONE D E
0018C8 02 03 F 734 F 75C SIOIN MVC SRTRN+4(4),SSVR SET UP RETURN
0018CE 91 02 6 000 TM 0(SLUBRG),SWATF CHK FOR WAIT CALL
0018D2 47 80 F 154 BC 8,SIOIN1 BRANCH IF NO
0018D6 02 01 F 780 6 002 MVC SWADE(2),2(SLUBRG) SET UNIT ADDR
* IN WAIT SWITCH
0018DC 07 0F 0 038 0 038 SION1 XC 56(16),56 CLEAR I-O OLD PSW
* AND CSW - MINIMAL
* ROUTINE - OVERL
* WITH BC TO PSW
* SET UP ROUTINE
* SIOS NI SWICH,127 CLEAR CC 1 FLAG
* NI SWICH,127 CLEAR CC 1 FLAG
0018E2 94 7F F 782 SIO 0(SUREG) ISSUE SIO TO UNIT
0018E6 9C 00 7 000 * ADDR SET BY ENTRY
* ROUTINE
* SIOZ BC 8,SIOW CC 0 - INSTRUCTION
* BC 8,SIOW CC 0 - INSTRUCTION
* ACCEPTED
* SIOZ BC 2,SWAIT1 CC 2 -- PATH BUSY
* BC 2,SWAIT1 CC 2 -- PATH BUSY
* -- RESERVE OPM
* MINIMAL EXIT --
* OVERL WITH BC TO
* SPECIFIC ROUTINE
* FOR CC 2
0018F2 92 3F 0 032 MVI 50,X'3F' NOT OPERATIONAL
0018F6 92 F3 F 72E MVI SCHK1+6,C'3' SET CC 3 IDENTITY
0018FA 92 E2 F 72F MVI SCHK1+7,C'5' SET ACTION CODE IN
* ERROR PSW
* SIO3 BC 1,SAGIN1 CC 3 -- PATH NOT
* AVAILABLE --
* OVERL WITH BC TO
* SPECIFIC ROUTINE
* FOR CC 3
001902 96 01 6 000 OI 0(SLUBRG),SBSYF SET UNIT BUSY FLAG
001906 96 80 F 782 OI SWICH,128 CC 1 -- SET CC1
* FLAG ON -- GO TO
* INTERROGATOR
*

```

```

*
* I-O BASE ROUTINE - GROUP 1
* I-O BASE ROUTINE
*
* INTERROGATE I-O INTERRUPT OR
* CONDITION CODE 1
*
00190A 91 0E 0 045 *SNTPA TM 69,14 CHK FOR 3CHANNEL
* ERROR FAILURES
* OVERL WITH BC TO
* CHK FOR SENSE OFV
00190E 47 70 F 202 *SNTPB BC 7,SAGINC BRANCH ON ANY --
001912 91 31 0 045 TM 69,49 CHK FOR 3 CHANNEL
* PROGRAM ERRORS
* BC 7,SAGIN BC TO ERROR LOG
001916 47 70 F 212 TM 68,2 CHK FOR UNIT CHECK
00191A 91 02 0 044 *SNTPC BC 1,SAGIND BRANCH IF YES --
00191E 47 10 F 1F4 * MINIMAL EXIT --
* OVERL FOR EXIT TO
* SPECIFIC ROUTINE
* FOR CC 1
001922 91 01 0 044 TM 68,1 CHK FOR UNIT EXCEP
001926 47 10 F 212 *SNTPD BC 1,SAGIN BRANCH IF YES --
* MINIMAL EXIT --
* OVERL FOR EXIT TO
* SPECIFIC ROUTINE
* FOR CC 1
00192A 47 F0 F 1A6 *SNTPX BC 15,*** DUMMY BE -- OVERL
* WITH BC 15,SNTPX1
* FOR MINOR INTPT
* CONDITIONS ROUT
* CHK FOR CUE-CE-DE
00192E 91 2C 0 044 *SNTPDD TM 68,44 BRANCH IF NONE
001932 47 80 F 1F8 *SNTPCC BC 8,SNTPN BRANCH IF NONE
001936 91 04 0 044 TM 68,4 CHK FOR DE
* BC 8,SNTPM BRANCH IF NO
00193A 47 80 F 1D0 *SNTPM LA SREGM,SNTPM SET TO PROCEED
00193E 41 80 F 1D0 *SNTPM1 NI 0(SLUBRG),SBSYFD CLEAR BUSY FLAG
001942 94 FA 6 000 * CLC 2(2,SLUBRG),SWADE CHK IF INTPT
001946 05 01 6 002 F 780 * UNIT IS WAIT UNIT
* BRANCH IF NOT SAME
* CLEAR WAIT SWITCH
* CONTINUE
00194C 47 70 F 1CE BC 7,***10 CHK IF CC 1 BIT ON
001950 02 01 F 780 F 7CE MVC SWADE(2),SZROS BRANCH IF ON
001956 07 F8 BCR 15,SREGM BRANCH IF OFF
001958 91 80 F 782 *SNTPM TM SWICH,128 CHK INTERRNAL SWT
00195C 47 10 F 0CE BC 1,SIOWA BRANCH IF BIT IN
001960 91 40 F 782 *SNTPTR TM SWICH,64 CHK INTERNAL SWT
001964 47 80 F 120 BC 8,SIOH3+10 BRANCH IF OFF
001968 94 FD 0 039 NI 57,253 CLEAR WAIT BIT IN
00196C 47 F0 F 124 BC 15,SIOR I-O OLD PSW
*

```

				I-O BASE ROUTINE - GROUP 1	ALDR0R19
				I-O BASE ROUTINE	ALDR0R20
				INTERROGATE I-O INTERRUPT OR	ALDR0R21
				CONDITION CODE 1	ALDR0R22
				- CONTINUED -	ALDR0R23
					ALDR0R24
					ALDR0R25
001970	91 10 0 044	SNTPN	TM	68,16	CHK FOR BUSY
001974	47 10 F 0C6		BC	1,SWAIT1	BRANCH IF BUSY TO
		*			TO RESERVE
001978	47 F0 F 212		BC	15,SAGIN	
		*			SFREP INTERFACE
00197C	D2 05 0 018 F 7C0	SAGIND	MVC	24(6),SNSA	MOVE IN SENSE DATA
001982	92 1F 0 032		MVI	50,X'1F'	I/O DEVICE FAILURE
001986	47 F0 F 206		BC	15,**8	
00198A	92 0F 0 032	SAGINC	MVI	50,X'0F'	I/O CHANNEL FAILUR
00198E	92 E2 F 72F		MVI	SCHK1+7,C'S'	SI DFCISION CODE
001992	92 00 F 728		MVI	SCHK1,0	DISABLE EXTRN
001996	47 F0 F 216		BC	15,**8	CONTINUE LOG OUT
00199A	92 C4 F 72F	SAGIN	MVI	SCHK1+7,C'D'	SET DECISION CODE
		*			IN ERROR PSW
00199E	92 F1 F 72E		MVI	SCHK1+6,C'1'	SET CC 1 IDENTITY
		*			IN ERROR PSW
0019A2	91 80 F 782		TM	SWICH,128	CHK IF IS CC 1
0019A6	47 10 F 226	SAGIN1	BC	1,**8	BRANCH IF YES --
		*			MINIMAL ROUTINE -
		*			OVERL WITH RC TO
		*			SET CC 1 UNIT
		*			IDENTITY ROUTINE
0019AA	92 F0 F 72E	SAGIN2	MVI	SCHK1+6,C'0'	SET INTPT IDENTITY
		*			IN ERROR PSW
0019AE	94 7F F 782	SAGIN3	NI	SWICH,127	CLEAR CC 1 FLAG
		*			OVERL WITH RC TO
		*			SPECIFIC CC 1
		*			ROUTINE
0019B2	45 80 F 18A	SAGINW	BAL	SREGM,SNTPH1	CHK WAIT STATUS
0019B6	82 00 F 728		LPSW	SCHK1	WAIT TO CHECK
		*			CONDITIONS - OVER
		*			LOAD WITH BC TO
		*			WRITE OUT ERROR
		*			ROUTINE
0019BA		SRQND	EQU	*	END OF REQUISITE
		*			BASE ROUTINE
		*			GROUP 1 AREA
		*			ALDR0R63

				I-O BASE ROUTINE - GROUP 1	ALDR0R65
				WRITE ERROR MESSAGE BASE ROUTINE	0866
					ALDR0R67
					ALDR0R68
				NOTE -- WHEN PRESENT, THIS ROUTINE MUST	ALDR0R69
				IMMEDIATELY FOLLOW BASE ROUTINE	ALDR0R70
				GROUP 1 REQUISITE AREA --	ALDR0R71
				LDC SRQND	ALDR0R72
					ALDR0R73
				NOTE -- REQUIRES PRESENCE OF I-O BASE	ALDR0R74
				ROUTINE	ALDR0R75
					ALDR0R76
				NOTE -- REQUIRES PRESENCE OF INTERNAL CALL	ALDR0R77
				ENTRY ROUTINE	ALDR0R78
					ALDR0R79
				NOTE -- REQUIRES PRESENCE OF WRITE MESSAGE	ALDR0R80
				ENTRY ROUTINE	ALDR0R81
					ALDR0R82
				NOTE -- REQUIRES PRESENCE OF CC 1 UNIT	ALDR0R83
				IDENTITY DISPLAY ROUTINE	ALDR0R84
					ALDR0R85
					ALDR0R86
0019BA			ORG	SRQND	ALDR0R87
0019BA		SIND	EQU	*	DEFINE CURRENT IC
001986			ORG	SAGINW+4	
001986	47 F0 F 232		RC	15,SIND	SET UP ENTRY
0019BA			ORG	SIND	
		*			ALDR0R91
		*			ALDR0R92
0019BA	47 F0 F 236	*SIND1	RC	15,**4	DUMMY RC -- OVERL
		*	RC	15,**4	DUMMY RC -- OVERL
		*			WITH BAL TO GO TO
		*			SENSE ERROR UNIT
0019BE	D2 05 F 280 F 7C0	SIND2	MVC	SNSAV(6),SNSA	RESERVE SENSE BITS
0019C4	48 80 0 03A		LH	SREGM,58	L INTERRUPT DEVICE
		*			ADDRESS
0019C8	54 80 F 27C		N	SREGM,SNDMSK	DROP OUT ANY FLAGS
		*			INSERTED
0019CC	49 80 F 012		CH	SREGM,STYPR+2	CHK IF ERROR UNIT
		*			IS MESSAGE UNIT
0019D0	47 80 F 276		RC	8,SINDW	BC IF MESSAGE UNIT
		*			ALDR0R94
		*			ALDR0R95
		*			ALDR0R96
		*			ALDR0R97
		*			ALDR0R98
		*			ALDR0R99
		*			ALDR0R00
		*			ALDR0R01
		*			ALDR0R02
		*			ALDR0R03
		*			ALDR0R04
		*			ALDR0R05
		*			ALDR0R06
		*			ALDR0R07
		*			ALDR0R08
		*			ALDR0R09
0019D4	44 00 F 286	EX		0,SNTLC	SAVE REGISTERS
0019D8	41 10 F 5AE	LA		SREG2,SMSW	SET MESSAGE ENTRY
0019DC	41 20 F 72D	LA		SREGA,SCHK1+5	SET DATA BYTE LOC
0019E0	41 30 0 003	LA		SREGN,3	SET DATA RYTE CT
0019E4	41 60 F 010	LA		SLUBRG,STYPR	SET INT CALL UNIT
0019E8	45 00 F 28A	BAL		SREGR,SNTCAL	GO TO ISSUE WRITE

I-O BASE ROUTINE - GROUP 1
 WRITE ERROR MESSAGE BASE ROUTINE
 - CONTINUED -

ALDR0916
 ALDR0917
 ALDR0918
 ALDR0919
 ALDR0920
 ALDR0921
 ALDR0922
 ALDR0923
 ALDR0924
 ALDR0925
 ALDR0926
 ALDR0927
 ALDR0928
 ALDR0929
 ALDR0930
 ALDR0931
 ALDR0932
 ALDR0933
 ALDR0934
 ALDR0935
 ALDR0936

RESTORE AND WAIT

0019EC 44 00 F 2AA
 0019F0 44 00 F 2AE
 0019F4 44 00 F 2B4
 0019F8 02 05 F 7C0 F 280
 0019FE 82 00 F 728
 001A04
 001A04 000007FF
 001A08 0000
 001A0A 0000
 001A0C 0000

SIND3 EX 0,SNTCLA RESTORE REGISTFRS
 * OVERL WITH BC TO
 * CONTINUE MESSAGEF
 * EX 0,SNTCLB RESTORE I-O OLD PS
 * EX 0,SNTCLC RESTORE ERROR CCW
 SIND4 MVC SNSA(6),SNSAV RESTORE SENSE BITS
 SINDW LPSW SCHK1 WAIT TO CHECK
 * CONDITIONS
 *
 DS 0F ALIGN TO FULL WORD
 SNDSK DC X'000007FF' MASK TO EXTRACT
 * DEVICE ADDRESS
 SNSAV DC 3H'0' SAVE SENSE AREA

I-O BASE ROUTINE - GROUP 1
 ISSUE INTERNAL CALL ROUTINE

ALDR0939
 ALDR0939
 ALDR0940
 ALDR0941
 ALDR0942
 ALDR0943
 ALDR0944
 ALDR0945
 ALDR0946
 ALDR0947
 ALDR0948
 ALDR0949
 ALDR0950
 ALDR0951
 ALDR0952
 ALDR0953
 ALDR0954
 ALDR0955
 ALDR0956
 ALDR0957
 ALDR0958
 ALDR0959
 ALDR0960
 ALDR0961
 ALDR0962
 ALDR0963
 ALDR0964
 ALDR0965
 ALDR0966
 ALDR0967
 ALDR0968
 ALDR0969
 ALDR0970
 ALDR0971
 ALDR0972
 ALDR0973
 ALDR0974
 ALDR0975
 ALDR0976
 ALDR0977
 ALDR0978
 ALDR0979
 ALDR0980
 ALDR0981
 ALDR0982
 ALDR0983
 ALDR0984
 ALDR0985
 ALDR0986

NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE
 NOTE -- THIS ROUTINE IS REQUIRED BY ANY ACTION NECESSITATING THE ISSUANCE OF AN I-O CALL WHILE WITHIN ANY OF THE I-O ROUTINES
 NOTE -- REQUIRES THAT SLUBRG CONTAIN CALL DEVICE UNIT BLOCK ADDRESS AT TIME OF ENTRY TO THIS ROUTINE

ISSUE INTERNAL CALL

001A0E
 00188C
 00188C D2 07 F 788 F 2DE
 001A0E
 001A0E 90 F8 F 784
 001A12 D2 0F F 2CE F 738
 001A18 D2 13 F 28A 0 038
 001A1E D2 01 F 7C6 6 002
 001A24 D2 07 F 2DE F 788
 001A2A D7 07 F 788 F 788
 001A30 07 F1
 001A32 98 F8 F 784
 001A36 D2 13 0 038 F 28A
 001A3C D2 0F F 738 F 2CE
 001A42
 001A4A
 001A52
 001A56
 001A5E
 001A66
 001A6A

SNTCL EQU * DEFINE CURRENT IC
 ORG SIOHB
 MVC SUNAD(8),SNTCLK+36 RESTORE SUNAD
 * AND SMODS
 ORG SNTCL RESTORE CURRENT IC
 *
 STM SRGF,SRGL,SSVRB SAVE REGISTERS
 SNTCAL MVC SNTCLK+20(16),SMODL SAVE
 * CURRENT CCW
 MVC SNTCLK(20),56 SAVE I-O OLD PSW
 * CSW AND CAW
 MVC SNTCU(2),2(SLUBRG) SET INT UNIT
 MVC SNTCLK+36(8),SUNAD RESTORE RESERVE AND
 XC SUNAD(8),SUNAD CLEAR SUNAD-SMODS
 BCR 15,SREGZ GO TO CALL ENTRY
 *
 SNTCLA LM SRGF,SRGL,SSVRB RESTORE REGISTERS
 SNTCLB MVC 56(20),SNTCLK RESTORE I-O OLD
 * PSW, CSW AND CAW
 SNTCLC MVC SMODL(16),SNTCLK+20 RESTORE
 * SAVED CCW
 *
 SNTCLK DS 4H AREA FOR OLD PSW
 DS 4H AREA FOR CSW
 DS 2H AREA FOR CAW
 DS 4H AREA FOR
 DS 4H CURRENT CCW
 DS 2H AREA FOR SUNAD
 DS 2H AREA FOR SMODS

I-O BASE ROUTINE - GROUP 1
INTERNAL UNIT SENSE ROUTINE

ALDR0988
ALDR0989
ALDR0990
ALDR0991
ALDR0992
ALDR0993
ALDR0994
ALDR0995
ALDR0996
ALDR0997
ALDR0998
ALDR0999
ALDR1000
ALDR1001
ALDR1002
ALDR1003
ALDR1004
ALDR1005
ALDR1006
ALDR1007
ALDR1008
ALDR1009

NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE

NOTE -- REQUIRES PRESENCE OF SENSE ENTRY ROUTINE

NOTE -- REQUIRES PRESENCE OF INTERNAL CALL ROUTINE IN I-O BASE ROUTINE GROUP

NOTE -- REQUIRES THAT SLUBRG CONTAIN SENSE DEVICE UNIT BLOCK ADDRESS AT TIME OF ENTRY TO THIS ROUTINE

NOTE -- SENSE INFORMATION -- 6 BYTES -- IS CONTAINED IN SYMBOLIC AREA SNSA

001788

USING SBSAD,SBSRG

001A6E 44 00 F 286
001A72 41 10 F 5C6
001A76 D2 01 F 338 6 002
001A7C 45 00 F 28A

SENS EX 0,SNTCL SAVE REGISTERS
LA SREGZ,SSNSH SET UP SENSE ENTRY
MVC SNSUN(2),2(SLUBRG) SET SENSE SWT
BAL SREGR,SNTCL GO TO ISSUE INTER-

ALDR1010
ALDR1011
ALDR1012
ALDR1013

001A80 44 00 F 2AA
001A84 44 00 F 2AE

EX 0,SNTCLA RESTORE REGISTERS
EX 0,SNTCLB RESTORE I-O OLD

ALDR1014
ALDR1015
ALDR1016

001A88 44 00 F 284
001A8C 07 F8

EX 0,SNTCLC RESTORE SAVFD CCW
BCR 15,SREGM RETURN

ALDR1017
ALDR1018
ALDR1019

001ABE
0018FE
0018FE 47 10 F 306
00190A
00190A 47 F0 F 318
001ABE

SENSA EQU * DEFINE CURRENT IC
DRG SID3
BC 1,SENSA SET UP ENTRY
DRG SNTPA
RC 15,SENSAL SET UP ENTRY
ORG SENA RESTORE CURRENT IC

ALDR1020
ALDR1021
ALDR1022
ALDR1023
ALDR1024
ALDR1025
ALDR1026
ALDR1027

001ABE 05 01 6 002 F 338
001A94 47 80 F 17A
001A98 91 80 F 1D0
001A9C 47 F0 F 21E

CLC 2(2,SLUBRG),SNSUN CHK IF SENSE DEV
BC 8,SID3+4 YFS - GO TO RETURN
TM *,X*80* SET TO CC 3 AND
BC 15,SAGINI BRANCH IF NO

ALDR1028
ALDR1029
ALDR1030
ALDR1031
ALDR1032

001AA0 05 01 6 002 F 338
001AA6 47 70 F 330
001AAA 02 01 F 338 F 7CE
001AB0 41 80 F 1D0
001AB4 47 F0 F 1BE
001AB8 91 0E 0 045

SENSAL CLC 2(2,SLUBRG),SNSUN CHK IF SENSE DEV
BC 7,SENSB RC IF NO
MVC SNSUN(2),SZROS CLEAR SENSF SWT
LA SREGM,SNTPM SET TO PROCEED
BC 15,SNTPH1+4 GO TO RETURN
SENSB TM 69:14 CHK FOR 3 CHANNEL
ERROR CONDITIONS

ALDR1033
ALDR1034
ALDR1035
ALDR1036
ALDR1037
ALDR1038
ALDR1039

001ABC 47 F0 F 186
001AC0 0000

BC 15,SNTPR RETURN TO CHECK
SNSUN DC AL2(1) SENSE SWITCH

ALDR1040
ALDR1041
ALDR1042

I-O BASE ROUTINE - GROUP 1
CONDITION CODE 1 UNIT IDENTITY DISPLAY

ALDR1044
ALDR1045
ALDR1046

NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE

ALDR1047
ALDR1048
ALDR1049
ALDR1050
ALDR1051

001788

USING SBSAD,SBSRG

001AC2
0019A6
0019A6 47 10 F 33A
001AC2

SCCIN EQU * DEFINE CURRENT IC
ORG SAGINI
BC 1,SCCIN SET UP ENTRY
ORG SCCIN RESTORE CURRENT IC

ALDR1052
ALDR1053
ALDR1054
ALDR1055
ALDR1056
ALDR1057

001AC2 40 70 0 03A
001AC6 96 F0 0 03A

STH SUREG,5R SET DEVICE ADDRESS
OI 58,X*F0* SET UNIT ID INSERT

ALDR1058
ALDR1059

001ACA 47 F0 F 226

BC 15,SAGIN3 RETURN -- OVERLOAD
TO ANY FURTHER

ALDR1060
ALDR1061

EXPANSION OF CC 1 ROUTINE

ALDR1062
ALDR1063
ALDR1064
ALDR1065

I-O BASE ROUTINE - GROUP 1
NEW PSW SET UP BASE ROUTINE

NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE

SET UP I-O INTERRUPT,
MACHINE CHECK INTERRUPT,
AND EXTERNAL INTERRUPT
NEW PSWS

	001788		USING	SBSAD,SBSRG			ALDR1067
001ACE		SION2	EQU	*	DEFINE CURRENT IC		ALDR1068
0018DC			ORG	SION1			ALDR1069
0018DC	47 F0 F 346		BC	15,SION2	SET UP ENTRY		ALDR1070
001874			ORG	SIOW+4			ALDR1071
001874	D2 07 0 070 F 36C		MVC	112(8),SMPS	SET UP INITIAL		ALDR1072
		*			NEW MACH CHK PSW		ALDR1073
001ACE		*	ORG	SION2	RESTORE CURRENT IC		ALDR1074
		*					ALDR1075
001ACE	D2 07 0 058 F 364		MVC	88(8),SXPS	SET EXTERNAL NEW		ALDR1077
		*			PSW TO REPEAT		ALDR1078
		*			I-O OPERATION		ALDR1079
001AD4	D2 07 0 070 F 36C	SION3	MVC	112(8),SMPS	NEW MACH CHK PSW		ALDR1080
		*			SET UP TO WAIT		ALDR1081
001ADA	D2 07 0 078 F 374		MVC	120(8),SIOPS	SET UP I-O NEW PSW		ALDR1082
		*			TO ENTER INTPT		ALDR1083
		*			ANALYZER		ALDR1084
001AE0	D7 0F 0 038 0 038		XC	56(16),56	CLEAR I-O OLD PSW		ALDR1085
		*			- REPLACED INSTR		ALDR1086
001AE6	47 F0 F 15A		BC	15,SION1+6	RETURN		ALDR1087
		*					ALDR1088
001AEC			DS	OF	ALIGN TO WORD		ALDR1089
001AEC	00	SXPS	DC	AL1(0)	CHNS DISABLED --		ALDR1090
		*			EXTRN DISABLED		ALDR1091
001AED	00		DC	AL1(0)	MACHINE CHECK		ALDR1092
		*			DISABLED		ALDR1093
001AEE	0000		DC	AL2(0)			ALDR1094
001AFO	000018B0		DC	A(SXTRN)	GO TO REPEAT I-O		ALDR1095
		*			SFT UP		ALDR1096
001AF4	00	SMPS	DC	AL1(0)	ALL DISABLED		ALDR1097
001AF5	02		DC	AL1(2)	WAIT		ALDR1098
001AF6	000000		DC	AL3(0)			ALDR1099
001AF9	C9D4E2		DC	C*IMS*	PSW ERROR MESSAGE		ALDR1100
		*					ALDR1101
001AFC	00	SIOPS	DC	AL1(0)	CHNS DISABLED --		ALDR1102
		*			EXTRN DISABLED		ALDR1103
001AFD	00		DC	AL1(0)	MACHINE CHECK		ALDR1104
		*			DISABLED		ALDR1105
001AFE	0000		DC	AL2(0)			ALDR1106
001800	0000180C		DC	A(SNTPIN)	GO TO INTPT		ALDR1107
		*			RECEIVER		ALDR1108
		*					ALDR1109

UNIT CHECK GROUP
UNIT CHECK BASE ROUTINE

NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE

	001788		USING	SBSAD,SBSRG			ALDR1121
001804		SNKX	EQU	*	DEFINE CURRENT IC		ALDR1122
00191E			ORG	SNTPC			ALDR1123
00191E	47 10 F 37C		BC	1,SNKX	SET UP FNTRY		ALDR1124
001804			ORG	SNKX	RESTORE CURRENT IC		ALDR1125
		*					ALDR1126
001804	47 F0 F 380		BC	15,**+4	DUMMY BC -- OVRFL		ALDR1127
		*			WITH RC TO UNIT		ALDR1128
		*			CHK SPECIFIC		ALDR1129
		*			ROUTINE		ALDR1130
001808	45 80 F 2E6		BAL	SREGH,SENS	GO TO ISSUE SENSE		ALDR1131
00180C	91 C0 F 7C0		TM	SNSA,192	INTVN AND COMM REFJ		ALDR1132
001810	47 70 F 212		BC	7,SAGIN	BRANCH ON EITHER		ALDR1133
001814	91 01 F 7C0		TM	SNSA,1	SENSE BYTE 0-RIT 1		ALDR1134
001818	47 80 F 1F4		BC	8,SAGIND	B TO SEREP IF OFF		ALDR1135
00181C	D5 01 6 002 F 01E		CLC	2(2,SLUBRG),SPRTR+2	CHK IF PRNTR		ALDR1136
001822	47 70 F 1F4		BC	7,SAGIND	B TO SEREP IF NOT		ALDR1137
001826	47 F0 F 19A		BC	15,SNTPC+4	RETURN -- IF NOT		ALDR1138
		*			INTERCEPTED TO		ALDR1139
		*			ANALYZER		ALDR1140
		*					ALDR1141
		*					ALDR1142
		*					ALDR1143
		*					ALDR1144
		*					ALDR1145
		*					ALDR1146
		*					ALDR1147
		*					ALDR1148
		*					ALDR1149

		UNIT CHECK GROUP		ALDR1151
		UNIT CHECK TAPE ROUTINE		ALDR1152
				ALDR1153
				ALDR1154
				ALDR1155
				ALDR1156
				ALDR1157
				ALDR1158
				ALDR1159
				ALDR1160
				ALDR1161
				ALDR1162
				ALDR1163
				ALDR1164
				ALDR1165
				ALDR1166
				ALDR1167
				ALDR1168
				ALDR1169
				ALDR1170
				ALDR1171
				ALDR1172
				ALDR1173
				ALDR1174
				ALDR1175
				ALDR1176
				ALDR1177
				ALDR1178
				ALDR1179
				ALDR1180
				ALDR1181
				ALDR1182
				ALDR1183
				ALDR1184
				ALDR1185
				ALDR1186
				ALDR1187
				ALDR1188
				ALDR1189
				ALDR1190
				ALDR1191
				ALDR1192
				ALDR1193
				ALDR1194
				ALDR1195
				ALDR1196
				ALDR1197
				ALDR1198
				ALDR1199
				ALDR1200
				ALDR1201
				ALDR1202
				ALDR1203
				ALDR1204

		UNIT CHECK GROUP		ALDR1206
		UNIT CHECK TAPE ROUTINE		ALDR1207
		- CONTINUED -		ALDR1208
				ALDR1209
				ALDR1210
				ALDR1211
				ALDR1212
				ALDR1213
				ALDR1214
				ALDR1215
				ALDR1216
				ALDR1217
				ALDR1218
				ALDR1219
				ALDR1220
				ALDR1221
				ALDR1222
				ALDR1223
				ALDR1224
				ALDR1225
				ALDR1226
				ALDR1227
				ALDR1228
				ALDR1229
				ALDR1230
				ALDR1231
				ALDR1232
				ALDR1233
				ALDR1234
				ALDR1235
				ALDR1236
				ALDR1237

001B2A	001788	SNKT	EQU	USING SBSAD,SBSRG	DEFINE CURRENT IC	ALDR1174
001B04			ORG	SNKX		ALDR1175
001B04	47 FO F 3A2		BC	15,SNKT	SET UP ENTRY	ALDR1176
001B2A			ORG	SNKT	RESTORE CURRENT IC	ALDR1177
001B2A	D5 01 6 002 F 036		CLC	2(2,SLUBRG),STAP+2	CHK IF TAPE	ALDR1179
001B30	47.70 F 380		BC	7,SNKX+4	RETURN IF NOT TAPE	ALDR1180
001B34	91 04 6 000		TM	0(SLUBRG),SREWF	CHK REWIND FLAG	ALDR1183
001B38	47 10 F 186		BC	1,SNTPH	BC IF YES	ALDR1184
001B3C	45 80 F 2E6		BAL	SREGM,SENS	GO TO ISSUE,SENSF	ALDR1186
001B40	91 20 F 7C0		TM	SNSA,32	CHK FOR BUS OUT	ALDR1187
001B44	47 10 F 3F0		BC	1,SNKTRY	BC TO RETRY	ALDR1188
001B48	91 10 F 7C0		TM	SNSA,16	CHK FOR FOUP CHK	ALDR1189
001B4C	47 10 F 1F4		BC	1,SAGIND	BC TO SI LOG OUT	ALDR1190
001B50	91 40 F 7C0		TM	SNSA,STINT	CHK FOR INTERV REQ	ALDR1191
001B54	47 10 F 3EC		BC	1,SNKTE	INTER REQ BC --	ALDR1192
					OVERL FOR INTFRV	ALDR1193
					REQUIRED ROUTINE	ALDR1194
001B58	91 04 F 7C0		TM	SNSA,4	CHK FOR OVERRUN	ALDR1195
001B5C	47 10 F 3F8		BC	1,SNKTRY+8	BC TO RETRY	ALDR1196
001B60	91 08 F 7C0		TM	SNSA,STTRY	CHK FOR DATA CHK	ALDR1197
001B64	47 10 F 3E4	SNKT3	BC	1,SNKTS	RETRY BC - OVERL	ALDR1198
					WITH BC TO RETRY	ALDR1199
001B68	91 03 F 7C0		TM	SNSA,3	CHK FOR SI ERRORS	ALDR1200
001B6C	47 70 F 1F4	SNKTS	BC	7,SAGIND	BC TO SI LOG OUT	ALDR1201
001B70	45 80 F 41A		BAL	SREGM,SNKTR1	TO REPOSITION TAPE	ALDR1202
001B74	47 FO F 212	SNKTE	BC	15,SAGIN	BC TO FRCDR LOG	ALDR1203
						ALDR1204

UNIT CHECK GROUP
TAPE REPLY BASE ROUTINE

ALDR1239
ALDR1240
ALDR1241
ALDR1242
ALDR1243
ALDR1244
ALDR1245
ALDR1246
ALDR1247
ALDR1248
ALDR1249
ALDR1250
ALDR1251
ALDR1252
ALDR1253
ALDR1254
ALDR1255
ALDR1256
ALDR1257
ALDR1258
ALDR1259
ALDR1260
ALDR1261
ALDR1262
ALDR1263
ALDR1264
ALDR1265
ALDR1266
ALDR1267
ALDR1268
ALDR1269
ALDR1270
ALDR1271
ALDR1272
ALDR1273
ALDR1274
ALDR1275
ALDR1276
ALDR1277
ALDR1278
ALDR1279
ALDR1280
ALDR1281
ALDR1282
ALDR1283
ALDR1284
ALDR1285
ALDR1286
ALDR1287
ALDR1288

NOTE -- REQUIRES PRESENCE OF UNIT CHECK
TAPE ROUTINE

NOTE -- REQUIRES PRESENCE OF CONTROL ENTRY
MODULE IN I-O CALL ENTRY GROUP

	001788		USING	SBSAD,SBSRG		
001BCC		STRET	EQU	*	DEFINE CURRENT IC	
001B64			ORG	SNKT3		
001B64	47 70 F 444		BC	7,STRET	SET UP ENTRY	
001BCC			ORG	STRET	RESTORE CURRENT IC	
001BCC	44 00 F 286		EX	0,SNCTL	SAVE REGISTERS	
001B00	91 04 F 7C1		TM	SNSA+1,4	CHECK WRITE STATUS	
001B04	47 10 F 478		BC	1,STRET1	B IF WRITE STATUS	
001B08	48 80 F 2CC		LH	SREGM,SNCLK+18	LOAD CCM ADDRESS	
001B0C	48 88 0 006		LH	SREGM,6(SREGM,0)	LOAD CCM COUNT	
001B0E	48 80 F 2C8		SH	SREGM,SNCLK+14	SUBTRACT CSW COUNT	
001BE4	47 80 F 478		BC	8,STRET1	BRANCH IF ZERO	
001BE8	49 80 F 4E0		CH	SREGM,STHLV	CHK IF 12 OR LESS	
001BEC	47 C0 F 478		BC	12,STRET1	BRANCH GTR OR EQU	
001BF0	91 80 F 7C1		TM	SNSA+1,X*80'	CHECK NOISE BIT	
001BF4	47 10 F 478		BC	1,STRET1	BRANCH IF ON	
001BF8	44 00 F 2AA		EX	0,SNCTLA	RESTORE REGISTERS	
001BFC	47 F0 F 414		BC	15,SNKTRE	GO TO REISSUE CALL	
001C00	D2 01 F 4EE F 644	STRET1	MVC	STMX3(2),STMX1	SAVE RETRY COUNT	
001C06	45 80 F 41A		BAL	SREGM,SNKTR1	TO REPOSITION TAPE	
001C0A	48 80 F 7CA		LH	SREGM,STRCT	L RETRY COUNT	
001C0E	41 88 0 001		LA	SREGM,1(SREGM)	STEP FOR CURRENT	
					ATTEMPT	
001C12	40 80 F 7CA		STH	SREGM,STRCT	SAVE CURRENT COUNT	
001C16	48 80 F 4EE		SH	SREGM,STMX3	SUBTRACT MAXIMUM	
					RETRY COUNT	
001C1A	47 20 F 488		BC	2,STREC	B IF EXCEEDED	
001C1E	44 00 F 286	SRTIE	EX	0,SNCTL	SAVE REGISTERS	
001C22	41 10 F 682		LA	SREGZ,SCTLW	SET CONTROL ENTRY	
001C26	41 60 F 034		LA	SLUBRG,STAP	DEV-UNIT BLOCK ADR	
001C2A	D2 01 F 4EB F 036		MVC	SDIE(2),STAP+2	GET DEVICE ADDRESS	
001C30	58 30 F 4E8		L	SREGN,SDIF	LOAD DEVICE ADDR	
001C34	58 20 F 4E4		L	SREGA,STIEM	TIE MODFR BITS	
001C38	45 80 F 42E		BAL	SREGM,SNKTR2	GO TO ISSUE TIF	
					INTERNAL CALL	
001C3C	47 F0 F 414		BC	15,SNKTRE	GO TO REISSUE CALL	

UNIT CHECK GROUP
TAPE REPLY BASE ROUTINE
- CONTINUED -

ALDR1297
ALDR1291
ALDR1292
ALDR1293
ALDR1294
ALDR1295
ALDR1296
ALDR1297
ALDR1298
ALDR1299
ALDR1300
ALDR1301
ALDR1302
ALDR1303
ALDR1304
ALDR1305
ALDR1306
ALDR1307
ALDR1308
ALDR1309
ALDR1310
ALDR1311
ALDR1312
ALDR1313
ALDR1314
ALDR1315
ALDR1316
ALDR1317
ALDR1318
ALDR1319
ALDR1320

001C40	91 03 F 2D6	STREC	TM	SNCLK+28,SCTLOP	TEST FOR CNTRL OP	
001C44	47 90 F 400		BC	9,STREC3	NOT READ OR WRITE	
001C48	91 02 F 2D6		TM	SNCLK+28,S9D	TEST FOR READ OP	
001C4C	47 80 F 1F4	STREC1	BC	8,SAGIND	B IF NOT -- OVERL	
					WITH RC TO ERASE	
					FORWARD	
001C50	47 10 F 1F4	STREC2	BC	1,SAGIND	B IF READ-- OVERL	
					WITH RC TO BACK-	
					SPACE CLEANER	
001C54	47 F0 F 1F4		BC	15,SAGIND	BRANCH TO LOG OUT	
001C58	47 80 F 1F4	STREC3	BC	8,SAGIND	B IF NOT CNTRL OP	
001C5C	91 1F F 2D6		TM	SNCLK+29,STM	TEST FOR WTM OP	
001C60	47 10 F 1F4		BC	1,SAGIND	B IF WTM -- OVERL	
					WITH RC TO ERASE	
					FORWARD	
001C64	47 F0 F 414		BC	15,SNKTRE	GO TO REISSUE CALL	
001C68	000C		STWL	DC	X*000C'	
001C6C			DS	DC	OF	
001C6C	18		STIEM	DC	X*18'	TRACK IN ERROR
001C6D	001F4A		DC	AL3(SNSA+2)	TIE SENSE BYTE	
001C70	0000		SDIE	DC	AL2(0)	DEVICE IN ERROR
001C72	0001		DC	AL2(1)	DATA COUNT	
001C74	0000		STMX2	DC	AL2(0)	ELG MAX RETRY
001C76	0000		STMX3	DC	AL2(0)	

UNIT CHECK GROUP
TAPE READ RETRY ROUTINE
BACKSPACE CLEANER

ALDR1322
ALDR1323
ALDR1324
ALDR1325
ALDR1326
ALDR1327
ALDR1328
ALDR1329
ALDR1330
ALDR1331
ALDR1332
ALDR1333
ALDR1334
ALDR1335
ALDR1336
ALDR1337
ALDR1338
ALDR1339
ALDR1340
ALDR1341
ALDR1342
ALDR1343
ALDR1344
ALDR1345
ALDR1346
ALDR1347
ALDR1348
ALDR1349
ALDR1350
ALDR1351
ALDR1352
ALDR1353
ALDR1354
ALDR1355
ALDR1356
ALDR1357
ALDR1358
ALDR1359
ALDR1360
ALDR1361
ALDR1362
ALDR1363
ALDR1364
ALDR1365
ALDR1366
ALDR1367
ALDR1368
ALDR1369
ALDR1370
ALDR1371

NOTE -- REQUIRES PRESENCE OF TAPE RETRY
BASE ROUTINE

NOTE -- REQUIRES PRESENCE OF UNIT SENSE
ROUTINE IN I-O BASE ROUTINE GROUP 1

	001788		USING	SBSAD,SBSRG		
001C78		SBKSP	EQU	*	DEFINE CURRENT IC	
001C50			ORG	STRECZ		
001C50	47 10 F 4F0		BC	1,SBKSP	SET UP ENTRY	
001C78			ORG	SBKSP	RESTORE CURRENT IC	
001C78	D2 03 F 7C8 F 7CE		MVC	SCNTR(4),SZROS	RESET RETRY COUNT	
001C7E	48 80 F 7CC		LH	SREGM,STRCT	LOAD BKSP CLNR CNT	
001C82	41 88 0 001		LA	SREGM,1(SREGM)	INCREMENT COUNT	
001C86	40 80 F 7CC		STH	SREGM,STRCTT	SAVE CURRENT COUNT	
001C8A	48 80 F 644		SH	SREGM,STMX1	SUB MAXIMUM COUNT	
001C8E	47 C0 F 518		BC	12,SBKSP1	B IF NOT EXCEEDED	
001C92	D2 01 F 7CC F 7CE		MVC	STRCTT(2),SZROS	RESET CLEANER CNT	
001C98	58 80 F 77C		L	SREGM,SSVR+32	RESTORE REG B	
001C9C	47 F0 F 1F4		BC	15,SAGIND	BRANCH TO LOG OUT	
001CA0	D2 00 F 4ED F 62A	SBKSP1	MVC	STMX2+1(1),SMOV	SAVE MOTION SWITCH	
001CA6	92 FF F 62A		MVI	SMOV,255	FORCE BACKSPACE	
001CAA	45 80 F 41A		BAL	SREGM,SNKTR1	TO BACKSPACE TAPE	
001CAE	45 80 F 2E6		BAL	SREGM,SENS	GO TO ISSUE SENSE	
001CB2	91 08 F 7C1		TM	SNSA+1,8	CHK FOR LOAD POINT	
001CB6	47 10 F 552		BC	1,SBKSP2+4	B IF AT LOAD POINT	
001CBA	48 80 F 7C8		LH	SREGM,SCNTR	LOAD SPACE COUNT	
001CBE	41 88 0 001		LA	SREGM,1(SREGM)	INCREMENT	
001CC2	40 80 F 7C8		STH	SREGM,SCNTR	SAVE CURRENT COUNT	
001CC6	95 04 F 7C9		CLI	SCNTR+1,4	CHECK FOR MAXIMUM	
001CCA	47 40 F 518		BC	4,SBKSP1	BRANCH IF NOT	
001CCE	92 00 F 62A		MVI	SMOV,0	FORCE TO FWD SPACE	
001CD2	47 F0 F 552		BC	15,**8		
001CD6	40 80 F 7C8	SBKSP2	STH	SREGM,SCNTR	SAVE CURRENT COUNT	
001CDA	91 07 F 7C9		TM	SCNTR+1,4	CHECK SPACE COUNT	
001CDE	47 80 F 566		BC	8,SBKSPE	BRANCH IF ZERO	
001CE2	45 80 F 41A		BAL	SREGM,SNKTR1	TO FORWARD SPACE	
001CE6	48 80 F 7C8		LH	SREGM,SCNTR	LOAD SPACE COUNT	
001CEA	46 80 F 54E		BCT	SREGM,SBKSP2	DECREMENT AND CHK	
001CEE	D2 00 F 62A F 4ED	SBKSPE	MVC	SMOV(1),STMX2+1	RESTORE MOTION SW	
001CF4	47 F0 F 414		BC	15,SNKTR	GO TO REISSUE CAL	

UNIT EXCEPTIONAL CONDITION GROUP
OF BASE ROUTINE

NOTE -- REQUIRES PRESENCE OF I-O BASE
ROUTINE

	001788		USING	SBSAD,SBSRG		
001CF8		SUEX	EQU	*	DEFINE CURRENT IC	
001926			ORG	SNTPD		
001926	47 10 F 570		BC	1,SUEX	SET UP ENTRY	
001CF8			ORG	SUEX	RESTORE CURRENT IC	
001CF8	47 F0 F 574		BC	15,**4	DUMMY BC -- OVERL WITH BC TO U E SPECIFIC BASE ROUTINE	
001CFC	47 F0 F 212	SUEXP	BC	15,SAGIN	RETURN -- IF NOT INTERCEPTED TO INDICATOR WAIT MINIMAL ROUTINE -- OVERL WITH BC TO SET UP USER SUPPLIED ADDRESS IN REGISTER 4	

ALDR1373
ALDR1374
ALDR1375
ALDR1376
ALDR1377
ALDR1378
ALDR1379
ALDR1380
ALDR1381
ALDR1382
ALDR1383
ALDR1384
ALDR1385
ALDR1386
ALDR1387
ALDR1388
ALDR1389
ALDR1390
ALDR1391
ALDR1392
ALDR1393
ALDR1394
ALDR1395
ALDR1396
ALDR1397
ALDR1398
ALDR1399

			UNIT EXCEPTIONAL CONDITION GROUP	ALDR1401
			UE SPECIFIC UNIT BASE ROUTINE	ALDR1402
			*	ALDR1403
			*	ALDR1404
			NOTE -- REQUIRES PRESENCE OF U E BASE	ALDR1405
			ROUTINE	ALDR1406
			*	ALDR1407
			*	ALDR1408
	001788	USING	SBSAD,SBSRG	ALDR1409
001D00		SUES	EQU *	ALDR1410
001CF8		ORG	SUEX	ALDR1411
001CF8	47 FO F 578	BC	15,SUES	ALDR1412
001D00		ORG	SUES	ALDR1413
			DEFINE CURRENT IC	ALDR1414
001D00	47 FO F 57C	BC	15,***	ALDR1415
			DUMMY BC -- OVERL	ALDR1416
			SPECIFIC READER-	ALDR1417
			PUNCH ROUTINE	ALDR1418
001D04	47 FO F 580	*SUEB BC	15,***	ALDR1419
		BC	15,***	ALDR1420
			DUMMY BC -- OVERL	ALDR1421
			DUMMY BC -- OVERL	ALDR1422
			WITH BC TO U E	ALDR1423
			SPECIFIC TYPF WR	ALDR1424
			ROUTINE	ALDR1425
001D08	47 FO F 584	*SUEC BC	15,***	ALDR1426
		BC	15,***	ALDR1427
			DUMMY BC -- OVERL	ALDR1428
			DUMMY BC -- OVERL	ALDR1429
			WITH BC TO U E	ALDR1430
			SPECIFIC PRINTER	ALDR1431
			ROUTINE	ALDR1432
001D0C	47 FO F 588	*SUED BC	15,***	ALDR1433
		BC	15,***	ALDR1434
			DUMMY BC -- OVERL	ALDR1435
			DUMMY BC -- OVERL	ALDR1436
			WITH BC TO U E	ALDR1437
			SPECIFIC TAPE	ALDR1438
			ROUTINE	ALDR1439
001D10	47 FO F 574	*SUER BC	15,SUEXP	ALDR1440
		BC	15,SUEXP	ALDR1441
			RETURN IF NOT	ALDR1442
			INTERCEPTED TO	ALDR1443
			INDICATOR WAIT	ALDR1444
			WITH BC TO U E	ALDR1445

			UNIT EXCEPTIONAL CONDITION GROUP	ALDR1439
			UE BASE ROUTINE GROUP	ALDR1440
			*	ALDR1441
			*	ALDR1442
			*	ALDR1443
			SET UP UNIT EXCEPTION RETURN ADDRESS	ALDR1444
			*	ALDR1445
			NOTE -- REQUIRES PRESENCE OF UNIT EXCEPTION	ALDR1446
			BASE ROUTINE	ALDR1447
			*	ALDR1448
			*	ALDR1449
	001788	USING	SBSAD,SBSRG	ALDR1450
001D14		SUEXR	EQU *	ALDR1451
001CFC		ORG	SUEXP	ALDR1452
001CFC	47 FO F 58C	BC	15,SUEXR	ALDR1453
001D14		ORG	SUEXR	ALDR1454
001D14	D2 02 F 735 F 76D	MVC	SRTRN+5(3),SSVR+17 ADDRESS	ALDR1455
001D1A	47 FO F 186	BC	15,SNTPH	ALDR1456
			RETURN	ALDR1457

		I-O CALL ENTRY GROUP		ALDR1459
		READ CARD ENTRY - WAIT		ALDR1460
				ALDR1461
			NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE	ALDR1462
				ALDR1463
			NOTE -- REQUIRES PRESENCE OF ADDRESS CONSTANT IN SINTRY TABLE	ALDR1464
				ALDR1465
				ALDR1466
				ALDR1467
				ALDR1468
				ALDR1469
001D1E	001788	SRDCW	USING SBSAD,SBSRG	ALDR1470
001788			EQU *	ALDR1471
001788	00001D1E		ORG SINTRY	ALDR1472
001D1E			DC A(SRDCW)	ALDR1473
			ORG SRDCW	ALDR1474
	00000F		DROP SBSRG	ALDR1475
	001D1E		USING *,SREGZ	ALDR1476
001D1E	50 F0 0 014		ST SBSRG,SHOLD	ALDR1477
001D22	47 F0 1 11A		BC 15,SSAVR	ALDR1478
				ALDR1479
				ALDR1480
				ALDR1481
				ALDR1482
				ALDR1483
				ALDR1484
				ALDR1485
				ALDR1486
				ALDR1487
				ALDR1488
				ALDR1489

		I-O CALL ENTRY GROUP		ALDR1491
		WRITE MESSAGE ENTRY - WAIT		ALDR1492
				ALDR1493
			NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE	ALDR1494
				ALDR1495
			NOTE -- REQUIRES PRESENCE OF ADDRESS CONSTANT IN SINTRY TABLE	ALDR1496
				ALDR1497
				ALDR1498
				ALDR1499
				ALDR1500
				ALDR1501
				ALDR1502
				ALDR1503
				ALDR1504
				ALDR1505
				ALDR1506
				ALDR1507
				ALDR1508
				ALDR1509
				ALDR1510
				ALDR1511
				ALDR1512
				ALDR1513
				ALDR1514
				ALDR1515
				ALDR1516
				ALDR1517
				ALDR1518
				ALDR1519
				ALDR1520
				ALDR1521
				ALDR1522


```

*           I-O CALL ENTRY GROUP                      ALDR1610
*           TAPE ENTRY BASE ROUTINE                  ALDR1611
*           NOTE -- REQUIRES PRESENCE OF I-O BASE    ALDR1612
*           ROUTINE                                  ALDR1613
*           NOTE -- REQUIRES PRESENCE OF TAPE UNIT   ALDR1614
*           REFERENCE IN SINTRY TABLE -- SRTPW      ALDR1615
*           NOTE -- IF READ TAPE -- SRTPW -- IS NOT  ALDR1616
*           ONE OF THE TAPE FUNCTIONS SLECTED TO    ALDR1617
*           BE INCLUDED IN AN I-O PACKAGE            ALDR1618
*           WHICH DOES USE OTHER TAPE FUNCTIONS      ALDR1619
*           THE ADDRESS FOR ANY ONE OF THE           ALDR1620
*           OTHER TAPE CALLS FROM THE SECONDARY      ALDR1621
*           CALL ENTRY TABLE MAY BE SUBSTITUTED    ALDR1622
*           IN THE SINTRY TABLE BLOCK NOW           ALDR1623
*           HOLDING THE SRTPW CALL ENTRY             ALDR1624
*           ADDRESS. ALL LINKAGE REFERENCES          ALDR1625
*           MUST BE ADJUSTED ACCORDINGLY            ALDR1626
*           *                                         ALDR1627
*           *                                         ALDR1628
*           *                                         ALDR1629
*           *                                         ALDR1630
*           *                                         ALDR1631
*           *                                         ALDR1632
*           *                                         ALDR1633
*           *                                         ALDR1634
*           *                                         ALDR1635
*           *                                         ALDR1636
*           *                                         ALDR1637
*           *                                         ALDR1638
*           *                                         ALDR1639
*           *                                         ALDR1640
*           *                                         ALDR1641
*           *                                         ALDR1642
*           *                                         ALDR1643
*           *                                         ALDR1644
*           *                                         ALDR1645
*           *                                         ALDR1646
*           *                                         ALDR1647
*           *                                         ALDR1648
*           *                                         ALDR1649
*           *                                         ALDR1650
001D96  96 02 F 718      001788  USING SBSAD,SBSRG                      ALDR1651
001D9A  92 00 F 62A      STPBK  OI  SWNW,SWATF          SET FOR WAIT CALL  ALDR1652
*           MVI  SMOV,0          SET BACKWARD        ALDR1653
001D9E  47 F0 F 622      *STPBK MVI  SMOV,0          SET BACKWARD        ALDR1654
001DA2  96 02 F 718      *           MVI  SMOV,0          MOTION SWITCH      ALDR1655
*           *                                         ALDR1656
001DA6  92 FF F 62A      *           BC   15,*+12        *           *           ALDR1657
*           *           STPFW  OI  SWNW,SWATF          SET FOR WAIT CALL  ALDR1658
*           *           *STPFW  MVI  SMOV,255         SET FORWARD MOTION ALDR1659
*           *           MVI  SMOV,255         SET FORWARD MOTION ALDR1660
*           *           *           SWITCH          ALDR1661
001DAA  41 60 F 034      *           LA   SLUBRG,STAP        SET TAPE UNIT      ALDR1662
*           *           *           REFERENCE        ALDR1663
001DAE  47 F0 F 6F4      *           BC   15,SIOGO        GO TO START I-O    ALDR1664
001DB2  00              SMOV  DC   AL1(0)          TAPE FWD-BKWD     ALDR1665
*           *           *           MOTION SWITCH    ALDR1666
*           *           *           ONES - FWD       ALDR1667
*           *           *           ZEROS - BKWD     ALDR1668
*           *           *           SET UP FOR CHANNEL CONTROL COMMAND ALDR1669
*           *           *           *           ALDR1670
*           *           *           *           ALDR1671
001DB3  00              *           *           *           ALDR1672
001DB4  92 00 F 645      STCMD  MVI  STMX1+1,0      SET NO RETRY COUNT ALDR1673
001DB8  41 20 0 000      LA     SREGA,0            SET UP CHANNFL    ALDR1674
001DBC  41 30 0 001      LA     SREGN,1            COMMAND PARAMETERS ALDR1675
001DC0  41 11 0 004      LA     SREGZ,4(SREGZ)    ADJUST SREGZ FOR  ALDR1676
*           *           *           RETURN          ALDR1677
*           *           *           *           ALDR1678
001DC4  47 F0 F 6E2      *           BC   15,SSAVR1        PARAMETERS         ALDR1679
*           *           *           *           ALDR1680
*           *           *           *           ALDR1681
001DC8  58 F0 F 000      *           STFSB  L   SBSRG,SBSAD        DUMMY L -- OVFL   ALDR1682
*           *           *           *           WITH LA SREGZ OF  ALDR1683
*           *           *           *           FWD SPACE TAPF  ALDR1684
*           *           *           *           RECORD ROUTINE  ALDR1685
*           *           *           *           RETRY MAXIMUM    ALDR1686
001DCC  0000          STMX1  DC   AL2(0)        *           *           ALDR1687
*           *           *           *           *           ALDR1688
*           *           *           *           *           ALDR1689
*           *           *           *           *           ALDR1690
*           *           *           *           *           ALDR1691
*           *           *           *           *           ALDR1692
*           *           *           *           *           ALDR1693
*           *           *           *           *           ALDR1694
*           *           *           *           *           ALDR1695
*           *           *           *           *           ALDR1696
*           *           *           *           *           ALDR1697
*           *           *           *           *           ALDR1698
*           *           *           *           *           ALDR1699
*           *           *           *           *           ALDR1700
*           *           *           *           *           ALDR1701
*           *           *           *           *           ALDR1702
*           *           *           *           *           ALDR1703
*           *           *           *           *           ALDR1704
*           *           *           *           *           ALDR1705
*           *           *           *           *           ALDR1706
*           *           *           *           *           ALDR1707
*           *           *           *           *           ALDR1708
*           *           *           *           *           ALDR1709
*           *           *           *           *           ALDR1710
*           *           *           *           *           ALDR1711
*           *           *           *           *           ALDR1712
*           *           *           *           *           ALDR1713
*           *           *           *           *           ALDR1714
*           *           *           *           *           ALDR1715
*           *           *           *           *           ALDR1716
*           *           *           *           *           ALDR1717
*           *           *           *           *           ALDR1718
*           *           *           *           *           ALDR1719
*           *           *           *           *           ALDR1720
*           *           *           *           *           ALDR1721
*           *           *           *           *           ALDR1722
*           *           *           *           *           ALDR1723
*           *           *           *           *           ALDR1724
*           *           *           *           *           ALDR1725
*           *           *           *           *           ALDR1726
*           *           *           *           *           ALDR1727
*           *           *           *           *           ALDR1728
*           *           *           *           *           ALDR1729
*           *           *           *           *           ALDR1730
*           *           *           *           *           ALDR1731
*           *           *           *           *           ALDR1732
*           *           *           *           *           ALDR1733
*           *           *           *           *           ALDR1734
*           *           *           *           *           ALDR1735
*           *           *           *           *           ALDR1736
*           *           *           *           *           ALDR1737
*           *           *           *           *           ALDR1738
*           *           *           *           *           ALDR1739
*           *           *           *           *           ALDR1740
*           *           *           *           *           ALDR1741
*           *           *           *           *           ALDR1742
*           *           *           *           *           ALDR1743
*           *           *           *           *           ALDR1744
*           *           *           *           *           ALDR1745
*           *           *           *           *           ALDR1746
*           *           *           *           *           ALDR1747
*           *           *           *           *           ALDR1748
*           *           *           *           *           ALDR1749
*           *           *           *           *           ALDR1750
*           *           *           *           *           ALDR1751
*           *           *           *           *           ALDR1752
*           *           *           *           *           ALDR1753
*           *           *           *           *           ALDR1754
*           *           *           *           *           ALDR1755
*           *           *           *           *           ALDR1756
*           *           *           *           *           ALDR1757
*           *           *           *           *           ALDR1758
*           *           *           *           *           ALDR1759
*           *           *           *           *           ALDR1760
*           *           *           *           *           ALDR1761
*           *           *           *           *           ALDR1762
*           *           *           *           *           ALDR1763
*           *           *           *           *           ALDR1764
*           *           *           *           *           ALDR1765
*           *           *           *           *           ALDR1766
*           *           *           *           *           ALDR1767
*           *           *           *           *           ALDR1768
*           *           *           *           *           ALDR1769
*           *           *           *           *           ALDR1770
*           *           *           *           *           ALDR1771
*           *           *           *           *           ALDR1772
*           *           *           *           *           ALDR1773
*           *           *           *           *           ALDR1774
*           *           *           *           *           ALDR1775
*           *           *           *           *           ALDR1776
*           *           *           *           *           ALDR1777
*           *           *           *           *           ALDR1778
*           *           *           *           *           ALDR1779
*           *           *           *           *           ALDR1780
*           *           *           *           *           ALDR1781
*           *           *           *           *           ALDR1782
*           *           *           *           *           ALDR1783
*           *           *           *           *           ALDR1784
*           *           *           *           *           ALDR1785
*           *           *           *           *           ALDR1786
*           *           *           *           *           ALDR1787
*           *           *           *           *           ALDR1788
*           *           *           *           *           ALDR1789
*           *           *           *           *           ALDR1790
*           *           *           *           *           ALDR1791
*           *           *           *           *           ALDR1792
*           *           *           *           *           ALDR1793
*           *           *           *           *           ALDR1794
*           *           *           *           *           ALDR1795
*           *           *           *           *           ALDR1796
*           *           *           *           *           ALDR1797
*           *           *           *           *           ALDR1798
*           *           *           *           *           ALDR1799
*           *           *           *           *           ALDR1800
*           *           *           *           *           ALDR1801
*           *           *           *           *           ALDR1802
*           *           *           *           *           ALDR1803
*           *           *           *           *           ALDR1804
*           *           *           *           *           ALDR1805
*           *           *           *           *           ALDR1806
*           *           *           *           *           ALDR1807
*           *           *           *           *           ALDR1808
*           *           *           *           *           ALDR1809
*           *           *           *           *           ALDR1810
*           *           *           *           *           ALDR1811
*           *           *           *           *           ALDR1812
*           *           *           *           *           ALDR1813
*           *           *           *           *           ALDR1814
*           *           *           *           *           ALDR1815
*           *           *           *           *           ALDR1816
*           *           *           *           *           ALDR1817
*           *           *           *           *           ALDR1818
*           *           *           *           *           ALDR1819
*           *           *           *           *           ALDR1820
*           *           *           *           *           ALDR1821
*           *           *           *           *           ALDR1822
*           *           *           *           *           ALDR1823
*           *           *           *           *           ALDR1824
*           *           *           *           *           ALDR1825
*           *           *           *           *           ALDR1826
*           *           *           *           *           ALDR1827
*           *           *           *           *           ALDR1828
*           *           *           *           *           ALDR1829
*           *           *           *           *           ALDR1830
*           *           *           *           *           ALDR1831
*           *           *           *           *           ALDR1832
*           *           *           *           *           ALDR1833
*           *           *           *           *           ALDR1834
*           *           *           *           *           ALDR1835
*           *           *           *           *           ALDR1836
*           *           *           *           *           ALDR1837
*           *           *           *           *           ALDR1838
*           *           *           *           *           ALDR1839
*           *           *           *           *           ALDR1840
*           *           *           *           *           ALDR1841
*           *           *           *           *           ALDR1842
*           *           *           *           *           ALDR1843
*           *           *           *           *           ALDR1844
*           *           *           *           *           ALDR1845
*           *           *           *           *           ALDR1846
*           *           *           *           *           ALDR1847
*           *           *           *           *           ALDR1848
*           *           *           *           *           ALDR1849
*           *           *           *           *           ALDR1850
*           *           *           *           *           ALDR1851
*           *           *           *           *           ALDR1852
*           *           *           *           *           ALDR1853
*           *           *           *           *           ALDR1854
*           *           *           *           *           ALDR1855
*           *           *           *           *           ALDR1856
*           *           *           *           *           ALDR1857
*           *           *           *           *           ALDR1858
*           *           *           *           *           ALDR1859
*           *           *           *           *           ALDR1860
*           *           *           *           *           ALDR1861
*           *           *           *           *           ALDR1862
*           *           *           *           *           ALDR1863
*           *           *           *           *           ALDR1864
*           *           *           *           *           ALDR1865
*           *           *           *           *           ALDR1866
*           *           *           *           *           ALDR1867
*           *           *           *           *           ALDR1868
*           *           *           *           *           ALDR1869
*           *           *           *           *           ALDR1870
*           *           *           *           *           ALDR1871
*           *           *           *           *           ALDR1872
*           *           *           *           *           ALDR1873
*           *           *           *           *           ALDR1874
*           *           *           *           *           ALDR1875
*           *           *           *           *           ALDR1876
*           *           *           *           *           ALDR1877
*           *           *           *           *           ALDR1878
*           *           *           *           *           ALDR1879
*           *           *           *           *           ALDR1880
*           *           *           *           *           ALDR1881
*           *           *           *           *           ALDR1882
*           *           *           *           *           ALDR1883
*           *           *           *           *           ALDR1884
*           *           *           *           *           ALDR1885
*           *           *           *           *           ALDR1886
*           *           *           *           *           ALDR1887
*           *           *           *           *           ALDR1888
*           *           *           *           *           ALDR1889
*           *           *           *           *           ALDR1890
*           *           *           *           *           ALDR1891
*           *           *           *           *           ALDR1892
*           *           *           *           *           ALDR1893
*           *           *           *           *           ALDR1894
*           *           *           *           *           ALDR1895
*           *           *           *           *           ALDR1896
*           *           *           *           *           ALDR1897
*           *           *           *           *           ALDR1898
*           *           *           *           *           ALDR1899
*           *           *           *           *           ALDR1900
*           *           *           *           *           ALDR1901
*           *           *           *           *           ALDR1902
*           *           *           *           *           ALDR1903
*           *           *           *           *           ALDR1904
*           *           *           *           *           ALDR1905
*           *           *           *           *           ALDR1906
*           *           *           *           *           ALDR1907
*           *           *           *           *           ALDR1908
*           *           *           *           *           ALDR1909
*           *           *           *           *           ALDR1910
*           *           *           *           *           ALDR1911
*           *           *           *           *           ALDR1912
*           *           *           *           *           ALDR1913
*           *           *           *           *           ALDR1914
*           *           *           *           *           ALDR1915
*           *           *           *           *           ALDR1916
*           *           *           *           *           ALDR1917
*           *           *           *           *           ALDR1918
*           *           *           *           *           ALDR1919
*           *           *           *           *           ALDR1920
*           *           *           *           *           ALDR1921
*           *           *           *           *           ALDR1922
*           *           *           *           *           ALDR1923
*           *           *           *           *           ALDR1924
*           *           *           *           *           ALDR1925
*           *           *           *           *           ALDR1926
*           *           *           *           *           ALDR1927
*           *           *           *           *           ALDR1928
*           *           *           *           *           ALDR1929
*           *           *           *           *           ALDR1930
*           *           *           *           *           ALDR1931
*           *           *           *           *           ALDR1932
*           *           *           *           *           ALDR1933
*           *           *           *           *           ALDR1934
*           *           *           *           *           ALDR1935
*           *           *           *           *           ALDR1936
*           *           *           *           *           ALDR1937
*           *           *           *           *           ALDR1938
*           *           *           *           *           ALDR1939
*           *           *           *           *           ALDR1940
*           *           *           *           *           ALDR1941
*           *           *           *           *           ALDR1942
*           *           *           *           *           ALDR1943
*           *           *           *           *           ALDR1944
*           *           *           *           *           ALDR1945
*           *           *           *           *           ALDR1946
*           *           *           *           *           ALDR1947
*           *           *           *           *           ALDR1948
*           *           *           *           *           ALDR1949
*           *           *           *           *           ALDR1950
*           *           *           *           *           ALDR1951
*           *           *           *           *           ALDR1952
*           *           *           *           *           ALDR1953
*           *           *           *           *           ALDR1954
*           *           *           *           *           ALDR1955
*           *           *           *           *           ALDR1956
*           *           *           *           *           ALDR1957
*           *           *           *           *           ALDR1958
*           *           *           *           *           ALDR1959
*           *           *           *           *           ALDR1960
*           *           *           *           *           ALDR1961
*           *           *           *           *           ALDR1962
*           *           *           *           *           ALDR1963
*           *           *           *           *           ALDR1964
*           *           *           *           *           ALDR1965
*           *           *           *           *           ALDR1966
*           *           *           *           *           ALDR1967
*           *           *           *           *           ALDR1968
*           *           *           *           *           ALDR1969
*           *           *           *           *           ALDR1970
*           *           *           *           *           ALDR1971
*           *           *           *           *           ALDR1972
*           *           *           *           *           ALDR1973
*           *           *           *           *           ALDR1974
*           *           *           *           *           ALDR1975
*           *           *           *           *           ALDR1976
*           *           *           *           *           ALDR1977
*           *           *           *           *           ALDR1978
*           *           *           *           *           ALDR1979
*           *           *           *           *           ALDR1980
*           *           *           *           *           ALDR1981
*           *           *           *           *           ALDR1982
*           *           *           *           *           ALDR1983
*           *           *           *           *           ALDR1984
*           *           *           *           *           ALDR1985
*           *           *           *           *           ALDR1986
*           *           *           *           *           ALDR1987
*           *           *           *           *           ALDR1988
*           *           *           *           *           ALDR1989
*           *           *           *           *           ALDR1990
*           *           *           *           *           ALDR1991
*           *           *           *           *           ALDR1992
*           *           *           *           *           ALDR1993
*           *           *           *           *           ALDR1994
*           *           *           *           *           ALDR1995
*           *           *           *           *           ALDR1996
*           *           *           *           *           ALDR1997
*           *           *           *           *           ALDR1998
*           *           *           *           *           ALDR1999
*           *           *           *           *           ALDR2000

```

I-O CALL ENTRY GROUP
TAPE BACKSPACE RECORD - WAIT

ALDR1699
ALDR1700
ALDR1701
ALDR1702
ALDR1703
ALDR1704
ALDR1705
ALDR1706
ALDR1707
ALDR1708
ALDR1709
ALDR1710
ALDR1711
ALDR1712
ALDR1713
ALDR1714
ALDR1715
ALDR1716
ALDR1717
ALDR1718
ALDR1719
ALDR1720
ALDR1721
ALDR1722
ALDR1723
ALDR1724
ALDR1725
ALDR1726
ALDR1727
ALDR1728
ALDR1729
ALDR1730
ALDR1731

NOTE --- REQUIRES PRESENCE OF TAPE ENTRY
BASE ROUTINE

NOTE -- REQUIRES PRESENCE OF ADDRESS
CONSTANT IN SENTRY2 TABLE

001DE2		001788	USING	SBSAD,SBSRG	
0017F4		SFSRW	EQU	*	DEFINE CURRENT IC
0017F4	00001DE2		ORG	SNTY2+40	DEFINE TABLE LOC
001DE2			DC	A(SFSRW)	DEFINE ROUTINE ENTRY
			ORG	SFSRW	RESTORE CURRENT IC
		00000F	DROP	SBSRG	
		001DE2	USING	*,SREGZ	
001DE2	50 F0 0 014		ST	SBSRG,SHOLD	RESERVE ENTRY BASE
001DE6	47 F0 1 056		BC	15,SSAVR	GO TO SAVE REGS,
					SET BASE REGISTER
					AND INITIALIZE
					CCW AND CAW
		000001	DROP	SREGZ	
		001788	USING	SBSAD,SBSRG	
001DEA	47 F0 F 62C		BC	15,STCMD	GO TO SET
					PARAMETERS
001DEE	92 27 F 740		MVI	SCCW,STBS	SET TO BACKSPACE
					RECORD
001DF2	47 F0 F 60E		BC	15,STPBKW	GO TO BKWD MOTION
					WAIT ENTRY

I-O CALL ENTRY GROUP
FORWARD SPACE TAPE RECORD - WAIT

ALDR1733
ALDR1734
ALDR1735
ALDR1736
ALDR1737
ALDR1738
ALDR1739
ALDR1740
ALDR1741
ALDR1742
ALDR1743
ALDR1744
ALDR1745
ALDR1746
ALDR1747
ALDR1748
ALDR1749
ALDR1750
ALDR1751
ALDR1752
ALDR1753
ALDR1754
ALDR1755
ALDR1756
ALDR1757
ALDR1758
ALDR1759
ALDR1760
ALDR1761
ALDR1762
ALDR1763
ALDR1764
ALDR1765
ALDR1766
ALDR1767
ALDR1768

NOTE -- REQUIRES PRESENCE OF TAPE ENTRY
BASE ROUTINE

NOTE -- REQUIRES PRESENCE OF ADDRESS
CONSTANT IN SENTRY2 TABLE

001DF6		001788	USING	SBSAD,SBSRG	
001DC8		SFSRW	EQU	*	DEFINE CURRENT IC
001DC8	41 10 F 66E		ORG	STFSB	
0017FC			LA	SREGZ,SFSRW	SET FOR FORWARD SP
0017FC	00001DF6		ORG	SNTY2+48	DEFINE TABLE LOC
001DF6			DC	A(SFSRW)	DEFINE ROUTINE ENTRY
			ORG	SFSRW	RESTORE CURRENT IC
		00000F	DROP	SBSRG	
		001DF6	USING	*,SREGZ	
001DF6	50 F0 0 014		ST	SBSRG,SHOLD	RESERVE ENTRY BASE
001DFA	47 F0 1 042		BC	15,SSAVR	GO TO SAVE REGS,
					SET BASE REGISTER
					AND INITIALIZE
					CCW AND CAW
		000001	DROP	SREGZ	
		001788	USING	SBSAD,SBSRG	
001DFE	47 F0 F 62C		BC	15,STCMD	GO TO SET
					PARAMETERS
001E02	92 37 F 740		MVI	SCCW,STFSR	SET TO FORWARD
					SPACE RECORD
001E06	47 F0 F 61A		BC	15,STPFWH	GO TO FWD MOTION
					WAIT ENTRY

```

* I-O CALL ENTRY GROUP ALDR1770
* CONTROL OR MODE SET ENTRY - WAIT ALDR1771
* ALDR1772
* NOTE -- REQUIRES PRESENCE OF I-O BASE ALDR1773
* ROUTINE ALDR1774
* ALDR1775
* NOTE -- REQUIRES PRESENCE OF ADDRESS ALDR1776
* CONSTANT IN SENTRY2 TABLE ALDR1777
* ALDR1778
* NOTE -- REQUIRES PRESENCE OF COMMAND OP ALDR1779
* MODIFIER ROUTINE -- SMOFF -- TO ALDR1780
* SPECIFY OPERATION OF CONTROL ALDR1781
* COMMAND ALDR1782
* ALDR1783
* NOTE -- REQUIRES THAT SLUBRG CONTAIN CON- ALDR1784
* TROL DEVICE UNIT BLOCK ADDRESS AT ALDR1785
* TIME OF ENTRY TO THIS ROUTINE ALDR1786
* OR ALDR1787
* REQUIRES PRESENCE OF LOCATE SINTRY ALDR1788
* TABLE UNIT BLOCK ROUTINE AND ALDR1789
* CONTROL ENTRY LOCATE SINTRY TABLE ALDR1790
* UNIT BLOCK EXIT ROUTINE ALDR1791
* ALDR1792
* ALDR1793
* ALDR1794
* ALDR1795
* ALDR1796
* ALDR1797
* ALDR1798
* ALDR1799
* ALDR1800
* ALDR1801
* ALDR1802
* ALDR1803
* ALDR1804
* ALDR1805
* ALDR1806
* ALDR1807
* ALDR1808
* ALDR1809
* ALDR1810
* ALDR1811
* ALDR1812
* ALDR1813
* ALDR1814
* ALDR1815
* ALDR1816
* ALDR1817
* ALDR1818
* ALDR1819
* ALDR1820
* ALDR1821

```

```

001E0A 001788
001808 00001E0A
001E0A 00000F
001E0A 001E0A
001E0A 50 F0 0 014
001E0E 47 F0 1 02E
001E12 92 02 F 718
001E16 47 F0 F 692
001E1A D5 01 F 76A F 7CE
001E20 47 70 F 6A0
001E24 41 33 0 001
001E28 41 11 0 01E
001E2C 47 F0 F 6E2
001E30 92 03 F 740
001E34 47 F0 F 6F4

```

```

* I-O BASE ROUTINE - GROUP 2 ALDR1823
* I-O BASE ROUTINE ALDR1824
* ALDR1825
* NOTE - THIS ROUTINE MUST FOLLOW ALL MODULES ALDR1826
* ADDED TO BASE ROUTINE GROUP 1 AND ALDR1827
* MUST PRECEED CONSTANTS ALDR1828
* ALDR1829
* SAVE ENTRY REGISTERS AND ALDR1830
* INITIALIZE CCM AND CAW ALDR1831
* ALDR1832
* ALDR1833
* ALDR1834
* ALDR1835
* ALDR1836
* ALDR1837
* ALDR1838
* ALDR1839
* ALDR1840
* ALDR1841
* ALDR1842
* ALDR1843
* ALDR1844
* ALDR1845
* ALDR1846
* ALDR1847
* ALDR1848
* ALDR1849
* ALDR1850
* ALDR1851
* ALDR1852
* ALDR1853
* ALDR1854
* ALDR1855
* ALDR1856
* ALDR1857
* ALDR1858
* ALDR1859
* ALDR1860
* ALDR1861
* ALDR1862
* ALDR1863
* ALDR1864
* ALDR1865
* ALDR1866
* ALDR1867
* ALDR1868
* ALDR1869
* ALDR1870
* ALDR1871
* ALDR1872
* ALDR1873
* ALDR1874
* ALDR1875

```

```

001E38 05 F0
001E3A 58 F0 F OFE
001E3E 80 00 F 7D3
001E42 50 10 0 038
001E46 92 01 F 728
001E4A 91 40 F 782
001E4E 47 10 F 6E2
001E52 44 00 F 0C0
001E56 90 F8 F 758
001E5A D2 03 F 758 0 014
001E60 96 40 F 782
001E64 D2 03 F 7CA F 7CE
001E6A 90 23 F 740
001E6E 92 20 F 744
001E72 D2 03 0 048 F 714
001E78 47 F1 0 008
001E7C 50 46 0 004
001E80 48 76 0 002
001E84 94 F0 6 000
001E88 06 00 6 000 F 718
001E8E 92 00 F 718
001E92 58 10 0 038
001E96 47 F0 F 140
001E9A 0000
001E9C 00001EC8
001EAO 0000

```



```

*
*           I-O BASE ROUTINE - GROUP 2
*           I-O BASE ROUTINE
*
* NOTE -- THIS AREA OF CONSTANTS MUST FOLLOW
* REQUISITE BASE ROUTINES AND PRECEDE
* GROUP 2 MODULES
*
* PSW PATTERNS -- ON DOUBLE WORD BOUNDARIES
*
001EA8      DS      0D      ALIGN TO DOUBLE WORD
001EA8      FF      SWAYT  DC      AL1(255)  ALL ENABLED
001EA9      06      DC      AL1(6)    WAIT -- MACH CHK ENB
001EAA      0000    DC      AL2(0)
001EAC      00001856 DC      A(SIOWA) RETURN TO ANALYZER
*
001EB0      01      *      SCHK1 DC      AL1(1)    CHNS DISABLED -
*                                     EXTERN ENABLED
001EB1      02      DC      AL1(2)    WAIT - MACH CHK DISABLED
001EB2      0000    DC      AL2(0)
001EB4      F0C9F0C1 DC      C'OIOA'  CONDITION SOURCE
*                                     IDENTITY
*
001EB8      FF      SRTRN DC      AL1(255)  ALL CHNS ENABLED
001EB9      04      DC      AL1(4)    MACH CHK ENABLED
001EBA      0000    DC      AL2(0)
001EBC      00000000 DC      A(0)      RETURN ADDR AREA
*
*
*           I-O OPERATION CONTROL CONSTANTS
*
001EC0      0000000000000000 SMODL DC      D*0*    AREA TO HOLD
001EC8      0000000000000000 SCCW  DC      D*0*    PARAMETERS FOR
*                                     CURRENT CALL
001ED0      0000000000000000 SRESR DC      D*0*    AREA TO HOLD CALL
001ED8      0000000000000000 *      DC      D*0*    PARAMETERS FOR
*                                     RESERVE OPERATION
001EE0      SSV4   DS      1F      SAVE AREA FOR RFG 15
001EE4      SSVR   DS      9F      SAVE AREA FOR REGS
001F08      0000    SWADE DC      AL2(0)  WAIT SWITCH
001FOA      00      SWICH DC      AL1(0)  ROUTINE CONTROL FLAGS
001F0B      00      DC      AL1(0)
*
*
*           CONSTANTS ON SINGLE WORD BOUNDARIES
*
001F0C      SSVRB  DS      11F     SAVE AREA FOR INTN CALL
001F38      SBADR  DC      A(SBSAD) I-O ROUTINE BASE ADDR
001F3C      SBLNK  DC      C'      1 WORD OF BLANKS FOR
*                                     SPACING
001F40      SUNAD  DC      F*0*    UNIT ADDRESS INSERT
001F44      SMOOS  DC      F*0*    OP MODIFIERS INSERT
*
*
*           I-O BASE ROUTINE - GROUP 2
*           I-O BASE ROUTINE
*           CONSTANTS
*           - CONTINUED -
*
*
*           CONSTANTS ON HALF WORD BOUNDARIES
*
001F48      DS      0H      ALIGN TO HALF WORD
001F48      0000    SNSA  DC      AL2(0)  STORAGE AREA FOR
*                                     6 SENSE BYTES
001F4A      00000000 DC      AL4(0)
001F4E      0000    SNTCU DC      AL2(0)  INTERNAL CALL SWITCH
001F50      0000    SCNTR DC      AL2(0)  SPAC CLEANER CNT
001F52      0000    STRCT DC      AL2(0)  RETRY COUNT
001F54      0000    STRCTT DC      AL2(0)  ELG RETRY COUNT
001F56      00000000 SZROS DC      AL4(0)  ZEROS CHECK PATTERN
*
*
*           RANDOM LENGTH CONSTANTS
*
001F5A      00      SVSWC DC      AL1(0)  AREA TO SAVE FLAGS
001F5B      00      SIONI DC      AL1(0)  DISABLF ALL CHNS --
*                                     DISABLE EXTERNAL
001F5C      FF      SIDALI DC      AL1(255)  ENABLE ALL CHANNELS AND
*                                     EXTERNAL
001F5E      DS      0H      ALIGN TO HALF WORD
*

```

```

ALDR1877
ALDR1878
ALDR1879
ALDR1880
ALDR1881
ALDR1882
ALDR1883
ALDR1884
ALDR1885
ALDR1886
ALDR1887
ALDR1888
ALDR1889
ALDR1890
ALDR1891
ALDR1892
ALDR1893
ALDR1894
ALDR1895
ALDR1896
ALDR1897
ALDR1898
ALDR1899
ALDR1900
ALDR1901
ALDR1902
ALDR1903
ALDR1904
ALDR1905
ALDR1906
ALDR1907
ALDR1908
ALDR1909
ALDR1910
ALDR1911
ALDR1912
ALDR1913
ALDR1914
ALDR1915
ALDR1916
ALDR1917
ALDR1918
ALDR1919
ALDR1920
ALDR1921
ALDR1922
ALDR1923
ALDR1924
ALDR1925
ALDR1926
ALDR1927
*
ALDR1929
ALDR1930
ALDR1931
ALDR1932
ALDR1933
ALDR1934
ALDR1935
ALDR1936
ALDR1937
ALDR1938
ALDR1939
ALDR1940
ALDR1941
ALDR1942
ALDR1943
ALDR1944
ALDR1945
ALDR1946
ALDR1947
ALDR1948
ALDR1949
ALDR1950
ALDR1951
ALDR1952
ALDR1953
ALDR1954
ALDR1955

```

	*	I-O BASE ROUTINE - GROUP 2	ALDR1957
	*	I-O BASE ROUTINE	ALDR1958
	*		ALDR1959
	*	REGISTER ASSIGNMENT	ALDR1960
	*		ALDR1961
00000F	SBSRG	EQU 15 I-O ROUTINE BASE REG	ALDR1962
	*		ALDR1963
000000	SREGR	EQU 0 I-O CALL LINK REG	ALDR1964
000001	SREGZ	EQU 1 I-O CALL ENTRY REG	ALDR1965
000002	SREGA	EQU 2 I-O CALL DATA LOC	ALDR1966
000003	SREGN	EQU 3 I-O CALL DATA CT	ALDR1967
000004	SREGL	EQU 4 I-O CALL U E RETURN	ALDR1968
	*SREGE	EQU 5 I-O CALL ERROR RETURN	ALDR1969
000006	SLUBRG	EQU 6 LOC OF UNIT ADDRESS	ALDR1970
000007	SUREG	EQU 7 CURRENT I-O UNIT ADDR	ALDR1971
000008	SREGM	EQU 8 UTILITY WORK REGISTER	ALDR1972
00000F	SRGF	EQU 15 FIRST REGISTER TO SAVE	ALDR1973
000008	SRGL	EQU 8 LAST REGISTER TO SAVE	ALDR1974
	*		ALDR1975
	*		ALDR1976
	*	EQUIVALENTS	ALDR1977
	*		ALDR1978
000002	SWATF	EQU 2 WAIT FLAG	ALDR1979
0000FD	SWATFO	EQU 253 MASK OUT WAIT FLAG	ALDR1980
000001	SBSYF	EQU 1 BUSY FLAG	ALDR1981
000004	SREWF	EQU 4 REWIND FLAG	ALDR1982
0000FA	SBSYFO	EQU 250 MASK OUT BUSY-REWIND	ALDR1983
000020	STLIF	EQU 32 SUPPRESS ILI FLAG	ALDR1984
	*SILIFO	EQU 223 MASK OUT SILI	ALDR1985
	*SDCHF	EQU 128 DATA CHAIN FLAG	ALDR1986
000014	SHOLD	EQU 20 STORAGE AREA ASSIGNED	ALDR1987
	*	TO HOLD ENTRY BASE REG	ALDR1988
	*SKPOP	EQU 139 PRINTER SKIP-TO-1 OP	ALDR1989
000004	SNSOP	EQU 4 SENSF COMMAND	ALDR1990
000003	SCTLOP	EQU 3 CONTROL COMMAND	ALDR1991
000009	SWRRT	EQU 9 WRITE AND SPACE OP	ALDR1992
000002	SRD	EQU 2 READ COMMAND OP	ALDR1993
	*SPU	EQU 1 PUNCH COMMAND OP	ALDR1994
	*SWR	EQU 1 WRITE COMMAND OP	ALDR1995
	*STRW	EQU 7 REWIND COMMAND OP	ALDR1996
00001F	STM	EQU 31 WRITE TAPE MARK OP	ALDR1997
000027	STBS	EQU 39 BACKSPACE RECORD OP	ALDR1998
000008	STTRY	EQU 8 DATA CHK	ALDR1999
000040	STINT	EQU 64 INTERVENTION REQUIRED	ALDR2000
	*STMCH	EQU 16 EQUIPMENT CHK	ALDR2001
	*STBF	EQU 47 BACKSPACE FILE OP	ALDR2002
000037	STFSR	EQU 55 FORWARD SPACE REC OP	ALDR2003
	*STFSF	EQU 63 FORWARD SPACE FILE OP	ALDR2004
	*SBRD	EQU 12 BACKWARD RFAD OP	ALDR2005
0000B7	SERS	EQU 183 TAPE UNIT CHK ERRORS	ALDR2006

	*	I-O BASE ROUTINE - GROUP 2	ALDR2008
	*	MULTIPLE UNIT ADDRESS-DEVICE ROUTINE	ALDR2009
	*		ALDR2010
	*		ALDR2011
	*	ADJUST UNIT ADDRESS WITH CALL ENTRY DATA	ALDR2012
	*		ALDR2013
	*	NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE	ALDR2014
	*		ALDR2015
	*		ALDR2016
	*	NOTE -- THIS ROUTINE MUST BE INCLUDED FOR USE OF ANY CLASS OF DEVICE -- E.G., TAPE -- FOR WHICH THE UNIT ADDRESS MAY VARY FROM CALL TO CALL. THE NEW UNIT ADDRESS IS TO BE FOUND IN THE UPPER HALF OF REGISTER SREGN AND ANY SUCH HIGH ORDER BITS WILL BE INTERPRETED AS A REPLACEMENT UNIT ADDRESS. ZERO HIGH ORDER CAUSES RETENTION OF THE INCUMBENT DEVICE ADDRESS	ALDR2017
	*		ALDR2018
	*		ALDR2019
	*		ALDR2020
	*		ALDR2021
	*		ALDR2022
	*		ALDR2023
	*		ALDR2024
	*		ALDR2025
	*		ALDR2026
	*		ALDR2027
	*		ALDR2028
	*	NOTE -- AFTER THE SET UP OF A NEW UNIT ADDRESS, ANY INTERRUPT CAUSED BY ANY OTHER UNIT ADDRESS OF THE SAME CLASS IS DISREGARDED AS IRRELEVANT	ALDR2029
	*		ALDR2030
	*		ALDR2031
	*		ALDR2032
	*		ALDR2033
	*		ALDR2034
	*		ALDR2035
001F5E	001788	SCHGU EQU * USING SBSAD,SBSRG	ALDR2036
001E60		ORG SSAVRX	ALDR2037
001E60	47 FO F 706	BC 15,SCHGU	ALDR2038
001E80		ORG SIGOI	ALDR2039
001E80	47 FO F 7E6	BC 15,SCHGU1	ALDR2040
001F5E		ORG SCHGU	ALDR2041
001F5E	50 30 F 788	ST SREGN,SUNAD	ALDR2042
001F62	54 30 F 7FC	N SREGN,SCRN	ALDR2043
001F66	96 40 F 782	OI SWICH,64	ALDR2044
	*		ALDR2045
001F6A	47 FO F 60C	BC 15,SSAVRX+4	ALDR2046
	*		ALDR2047
001F6E	48 80 F 788	SCHGU1 LH SREGN,SUNAD	ALDR2048
001F72	12 88	LTR SREGM,SREGM	ALDR2049
001F74	47 80 F 7F4	BC 8,**8	ALDR2050
001F78	40 86 0 002	STH SREGM,2(SLUBRG)	ALDR2051
001F7C	48 76 0 002	LH SUREG,2(SLUBRG)	ALDR2052
	*		ALDR2053
001F80	47 FO F 6FC	BC 15,SIGOI+4	ALDR2054
	*		ALDR2055
001F84	0000FFFF	SCRN DC A(65535)	ALDR2056
	*		ALDR2057

```

*          COMMAND OPERATION MODIFIERS ROUTINE          ALDR2059
*          NOTE -- REQUIRES PRESENCE OF I-O BASE      ALDR2060
*          ROUTINE                                     ALDR2061
*          NOTE -- THIS ROUTINE MUST BE INCLUDED FOR   ALDR2062
*          USE OF ANY COMMAND OP MODIFIERS.           ALDR2063
*          MODIFIER BIT PATTERN IS SUPPLIED BY        ALDR2064
*          THE USER IN THE HIGH ORDER BYTE OF        ALDR2065
*          REGISTER SREGA. ANY SUCH HIGH              ALDR2066
*          ORDER BITS WILL BE INSERTED IN THE         ALDR2067
*          CCM FOR THE CURRENT CALL                   ALDR2068
*          NOTE -- NO CHECK IS MADE FOR THE VALIDITY  ALDR2069
*          OR APPLICABILITY OF ANY SUCH MODIFIERS    ALDR2070
*          BITS FOUND IN SREGA. ANY                   ALDR2071
*          FUTURE ACTION OR CORRECTIVE MEASURE       ALDR2072
*          FOR CONDITIONS PRODUCED BY THESE           ALDR2073
*          USER SUPPLIED MODIFIERS MAY NOT           ALDR2074
*          EXIST IN THIS I-O PACKAGE                  ALDR2075
*          NOTE -- THIS ROUTINE MUST NOT PRECEDE THE  ALDR2076
*          SIOGO ROUTINE IN SYMBOLIC FORM             ALDR2077
*          SET UP COMMAND OP MODIFIERS                ALDR2078
*          WITH CALL ENTRY DATA                      ALDR2079
*
001F88      001788      USING SBSAD,SBSRG          ALDR2080
*          SMODF      EQU *                DEFINE CURRENT IC ALDR2081
001E64      47 F0 F 800    ORG  SSAVRY          ALDR2082
*          BC 15,SMODF      SET UP ENTRY                   ALDR2083
001E84      47 F0 F 816    ORG  SIGO2             ALDR2084
*          BC 15,SMODF1     SET UP ENTRY                   ALDR2085
001F88      50 20 F 78C    ORG  SMODF           ALDR2086
*          ST SREGA,SMODS  SAVE MODIFIERS                  ALDR2087
001F8C      94 F8 F 78C    NI   SMODS,248          ALDR2088
*          N   SREGA,SCRN1  EXCLUDE OP CODE                ALDR2089
001F90      54 20 F 824    MVC  STRCT(2),SZROS  MASK OUT MODIFIERS ALDR2090
*          MVC STRCT(2),SZROS  RESET RETRY COUNT          ALDR2091
001F94      D2 01 F 7CA F 7CE  -- REPLACED INST         ALDR2092
*          BC 15,SSAVRY+6  RETURN                          ALDR2093
001F9A      47 F0 F 6E2    *          ALDR2094
*          BC 15,SSAVRY+6  RETURN                          ALDR2095
001F9E      D6 00 F 740 F 78C SMODF1 OC  SCCW(1),SMODS  SET MODIFIERS IN ALDR2096
*          NI O(SLUBRG),SWATFO  CCM OP                     ALDR2097
001FA4      94 FD 6 000    *          ALDR2098
*          NI O(SLUBRG),SWATFO  CLEAR WAIT-NON-           ALDR2099
*          -- REPLACED INST         WAIT FLAG              ALDR2100
001FA8      47 F0 F 700    *          ALDR2101
*          BC 15,SIGO2+4    RETURN                          ALDR2102
001FAC      00FFFFFF      *          ALDR2103
*          SCRNI DC F*16777215'  MASK FOR DATA ADDR     ALDR2104
*          ALDR2105
*          ALDR2106
*          ALDR2107
*          ALDR2108
*
*          I-O BASE ROUTINE - GROUP 2                 ALDR2110
*          I-O BASE ROUTINE                           ALDR2111
*          INITIAL NEW PSW SET UP ROUTINE              ALDR2112
*          NOTE -- THIS ROUTINE IS ACTIVATED THROUGH  ALDR2113
*          THE FIRST ENTRANCE TO THE I-O BASE         ALDR2114
*          ROUTINE. IT IS LOCATED IN TEMPO-          ALDR2115
*          RARY STORAGE SPACE IN THE CONSTANT          ALDR2116
*          AREA AND CAN BE DESTROYED AT THE           ALDR2117
*          CONCLUSION OF ITS FUNCTION                  ALDR2118
*          NOTE -- THIS ROUTINE REQUIRES NO STORAGE   ALDR2119
*          SPACE SINCE IT IS WHOLLY CONTAINED        ALDR2120
*          IN SPACE SUBSEQUENTLY EMPLOYED             ALDR2121
*
000001      001788      DROP SREGZ             ALDR2122
*          USING SBSAD,SBSRG          ALDR2123
001F80      001788      SDRG  EQU *                DEFINE CURRENT IC ALDR2124
001E6A      47 F0 F 784    ORG  SSAVR1          ALDR2125
*          RC 15,SPSW        SET UP ENTRY                   ALDR2126
*          INITIAL PSW SET UP CONSTANTS                ALDR2127
*          DRG SMODL              EXTERNAL                 ALDR2128
001EC0      00              DC AL1(0)                   INTERRUPT          ALDR2129
001EC0      00              DC AL1(0)                   INTERRUPT          ALDR2130
001EC1      00              DC AL2(0)                   NFW               ALDR2131
001EC2      0000           DC A(SXTRN)                 PSW               ALDR2132
001EC4      00001880      DC AL1(0)                   I-O               ALDR2133
001EC8      00              DC AL1(0)                   INTERRUPT          ALDR2134
001EC9      00              DC AL2(0)                   NEW               ALDR2135
001ECA      0000           DC A(SNTPIN)                 PSW               ALDR2136
001ECC      0000180C      STM SREGA,SREGN,SCCW  INITIALIZE CCM ALDR2137
001ED0      90 23 F 740    CLC SWADE(2),SZROS  CHK IF WAIT SWT ON ALDR2138
001ED4      D5 01 F 780 F 7CE  *          ALDR2139
*          *          ALDR2140
*          *          ALDR2141
*          *          ALDR2142
*          *          ALDR2143
*          *          ALDR2144
*          *          ALDR2145
*          *          ALDR2146
*          *          ALDR2147
*          *          ALDR2148
*          *          ALDR2149
*          *          ALDR2150
*          *          ALDR2151
*          *          ALDR2152
*          *          ALDR2153
*          *          ALDR2154
*          *          ALDR2155
001F0C      D2 07 0 058 F 738 SPSW  ORG  SSVRB              ALDR2156
001F12      D2 07 0 078 F 740    MVC  88(8),SPSWK      SET EXTRNL NEW PSW ALDR2157
001F18      44 00 F 0EC    MVC  120(8),SPSWK+8  SET I-O NEW PSW   ALDR2158
*          EX 0,S10W+4    SET MACH CHK NEW              ALDR2159
*          *          PSW IF MACH CHK                     ALDR2160
*          *          ROUTINE OVERLOAD                    ALDR2161
*          *          IS PRESENT                           ALDR2162
001F1C      D2 03 F 6E2 F 748    MVC  SSAVR1(4),SPSWK+16  REPLACE ENTRY     ALDR2163
001F22      D2 05 F 0EC F 74C    MVC  S10W+4(6),SPSWK+20  REPLACE MACH      ALDR2164
*          *          CHK PSW SET UP                      ALDR2165
001F28      D2 01 F 74E F 7CE    MVC  SRESR+6(12),SZROS  CLEAR RESERVE SWT  ALDR2166
001F2E      47 F0 F 6E2    BC 15,SSAVR1          RETURN TO SAVE ROU ALDR2167
001F80      ORG  SDRG          RESTORE CURRENT IC         ALDR2168

```

*SIOND EQU *
*
*
*

END OF PROGRAM

ALDR2162
ALDR2163
ALDR2164
ALDR2165

001F80
001F80
001480

OMEGA EQU *
DS 00
END IER

ALDR2167
ALDR2168
ALDR2169

XX

ALDR5415

HEX-BIN CONVERSION ROUTINE.

ALDR5418

XX

ALDR5421

- PLACE THE NUM OF CHAR IN REG-4
- ADDR OF HIGH ORDER IN REG-5
- LINKAGE-- L 1,HEXA00
- BALR 0,1
- RETURN ADDR IN REG-0
- ANSWER RETURNED IN REG-0

ALDR5427

ALDR5430

ALDR5433

ALDR5436

ALDR5439

ALDR5442

ALDR5445

ALDR5448

ALDR5451

ALDR5454

ALDR5457

ALDR5460

ALDR5463

ALDR5466

ALDR5469

ALDR5472

ALDR5475

ALDR5478

ALDR5481

ALDR5484

ALDR5487

ALDR5490

ALDR5493

ALDR5496

ALDR5499

ALDR5502

ALDR5505

ALDR5508

ALDR5511

ALDR5514

ALDR5517

ALDR5520

ALDR5523

ALDR5526

ALDR5529

ALDR5532

ALDR5535

ALDR5538

ALDR5541

ALDR5544

ALDR5547

ALDR5550

ALDR5553

ALDR5556

ALDR5559

ALDR5562

ALDR5565

ALDR5568

ALDR5571

0008A8 0008A8

0008A8 50 00 1 058
 0008AC 18 33
 0008AE 18 03
 0008B0 41 20 1 04E

000884 95 F0 5 000

000888 47 40 1 036
 0008BC 95 F9 5 000
 0008C0 07 32

0008C2 94 0F 5 000
 0008C6 43 30 5 000
 0008CA 89 00 0 004
 0008CE 1A 03
 0008D0 41 55 0 001
 0008D4 46 40 1 00C
 0008D8 58 20 1 058
 0008DC 07 F2
 0008DE 95 C1 5 000
 0008E2 07 42
 0008E4 95 C6 5 000
 0008E8 07 32
 0008EA 43 30 5 000
 0008EE 48 30 1 056
 0008F2 47 F0 1 022
 0008F6 50 F0 0 05C

0008FA 82 00 1 060
 0008FE 00B7
 000900
 000908

000908 0106000000
 00090D 0302C1

000001

- HEXB EQU *
- USING HEXB,1
- ST 0,RETT
- SR 3,3
- LR 0,3
- LA 2,ERR2
- TEST FOR ZERO
- L1 CLI 0 5 ,C 0
- BR IF NOT 0 THRU 9
- BC 4,L3
- CLI 0 5 ,C 9
- BCR 3,2
- CLEAR HIGH ORDER BITS OF CHAR
- NI 0 5 ,X OF
- IC 3,0 0,5
- L2 SLL 0,4
- AR 1,3
- LA 5,1 5
- BCT 4,L1
- L 2,RETT
- BCR 15,2
- L3 CLI 0 5 ,C A
- BCR 4,2
- CLI 0 5 ,C F
- BCR 3,2
- IC 3,0 0,5
- SH 3,CONS
- BC 15,L2
- ERR2 ST 15,EXNPSW,4
- ILLEGAL HEX CHAR HALT
- LPSW PSW6
- CONS DC X 00B7
- RETT DS IF
- DS OD
- INVALID HEX CHAR WAIT
- PSW6 DC X 0106000000
- DC C LKA
- RETURN ADDR SAVE AREA
- DROP L

XX

ALDR5577

INITIALIZATION ROUTINE XXXXX

ALDR5580

XX

ALDR5586

- LOADI EQU *
- BALR 15,0
- USING *,15
- SETUP PROGRAM NEW PSW
- MACH CK AND WAIT
- MVC NPROG 8 ,PNPSW
- OI MKNEW 1,X 02

ALDR5589

ALDR5592

ALDR5595

ALDR5598

ALDR5601

ALDR5604

ALDR5607

ALDR5610

000910 05 F0
 000910 000912

000912 02 07 0 068 F 16E
 000918 96 02 0 071

```

00091C 05 FO
00091C 05 FO
00091E 92 C5 F 178
000922 92 C4 F 179
000926 58 10 F 186
00092A 58 11 0 000
00092E 41 20 F 112
000932 58 30 F 18A
000936 41 40 F 0EC
00093A 05 01
00093C 92 C1 F 179
000940 18 66
000942 41 DO 0 001
000946 41 90 F 112
00094A 58 AO F 112
00094E 59 AO F 196
000952 47 80 F 04A
000956 59 AO F 19A
00095A 47 80 F 09A
00095E 59 AO F 19E
000962 47 80 F 0CC
000966 07 FF

```

00091E

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* BASIC UTILITIES ABSOLUTE LOADER
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
RESUME EQU 0
BALR 15,0
USING 0,15
* EOF OR EOT INDICATION
HVI EMSG 1,C E
HVI EMSG 2,C D
L 1,INPUT
L 1,0 1
* INPUT BUFFER ADDR INPUT DEVICE TBL ADDR
LA 2,SPEC
* TP ADDR AND COUNT
L 3,TPADR
* EOF OR EOT RETURN
LA 4,ERROR
BALR 0,1
HVI EMSG 2,C A
SR 6,0
LA 13,1 0,0
LA 9,SPEC
L 10,SPEC
* CMP FOR TEXT CARD
C 10,TEST
* BR TO TXT CRD ROUTINE
BC 8,C907
* CMP FOR REPLACE CRD
C 10,TEST 4
* REP CRD ROUTINE
BC 8,C908
* CMP FOR END CRD
C 10,TEST 8
* END CRD ROUTINE BR
BC 8,C909
* RETURN TO RD
BCR 15,15

```

ALDR5616
ALDR5619
ALDR5622
ALDR5625
ALDR5628
ALDR5631
ALDR5634
ALDR5637
ALDR5640
ALDR5643
ALDR5646
ALDR5647
ALDR5649
ALDR5652
ALDR5655
ALDR5658
ALDR5661
ALDR5664
ALDR5667
ALDR5670
ALDR5673
ALDR5674
ALDR5676
ALDR5679
ALDR5682
ALDR5685
ALDR5688
ALDR5691
ALDR5694
ALDR5697
ALDR5700
ALDR5703
ALDR5706
ALDR5709
ALDR5712
ALDR5715
ALDR5718
ALDR5721
ALDR5724
ALDR5727

```

000968 48 89 0 00A
00096C 42 60 F 116
000970 58 C0 F 116
000974 41 10 F 086
000978 59 C0 F 182
00097C 47 AO F 07A
000980 18 7C
000982 1A 78
000984 92 D6 F 178
000988 59 70 F 16E
00098C 47 20 F 0EC
000990 41 80 0 080
000994 19 C8
000996 07 41
000998 59 60 F 18E
00099C 07 71
00099E 50 C0 F 18E
0009A2 07 F1
0009A4 18 8D
0009A6 42 80 F 08D
0009AA D2 00 C 000 9 010
000980 07 FF

```

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* TEXT CARD ROUTINE
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* NUM OF BYTES SPECIFIED
C907 LH 11,10 9,0
STC 6,SPEC 4
* STORAGE ADDRESS
L 12,SPEC 4
LA 1,C919
* CMP FOR ABOVE LOADER
C 12,LEND
* BR- ADDR ABOVE LDR
BC 10,ENT
LR 7,12
* ADDR PLUS LENGTH
AR 7,11
* LOADER OVERLAY ERROR
HVI EMSG 1,C 0
* CMP FOR BELOW LOADER
C 7,BELOW
BC 2,ERROR
LA 8,128
* SHOULD ADDR BE SAVED
CR 12,8
* BR- ADDR BELOW FIRST 128 BYTES
BCR 4,1
* HAS AN ADDR BEEN SAVED
ENT C 6,BRAD
* BR- ADDR SAVED
BCR 7,1
ST 15,1 BRAD
BCR 15,1
C919 SR 11,13
STC 11,MOVE 1
* TEXT TO PP CORE
MOVE MVC 0 1,12 ,16 9
* TO READ
BCR 15,15

```

ALDR5733
ALDR5736
ALDR5739
ALDR5742
ALDR5745
ALDR5748
ALDR5751
ALDR5754
ALDR5757
ALDR5760
ALDR5763
ALDR5766
ALDR5769
ALDR5772
ALDR5775
ALDR5778
ALDR5781
ALDR5784
ALDR5787
ALDR5790
ALDR5793
ALDR5796
ALDR5799
ALDR5802
ALDR5805
ALDR5808
ALDR5811
ALDR5814
ALDR5817
ALDR5820
ALDR5823
ALDR5826
ALDR5829
ALDR5832
ALDR5835
ALDR5838
ALDR5841
ALDR5844
ALDR5847
ALDR5850

0009B2 41 40 0 006
 0009B6 41 59 0 006
 0009BA 58 10 F 10E
 0009BE 05 01
 0009C0 18 C0
 0009C2 41 80 0 002
 0009C6 41 59 0 010
 0009CA 45 10 F 05A
 0009CE 41 40 0 004
 0009D2 58 10 F 10E
 0009D6 05 01
 0009D8 40 00 C 000
 0009DC 95 68 5 000
 0009E0 07 7F
 0009E2 1A 5D
 0009E4 1A CB
 0009E6 47 F0 F 0AC

• XX
 •
 • REPLACE CARD ROUTINE
 •
 • XX
 • CONVERT HEX ADDRESS
 C908 LA 4,6 C,0
 • HIGH ORDER ADDR
 LA 5,6 9,0
 L 1,HEXBB
 BALR 0,1
 LR 12,0
 LA 11,2 0,0
 • FIRST CORRECTION ADDR
 LA 5,16 9,0
 • CHECK ADDR
 C912 BAL 1,C914
 • CONVERSION CHARACTER COUNT CCC
 LA 4,4 C,0
 L 1,HEXBB
 BALR 0,1
 • CORR TO STG
 STH 0,0 C,12
 • CMP FOR COMMA
 CLI 0 5 ,C ,
 • BR TO RD
 BCR 7,15
 AR 5,13
 AR 12,11
 BC 15,C912

ALDR5856
 ALDR5859
 ALDR5862
 ALDR5865
 ALDR5868
 ALDR5871
 ALDR5874
 ALDR5877
 ALDR5880
 ALDR5883
 ALDR5886
 ALDR5889
 ALDR5892
 ALDR5895
 ALDR5898
 ALDR5901
 ALDR5904
 ALDR5907
 ALDR5910
 ALDR5913
 ALDR5916
 ALDR5919
 ALDR5922
 ALDR5925
 ALDR5928
 ALDR5931
 ALDR5934
 ALDR5937
 ALDR5940
 ALDR5943

0009EA 58 19 0 004
 0009EE 59 19 0 008
 0009F2 47 80 F 0E4
 0009F6 50 10 F 15E
 0009FA 50 60 F 18E
 0009FE 82 00 F 15A
 000A02 58 10 F 18E
 000A06 47 F0 F 0DB
 000A0A
 000A0A 02 07 0 058 F 16A
 000A10 41 20 F 177
 000A14 41 30 0 008
 000A18 41 40 F 108
 000A1C 58 10 F 192
 000A20 58 11 0 000
 000A24 05 01
 000A26 82 00 F 172

• XX
 •
 • END CARD ROUTINE
 •
 • XX
 C909 L 1,4 9,0 LOAD TO TEST FOR ADDR
 C C 1,8 9,0
 • BR-ADDR EQU BLKS
 BC 8,C913
 C910 ST 1,PSW1
 • CLEAR SAVE AREA
 ST 6,BRAD
 • RELEASE CTL TO PROG
 LPSW PSW
 • FIRST ADDR LOADED INTO
 C913 L 1,BRAD
 BC 15,C910
 • XX
 •
 • ERROR STOP ROUTINES
 •
 • XX
 •
 ERROR EQU *
 • SETUP EXTERNAL NEW PSW
 MVC EXNPSW 8 ,RESTR
 • ADDRESS OF MESSAGE
 LA 2,EMSG XX
 • NUM OF BYTES TO PRY
 LA 3,8 XX
 • ERROR RETURN
 CINST LA 4,ERRR1 XX
 • 1052 ROUTINE ADDRESS
 L 1,MOADR LOD DEVICE TBL ADDR
 L 1,0 1 LOD DEVICE ADDR
 • BR TO WRITE
 BALR 0,1 XX
 • LOD WAIT PSW
 ERROR1 LPSW PSWMSG

ALDR5949
 ALDR5952
 ALDR5955
 ALDR5958
 ALDR5961
 ALDR5964
 ALDR5967
 ALDR5970
 ALDR5973
 ALDR5976
 ALDR5979
 ALDR5982
 ALDR5985
 ALDR5988
 ALDR5991
 ALDR5994
 ALDR5997
 ALDR6000
 ALDR6003
 ALDR6006
 ALDR6009
 ALDR6012
 ALDR6015
 ALDR6018
 ALDR6021
 ALDR6024
 ALDR6027
 ALDR6030
 ALDR6033
 ALDR6036
 ALDR6039
 ALDR6042
 ALDR6045
 ALDR6048
 ALDR6051
 ALDR6054
 ALDR6057
 ALDR6060
 ALDR6063

00CA2A 0000
 00DA2C 000008A8
 000A30
 000A78 00040020
 000A7C
 000A80 0106000000
 000A85 03D7C1
 000A88 01040000
 000A8C 00000080
 000A90 0106000000
 000A95 03D2C140E6C1C9E3
 000A9D 404040
 000AA0 00000AC0
 000AA4 00000080
 000AA8 00000048
 000AAC 00000000
 000AB0 0000006C
 000AB4 02
 000AB5 E3E7E3
 000AB8 02
 000AB9 D9C5D7
 000ABC 02
 000ABD C5D5C4

00000F

• XX
 • ALDR6072
 • ALDR6075
 • ALDR6078
 • ALDR6081
 • XX
 • ALDR6084
 • ALDR6087
 • ALDR6093
 • ALDR6096
 • ALDR6099
 • ALDR6102
 • ALDR6105
 • ALDR6108
 • ALDR6111
 • ALDR6114
 • ALDR6117
 • ALDR6120
 • ALDR6123
 • ALDR6126
 • ALDR6129
 • ALDR6132
 • ALDR6135
 • ALDR6138
 • ALDR6141
 • ALDR6144
 • ALDR6147
 • ALDR6150
 • ALDR6153
 • ALDR6156
 • ALDR6159
 • ALDR6162
 • ALDR6165
 • ALDR6168

HEXBB DC A HEXB
 * INPUT BUFFER OF 72 BYTES
 SPEC DS 9D
 * SV STATE, MCH CK DN, DISABLED
 PSW DC X 00040020 OBJECT PROG PSW
 PSW1 DS 1F
 * PROGRAM INTERRUPT PSW
 PNPSW DC X 0106000000
 DC C LPA
 RESTRT DC X 01040000
 BELOW DC A ALPHA
 PSWMSG DC X 0106000000
 EMSG DC C LKA WAIT

LEND DC A THEEND
 * CRD RD ROUTINE
 INPUT DC A SINTRY I/O TBL ADDR
 * CARD IMAGE BYTE COUNT
 TPADR DC XL4 48
 BRAD DC XL4 0
 MDADR DC A SINTRY QWMSW MSG DEVICE ADDR
 * TXT, REP, END.
 TEST DC X 02
 DC C TXT
 DC X 02
 DC C REP
 DC X 02
 DC C END
 DROP 15
 END OF LOADER

000AC0
 000AC0
 000AC0 05 F0
 000AC2 58 F0 F 0C2
 000AC6 18 EE
 000AC8 50 E0 0 078
 000ACC 58 10 F 82C
 000AD0 95 40 1 010
 000AD4 47 80 F A68
 000AD8 41 40 0 004
 000ADC 41 51 0 010
 000AE0 41 10 F 828
 000AE4 05 01
 000AE6 18 80
 000AEB 40 80 F A28
 000AEC 58 D0 F 82C
 000AF0 95 40 D 014
 000AF4 47 80 F A96
 000AF8 41 40 0 004
 000AFC 41 50 0 014
 000B00 41 10 F 828
 000B04 05 01
 000B06 58 10 F A24

THEEND EQU *
 •XXX
 • ALDR6174
 • ALDR6177
 • ALDR6180
 • ALDR6183
 • ALDR6186
 • ALDR6189
 • ALDR6192
 • ALDR6195
 • ALDR6198
 • ALDR6201
 • ALDR6204
 • ALDR6207
 • ALDR6210
 • ALDR6213
 • ALDR6216
 • ALDR6219
 • ALDR6222
 • ALDR6225
 • ALDR6228
 • ALDR6231
 • ALDR6234
 • ALDR6237
 • ALDR6240
 • ALDR6243
 • ALDR6246
 • ALDR6249
 • ALDR6252
 • ALDR6255
 • ALDR6258
 • ALDR6261
 • ALDR6264
 • ALDR6267
 • ALDR6270
 • ALDR6273
 • ALDR6276
 • ALDR6279
 • ALDR6282
 • ALDR6285
 • ALDR6288
 • ALDR6291
 • ALDR6294
 • ALDR6297
 • ALDR6300
 • ALDR6303
 • ALDR6306
 • ALDR6309
 • ALDR6312
 • ALDR6315
 • ALDR6318
 • ALDR6321
 • ALDR6324
 • ALDR6327
 • ALDR6330
 • ALDR6333
 • ALDR6336

INITIAL ENTRY ROUTINE IER
 *XXX
 BETA EQU *
 IER EQU *
 BALR 15,0
 USING *,15
 *LOD BASE ADDR
 USING ALPHA,15
 SR 14,14
 ST 14,IONF
 *LOAD BUFFER ADDRESS
 L 1,IOUADR
 *CMP UNIT FIELD FOR BLANKS
 CLI 16,1,C
 *BR, IPL CAME FROM SYSIN
 BC 8,DIFF
 *CONVERT
 LA 4,4
 * DEVICE ADDRESS
 LA 5,16 1
 * TO BINARY
 LA 1,HEXB
 *GO TO HEXB
 BALR 0,1
 *SAVE DEVICE ADDR IN REG-8
 LR 8,0
 *CHANGE LOADER CONSTANT
 DIFF 8,TPADR
 * DETERMINE I/O MESSAGE UNIT ADDRESS HERE X
 *LOD ADDR OF IOTA
 L 13,IOUADR
 *CMP FOR I/O UNIT ADDR
 CLI 20,13,C
 *BR IF NO UNIT AVAIL
 BC 8,CINST1 4
 *CONVERT
 LA 4,4
 * HEX TO
 LA 5,20 13
 * BINARY
 LA 1,HEXB
 *BR TO HEXB
 BALR 0,1
 *ST ADDR IN I/O TBL
 L 1,INPUT LOD I/O TBL ADDRESS

00080A 40 01 0 012
 00080E 47 F0 F AAB
 000812 47 F0 F A96
 000816 D2 01 F A94 F 99A
 00081C D2 03 F 990 F A92
 000822 D2 03 F 22E F 276
 000828 41 70 F 810
 00082C 50 70 0 048
 000830 50 80 F 81C
 000834 41 70 F ADO
 000838 50 70 0 07C
 00083C 90 00 8 000
 000840 47 70 F ABC
 000844 80 00 F B20
 000848 9C 00 8 000
 00084C 82 00 F B18
 000850 49 80 0 03A
 000854 47 80 F ADC
 000858 82 00 0 038
 00085C 91 04 0 044
 000860 47 80 F ACC
 000864 D5 04 F B21 F B27
 00086A 47 80 F AFE
 00086E 40 80 F A28
 000872 41 00 0 030
 000876 54 00 F A24
 00087A 50 00 F A24
 00087E 58 F0 F 808
 000882 07 FF
 000884 00000080
 000888 00000910
 000890
 000890 04
 000891 0008A0
 000894 00000008
 000898 FF060000
 00089C 00000000
 0008A0 FFFFFFFF
 0008A6 FFFFFFFF
 0008AC 000008B0

0,QMMSH 6.1 ST DEVICE ADDR IN TBL
 15,CINST2
 *DUMMY INST BC
 CINST1 BC 15,* 4
 *CONSTRUCT INST MVC CINST1 2 2 ,CINST 2
 *MOVE BR INST MVC CINST-8 4 ,CINST1
 SAGINW 4 4 ,SINDW DISABLE I/O MSG
 CINST2 EQU *
 LA 7,CCH2
 ST 7,CAH
 ST 8,WAIT5 4
 LA 7,IRUPP
 ST 7,IONP 4
 TIO 0 8
 BC 7,*-4
 SSH UT1
 SID 0 8
 LPSW WAIT5
 IRUPP CH 8,IOOP 2
 BC 8,* 8
 LPSW IOOP
 TM CSW 4,X 04
 BC 8,IRUPP-4
 CLC UT1 1 5 ,UT2 1
 BC 8,RDR
 STH 8,TPADR
 LA 0,ORTPW TAPE READ ROUTINE
 A 0,INPUT INCREMENT TO TP ADDR
 ST 0,INPUT
 RDR L 15,BREG2
 BCR 15,15
 *BASE ADDR OF LOADER
 BREG1 DC A ALPHA
 *INITIAL LOADING ENTRY
 BREG2 DC A LOAD1
 DS OD
 *SENSE OPERATION CODE
 CCH2 DC X 04
 DC AL3 UT1
 DC XL4 8
 WAIT5 DC X FF060000
 DC XL4 0
 UT1 DC X FFFFFFFF
 UT2 DC X FFFFFFFF
 IOUADR DC A IOTA
 DROP 15

ALDR6339
 ALDR6342
 ALDR6345
 ALDR6348
 ALDR6351
 ALDR6354
 ALDR6357
 ALDR6360
 ALDR6361
 ALDR6363
 ALDR6366
 ALDR6369
 ALDR6372
 ALDR6375
 ALDR6378
 ALDR6381
 ALDR6384
 ALDR6390
 ALDR6393
 ALDR6396
 ALDR6399
 ALDR6402
 ALDR6405
 ALDR6408
 ALDR6411
 ALDR6414
 ALDR6417
 ALDR6420
 ALDR6423
 ALDR6426
 ALDR6429
 ALDR6432
 ALDR6435
 ALDR6438
 ALDR6441
 ALDR6444
 ALDR6447
 ALDR6450
 ALDR6453
 ALDR6456
 ALDR6459
 ALDR6462
 ALDR6465
 ALDR6468
 ALDR6471
 ALDR6474
 ALDR6477

0008B0
 0008B0
 0008B0
 000AC0

OMEGA EQU *
 DS OD
 IOTA EQU *
 END IER

ALDR6483
 ALDR6486
 ALDR6489
 ALDR6492

*SIOND EQU * END OF PROGRAM
 *XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 * HEX-BIN CONVERSION ROUTIN
 *XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 * PLACE THE NUM OF CHAR IN REG-4
 * ADDR OF HIGH ORDER IN REG-5
 * LINKAGE-- L 1,HEXADD
 * RETURN ADDR IN REG-0
 * BALR 0,1
 * ANSWER RETURNED IN REG-0

RLD5454
 RLD5457
 RLD5463
 RLD5466
 RLD5469
 RLD5472
 RLD5475
 RLD5478
 RLD5481
 RLD5484
 RLD5487
 RLD5490
 RLD5493
 RLD5496
 RLD5499
 RLD5502
 RLD5505
 RLD5508
 RLD5511
 RLD5514
 RLD5517
 RLD5520
 RLD5523
 RLD5526
 RLD5529
 RLD5532
 RLD5535
 RLD5538
 RLD5541
 RLD5544
 RLD5547
 RLD5550
 RLD5553
 RLD5556
 RLD5559
 RLD5562
 RLD5565
 RLD5568
 RLD5571
 RLD5574
 RLD5577
 RLD5580
 RLD5583
 RLD5586
 RLD5589
 RLD5592
 RLD5595
 RLD5598
 RLD5601
 RLD5604
 RLD5607
 RLD5610
 RLD5613

000888 50 00 1 058 000888
 000888 18 33
 00088C 18 03
 000890 41 20 1 04E
 000894 95 F0 5 000
 000A98 47 40 1 036
 000H9C 95 F9 5 000
 0008A0 07 32
 000RA2 94 0F 5 000
 000BA6 43 30 5 000
 0008AA 89 00 0 004
 0008AE 1A 03
 0008B0 41 55 0 001
 0008B4 46 40 1 00C
 0008B8 58 20 1 058
 0008BC 07 F2
 0008BE 95 C1 5 000
 0008C2 07 42
 0008C4 95 C6 5 000
 0008C8 07 32
 0008CA 43 30 5 000
 0008CE 48 30 1 056
 0008D2 47 F0 1 022
 0008D6 50 F0 0 05C
 0008DA 82 00 1 060
 0008DE 00B7
 0008E0
 0008E8
 0008EB 0106000000
 0008ED D3D2C1
 000001

*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 HEXB EQU *
 USING #,HEXB,1
 ST 0,RETT
 SR 3,3
 LR 0,3
 LA 2,ERR2
 CLI 0,5,C 0 CMP TO VALUE OF ZERO
 L1 BR IF NOT 0 THRU 9
 BC 4,L3
 CLI 0,5,C 9 CHP TO VALUE OF NINE
 BCR 3,2
 * CLEAR HIGH ORDER BITS OF CHAR
 NI 0,5,X OF
 IC 3,0,0,5
 L2 SLL 0,4
 AR 0,3
 LA 5,1,5
 BCT 4,1
 L 2,RETT
 BCR 15,2
 L3 CLI 0,5,C A BR IF VALUE LESS
 BCR 4,2,C F
 CLI 0,5,C F
 BCR 3,2
 IC 3,0,0,5
 SH 3,CONST
 BC 15,L2
 ERR2 ST 15,EXNPSW 4
 * ILLEGAL HEX CHAR HALT
 LPSW PSW6
 CONST DC X 00B7
 RETT DS 1F
 DS OD
 * INVALID HEX CHAR WAIT
 PSW6 DC X 0106000000
 DC C LKA
 * RETURN ADDR SAVE AREA
 DROP 1

RLD5619
 RLD5622
 RLD5625
 RLD5628
 RLD5631
 RLD5634
 RLD5637
 RLD5640
 RLD5643
 RLD5646
 RLD5649
 RLD5652
 RLD5655
 RLD5658
 RLD5661
 RLD5664
 RLD5667
 RLD5670
 RLD5673
 RLD5676
 RLD5679
 RLD5682
 RLD5685
 RLD5688
 RLD5691
 RLD5694
 RLD5697

*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 * PROGRAM INITIAL LOADING ENTRY
 *
 * SWS BIT POS 0 ABS-LOAD FLAG
 * FIRST TIME TRANSFER 1 FTTR1 FLAG
 * IN SLC CARD 2 NO HEX ADDR
 * SAVED 3 END CRD ADDR
 * REP ENTRIES IN CRD 4 TWO OR MORE
 * EXTERNAL ENTRY 5 DO NOT MAP
 *XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 LOAD2 BALR 15,0
 USING #,15
 * NUM FOR CONST REFTBL ENTRIES
 LA 1,2 CONST REFTBL ENTRY COUNT
 STH 1,1,BLCT
 MVC LOCT 4,CTRSET
 * SETUP PROGRAM NEW PSW
 MVC NPROG 8,PNPSW

0008F0 05 F0 0008F2
 0008F2 41 10 0 002
 0008F4 40 10 F 5F4
 0008FA 02 03 F 60E F 63E
 000900 D2 07 0 068 F 5D6

```

0C0906 05 F0
0C0908 18 11
0C090A 50 10 F 604
0C090E 96 D0 F 5DD
0C0912 41 20 F 55C
0C0916 41 30 0 00E
0C091A 45 D0 F 54C
0C091E 58 10 F 634
000922 58 11 0 000
000926 41 20 F 570
00092A 58 30 F 638
00092E 92 C5 F 5D6
000932 92 C4 F 5D7
000936 41 40 F 50E
00093A 05 01
00093C 92 C1 F 5D7
000940 18 66
000942 41 90 F 4CC
000946 41 80 0 001
00094A 41 D0 F 016
00094E 58 10 F 570
000952 59 10 F 60C
000956 47 70 F 080

```

000908

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* RESUME LOADING ENTRY
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
RESUME BALR 15,0
      USING 1,15
      SR 1,1
      ST 1,BRAD
* ABS-LOAD, FTFR1, AND END BIT ON
      OI SWS,X DO
      LA 2,HEAD ADDR OF MAP HEADER
      LA 3,14 LOD BYTE SIZE
      BAL 13,HAP2 BR TO WRITE HEADING
* LOD ADDR OF RD ROUTINE
RD L 1,INPUT
  L 1,0 1 LOD DEVICE TBL ADDR
* LOADER INPUT BUFFER
  LA 2,SPEC
* UNIT ADDR AND BYTE CNT
  L 3,TPADR
* EOF OR EOT INDICATION
  MVI EMSG 1,C E
  MVI EMSG 2,C D
* EOF OR EOT RETURN
  LA 4,ERROR
* BR TO READ ROUTINE
  BALR 0,1
  MVI EMSG 2,C A
  SR 6,6
  LA 9,SEARCH
  LA 11,1 0,0
  LA 13,RD
  L 1,SPEC
  C 1,SLC
* BR- NOT SLC
  BC 7,C2AE1

```

RLDR5703
RLDR5706
RLDR5709
RLDR5712
RLDR5715
RLDR5718
RLDR5721
RLDR5724
RLDR5727
RLDR5730
RLDR5733
RLDR5736
RLDR5739
RLDR5742
RLDR5745
RLDR5748
RLDR5751
RLDR5754
RLDR5757
RLDR5760
RLDR5763
RLDR5766
RLDR5769
RLDR5772
RLDR5773
RLDR5775
RLDR5778
RLDR5781
RLDR5784
RLDR5785
RLDR5787
RLDR5790
RLDR5793
RLDR5796
RLDR5799
RLDR5802
RLDR5805
RLDR5808

```

00095A 95 40 F 576
00095E 47 70 F 062
000962 96 20 F 5DD
000966 47 F0 F 072
00096A 41 40 0 006
00096E 41 50 F 576
000972 58 10 F 5F0
000976 05 01
000978 18 60
00097A 95 40 F 580
00097E 47 70 F 094
000982 92 D2 F 5D6
000986 91 20 F 5DD
00098A 47 10 F 50E
00098E 18 00
000990 94 DF F 5DD
000994 1A 60
000996 50 60 F 5F8
00099A 07 FD
00099C 41 20 F 50E
0009A0 92 E4 F 5D6
0009A4 05 39
0009A6 41 E0 F 088
0009AA 48 00 C 006
0009AE 89 00 0 008
0009B2 43 00 C 008
0009B6 07 FE

```

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* SET LOCATION COUNTER ROUTINE SLC
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* CMP ADDR FOR BLANKS
  CLI SPEC 6,C
* BR- ADDR IN CRD
  BC 7,C2AD
* NO ADDR, TURN ON SW
  DC SWS,X 20
  BC 15,C2A
* CONVERT ADDR TO BINARY
C2AD LA 4,6 0,0
  LA 5,SPEC 6
* LOD CONVERSION ROUTINE ADDRESS
  L 1,HEXDB
* BR TO HEXB ROUTINE
  BALR 0,1
* SAVE ADDR IN REGISTER
  LR 6,0
* TEST IMAGE FOR NAME
C2A CLI SPEC 16,C
* BR- NAME IN CRD
  BC 7,C2AE3
* CARD PUNCHED IN ERROR
  MVI EMSG 1,C K
  TM SWS,X 0
* BR TO ERROR ROUTINE
  BC 1,ERRORP
* CLEAR FOR ADDING ZEROS
  SR 0,0
* TURN SWITCH OFF
  NI SWS,X DF
C2 ADD CONVERTED ADDR TO ORG2
  AR 6,0
* SET THE LOCATION COUNTER
  ST 6,LOCCT
* RETURN TO READ ANOTHER CARD
  BCR 15,13
* EXIT FOR NAME NOT IN TBL
C2AE3 LA 2,ERROR
* UNDEFINED SYMBOL ERROR
  MVI EMSG 1,C U
* SEARCH FOR NAME IN REFTBL
  BALR 3,9
* LINK
  AGE 14,C2
  LA 14,C2
* LOD FIRST TWO BYTES OF ORG2
ORG2 LH 0,6 0,12
* SHIFT FOR THIRD BYTE
  SLL 0,8
* ORG2 COMPLETELY LOADED
  IC 0,8 0,12
  BCR 15,14

```

RLDR5814
RLDR5817
RLDR5820
RLDR5823
RLDR5826
RLDR5829
RLDR5832
RLDR5835
RLDR5838
RLDR5841
RLDR5844
RLDR5847
RLDR5850
RLDR5853
RLDR5856
RLDR5859
RLDR5862
RLDR5865
RLDR5868
RLDR5871
RLDR5874
RLDR5877
RLDR5880
RLDR5883
RLDR5886
RLDR5889
RLDR5892
RLDR5895
RLDR5898
RLDR5901
RLDR5904
RLDR5907
RLDR5910
RLDR5913
RLDR5916
RLDR5919
RLDR5922
RLDR5925
RLDR5928
RLDR5931
RLDR5934
RLDR5937
RLDR5940
RLDR5943
RLDR5946
RLDR5949
RLDR5952
RLDR5955
RLDR5958
RLDR5961
RLDR5964
RLDR5967
RLDR5970
RLDR5973
RLDR5976

0009B8 59 10 F 610
 0009BC 47 70 F 10E
 0009CD 92 D2 F 506
 0009C4 95 40 F 588
 0009C8 47 80 F 50E
 0009CC 41 40 0 004
 0009D0 41 50 F 588
 0009D4 58 10 F 5F0
 0009D8 05 01
 0009DA 18 60
 0009DC 18 3D
 0009DE 05 29
 0009E0 18 ED
 0009E2 58 10 F 5F8
 0009E6 19 60
 0009EB 47 80 F 0F6
 0009EC 91 07 F 5F8
 0009F0 47 80 F 0F6
 0009F4 1A 18
 0009F6 50 10 F 5F8
 0009FA 47 F0 F 0E4
 0009FE 42 1C 0 008
 000A02 18 81
 000A04 88 10 0 008
 000A08 40 1C 0 006
 000A0C 1A 86
 000A0E 50 80 F 5F8
 000A12 18 66
 000A14 07 FE

• XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • INCLUDE CONTROL SECTION
 • ROUTINE ICS
 • XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 C2A1 C 1,ICS
 • BR NO
 BC 7,C3A1
 HWI EMSG 1,C K
 • TEST FOR HEX ADDR
 CLI SPEC 24,C
 • BR TO ERROR ROUTINE
 BC 8,ERROR
 • CONVERT LENGTH OF SEGMENT
 LI 4,0,0
 • TO BINARY
 LA 5,SPEC 24
 • LOAD CONVERSION ROUTINE ADDR
 L 1,HEXBB
 • BR TO HEXB
 BALR 0,1
 • SAVE LENGTH IN REG
 LA 6,0
 LA 3,13
 • SEARCH FOR NAME IN REFTBL
 BALR 4,9
 • LOD LENGTH REG
 LA 14,13
 • LOD REGIST LOCATION
 C2AJ L 1,LOCT
 • CMP SEGMENT LENGTH
 LA 6,0
 • BR- ZCU ZEROS
 BC 8,C2AJ4
 • TEST FOR MULT OF EIGHT
 ADJ TH LOCT 3,X 07
 • BR YES
 BC 8,C2AJ4
 • ADD ONE
 AR 1,11
 ST 1,LOCT
 BC 15,ADJ
 • LOCT TO REFTBL AS ORG2
 C2AJ4 STC 1,8 12,0
 LA 8,8
 SRL 1,8
 STH 1,8 12,0
 • UPDATE LOCT
 LA 8,6
 ST 8,LOCT
 SR 8,6
 • RETURN TO REG
 BCR 15,14

RLDR5982
 RLDR5988
 RLDR5990
 RLDR5991
 RLDR5994
 RLDR5997
 RLDR6000
 RLDR6003
 RLDR6006
 RLDR6009
 RLDR6012
 RLDR6015
 RLDR6018
 RLDR6021
 RLDR6024
 RLDR6027
 RLDR6030
 RLDR6033
 RLDR6036
 RLDR6039
 RLDR6042
 RLDR6045
 RLDR6048
 RLDR6051
 RLDR6054
 RLDR6057
 RLDR6060
 RLDR6063
 RLDR6066
 RLDR6069
 RLDR6072
 RLDR6075
 RLDR6078
 RLDR6081
 RLDR6084
 RLDR6087
 RLDR6090
 RLDR6093
 RLDR6096
 RLDR6099
 RLDR6102
 RLDR6105
 RLDR6108
 RLDR6111
 RLDR6114
 RLDR6117
 RLDR6120
 RLDR6123
 RLDR6126
 RLDR6129
 RLDR6132
 RLDR6135
 RLDR6138
 RLDR6141

000A16 59 10 F 614
 000A1A 47 70 F 22A
 000A1E 02 05 F 64C F.580
 000A24 94 FB F 5DD
 000A28 41 00 F 20E
 000A2C 94 0F F 588
 000A30 95 00 F 588
 000A34 47 80 F 188
 000A38 91 80 F 5DD
 000A3C 07 1D
 000A3E 92 C1 F 5D6
 000A42 95 03 F 588
 000A46 47 A0 F 50E
 000A4A 95 02 F 588
 000A4E 47 A0 F 1E2

• XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • DETERMINE IF ESD TYPE CARD
 • XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 C3A1 C 1,ESD
 • NO- TEST FOR TXI CRD
 BC 7,C3A1
 HWI WAPADR 6 ,SPEC 16 NAME TO HAP
 • CRD TYPE ESD
 NI SHS X FB EXTRN ENTRY SW OFF
 CA3A1 LA 13,ESD00
 NI SPEC 24,X OF
 CLI SPEC 24,X 00
 • BR- PROGRAM NAME CRD
 BC 8,C3A3
 • TEST ABS-LOAD FLAG
 TH SHS X 80
 • BR- ABS LOAD
 BCR 1,13
 • INVALID ESD CARD TYPE INDICATION
 HWI EMSG 1,C A
 • VALID ESD TEST
 CLI SPEC 24,X 03
 BC 10,ERROR
 CLI SPEC 24,X 02
 • BR, EXTERNAL SYMNDL ESD
 BC 10,C3A1

RLDR6147
 RLDR6150
 RLDR6153
 RLDR6156
 RLDR6159
 RLDR6162
 RLDR6165
 RLDR6168
 RLDR6171
 RLDR6174
 RLDR6177
 RLDR6180
 RLDR6183
 RLDR6186
 RLDR6189
 RLDR6192
 RLDR6195
 RLDR6198
 RLDR6201
 RLDR6204
 RLDR6207
 RLDR6210
 RLDR6213
 RLDR6216
 RLDR6219
 RLDR6222
 RLDR6225
 RLDR6228

000A52 48 30 F 58E
 000A56 45 E0 F 4AA
 000A5A 42 60 F 588
 000A5E 05 EE
 000A60 18 72
 000A62 5A 70 F 588
 000A66 41 20 F 176
 000A6A 05 39
 000A6C 45 E0 F 0A2
 000A70 92 C4 F 5D6
 000A74 19 70
 000A76 47 70 F 50E
 000A7A 47 F0 F 52E
 000A7E 42 7C 0 008
 000A82 18 07 0 008
 000A84 88 70 0 008
 000A88 40 7C 0 006
 000A8C 47 F0 F 52E

• XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • ESD TYPE 1 ROUTINE ENTRY
 • XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • LOD ESID
 LH 3,SPEC 30
 BAL 14,REFADR
 STC 6,SPEC 24
 • BR TO LOD RELFAC
 LR 7,2
 BALR 14,14
 • FORM ENTRY POINT
 A 7,SPEC 24
 • NOT FOUND RETURN
 LA 2,C3AD1
 • SEARCH FOR NAME IN REFTBL
 BALR 3,9
 • LOD RELOCATED ADDRESS
 BAL 14,ORG2
 • DUPLICATE SYMBOL ERROR
 RVI EMSG 1,C D
 • CMP ORG2 TO GENERATED ADDR
 CR 7,0
 • BR TO ERROR ROUTINE
 BC 7,ERROR
 • BR TO HAP ENTRY AND READ NEXT IHAGE
 BC 15,HAP BR TO HAP ENTRY
 • ADDR TO REFTBL AS ORG2
 C3AD1 STC 7,8 12,0 LOD REG FOR HAPPING
 LR 0,7
 SRL 7,8
 STH 7,8 12,0
 • BR TO HAP ENTRY AND READ NEXT IHAGE
 BC 15,HAP BR TO HAP ENTRY

RLDR6234
 RLD6237
 RLD6240
 RLD6243
 RLD6246
 RLD6249
 RLD6252
 RLD6255
 RLD6258
 RLD6261
 RLD6264
 RLD6267
 RLD6270
 RLD6273
 RLD6276
 RLD6279
 RLD6282
 RLD6285
 RLD6288
 RLD6291
 RLD6294
 RLD6297
 RLD6300
 RLD6303
 RLD6306
 RLD6309
 RLD6312
 RLD6315
 RLD6318
 RLD6321
 RLD6324
 RLD6327
 RLD6330
 RLD6333
 RLD6336

000A90 94 7F F 5DD
 000A94 45 10 F 504
 000A98 41 20 F 1D2
 000A9C 05 39
 000A9E 45 E0 F 0A2
 000AA2 18 10
 000AA4 48 20 F 57E
 000AA8 42 42 F 5E0
 000AAC 42 60 F 588
 000AAB 58 20 F 588
 000ABA 19 12
 000AB6 47 50 F 1CA
 000ABA 18 12
 000ABC 42 1C 0 009
 000AC0 88 10 0 008
 000AC4 40 1C 0 00A
 000AC8 91 04 F 5DD
 000ACC 07 1D
 000ACE 47 F0 F 52E
 000AD2 18 21
 000AD4 13 12
 000AD6 47 F0 F 1B4
 000ADA 42 60 F 58C
 000ADE 58 60 F 58C
 000AE2 41 E0 F 196
 000AEE 47 F0 F 0DA

• XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • ESD TYPE 0 ROUTINE SEGMENT NAME
 • XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • ABS-LOAD FLAG OFF
 C3AA3 NI SMS,X 7F
 BAL 1,CESID TEST VALIDITY OF ESID
 • NAME NOT IN 1BL RETURN
 LA 2,C3AC3
 • SEARCH FOR NAME IN REFTBL
 BALR 3,9
 • COMPUTE RELOCATION FACTOR
 C3AD4 BAL 14,ORG2
 • SAVE ADDR IN REG
 LR 1,0
 • LOD ESID
 LH 1,SPEC 14
 • REFTBL POSITION TO ESIDTB
 STC 4,ESIDTB 2
 • LOD ASSEMBLED ADDR
 STC 6,SPEC 24
 L 2,SPEC 24
 CR 1,2
 • BR- ORG2 LESS THAN ADDR
 BC 5,COMP
 SR 1,2
 • THIRD CHAR TO FIRST POSITION
 RELF STC 1,9 12,0
 SRL 1,8
 STH 1,10 12,0
 TR SMS,X 04 TEST EXTRN ENTRY SW
 BCR 1,13 BR TO RD IF ON
 • BR TO HAP ENTRY AND READ NEXT IHAGE
 BC 15,HAP BR TO HAP ENTRY
 • ADDR MINUS ORG2
 COMP SR 2,1
 • COMPLEMENT TWOS
 BC 15,REL F
 DC 15,REL F
 C3AC3 STC 6,SPEC 28
 • LOD SEGMENT LENGTH
 L 6,SPEC 28
 LA 14,C3AD4
 • CK ADDR
 BC 15,C2AJ1

RLDR6342
 RLD6345
 RLD6348
 RLD6351
 RLD6354
 RLD6357
 RLD6360
 RLD6361
 RLD6363
 RLD6366
 RLD6369
 RLD6372
 RLD6375
 RLD6378
 RLD6381
 RLD6384
 RLD6387
 RLD6390
 RLD6393
 RLD6396
 RLD6399
 RLD6402
 RLD6405
 RLD6408
 RLD6411
 RLD6414
 RLD6417
 RLD6420
 RLD6423
 RLD6426
 RLD6429
 RLD6432
 RLD6435
 RLD6438
 RLD6441
 RLD6444
 RLD6447
 RLD6450
 RLD6453
 RLD6456
 RLD6459
 RLD6462
 RLD6465
 RLD6468
 RLD6471
 RLD6474

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* ESD TYPE 2 ROUTINE EXTRM
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* EXIT FOR NAME NOT IN TBL
C3AHL LA 2,ERROR
BAL 1,CESID TEST VALIDITY OF ESID
* UNDEFINED SYMBOL ERROR
HWI MSG 1,C 11
* SEARCH FOR NAME IN REPTDL
BALR 3,9
* LOD ESID
LH 2,SPEC 14
* REPTDL POSITION TO ESIDTB
STC 2,ESIDTB 2
LA 2,1 2 ADJUST FOR SECOND ENTRY
* LOD RELOCATED ADDRESS
STH 2,SPEC 14 RESTORE IN CARD IMAGE
* SAVE ADDR IN REG
LR 1,0
OI SWS,X 04 TURN EXTRN ENTRY SW ON
BC 15,SELF
* TEST FOR MULTIPLE ENTRIES IN CARD
ESD00 LA 2,16 0,0
LH 1,SPEC 10
SR 1,2
* ZERO OR LESS BR TO READ
MVC SPEC 16 32 ,SPEC 32
STH 1,SPEC 10
BC 15,C3A1

```

```

000AFA 41 20 F 50E
000AEE 45 10 F 504
000AF2 92 E4 F 5D6
000AF6 05 39
000AF8 48 20 F 57E
000AFC 42 42 F 5E0
000B00 41 22 0 001
000B04 40 20 F 57E
000B08 45 E0 F 0A2
000B0C 18 10
000B0E 96 04 F 500
000B12 47 F0 F 1B4
000B16 41 20 0 010
000B1A 48 10 F 57A
000B1E 18 12
000B20 47 C0 F 016
000B24 D2 1F F 580 F 590
000B2A 40 10 F 57A
000B2E 47 F0 F 120

```

```

RLDR6480
RLDR6483
RLDR6486
RLDR6489
RLDR6492
RLDR6495
RLDR6498
RLDR6499
RLDR6501
RLDR6504
RLDR6507
RLDR6510
RLDR6513
RLDR6516
RLDR6519
RLDR6522
RLDR6525
RLDR6528
RLDR6531
RLDR6534
RLDR6537
RLDR6540
RLDR6543
RLDR6546
RLDR6549
RLDR6552
RLDR6555
RLDR6558
RLDR6561
RLDR6564
RLDR6567
RLDR6570
RLDR6573

```

```

* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* TEXT CARD ROUTINE TXT
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* BR- NOT TEXT CRD
C4A1 BC 7,C4A3
BC 6,SPEC 4
* NUM OF BYTES
LH 7,SPEC 10
* LINKAGE
LA 9,C4A2 2
* TEST ABS-LOAD FLAG
REPENT TH SWS,X 80
* BR- RELOCATABLE LOAD
BC 8,C4A1
APR1 SR 10,10
BC 15,C4A2
* LOD ESID TO FIND ADDR
C4A1 LH 3,SPEC 14
BAL 14,REFADR
* BR TO LOD REPTDL
BALR 14,14
LR 10,2
* ADD ADDR TO REFLAC
C4A2 A 10,SPEC 4
ST 10,SPEC 4
LR 1,0
AR 1,7
* LOADER OVERLAY ERROR
HWI MSG 1,C 0
* TEST ADDR ABOVE LDR
C 10,LEND
* BR- YES
BC 10,C4A2
* TEST ADDR BELOW LDR
C 1,BELOW
* BR TO ERROR ROUTINE
BC 2,ERROR
* TEST ABS-LOAD FLAG
C4A2 TH SWS,X 80
* BR- YES
BC 1,C4A2
LH 2,TBLCT
LR 12,0
* LOD STORAGE SIZE
L 12,C4XX1
LTR 12,TBLREF
BC 12,C4XX1
* ENTRIES X 12
RR 2,2
* SIZE- ENTRIES X 12
C4XX1 SR 12,1
CR 1,12

```

```

000B32 59 10 F 618
000B36 47 70 F 2C6
000B3A 42 60 F 574
000B3E 48 70 F 57A
000B42 41 90 F 288
000B46 91 80 F 5DD
000B4A 47 80 F 24C
000B4E 18 AA
000B50 47 F0 F 258
000B54 48 30 F 57E
000B58 45 E0 F 4AA
000B5C 05 EE
000B5E 18 A2
000B60 5A A0 F 574
000B64 50 A0 F 574
000B68 18 1A
000B6A 1A 17
000B6C 92 D6 F 506
000B70 59 A0 F 62C
000B74 47 A0 F 278
000B78 59 10 F 5FC
000B7C 47 20 F 50E
000B80 91 80 F 5DD
000B84 47 10 F 29C
000B88 48 20 F 5DE
000B8C 41 30 0 00C
000B90 58 C0 F 5F4
000B94 12 22
000B96 47 C0 F 294
000B9A 1C 22
000B9C 1B C3
000B9E 19 1C

```

```

RLDR6579
RLDR6582
RLDR6585
RLDR6588
RLDR6591
RLDR6594
RLDR6597
RLDR6600
RLDR6603
RLDR6606
RLDR6609
RLDR6612
RLDR6615
RLDR6618
RLDR6621
RLDR6624
RLDR6627
RLDR6630
RLDR6633
RLDR6636
RLDR6639
RLDR6642
RLDR6645
RLDR6648
RLDR6651
RLDR6654
RLDR6657
RLDR6660
RLDR6663
RLDR6666
RLDR6669
RLDR6672
RLDR6675
RLDR6678
RLDR6681
RLDR6684
RLDR6687
RLDR6690
RLDR6693
RLDR6696
RLDR6699
RLDR6702
RLDR6705
RLDR6708
RLDR6711
RLDR6714
RLDR6717
RLDR6720
RLDR6723
RLDR6726
RLDR6729
RLDR6732
RLDR6735
RLDR6738
RLDR6741

```

000BA0	47 20 F 50E	* BR TO ERROR ROUTINE, REFTBL OVERLAY	RLDR6744
000BA4	91 40 F 500	* TEST FTR1 2,ERROR	RLDR6747
000BA8	47 E0 F 2B6	C4AJ2 TH SWS,X 40	RLDR6750
000BAC	41 00 0 080	* BR-OFF 14,C4AK2	RLDR6753
000BB0	19 10	* IS ADDR BELOW FIRST 128 BYTES	RLDR6756
000BB2	47 50 F 2B6	LA 0,128 0,0	RLDR6759
000BB6	94 BF F 500	GR 1,0	RLDR6762
000BBA	50 40 F 604	* BR, DO NOT SAVE ADDR	RLDR6765
000BBE	07 F9	BC 5,C4AK2	RLDR6768
000BC0	18 7B	* TURN FTR1 OFF	RLDR6771
000BC2	42 70 F 2BF	HI SWS,X BF	RLDR6774
000BC6	D2 00 A 000 F 580	* SAVE FIRST ADDR LOADED INTO	RLDR6777
000BCC	07 FD	SI 10,BRAD	RLDR6780
		* LINKAGE	RLDR6783
		C4AK2 BCR 15,9	RLDR6786
		* SUB ONE FROM NUM OF BYTES	RLDR6789
		SR 7,11	RLDR6792
		* ST COUNT INTO INST	RLDR6795
		C4A3 STC 1,REP	RLDR6798
		* MOVE TEXT TO STORAGE	RLDR6801
		CHAR MVC 0 1,10 ,SPEC 16	RLDR6804
		* TO RD BCR 15,13	RLDR6807
			RLDR6810
			RLDR6813
			RLDR6816

000BCE	59 10 F 61C	* XX	RLDR6822
000BD2	47 70 F 33C	* REPLACE CARD ROUTINE REP	RLDR6825
000BD6	41 40 0 006	* XX	RLDR6828
000BDA	41 50 F 576	* BR- NOT REPLACE CARD	RLDR6831
000BDE	58 10 F 5F0	BC 7,C5AA1	RLDR6834
000BE2	05 01	* CONVERT REP CRD HEX ADDR TO BIN	RLDR6837
000BE4	50 00 F 574	C4A3 LA 4,6 0,0	RLDR6840
000BE8	41 40 0 002	LA 5,SPEC 6	RLDR6843
000BEC	41 50 F 57E	* LOAD CONVERSION ROUTINE ADDR	RLDR6846
000BF0	58 10 F 5F0	L 1,HEXBB	RLDR6849
000BF4	05 01	* BR TO HEXB	RLDR6852
000BF6	40 00 F 57E	BALR 0,1	RLDR6855
000BFA	41 50 F 580	* SAVE ADDR IN CARD IMAGE	RLDR6858
000BFE	41 70 0 002	SI 0,SPEC 4	RLDR6861
000C02	91 08 F 500	LA 4,2 0,0	RLDR6864
000C06	47 10 F 334	* CONVERT REP ESID TO BIN	RLDR6867
000C0A	45 90 F 23E	LA 5,SPEC 14	RLDR6870
000C0E	41 40 0 004	* LOAD CONVERSION ROUTINE ADDR	RLDR6873
000C12	58 10 F 5F0	L 1,HEXBB	RLDR6876
000C16	05 01	* BR TO HEXB	RLDR6879
000C18	58 80 F 574	BALR 0,1	RLDR6882
000C1C	40 00 8 000	* SAVE THE ESID IN CARD IMAGE	RLDR6885
000C20	94 F7 F 500	SI 0,SPEC 14	RLDR6888
000C24	95 68 5 000	LA 5,SPEC 16	RLDR6891
000C28	07 7D	* NUM OF BYTES	RLDR6894
000C2A	96 08 F 5DD	NUM LA 7,2 0,0	RLDR6897
000C2E	41 88 0 002	TH SWS,X C8	RLDR6900
000C32	50 80 F 574	BC 1,APR10	RLDR6903
000C36	1A 58	* CK ADDR 9,REPENT	RLDR6906
000C38	47 F0 F 2F6	* CONVERT HALF WORD OF CORRECTIONS	RLDR6909
000C3C	41 90 F 306	APRIL LA 4,4	RLDR6912
000C40	47 F0 F 246	* LOAD CONVERSION ROUTINE ADDR	RLDR6915
		L 1,HEXBB	RLDR6918
		* BR TO HEXB	RLDR6921
		BALR 0,1	RLDR6924
		* LOD REPLACE ADDR	RLDR6927
		L 8,SPEC 4	RLDR6930
		* PLACE CORRECTION IN STORAGE	RLDR6933
		SI 0,0 0,8	RLDR6936
		NI SWS,X F7	RLDR6939
		CLI 0 5,C ;	RLDR6942
		BCR 7,13	RLDR6945
		* TURN SH ON	RLDR6948
		OI SWS,X 08	RLDR6951
		LA 8,8,0	RLDR6954
		* SAVE REPLACE ADDR	RLDR6957
		SI 8,SPEC 4	RLDR6960
		AR 5,11	RLDR6963
		BC 15,NUM	RLDR6966
		APR10 LA 9,APRIL	RLDR6969
		BC 15,APR1	RLDR6972
			RLDR6975
			RLDR6978
			RLDR6981
			RLDR6984

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* RELOCATION DICTIONARY CARD RLD
* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CSAA1 C 1,RLD
* BR-NOT RLD CARD
  BC 7,C6AA1
  YH SMS,X 30
* BR-ABS-LOAD
  BCR 1,13
  LH 10,SPEC 16
* RH ESID
CSAC1 LH 3,0 0,10
* INVAL ID ESID TYPE
  WVI 1,MSG 1,C A
  LTR 3,3
* BR TO ERROR ROUTINE
  BC 8,ERROR
  BAL 14,REFADR
* BR TO LOD RELFAC Y
  DALR 14,14
* HOLD Y
  LR 8,2
* PH ESID
  LH 3,2 0,10
  LTR 3,3
* BR TO ERROR ROUTINE
  BC 8,ERROR
  BAL 14,REFADR
* BR TO LOD RELFAC X
  DALR 14,14
* HOLD X
  LR 9,2
* MVC TO WD DECREMENT
  LH 1,MVC1 2
* MVC FROM WD DEC
  LH 2,MVC2 4
  BAL 14,CTR
CSAA3 AR 10,5
  LR 3,5
  LR 4,5
* TEST FOR FOUR BYTES
  TH 0 10 ,X OC
* BR-TEST FOR THREE
CSAF3 SR 5,11
* TO MVC OF CHAR TO MOVE
  STC 5,MVC1 1
* TO MVC
  STC 5,MVC2 1
* TO MVC TO
  AR 3,6
* TO MVC FROM
  AR 4,6

```

```

RLDR6990
RLDR6993
RLDR6996
RLDR6999
RLDR7002
RLDR7005
RLDR7008
RLDR7011
RLDR7014
RLDR7017
RLDR7020
RLDR7023
RLDR7026
RLDR7029
RLDR7032
RLDR7035
RLDR7038
RLDR7041
RLDR7044
RLDR7047
RLDR7050
RLDR7053
RLDR7056
RLDR7059
RLDR7062
RLDR7065
RLDR7068
RLDR7071
RLDR7074
RLDR7077
RLDR7080
RLDR7083
RLDR7086
RLDR7089
RLDR7092
RLDR7095
RLDR7098
RLDR7101
RLDR7104
RLDR7107
RLDR7110
RLDR7113
RLDR7116
RLDR7119
RLDR7122
RLDR7125
RLDR7128
RLDR7131
RLDR7134
RLDR7137
RLDR7140
RLDR7143
RLDR7146
RLDR7149
RLDR7152

```

```

* TO
  STH 3,MVC1 2
* FROM
  STH 4,MVC2 4
* LOAD ADDR
  L 3,0 10,0
* X FACTOR PLUS ADDR
  L 3,9
MVC1 MVC WD 1,0 3
  L 4,HD
* TEST COMPLEMENT FLAG
  TH 0 10 ,X 02
* BR YES
  BC 1,CSAE4
* ADD TO CONTENTS OF CELL
  AR 4,8
COMPP ST 4,WD
  MVC 0 1,3 ,HD
MVC2 STH 1,MVC1 2
  STH 2,MVC2 4
  BAL 14,CTR
  SR 6,6
* TEST CONTINUATION FLAG
  TH 0 10 ,Y 01
* BR, FLAG-ADR FOLLOWS
  BC 1,CSAA3
  AR 10,5
* BR, RH FOLLOWS
  BC 1,CSAC1
CTR LA 5,4 0,0
* BYTE COUNT
  SR 4,5
  SR 4,5
* TO RD
  BCR 8,13
  STH 4,SPEC 10
  BCR 15,14
* ADDR MINUS RELFAC
CSAE4 BC 15,COMPP
  AR 6,11
CSAB3 SR 5,11
* TEST FOR THREE BYTE LOAD
  TH 0 10 ,X 08
* BR-THREE BYTE
  BC 1,CSAF3
  AR 6,11
  SR 5,11
* TEST FOR TWO BYTE LOAD
  TH 0 10 ,X 04
* BR-TWO BYTE
  BC 1,CSAF3
  AR 6,11
  SR 5,11
  BC 15,CSAF3

```

```

RLDR7155
RLDR7158
RLDR7161
RLDR7164
RLDR7167
RLDR7170
RLDR7173
RLDR7176
RLDR7179
RLDR7182
RLDR7185
RLDR7188
RLDR7191
RLDR7194
RLDR7197
RLDR7200
RLDR7203
RLDR7206
RLDR7209
RLDR7212
RLDR7215
RLDR7218
RLDR7221
RLDR7224
RLDR7227
RLDR7230
RLDR7233
RLDR7236
RLDR7239
RLDR7242
RLDR7245
RLDR7248
RLDR7251
RLDR7254
RLDR7257
RLDR7260
RLDR7263
RLDR7266
RLDR7269
RLDR7272
RLDR7275
RLDR7278
RLDR7281
RLDR7284
RLDR7287
RLDR7290
RLDR7293
RLDR7296
RLDR7299
RLDR7302
RLDR7305
RLDR7308
RLDR7311
RLDR7314
RLDR7317

```

```

000CA6 40 30 F 3AE
000CAA 40 40 F 3C8
000CAE 58 3A 0 000
000CB2 1A 39
000CB4 D2 00 F 600 3 000
000CBA 58 40 F 600
000CBE 91 02 A 000
000CC2 47 10 F 3F8
000CC6 1A 48
000CC8 50 40 F 600
000CCD 02 00 3 000
000CD2 40 10 F 3AE
000CD6 40 20 F 3C8
000CDA 45 00 F 3E6
000CDE 1B 66
000CE0 91 01 A 000
000CE4 47 10 F 382
000CE8 1A A5
000CEA 47 00 F 34E
000CEE 41 50 0 004
000CF2 48 40 F 57A
000CF6 18 45
000CF8 07 80
000CFA 40 40 F 57A
000CFE 07 FE
000D00 18 48
000D02 47 00 F 3C0
000D06 1A 6B
000D08 18 5B
000D0A 91 08 A 000
000D0E 47 10 F 390
000D12 1A 6B
000D14 18 5B
000D16 91 04 A 000
000D1A 47 10 F 390
000D1E 1A 6B
000D20 18 5B
000D22 47 00 F 390

```



```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* END CARD ROUTINE      END
*
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
C6A1  1  END
* BR-NOT END CARD
  BC  7,C6AC1
  SR  2,2
  CLI  SPEC 5,C
* BR IF NO ADDR
  BC  8,C6AB3
  STC  0,SPEC 4
* END BIT ON
  TH  SWS,X 10
* BR NO ADDR SAVED
  BC  8,C6AB3
* FTTR1 AND END BIT OFF
  NI  SWS,X AF
  TM  SWS,X 80
* BR, ABS-LOAD FLAG ON
  BC  1,C6AB4
* LOD ESID
  LH  3,SPEC 14
  BAL  14,REFADR
* BR TO LOD RELFAC
  BALR 14,14
* FORM ADDR
  A  2,SPEC 4
C6AB4  ST  2,BRAD
* CLEAR
  XC  ESIDTB 16 ,ESIDTB
C6AB3  LOAD FLAG ON
  OI  SWS,X 80
* TO RD
  BCR  15,13

```

```

RLDR7323
RLDR7324
RLDR7329
RLDR7332
RLDR7332
RLDR7335
RLDR7338
RLDR7341
RLDR7344
RLDR7347
RLDR7350
RLDR7353
RLDR7356
RLDR7359
RLDR7362
RLDR7365
RLDR7368
RLDR7371
RLDR7374
RLDR7377
RLDR7380
RLDR7383
RLDR7386
RLDR7389
RLDR7392
RLDR7395
RLDR7398
RLDR7401
RLDR7404
RLDR7407
RLDR7410
RLDR7413
RLDR7416
RLDR7419
RLDR7422
RLDR7425
RLDR7428

```

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* LOAD TERMINATE CARD ROUTINE  LOT
*
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
C6AC1  1  LOT
* TO READ A CARD
  BCR  7,13
  CLI  SPEC 16,C
* BR-CARD HAS A NAME
  BC  7,C6AD3
  C  8,BRAD
* BR-NO ADDR DEVELOPED
  BC  8,C6AD4
* LOD SAVED BR ADDR
  LA  0,BRAD
* PLACE ADDR IN PSW IMAGE
EXEC  ST  0,PSW 4
  BAL  13,C6AB3
  LPSW  PSW
C6AD4  LA  3,1 0 0
  BAL  14,REFADR
C6AD4  BAL  14,BRC2
  BC  15,EXEC
* EXIT FOR NAME NOT IN TBL
C6AD3  LA  2,ERROR
* UNDEFINED SYMBOL ERROR
  MVJ  EMSG 1,C U
* SEARCH FOR NAME IN REPTBL
  BALR 3,9
  BC  15,C6AD4

```

```

RLDR7434
RLDR7437
RLDR7440
RLDR7443
RLDR7446
RLDR7449
RLDR7452
RLDR7455
RLDR7458
RLDR7461
RLDR7464
RLDR7467
RLDR7470
RLDR7473
RLDR7476
RLDR7479
RLDR7482
RLDR7485
RLDR7488
RLDR7491
RLDR7494
RLDR7497
RLDR7500
RLDR7503
RLDR7506
RLDR7509
RLDR7512
RLDR7515
RLDR7518
RLDR7521
RLDR7524

```

000DB2 18 22
 000DB4 58 C0 F 5F4

 000DB8 43 23 F 5E0
 000DBC 41 30 0 00C
 000DC0 1C 22
 000DC2 1B C3
 000DC4 05 EE

 000DC6 48 2C 0 00A
 000DC8 89 20 0 008
 000DCE 43 2C 0 009
 000DD2 07 FE

•XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • ROUTINE TO LOCATE REFTBL ENTRIES
 • THRU ESID
 •XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • LH 3, WITH ESID, RH, OR PH
 • VALUE BEFORE ENTERING ROUTINE
 •XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • LOD STORAGE SIZE
 REFADR SR 2,2
 L 12,TBLREF
 LH 3,SPEC 14
 • INSERT REFTBL POSITION
 IC 2,ESIDFB 3
 • ENTRY SIZE 3,12 0,0
 LA 3,12 0,0
 • ESID X 12
 HR 2,2
 • SIZE- ESID X 12
 SR 12,3
 BCR 14,14
 •XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • ROUTINE TO LOAD RELOCATION FACTOR
 •XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 LH 2,10 12,0
 SLL 2,8
 IC 2,9 12,0
 BCR 15,14

RLDR7530
 RLDR7533
 RLDR7536
 RLDR7539
 RLDR7542
 RLDR7545
 RLDR7548
 RLDR7551
 RLDR7554
 RLDR7557
 RLDR7560
 RLDR7563
 RLDR7566
 RLDR7569
 RLDR7572
 RLDR7575
 RLDR7578
 RLDR7581
 RLDR7584
 RLDR7587
 RLDR7590
 RLDR7593
 RLDR7596
 RLDR7599
 RLDR7602
 RLDR7605
 RLDR7608
 RLDR7611
 RLDR7614
 RLDR7617
 RLDR7620
 RLDR7623

000DD4 48 00 F 5DE
 000DD8 41 10 F 580
 000DDC 18 44
 000DDE 41 50 0 00C
 000DE2 58 C0 F 5F4
 000DE6 12 00
 000DE8 47 80 F 4F4
 000DEC 18 C5
 000DEE 1A 48
 000DF0 D5 05 1 000 C 000
 000DF6 07 83
 000DF8 46 00 F 4E4
 000DFC 18 C5
 000DFE 1A 48
 000E00 40 40 F 5DE
 000E04 D2 05 C 000 1 000

 000E0A 07 F2
 000E0C 95 0F F 57F
 000E10 07 C1
 000E12 92 C1 F 5D6

•XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • ROUTINE TO SEARCH REFERENCE TABLE
 • FOR A GIVEN NAME
 •XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 • CALLING SEQUENCE
 • L LA 2,NOT FOUND RETURN
 • BAL 3,ENTRY FOUND RETURN
 •XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 SERCH LH 0,TBLCT
 • ADDR OF NAME IN CRD
 LA 1,SPEC 16
 SR 4,4
 • LOD ENTRY SIZE
 LA 5,12 0,0
 • LOD STORAGE SIZE
 L 12,TBLREF
 LTR 0,0
 BC 8,NOT
 CMP SR 12,5
 • TO ACCUM ENTRY POSITION
 AR 4,11
 • CMP FOR NAME
 CLC 0,6,1,0 12
 • BR- NAME FOUND
 BCR 8,3
 BCT 0,CMP
 SR 12,5
 NOT
 • ADD TO TOTAL ENTRIES
 AR 4,11
 STH 4,TBLCT
 • NAME TO TBL
 MVC 0,6,12,0 1
 • THIS INSTRUCTION SHOULD NOT
 • BE ASSEMBLED WITH A LD-LDR
 • EFFECTIVE FOR HIGH LDR ONLY
 • ST 12,BELOW
 • NAME NOT FOUND
 BCR 2
 CESID CLI SPEC 15,15 HIGHEST NUMBERED ESID
 BCR 12,1 RETURN ECU OR LESS
 NVI ENSG 1,C A INDICATE INVALID ESID

RLDR7629
 RLDR7632
 RLDR7635
 RLDR7638
 RLDR7641
 RLDR7644
 RLDR7647
 RLDR7650
 RLDR7653
 RLDR7656
 RLDR7659
 RLDR7662
 RLDR7665
 RLDR7668
 RLDR7671
 RLDR7674
 RLDR7677
 RLDR7680
 RLDR7683
 RLDR7686
 RLDR7689
 RLDR7692
 RLDR7695
 RLDR7698
 RLDR7701
 RLDR7704
 RLDR7707
 RLDR7710
 RLDR7713
 RLDR7716
 RLDR7719
 RLDR7722
 RLDR7725
 RLDR7728
 RLDR7731
 RLDR7734
 RLDR7737
 RLDR7740
 RLDR7743
 RLDR7746
 RLDR7747
 RLDR7748
 RLDR7749

XERO COPY

XERO COPY

XERO COPY

XERO COPY

```

000E16
000E16 02 07 0 058 F 5C8
000E1C 41 20 F 505
000E20 41 30 0 008
000E24 41 40 F 52A
000E28 58 10 F 630
000E2C 58 11 0 000
000E30 05 01
000E32 82 00 F 500

000E36
000E36 07 F0
000E38 89 00 D 008
000E3C 50 00 F 600
000E40 F3 63 F 65F F 600
000E46 DC 05 F 65F F 54C
000E4C 41 20 F 64C
000E50 41 30 F 019
000E54 41 40 F 52A
000E58 58 10 F 630
000E5C 58 11 0 000
000E60 05 01
000E62 07 F0

```

```

*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* ERROR MESSAGES ROUTINE
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* SETUP EXTERNAL NEW PSW
* ADDRESS OF MESSAGE
* NUM OF BYTES TO PRT
* ERROR RETURN
* BR TO WRITE
* LOD WAIT PSW
* ERROR1 LPSW PSMMSG
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* HAPPING ROUTINE
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
MAP
  BCR 15,13 RETURN IF NO PRINT UNIT
  SLL 0,8 ADJUST ADDR FOR
  ST 0,WD CONVERSION TO HEX
  UNPK MADDR1 7,WD 4 UNPACK ADDR
  TR MADDR1 6,TRANSB-X F0 TRANSLATE
  LA 2,HMAPDR LOD ADDR FOR HAPPING
  LA 3,25 LOD BYTE COUNT
  MAP2 LA 4,ERROR1 WRITE FAILURE RETURN
  L 1,SMMSGAD LOD UCB ADDR
  BALR 0,1 BR TO WRITE
  BCR 15,13 RETURN TO CALL ROUTINE

```

```

RLDR7752
RLDR7755
RLDR7758
RLDR7761
RLDR7764
RLDR7767
RLDR7770
RLDR7773
RLDR7776
RLDR7779
RLDR7782
RLDR7785
RLDR7788
RLDR7791
RLDR7794
RLDR7797
RLDR7800
RLDR7803
RLDR7806
RLDR7809
RLDR7812
RLDR7815
RLDR7818
RLDR7821
RLDR7824
RLDR7827
RLDR7830
RLDR7833
RLDR7836
RLDR7839
RLDR7842
RLDR7845
RLDR7848
RLDR7851
RLDR7854
RLDR7857
RLDR7860
RLDR7863
RLDR7866

```

```

000F64 404040E2E3D6D9C1
000F6C C7C54004C1D7
000F78
000F80 0004002000000000
000F8C 0106000000
000F90 D307E1
000F94 01040000
000F98 00000906
000FA4 0106000000
000FAC D3D2E140E6C1C9E3
000FB0 00
000FB4 0000
000FB8 0000000000000000
000FC4 0000000000000000
000FC8 00000888
000FD4 00002000
000F04 00000080
000F08 00000000
000F0C 00000000
000F10 02
000F14 C5D5C4
000F18 E203C3
000F1C 02 C3E2
000F20 02
000F24 C5E2C4
000F28 02
000F2C E3E7E3
000F30 02
000F34 D9C5D7
000F38 02
000F3C D9D3C4
000F40 02
000F44 D3C4E3

```

```

*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*
* CONSTANTS AREA
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
HEAD DC C STORAGE
SPEC DS 9D I/O BUFF OF 72 BYTES
PSW DC X 0004002000000000 V2LO
* PROGRAM INTERRUPT PSW
PNPSW DC X 0106000000
RESTRT DC X 01040000
PSWMSG DC A RESUME
EMSG DC C LKA WAIT
SMS DC X 00
TBLCT DC X 0000
ESTDTA DC XL16 0
HEXBB DC A HEXB
TBLREF DC A TOP 1 STORAGE SIZE CONSTANT
LOCT DS IF
* THE FOLLOWING SHOULD BE
* CHANGED WHEN THE LDR IS
* ASSEMBLED FOR RESIDENCE
* IN UPPER CORE STORAGE.
* IT SHOULD READ--
* BELOW DC A LOAD2 FOR HI-LDR2 ASSEMBLY,
* BELOW DC A ALPHA FOR LO-LDR2 ASSEMBLY
* BELOW DC A ALPHA
WD DC XL4 0
BRAD DC XL4 0
END DC X 02
*
SLC DC X 02
*
ICS DC X 02
*
ESD DC X 02
*
TXT DC C TXT
*
REP DC X 02
*
RLO DC X 02
*
LDT DC C LDT
*
* THE FOLLOWING INSTRUCTION
* SHOULD BE ADJUSTED TO READ--
* CTRSET DC X 4 80
* FOR LO ASSEMBLIES, AND
* CTRSET DC XL4 80

```

```

RLDR7872
RLDR7875
RLDR7878
RLDR7881
RLDR7884
RLDR7887
RLDR7890
RLDR7893
RLDR7896
RLDR7899
RLDR7902
RLDR7905
RLDR7908
RLDR7911
RLDR7914
RLDR7917
RLDR7920
RLDR7923
RLDR7926
RLDR7929
RLDR7932
RLDR7935
RLDR7938
RLDR7941
RLDR7944
RLDR7947
RLDR7950
RLDR7953
RLDR7956
RLDR7959
RLDR7962
RLDR7965
RLDR7968
RLDR7971
RLDR7974
RLDR7977
RLDR7980
RLDR7983
RLDR7986
RLDR7989
RLDR7992
RLDR7995
RLDR7998
RLDR8001
RLDR8004
RLDR8007
RLDR8010
RLDR8013
RLDR8016
RLDR8019
RLDR8022
RLDR8025
RLDR8028

```

XERO COPY

XERO COPY

XERO COPY

XERO COPY

```

000F30 00000F70
000F34 00000F70
000F38 0000008C
000F3C 00000080
000F40 00000048
000F44 F0F1F2F3F4F5F6F7
000F48 F8F9C1C2C3C4C5C6
000F54 C1C2C3C4C5C640C1
000F5C E340D3D6C3C1E3C9
000F64 060540
000F67 F0F1F2F3F4F5F6

* FOR HIGH ASSEMBLIES.
* INITIAL VALUE FOR LOCCT
CTRSET DC A CTRR
LEND DC A CTRR LOADER END ADDR
SWSAD DC A SINTRY QMSH
INPUT DC A SINTRY
TPADR DC XL 48
TRANTB DC C 0123456789ABCDEF
MAPADR DC C ABCDEF AT LOCATI
MADDR1 DC C DN
MADDR1 DC C 0123456

```

```

RLDR8031
RLDR8034
RLDR8037
RLDR8040
RLDR8043
RLDR8046
RLDR8049
RLDR8052
RLDR8055
RLDR8058
RLDR8061

```

```

000F70 CTRR DS 00
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
* INITIAL ENTRY ROUTINE IER
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
000F70 BETA EQU *
000F70 IER EQU *
000F70 05 F0 000F72 BALR 15,0
000F72 58 F0 F 0DE 000080 USING 15
000F76 18 EE SR 14,14
000F78 50 E0 0 078 ST 14,10NP
000F7C 58 10 F FFO *LOAD BUFFER ADDRESS
000F80 95 40 1 010 *CMP UNIT FIELD FOR BLANKS
000F84 47 80 F F18 *BR, IPL CAME FROM SYSIN
000F88 41 40 0 004 *CONVERT LA 4,4
000F8C 41 51 0 010 * DEVICE ADDRESS LA 5,10 1
000F90 41 10 F 808 * LA TO BINARY LA 1,HEXB
000F94 05 01 *GO TO HEXB BALR 0,1
000F96 18 80 *SAVE DEVICE ADDR IN REG-8 LR 8,0
000F98 40 80 F ECO *CHANGE LOADER CONSTANT
000F9C 58 D0 F FFO DIFF 8TH 8,FRADR
000FA0 95 40 D 014 ** DETERMINE I/O MESSAGE UNIT ADDRESS HERE X
000FA4 47 80 F F4A *LOD ADDR OF IOTA
000FAB 41 40 0 004 *LOD ADDR OF IOTA LA 13,IQUADR
000FAC 41 50 0 014 *CMP FOR I/O UNIT ADDR CLI 20,13,C
000FB0 41 10 F 808 *BR IF NO UNIT AVAIL BC 8,CINST1 4
000FB4 05 01 *CONVERT LA 4,4
000FB6 58 10 F F8C * HEX TO LA 5,20 13
000FB8 50 01 D 010 * LA BINARY LA 1,HEXB
000FBE 92 00 F DB7 *BR TO BALR 0,1
000FC2 47 F0 F F62 *ST ADDR IN I/O TBL LOD I/O TBL ADDR
* DUMMY INST

```

```

RLDR8067
RLDR8070
RLDR8073
RLDR8076
RLDR8079
RLDR8082
RLDR8085
RLDR8088
RLDR8091
RLDR8094
RLDR8097
RLDR8100
RLDR8103
RLDR8106
RLDR8109
RLDR8112
RLDR8115
RLDR8118
RLDR8121
RLDR8124
RLDR8127
RLDR8130
RLDR8133
RLDR8136
RLDR8139
RLDR8142
RLDR8145
RLDR8148
RLDR8151
RLDR8154
RLDR8157
RLDR8160
RLDR8163
RLDR8166
RLDR8169
RLDR8172
RLDR8175
RLDR8178
RLDR8181
RLDR8184
RLDR8187
RLDR8190
RLDR8193
RLDR8196
RLDR8199
RLDR8202
RLDR8205
RLDR8208
RLDR8211
RLDR8214
RLDR8217
RLDR8220
RLDR8223
RLDR8226
RLDR8229

```

```

000FC6 47 F0 F F4A CINST1 BC 15, * 4 RLD8232
*CONSTRUCT INST HVC CINST1 2 2 ,CINST 2 RLD8235
000FCA 02 01 F F48 F DA6 *MOVE BR INST HVC CINST1 2 2 ,CINST 2 RLD8238
000FD0 02 03 F D9C F F46 HVC CINST1 2 2 ,CINST 2 RLD8241
000FD6 02 01 F D9E F DB6 HVC SAGINU 4 4 ,SINDH INSTRUCTION RLD8244
000FE2 41 70 F FE0 ST 7,CCW2 RLD8247
000FE6 50 70 D D48 ST 7,CAW RLD8248
000FEA 50 80 F FEC ST 8,WAITS 4 RLD8250
000FE8 41 70 F FBA LA 7,IRUPP RLD8253
000FF2 50 70 0 07C ST 7,IGNP 4 RLD8256
000FF6 90 00 B 000 TIO 0 0 RLD8268
000FFA 47 70 F F76 BC 7, *-4 RLD8271
000FF8 80 00 F F08 SSS UT1 RLD8274
001002 9C 00 B 000 SIO 0 0 RLD8277
001006 82 00 F FE8 LPSW WAITS RLD8280
00100A 49 80 D 03A CH 8, LOOP 2 RLD8283
00100E 47 80 F F96 BC 0, * 8 RLD8286
001012 82 00 0 030 LPSW LOOP RLD8289
001016 91 04 0 044 TH CSW 4, X 04 RLD8292
00101A 47 80 F F06 BC 8,IRUPP-4 RLD8295
00101E 05 04 F F09 F FF5 CLC UT1 1 5 ,UT2 1 RLD8298
001024 47 80 F FB8 BC 8,RDR RLD8301
001028 40 80 F ECO STH 8,TPADR RLD8304
* ADJUST I/O TBL FOR INPUT DEVICE RLD8307
00102C 41 00 0 030 LA 0,QRTPH TAPE READ INCREMENT RLD8310
001030 5A 00 F EBC A 0,INPUT TDL ADDR RLD8313
001034 50 00 F EBC ST 0,INPUT RLD8316
001038 41 00 0 018 RDR LA 0,24 REFTBL CONSTANT SIZE RLD8319
00103C 58 10 F E7C L 1,TBLREF AND STORAGE SIZES RLD8322
001040 18 10 L 1,DIFF EQU START OF TDL RLD8325
001042 02 17 1 000 F FFA HVC 0 2, 1 DOLLA MOVE ENTRIES TO TDL RLD8328
001048 58 F0 F FD4 L 15,BREG2 RLD8331
00104C 07 FF F FD4 BCR 15,15 RLD8334
*BASE ADDR OF LOADER RLD8337
00104E 0000 BREG1 DC A,RELD RLD8340
001050 00000800 *INITIAL LOADING ENTRY RLD8343
001054 000008F0 BREG2 DC A,LOAD2 RLD8346
001058 FFFFFFFF UT1 DC X,FFFFFFFF RLD8349
001060 DC 00 RLD8352
*SENSE OPERATION CODE RLD8355
001060 04 CCH2 DC X 04 RLD8358
001061 001058 DC AL3 UT1 RLD8361
001064 0000008 DC XL4 8 RLD8364
001068 FF060000 WAITS DC X,FF060000 RLD8367
00106C 00000000 IQUADR DC XL4 0 RLD8370
001070 00001098 DC A,IOTA RLD8373
001074 FFFFFFFF UT2 DC X,FFFFFFFF RLD8376
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX RLD8379
* REFERENCE TABLE ENTRIES CONSTANTS RLD8382
* RLD8385
* RLD8388
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX RLD8391
00107A D3D6C1C4F240 DOLLA EQU * RLD8394
00107B 0008F0 DC C,LOAD2 LDR INITIAL ENTRY POINT RLD8397
00107C 000000 DC AL3,LOAD2 ENTRY ADDRESS RLD8400
00107D 000000 DC XL3 0 RELFAC FIELD RLD8403
00107E D9C5E2E4D4C5 DC C,RESUME RESUME LOAD ENTRY RLD8406
00107F 000000 DC AL3,RESUME ENTRY ADDRESS RLD8409
00000F 000000 DC XL3 0 RELFAC FIELD RLD8412
DROP 15 RLD8415

```

XERO COPY

XERO COPY

XERO COPY

XERO COPY

001092
001098
001098
000FTO

OMEGA EQU *
DS OD
IOTA EQU *
END IER

RLDR8421
RLDR8424
RLDR8427
RLDR8430

XERO
COPY

XERO
COPY

XERO
COPY

XERO
COPY

I/O Support Package Listing

BW03-01

360P-UT-018

12/6/86

I-C CALL ENTRY GROUP				B1011060
PRIMARY CALL ENTRY TABLE				B1011070
- CONTINUED -				B1011080
				B1011090
				B1011100
CC0484	SUTAB	EQU	SINTRY+4	DEFINE 1ST DEVICE
				B1011110
				B1011120
				B1011130
CC048C	CCCCFFFF	DC	A(65535)	READ CARD AND WAIT
CC0484	CC0C0FFF	DC	A(4095)	CARD READER ADDR
CC048E	CC0C0C0C	DC	A(0)	AREA FOR U E RET
				B1011160
				B1011170
CC048C	CC0C0FFF	DC	A(65535)	WRITE MESSAGE AND
				B1011180
				B1011190
CC04CC	CC0C0FFF	DC	A(4095)	TYPRWRITER ADDRESS
CC04C4	CC0C0C00	DC	A(0)	AREA FOR U E RET
				B1011210
				B1011220
CC04CE	CC0C0FFF	DC	A(65535)	PRINT A LINE AND
				B1011230
				B1011240
CC04CC	CC0C0FFF	DC	A(4095)	PRINTER ADDRESS
CC04DC	CC0C0C00	DC	A(0)	AREA FOR U E RET
				B1011260
				B1011270
CC04D4	CC0C0FFF	DC	A(65535)	PUNCH
CC04DE	CC0C0CFF	DC	A(4095)	PUNCH ADDRESS --
				B1011280
				B1011290
				B1011300
				B1011310
CC04CC	CCCC0C00	DC	A(0)	AREA FOR U E RET
				B1011320
				B1011330
				B1011340
				B1011350
				B1011360
				B1011370
				B1011380
				B1011390
CC04EC	CC0C0FFF	DC	A(65535)	READ TAPE RECORD
				B1011400
				B1011410
CC04E4	CC0C0CFF	DC	A(4095)	TAPE ADDR -- OVERL
				B1011420
				B1011430
CC04E8	CC0C0C00	DC	A(0)	AREA FOR U E RET
				B1011440
				B1011450
				B1011460
CC04EC	CC0C0C00	DC	A(0)	DUMMY ENTRY
CC04FC	CC0C0C00	DC	A(61440)	DUMMY ENTRY --
				B1011470
				B1011480
				B1011490

I-G CALL ENTRY GROUP				B1020000
SECONDARY CALL ENTRY TABLE				B1020010
				B1020020
				B1020030
				B1020040
				B1020050
				B1020060
				B1020070
				B1020080
				B1020090
				B1020100
				B1020110
				B1020120
				B1020130
				B1020140
				B1020150
				B1020160
				B1020170
				B1020180
				B1020190
				B1020200
				B1020210
				B1020220
				B1020230
				B1020240
				B1020250
				B1020260
				B1020270
				B1020280
				B1020290
				B1020300
				B1020310
				B1020320
				B1020330
CC04F4	SINTRY2	EQU	*	DEFINE ENTRY POINT
				B1020340
				B1020350
				B1020360
				B1020370
				B1020380
CC04F4	CC0C0FFF	DC	A(65535)	SRCCW PUNCH(READER)
CC04FE	CC0C0FFF	DC	A(65535)	ANY SENSE 6 BYTES
				B1020400
				B1020410
				B1020420
				B1020430
CC04FC	CC0C0FFF	DC	A(65535)	SWMSW TYPE 1 SPACE
CC050C	CC0C0FFF	DC	A(65535)	SPRTW PRINT 1 SPACE
CC0504	CC0C0FFF	DC	A(65535)	SPRTM PRINT SKIP - 1
CC0508	CC0C0FFF	DC	A(65535)	SRDCW PUNCH(READER)
				B1020470
				B1020480
				B1020490

XERO COPY

XERO COPY

XERO COPY

XERO COPY

3

		I-C CALL ENTRY GROUP				
		SECONDARY CALL ENTRY TABLE				
		- CONTINUED -				
00050C	000CFFFF	DC	A(65535)	SPUC	PUNCH AND WAIT	B1020510
000510	000CFFFF	DC	A(65535)	SRTPW	WRITE TAPE REC	B1020520
					AND WAIT	B1020530
000514	000CFFFF	DC	A(65535)	SRTPW	REIND TAPE	B1020540
000518	000CFFFF	DC	A(65535)	SRTPW	WRITE TM-WAIT	B1020550
00051C	000CFFFF	DC	A(65535)	SRTPW	BKSP TAPE REC	B1020560
					AND WAIT	B1020570
00052C	000CFFFF	DC	A(65535)	SRTPW	BKSP TAPE FILE	B1020580
000524	000CFFFF	DC	A(65535)	SRTPW	FWD SPACE TAPE	B1020590
					REC AND WAIT	B1020600
000528	000CFFFF	DC	A(65535)	SRTPW	FWD SPACE FILE	B1020610
					FILE	B1020620
00052C	000CFFFF	DC	A(65535)	SRTPW	BKND READ TAPE	B1020630
					REC - WAIT	B1020640
00053C	000CFFFF	DC	A(65535)	ANY	ISSUE CONTRNL	B1020650
					-- ASSUMES	B1020660
					SLUBRG HOLDS	B1020670
					UNIT REFER-	B1020680
					ENCE	B1020690
						B1020700
						B1020710
						B1020720
						B1020730
						B1020740

		I-O BASE ROUTINE - GROUP 1			
		I-O BASE ROUTINE			
		I-C INTERRUPT ENTRY			
000534	50 F0 0 014	SNTPIN ST	SBSRG,SHOLD	SAVE ENTRY BASE RG	B1030000
000538	05 F0	BALR	SBSRG,0	SET TEMPORARY BASE	B1030010
		USING	*SBSRG		B1030020
00053A	58 F0 F AAE	L	SBSRG,SBADR	SET UP I-O BASE RG	B1030030
	000480	USING	SBSAD,SBSRG		B1030040
					B1030050
					B1030060
					B1030070
00053E	91 4C F 80A	TH	SHICH,64	CHK IF INT SWT ON	B1030080
000542	47 10 F 0A0	BC	1,SNTPN2	BRANCH IF ON	B1030090
000544	90 F8 F AEO	STH	SRGF,SRGL,SSV4	NOT ON - SAVE REGS	B1030100
00054A	02 03 F AEO 0 014	MVC	SSV4(4),SHOLD	SAVE ENTRY BASE	B1030110
000550	41 60 F 004	SNTPN2 LA	SLUBRG,SLTAB	L INITIAL UNIT	B1030120
				TABLE LOCATION	B1030130
000554	48 74 C 002	SNTPN1 LH	SUREG,2(SLUBRG)	L UNIT ADDRESS	B1030140
000558	49 70 C 03A	CH	SUREG,58	CHK IF SAME AS	B1030150
				INTERRUPT UNIT	B1030160
00055C	47 80 F 102	BC	8,SNTPA	BRANCH IF SAME	B1030170
000560	12 77	LTR	SUREG,SUREG	CHK IF MINUS FOR	B1030180
				LIST EXHAUSTED	B1030190
000562	47 4C F 108	BC	4,SNTP1R	BRANCH IF MINUS	B1030200
000566	41 60 C 00C	LA	SLUBRG,12(SLUBRG)	SET FOR NEXT	B1030210
				UNIT	B1030220
					B1030230
					B1030240
00056A	47 FC F 044	BC	15,SNTPN1	GO TO CHECK NEXT	B1030250
				UNIT ADDRESS	B1030260
00056E	0201	DC	X*0201*	{VL} - THIS CHAR	B1030270
				MUST BE UPDATED	B1030280
				WITH EACH CHANGE	B1030290
				RELEASE	B1030300
					B1030310
					B1030320
					B1030330
					B1030340
					B1030350
					B1030360
000570	02 00 C 014 0 014	SCLR HVC	SHOLD(1),SHOLD	DUMMY INSTRUCTION	B1030370
				OVERLOAD BY HVC	B1030380
				TO CLEAR SENSE	B1030390
				BYTE AREA IF IT	B1030400
				EXISTS	B1030410


```

*          I-O BASE ROUTINE - GROUP 1          B103A000
*          WRITE ERROR MESSAGE BASE ROUTINE    B103A010
*
*          NOTE -- WHEN PRESENT, THIS ROUTINE MUST
*          IMMEDIATELY FOLLOW BASE ROUTINE      B103A020
*          GROUP 1 REQUISITE AREA --          B103A030
*          LCC SRCND                            B103A040
*
*          NOTE -- REQUIRES PRESENCE OF I-O BASE
*          ROUTINE                              B103A050
*
*          NOTE -- REQUIRES PRESENCE OF INTERNAL CALL
*          ENTRY ROUTINE                       B103A060
*
*          NOTE -- REQUIRES PRESENCE OF WRITE MESSAGE
*          ENTRY ROUTINE                       B103A070
*
*          NOTE -- REQUIRES PRESENCE OF CC 1 UNIT
*          IDENTITY DISPLAY ROUTINE            B103A080
*
*
*          CRG  SRQND                            B103A090
*          EQU  *                                B103A100
*          SIND *                                B103A110
*          ORG  SAGINW+4                          B103A120
*          BC   15,SIND                           B103A130
*          ORG  SIND                               B103A140
*
*          SIND1 BC  15,***                       B103A150
*
*          SIND2 HVC  SNSAV(6),SNSA              B103A160
*          LH     SREGH,58                       B103A170
*
*          N     SREGH,SNDHDK                     B103A180
*
*          CH   SREGH,STYPR+2                   B103A190
*
*          BC   0,SINDH                          B103A200
*
*          ISSUE ERROR MESSAGE CALL              B103A210
*
*          EX  0,SNTCL                           B103A220
*          LA  SREGZ,SMSW                         B103A230
*          LA  SREGA,SCHK1+5                     B103A240
*          LA  SREGN,3                            B103A250
*          LA  SLUBRG,STYPR                      B103A260
*          BAL SREGR,SNTCAL                      B103A270
*
*          DEFINE CURRENT IC                    B103A280
*          SET UP ENTRY                          B103A290
*          DUHNY BC -- OVERL                     B103A300
*          WITH BAL TO GO TO                    B103A310
*          SENSE ERROR UNIT                    B103A320
*          RESERVE SENSE BITS                   B103A330
*          L INTERRUPT DEVICE                   B103A340
*          ADDRESS                              B103A350
*          DROP OUT ANY FLAGS                   B103A360
*          INSERTED                             B103A370
*          CHK IF ERROR UNIT                    B103A380
*          IS MESSAGE UNIT                      B103A390
*          BC IF MESSAGE UNIT                   B103A400
*
*          SAVE REGISTERS                       B103A410
*          SET MESSAGE ENTRY                     B103A420
*          SET DATA BYTE LOC                   B103A430
*          SET DATA BYTE CT                    B103A440
*          SET INT CALL UNIT                    B103A450
*          GO TO ISSUE WRITE                    B103A460
*
0006E2          CRG  SRQND                            B103A220
0006E2          EQU  *                                B103A230
0006DE          SIND *                                B103A240
0006DE          ORG  SAGINW+4                          B103A250
0006E2          BC   15,SIND                           B103A260
0006E2          ORG  SIND                               B103A270
0006E2          SIND1 BC  15,***                       B103A280
0006E2          SIND2 HVC  SNSAV(6),SNSA              B103A310
0006E2          LH     SREGH,58                       B103A320
0006E2          N     SREGH,SNDHDK                     B103A330
0006E2          CH   SREGH,STYPR+2                   B103A360
0006E2          BC   0,SINDH                          B103A380
0006E2          EX  0,SNTCL                           B103A410
0006E2          LA  SREGZ,SMSW                         B103A420
0006E2          LA  SREGA,SCHK1+5                     B103A430
0006E2          LA  SREGN,3                            B103A440
0006E2          LA  SLUBRG,STYPR                      B103A450
0006E2          BAL SREGR,SNTCAL                      B103A460
0006E2          DEFINE CURRENT IC                    B103A280
0006E2          SET UP ENTRY                          B103A290
0006E2          DUHNY BC -- OVERL                     B103A300
0006E2          WITH BAL TO GO TO                    B103A310
0006E2          SENSE ERROR UNIT                    B103A320
0006E2          RESERVE SENSE BITS                   B103A330
0006E2          L INTERRUPT DEVICE                   B103A340
0006E2          ADDRESS                              B103A350
0006E2          DROP OUT ANY FLAGS                   B103A360
0006E2          INSERTED                             B103A370
0006E2          CHK IF ERROR UNIT                    B103A380
0006E2          IS MESSAGE UNIT                      B103A390
0006E2          BC IF MESSAGE UNIT                   B103A400
0006E2          SAVE REGISTERS                       B103A410
0006E2          SET MESSAGE ENTRY                     B103A420
0006E2          SET DATA BYTE LOC                   B103A430
0006E2          SET DATA BYTE CT                    B103A440
0006E2          SET INT CALL UNIT                    B103A450
0006E2          GO TO ISSUE WRITE                    B103A460
0006FC          44 00 F 3E6                          EX  0,SNTCL                           B103A430
000700          41 10 F 7EE                          LA  SREGZ,SMSW                         B103A440
000704          41 20 F AD5                          LA  SREGA,SCHK1+5                     B103A450
000708          41 30 C 003                          LA  SREGN,3                            B103A460
00070C          41 40 F 010                          LA  SLUBRG,STYPR                      B103A470
000710          45 00 F 3EA                          BAL SREGR,SNTCAL                      B103A480

```

```

*          I-O BASE ROUTINE - GROUP 1          B103A500
*          WRITE ERROR MESSAGE BASE ROUTINE    B103A510
*          - CONTINUED -                        B103A520
*
*          RESTORE AND WAIT                     B103A530
*
*          SIND3 EX  0,SNTCLA                     B103A540
*          RESTORE REGISTERS                     B103A550
*          OVERL WITH BC TO                     B103A560
*          CONTINUE MESSAGE                     B103A570
*
*          EX  0,SNTCLB                           B103A580
*          RESTORE I-O OLD PS                    B103A590
*          EX  0,SNTCLC                           B103A600
*          RESTORE ERROR CCW                     B103A610
*          SIND4 HVC  SNSA(6),SNSAV              B103A620
*          SIND4 LPSW  SCHK1                     B103A630
*          WAIT TO CHECK                         B103A640
*          CONDITIONS                            B103A650
*
*          DS  OF                                  B103A660
*          SIND4 DC  X'000007FF'                 B103A670
*          SIND4 DC  X'000007FF'                 B103A680
*          SIND4 DC  X'000007FF'                 B103A690
*
*          SIND4 CC  3H'0'                       B103A700
*
000714          44 00 F 40A                          SIND3 EX  0,SNTCLA                     B103A540
000714          RESTORE REGISTERS                     B103A550
000714          OVERL WITH BC TO                     B103A560
000714          CONTINUE MESSAGE                     B103A570
000718          44 00 F 40E                          EX  0,SNTCLB                           B103A580
000718          RESTORE I-O OLD PS                    B103A590
00071C          44 00 F 414                          EX  0,SNTCLC                           B103A600
00071C          RESTORE ERROR CCW                     B103A610
000720          02 05 F D40 F 280                  SIND4 HVC  SNSA(6),SNSAV              B103A620
000720          RESTORE SENSE BITS                    B103A630
000726          82 00 F ABC                          SIND4 LPSW  SCHK1                     B103A640
000726          WAIT TO CHECK                         B103A650
000726          CONDITIONS                            B103A660
00072C          0000C7FF                            DS  OF                                  B103A670
00072C          SIND4 DC  X'000007FF'                 B103A680
00072C          SIND4 DC  X'000007FF'                 B103A690
000730          0000                                SIND4 CC  3H'0'                       B103A700
000732          0000
000734          0000

```

```

*          I-O BASE ROUTINE - GROUP 1          BIO38000
*          WRITE ERROR ROUTINE                 BIO38010
*          EXPANSION 1                         BIO38020
*          BIO38030
*          BIO38040
*          NOTE -- REQUIRES PRESENCE OF WRITE ERROR MESSAGE BASE ROUTINE
*          BIO38050
*          BIO38060
*          BIO38070
*          NOTE -- REQUIRES PRESENCE OF BINARY-TO-HEX CONVERSION ROUTINE
*          BIO38080
*          BIO38090
*          BIO38100
*          BIO38110
*          BIO38120
*          BIO38130
*          BIO38140
*          BIO38150
*          BIO38160
*          BIO38170
*          BIO38180
*          BIO38190
*          BIO38200
*          BIO38210
*          BIO38220
*          BIO38230
*          BIO38240
*          BIO38250
*          BIO38260
*          BIO38270
*          BIO38280
*          BIO38290
*          BIO38300
*          BIO38310
*          BIO38320
*          BIO38330
*          BIO38340
*          BIO38350
*          BIO38360
*          BIO38370
*          BIO38380
*          BIO38390
*          BIO38400
*          BIO38410
*          BIO38420
*          BIO38430
*          BIO38440
*          BIO38450
*          BIO38460
*          BIO38470
*          BIO38480
*          BIO38490
*          BIO38500

CCC480      LSING SBSAD,SBSRG
CC0736      EQU *          DEFINE CURRENT IC
CC0714      ORG SIND3
CC0736      BC 15,SINDA    SET UP ENTRY
CC0736      ORG SINDA      RESTORE CURRENT IC

*          EX 0,SNTCLB    RESTORE I-O OLD PSW
CC0736      ST SREGP,SRGPS  SAVE EXTRA REG
CC073A      LA SREGC,8     SET NUMBER OF BYTE
CC073E      LA SREGC,8     CONVERSIONS
*          LA SREGS,56    SET SOURCE LOC TO
*          I-O OLD PSW
CC0742      LA SREGS,56    I-O OLD PSW
*          LA SREGP,SINDM+16 SET IHAGE LOC
CC0746      L SREGZ,SBXAD  SET ENTRY TO CON-
CC074A      L SREGZ,SBXAD  VERSION ROUTINE
*          BALR SREGR,SREGZ GO TO CONVERT
CC074E      BALR SREGR,SREGZ GO TO CONVERT
*          LA SREGC,8     SET NUMBER OF BYTE
CC0750      LA SREGC,8     CONVERSIONS
*          LA SREGS,64    SET SOURCE LOC TO
CC0754      LA SREGS,64    CSW
*          LA SREGP,SINDM+40 SET IHAGE LOC
CC0758      L SREGZ,SBXAD  SET ENTRY TO CON-
CC075C      L SREGZ,SBXAD  VERSION ROUTINE
*          BALR SREGR,SREGZ GO TO CONVERT
CC076C      BALR SREGR,SREGZ GO TO CONVERT
*          LA SREGN,56    SET DATA BYTE CT
CC0762      LA SREGA,SINDM SET DATA BYTE LOC
CC0766      LA SREGZ,SWHSH SET WRITE MESSAGE
CC076A      LA SREGZ,SWHSH ENTRY
*          LA SLUBRG,STYPR SET INT CALL UNIT
CC076E      BAL SREGR,SNTCAL+12 GO TO ISSUE WRITE
*          SINDA1 L SREGP,SRGPS RESTORE REGISTER -
*          OVERL WITH BC TO
*          EXPANSION 2
*          EX 0,SNTCLA    RESTORE REGISTERS
CC077A      EX 0,SNTCLA    -- REPLACED INST
*          BC 15,SIND3+4  RETURN
CC077E      BC 15,SIND3+4  RETURN

```

```

*          I-O BASE ROUTINE - GROUP 1          BIO38520
*          WRITE ERROR ROUTINE                 BIO38530
*          EXPANSION 1                         BIO38540
*          - CONTINUED -                       BIO38550
*          BIO38560
*          BIO38570
*          BIO38580

CC0782      CCCC
CC0784      CCCC0000
CC0788      CCCC008CA
*          SRGPS DC A(0)          SREGP SAVE AREA
*          SBXAD DC A(SBXN)      DEFINE ENTRY TO
*          BIN-TO-HEX CONVERT
*          SINDM DC C* * I-O OLD PSW *
CC078C      4C5C404CC960D640
CC0794      D6D3C440E7E2E640
CC079C      FCF0F0F0F0F0F0F0
CC07A4      FCF0F0F0F0F0F0F0
CC07AC      40404040C3E2E640
CC07B4      FCF0F0F0F0F0F0F0
CC07BC      FCF0F0F0F0F0F0F0
*          SREGH EQU 6          WORK REGISTER
CC0CCE      SREGC EQU 7          COUNT OF BYTES TO
CC0C07      SREGS EQU 8          CONVERT
*          SREGS EQU 8          SOURCE POINTER
CC0008      SREGP EQU 9          IHAGE POINTER
CC0G05      SREGP EQU 9          IHAGE POINTER

```

```

*          I-O BASE ROUTINE - GROUP 1          B103C000
*          WRITE ERROR ROUTINE                 B103C010
*          EXPANSION 2                          B103C020
*          B103C030
*          B103C040
*          NOTE -- REQUIRES PRESENCE OF WRITE ERROR
*          MESSAGE ROUTINE - EXPANSION 1        B103C050
*          B103C060
*          B103C070
*          NOTE -- REQUIRES PRESENCE OF WRITE ERROR
*          MESSAGE ROUTINE - EXPANSION 3        B103C080
*          B103C090
*          B103C100
*          NOTE -- REQUIRES PRESENCE OF INTERNAL UNIT
*          SENSE ROUTINE                       B103C110
*          B103C120
*          B103C130
*          B103C140
*          B103C150
*          000480
*          USING SBSAD,SBSRG                   B103C160
*          SINCB EQU *                          B103C170
*          GRG SIND1                            B103C180
*          BAL SREGM,SENS                       GO TO SENSE B103C190
*          GRG SINDA1                           B103C200
*          BC 15,SINCB                          SET UP ENTRY B103C210
*          GRG SINDB                            RESTORE CURRENT IC
*          B103C220
*          LA SREGC,6                           SET NUMBER OF BYTE
*          B103C230
*          LA SREGS,SENSAV                      CONVERSIONS B103C240
*          B103C250
*          LA SREGP,SINDM2+10                   SET SOURCE LOC TO
*          B103C260
*          L SREGZ,SBNXAD                       SENSE AREA
*          B103C270
*          B103C280
*          BALR SREGR,SREGZ                     SET ENTRY TO CON-
*          B103C290
*          B103C300
*          LA SREGN,24                           SET DATA BYTE CT
*          B103C310
*          LA SREGA,SINDM2                      SET DATA BYTE LOC
*          B103C320
*          LA SREGZ,SWSW                        SET WRITE MESSAGE
*          B103C330
*          B103C340
*          B103C350
*          LA SLUBRG,STYPR                      SET INT CALL UNIT
*          B103C360
*          BAL SREGR,SNTCAL+12                 GO TO ISSUE WRITE
*          B103C370
*          B103C380
*          L SREGP,SRGPS                        RESTORE REGISTER
*          B103C390
*          B103C400
*          BC 15,SINDA1+4                      -- REPLACED INST
*          B103C410
*          B103C420
*          B103C430
*          CCG7F2 4C5C4C40E2C5C5E2           SINCM2 CC C* * SENSE 000000*
*          CCG7FA C54CF0F0F0F0F0F0
*          CCG6E2 FCF0F0F0F0F0F04040
*          B103C440
*          B103C450

```

```

*          I-O BASE ROUTINE - GROUP 1          B103E000
*          BINARY-TO-HEX CONVERSION INTO IMAGE ROUTINE B103E010
*          B103E020
*          B103E030
*          NOTE -- SREGR IS DESTROYED BY RETURN B103E040
*          B103E050
*          NOTE -- REQUIRES THE FOLLOWING PARAMETERS
*          IN REGISTERS                        B103E060
*          1 -- NUMBER OF BYTES TO BE
*          B103E070
*          CONVERTED IN SREGC                  B103E080
*          2 -- ADDRESS OF FIRST BYTE OF
*          B103E090
*          SOURCE IN SREGS                     B103E100
*          3 -- ADDRESS OF FIRST BYTE OF
*          B103E110
*          IMAGE IN SREGP                      B103E120
*          4 -- ENTRY REGISTER IS SREGZ
*          B103E130
*          5 -- LINK REGISTER IS SREGR
*          B103E140
*          B103E150
*          B103E160
*          B103E170
*          B103E180
*          CCG0EA 5C CC F 3AC                   SSBNX ST SREGD,SBNXV SAVE REGISTER B103E190
*          CCG0EE U2 00 F 3A5 B CCG           MVC SFLDX+1(1),0(SREGS) GET BYTE TO
*          B103E200
*          B103E210
*          CCG0E14 48 6C F 3A4                  LH SREGW,SFLDX L BYTE IN WORK REG B103E220
*          CCG0E18 88 6C C 004                  SRL SREGH,4 EXTRACT HIGH ORDER B103E230
*          CCG0E1C 43 C6 F 3A6                  IC SREGD,SHEXP(SREGW) MOVE PROPER B103E240
*          CCG0E2C 42 C5 C 00C                  STC SREGD,0(SREGP) HEX TO IMAGE B103E250
*          CCG0E24 41 55 C 001                  LA SREGP,1(SREGP) INCREMENT IMAGE
*          B103E260
*          B103E270
*          CCG0E28 48 6C F 3A4                  LH SREGW,SFLDX L BYTE IN WORK REG B103E280
*          CCG0E2C 54 6C F 39C                  N SREGW,SPSKHX EXTRACT LOW ORDER B103E290
*          CCG0E3C 43 C6 F 3A6                  IC SREGD,SHEXP(SREGW) MOVE PROPER B103E300
*          CCG0E34 42 C5 C 00C                  STC SREGD,0(SREGP) HEX TO IMAGE B103E310
*          CCG0E3E 41 55 C 001                  LA SREGP,1(SREGP) INCREMENT IMAGE
*          B103E320
*          B103E330
*          CCG0E3C 41 E8 C 001                  LA SREGS,1(SREGS) INCREMENT SOURCE
*          B103E340
*          B103E350
*          CCG0E4C 46 7C F 35E                  BCT SREGC,SSBNX+4 BRANCH IF MORE
*          B103E360
*          B103E370
*          B103E380
*          CCG0E44 58 CC F 3AC                   L SREGD,SBNXV RESTORE REGISTER B103E390
*          CCG0E4E 18 1C                        LR SREGZ,SREGR SET UP RETURN B103E400
*          CCG0E4A C7 F1                        BCR 15,SREGZ RETURN B103E410
*          B103E420
*          B103E430
*          CCG0E4C CCCC00CF                    SHSKHX DC A(15) MASK TO RETAIN LOW
*          B103E440
*          B103E450
*          CCG0E5C CCCC00CC                    SBNXV DC A(0) SAVE AREA - SREGD B103E460
*          CCG0E54 CCCC                        SFLDX CC H'0' WORD AREA B103E470
*          CCG0E56 FCF1F2F3F4F5F6F7          SHEXP DC C*0123456789ABCDEF* HEX GRAPHIC
*          CCG0E5E F6F9C1C2C3C4C5C6
*          B103E480
*          B103E490
*          CCG0C0C                            SREGD EQU 13 CHAR WORK REGISTER B103E500
*          CCG0EA                            SBNXN EQU SSBNX DEFINE ENTRY B103E510
*          B103E520

```

9

```

*          I-O BASE ROUTINE - GROUP 1          B103F000
*          MINOR INTERRUPT CONDITIONS BASE ROUTINE B103F010
*          *                                     B103F020
*          *                                     B103F030
*          NOTE -- REQUIRES PRESENCE OF I-O BASE B103F040
*          ROUTINE                               B103F050
*          *                                     B103F060
*          CHECK FOR INCORRECT LENGTH RECORD,   B103F070
*          PROGRAM CONTROL INTERRUPT           B103F080
*          AND-GR ATTENTION BITS               B103F090
*          *                                     B103F100
*          *                                     B103F110
*          *                                     B103F120
000866          0004B0 USING SBSAD,SBSRG          B103F130
          SNTPX1 EQU *                           B103F140
000866          ORG SNTPX                        B103F150
000866          BC 15,SNTPX1                     SET UP ENTRY
000866          ORG SNTPX1                       RESTORE CURRENT IC B103F160
          *                                     B103F170
000866          BC 15,***                       DUMMY BC -- OVERL B103F180
          *                                     WITH BC 15,SNTPD1 B103F190
          *                                     FOR ILI ROUTINE B103F200
000866          SHTPX2 BC 15,***                 DUMMY BC -- OVERL B103F210
          *                                     WITH BC 15,SNTPD2 B103F220
          *                                     FOR PCI ROUTINE B103F230
000866          SNTPX3 BC 15,SNTPX+4            DUMMY BC -- OVERL B103F240
          *                                     WITH BC 15,SNTPD3 B103F250
          *                                     FOR ATTN ROUTINE B103F260
          *                                     B103F270

```

```

*          I-O BASE ROUTINE - GROUP 1          B103G000
*          INCORRECT LENGTH RECORD INDICATION   B103G010
*          BASE ROUTINE                         B103G020
*          *                                     B103G030
*          *                                     B103G040
*          NOTE - REQUIRES PRESENCE OF MINOR INTERRUPT B103G050
*          CONDITIONS BASE ROUTINE             B103G060
*          *                                     B103G070
*          *                                     B103G080
*          TEST FOR ILI BIT                     B103G090
*          *                                     B103G100
*          *                                     B103G110
*          *                                     B103G120
000872          0004B0 USING SBSAD,SBSRG          B103G130
          SNTPD1 EQU *                           B103G140
000866          ORG SNTPX1                       SET UP ENTRY
000866          BC 15,SNTPD1                     RESTORE CURRENT IC B103G150
000872          ORG SNTPD1                       B103G160
          *                                     B103G170
000872          YH 69,64                         CHK FOR ILI B103G180
000876          SNTPE BC 1,SAGIN                 BRANCH IF YES -- B103G190
          *                                     OVERL WITH BC TO B103G200
          *                                     MINIMAL EXIT -- B103G210
          *                                     SPECIFIC ROUTINE B103G220
00087A          BC 15,SNTPX1+4                   RETURN          B103G230
          *                                     B103G240

```



```

*          I-O BASE ROUTINE - GROUP 1          8103H000
*          PROGRAM CONTROL INTERRUPT BASE ROUTINE 8103H010
*          8103H020
*          8103H030
*          NOTE - REQUIRES PRESENCE OF MINOR INTERRUPT 8103H040
*          CONDITIONS BASE ROUTINE          8103H050
*          8103H060
*          8103H070
*          TEST FOR PCI BIT          8103H080
*          8103H090
*          8103H100
000480      USING SBSAD,SBSRG
000E7E      SNTPD2 EQU *          DEFINE CURRENT IC 8103H110
000E6A      CRG SNTPX2          8103H120
000E6A      BC 15,SNTPD2        SET UP ENTRY 8103H130
000E7E      CRG SNTPD2          RESTORE CURRENT IC 8103H140
*          8103H150
000E7E      TH 69,128          CHK FOR PROGRAM 8103H160
*          CONTROL INTERRUPT 8103H170
000E6E      SNTPF BC 1,SAGIN    BRANCH IF YES -- 8103H180
*          MINIMAL EXIT -- 8103H190
*          OVERL WITH BC TO 8103H200
*          SPECIFIC ROUTINE 8103H210
00088E      BC 15,SNTPX2+4      RETURN          8103H220

```

```

*          I-O BASE ROUTINE - GROUP 1          8103J000
*          ATTENTION BASE ROUTINE          8103J010
*          8103J020
*          8103J030
*          NOTE - REQUIRES PRESENCE OF MINOR INTERRUPT 8103J040
*          CONDITIONS BASE ROUTINE          8103J050
*          8103J060
*          8103J070
*          TEST FOR ATTENTION BIT          8103J080
*          8103J090
*          8103J100
000480      USING SBSAD,SBSRG
00088A      SNTPD3 EQU *          DEFINE CURRENT IC 8103J110
000E6E      DRG SNTPX3          8103J120
000E6E      BC 15,SNTPD3        SET UP ENTRY 8103J130
00088A      DRG SNTPD3          RESTORE CURRENT IC 8103J140
*          8103J150
000E8A      TH 68,128          CHK FOR ATTENTION 8103J160
00088E      SNTPG BC 1,SAGIN    BRANCH IF YES -- 8103J170
*          MINIMAL EXIT -- 8103J180
*          OVERL WITH BC TO 8103J190
*          SPECIFIC ROUTINE 8103J200
000E52      BC 15,SNTPX+4      RETURN          8103J210
*          8103J220

```

11

```

* I-O BASE ROUTINE - GROUP 1
* ISSUE INTERNAL CALL ROUTINE
*
* NCTE -- REQUIRES PRESENCE OF I-O BASE
* ROUTINE
*
* NCTE -- THIS ROUTINE IS REQUIRED BY ANY
* ACTION NECESSITATING THE ISSUANCE
* OF AN I-O CALL WHILE WITHIN ANY OF
* THE I-O ROUTINES
*
* NCTE -- REQUIRES THAT SLUBRG CONTAIN CALL
* DEVICE UNIT BLOCK ADDRESS AT TIME
* OF ENTRY TO THIS ROUTINE
*
* ISSUE INTERNAL CALL
*
* SNTCL ECU * DEFINE CURRENT IC
* CRG S10WB
* MVC SUNAD(8),SNTCLK+36 RESTORE SUNAD
* AND SMDS
* CRG SNTCL RESTORE CURRENT IC
*
* SNTCAL STP SRGF,SRGL,SSVRB SAVE REGISTERS
* HVC SNTCLK+20(16),SMODL SAVE
*
* MVC SNTCLK(20),56 SAVE I-O OLD PSW
* AND CSM AND CAW
*
* MVC SNTCU(2),2(SLUBRG) SET INT UNIT
* MVC SNTCLK+36(8),SUNAD RESERVE AND
* XC SUNAD(8),SUNAD CLEAR SUNAD-SMDS
* BCR 15,SREGZ GO TO CALL ENTRY
*
* SNTCLA LM SRGF,SRGL,SSVRB RESTORE REGISTERS
* SNTCLB MVC 56(20),SNTCLK RESTORE I-O OLD
* PSW, CSM AND CAW
*
* SNTCLC HVC SMODL(16),SNTCLK+20 RESTORE
* SAVED CCW
*
* SNTCLK DS 4H AREA FOR OLD PSW
* DS 4H AREA FOR CSM
* DS 2H AREA FOR CAW
* DS 4H AREA FOR
* DS 4H CURRENT CCW
* DS 2H AREA FOR SUNAD
* DS 2H AREA FOR SMDS

```

```

B103K000
B103K010
B103K020
B103K030
B103K040
B103K050
B103K060
B103K070
B103K080
B103K090
B103K100
B103K110
B103K120
B103K130
B103K140
B103K150
B103K160
B103K170
B103K180
B103K190
B103K200
B103K210
B103K220
B103K230
B103K240
B103K250
B103K260
B103K270
B103K280
B103K290
B103K300
B103K310
B103K320
B103K330
B103K340
B103K350
B103K360
B103K370
B103K380
B103K390
B103K400
B103K410
B103K420
B103K430
B103K440
B103K450
B103K460
B103K470
B103K480

```

```

* I-O BASE ROUTINE - GROUP 1
* INTERNAL UNIT SENSE ROUTINE
*
* NCTE -- REQUIRES PRESENCE OF I-C BASE
* ROUTINE
*
* NCTE -- REQUIRES PRESENCE OF SENSE ENTRY
* ROUTINE
*
* NCTE -- REQUIRES PRESENCE OF INTERNAL CALL
* ROUTINE IN I-O BASE ROUTINE GROUP
*
* NCTE -- REQUIRES THAT SLUBRG CONTAIN SENSE
* DEVICE UNIT BLOCK ADDRESS AT TIME
* OF ENTRY TO THIS ROUTINE
*
* NOTE -- SENSE INFORMATION -- 6 BYTES -- IS
* CONTAINED IN SYMBOLIC AREA SNSA
*
* 00C480 USING SBSAD,SBSRG
*
* SENS EX C,SNTCL SAVE REGISTERS
* LA SREGZ,SSASH SET UP SENSE ENTRY
* MVC SNSUN(2),2(SLUBRG) SET SENSE SWT
* BAL SREGR,SNTCAL GO TO ISSUE INTER-
* NAL SENSE
*
* EX 0,SNTCLA RESTORE REGISTERS
* EX 0,SNTCLB RESTORE I-O OLD
* PSW, CSM AND CAW
*
* EX C,SNTCLC RESTORE SAVED CCW
* BCR 15,SREGM RETURN
*
* SENSE ECU * DEFINE CURRENT IC
* CRG SIC3
* BC 1,SENSA SET UP ENTRY
* GRG SNTPA
* BC 15,SENSA1 SET UP ENTRY
* ORG SENSE RESTORE CURRENT IC
*
* CLC 2(2,SLUBRG),SNSUN CHK IF SENSE DEV
* BC 8,S103+4 YES - GO TO RETURN
* TP *,X'801 SET TO CC 3 AND
* BC 15,SAGI1 BRANCH IF NO
*
* SENSE1 CLC 2(2,SLUBRG),SNSUN CHK IF SENSE DEV
* BC 7,SENSB BC IF NO
* MVC SNSUN(2),SZRCS CLEAR SENSE SWT
* LA SREGM,SNTPM SET TO PROCEED
* BC 15,SNTPH1+4 GO TO RETURN
* SENSEB TM 69,14 CHK FOR 3 CHANNEL
* ERRCR CONDITIONS
* -- REPLACED INSTR
*
* BC 15,SNTPB RETURN TO CHECK
* SENSEB CC 2(2,0) SENSE SWITCH

```

```

B103L000
B103L010
B103L020
B103L030
B103L040
B103L050
B103L060
B103L070
B103L080
B103L090
B103L100
B103L110
B103L120
B103L130
B103L140
B103L150
B103L160
B103L170
B103L180
B103L190
B103L200
B103L210
B103L220
B103L230
B103L240
B103L250
B103L260
B103L270
B103L280
B103L290
B103L300
B103L310
B103L320
B103L330
B103L340
B103L350
B103L360
B103L370
B103L380
B103L390
B103L400
B103L410
B103L420
B103L430
B103L440
B103L450
B103L460
B103L470
B103L480
B103L490
B103L500
B103L510
B103L520
B103L530
B103L540

```

```

*          I-O BASE ROUTINE - GROUP 1          B103M000
*          CONDITION CODE 1 UNIT IDENTITY DISPLAY B103M010
*          *                                     B103M020
*          *                                     B103M030
*          *                                     B103M040
*          *                                     B103M050
*          *                                     B103M060
*          *                                     B103M070
*          *                                     B103M080
*          *                                     B103M090
*          *                                     B103M100
*          *                                     B103M110
*          *                                     B103M120
*          *                                     B103M130
*          *                                     B103M140
*          *                                     B103M150
*          *                                     B103M160
*          *                                     B103M170
*          *                                     B103M180
*          *                                     B103M190
*          *                                     B103M200
*          *                                     B103M210

000480 USING SBSAD,SBSRG
0004A EQU *          DEFINE CURRENT IC
0004C EQU SAGIN1
0004E 47 10 F 49A BC 1,SCC1N SET UP ENTRY
00054 EQU SCC1N RESTORE CURRENT IC
*          *                                     B103M130
*          *                                     B103M140
*          *                                     B103M150
*          *                                     B103M160
*          *                                     B103M170
*          *                                     B103M180
*          *                                     B103M190
*          *                                     B103M200
*          *                                     B103M210

00054A 40 70 0 03A STH SUREG,58 SET DEVICE ADDRESS
00054E 56 F0 C 03A OI 58,X'F0' SET UNIT ID INSERT
*          *                                     B103M160
*          *                                     B103M170
*          *                                     B103M180
*          *                                     B103M190
*          *                                     B103M200
*          *                                     B103M210

000952 47 F0 F 226 BC 15,SAGIN3 RETURN -- OVERLOAD
*          *                                     B103M170
*          *                                     B103M180
*          *                                     B103M190
*          *                                     B103M200
*          *                                     B103M210

```

```

*          I-O BASE ROUTINE - GROUP 1          B103N000
*          NEW PSW SET UP BASE ROUTINE          B103N010
*          *                                     B103N020
*          *                                     B103N030
*          *                                     B103N040
*          *                                     B103N050
*          *                                     B103N060
*          *                                     B103N070
*          *                                     B103N080
*          *                                     B103N090
*          *                                     B103N100
*          *                                     B103N110
*          *                                     B103N120
*          *                                     B103N130
*          *                                     B103N140
*          *                                     B103N150
*          *                                     B103N160
*          *                                     B103N170
*          *                                     B103N180
*          *                                     B103N190
*          *                                     B103N200
*          *                                     B103N210
*          *                                     B103N220
*          *                                     B103N230
*          *                                     B103N240
*          *                                     B103N250
*          *                                     B103N260
*          *                                     B103N270
*          *                                     B103N280
*          *                                     B103N290
*          *                                     B103N300
*          *                                     B103N310
*          *                                     B103N320
*          *                                     B103N330
*          *                                     B103N340
*          *                                     B103N350
*          *                                     B103N360
*          *                                     B103N370
*          *                                     B103N380
*          *                                     B103N390
*          *                                     B103N400
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

NOTE -- REQUIRES PRESENCE OF I-O BASE
ROUTINE

SET UP I-O INTERRUPT,
MACHINE CHECK INTERRUPT,
AND EXTERNAL INTERRUPT
NEW PSWS

000480 USING SBSAD,SBSRG
00056 EQU *          DEFINE CURRENT IC
00064 EQU SION1
0006A 47 FC F 4A6 BC 15,SION2 SET UP ENTRY
00059C EQU SION2
00059E D2 07 C 070 F 4CC PVC 112(8),SMP5 SET UP INITIAL
*          *                                     B103N170
*          *                                     B103N180
*          *                                     B103N190
*          *                                     B103N200
*          *                                     B103N210
*          *                                     B103N220
*          *                                     B103N230
*          *                                     B103N240
*          *                                     B103N250
*          *                                     B103N260
*          *                                     B103N270
*          *                                     B103N280
*          *                                     B103N290
*          *                                     B103N300
*          *                                     B103N310
*          *                                     B103N320
*          *                                     B103N330
*          *                                     B103N340
*          *                                     B103N350
*          *                                     B103N360
*          *                                     B103N370
*          *                                     B103N380
*          *                                     B103N390
*          *                                     B103N400
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

000556 D2 07 0 C56 F 4C6 HVC 88(8),SXPS SET EXTERNAL NEW
*          *                                     B103N210
*          *                                     B103N220
*          *                                     B103N230
*          *                                     B103N240
*          *                                     B103N250
*          *                                     B103N260
*          *                                     B103N270
*          *                                     B103N280
*          *                                     B103N290
*          *                                     B103N300
*          *                                     B103N310
*          *                                     B103N320
*          *                                     B103N330
*          *                                     B103N340
*          *                                     B103N350
*          *                                     B103N360
*          *                                     B103N370
*          *                                     B103N380
*          *                                     B103N390
*          *                                     B103N400
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

00095C D2 C7 0 C70 F 4CC SION3 HVC 112(8),SMP5 NEW MACH CHK PSW
000962 D2 07 0 C78 F 4D4 HVC 120(8),SIOPS SET UP TO WAIT
*          *                                     B103N250
*          *                                     B103N260
*          *                                     B103N270
*          *                                     B103N280
*          *                                     B103N290
*          *                                     B103N300
*          *                                     B103N310
*          *                                     B103N320
*          *                                     B103N330
*          *                                     B103N340
*          *                                     B103N350
*          *                                     B103N360
*          *                                     B103N370
*          *                                     B103N380
*          *                                     B103N390
*          *                                     B103N400
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

000968 C7 0F 0 038 C C38 XC 56(16),56 CLEAR I-O OLD PSW
*          *                                     B103N290
*          *                                     B103N300
*          *                                     B103N310
*          *                                     B103N320
*          *                                     B103N330
*          *                                     B103N340
*          *                                     B103N350
*          *                                     B103N360
*          *                                     B103N370
*          *                                     B103N380
*          *                                     B103N390
*          *                                     B103N400
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

00096E 47 FC F 15A BC 15,SION1+6 RETURN
*          *                                     B103N310
*          *                                     B103N320
*          *                                     B103N330
*          *                                     B103N340
*          *                                     B103N350
*          *                                     B103N360
*          *                                     B103N370
*          *                                     B103N380
*          *                                     B103N390
*          *                                     B103N400
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

000574 CC OF ALIGN TO WORD
000574 00 SXPS DC AL1(0) CHNS DISABLED --
*          *                                     B103N340
*          *                                     B103N350
*          *                                     B103N360
*          *                                     B103N370
*          *                                     B103N380
*          *                                     B103N390
*          *                                     B103N400
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

000575 0C DC AL1(0) EXTRN DISABLED
*          *                                     B103N350
*          *                                     B103N360
*          *                                     B103N370
*          *                                     B103N380
*          *                                     B103N390
*          *                                     B103N400
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

000576 000C DC AL2(0) MACHINE CHECK
000578 CC0C05C8 DC A(SXTRN) DISABLED
*          *                                     B103N360
*          *                                     B103N370
*          *                                     B103N380
*          *                                     B103N390
*          *                                     B103N400
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

00057C CC SHPS DC AL1(0) GO TO REPEAT I-O
00057E C2 DC AL1(2) SET UP
00057E CC00C0 DC AL3(0) ALL DISABLED
000581 C9C4E2 DC C'IMS' WAIT
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

000984 00 SIOPS DC AL1(0) PSW ERROR MESSAGE
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

000585 CC DC AL1(0) CHNS DISABLED --
*          *                                     B103N410
*          *                                     B103N420
*          *                                     B103N430
*          *                                     B103N440
*          *                                     B103N450
*          *                                     B103N460
*          *                                     B103N470
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

000586 00C DC AL2(0) EXTRN DISABLED
000588 CC0C0534 DC A(SNTPIN) MACHINE CHECK
*          *                                     B103N480
*          *                                     B103N490
*          *                                     B103N500
*          *                                     B103N510
*          *                                     B103N520

```

13

```

*          I-O BASE ROUTINE - GROUP 1          B103P000
*          SAVE AND RESTORE EXTERNAL NEW PSW    B103P010
*          B103P020
*          B103P030
*          NOTE -- REQUIRES PRESENCE OF NEW PSW SET UP    B103P040
*          BASE ROUTINE                                  B103P050
*          B103P060
*          B103P070
*          B103P080
*          B103P090
*          SAVE CLURRENT EXTERNAL NEW PSW        B103P100
*          000480      LSING SBSAD,SBSRG          B103P110
*          EQU *                                       B103P120
*          SION4     CRG SION3                     B103P130
*          BC 15,SION5     SET UP ENTRY           B103P140
*          *                                               B103P150
*          CRG SION2                                       B103P160
*          BC 15,SION4     SET UP ENTRY           B103P170
*          GRG SION4     RESTORE CURRENT IC      B103P180
*          *                                               B103P190
*          MVC SXPSW(8),88     SAVE CURRENT EXT  B103P200
*          *                                               B103P210
*          MVC 88(8),SXPS     SET EXTERNAL NEW  B103P220
*          *                                               B103P230
*          *                                               B103P240
*          *                                               B103P250
*          *                                               B103P260
*          *                                               B103P270
*          *                                               B103P280
*          *                                               B103P290
*          *                                               B103P300
*          *                                               B103P310
*          *                                               B103P320
*          *                                               B103P330
*          *                                               B103P340
*          *                                               B103P350
*          *                                               B103P360
*          *                                               B103P370
*          *                                               B103P380
*          *
*          RESTORE SAVED EXTERNAL NEW PSW
*          00058C     54 2F F BCA      SION5 NI SWICH,191     CLEAR INT SWT    B103P290
*          *                                               B103P300
*          *                                               B103P310
*          *                                               B103P320
*          *                                               B103P330
*          *                                               B103P340
*          *                                               B103P350
*          *                                               B103P360
*          *                                               B103P370
*          *                                               B103P380
*          *
*          000592     D2 C7 C 058 F 4C4      MVC 88(8),SXPSW    RESTORE SAVED EXT B103P310
*          *                                               B103P320
*          *                                               B103P330
*          *                                               B103P340
*          *                                               B103P350
*          *                                               B103P360
*          *                                               B103P370
*          *                                               B103P380
*          *
*          000598     47 FC F 44C      BC 15,SION3      RETURN          B103P330
*          *                                               B103P340
*          *                                               B103P350
*          *                                               B103P360
*          *                                               B103P370
*          *                                               B103P380
*          *
*          RESTORE SAVED EXTERNAL NEW PSW
*          00059C     54 2F F BCA      SION5 NI SWICH,191     CLEAR INT SWT    B103P290
*          *                                               B103P300
*          *                                               B103P310
*          *                                               B103P320
*          *                                               B103P330
*          *                                               B103P340
*          *                                               B103P350
*          *                                               B103P360
*          *                                               B103P370
*          *                                               B103P380
*          *
*          0005A0     D2 C7 C 058 F 4FA      MVC 88(8),SXPSW    RESTORE SAVED EXT B103P310
*          *                                               B103P320
*          *                                               B103P330
*          *                                               B103P340
*          *                                               B103P350
*          *                                               B103P360
*          *                                               B103P370
*          *                                               B103P380
*          *
*          0005A6     47 FC F 11A      BC 15,SION3+4     RETURN          B103P330
*          *                                               B103P340
*          *                                               B103P350
*          *                                               B103P360
*          *                                               B103P370
*          *                                               B103P380
*          *
*          0005AA     00000000000000000000    SXPSW DC X*0000000000000000*    B103P350
*          *                                               B103P360
*          *                                               B103P370
*          *                                               B103P380
*          *
*          0005AC     000001      DRCP SREGZ          B103P360
*          *                                               B103P370
*          *                                               B103P380
*          *
*          0005AD     000480      USING SBSAD,SBSRG      REDEFINE I-O BASE B103P380

```

```

*          I-C BASE ROUTINE - GROUP 1          B1030000
*          EXTERNAL INTERRUPT BASE ROUTINE      B1030010
*          B1030020
*          B1030030
*          NCTE -- REQUIRES PRESENCE OF I-C BASE    B1030040
*          ROUTINE                                  B1030050
*          B1030060
*          *
*          NOTE -- THIS ROUTINE ENABLES THE SERVICING    B1030070
*          OF CONSOLE INTERRUPTS UNDER THE            B1030080
*          CONTRCL CF THE I-O ROUTINE AND            B1030090
*          STILL PERMITS THE ATTACHMENT OF           B1030100
*          ROUTINES TO SERVICE TIMER AND-OR         B1030110
*          EXTERNAL SIGNAL INITIATED EXTERNAL      B1030120
*          INTERRUPTS                                B1030130
*          B1030140
*          *
*          EXTERNAL INTERRUPT ENTRY                B1030160
*          B1030170
*          *
*          0005B2     000480      LSING SBSAD,SBSRG          B1030180
*          EQU *                                       B1030190
*          SXRIN     CRG SXRIN                     B1030200
*          BC 15,SXRIN     SET UP ENTRY           B1030210
*          CRG SXRIN     RESTORE CURRENT IC      B1030220
*          *                                               B1030240
*          *                                               B1030250
*          *                                               B1030260
*          *                                               B1030270
*          *                                               B1030280
*          *                                               B1030290
*          *                                               B1030300
*          *                                               B1030310
*          *
*          0005B8     58 FC F 63C      L SBSRG,SBADR     SET UP I-O BASE RG B1030290
*          *                                               B1030300
*          *                                               B1030310
*          *
*          0005BC     51 4C F 8CA      TH SWICH,64       CHK IF INT SWT ON B1030320
*          *                                               B1030330
*          *                                               B1030340
*          *                                               B1030350
*          *                                               B1030360
*          *                                               B1030370
*          *                                               B1030380
*          *                                               B1030390
*          *                                               B1030400
*          *                                               B1030410
*          *                                               B1030420
*          *                                               B1030430
*          *                                               B1030440
*          *                                               B1030450
*          *                                               B1030460
*          *                                               B1030470
*          *                                               B1030480
*          *                                               B1030490
*          *                                               B1030500
*          *
*          0005C0     47 1C F 12C      BC 1,SXRIN+4     RETURN IF YES     B1030410
*          *                                               B1030420
*          *                                               B1030430
*          *                                               B1030440
*          *                                               B1030450
*          *                                               B1030460
*          *                                               B1030470
*          *                                               B1030480
*          *                                               B1030490
*          *                                               B1030500
*          *
*          0005C2     47 1C F 12C      TH 27,128       CHK FOR TIMER INT B1030420
*          *                                               B1030430
*          *                                               B1030440
*          *                                               B1030450
*          *                                               B1030460
*          *                                               B1030470
*          *                                               B1030480
*          *                                               B1030490
*          *                                               B1030500
*          *
*          0005C4     90 F8 F AEC      STM SRGF,SRGL,SSV4 NOT ON -- SAVE REG B1030340
*          *                                               B1030350
*          *                                               B1030360
*          *                                               B1030370
*          *                                               B1030380
*          *                                               B1030390
*          *                                               B1030400
*          *                                               B1030410
*          *                                               B1030420
*          *                                               B1030430
*          *                                               B1030440
*          *                                               B1030450
*          *
*          0005C6     E2 C3 F AEO 0 014      MVC SSV4(14),SHCLD SAVE ENTRY BASE RG B1030350
*          *                                               B1030360
*          *                                               B1030370
*          *                                               B1030380
*          *                                               B1030390
*          *                                               B1030400
*          *                                               B1030410
*          *                                               B1030420
*          *                                               B1030430
*          *                                               B1030440
*          *                                               B1030450
*          *
*          0005CE     51 4C C C1B      SXRIN1 TH 27,64   CHK FOR CONSOLE   B1030390
*          *                                               B1030400
*          *                                               B1030410
*          *                                               B1030420
*          *                                               B1030430
*          *                                               B1030440
*          *                                               B1030450
*          *                                               B1030460
*          *                                               B1030470
*          *                                               B1030480
*          *                                               B1030490
*          *                                               B1030500
*          *
*          0005D2     47 1C F 12C      BC 1,SXRIN+4     RETURN IF YES     B1030410
*          *                                               B1030420
*          *                                               B1030430
*          *                                               B1030440
*          *                                               B1030450
*          *                                               B1030460
*          *                                               B1030470
*          *                                               B1030480
*          *                                               B1030490
*          *                                               B1030500
*          *
*          0005D4     91 8C 0 C1B      TH 27,128       CHK FOR TIMER INT B1030420
*          *                                               B1030430
*          *                                               B1030440
*          *                                               B1030450
*          *                                               B1030460
*          *                                               B1030470
*          *                                               B1030480
*          *                                               B1030490
*          *                                               B1030500
*          *
*          0005D6     47 1C F 52E      SXRIN2 BC 1,++4   DUMMY BC -- CVERL B1030430
*          *                                               B1030440
*          *                                               B1030450
*          *                                               B1030460
*          *                                               B1030470
*          *                                               B1030480
*          *                                               B1030490
*          *                                               B1030500
*          *
*          0005DE     51 3F C C1B      TH 27,63       CHK FOR EXTERNAL  B1030460
*          *                                               B1030470
*          *                                               B1030480
*          *                                               B1030490
*          *                                               B1030500
*          *
*          0005E2     47 7C F 536      SXRIN3 BC 7,++4   DUMMY BC -- CVERL B1030480
*          *                                               B1030490
*          *                                               B1030500
*          *
*          0005E6     47 FC F 212      BC 15,SAGIN     RETURN          B1030510

```

XERO COPY

XERO COPY

XERO COPY

XERO COPY

```

*
*          UNIT CHECK GROUP          B1000000
*          UNIT CHECK BASE ROUTINE  B1000010
*                                     B1000020
*                                     B1000030
* NCTE -- REQUIRES PRESENCE OF I-D BASE B1000040
* ROUTINE                             B1000050
*                                     B1000060
*                                     B1000070
*
*          CCC4B0          LSING SBSAD,SBSRG          B1000080
*          CCC5EA          SAKX          ECU          *          DEFINE CURRENT IC          B1000090
*          CCC64E          CRG          .SNTPC          B1000100
*          CCC64E          47 1C F 53A          BC          1,SNKX          SET UP ENTRY          B1000110
*          CCC6EA          CRG          SNKX          RESTORE CURRENT IC          B1000120
*                                     B1000130
*          CCC6EA          47 FC F 53E          BC          15,*+4          DUMMY BC -- OVERL          B1000140
*                                     WITH BC TO UNIT          B1000150
*                                     CHK SPECIFIC          B1000160
*                                     ROUTINE          B1000170
*
*          CCC6EE          45 EC F 44E          BAL          SREGH,SENS          GO TO ISSUE SENSE          B1000180
*          CCC6F2          51 CC F B4E          TM          SNSA,192          INTVN AND CCHM REJ          B1000190
*          CCC6FE          47 7C F 212          BC          7,SAGIN          BRANCH CN EITHER          B1000200
*          CCC6FA          91 C1 F B48          TM          SNSA,1          SENSE BYTE 0-BIT 1          B1000210
*          CCC6FE          47 EC F 1F4          BC          8,SAGIND          B TC SEREP IF OFF          B1000220
*          CCC6A2          05 C1 6 CC2 F C1E          CLC          2(2,SLUBRG),SPRTR+2          CHK IF PRINTER          B1000230
*          CCC6AC          47 7C F 1F4          BC          7,SAGIND          B TC SEREP IF NOT          B1000240
*          CCC6AC          47 FC F 56C          BC          15,*+4          OVERL FOR ROUTINE          B1000250
*                                     TO HANDLE CHANNEL          B1000260
*                                     9 ON PRINTER          B1000270
*          CCC6A1C          47 FC F 19A          BC          15,SNTPC+4          RETURN TO ANALYZER          B1000280
*                                     IF NOT INTER-          B1000290
*                                     CEPTED          B1000300

```

```

*
*          UNIT CHECK GROUP          B1005000
*          UNIT CHECK TAPE ROUTINE  B1005010
*                                     B1005020
*                                     B1005030
* NCTE -- REQUIRES PRESENCE OF UNIT CHECK B1005040
* BASE ROUTINE                       B1005050
*                                     B1005060
* NCTE -- REQUIRES PRESENCE OF UNIT SENSE B1005070
* ROUTINE IN I-D BASE ROUTINE GROUP  B1005080
*                                     B1005090
* NCTE -- REQUIRES PRESENCE OF INTERNAL CALL B1005100
* ROUTINE IN I-D BASE ROUTINE GROUP  B1005110
*                                     B1005120
* NCTE -- REQUIRES PRESENCE OF TAPE ENTRY B1005130
* BASE ROUTINE                       B1005140
*                                     B1005150
* NCTE -- REQUIRES PRESENCE OF TAPE BACKSPACE B1005160
* RECORD ENTRY AND TAPE FORWARD SPACE B1005170
* TAPE RECORD ENTRY ROUTINES        B1005180
*                                     B1005190
*                                     B1005200
*                                     B1005210
*
*          CCC6A14          G0C4B0          LSING SBSAD,SBSRG          B1005220
*          CCC65EA          SNKT          ECU          *          DEFINE CURRENT IC          B1005230
*          CCC64E          CRG          SNKX          B1005240
*          CCC6A14          47 FG F 564          BC          15,SNKT          SET UP ENTRY          B1005250
*          CCC6A14          CRG          SNKT          RESTORE CURRENT IC          B1005260
*                                     B1005270
*          CCC6A14          05 C1 6 CC2 F C36          CLC          2(2,SLUBRG),STAP+2          CHK IF TAPE          B1005280
*          CCC6A1A          47 7C F 53E          BC          7,SNKX+4          RETURN IF NOT TAPE          B1005290
*                                     B1005300
*
*          CCC6A1E          51 C4 6 C0C          TP          C(SLUBRG),SREWF          CHK REWIND FLAG          B1005320
*          CCC6A22          47 1C F 1B6          BC          1,SNTPH          BC IF YES          B1005330
*                                     B1005340
*          CCC6A2E          45 EC F 44E          BAL          SREGM,SENS          GO TO ISSUE SENSE          B1005350
*          CCC6A2A          51 2C F B4E          TM          SNSA,32          CHK FOR BUS OUT          B1005360
*          CCC6A2E          47 1C F 5B2          BC          1,SNKTRY          BC TO RETRY          B1005370
*          CCC6A2E          51 1C F B4E          TM          SNSA,16          CHK FOR EQUIP CHK          B1005380
*          CCC6A2E          47 1C F 1F4          BC          1,SAGIND          BC TO S1 LOG OUT          B1005390
*          CCC6A3A          51 4C F B4E          TP          SNSA,STINT          CHK FOR INTERV RFO          B1005400
*          CCC6A3E          47 1C F 5AE          BC          1,SNKTE          INTER REQ BC --          B1005410
*                                     OVERL FOR INTERV          B1005420
*                                     REQUIRED ROUTINE          B1005430
*          CCC6A4E          51 C4 F B48          TP          SNSA,4          CHK FOR CVERRUN          B1005440
*          CCC6A4E          47 1C F 5BA          BC          1,SNKTRY+8          BC TO RETRY          B1005450
*          CCC6A4A          91 CE F B4E          TP          SNSA,STTRY          CHK FOR DATA CHK          B1005460
*          CCC6A4E          47 1C F 5A6          SNKT3          BC          1,SNKTS          RETRY BC - OVERL          B1005470
*                                     WITH BC TO RETRY          B1005480
*          CCC6A5E          51 C3 F B4E          TP          SNSA,3          CHK FOR ST ERRORS          B1005490
*          CCC6A5E          47 7C F 1F4          SNKTS          BC          7,SAGIND          BC TO S1 LOG OUT          B1005500
*          CCC6A5A          45 EC F 5CC          BAL          SREGH,SNKTR1          TO REPOSITION TAPE          B1005510
*          CCC6A5E          47 FC F 212          SNKTE          BC          15,SAGIN          BC TC ERROR LOG          B1005520
*                                     B1005530

```

```

*
* UNIT CHECK GROUP B10D5550
* UNIT CHECK TAPE ROUTINE B10D5560
* - CONTINUED - B10D5570
* B10D5580
* B10D5590
* B10D5600
000A62 91 8C F 6CA SNKTRY TH SWICH,128 CHECK FOR CCI B10D5610
000A66 47 1C F 5BE BC 1,*+8 BC IF INITL SELCTN B10D5620
000A6A 45 8C F 5DC BAL SREGH,SNKTR1 TO REPOSITION TAPE B10D5630
000A6E 92 C3 F 6AC MVI STMX2+1,3 SET REPLY COUNT B10D5640
000A72 48 80 F B52 LH SREGH,STRCT LOAD REPLY COUNT B10D5650
000A76 41 88 C 001 LA SREGH,1(SREGM) INCREMENT COUNT B10D5660
000A7A 4C 8C F B52 STH SREGH,STRCT SAVE CURRENT COUNT B10D5670
000A7E 4B 8C F 6AC SH SREGH,STMX2 SUBTRACT MAX COUNT B10D5680
000A82 47 2C F 1F4 BC 2,SAGIND BRANCH IF EXCEEDED B10D5690
* B10D5700
000A86 9E F8 F AEC SAKTRE LH SRGF,SRGL,SSV4 RESTORE ENTRY REGS B10D5710
000A8A 07 F1 BCR 15,SREGZ GO TO REISSUE CALL B10D5720
* B10D5730
* B10D5740
000A90 44 0C F 3E6 SNKTR1 EX 0,SNCL SAVE REGISTERS B10D5750
000A94 44 0C F 924 EX 0,STFSB LOAD TO FWD SPACE B10D5760
000A98 91 FF F 9CE TH SHOV,255 CHK IF FWD MOTION B10D5770
000A9C 47 80 F 5FC BC 8,*+8 BRANCH IF NOT B10D5780
000A9E 41 1C F 582 LA SREGZ,SBSRw LOAD TO BACKSPACE B10D5790
000AA0 50 80 F B30 SNKTR2 ST SREGH,SSVRB+36 SAVE RETURN REG B10D5800
000AA4 45 0C F 3EA BAL SREGH,SNCLCAL ISSUE INTERNAL CALL B10D5810
000AA8 44 0C F 40A EX 0,SNCLTA RESTORE REGISTERS, B10D5820
000AAC 44 0C F 40E EX 0,SNCLTB IOOPSH,CSW AND CAW B10D5830
000AB0 44 0C F 414 EX 0,SNCLTC AND SAVED CCW B10D5840
000AB4 07 F8 BCR 15,SREGM RETURN B10D5850
* B10D5860

```

```

*
* UNIT CHECK GROUP B10D6000
* TAPE REPLY BASE ROUTINE B10D6010
* B10D6020
* B10D6030
* NCTE --- REQUIRES PRESENCE OF UNIT CHECK B10D6040
* TAPE ROUTINE B10D6050
* B10D6060
* NOTE --- REQUIRES PRESENCE OF CONTROL ENTRY B10D6070
* MODULE IN I-O CALL ENTRY GROUP B10D6080
* B10D6090
* B10D6100
000A80 00C480 USING SBSAD,SBSRG B10D6110
000A86 STRET ECU * DEFINE CURRENT IC B10D6120
000A8E CRG SNKTR3 B10D6130
000A90 BC 7,STRET SET UP ENTRY B10D6140
000A94 DRG STRET RESTORE CURRENT IC B10D6150
* B10D6160
000A98 EX 0,SNCL SAVE REGISTERS B10D6170
000A9C TH SNSA+1,4 CHECK WRITE STATUS B10D6180
000AA0 BC 1,STRET1 B IF WRITE STATUS B10D6190
000AA4 LH SREGH,SNCLCK+18 LOAD CCW ADDRESS B10D6200
000AA8 LH SREGH,6(SREGH,0) LOAD CCW COUNT B10D6210
000AAC SH SREGH,SNCLCK+14 SUBTRACT CSW COUNT B10D6220
000AB0 BC 8,STRET1 BRANCH IF ZERO B10D6230
000AB4 CH SREGH,STWLV CHK IF 12 OR LESS B10D6240
000AB8 BC 12,STRET1 BRANCH GTR OR ECU B10D6250
000ABE TH SNSA+1,*'80' CHECK NOISE BIT B10D6260
000AC0 BC 1,STRET1 BRANCH IF ON B10D6270
000AC4 EX 0,SNCLTA RESTORE REGISTERS B10D6280
000AC8 BC 15,SNKTR1 GO TO REISSUE CALL B10D6290
000AD0 MVI STMX3(2),STMX1 SAVE REPLY COUNT B10D6300
000AD4 BAL SREGH,SNKTR1 TO REPOSITION TAPE B10D6310
000AD8 LH SREGH,STRCT L REPLY COUNT B10D6320
000AE0 LA SREGH,1(SREGH) STEP FOR CURRENT B10D6330
* B10D6340
000AE4 STH SREGH,STRCT SAVE CURRENT COUNT B10D6350
000AE8 SH SREGH,STMX3 SUBTRACT MAXIMUM B10D6360
* B10D6370
* B10D6380
000B04 BC 2,STREC B IF EXCEEDED B10D6390
* B10D6400
000B08 SRTIE EX 0,SNCL SAVE REGISTERS B10D6400
000B0C LA SREGZ,SCILw SET CONTROL ENTRY B10D6410
000B10 LA SLUBRG,STAP DEV-UNIT BLOCK ADDR B10D6420
000B14 MVI SDIE(2),STAP+2 GET DEVICE ADDRESS B10D6430
000B18 L SREGH,SDIE LOAD DEVICE ADDR B10D6440
000B1C L SREGA,STIEM TIE MODFR BITS B10D6450
000B20 BAL SREGH,SNKTR2 GO TO ISSUE TIE B10D6460
* B10D6470
* B10D6480
000B24 BC 15,SNKTR1 INTERNAL CALL B10D6470
* B10D6490
* GO TO REISSUE CALL B10D6490

```

```

*          UNIT CHECK GROUP          B10D6510
*          TAPE RETRY BASE ROUTINE   B10D6520
*          - CONTINUED -             B10D6530
*                                     B10D6540
*                                     B10D6550
C00E2A  91 C3 F 436   STREC TH  SNTCLK+28,SCTLOP TEST FOR CNTRL OP B10D6560
000B2E  47 5C F 692   BC          9,STREC3          NOT READ OR WRITE B10D6570
C00B32  91 C2 F 436   TH          SNTCLK+28,SRD      TEST FOR READ OP  B10D6580
000B36  47 8C F 1F4   STREC1 BC   8,SAGIND          B IF NOT -- OVERL B10D6590
*                                     WITH BC TO ERASE  B10D6600
*                                     FORWARD             B10D6610
000B3A  47 1C F 1F4   STREC2 BC   1,SAGIND          B IF READ-- OVERL B10D6620
*                                     WITH BC TO BACK-  B10D6630
*                                     SPACE CLEANER    B10D6640
000B3E  47 FC F 1F4   BC          15,SAGIND         BRANCH TO LOG OUT B10D6650
*                                     B10D6660
000B42  47 6C F 1F4   STREC3 BC   8,SAGIND          B IF NOT CNTRL OP B10D6670
000B46  91 1F F 436   TH          SNTCLK+28,STH      TEST FOR WTH OP   B10D6680
000B4A  47 1C F 1F4   BC          1,SAGIND          B IF WTH -- OVERL B10D6690
*                                     WITH BC TO ERASE  B10D6700
*                                     FORWARD             B10D6710
000B4E  47 FC F 5C6   BC          15,SNKTRE        GO TO REISSUE CALL B10D6720
*                                     B10D6730
000B52  C00C          STHLV DC    X*000C*         B10D6740
000B54          DC    OF          B10D6750
000B54  18          STIEP DC    X*18*         TRACK IN ERROR    B10D6760
000B55  0CCFFA        DC    AL3(SNSA+2)       TIE SENSE BYTE   B10D6770
000B58  000C          SCIE DC    AL2(0)        DEVICE IN ERROR   B10D6780
000B5A  0001          DC    AL2(1)          DATA COUNT       B10D6790
000B5C  000C          STMX2 DC   AL2(0)        ELG MAX RETRY    B10D6800
000B5E  0000          STMX3 DC   AL2(0)        B10D6810

```

```

*          UNIT CHECK GROUP          B10D7000
*          TAPE READ RETRY ROUTINE   B10D7010
*          BACKSPACE CLEANER         B10D7020
*                                     B10D7030
*                                     B10D7040
* NOTE -- REQUIRES PRESENCE OF TAPE RETRY B10D7050
*          BASE ROUTINE              B10D7060
*                                     B10D7070
* NOTE -- REQUIRES PRESENCE OF UNIT SENSE B10D7080
*          ROUTINE IN I-O BASE ROUTINE GROUP 1 B10D7090
*                                     B10D7100
*                                     B10D7110
*                                     B10D7120
000B60          USING SBSAD,SBSRG
000B6A          SBKSP ECU *          DEFINE CURRENT IC  B10D7130
000B3A  47 1C F 6B0   ORG STREC2          SET UP ENTRY       B10D7140
000B6C          BC 1,SBKSP          RESTORE CURRENT IC B10D7160
*                                     B10D7170
000B6C  02 C3 F B50 F 056   HVC SCNTR(4),SZROS  RESET RETRY COUNT B10D7180
000B66  46 8C F B54          LH SREGH,STRCTT    LOAD BKSP CLNR CNT B10D7190
000B6A  41 68 C 001          LA SREGH,1(SREGH) INCREMENT COUNT   B10D7200
000B6E  40 6C F B54          STH SREGH,STRCTT   SAVE CURRENT COUNT B10D7210
000B72  48 60 F 528          SH SREGH,STMX1     SUB MAXIMUM COUNT  B10D7220
000B76  47 CC F 6C8          BC 12,SBKSP1       B IF NOT EXCEEDED B10D7230
000B7A  02 C1 F B54 F B56   HVC STRCTT(2),SZROS  RESET CLEANER CNT  B10D7240
000B80  58 6C F B04          L SREGH,SSVR+32   RESTORE REG 8     B10D7250
000B84  47 FC F 1F4          BC 15,SAGIND       BRANCH TO LOG OUT B10D7260
*                                     B10D7270
000B88  02 00 F 6AD F 50E   SBKSP1 HVC STPX2+1(1),SHOV  SAVE MOTION SWITCH B10D7280
000B8E  92 FF F 50E          HVI SHOV,255        FORCE BACKSPACE    B10D7290
000E92  45 6C F 5CC          BAL SREGH,SNKTR1   TO BACKSPACE TAPE B10D7300
000B96  45 80 F 446          BAL SREGH,SENS     GO TO ISSUE SENSE B10D7310
000B5A  91 C8 F B45          TH SNSA+1,8        CHK FOR LOAD POINT B10D7320
000B9E  47 10 F 712          BC 1,SBKSP244     B IF AT LOAD POINT B10D7330
000EA2  48 6C F B5C          LH SREGH,SCNTR    LOAD SPACE COUNT  B10D7340
000EA6  41 88 C 001          LA SREGH,1(SREGH) INCREMENT          B10D7350
000EAA  40 6C F B50          STH SREGH,SCNTR   SAVE CURRENT COUNT B10D7360
000EAE  95 C4 F B51          CLI SCNTR+1,4     CHECK FOR MAXIMUM B10D7370
000EB2  47 40 F 4C8          BC 4,SBKSP1       BRANCH IF NOT     B10D7380
000EB6  92 0C F 50E          HVI SHOV,0         FORCE TO FWD SPACE B10D7390
000EBA  47 FC F 712          BC 15,+8          B10D7400
000EBE  40 60 F B5C          SBKSP2 STH SREGH,SCNTR  SAVE CURRENT COUNT B10D7410
000EC2  91 C7 F B51          TH SCNTR+1,7      CHECK SPACE COUNT B10D7420
000EC4  47 6C F 726          BC 8,SBKSPE       BRANCH IF ZERO    B10D7430
000ECA  45 8C F 5CC          BAL SREGH,SNKTR1  TO FORWARD SPACE  B10D7440
000ECE  46 6C F B5C          LH SREGH,SCNTR    LOAD SPACE COUNT  B10D7450
000ED2  46 6C F 70E          BCT SREGH,SBKSP2  DECREMENT AND CHK B10D7460
000ED6  02 CC F 9CE F 6AD   SBKSPE HVC SHOV(1),STMX2+1  RESTORE MOTION SW B10D7470
000EDC  47 F0 F 5C6          BC 15,SNKTRE      GO TO REISSUE CAL B10D7480
*                                     B10D7490

```

XERO COPY

XERO COPY

XERO COPY

XERO COPY

17

```

*                               UNIT CHECK GROUP                               B10D8000
*                               TAPE WRITE RETRY ROUTINE                       B10D8010
*                               ERASE FORWARD                                 B10D8020
*                               B10D8030
*                               B10D8040
*                               NOTE -- REQUIRES PRESENCE OF TAPE RETRY      B10D8050
*                               BASE ROUTINE                                 B10D8060
*                               B10D8070
*                               NOTE -- REQUIRES PRESENCE OF REWIND ENTRY    B10D8080
*                               MODULE IN I-O CALL ENTRY GROUP              B10D8090
*                               B10D8100
*                               B10D8110
*                               C0C480 USING SBSAD,SBSRG                      B10D8120
*                               SEFWD EQU *                                  B10D8130
*                               ORG STREC1                                  B10D8140
*                               BC 8,SEFWD SET UP ENTRY                    B10D8150
*                               CRG STREC3+8                                B10D8160
*                               BC 1,SEFWD SET UP ENTRY                    B10D8170
*                               CRG SEFWD RESTORE CURRENT IC                B10D8180
*                               B10D8190
*                               C0C8EC C2 C1 F B52 F B56                    MVC STRCT(2),SZROS RESET RETRY COUNT B10D8200
*                               000B66 4E E0 F B54                          LH SREGM,STRCTY LOAD ELG RETRY CNT B10D8210
*                               C0C8EA 41 E8 C CC1                           LA SREGM,1(SREGM) INCREMENT B10D8220
*                               C0C8EE 40 E0 F B54                          STH SREGM,STRCTI SAVE CURRENT COUNT B10D8230
*                               000BF2 4B E0 F 6AC                          SH SREGM,STPX2 SUB MAX RETRY CNT B10D8240
*                               000BF6 47 CC F 758                          BC 12,++18 B IF NOT EXCEEDED B10D8250
*                               C0C8FA D2 C1 F B54 F B56                    MVC STRCTT(2),SZROS RESET ELG RETRY CT B10D8260
*                               CC0C6C 58 E0 F B04                          L SREGM,SSVR+32 RESTORE REG 8 B10D8270
*                               CC0C04 47 F0 F 1F4                          BC 15,SAGIND BRANCH TO LOG OUT B10D8280
*                               B10D8290
*                               C0C0CE 44 CC F 3E6                          EX C,SNTCL SAVE REGISTERS B10D8300
*                               G0C0C0 41 1C F 956                          LA SREG2,SRWD SET REWIND ENTRY B10D8310
*                               B10D8320
*                               B10D8330
*                               L SREGA,SELG ELG MODIFIER B10D8340
*                               00C010 58 2C F 770                          LR SREGN,SREGH NON-ZERO VALUE B10D8350
*                               00C014 18 3E                                BAL SREGM,SNKTR2 GO TO ISSUE ERASE B10D8360
*                               00C016 45 EC F 5FC                          * INTERNAL CALL B10D8370
*                               C0C01A 47 FC F 5C6                          BC 15,SNKTR E GO TO REISSUE CAL B10D8380
*                               B10D8390
*                               C0C02C 1C0C001                             DS OF B10D8400
*                               G0C02C 1C0C001                             SELG DC X*10000001* ERASE LONG GAP OP B10D8410
*                               B10D8420

```

```

*                               UNIT EXCEPTIONAL CONDITION GROUP              B10F0000
*                               UE BASE ROUTINE                              B10F0010
*                               B10F0020
*                               NOTE -- REQUIRES PRESENCE OF I-O BASE        B10F0030
*                               ROUTINE                                       B10F0040
*                               B10F0050
*                               B10F0060
*                               G0C480 USING SBSAD,SBSRG                      B10F0070
*                               SUEX EQU *                                  B10F0080
*                               DRG SNTPD SET UP ENTRY                       B10F0090
*                               BC 1,SUEX RESTORE CURRENT IC                 B10F0100
*                               CRG SUEX B10F0110
*                               B10F0120
*                               C0C024 47 FC F 778                          BC 15,+++ DUMHY BC -- OVERL B10F0130
*                               B10F0140
*                               B10F0150
*                               B10F0160
*                               B10F0170
*                               C0C026 47 FC F 212                          SUEXP BC 15,SAGIN RETURN -- IF NOT B10F0180
*                               B10F0190
*                               B10F0200
*                               B10F0210
*                               B10F0220
*                               B10F0230
*                               B10F0240
*                               B10F0250
*                               B10F0260

```


19

```

*          UNIT EXCEPTIONAL CONDITION GROUP          BIOF5000
*          UE PRINTER ROUTINE                      BIOF5010
*          *                                         BIOF5020
*          NOTE --- REQUIRES PRESENCE OF U E SPECIFIC    BIOF5030
*          UNIT BASE ROUTINE                        BIOF5040
*          *                                         BIOF5050
*          NOTE --- REQUIRES PRESENCE OF INTERNAL UNIT    BIOF5060
*          SENSE ROUTINE IN I-O BASE ROUTINE          BIOF5070
*          *                                         BIOF5080
*          NOTE --- REQUIRES PRESENCE OF PRINTER          BIOF5090
*          SKIP-TO-ONE ENTRY ROUTINE                 BIOF5100
*          *                                         BIOF5110
*          NOTE --- REQUIRES PRESENCE OF INTERNAL CALL    BIOF5120
*          ROUTINE IN I-O BASE ROUTINE GROUP          BIOF5130
*          *                                         BIOF5140
*          *                                         BIOF5150
000C4A          000480  USING SBSAD,SBSRG          BIOF5160
SUEP          ECU *          DEFINE CURRENT IC          BIOF5170
000C34          ORG SUEC          BIOF5180
000C34 47 FC F 79A  BC 15,SUEP          SET UP ENTRY          BIOF5190
000C4A          ORG SUEP          RESTORE CURRENT IC          BIOF5200
*          *                                         BIOF5210
000C4A C5 01 6 002 F C1E  CLC 2(2,SLUBRG),SPRTR+2  CHK IF PRINTR    BIOF5220
000C5C 47 70 F 788  BC 7,SUEC+4          RETURN IF NOT          BIOF5230
000C54 91 8C F 7D4  TM SUEPSW,128          CHK IF SKIP-TO-1      BIOF5240
*          *                                         BIOF5250
000C5E 47 1C F 1E6  BC 1,SNTPH          BRANCH IF ON          BIOF5260
000C5C 56 8C F 7D4  OI SUEPSW,128          SET SKIP-TO-1 FLAG    BIOF5270
000C6C 44 CC F 3E6  EX C,SNTCL          SAVE REGISTERS        BIOF5280
000C64 41 1C F 8AA  LA SREG2,SKIPW          SET FOR RESTORE        BIOF5290
*          *                                         BIOF5300
*          *                                         BIOF5310
*          *                                         BIOF5320
000C68 58 40 F 020  L SREG1,SPRTR+4          SET UP U E RETURN      BIOF5330
000C6C 45 00 F 3EA  BAL SREGR,SNTCAL          GO TO ISSUE SKIP      BIOF5340
000C7C 44 00 F 40A  EX 0,SNTCLA          RESTORE REGISTERS      BIOF5350
000C74 44 00 F 40E  EX 0,SNTCLB          RESTORE I-O OLD        BIOF5360
*          *                                         BIOF5370
*          *                                         BIOF5380
000C78 44 00 F 414  EX 0,SNTCLC          PSW, CSW AND CAW      BIOF5390
000C7C 54 7F F 7D4  NI SUEPSW,127          RESTORE SAVED CCW      BIOF5400
*          *                                         BIOF5410
*          *                                         BIOF5420
000C80 47 FC F 788  SUEPR BC 15,SUEC+4          RETURN                  BIOF5430
*          *                                         BIOF5440
*          *                                         BIOF5450
000C84 00          SUEPSW CC ALL(0)          AREA FOR FLAGS          BIOF5460
000C86          DS OH          ALIGN TO HALF WORD          BIOF5470
*          *                                         BIOF5480
*          *                                         BIOF5490
*          *                                         BIOF5500
*          *                                         BIOF5510
*          *                                         BIOF5520
*          *                                         BIOF5530

```

```

*          I-O CALL ENTRY GROUP                    BIOH0000
*          READ CARD ENTRY - WAIT                  BIOH0010
*          *                                         BIOH0020
*          NOTE --- REQUIRES PRESENCE OF I-O BASE        BIOH0030
*          ROUTINE                                      BIOH0040
*          *                                         BIOH0050
*          NCTE --- REQUIRES PRESENCE OF ADDRESS          BIOH0060
*          CONSTANT IN SINTRY TABLE                 BIOH0070
*          *                                         BIOH0080
*          *                                         BIOH0090
*          *                                         BIOH0100
000C86          000480  USING SBSAD,SBSRG          BIOH0110
SRDCH          ECU *          DEFINE CURRENT IC          BIOH0120
00048C          ORG SINTRY          DEFINE TABLE LOC          BIOH0130
00048C 0000CC86  DC A(SRDCH)          DEFINE ROUTINE ENTRY    BIOH0140
000C86          ORG SRDCH          RESTORE CURRENT IC          BIOH0150
*          *                                         BIOH0160
*          *                                         BIOH0170
000C86 50 FC 0 014  DRDP SBSRG          BIOH0180
000C8A 47 F0 1 262  USING *,SREG2          RESERVE ENTRY BASE      BIOH0190
*          *                                         BIOH0200
*          *                                         BIOH0210
*          *                                         BIOH0220
*          *                                         BIOH0230
000C8E 92 02 F A20  ST SBSRG,SHCLD          GO TO SAVE REGS.        BIOH0240
000C92 92 02 F AC8  BC 15,SSAVR          SET BASE REGISTER        BIOH0250
*          *                                         BIOH0260
*          *                                         BIOH0270
000C96 41 40 F 004  SRDCH2 LA SLUBRG,SCRDR          SET CARD READER          BIOH0280
*          *                                         BIOH0290
*          *                                         BIOH0300
000C9A 47 F0 F A7C  BC 15,S10G0          GO TO START I-O          BIOH0310
*          *

```

```

*          I-O CALL ENTRY GROUP          BIOH1000
*          WRITE MESSAGE ENTRY - WAIT    BIOH1010
*          NOTE -- REQUIRES PRESENCE OF I-O BASE    BIOH1020
*          ROUTINE                          BIOH1030
*          NOTE -- REQUIRES PRESENCE OF ADDRESS    BIOH1040
*          CONSTANT IN SINTRY TABLE          BIOH1050
*          BIOH1060
*          BIOH1070
*          BIOH1080
*          BIOH1090
*          BIOH1100
000C9E          CCC4BC  USING SBSAD,SBSRG          BIOH1110
CCC4BC          EQU *          DEFINE CURRENT IC    BIOH1120
CCC4BC          DC SINTRY+12      DEFINE TABLE LOC  BIOH1130
CCC4BC          DC A(SHWSW)      DEFINE ROUTINE ENTRY  BIOH1140
CCC4BC          ORG SHWSW        RESTORE CURRENT IC    BIOH1150
CCC4BC          DROPP SBSRG
CCC4BC          USING *,SREGZ          BIOH1160
000C9E 5C FC 0 014          ST SBSRG,SHCLD      RESERVE ENTRY BASE  BIOH1180
000CA2 47 FC 1 24A          BC 15,SSAVR          GO TO SAVE REGS,   BIOH1190
*          SET BASE REGISTER    BIOH1200
*          AND INITIALIZE        BIOH1210
*          CCW AND CAW           BIOH1220
*          BIOH1230
CCC001          DRCP SREGZ          BIOH1240
CCC4BC          USING SBSAD,SBSRG
CCC4CA 52 C2 F AAC          MVI SWNH,SWATF      SET FOR WAIT CALL  BIOH1250
CCC4CA 52 C5 F AC8          MVI SCCW,SWRRT      SET TO WRITE 1     BIOH1260
*          LINE                  BIOH1270
CCC4CA 41 4C F C10          LA SLUBRG,STYPR      SET MESSAGE UNIT   BIOH1280
*          REFERENCE              BIOH1290
CCC4CB 47 FC F A7C          BC 15,SIOGC          GO TO START I-O   BIOH1300
*          BIOH1310

```

```

*          I-O CALL ENTRY GROUP          BIOH2000
*          PRINT ENTRY - WAIT            BIOH2010
*          NOTE -- REQUIRES PRESENCE OF I-O BASE    BIOH2020
*          ROUTINE                          BIOH2030
*          NOTE -- REQUIRES PRESENCE OF ADDRESS    BIOH2040
*          CONSTANT IN SINTRY TABLE          BIOH2050
*          BIOH2060
*          BIOH2070
*          BIOH2080
*          BIOH2090
*          BIOH2100
CCC4BC          SPRTM          LSING SBSAD,SBSRG          BIOH2110
CCC4CF          EQU *          DEFINE CURRENT IC    BIOH2120
CCC4CF          DC SINTRY+24      DEFINE TABLE LOC  BIOH2130
CCC4CF          DC A(SPRTM)      DEFINE ROUTINE ENTRY  BIOH2140
CCC4CF          ORG SPRTM        RESTORE CURRENT IC    BIOH2150
CCC4CF          DRCP SBSRG
CCC4CF          LSING *,SREGZ          BIOH2160
000C9E 5C FC 0 014          ST SBSRG,SHCLD      RESERVE ENTRY BASE  BIOH2170
000CA2 47 FC 1 232          BC 15,SSAVR          GO TO SAVE REGS,   BIOH2180
*          SET BASE REGISTER    BIOH2190
*          AND INITIALIZE        BIOH2200
*          CCW AND CAW           BIOH2210
*          BIOH2220
CCC001          DRCP SREGZ          BIOH2230
CCC4BC          USING SBSAD,SBSRG
CCC4CB 52 C2 F AAC          MVI SWNH,SWATF      SET FOR WAIT CALL  BIOH2240
CCC4CB 52 C5 F AC8          MVI SCCW,SWRRT      SET TO PRINT        BIOH2250
CCC4CB 41 4C F C10          LA SLUBRG,SPRTM    SET PRINTER         BIOH2260
*          REFERENCE              BIOH2270
CCC4CA 47 FC F A7C          BC 15,SIGGC          GO TO START I-O   BIOH2280
*          BIOH2290

```

12

```

*          I-O CALL ENTRY GROUP          B10H3000
*          PUNCH ENTRY                    B10H3010
*                                          B10H3020
*                                          B10H3030
* NOTE -- THIS ENTRY ONLY FOR PUNCH WHOSE B10H3040
* UNIT ADDRESS DIFFERS FROM THE CARD     B10H3050
* READER ADDRESS                          B10H3060
*                                          B10H3070
* NOTE -- REQUIRES PRESENCE OF I-O BASE  B10H3080
* ROUTINE                                  B10H3090
*                                          B10H3100
* NOTE -- REQUIRES PRESENCE OF ADDRESS   B10H3110
* CONSTANT IN SINTRY TABLE              B10H3120
*                                          B10H3130
*                                          B10H3140
*                                          B10H3150
000CCE          000480      USING SBSAD,SBSRG      B10H3160
000404          SPUC      EQU *          DEFINE CURRENT IC  B10H3170
000404          00000CCE  ORG SINTRY+36  DEFINE TABLE LOC  B10H3180
000CCE          DC A(SPUC)  DEFINE ROUTINE ENTRY B10H3190
00000F          ORG SPUC    RESTORE CURRENT IC  B10H3200
000CCE          00000F    DROP SBSRG      B10H3210
000CCE          000CCE    USING *,SREGZ    B10H3220
50 FC 0 014    ST SBSRG,SHCLD  RESERVE ENTRY BASE B10H3230
47 FO 1 21A    BC 15,SSAVR      GO TO SAVE REGS,  B10H3240
*                                          SET BASE REGISTER B10H3250
*                                          AND INITIALIZE   B10H3260
*                                          CCH AND CAW    B10H3270
000001          DROP SREGZ      B10H3280
000480          USING SBSAD,SBSRG  B10H3290
000C06          92 01 F AC8  MVI SCCH,SPU    SET TO PUNCH      B10H3310
000C0A          41 60 F 028  LA SLUBRG,SPNCH  SET CARD PUNCH   B10H3320
*                                          REFERENCE        B10H3330
*                                          BC 15,S10GG      GO TO START I-O  B10H3340
*                                          B10H3350
*                                          B10H3360

```

```

*          I-O CALL ENTRY GROUP          B10H4000
*          PUNCH-READER ENTRY            B10H4010
*                                          B10H4020
*                                          B10H4030
* NOTE -- THIS ENTRY ONLY FOR PUNCH WHOSE B10H4040
* UNIT ADDRESS IS IDENTICAL WITH THE     B10H4050
* READER ADDRESS                          B10H4060
*                                          B10H4070
* NOTE -- REQUIRES PRESENCE OF I-O BASE  B10H4080
* ROUTINE                                  B10H4090
*                                          B10H4100
* NOTE -- REQUIRES PRESENCE OF CARD READ B10H4110
* ENTRY                                    B10H4120
*                                          B10H4130
* NOTE -- REQUIRES PRESENCE OF ADDRESS   B10H4140
* CCNSTANT IN SNTRY2 TABLE              B10H4150
*                                          B10H4160
*                                          B10H4170
*                                          B10H4180
000CE2          000480      USING SBSAD,SBSRG      B10H4190
0004F4          SPCR      EQU *          DEFINE CURRENT IC  B10H4200
0004F4          00000CE2  ORG SNTRY2    DEFINE TABLE LOC  B10H4210
000CE2          DC A(SPCR)  DEFINE ROUTINE ENTRY B10H4220
00000F          ORG SPCR    RESTORE CURRENT IC  B10H4230
000CE2          00000F    DROP SBSRG      B10H4240
000CE2          000CE2    USING *,SREGZ    B10H4250
50 FC 0 014    ST SBSRG,SHCLD  RESERVE ENTRY BASE B10H4260
47 FO 1 204    BC 15,SSAVR      GO TO SAVE REGS,  B10H4270
*                                          SET BASE REGISTER B10H4280
*                                          AND INITIALIZE   B10H4290
*                                          CCH AND CAW    B10H4300
000001          DROP SREGZ      B10H4310
00048C          USING SBSAD,SBSRG  B10H4320
000CEA          92 01 F AC8  MVI SCCH,SPU    SET TO PUNCH      B10H4340
000CEE          47 FO F 7E6  BC 15,SRDCH2   GO TO WRITE       B10H4350
*                                          B10H4360

```

XERO COPY

XERO COPY

XERO COPY

XERO COPY

12

```

*          I-O CALL ENTRY GROUP          BIOJ0000
*          SENSE ENTRY - WAIT            BIOJ0010
*          BIOJ0020
*          NOTE --- REQUIRES PRESENCE OF I-O BASE
*          ROUTINE                        BIOJ0030
*          BIOJ0040
*          NOTE --- REQUIRES PRESENCE OF ADDRESS
*          CONSTANT IN SENTRY2 TABLE     BIOJ0050
*          BIOJ0060
*          NOTE --- REQUIRES THAT SLUBRG CONTAIN SENSE
*          DEVICE UNIT BLOCK ADDRESS AT TIME
*          OF ENTRY TO THIS ROUTINE       BIOJ0070
*          BIOJ0080
*          OR                               BIOJ0090
*          REQUIRES PRESENCE OF LOCATE SINTRY
*          TABLE UNIT BLOCK ROUTINE AND SENSE
*          ENTRY LOCATE SINTRY TABLE UNIT
*          BLOCK EXIT ROUTINE             BIOJ0100
*          BIOJ0110
*          BIOJ0120
*          BIOJ0130
*          BIOJ0140
*          BIOJ0150
*          BIOJ0160
*          BIOJ0170
*          BIOJ0180
*          BIOJ0190
000CF2      0004B0      USING  SBSAD,SBSRG      BIOJ0200
                EQU  *                DEFINE CURRENT IC      BIOJ0210
000570      0004B0      ORG  SCLR                BIOJ0220
000570      D7 C5 F 840 F 048      XC  SNSA(6),SNSA      CLEAR SENSE AREA      BIOJ0230
0004F8      0000CCF2      ORG  SENTRY2+4          DEFINE TABLE LOC      BIOJ0240
0004F8      0000CCF2      DC  A(SSNSW)        DEFINE ROUTINE ENTRY  BIOJ0250
000CF2      0000CCF2      ORG  SSNSW          RESTORE CURRENT IC      BIOJ0260
                *                      BIOJ0270
                *                      BIOJ0280
000CF2      50 F0 0 014      DROP  SBSRG          BIOJ0290
000CF6      47 F0 1 1F6      USING  *,SREGZ      GO TO SAVE REGS,     BIOJ0300
                ST  SBSRG,SHOLD      SET BASE REG, AND    BIOJ0310
                BC  15,SSAVR        INITIALIZE CCH       BIOJ0320
                *                      AND CAW                  BIOJ0330
                *                      BIOJ0340
                *                      BIOJ0350
                *                      BIOJ0360
                *                      BIOJ0370
000CFA      92 02 F AA0      000001      DROP  SREGZ          BIOJ0380
000CFE      47 F0 F 052      0004B0      USING  SBSAD,SBSRG      DUNNY BC -- OVERL     BIOJ0390
                HVI  SNW,SHATF        WITH BAL SREGH TO    BIOJ0400
                *                      *                      BIOJ0410
                *                      *                      BIOJ0420
                *                      *                      BIOJ0430
                *                      *                      BIOJ0440
000C02      41 3C C 006      *          LA  SREGH,6          SET BYTE COUNT 6     BIOJ0450
000D06      41 20 F 848      *          LA  SREGA,SNSA        SET SENSE BYTES     BIOJ0460
                *                      *                      BIOJ0470
                *                      *                      BIOJ0480
000D0A      41 11 0 018      *          LA  SREGZ,2*(SREGZ)    ADJUST RETURN        BIOJ0490
000D0E      47 F0 F A6A      *          BC  15,SSAVR1         BIOJ0500
                *                      *                      BIOJ0510
000C12      92 04 F AC8      *          HVI  SCCW,SNOP        SET SENSE COMHAND    BIOJ0520
000C16      47 F0 F A7C      *          BC  15,S10G0         GO TO ISSUE SENSE    BIOJ0530
                *                      *                      BIOJ0540
                *                      *                      BIOJ0550

```

```

*          I-O CALL ENTRY GROUP          BIOJ1000
*          WRITE MESSAGE SINGLE SPACE ENTRY - WAIT
*          BIOJ1010
*          BIOJ1020
*          BIOJ1030
*          NOTE --- REQUIRES PRESENCE OF WRITE MESSAGE
*          ENTRY ROUTINE                  BIOJ1040
*          BIOJ1050
*          NOTE --- REQUIRES PRESENCE OF ADDRESS
*          CONSTANT IN SENTRY2 TABLE     BIOJ1060
*          BIOJ1070
*          BIOJ1080
*          BIOJ1090
*          BIOJ1100
000C1A      0004B0      USING  SBSAD,SBSRG      BIOJ1110
                SPCHW      EQU  *                DEFINE CURRENT IC     BIOJ1120
0004FC      00000D1A      ORG  SENTRY2+8          DEFINE TABLE LOC     BIOJ1130
000C1A      00000D1A      DC  A(SPCHW)          DEFINE ROUTINE ENTRY  BIOJ1140
                ORG  SPCHW          RESTORE CURRENT IC     BIOJ1150
000C1A      00000F      DROP  SBSRG          BIOJ1160
000C1A      50 F0 0 014      000D1A      USING  *,SREGZ      BIOJ1170
000C1E      47 F0 1 1CE      *          ST  SBSRG,SHOLD      RESERVE ENTRY BASE    BIOJ1180
                *                      BC  15,SSAVR        GO TO SAVE REGS,     BIOJ1190
                *                      *                      SET BASE REGISTER    BIOJ1200
                *                      *                      AND INITIALIZE       BIOJ1210
                *                      *                      CCH AND CAW         BIOJ1220
                *                      *                      BIOJ1230
                *                      *                      BIOJ1240
000D22      92 02 F AA0      000001      DROP  SREGZ          BIOJ1250
000D26      41 20 F B3C      0004B0      USING  SBSAD,SBSRG      SET FOR WAIT CALL    BIOJ1260
                HVI  SNW,SHATF        SET                  BIOJ1270
000C2A      41 3C C 0C1      *          LA  SREGA,SLENK        SET                  BIOJ1280
000D2E      41 11 C C14      *          LA  SREGH,1          SINGLE              BIOJ1290
000D32      47 FC F A6A      *          LA  SREGZ,20(SREGZ)    SPACE              BIOJ1300
000D36      47 FC F 7FA      *          BC  15,SSAVR1         GO TO WRITE          BIOJ1310
                *                      BC  15,SNWSH+12
                *                      *                      *

```



```

*          I-C CALL ENTRY GROUP          BIOJ4000
*          PUNCH-READER ENTRY - WAIT    BIOJ4010
*                                          BIOJ4020
*                                          BIOJ4030
* NOTE -- THIS ENTRY ONLY FOR PUNCH WHOSE BIOJ4040
* UNIT ADDRESS IS IDENTICAL WITH THE    BIOJ4050
* READER                                 BIOJ4060
*                                          BIOJ4070
* NOTE -- REQUIRES PRESENCE OF I-O BASE BIOJ4080
* ROUTINE                                BIOJ4090
*                                          BIOJ4100
*                                          BIOJ4110
* NOTE -- REQUIRES PRESENCE OF CARD READ BIOJ4120
* ENTRY ROUTINE                          BIOJ4130
*                                          BIOJ4140
* NOTE -- REQUIRES PRESENCE OF ADDRESS  BIOJ4150
* CONSTANT IN SENTRY2 TABLE            BIOJ4160
*                                          BIOJ4170
*                                          BIOJ4180
000480 USING SBSAD,SBSRG
00007E EQU *          DEFINE CURRENT IC  BIOJ4190
000508 SPCRW        DEFINE TABLE LOC   BIOJ4200
000508 DC SENTRY2+20
00007E DC A(SPCRW)    DEFINE ROUTINE ENTRY BIOJ4210
00007E DRG SPCRW    RESTORE CURRENT IC   BIOJ4220
00000F DRG SBSRG
00007E DRG SBSRG    RESTORE CURRENT IC   BIOJ4230
00007E USING %SREGZ
00007E ST SBSRG,SHCLD RESERVE ENTRY BASE  BIOJ4250
00007E BC 15,SSAVR   GO TO SAVE REGS.  BIOJ4260
*                                          BIOJ4270
*          SET BASE REGISTER
*          AND INITIALIZE
*          CCH AND CAW
000001 DROP SREGZ    BIOJ4300
000480 USING SBSAD,SBSRG
000086 HVI SWNH,SWATF SET FOR WAIT CALL  BIOJ4320
00008A HVI SCCW,SPU  SET TO PUNCH      BIOJ4330
00008E BC 15,SRDCH2 GO TO WRITE      BIOJ4340
*                                          BIOJ4350

```

```

*          I-O CALL ENTRY GROUP          BIOJ5000
*          PUNCH ENTRY - WAIT            BIOJ5010
*                                          BIOJ5020
*                                          BIOJ5030
* NOTE -- REQUIRES PRESENCE OF PUNCH ROUTINE BIOJ5040
*                                          BIOJ5050
* NOTE -- REQUIRES PRESENCE OF ADDRESS  BIOJ5060
* CONSTANT IN SENTRY2 TABLE            BIOJ5070
*                                          BIOJ5080
*                                          BIOJ5090
*                                          BIOJ5100
000480 USING SBSAD,SBSRG
000092 EQU *          DEFINE CURRENT IC  BIOJ5110
00050C SPUCH        DEFINE TABLE LOC   BIOJ5120
00050C DC SENTRY2+24
000092 DC A(SPUCH)    DEFINE ROUTINE ENTRY BIOJ5130
000092 DRG SPUCH    RESTORE CURRENT IC   BIOJ5140
00000F DRG SBSRG
000092 DRG SBSRG    RESTORE CURRENT IC   BIOJ5150
000092 USING %SREGZ
000092 ST SBSRG,SHOLD RESERVE ENTRY BASE  BIOJ5170
000096 BC 15,SSAVR   GO TO SAVE REGS.  BIOJ5180
*                                          BIOJ5190
*          SET BASE REGISTER
*          AND INITIALIZE
*          CCH AND CAW
000001 DROP SREGZ    BIOJ5230
000480 USING SBSAD,SBSRG
00009A HVI SWNH,SWATF SET FOR WAIT CALL  BIOJ5250
00009E BC 15,SPUC+3 GO TO PUNCH      BIOJ5260
*                                          BIOJ5270

```

```

*          I-O CALL ENTRY GROUP          B10K0000
*          TAPE ENTRY BASE ROUTINE       B10K0010
*                                          B10K0020
* NOTE -- REQUIRES PRESENCE OF I-O BASE B10K0030
*          ROUTINE                        B10K0040
*                                          B10K0050
* NOTE -- REQUIRES PRESENCE OF TAPE UNIT B10K0060
*          REFERENCE IN SINTRY TABLE -- S10K0070
*                                          B10K0080
* NOTE -- IF READ TAPE -- SRTPH -- IS NOT ONE B10K0090
*          OF THE TAPE FUNCTIONS SELECTED TO B10K0100
*          BE INCLUDED IN AN I-O PACKAGE B10K0110
*          WHICH DOES USE OTHER TAPE FUNCTIONS B10K0120
*          THE ADDRESS FOR ANY ONE OF THE B10K0130
*          OTHER TAPE CALLS FROM THE SECONDARY B10K0140
*          CALL ENTRY TABLE MAY BE SUBSTITUTED B10K0150
*          IN THE SINTRY TABLE BLOCK NOW B10K0160
*          HOLDING THE SRTPH CALL ENTRY B10K0170
*          ADDRESS. ALL LINKAGE REFERENCES B10K0180
*          MUST BE ADJUSTED ACCORDINGLY B10K0190
*                                          B10K0200
*          USING SBSAD,SBSRG              B10K0210
000DA2 96 02 F AAO 00C480 STPBKM OI SMNH,SHATF SET FOR WAIT CALL B10K0220
000DA6 92 00 F 90E STPBK HVI SHOV,0 SET BACKWARD B10K0230
*                                          B10K0240
*          BC 15,*+12 B10K0250
000DAA 47 F0 F 906 STPFWM OI SMNH,SHATF SET FOR WAIT CALL B10K0260
000DAE 96 02 F AAO STPFWM HVI SHOV,255 SET FORWARD MOTION B10K0270
000DB2 92 FF F 90E * SWITCH B10K0280
*          LA SLUBRG,STAP SET TAPE UNIT B10K0290
000DB6 41 60 F 034 * REFERENCE B10K0300
*          BC 15,SIOGO GO TO START I-O B10K0310
000DBA 47 FC F A7C SHOV DC ALI(0) TAPE FWD-BKWD B10K0320
000DBE 00 * MOTION SWITCH B10K0330
*          ONES - FWD B10K0340
*          ZEROS - BKWD B10K0350
*          B10K0360
*          SET UP FOR CHANNEL CONTROL COMMAND B10K0370
*          B10K0380
000DBF 00
000DC0 92 00 F 929 STCHD HVI STHX1+1,0 SET NO RETRY COUNT B10K0390
000DC4 41 20 0 000 LA SREGA,0 SET UP CHANNEL B10K0400
000DC8 41 30 0 001 LA SREGN,1 COMHAND PARAMETERS B10K0410
000DCC 41 11 0 004 LA SREGZ,4(SREGZ) ADJUST SREGZ FOR B10K0420
*          RETURN B10K0430
000DD0 47 F0 F A6A * BC 15,SSAVR1 B10K0440
*          PARAMETERS B10K0450
*          B10K0460
000DDA 41 FC F 000 STFSB LA SBSRG,SBSAD DUMMY L -- OVERL B10K0470
*          WITH LA SREGZ OF B10K0480
*          FWD SPACE TAPE B10K0490
*          RECORD ROUTINE B10K0500
000DD8 0000 STHX1 DC AL2(0) RETRY MAXIMUM B10K0510
*          ATTEMPT B10K0520

```

```

*          I-O CALL ENTRY GROUP          B10K1000
*          READ TAPE RECORD - WAIT       B10K1010
*                                          B10K1020
* NOTE -- REQUIRES PRESENCE OF TAPE ENTRY B10K1030
*          BASE ROUTINE                  B10K1040
*                                          B10K1050
* NOTE -- REQUIRES PRESENCE OF ADDRESS B10K1060
*          CONSTANT IN SINTRY TABLE     B10K1070
*                                          B10K1080
*                                          B10K1090
*                                          B10K1100
*          USING SBSAD,SBSRG              B10K1110
000DDA 0000DA SRTPH EQU * DEFINE CURRENT IC B10K1120
0004EC 00000DCA ORG SINTRY+40 DEFINE TABLE LOC B10K1130
0004E0 DC A(SRTPH) DEFINE ROUTINE ENTRY B10K1140
000DDA ORG SRTPH RESTORE CURRENT IC B10K1150
*          DRDP SBSRG B10K1160
000DDA 50 FC 0 014 USING *,SREGZ B10K1170
000DDE 47 F0 1 10E ST SBSRG,SHCLD RESERVE ENTRY BASE B10K1180
*          BC 15,SSAVR GO TO SAVE REGS, B10K1190
*          SET BASE REGISTER B10K1200
*          AND INITIALIZE B10K1210
*          CCR AND CAW B10K1220
*          B10K1230
000001 000480 DROP SREGZ B10K1240
000CE2 92 CA F 529 USING SBSAD,SBSRG B10K1250
*          HVI STHX1+1,10 SET READ RETRY B10K1260
*          COUNT B10K1270
000CE6 92 C2 F AC8 * HVI SCCW,SRD SET TO READ TAPE B10K1280
*          RECORD B10K1290
000CEA 47 FC F 8FE DC 15,STPFWM GO TO FWD MOTION- B10K1300
*          WAIT ENTRY B10K1310
*          B10K1320

```



```

*          I-O CALL ENTRY GROUP          B10K2000
*          WRITE TAPE RECORD - WAIT      B10K2010
*                                          B10K2020
*                                          B10K2030
*          NOTE -- REQUIRES PRESENCE OF TAPE ENTRY
*          BASE ROUTINE                  B10K2040
*                                          B10K2050
*          NOTE -- REQUIRES PRESENCE OF ADDRESS
*          CONSTANT IN SNTRY2 TABLE     B10K2060
*                                          B10K2070
*                                          B10K2080
*                                          B10K2090
*                                          B10K2100
*                                          B10K2110
*                                          B10K2120
*          000480 USING SBSAD,SBSRG      B10K2130
*          EQU *                          B10K2140
*          SWTPH CRG SNTRY2+28            B10K2150
*          DC A(SWTPH)                    B10K2160
*          CC00CF CRG SWTPH              B10K2170
*          CC00EE DRDP SBSRG            B10K2180
*          USING %,SREGZ                  B10K2190
*          ST SBSRG,SHOLD                 B10K2200
*          BC 15,SSAVR                    B10K2210
*                                          B10K2220
*                                          B10K2230
*                                          B10K2240
*                                          B10K2250
*          000001 DROP SREGZ             B10K2260
*          000480 USING SBSAD,SBSRG      B10K2270
*          HVI STHX1+1,0                  B10K2280
*                                          B10K2290
*          CC00F6 92 00 F 525            B10K2300
*          CC00FA 92 03 F 6AD             B10K2310
*          CC00FE 92 01 F ACB             B10K2320
*          CC00E2 47 00 F 8FE             B10K2330
*                                          B10K2340

```

```

*          I-O CALL ENTRY GROUP          B10K3000
*          REWIND TAPE                    B10K3010
*                                          B10K3020
*                                          B10K3030
*          NOTE -- REQUIRES PRESENCE OF TAPE ENTRY
*          BASE ROUTINE                  B10K3040
*                                          B10K3050
*          NOTE -- REQUIRES PRESENCE OF ADDRESS
*          CONSTANT IN SNTRY2 TABLE     B10K3060
*                                          B10K3070
*          000480 USING SBSAD,SBSRG      B10K3080
*          EQU *                          B10K3090
*          SRHD CRG SNTRY2+32            B10K3100
*          DC A(SRHD)                     B10K3110
*          CC000F CRG SRHD               B10K3120
*          CC00E6 DRDP SBSRG            B10K3130
*          USING %,SREGZ                  B10K3140
*          ST SBSRG,SHOLD                 B10K3150
*          BC 15,SSAVR                    B10K3160
*                                          B10K3170
*          000001 DROP SREGZ             B10K3180
*          000480 USING SBSAD,SBSRG      B10K3190
*          BC 15,STCHD                     B10K3200
*          CC00E0E 47 00 F 910           B10K3210
*          CC00E12 92 07 F ACB           B10K3220
*          CC00E16 96 04 F AAC           B10K3230
*          CC00E1A 47 00 F 8FE           B10K3240

```

27

```

*
*           I-O CALL ENTRY GROUP           B10K4000
*           WRITE TAPE MARK - WAIT         B10K4010
*                                           B10K4020
*                                           B10K4030
* NOTE --- REQUIRES PRESENCE OF TAPE ENTRY B10K4040
*           BASE ROUTINE                   B10K4050
*                                           B10K4060
* NOTE --- REQUIRES PRESENCE OF ADDRESS   B10K4070
*           CONSTANT IN SENTRY2 TABLE     B10K4080
*                                           B10K4090
*                                           B10K4100
*                                           B10K4110
000480      USING SBSAD,SBSRG              B10K4120
000E1E      EQU *                          B10K4130
000518      ORG SENTRY2+36                  B10K4140
000518      DC A(SHTHH)                     B10K4150
000E1E      ORG SHTHH                       B10K4160
*                                           B10K4170
*           C0000F                          B10K4180
000E1E      DROP SBSRG                      B10K4190
000E22      USING *,SREGZ                   B10K4200
*                                           B10K4210
*           ST SBSRG,SHCLD                   B10K4220
*           BC 15,SSAVR                       B10K4230
*                                           B10K4240
*           C00001                          B10K4250
000480      DROP SREGZ                       B10K4260
*                                           B10K4270
000E26      USING SBSAD,SBSRG              B10K4280
000E2A      BC 15,STCHD                     B10K4290
000E2E      HVI SCCH,STH                     B10K4300
*                                           B10K4310
*           BC 15,STPFHW                       B10K4320
*

```

```

*
*           I-O CALL ENTRY GROUP           B10K5000
*           TAPE BACKSPACE RECORD - WAIT   B10K5010
*                                           B10K5020
*                                           B10K5030
* NOTE --- REQUIRES PRESENCE OF TAPE ENTRY B10K5040
*           BASE ROUTINE                   B10K5050
*                                           B10K5060
* NOTE --- REQUIRES PRESENCE OF ADDRESS   B10K5070
*           CONSTANT IN SENTRY2 TABLE     B10K5080
*                                           B10K5090
*                                           B10K5100
*                                           B10K5110
000480      USING SBSAD,SBSRG              B10K5120
000E32      EQU *                          B10K5130
00051C      ORG SENTRY2+40                  B10K5140
00051C      DC A(SBSRW)                     B10K5150
000E32      ORG SBSRW                       B10K5160
*                                           B10K5170
*           C0000F                          B10K5180
000E32      DROP SBSRG                      B10K5190
000E36      USING *,SREGZ                   B10K5200
*                                           B10K5210
*           ST SBSRG,SHCLD                   B10K5220
*           BC 15,SSAVR                       B10K5230
*                                           B10K5240
*           C00001                          B10K5250
000480      DROP SREGZ                       B10K5260
*                                           B10K5270
000E3A      USING SBSAD,SBSRG              B10K5280
000E3E      BC 15,STCHD                     B10K5290
*                                           B10K5300
000E42      HVI SCCH,STBS                     B10K5310
*                                           B10K5320
*           BC 15,STPBKX                       B10K5330
*

```

I-O CALL ENTRY GROUP
TAPE BACKSPACE FILE

B10K6000
B10K6010
B10K6020
B10K6030
B10K6040
B10K6050
B10K6060
B10K6070
B10K6080
B10K6090
B10K6100
B10K6110
B10K6120
B10K6130
B10K6140
B10K6150
B10K6160
B10K6170
B10K6180
B10K6190
B10K6200
B10K6210
B10K6220
B10K6230
B10K6240
B10K6250
B10K6260
B10K6270
B10K6280
B10K6290
B10K6300
B10K6310
B10K6320

NOTE --- REQUIRES PRESENCE OF TAPE ENTRY
BASE ROUTINE

NOTE --- REQUIRES PRESENCE OF ADDRESS
CONSTANT IN SENTRY2 TABLE

000E46 0004B0
000520
00052C 00000E46
000E46

00000F
000E46

000E46 50 F0 0 014
000E4A 47 F0 1 0A2

SBSF USING SBSAD,SBSRG
EQU * DEFINE CURRENT IC
ORG SENTRY2+44 DEFINE TABLE LOC
DC A(SBSF) DEFINE ROUTINE ENTRY
ORG SBSF RESTORE CURRENT IC
DROP SBSRG
USING *,SREGZ
ST SBSRG,SHOLD RESERVE ENTRY BASE
BC 15,SSAVR GO TO SAVE REGS,
SET BASE REGISTER
AND INITIALIZE
CCW AND CAW

000E4E 47 F0 F 910
000E52 92 2F F AC3
000E56 47 F0 F 8F6

C00001
0004B0
DROP SREGZ
USING SBSAD,SBSRG
BC 15,STCHD GO TO SET
PARAMETERS
SET TO BACKSPACE
FILE
GO TO BKWD MOTION

I-O CALL ENTRY GROUP
FORWARD SPACE TAPE RECORD - WAIT

B10K7000
B10K7010
B10K7020
B10K7030
B10K7040
B10K7050
B10K7060
B10K7070
B10K7080
B10K7090
B10K7100
B10K7110
B10K7120
B10K7130
B10K7140
B10K7150
B10K7160
B10K7170
B10K7180
B10K7190
B10K7200
B10K7210
B10K7220
B10K7230
B10K7240
B10K7250
B10K7260
B10K7270
B10K7280
B10K7290
B10K7300
B10K7310
B10K7320
B10K7330
B10K7340
B10K7350

NOTE --- REQUIRES PRESENCE OF TAPE ENTRY
BASE ROUTINE

NOTE --- REQUIRES PRESENCE OF ADDRESS
CONSTANT IN SENTRY2 TABLE

000E5A 0004B0
0000D4
000DD4 41 10 F 9AA
000524
00052A C0000E5A
000E5A

00000F
000E5A

000E5A 50 F0 0 014
000E5E 47 F0 1 08E

SFSRb USING SBSAD,SBSRG
EQU * DEFINE CURRENT IC
ORG STFSB
LA SREGZ,SFSRW SET FOR FORWARD SP
ORG SENTRY2+48 DEFINE TABLE LOC
DC A(SFSRW) DEFINE ROUTINE ENTRY
ORG SFSRW RESTORE CURRENT IC

DROP SBSRG
USING *,SREGZ
ST SBSRG,SHOLD RESERVE ENTRY BASE
BC 15,SSAVR GO TO SAVE REGS,
SET BASE REGISTER
AND INITIALIZE
CCW AND CAW

000E62 47 F0 F 910
000E66 92 37 F AC8
000E6A 47 FC F 8FE

C00001
0004B0
DROP SREGZ
USING SBSAD,SBSRG
BC 15,STCHD GO TO SET
PARAMETERS
SET TO FORWARD
SPACE RECORD
GO TO FWD MOTION
WAIT ENTRY

I-O CALL ENTRY GROUP
FORWARD SPACE TAPE FILE

B10K8000
B10K8010
B10K8020
B10K8030
B10K8040
B10K8050
B10K8060
B10K8070
B10K8080
B10K8090
B10K8100
B10K8110
B10K8120
B10K8130
B10K8140
B10K8150
B10K8160
B10K8170
B10K8180
B10K8190
B10K8200
B10K8210
B10K8220
B10K8230
B10K8240
B10K8250
B10K8260
B10K8270
B10K8280
B10K8290
B10K8300
B10K8320

NOTE -- REQUIRES PRESENCE OF TAPE ENTRY
BASE ROUTINE

NOTE -- REQUIRES PRESENCE OF ADDRESS
CONSTANT IN SENTRY2 TABLE

CCCE6E
CC0528
CC0528 CC0CCE6E
CC0E6E

000E6E 5C FC 0 C14
GC0E72 47 FC 1 07A

CC000F
CC0E6E

CC0001
GC04B0

GC0E76 47 F0 F 910
GC0E7A 52 3F F AC8
GC0E7E 47 FC F 502

00C4B0 USING SBSAD,SBSRG
SFSF EQU * DEFINE CURRENT IC
ORG SENTRY2+52 DEFINE TABLE LOC
DC A(SFSF) DEFINE ROUTINE ENTRY
ORG SFSF RESTORE CURRENT IC
DRCP SBSRG
USING *,SREGZ
ST SBSRG,SHCLD RESERVE ENTRY BASE
BC 15,SSAVR GO TO SAVE REGS,
SET BASE REGISTER
AND INITIALIZE
CCW AND CAW

DRCP SREGZ
USING SBSAD,SBSRG

BC 15,STCMD GO TO SET
PARAMETERS
MVI SCCW,STFSF SET TO FWD SPACE
FILE
BC 15,STPFW GO TO FWD MOTION-

I-O CALL ENTRY GROUP
BACKWARD READ TAPE RECORD - WAIT

B10K9000
B10K9010
B10K9020
B10K9030
B10K9040
B10K9050
B10K9060
B10K9070
B10K9080
B10K9090
B10K9100
B10K9110
B10K9120
B10K9130
B10K9140
B10K9150
B10K9160
B10K9170
B10K9180
B10K9190
B10K9200
B10K9210
B10K9220
B10K9230
B10K9240
B10K9250
B10K9260
B10K9270
B10K9280
B10K9290
B10K9300
B10K9310

NOTE -- REQUIRES PRESENCE OF TAPE ENTRY
BASE ROUTINE

NOTE -- REQUIRES PRESENCE OF ADDRESS
CONSTANT IN SENTRY2 TABLE

CC0E82
GC052C
00052C CC0CCE82
GC0E82

000E82 5C FC 0 C14
GC0E84 47 FC 1 066

CC000F
CC0E82

CC0001
GC04B0

CC0E8A 92 0A F 929
CC0E8E 92 CC F AC8
GC0E92 47 FC F 8F2

00C4B0 SBRT^h USING SBSAD,SBSRG
EQU * DEFINE CURRENT IC
ORG SENTRY2+56 DEFINE TABLE LOC
DC A(SBRT^h) DEFINE ROUTINE ENTRY
CRG SBRT^h RESTORE CURRENT IC
DRCP SBSRG
USING *,SREGZ
ST SBSRG,SHCLD RESERVE ENTRY BASE
BC 15,SSAVR GO TO SAVE REGS,
SET BASE REGISTER
AND INITIALIZE
CCW AND CAW

DRCP SREGZ
USING SBSAD,SBSRG
MVI STMX1+1,10 SET READ RETRY CDU
MVI SCCW,SBRD SET TO READ TAPE
RECORD
BC 15,STPBK^h GO TO BKWD MOTION-
WAIT ENTRY

```

*
*           I-O CALL ENTRY GROUP
*           CCNTRL CR MODE SET ENTRY - WAIT
*
* NOTE -- REQUIRES PRESENCE OF I-O BASE
*          ROUTINE
*
* NOTE -- REQUIRES PRESENCE OF ADDRESS
*          CONSTANT IN SENTRY2 TABLE
*
* NOTE -- REQUIRES PRESENCE OF COMMAND OP
*          MODIFIER ROUTINE -- SMOOF -- TO
*          SPECIFY OPERATION OF CONTROL
*          COMMAND
*
* NOTE -- REQUIRES THAT SLUBRG CONTAIN CON-
*          TROL DEVICE UNIT BLOCK ADDRESS AT
*          TIME OF ENTRY TO THIS ROUTINE
*          OR
*          REQUIRES PRESENCE OF LOCATE SINTRY
*          TABLE UNIT BLOCK ROUTINE AND
*          CONTROL ENTRY LOCATE SINTRY TABLE
*          UNIT BLOCK EXIT ROUTINE
*
000480      USING SBSAD,SBSRG
000E96      SCTLh EQU *
000530      ORG SENTRY2+60
000530      DC A(SCTLh)
000E96      ORG SCTLh
00000F      DROP SBSRG
000E96      USING *,SREGZ
000E96      ST SBSRG,SHOLD
000E96      BC 15,SSAVR
*
*
*
000001      DROP SREGZ
000480      USING SBSAD,SBSRG
000E9E      MVI SWNH,SWATF
000E9E      BC 15,***
*
*
*
000E9E      SCTL1 BC 15,***
*
*
*
000E96      CLC SSVR+14(2),SZROS
000E96      BC 7,***
000E96      LA SREGN,1(SREGN)
*
*
*
000E96      LA SREGZ,30(SREGZ)
000E96      BC 15,SSAVR1
000E96      MVI SCCW,SCTLDP
000E96      BC 15,SIOGO
*
*
*

```

```

000E96 50 FG 0 014
000E9A 47 FC 1 052
000E9E 92 02 F AAO
000E9E 47 FO F 9F6
000E9E C5 01 F AF2 F B56
000E9E 47 70 F A04
000E9E 41 33 0 001
000E9E 41 11 0 01E
000E9E 47 FO F A6A
000E9E 92 03 F AC8
000E9E 47 FO F A7C

```

```

*
*           I-O CALL ENTRY GROUP
*           LOCATE SINTRY TABLE UNIT BLOCK
*
* NOTE -- REQUIRES PRESENCE OF I-O BASE
*          ROUTINE
*
* NOTE -- UNIT ADDRESS FOR THE NEW DEVICE
*          BLOCK WHICH IS TO BE LOCATED MUST
*          EXIST IN ENTRY TABLE AT TIME CALL
*          IS MADE AND IN THE SAME FORM GIVEN
*          IN CALL
*
* NOTE -- THIS ROUTINE OPERATES IN A MANNER
*          DIRECTLY OPPOSED TO THE MULTIPLE
*          UNIT ADDRESS ADJUSTING ROUTINE
*          -- SCHGU -- AND NO ONE CALL MAY
*          USE BOTH FUNCTIONS
*
* NOTE -- SREGR IS LINK REGISTER
*
*
*           LOCATE NEW DEVICE BLOCK FROM CALL SREGN
*
000E96      SNUDE CLC SSVR+12(2),SZROS
000E96      BCR 8,SREGH
*
*
*
000E96      LA SLUBRG,SUTAB
*
*
*
000E96      SNUDE LH SUREG,2(SLUBRG)
000E96      CH SUREG,SSVR+12
*
*
*
000E96      BCR 8,SREGH
000E96      LTR SUREG,SUREG
*
*
*
000E96      BC 4,SIOWA
*
*
*
000E96      LA SLUBRG,12(SLUBRG)
000E96      BC 15,SNUDE
*
*
*

```

```

000E96 C5 01 F AF0 F B56
000E96 C7 88
000E96 41 60 F 004
000E96 48 76 0 CC2
000E96 49 70 F AF0
000E96 07 88
000E96 12 77
000E96 47 40 F CCE
000E96 41 66 0 00C
000E96 47 FO F A20

```

```

BIOM0000
BIOM0010
BIOM0020
BIOM0030
BIOM0040
BIOM0050
BIOM0060
BIOM0070
BIOM0080
BIOM0090
BIOM0100
BIOM0110
BIOM0120
BIOM0130
BIOM0140
BIOM0150
BIOM0160
BIOM0170
BIOM0180
BIOM0190
BIOM0200
BIOM0210
BIOM0220
BIOM0230
BIOM0240
BIOM0250
BIOM0260
BIOM0270
BIOM0280
BIOM0290
BIOM0300
BIOM0310
BIOM0320
BIOM0330
BIOM0340
BIOM0350
BIOM0360
BIOM0370
BIOM0380
BIOM0390
BIOM0400
BIOM0410
BIOM0420
BIOM0430
BIOM0440
BIOM0450
BIOM0460
BIOM0470
BIOM0480
BIOM0490
BIOM0500
BIOM0510

```

```

BION0000
BION0010
BION0020
BION0030
BION0040
BION0050
BION0060
BION0070
BION0080
BION0090
BION0100
BION0110
BION0120
BION0130
BION0140
BION0150
BION0160
BION0170
BION0180
BION0190
BION0200
BION0210
BION0220
BION0230
BION0240
BION0250
BION0260
BION0270
BION0280
BION0290
BION0300
BION0310
BION0320
BION0330
BION0340
BION0350
BION0360
BION0370
BION0380
BION0390
BION0400
BION0410
BION0420
BION0430
BION0440
BION0450
BION0460
BION0470

```

```

*          I-O CALL ENTRY GROUP          BION1000
*          SENSE ENTRY LCCATE SINTRY TABLE BLOCK EXIT BION1010
*
*          BION1020
*          BION1030
*          BION1040
*          BION1050
*          BION1060
*          BION1070
*          BION1080
*          BION1090
*          BION1100
*          BION1110
*          BION1120
*          BION1130
*          BION1140
*          BION1150
*          BION1160
*          BION1170
*          BION1180
*          BION1190
*
*          USING SBSAD,SBSRG
*          SSNSX EQU *          DEFINE CURRENT IC
*          CRG SSNS1
*          BAL SREGM,SNUDE          SET UP EXIT
*          CRG SSNSX          RESTORE CURRENT IC
*
CCG480
CCGEEB          45 EC F A14
CCGCFE
CCGCFE
CCGCFE
CCGCFE

```

```

*          I-O CALL ENTRY GROUP          BION2000
*          CONTROL ENTRY LOCATE SINTRY TABLE BLOCK EXIT BION2010
*
*          BION2020
*          BION2030
*          BION2040
*          BION2050
*          BION2060
*          BION2070
*          BION2080
*          BION2090
*          BION2100
*          BION2110
*          BION2120
*          BION2130
*          BION2140
*          BION2150
*          BION2160
*          BION2170
*          BION2180
*
*          USING SBSAD,SBSRG
*          SCTLX ECU *          DEFINE CURRENT IC
*          CRG SCTL1
*          BAL SREGM,SNUDE          SET UP EXIT
*          CRG SCTLX          RESTORE CURRENT IC
*
CCO480
CCOEEB          45 80 F A14
CCOEA2
CCOEA2
CCOEA2
CCOEA2

```

```

I-O BASE ROUTINE - GROUP 2
I-C BASE ROUTINE
NOTE - THIS ROUTINE MUST FOLLOW ALL MODULES
      ADDED TO BASE ROUTINE GROUP 1 AND
      MUST PRECEDE CONSTANTS
SAVE ENTRY REGISTERS AND
INITIALIZE CCW AND CAW

COGEEB  G5 FC           000001  SSVAVR  DROP  SREGZ
COGEEA  5E FC F CFE    00CEEA   USING  *,SBSRG           SET TEMPORARY BASE
COGEEA  5E FC F CFE    00C4B0   L      SBSRG,SBADR      SET I-O BASE REGS
COGEEA  5E FC F CFE    00C4B0   LSING  SBSAD,SBSRG
COCEEE  8C GC F E5E      SSM    SION1           DISABLE I-O+EXTRN
COCEF2  5C 1C C Q3E      ST      SREGZ,56      RESERVE SREGZ
COCEF6  52 C1 F A80      MVI    SCHK1,1       ENABLE EXTRN INTRP
COCEFA  41 4C F ECA      TM      SWICH,64      CHK IF INTL SWT ON
COCEFE  47 1C F A6A      BC      1,SSAVR1     BRANCH IF YES
COGFC2  44 CC F CEC      EX      0,SCLR       CLEAR SENSE AREA
COGFC6  5C FE F ACC      STM     SRGF,SRGL,SSV4 NEW ENTRY -- SAVE
*                                           REGISTERS
COGFC6  C2 C3 F AEC 0 C14 *                                           SSV4(4),SHOLD  SAVE ENTRY BASE RG
COGFC6  56 4C F E0A     SSVAVR CI SWICH,64   SET INTAL FLAG ON
*                                           OVERL WITH BC TO
*                                           SCHGU IN MULTIPLE
*                                           UNIT ADDR ROUTINE
COGFC6  C2 C3 F B52 F B56 SSVAVR MVC STRCT(4),SZRDS  RESET RETRY COUNTS
COGFC6  5C 23 F AC8     SSVAVR1 STM SREGA,SREGN,SCCW INITIALIZE CCW
*                                           DATA LOC, BYTE
COGFC6  52 2C F ACC      MVI    SCCW+4,SILIF  COUNT AND SILI BIT
COGFC6  C2 03 0 C48 F A9C MVC      72(4),SCAW  INITIALIZE CAW FOR
*                                           2ND CCW
COGFC6  47 F1 C C08      BC      15,8(SREGZ)  RETURN TO CALL ENT
*                                           COMPLETE SET UP TO ISSUE SIO
COGFC6  5C 4E C C04     SIOGG  ST  SREG1,4(SLUBRG) SAVE U E RETURN
COGFC6  46 7E C C02     SIG01  LH  SUREG,2(SLUBRG) SET UP CURRENT I-O
*                                           UNIT ADDRESS
*                                           OVERL WITH BC TO
*                                           SCHGU1 IN ROUTINE
*                                           FOR MULTIPLE UNIT
*                                           SERVICE
COGFC6  54 FC 6 C00     SIG02  NI  C(SLUBRG),SWATFO CLEAR WAIT FLAG
COGFC6  C6 GC E C0C F AAO CC      0(1,SLUBRG),SWNH  SET CURRENT WAIT
COGFC6  52 CC F AAO     CC      SWNH,0         FLAG THEN RESET
COGFC6  58 1C C Q3E     L      SREGZ,56      RESERVE SREGZ
COGFC6  47 FC F 140     BC      15,SIGN      GO TO START I-O
COGFC6  0CCC
COGFC6  C0CCCF78      SCAH   CC  A(SCCW)
COGFC6  C0CC          SWNH   DC  AL2(0)           HOLD CURRENT WAIT-
*                                           NONWAIT FLAG

```

```

I-O BASE ROUTINE - GROUP 2
I-O BASE ROUTINE
NOTE -- THIS AREA OF CONSTANTS MUST FOLLOW
      REQUISITE BASE ROUTINES AND PRECEDE
      GROUP 2 MODULES
PSW PATTERNS -- ON DOUBLE WORD BOUNDARIES
COGFC6  FF           DS  OD           ALIGN TO DOUBLE WORD
COGFC6  FF           SWAYT DC  AL1(255)  ALL ENABLED
COGFC6  G6           DC  AL1(6)    WAIT -- MACH CHK ENB
COGFC6  C0CC        DC  AL2(0)
COGFC6  C0CC57E     DC  A(SIOWA)  RETURN TO ANALYZER
*
COGFC6  C1           SCHK1 CC  AL1(1)   CHNS DISABLED -
*                                           EXTERN ENABLED
COGFC6  Q2           DC  AL1(2)   WAIT - MACH CHK DISABLED
COGFC6  QGGC        DC  AL2(0)
COGFC6  FCC5FCC1    DC  C*OIOA*   CONDITION SOURCE
*                                           IDENTITY
COGFC6  FF           SRTRN DC  AL1(255)  ALL CHNS ENABLED
COGFC6  04           DC  AL1(4)   MACH CHK ENABLED
COGFC6  0000        DC  AL2(0)
COGFC6  C0CC0C0    DC  A(0)     RETURN ADDR AREA
*
* I-O OPERATICN CONTROL CONSTANTS
COGFC6  C0CC0C0C0C0C0C0C0C0 SHQDL DC  D*0*   AREA TO HOLD
COGFC6  C0CC0C0C0C0C0C0C0C0 SCCW  DC  D*0*   PARAMETERS FOR
*                                           CURRENT CALL
COGFC6  C0CC0C0C0C0C0C0C0C0 SRESR DC  D*0*   AREA TO HOLD CALL
COGFC6  C0CC0C0C0C0C0C0C0C0 CC      DC  D*0*   PARAMETERS FOR
*                                           RESERVE OPERATION
COGFC6  C0CC0C0C0C0C0C0C0C0 SSV4  DS  1F     SAVE AREA FOR REG 15
COGFC6  C0CC0C0C0C0C0C0C0C0 SSVR  DS  9F     SAVE AREA FOR REGS
COGFC6  C0CC0C0C0C0C0C0C0C0 SWADE  CC  AL2(0)  WAIT SWITCH
COGFC6  C0CC0C0C0C0C0C0C0C0 SWICH  CC  AL1(0)  RCUTINE CONTROL FLAGS
COGFC6  C0CC0C0C0C0C0C0C0C0 DC  AL1(0)
*
* CONSTANTS ON SINGLE WORD BOUNDARIES
COGFC6  C0CC0C0C0C0C0C0C0C0 SSVRB DS  11F    SAVE AREA FOR INTN CALL
COGFC6  C0CC0C0C0C0C0C0C0C0 SBADR DC  A(SBSAD)  I-O ROUTINE BASE ADDR
COGFC6  C0CC0C0C0C0C0C0C0C0 SBLNK DC  C'      1 WORD OF BLANKS FOR
*                                           SPACING
COGFC6  C0CC0C0C0C0C0C0C0C0 SUNAD  CC  F*0*   UNIT ADDRESS INSERT
COGFC6  C0CC0C0C0C0C0C0C0C0 SHQDS  DC  F*0*   CP MODIFIERS INSERT

```

		*	I-O BASE ROUTINE - GROUP 2	81051520		
		*	I-C BASE ROUTINE	81051530		
		*	CONSTANTS	81051540		
		*	- CONTINUED -	81051550		
		*		81051560		
		*		81051570		
		*		81051580		
		*	CONSTANTS ON HALF WORD BOUNDARIES	81051590		
		*		81051600		
000FF8		DS	OH	ALIGN TO HALF WORD	81051610	
000FF8	000C	SNSA	DC	AL2(0)	STORAGE AREA FOR	81051620
000FFA	0000000		DC	AL4(0)	6 SENSE BYTES	81051630
000FFE	000C	SNTCU	DC	AL2(0)	INTERNAL CALL SWITCH	81051640
001000	000C	SCNTR	DC	AL2(0)	SPACE CLEANER CNT	81051650
001002	000C	STRCT	DC	AL2(0)	RETRY COUNT	81051660
001004	000C	STRCTT	DC	AL2(0)	ELG RETRY COUNT	81051670
001006	00000000	SZRGS	DC	AL4(0)	ZEROS CHECK PATTERN	81051680
		*			81051690	
		*	RANDCM	LENGTH CONSTANTS	81051700	
		*			81051710	
00100A	00	SVSHC	DC	AL1(0)	AREA TO SAVE FLAGS	81051720
00100B	00	SIONI	DC	AL1(0)	DISABLE ALL CHNS --	81051730
		*			DISABLE EXTERNAL	81051740
00100C	FF	SIDALI	DC	AL1(255)	ENABLE ALL CHANNELS AND	81051750
		*			EXTERNAL	81051760
00100E		DS	OH		ALIGN TO HALF WORD	81051770
		*				81051780

		*	I-O BASE ROUTINE - GROUP 2	81053000	
		*	I-C BASE ROUTINE	81053010	
		*		81053020	
		*	REGISTER ASSIGNMENT	81053030	
		*		81053040	
00000F	SBSRG	EQU	15	I-O ROUTINE BASE REG	81053050
	*				81053060
000000	SREGR	EQU	0	I-O CALL LINK REG	81053070
000001	SREGZ	EQU	1	I-O CALL ENTRY REG	81053080
000002	SREGA	EQU	2	I-O CALL DATA LOC	81053090
000003	SREGN	EQU	3	I-O CALL DATA CT	81053100
000004	SREGL	EQU	4	I-O CALL U E RETURN	81053110
000005	SREGE	EQU	5	I-O CALL ERROR RETURN	81053120
000006	SLUBRG	EQU	6	LOC OF UNIT ADDRESS	81053130
000007	SUREG	EQU	7	CURRENT I-O UNIT ADDR	81053140
000008	SREGM	EQU	8	UTILITY WORK REGISTER	81053150
00000F	SRGF	EQU	15	FIRST REGISTER TO SAVE	81053160
000008	SRGL	EQU	8	LAST REGISTER TO SAVE	81053170
	*				81053180
	*				81053190
	*			EQUIVALENTS	81053200
	*				81053210
000002	SWATF	EQU	2	WAIT FLAG	81053220
00000C	SWATFO	EQU	253	MASK OUT WAIT FLAG	81053230
000001	SBSYF	EQU	1	BUSY FLAG	81053240
000004	SREWf	EQU	4	REWIND FLAG	81053250
0000FA	SBSYFO	EQU	250	MASK OUT BUSY-REWIND	81053260
000020	SILIF	EQU	32	SUPPRESS ILI FLAG	81053270
0000DF	SILIFO	EQU	223	MASK OUT SILI	81053280
00008C	SDCHF	EQU	128	DATA CHAIN FLAG	81053290
000014	SHOLD	EQU	20	STORAGE AREA ASSIGNED	81053300
	*			TO HOLD ENTRY BASE REG	81053310
000088	SKPCP	EQU	139	PRINTER SKIP-TO-1 OP	81053320
000004	SNSOP	EQU	4	SENSE COMMAND	81053330
000003	SCTLOP	EQU	3	CONTROL COMMAND	81053340
000005	SNRRT	EQU	9	WRITE AND SPACE OP	81053350
000002	SRD	EQU	2	READ COMMAND OP	81053360
000001	SPU	EQU	1	PUNCH COMMAND OP	81053370
000001	SWR	EQU	1	WRITE COMMAND OP	81053380
000007	STRW	EQU	7	REWIND COMMAND OP	81053390
00001F	STM	EQU	31	WRITE TAPE MARK CP	81053400
000027	STBS	EQU	39	BACKSPACE RECORD OP	81053410
000008	STRYR	EQU	8	DATA CHK	81053420
00004C	STINT	EQU	64	INTERVENTION REQUIRED	81053430
000010	STMCh	EQU	16	EQUIPMENT CHK	81053440
00002F	STBF	EQU	47	BACKSPACE FILE OP	81053450
000037	STFSR	EQU	55	FORWARD SPACE REC OP	81053460
00003F	STFSF	EQU	63	FORWARD SPACE FILE OP	81053470
00000C	SBRG	EQU	12	BACKWARD READ OP	81053480
000087	SERS	EQU	183	TAPE UNIT CHK ERRORS	81053490

I-O BASE ROUTINE - GROUP 2
 MULTIPLE UNIT ADDRESS-DEVICE ROUTINE

B105A000
 B105A010
 B105A020
 B105A030
 B105A040
 B105A050
 B105A060
 B105A070
 B105A080
 B105A090
 B105A100
 B105A110
 B105A120
 B105A130
 B105A140
 B105A150
 B105A160
 B105A170
 B105A180
 B105A190
 B105A200
 B105A210
 B105A220
 B105A230
 B105A240
 B105A250
 B105A260
 B105A270
 B105A280
 B105A290
 B105A300
 B105A310
 B105A320
 B105A330
 B105A340
 B105A350
 B105A360
 B105A370
 B105A380
 B105A390
 B105A400
 B105A410
 B105A420
 B105A430
 B105A440
 B105A450
 B105A460
 B105A470
 B105A480
 B105A490

ADJUST UNIT ADDRESS WITH CALL ENTRY DATA

NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE

NOTE -- THIS ROUTINE MUST BE INCLUDED FOR USE OF ANY CLASS OF DEVICE -- E.G., TAPE -- FOR WHICH THE UNIT ADDRESS MAY VARY FROM CALL TO CALL. THE NEW UNIT ADDRESS IS TO BE FOUND IN THE UPPER HALF OF REGISTER SREGN AND ANY SUCH HIGH ORDER BITS WILL BE INTERPRETED AS A REPLACEMENT UNIT ADDRESS. ZERO HIGH ORDER CAUSES RETENTION OF THE INCUMBENT DEVICE ADDRESS

NOTE -- AFTER THE SET UP OF A NEW UNIT ADDRESS, ANY INTERRUPT CAUSED BY ANY OTHER UNIT ADDRESS OF THE SAME CLASS IS DISREGARDED AS IRRELEVANT

000480

00100E		SCHGU	USING EQU	SBSAD,SBSRG		DEFINE CURRENT IC
000F1C			ORG	SSAVRX		
000F10	47 F0 F B5E		BC	15,SCHGU		SET UP ENTRY
00CF30			ORG	SIG01		
000F3C	47 FC F B6E		BC	15,SCHGU1		SET UP ENTRY
00100E			ORG	SCHGU		RESTORE CURRENT IC
00100E	50 3C F B40		ST	SREGN,SUNAD		SAVE UNIT ADDRESS
001012	54 30 F B84		N	SREGN,SCRN		CLEAR TO BYTE CT
001016	96 40 F B0A		DI	SWICH,64		SET INTERNAL FLAG
						-- REPLACED INST
00101A	47 F0 F A64		BC	15,SSAVRX+4		RETURN
00101E	48 80 F B40	SCHGU1	LH	SREGH,SUNAD		L ENTRY UNIT ADDR
001022	12 08		LTR	SREGH,SREGH		CHK IF IS ANY
001024	47 80 F B7C		BC	8,**8		BRANCH IF NONE
001028	40 06 0 002		STH	SREGH,2(SLUBRG)		SAVE NEW UNIT ADDR
00102C	48 76 0 002		LH	SUREG,2(SLUBRG)		SET UP CURRENT I-O
						-- REPLACED INST
001030	47 F0 F AB4		BC	15,SIGC1+4		RETURN
001034	000CFFFF	SCRN	DC	A(65535)		MASK FOR DATA BYTE COUNT

I-O BASE ROUTINE - GROUP 2
 COMMAND OPERATION MODIFIERS ROUTINE

B105B000
 B105B010
 B105B020
 B105B030
 B105B040
 B105B050
 B105B060
 B105B070
 B105B080
 B105B090
 B105B100
 B105B110
 B105B120
 B105B130
 B105B140
 B105B150
 B105B160
 B105B170
 B105B180
 B105B190
 B105B200
 B105B210
 B105B220
 B105B230
 B105B240
 B105B250
 B105B260
 B105B270
 B105B280
 B105B290
 B105B300
 B105B310
 B105B320
 B105B330
 B105B340
 B105B350
 B105B360
 B105B370
 B105B380
 B105B390
 B105B400
 B105B410
 B105B420
 B105B430
 B105B440
 B105B450
 B105B460
 B105B470
 B105B480
 B105B490
 B105B500

NOTE -- REQUIRES PRESENCE OF I-O BASE ROUTINE

NOTE -- THIS ROUTINE MUST BE INCLUDED FOR USE OF ANY COMMAND OP MODIFIERS. MODIFIER BIT PATTERN IS SUPPLIED BY THE USER IN THE HIGH ORDER BYTE OF REGISTER SREGA. ANY SUCH HIGH ORDER BITS WILL BE INSERTED IN THE CCW FOR THE CURRENT CALL

NOTE -- NO CHECK IS MADE FOR THE VALIDITY OR APPLICABILITY OF ANY SUCH MODIFIER BITS FOUND IN SREGA. ANY FUTURE ACTION OR CORRECTIVE MEASURE FOR CONDITIONS PRODUCED BY THESE USER SUPPLIED MODIFIERS MAY NOT EXIST IN THIS I-O PACKAGE

NOTE -- THIS ROUTINE MUST NOT PRECEDE THE SIOGO ROUTINE IN SYMBOLIC FORM

SET UP COMMAND OP MODIFIERS WITH CALL ENTRY DATA

000480

001030		SHODF	USING EQU	SBSAD,SBSRG		DEFINE CURRENT IC
000F14			ORG	SSAVRY		
000F14	47 F0 F B88		BC	15,SHODF		SET UP ENTRY
000F34			ORG	SIG02		
00CF34	47 FC F B9E		BC	15,SHODF1		SET UP ENTRY
001036			DRG	SHODF		
001038	50 2C F B44		ST	SREGA,SHODS		SAVE MODIFIERS
00103C	50 F8 F B44		NI	SHODS,248		EXCLUDE CP CODE
001040	54 2C F BAC		N	SREGA,SCRN1		MASK OUT MODIFIERS
001044	02 03 F B52 F B56		MVC	STRCT(4),S2ROS		RESET RETRY COUNTS
						-- REPLACED INST
001044	47 FC F A6A		BC	15,SSAVRY+6		RETURN
00104E	06 0C F AC8 F 044	SHODF1	OC	SCCw(1),SMCDS		SET MODIFIERS IN CCW OP
001054	94 FC 6 C00		NI	0(SLUBRG),SWATFO		CLEAR WAIT-NON-WAIT FLAG
						-- REPLACED INST
001058	47 F0 F A80		BC	15,SIG02+4		RETURN
00105C	00FFFFFF	SCRN1	DC	F*16777215*		MASK FOR DATA ADDR

I-C BASE ROUTINE - GROUP 2
I-C BASE ROUTINE

INITIAL NEW PSW SET UP ROUTINE

NOTE -- THIS ROUTINE IS ACTIVATED THROUGH THE FIRST ENTRANCE TO THE I-D BASE ROUTINE. IT IS LOCATED IN TEMPORARY STORAGE SPACE IN THE CONSTANT AREA AND CAN BE DESTROYED AT THE CONCLUSION OF ITS FUNCTION

NOTE -- THIS ROUTINE REQUIRES NO STORAGE SPACE SINCE IT IS WHOLLY CONTAINED IN SPACE SUBSEQUENTLY EMPLOYED

	CCCCC1		CRCP	SREGZ					B105P000
	CCG480		USING	SBSAD,SBSRG					B105P010
CC1C6C		SCRG	EGU	*		DEFINE CURRENT IC			B105P020
CCCF1A			CRG	SSAVR1					B105P030
CCCF1A	47 FC F BCC		BC	15,SPSH		SET UP ENTRY			B105P040
									B105P050
									B105P060
									B105P070
									B105P080
									B105P090
									B105P100
									B105P110
									B105P120
									B105P130
									B105P140
									B105P150
									B105P160
									B105P170
									B105P180
									B105P190
									B105P200
									B105P210
									B105P220
									B105P230
									B105P240
CCCF7C			CRG	SMGDL					B105P250
CCCF7C	CC		CC	AL1(0)		EXTERNAL			B105P260
CCCF71	CC		CC	AL1(0)		INTERRUPT			B105P270
CCCF72	CCOC		DC	AL2(0)		NEW			B105P280
CCCF74	CCCC5C8		DC	A(SXTRN)		PSW			B105P290
CCCF78	CC		DC	AL1(0)		I-D			B105P300
CCCF75	CC		DC	AL1(0)		INTERRUPT			B105P310
CCCF7A	CCOC		DC	AL2(0)		NEW			B105P320
CCCF7C	CCCC534		CC	A(SNTPIN)		PSW			B105P330
CCCFEC	90 23 F AC6		STM	SREGA,SREGN,SCCW		INITIALIZE CCW			B105P340
CCCF84	65 C1 F BCE F B56		CLC	SWADE(2),SZRCS		CHK IF WAIT SWT ON			B105P350
									B105P360
									B105P370
									B105P380
									B105P390
CCGF8C			CRG	SSVRB					B105P400
CCGF8C	C2 C7 C C58 F ACO	SPSH	MVC	88(8),SPSHK		SET EXTRNL NEW PSW			B105P410
CCGF82	C2 C7 C C78 F AC8		MVC	120(8),SPSHK+8		SET I-D NEW PSW			B105P420
CCGF8E	44 CC F CEC		EX	0,SIDW+4		SET MACH CHK NEW			B105P430
						PSW IF MACH CHK			B105P440
						ROUTINE OVERLOAD			B105P450
						IS PRESENT			B105P460
CCGFCC	C2 C3 F A6A F ACO		MVC	SSAVR1(4),SPSHK+16		REPLACE ENTRY			B105P470
CCGF82	D2 D5 F CEC F AD4		MVC	SIOW+4(6),SPSHK+20		REPLACE MACH			B105P480
						CHK PSW SET UP			B105P490
CCGF8B	C2 C1 F AC6 F B56		MVC	SRESR+6(2),SZRDS		CLEAR RESERVE SWT			B105P500
CCGF8E	47 FC F A6A		BC	15,SSAVR1		RETURN TO SAVE ROU			B105P510
CC1C6C			CRG	SORG		RESTORE CURRENT IC			B105P520

ROUTINE

CC1C6C		SIDNC	EQU	*		END OF PROGRAM			B105P520
									B105P530
									B105P540
									B105P550
CCCCOC			END						B105P560