

Displaywriter System

Maintenance Analysis Procedures

Revised May, 1982 S241-6250-5

IBM 6360 Diskette Unit IBM 6580 Display Station Communications

SAFETY PRECAUTIONS

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©Copyright International Business Machines Corporation 1980, 1981 1982 All IBM Customer Engineers are expected to take every safety precaution possible and observe the following safety practices when servicing IBM equipment.

Mechanical Safety:

- 1. Safety glasses must be worn.
- 2. All safety devices, such as guards, shields, signs, ground wires, etc., must be restored after maintenance. When a guard or shield is removed to observe or make an adjustment, that shield must be replaced when work in the area is completed.
- 3. Watches, rings, necklaces, ID bracelets, etc., must be removed when servicing the machine.
- 4. Care must be used when working near moving parts. Keep hair away from moving parts. Avoid wearing loose clothing that might be caught in the machine. Shirt sleeves must be kept buttoned or rolled above the elbows. Ties must be tucked in the shirt or have a tie clasp approximately three inches from the end. Tie chains are not recommended.

Electrical Safety:

- 1. The equipment referenced in this manual may use high voltages. Check voltage labels!
- 2. Safety glasses must be worn when checking energized circuits.
- 3. If a circuit is disconnected for servicing or parts replacement, it must be reconnected and tested before allowing the use of the machine.
- Power should be removed from the machine for servicing whenever possible. Remember, when checking voltages, avoid contacting ground potential, such as metal floor strips, machine frame, etc.
- 5. Meter continuity checks should be used instead of voltage checks whenever possible.
- 6. Do not apply power to any part, component, or subassembly when it is not physically mounted in the machine, or its approved service position.

General Safety:

- 1. Each Customer Engineer is responsible to be certain no action on his/her part makes the product unsafe or exposes customer personnel to hazards.
- 2. Store the removed machine covers in a safe, out of the way place where no one can trip over them.
- 3. If you must leave the machine in a down condition, always install the covers and disconnect the power before leaving the customer's office.
- 4. Always place CE tool kit away from walk areas where no one can trip over it.
- 5. Maintain safe conditions in the area of the machine while performing and after completing maintenance.
- 6. Before starting the equipment, make sure fellow CEs and customer personnel are not in a hazardous position.
- 7. All the machine covers must be in place before the machine is returned to the customer.

Note: Refer to the Safety CEMs relating to this product(s) for further safety precautions.

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MAP REFERENCE TABLE

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+		+ . ·	+	 TITLE
0001	TABLE OF CONTENTS		7010	COMMUNICATIONS
0002	INTRODUCTION		7020	INTERNAL EIA CABLE
0009	START-OF-CALL MAP		7030	INTERNAL COMMUNICATIONS CABLE
0010	SYSTEM ENTRY MAP	i i i i i i i i i i i i i i i i i i i	7060	PORT 4 NO VOLTAGE
0015	ERROR LED STATUS MAP		7061	P4A/P4B NO VOLTAGE
0017	LED STATUS MAP	1	7062	FEATURE CARD POWER
0019	ERROR CODE (03,06,08,09) MAP		8020	RNA START MAP
1010	KEYBOARD ENTRY MAP		8021	READ ID ERROR MAP
1011	SPEAKER CHECK MAP		8022	DISKETTE DRIVE NOT READY MAP
1012	DISTRIBUTION CABLE MAP		8025	UNSAFE WRITE CONDITION MAP
1013	KEYLOCK ON FAILURE		8026	NO INDEX PULSES MAP
1014	KEYLOCK OFF FAILURE		8028	SEEK ERROR MAP
4011	CABLE DETECTION REPAIR- CONN. O		8030	NOT WRITING/WRITE ERRORS MAP
4012	RECEIVE CIRCUIT REPAIR- CONN. O	1	8032	H/S WRAP AND/OR CABLE WRAP ERRORS
4013	TRANSMIT CIRCUIT REPAIR- CONN. 0	1	8060	DISKETTE UNIT +5 VDC POWER MAP
4211	SHARING INTERRUPT REPAIR		8061	DISKETTE UNIT +24 VDC POWER MAP
4212	SHARING INTERRUPT REPAIR	1	8062	DISKETTE UNIT -5 VDC POWER MAP
4213	CABLE DETECTION REPAIR- CONN. 6A	1	8064	DISKETTE UNIT A/C POWER FAILURE
4214	RECEIVE CIRCUIT REPAIR- CONN. 6A		8065	DC SHORT FAILURE MAP
4215	TRANSMIT CIRCUIT REPAIR- CONN. 6A		9010	BLANK DISPLAY MAP
4216	CABLE DETECTION REPAIR- CONN. 6B	•	9020	DISPLAY ADAPTER MAP
4217	RECEIVE CIRCUIT REPAIR- CONN. 6B		9030	NO VIDEO DATA MAP
4218	TRANSMIT CIRCUIT REPAIR- CONN. 6B		9040	DISTORTED DISPLAY IMAGE MAP
5011	CABLE DETECTION REPAIR- CONN. O	1	9050	NO CONTRAST ADJUSTMENT MAP
5012	RECEIVE CIRCUIT REPAIR- CONN. O	ł	9109	LARGE DISPLAY INDICATOR MAP
5013	TRANSMIT CIRCUIT REPAIR-CONN. O		9110	LARGE DISPLAY ENTRY MAP
5030	FREQUENCY DRIFT ON PRINTER COMMO.		9112	LARGE DISPLAY DISTORTED SHAPE MAP
6010	POWER SUPPLY MAP		9115	LARGE DISPLAY IMAGE QUALITY MAP

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MAP REFERENCE TABLE

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MAP NO.	TITLE
9165	LARGE DISPLAY AC POWER MAP APPENDIX A - DISPLAY IMAGE FIGURES APPENDIX B - DISPLAY IMAGE FIGURES APPENDIX C - CUSTOMER PRINT APPENDIX D - GLOSSARY

MAP 0001-2

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INTRODUCTION

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M A P S (MAINTENANCE ANALYSIS PROCEDURES)

- 1. THESE MAPS ARE USED FOR TWO REASONS.
 - a. They aid in diagnosing System failures.
 - b. They aid in learning Diagnostic Procedures.
- 2. STEPS FOR USING MAPS.
 - a. You should have received a Service Request Number when notified of the Call. The Service Request Number is used to determine which FRU to bring.
 - Make a quick visual check for problems (loose or broken parts, loose connectors, etc.) A visual check may be quicker than a MAP diagnosis.
 - c. You should begin in the Start-of-Call MAP. The Start-of-Call MAP will send you to an area MAP, determined by your Service Request Number or to the System Entry MAP if you do not have a Service Request Number.
 - d. These MAPs aid in finding problems. An instruction or question can be read wrong. If the problem is not solved, you should start again in the MAPs and read each step very carefully. If you go through the MAPs a second time and you still have not solved the problem, it may be because the machine has two problems or an intermittent problem. The EC levels of the MAPs may not be correct. Verify the EC Level of the MAPs. If this does not solve the problem and you cannot repair it, follow your normal escalation procedure.

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e. ESCALATION PROCEDURE

When it is necessary to follow your normal escalation procedure, you should be prepared in the following way:

- 1) The type of jobs or functions that fail should be listed.
- 2) You should know the sequence leading to the failure.
- 3) You should have the History Card available with all options, EC levels and CEMs listed.
- 3. BASIC MAP INFORMATION:
 - a. A MAP aids you in finding a problem by using questions concerning the System symptoms. Each question is written so it can be answered YES or NO. When you answer "YES" or "NO" to a question, the MAP will lead you to a fix, a question, or another MAP.
 - b. At the start of each MAP, an Entry and Exit Table specifies the locations in the MAPs of any Entry or Exit Points.

DIAGNOSTIC PROCEDURES

INTRODUCTION: VOLTAGE, GROUND AND CONTINUITY READINGS

The following text describes some SAFETY Procedures. It has information on voltage, ground and continuity readings. Unless you understand these MAPs, read the information below before you go to the Start-of-Call MAP.

INTRODUCTION

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CAUTION

ALWAYS POWER-OFF WHEN CHECKING THE PRIMARY POWER FUSE, DISCONNECTING OR CONNECTING ANY ELECTRICAL PART, UNLESS OTHERWISE DIRECTED. IT IS A GOOD IDEA TO REMOVE POWER WHEN CHECKING ANY FUSE.

- 4. VOLTAGE READINGS
 - a. Every time a voltage reading is requested in these MAPs, the readings are to be taken with the CE Meter (PN 9900628). If a different meter is used in a World Trade Country, that Country must check the readings with their meter and make a conversion table if necessary. All AC voltages must be accurate to plus or minus 10% (WT: plus 8%, minus 12%).
 - b. All DC voltages must be accurate to plus or minus 10%. Unless stated otherwise, all connectors should be connected normally when a voltage reading is taken.
 - c. The AC line voltage on U.S. machines should be between 104 (ac) volts and 127 (ac) volts. On GEG/I machines, the voltage will differ by Country.
- 5. GROUND CHECKS
 - a. To check a ground point, measure between the ground point and a known voltage source. The reading must equal the voltage on that source if the ground is good. Continuity readings may be used to check grounds, but measure to a known ground point. Use the lowest ohm scale and check for less than two (2.0) ohms.

CAUTION

ALWAYS REMOVE POWER BEFORE TAKING A CONTINUITY READING.

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INTRODUCTION

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6. CONTINUITY READINGS

a. When taking continuity readings, back circuits can affect the reading. If necessary, disconnect connectors. An open circuit will read over range (A one with no decimal point or zeros). A circuit with good continuity will read less than two (2.0) ohms.

CARD/CABLE REPLACEMENT PROCEDURES

7. VOLTAGE READINGS

- a. Voltage readings should be made at the suspected failing Electronics Card, if the normal map procedures were not successful. The voltage readings must be within the limits, as stated in the Product Support Manual.
- 8. CARD/CABLE RESEATING
 - a. Reseat the suspected failing Electronics Card before replacing it.
 - b. Reseat the suspected failing cable before replacing it.

BCD START-OF-CALL MAP MAP 0009 PAGE 1 OF 7 ENTRY POINTS EXIT POINTS 1 _____ I ENTER THIS MAP EXIT THIS MAP FROM то ----+-_____ | ENTRY PAGE STEP PAGE MAP STEP MAP ENTRY NUMBER NUMBER | NUMBER POINT NUMBER | POINT NUMBER NUMBER ------No entries in this table 0010 1 004 | А 2 012 j 0010 А 1 7 020 j 0010 А 005 001 7 024 j 0010 А (ENTRY POINT A) Do you have a Service Request Number? YN SERVICE NOTE : Reinsert the suspected failing Electronic 002 Card or Cable, prior to installing a new part. Do you suspect any specific area of failing? ΥN 1 003 006 Is the Operator available? IYN 1 1 1 YN 1 1 3 3 2 ABCD EF

004 You are now directed to go to the System Entry MAP. GO TO MAP 0010, ENTRY POINT A. Instruct the Operator to use the Problem Determination Package (Problem Determination Guide and Problem Determination Diskette) to generate а Service Request Number. Locate the Service Request Number in the Service Request Number Table and go to the MAP indicated or execute the MDI indicated. Is the problem easy to identify? (loose keytops, knobs, covers, cables, etc.)

MAP 0009-1

MAP 0009-1

START-OF-CALL MAP	K L	H J MAP 0009-2
MAP 0009		
PAGE 2 OF 7		
007	(Step 012 continued) MAP.	015
Do you suspect a Paper Handling problem? 7 N 008	 GO TO MAP 0010, ENTRY POINT A. 013	Make sure the Mag Card Cable is attached. POWER-ON the System.
Do you suspect the Printer? Y N 009	Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.	POWER-ON the Mag Card. Load the DISPLAYWRITER SYSTEM MAG CARD UNIT DIAGNOSTICS.
 Do you suspect the Mag Card? Y N 010	Select Shared Resource ID "f" or "g".	Select MDIs. Select Mag Card ID "i". Run Mag Card Tests.
Do you suspect a Do you suspect a	014	016
Y N 011	Make sure all the cables from the Media Module are attached.	Make sure the Printer Cable is attached.
 Do you suspect a Shared Resource problem? Y N	POWER-ON the System. Load the DISPLAYWRITER SYSTEM COMMUNICATIONS DIAGNOSTICS.	POWER-ON the System. POWER-ON the Printer.
012	Select the Communications ID "i".	Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.
You are now directed to go to the System Entry (Step Ol2 continues)	Run Communications Tests.	Select MDIs. (Step 016 continues)
3 3 3 H J K L		MAP 0009-2

A E G 1 1 2

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START-OF-CALL MAP

MAP 0009

!	1			PAGE	:	30	F	7		
		 (S	Step Sele	016 ect P	con rin	tin ter	ued ID) "e"	•	
ļ			Run	Prin	ter	Те	sts	•		
ļ		1 017								
		Lo SY	ad STEN	th 1 DIA	e GNO:	DI STI	SPL CS.	AYWR	ΓT	ER
		Se	lect	MDI	s.					
		Se "h	elect n".	t Pa	per	н	and	ling		ID
ļ		Ru	ın Pa	aper	Hano	lli	ng	Test	s.	
	018	3								
	J	Repa	ir essai	or ry.	Rep.	Lac	e	part	3	as
	GO to	TO Vei	MAP ify	0010 Syst	, El em (NTR Ope	Y P rat	OINT ion.		A,
I Se Re Nu	19 erv: eque	ice est	S	ystem or De	Are vice	ea e		MAP o: MDI	N r I	lo. D
	0000 0000 0000 0000	01 01 01 01 0 01	Mer Ke Mao 9 co	nory yboar g Car ontin	d II d ues) 		c NOTI i	Ξ	*

(Step 0)	19 continued)	
Service	Svstem Area	MAP No
Request	or Device	or
Number		MDI ID
000001	Communications	j
000001	Printer	е
000001	Shared Printer	g
	(Secondary)	
000001	Shared Printer	Ť,
	(Primary)	
000001	Sheet Feed	h
000001	Tractor Feed	h
000002	Call operator	N/A
	for specific	
	information.	
000800	LED A,B or C "ON"	6010
000800	LED D, E, F, G or H "ON"	0015
000801	Post-CRT Code	1010
000801	Post-CRT Code	1010
000801	Post-CRT Code "03"	0019
000801	Post-CRT Code "04"	8032
000801	Post-CRT Code "05"	8032
000801	Post-CRT Code "06"	0019

(Step 019 continues)

(Step 019 continues)

(Step 0 Service Request Number	19 continued) System Area or Device	MAP No. or MDI ID
000801	Post-CRT Code	0019
000801	"08" Post-CRT Code "09"	0019
000900 000900 000900 000900 000900 000900 000900 000900 000900 021000 021001 021002 050002 050102	*900* FFF0 *900* FFF1 *900* FFF2 *900* FFF3 *900* FFF4 *900* FFF4 *900* FFF5 *900* FFF5 *900* Other *903* *90B* Memory Memory Printer Link Printer Printer	0010 0010 0010 0010 0010 0010 0010 001
052002	Printwheel	e
052007 052008	Printer Printwheel Printer Printwheel Printer	e

START-OF-CALL MAP

MAP 0009

PAGE 7 4 OF

(Step Servic Reques Number	019 continued) e System Area t or Device	MAP No. or MDI ID	(Step 0 Service Request Number	19 continued) System Area or Device 	MAP No. or MDI ID	(Step 01 Service Request Number	9 continued) System Area or Device
052010	Printwheel	e e	130005	Mag Card	+ i	180025	Diskette
	Printer	Ì	130006	Mag Card	i i	181015	Diskette
052011	Printwheel	e	131001	Mag Card	i	190001	Display
	Printer		131002	Mag Card	i	190002	Display
052012	Printwheel	e	131021	Mag Card	i	190004	Display
	Printer		131022	Mag Card	i	190005	Display
052013	Printwheel	j e	131023	Mag Card	i i	191001	Display
	Printer	i i i	140002	Printer	g	191002	Display
052014	Printwheel	e		Sharing	i	191003	Display
	Printer		140004	Printer	l g	191005	Display
052015	Printwheel	e e		Sharing	-	210007	Keyboard
	Printer		142001	Printer	f .	210010	Keyboard
052025	Printer	e		Sharing		220008	Memory
052026	Printer	e '	150001	Printer Link	e	220009	Memory
090000	Display	0010	150004	Printer Link	e	220010	Memory
091004	Display	0010	151017	5215 Printer	e	231004	Mag Card
110001	Keyboard	NOTE *	151018	5215 Printer	е	231006	Mag Card
110004	Keyboard	NOTE *	151024	5215 Printer	e	240001	See SR# 5400
110013	Keyboard	NOTE *	152016	Printer	e e	251008	5215 Printer
110014	Keyboard	NOTE *	152021	Printer	е	251019	5215 Printer
120001	System	0010	153006	Printer	e	251021	5215 Printer
120004	Memory	c	160001	Power Supply	0010	252001	Printwheel
120005	Memory	c	170701	Communications	j j		Printer
120006	Memory	C	170721	Communications	j	252017	Printer
120007	Memory	c c	170722	Communications	j	252019	Printer
120011	System	C	170723	Communications	j	252020	Printer
120012	System	c	180001	Diskette	d	252022	Printer
130001	Mag Card	i	180015	Diskette	d	252024	Printer
(Step	019 continues)		(Step 0)	19 continues)		(Step 01	9 continues)

MAP 0009-4

MAP No.

or

MDI ID ----

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NOTE *

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0010

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See SR# 540001

MAP 0009

PAGE 5 OF 7

(Step 019	continued)	
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(Step 03 Service Request Number	l9 continued) System Area or Device 	MAP No. or MDI ID	(Step O Service Request Number	19 continued) System Area or Device 	MAP No. or MDI ID	(Step 01 Service Request Number	9 continued) System Area or Device
253005	t l Printer	+	321034	+	-+	352003 1	Printwheel
253007	Printer		321035	Memory		332003	Printer
254002	Printer	e	331003	Mag Card	i	352004	Printwheel
254003	Printer	e	331007	Mag Card	i i	002001	Printer
270701	Communications	i	331011	Mag Card	- -	352005	Printwheel
270702	Communications	i i	331016	Mag Card	- -	002000	Printer
270743	Communications	i i	332101	Mag Card	i	352018	Printer
270764	Communications	i	332103	Mag Card	ĩ	352023	Printer
270775	Communications	i	332202	Mag Card	i • i	354001	Tractor Feed
270786	Communications	i i	332203	Mag Card	i	370753	Communications
270807	Communications	i	332301	Mag Card	ii	380004	Diskette
280005	Diskette	i a	332302	Mag Card	i i	380006	Diskette
281037	Diskette	d	332303	Mag Card	i i	380007	Diskette
290003	Display	0010	332401	Mag Card	i	380026	Diskette
310008	Keyboard	NOTE *	332402	Mag Card	i	380033 j	Diskette
310009	Keyboard	NOTE *	332403	Mag Card	i	380037	Diskette
310012	Keyboard	NOTE *	332503	Mag Card	i	381004	Diskette
310015	Keyboard	NOTE *	332603	Mag Card	i	381006	Diskette
321011	Memory	c	332703	Mag Card	i	381026	Diskette
321012	Memory	C	332803	Mag Card	i	381027	Diskette
321021	Memory	c	332903	Mag Card	i	381028	Diskette
321022	Memory	C	342002	Printer	f	381031	Diskette
321023	Memory	C		Sharing		381033	Diskette
321024	Memory	c	342003	Printer	f	430002	Mag Card
321025	Memory	с		Sharing		430007	Mag Card
321031	Memory	l c	342004	Printer	f	431005	Mag Card
321032	Memory	C		Sharing		431012	Mag Card
321033	Memory	c				431013	Mag Card
(Step 0	19 continues)		(Step 0	19 continues)		(Step 01	9 continues)

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MAP No.

or MDI ID -----

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MAP 0009-5

START-OF-CALL MAP

MAP 0009

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(Step 0)	19 continued)		(Step 0]	l9 continued)	
Service	System Area	MAP No.	Service	System Area	MAP No.
Request	or Device	or	Request	or Device	or
Number		MDI ID	Number		MDI ID
431014	Mag Card	i i	540001	Printer	q
431018	Mag Card	i		Sharing	
431020	Mag Card	i	540003	Printer	g
432001	Mag Card	i		Sharing	-
432002	Mag Card	i	553001	Sheet Feed	е
432004	Mag Card	i		Paper Handler	
432501	Mag Card	i	553002	Sheet Feed	е
432601	Mag Card	i		Paper Handler	
432701	Mag Card	i	580010	Diskette	d
432801	Mag Card	i	581010	Diskette	d
432901	Mag Card	i	581011	Diskette	d
453003	Sheet Feed	e	630004	Mag Card	i
	Paper Handler		632201	Mag Card	i
453004	Sheet Feed	е	652009	Printwheel	е
	Paper Handler			Printer	
480008	Diskette	d .	680011	Diskette	d
480009	Diskette	d	680017	Diskette	8020
480016	Diskette	d	681017	Diskette	8020
480024	Diskette	d	730003	Mag Card	i
480034	Diskette	d	731015	Mag Card	i
481008	Diskette	d	731017	Mag Card	i
481009	Diskette	d	731019	Mag Card	i
481016	Diskette	d	732300	Mag Card	i
481034	Diskette	d	732400	Mag Card	i
531008	Mag Card	i	752006	Printwheel	e
531010	Mag Card	i		Printer	
532003	Mag Card	i	777777	Communications	l j
532102	Mag Card	i	780018	Diskette	8020
(Step 01	19 continues)		(Step 0	19 continues)	

(Step 01	L9 continued)	
Service	System Area	MAP No.
Request	or Device	or
Number		MDI ID
		+
780035	Diskette	8020
781018	Diskette	8020
781035	Diskette	8020
832200	Mag Card	i
880013	Diskette	8020
880036	Diskette	8020
881013	Diskette	8020
881036	Diskette	8020
888888	Customer made	
	PDG error	
900004	Multiple Fault	0010
931009	Mag Card	i i
932100	Mag Card	i
932500	Mag Card	i
932600	Mag Card	i
932700	Mag Card	l i
932800	Mag Card	i
932900	Mag Card	i
951001	5215 Printer	e e
951020	5215 Printer	e
951022	5215 Printer	e
951023	5215 Printer	e
953008	Printer	e
980014	Diskette	d
980019	Diskette	8020
981019	Diskette	8020

(Step 019 continues)

MAP 0009-6

MAP 0009-6

START-OF-CALL MAP

MAP 0009

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(Step 019 continued)

***** NOTE SECTION: ***** This is a keyboard MDI optional load procedure, not a map step. ****** LOAD PROCEDURE Load DISPLAYWRITER SYSTEM DIAGNOSTICS. Open and close disk handle, MDIs will load. Open and close disk handle, keyboard tests will load. TABLE 1 MAP 0009 Is your Service Request Number in the Table? ΥN 020 You are now directed to go to the System Entry MAP. GO TO MAP 0010, ENTRY POINT A. 021

Does the Service Request Number (Step 021 continues)

(Step 021 continued) appear in the Table more than once? YN 022 Go to the MAP indicated or execute the MDI listed in the Service Request Table. 023 Does the additional information you received match any of the additional information listed for that Service Request Number? Y N 024 You are now directed to go to the System Entry MAP. GO TO MAP 0010, ENTRY POINT A. 025 Go to the MAP indicated or execute the MDI listed in the

Service Request Table.

MAP 0010

PAGE 1 OF 7

ENTRY POINTS

FROM	ENTER THIS MAP
MAP NUMBER	ENTRY PAGE STEP POINT NUMBER NUMBER
ALL	MAPS RETURN TO MAP 0010

EXIT PC	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
4 4 4 4 6 6 7 3 6 4 5 5 6 4	028 023 024 027 029 043 044 050 015 039 022 033 034 040 018	0015 0017 0017 6010 8020 8020 8020 8020 8064 9020 9030 9040 9109 9109 9165	A A A A A A A A A A A A A A A A

MAP 0010-1

(Step 001 continued)

POWER-ON.

Wait 20 seconds for BAT to complete.

Turn the Display Brightness and Contrast Control Knobs fully clockwise.

Is the IBM LOGO visible on the Display? YN 002 Is an Error Code displayed at the bottom of the screen? ΥN 1 003 Check the LED Indicators. Are there any LED Indicators | ON? (A,B,C,D,E,F,G,H) İİYN 004 1 1 1 | | Check to see if the Fan | | in the Electronic Module | | | (Step 004 continues) 1 1 1 5 5 4 ABC MAP 0010-1

001

(ENTRY POINT A)

POWER-OFF.

Remove any Diskette that may be in the Drive. (Step 001 continues)

SYSTEM ENTRY MAP

MAP 0010

PAGE 2 OF 7

(Step 004 continued) is running.

Is the Fan in the Electronic Module running?

YN

005

It appears that AC Power is not present at the Power Supply.

POWER-OFF.

Remove the Primary Power Fuse from Panel 2.

Using the lowest ohms range, check the continuity (less than 2 ohms) of the Fuse.

Is the Power Supply Fuse bad? Y N

006

43

DE

DANGER

HIGH VOLTAGE IS PRESENT AT THE POWER CORD CONNECTOR.

Disconnect the Power Cord (Step 006 continues)

(Step 006 continued) Connector (9) at Panel 2.

Power Cord Connector (9) configuration.



Using the 200(ac) voltage range, measure the voltage at Power Cord Connector (9).

 Connector |
 (ac)

 Pins
 Voltage Range

 L
 to G
 104 to 127 volts

 L
 to N
 104 to 127 volts

(WT-GBG/I refer to Voltage Chart in the Product Support (Step 006 continues) (Step 006 continued) Manual.)

Is the voltage in the correct voltage range? Y N | | 007

Disconnect the Power Cord Connector from the wall outlet.

Using the 200(ac) voltage range, measure the voltage at the outlet.

Is the voltage in the correct voltage range? Y N

1 1

008

Inform the Customer.

| 009

Ś.

F

Install a new Power Cord.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 0010-2

MAP 0010-2

E F SYSTEM ENTRY MAP		Н	MAP 0010-3
MAP 0010		1	
PAGE 3 OF 7			
010	(Step 013 continued) Unit AC(output) Cable Connector (8) at Panel 2.	016	
POWER-OFF.	Install a new Fuse.	POWER-OFF.	
Install a new base Power Supply. 	POWER-ON.	Disconnect Module Cab the Electro	the Large Display ble Connector (12) at onic Module, Panel 2.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Is the Fan in the Electronic Module running? Y N	Install a n	new fuse.
o11	014	POWER-ON.	
Install a new Fuse.	POWER-OFF.	Is the Fan Module runnin	in the Electronic
POWER-ON.	 Install a new base Power	Y N I	
Is the Fan in the Electronic Module running?	Supply.	017	
Y N	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	POWER-OFF	•
	 015	Install Supply.	a new base Power
Is there a Large Display Module connected to the Electronic Module?	The Problem is in the Diskette Area.	GO TO MAP to Verify S	0010, ENTRY POINT A, System Operation.
	You are now directed to go to the Diskette Unit A/C Power Failure	018	
POWER-OFF.	MAP.	You are now d Large Display	lirected to go to the AC Power MAP.
Disconnect the Diskette (Step 013 continues) 	GO TO MAP 8064, ENTRY POINT A.	(Step 018 cor	tinues)

D G 2 3	SYSTEM ENTRY MAP	С Ј К 1		L	MAP 0010-4
	MAP 0010				
		111		. i	
	PAGE 4 OF 7				
	(Step 018 continued) GO TO MAP 9165, ENTRY POINT A.	023		İ	(Step 026 continued) Indicators, POWER-ON.
		Vou are no	w directed to go to		At the start did all the LED
019	9	the LED St	tatus MAP.		Indicators light?
i Go	TO MAP 0010. ENTRY POINT A.				
to	Verify System Operation.	GO TO MAP ENTRY POIN	0017, NT A.		027
020		024			You are now directed to go to the LED Status MAP.
Is '	the Display Screen totally			i	
blan Y N	k? (no illumination)	You are no the LED Stat	bw directed to go to cus MAP.		GO TO MAP 0017,
02	1				ENTRY POINT A.
Is	there a Large Display Module	GO TO MAP OC	017, ENTRY POINT A.		028
con Mod	nnected to the Electronic dule?	025			You are now directed to go to the Error LED Status MAP.
	Ν	Are any of the Indicators ON?	A, B or C LED		• •
	022	Y N			GO TO MAP 0015, ENTRY POINT A.
	You are now directed to go to the Display No Video Data	026		02	9
	MAP.	POWER-OFF.		You Pou	u are now directed to go to the wer Supply MAP.
	GO TO MAP 9030,	Position Module so	the Electronic the LED Indicators		•• •
	ENTRY POINT A.	may be eas	sily observed.	GO	TO MAP 6010, ENTRY POINT A.
		While ob (Step 026 cc	oserving the LED ontinues)		
11		I.			

MAP 0010-4

L

JK

A 1	A B SYSTEM ENTRY MAP		М	MAP 0010-5
-	MAP 0010		4	
	PAGE 5 OF 7			
	030	(Step 031 continued) Figure 1, Appendix B for large Display.	a (Step 034 GO TO MAP	continued) 9109, ENTRY POINT A.
į	Select the Error Code i	the Does the Display Image 100	035 F	
	indicated MAP.	normal? (Ignore any characters i the lower left corner.) Y N	n The Disket or two Dis	tte Unit may have one skette Drives.
	Error LED MAP Entry	032	Check the first.	e left Diskette Drive
	DEFGH	Is there a Large Display Modul connected to the Electroni	e Load the c DIAGNOSTIC	DISPLAYWRITER SYSTEM CS in the left
	01 00110 1010 A 02 00110 1010 A 03 00111 0019 A	Module? Y N	Diskette I Did a rea	Drive.
	04 01000 8032 A 05 01000 8032 A 06 01001 0019 A	033 You are now directed to go t the Display Distorted Imag	Function Sel the Screen? Y N	lection Menu appear on
	08 01010 0019 A 09 01100 0019 A	MAP.	036	
i	031	GO TO MAP 9040, ENTRY POINT A.	Is the IBM on the Dis Y N	M LOGO still visible splay?
	Adjust the Brightness Co to obtain a correct v	ntrol isual 034	037	
	Compare the Display Ima the Picture of a normal Di	You are now directed to go t the Large Display Indicato ge to MAP. splay	0 Is the I r blank? (Y N	Display Screen totally (no illumination)
(in Figure 1, Appendix Step 031 continues)	A or (Step 034 continues)		
		w	6666	MAD 0010 F
		IVI.	ирдк	MAP UUIU-5

Q R SYSTEM ENTRY MAP 5 5	P 5	N MAP 0010-6
MAP 0010		
PAGE 6 OF 7		
038	(Step 041 continued) Load a known good Diskette.	(Step 044 continued) GO TO MAP 8020, ENTRY POINT A.
Is there a Large Display Module connected to the Electronic	Is the Display Screen totally blank? (no illumination)	045
Module? Y N 	Y N 042	Can you select the MDI function and load it? Y N
039 You are now directed to go to	Obtain a new DISPLAYWRITER	046
the Display Display Adapter MAP. 	 GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.	Turn the Diskette Load Lever to the left, then to the right.
GO TO MAP 9020, ENTRY POINT A.	043	The DISPLAYWRITER SYSTEM DIAGNOSTICS Procedures (MDIs) will load.
040 You are now directed to go to the Large Display Indicator MAP	You are now directed to go to the RNA Start MAP. CO TO MAP 8020 ENTRY POINT A	Repeat the above procedure and the Keyboard Diagnostic procedures (MDIs) will load.
	 044	Follow the instructions on the Display.
041	The Problem is in the Diskette Area.	047
POWER-OFF.	You are now directed to go to the RNA Start MAP.	The System may have two Diskette Drives, left and right.
POWER-ON.		
(Step 041 continues)	(Step 044 continues)	Does the System have a right (Step 047 continues)

MAP 0010

PAGE 7 OF 7

```
(Step 047 continued)
Diskette Drive?
Y N
```

1.14

```
048
```

Run all MDI unit tests required for your configuration.

If no unit tests failed, run the System Exerciser.

If no trouble is found, and you think the System is working correctly, return it to the customer.

If you think there is still a problem, go to the Intermittent Problem Diagnostic Approach section in the Product Support Manual.

Ó49

Select Diskette ID "d".

Run Diskette Tests.

Remove the DISPLAYWRITER SYSTEM DIAGNOSTICS from the left (Step 049 continues) (Step 049 continued) Diskette Drive.

POWER-OFF, then POWER-ON the System.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS in the right Diskette Drive.

Did a readable CE Diagnostic Function Selection Menu appear on the Screen? Y N

050

The Problem is in the Diskette Area.

You are now directed to go to the RNA Start MAP.

| GO TO MAP 8020, ENTRY POINT A. | 051

Select MDIs.

Run all MDI unit tests required for your configuration.

(Step 051 continues)

(Step 051 continued) If no unit tests failed, run the System Exerciser.

If no trouble is found, and you think the System is working correctly, return it to the customer.

If you think there is still a problem, go to the Intermittent Problem Diagnostic Approach section in the Product Support Manual.

ERROR LED STATUS MAP

MAP 0015

PAGE 1 OF 11

ENTRY POINTS

FROM	 !	ENTER	THIS MAP	
MAP NUMBER	+- 	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0009 0010	+- 	A A	1 1	001 001

EXIT POINTS EXIT THIS MAP | TO PAGE STEP | MAP ENTRY NUMBER NUMBER | NUMBER POINT 3 016 | 9109 A

001 (ENTRY POINT A)

This MAP locates the failing part when an error occurs during the POWER-ON sequence.

The Error LED Indicators are marked by (D,E,F,G,H).

Where: O=OFF, 1=ON

*** NOTE ***

When the "D" indicator is on, the other indicators are meaningless.

The question below has two parts. If you can answer EITHER part yes, answer the (Step CO1 continues)

question yes.
Is the "D" indicator "ON"
or
do the Error Indicators (D,E,F,G,H) equal (0,1,1,1,1)? Y N
002
Do the Error Indicators (D,E,F,G,H) equal (0,0,0,0,1)? Y N
003
Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,0)? Y N
004
<pre> Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,1)? Y N </pre>
09762

(Sten 001 continued)

ABCDE

MAP 0015-1

E 1	ERROR LED STATUS MAP	н		MAP 0015-2
-	MAP 0015	1		
	PAGE 2 OF 11			
j 005		(Step 008 continued)		(Step 009 continued)
Do the (D,E,F,G,H) Y N 006	Error Indicators equal (0,1,1,1,0)?	Post-CRT Error Code Table Error LED MAP Entry Code Code Number Point DEFGH		Did the BAT fail with Error Indicators (D,E,F,G,H) equal (0,0,1,0,1)? Y N 010
Do the (D,E,F,G, Y N 007	Error Indicators H) equal (0,0,1,0,0)?	01 00110 1010 A 02 00110 1010 A 03 00111 0019 A 04 01000 8032 A 05 01000 8032 A 06 01001 0019 A 08 01010 0019 A		Is there a Large Display Module connected to the Electronic Module? Y N 011
Do th (D,E,F, (0,0,1, Y N 008	e Error Indicators G,H) equal O,1)?	09 01100 0019 A		Using the 20(dc) voltage range, measure from Pin 2 (ground) to Pin 7 (+5V) of the Internal Distribution Cable Connector (2) (pin side).
 Sel Err Derr LED LED H H H H	ect the Displayed or Code or if it is readable, select the Error Code in the lowing Chart and go to indicated MAP.	Disconnect the Display Modu Connector (2). POWER-ON. Wait about 10 seconds, th check the Error Indicators. (Step 009 continues)	nen	Is the voltage reading between +4.6 volts and +5.5 volts? Y N I 012 I Using the 20(dc) voltage range, measure from frame
(Step 5 4	008 continues)			(Step 012 continues) 3 3 3
FGH				JKL MAP 0015-2

L ERROR LED STATUS MAP	J K	M MAP 0015-3
MAP 0015	2 2	1
PAGE 3 OF 11		
(Step 012 continued) Internal Distribution Cable Connector (F2).	(Step 015 continued) Install a new Display Module.	(Step 018 continued) Card.
 Is the voltage reading between +4.6 volts and +5.5 volts? Y N 	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
013	016	i 019
POWER-OFF.	POWER-OFF.	Do you have Cards plugged in slot
Install a new base Power Supply.	Reconnect the Display Module Cable Connector (2).	"A" or "C" of the Electronic Module Distribution Board? Y N
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	You are now directed to go to the Large Display Indicator MAP.	020
014		POWER-OFF.
POWER-OFF.	GO TO MAP 9109, ENTRY POINT A.	Reinstall the original Display Adapter Card.
Install a new Internal Distribution Cable.	Has a new Display Adapter Card	Install a new System Card.
 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	been installed? Y N I	Cable Connector (2).
 015	018	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-OFF.	POWER-OFF.	021
(Step 015 continues)	Install a new Display Adapter (Step 018 continues)	(Step 021 continues)

.

ERROR LED STATUS MAP	G N	P MAP 0015-4
MAP 0015	2	
PAGE 4 OF 11		
<pre>// AGE 4 OF 11 (Step 021 continued) POWER-OFF. Reinstall the original Display Adapter Card. Reconnect the Display Module Cable Connector (2). Remove the Card(s) from slot(s) "A" and/or "C". POWER-ON. Do the Error Indicators (D,E,F,G,H) equal (0,0,1,0,1)? Y N 022 POWER-OFF. Reinstall one of the removed Cards. POWER-ON. If the Error Indicators (D,E,F,G,H) = (0,0,1,0,1), the Card just reinstalled is defective. If not, repeat this procedure until the failing Card is identified. (Step 022 continues)</pre>	<pre>(Step 022 continued) Exchange the failing Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 023 POWER-OFF. Install a new System Card. Reinstall Card(s) in slot(s) "A" and/or "C". GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 024 Has a new Display Adapter Card been installed? Y N 025 POWER-OFF. Install a new Display Adapter Card. (Step 025 continues)</pre>	<pre>(Step 025 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 026 Do you have Cards plugged in slot "A" or "C" of the Electronic Module Distribution Board? Y N 027 POWER-OFF. Install a new Electronic Module Distribution Board. Reinstall the original Display Adapter Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 028 POWER-OFF. Remove the Card(s) from slot(s) "A" and/or "C". POWER-ON. (Step 028 continues)</pre>

ERROR LED STATUS MAP	F .	Q	MAP 0015-5
MAP 0015	2	. 1	
PAGE 5 OF 11			
(Step 028 continued) Do the Error Indicators (D,E,F,G,H) equal (0,0,1,0,0)? Y N	 (Step 030 continued) GO TO MAP 0010, ENTRY POI to Verify System Operation 031	NT A, (Step 034 NT A, to Verif 1. 035	4 continued) y System Operation.
029	Has a Now Momony Cond	POWER-OF	? .
POWER-OFF. Reinstall one of the removed	installed in slot "E"? Y N	Remove th and any slot(s)	ne Display Adapter Card card or cards in "A","C" and "F".
POWER-ON.	032 POWER-OFF.	POWER-ON	Frror Indicators
If the Error Indicators (D,E,F,G,H) = (0,0,1,0,0), the Card just reinstalled is	Install a new Memory Car slot "E".	d in (D,E,F,G,H) Y N	equal (0,1,1,1,0)?
defective. If not, repeat this procedure until the failing Card is identified.	GO TO MAP 0010, ENTRY POI to Verify System Operation	NT A, 036	DFF.
Exchange the failing Card.	U33	Reinsta	all one of the removed
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	installed? Y N	POWER-C	DN.
030	034	 If th	he Error Indicators
POWER-OFF.	POWER-OFF.	(D,E,F) the Car defect	rd just reinstalled is
Install a new Electronic Module Distribution Board.	Install a new System Car	d. this failing	procedure until the g Card is identified.
(Step 030 continues)	GO TO MAP 0010, ENTRY POIN (Step 034 continues) 	T A, (Step 036	5 continues)
	i Q	6 R	MAP 0015-5

R ERROR LED STATUS MAP		D MAP 0015-6
5 MAP 0015		1
PAGE 6 OF 11		
(Step 036 continued) Exchange the failing Card.	(Step 039 continued) POWER-ON.	(Step 041 continued) Verify System Operation.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.		042
 037	Do the Error Indicators (D,E,F,G,H) equal (0,1,1,1,0)? Y N	Has a new System Card been installed? Y N
Do you have a Memory Card in slot "F"? Y N	040	043
038	POWER-OFF.	POWER-OFF.
POWER-OFF.	Install a new Memory Card in slot "F".	Install a new System Card.
Install a new Electronic Module Distribution Board.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	to Verify System Operation.
Reinstall all the original cards.	041	POWER-OFF.
Reconnect all the cable connectors.	POWER-OFF. Install a new Electronic Module Distribution Board.	Remove all cards from the Electronic Module Distribution Board except the Display
to Verify System Operation. 	Reinstall all the original cards.	Reinstall the original System Card.
POWER-OFF.	Reconnect all the cable connectors.	POWER-ON.
Remove the Memory Card in slot "F". (Step 039 continues)	GO TO MAP 0010, ENTRY POINT A, to (Step 041 continues)	Do the Error Indicators (Step 044 continues)

ERROR LED STATUS MAP			
MAP 0015			
PAGE 7 OF 11			
(Step 044 continued) (D,E,F,G,H) equal (0,0,0,1,1)? Y N			
045			
POWER-OFF.			
Reinstall one of the removed Cards.			
POWER-ON.			
If the Error Indicators (D,E,F,G,H) = (0,0,0,1,1), the Card just reinstalled is defective. If not, repeat this procedure until the failing Card is identified.			
Exchange the failing Card.			
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.			
046			
POWER-OFF.			
Remove the Display Adapter Card and install the Memory Card in slot "E".			
(Step 046 continues)			

POWER-ON. Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,1)? Y N 047 POWER-OFF. Install a new Display Adapter Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 048

(Step 046 continued)

POWER-OFF.

Install a new Electronic Module Distribution Board.

Reinstall all the original cards.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

С MAP 0015-7 1 . 049 New Memory Card been Has a installed in slot "E"? ΥN 050 POWER-OFF. Install a new Memory Card in slot "E". GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 051 Using the 20(dc) voltage range, measure from frame ground to the pins in the following

|Conn. | Pin | Voltage Range _____ E1 11 +4.6to +5.5 E1 13 -4.6 to -5.5 E1 15 +8.245 to +8.925 20 +11.04 to +13.20 E1 +----- CHART CONTINUES -----+

(Step 051 continues)

Chart.

ERROR LED STATUS MAP

MAP 0015

PAGE 8 OF 11

(Step 051 continued)

-	Conn.	CHAR Pin	r CONTIN Volta	JED ge H	+ Range
	E2 E2 E2 E2 E2	11 13 15 20	+4.6 -4.6 +8.245 +11.04	to to to to	+5.5 -5.5 +8.925 +13.20
- 1	E3	11	+4.6	to	+5.5
	E4	11	+4.6	to	+5.5

Were all the voltage measurements correct?

YN

9

S

052

POWER-OFF.

Test Conditions:

- a. Position the Electronic Module Distribution Board to permit access for making voltage measurements on Connector (A1).
- b. All cables are to be (Step 052 continues)

(Step 052 continued) connected.

c. All cards are to be in place.

POWER-ON.

Using the 20(dc) voltage range, measure from each pin in the following Chart to frame ground at the Power Supply Case.

Pin	Voltage Range		
3	-0.1	to	+0.1
4	-0.1	to	+0.1 j
5	-0.1	to	+0.1 j
6	-0.1	to	+0.1 j
8	-11.04	to	-13.20
9	+4.6	to	+5.5
10	+4.6	to	+5.5
11	+4.6	to	+5.5
12	+4.6	to	+5.5
13	-4.6	to	-5.5
15	+8.245	to	+8.925
16	-0.1	to	+0.1
17	-0.1	to	+0.1
18	-0.1	to	+0.1
20	+11.04	to	+13.20
	CHART CONTIN	NUES	+

(Step 052 continues)

MAP 0015-8

(Step 052 continued)

+	CHART	CONT	INUED		+
Pin	Voltage Range				
		A C	±		1
21	+	4.0	το	+5.5	1
22	+	•4.6	to	+5.5	
23	+	4.6	to	+5.5	1
24	+	4.6	to	+5.5	İ.
+					

Were all the voltage measurements correct?

ΥN

053

POWER-OFF.

Disconnect System Power Cable Connectors P1 and A1.

Using the lowest ohms range, check the continuity of each wire in the System Power Cable.

Refer to the Product Support Manual for pin assignments. (Step 053 continues)

9 T

T ERROR LED STATUS MAP	s	B U MAP 0015-9
MAP 0015	8	
PAGE 9 OF 11		
<pre>(Step 053 continued) Was the cable continuity correct? (less than 2 ohms) Y N 054 Install a new System Power Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 055 Install a new base Power</pre>	<pre>(Step 056 continued) Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 057 Do you have a Memory Card in slot "F"? Y N 058 POWER-OFF. Install a new System Card.</pre>	<pre>(Step 060 continued) (GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. O61 POWER-OFF. Install a new Memory Card in slot "F". Reinstall all the original cards. Reconnect all the cable connectors.</pre>
Supply. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
056	059	002
POWER-OFF. Install a new Electronic Module Distribution Board.	Has a new System Card been installed? Y N 060	Has a New Memory Card been installed in slot "E"? Y N 063
Reinstall all the original cards.	POWER-OFF.	POWER-OFF.
(Step 056 continues)	Install a new System Card. (Step 060 continues) 	Install a new Memory Card in (Step 063 continues)
	υ	0 V MAP 0015-9

V ERROR LED STATUS MAP				
9 MAP 0015				
PAGE 10 OF 11				
(Step 063 continued) slot "E".				
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.				
l 064				
Has a new System Card been installed? Y N				
065				
FOWER-OFF. Install a new System Card.				
				GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
 066				
POWER-OFF.				
Install a new Electronic Module Distribution Board.				
Reinstall all the original cards.				
Reconnect all the cable connectors. (Step 066 continues)				

| to Verify System Operation. | 067 Has a new System Card been installed? Y N | 068 | POWER-OFF. | Install a new System Card. | GO TO MAP 0010, ENTRY POINT A, | to Verify System Operation. | 069

GO TO MAP 0010, ENTRY POINT A,

(Step 066 continued)

POWER-OFF.

A 1

Test Conditions:

a. Position the Electronic Module Distribution Board to permit access for making voltage measurements on Connector (A1).

b. All cables are to be (Step 069 continues)

(Step 069 continued) connected.

c. All cards are to be in place.

POWER-ON.

Using the 20(dc) voltage range, measure from each pin in the following Chart to frame ground at the Power Supply Case.

Pin	Voltage Range			
3	-0.1	to	+0.1	
4 5	-0.1	to	+0.1	
6 8	-0.1 -11.04	to	+0.1	
9	+4.6	to	+5.5	
10	+4.6	to to	+5.5	
12	+4.6	to to	+5.5	
15	+8.245	to	+8.925	
16	-0.1 -0.1	to to	+0.1 +0.1	
18	-0.1 +11.04	to to	+0.1	
	CHART CONTIN	NUES	5+	

(Step 069 continues)

MAP 0015-10

MAP 0015

PAGE 11 OF 11

(Step 069 continued)

```
      +----
      CHART CONTINUED

      | Pin
      Voltage Range

      | ------
      |

      21
      +4.6
      to
      +5.5

      | 22
      +4.6
      to
      +5.5

      | 23
      +4.6
      to
      +5.5

      | 24
      +4.6
      to
      +5.5
```

Were all the voltage measurements correct? Y N

```
070
```

POWER-OFF.

Disconnect System Power Cable Connectors P1 and A1.

Using the lowest ohms range, check the continuity of each wire in the System Power Cable.

Refer to the Product Support Manual for pin assignments. (Step 070 continues)

```
Was the cable continuity
correct? (less than 2 ohms)
Y N
| 071
| Install a new System Power
| Cable.
```

(Step 070 continued)

| GO TO MAP 0010, ENTRY POINT | A, to Verify System | Operation.

```
Ó72
```

W

Install a new base Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

```
073
```

POWER-OFF.

Install a new Electronic Module Distribution Board.

Reinstall all the original cards.

(Step 073 continues)

MAP 0015-11

(Step 073 continued) Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.


LED STATUS MAP

MAP 0017

PAGE 1 OF 4

ENTRY POINTS

FROM	ļ	ENTER	THIS MAP		
MAP NUMBER	 	ENTRY POINT	PAGE NUMBER	STEP NUMBER	
0010		A	1	001	

EXIT POI	NTS		
EXIT THI	S MAP	TO	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
4	019	9010	A
4	020	9109	A

001 (ENTRY POINT A)

POWER-OFF.

Position the Electronic Module so the LED Indicators may be easily observed.

While observing the LED Indicators, POWER-ON.

At the start, did all the LED Indicators light? Y N

<u>002</u> Did "A", "B" or "C" fail to light? ΥN 003 Using the 20(dc) voltage range, measure from frame ground to Pin 8 of the LED Assembly Cable Connector (S2) for +4.6 volts to +5.5 volts. Is the voltage reading between +4.6 volts and +5.5 volts? Ý N 004 1 Using the 20(dc) voltage range, measure from frame ground to the Pins in the following Chart. +--SYSTEM POWER CABLE (A1)--+ Pin Voltage Range 9 +4.6 to +5.5 +4.6 to +5.5 10 +4.6 to +5.5 11 ---- (CHART CONTINUES)-----(Step 004 continues) 3 2 CD MAP 0017-1

MAP 0017-1

в

3 | A B

LED STATUS MAP MAP 0017 PAGE 2 OF 4 (Step 004 continued) -----(CHART CONTINUED)-----12 +4.6 to +5.5 +4.6 to +5.5 22 23 +4.6 to +5.5 24 +4.6 to +5.5 Is the voltage reading between +4.6 volts and +5.5 volts? ΥN 005 POWER-OFF. Using the lowest ohms range, measure the continuity of each wire in the System Power Cable (P1 to A1). Refer to the Product Support Manual for pin assignments. the cable continuity Was correct? (less than 2 ohms) YN 006 Install a new System Power Cable. (Step 006 continues)

EF

(Step 006 continued) GO TO MAP 0010, ENTRY POINT Verify System IA. to | Operation. 007 Install a new base Power Supply. GO TO MAP 0010, ENTRY POINT Α, to Verify System Operation. 008 POWER-OFF. Install a new System Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 009 POWER-OFF. Use a CE Meter lead for a jumper. CAUTION (Step 009 continues)

DEF

MAP 0017-2

(Step 009 continued) Do NOT ground Pin 8. It is +5 volts.

Connect each Pin of LED Assembly Cable Connector (S2) in the Chart to frame ground.

POWER-ON.

Verify that the respective LED Indicator lights.

•	
Pin	LED
2 3 5 6 7	D E F G H
Did each LED Y N 010) Indicator light?
POWER-OF	Ϋ́F.
Install Assembly	a' new LED Indicator
(Step 010	continues)
3 3	MAP 0017-2

CG LED S	TATUS MAP	н	A	MAP 0017-3
MAP O	017	ļ	1	
PAGE	3 OF 4			
<pre>(Step 010 com GO TO MAP 0010 A, to Vo Operation.) 011 POWER-OFF. Install a new GO TO MAP 0010 to Verify System 012 Using the 20(dc measure from f: Pin 5 of the LEI Connector (L1) to the Power St volts to +16.0 Record the measure Comeasure from fillence Connector (L1)</pre>	tinued) D, ENTRY POINT erify System System Card. , ENTRY POINT A, n Operation.) voltage range, rame ground to D Assembly Cable (still connected upply) for +15.0 volts. urement.	<pre>(Step 013 continued) Install a new base P Supply. GO TO MAP 0010, ENTRY POIN to Verify System Operation. 014 Using the 20(dc) voltage ra measure from frame ground Pins 1, 2 and 3 of the Assembly Cable Connector (L Record the vol measurements. Were all measurements 1.2 v less than Pin 5? Y N 015 POWER-OFF.</pre>	ower Step O POWER POWER I Insta T A, Suppl GO TO M to Veri LED It shou 1). twenty POWER-O tage to disa olts seconds? Y N 018 Is ther connect Module?	16 continued) -OFF. 11 a new base Power Y. AP 0010, ENTRY POINT A, fy System Operation. uld take ten (10) to (20) seconds after N for all LED Indicators ppear. less than ten (10) e a Large Display Module ed to the Electronic
Was the voltage +: volts? Y N 013 POWER-OFF.	15 volts to +16	Install a new LED Indic Assembly. GO TO MAP 0010, ENTRY POIN to Verify System Operation. 016	ator Y N 019 T A, You a the D	re now directed to go to isplay Blank Screen MAP.
(Step 013 contin	nues)	(Step 016 continues)	(Step	019 continues)
i H			4 4 J K	MAP 0017-3

JK	LED STATUS MAP
 	MAP 0017
	PAGE 4 OF 4
	(Step 019 continued)
	ENTRY POINT A.

020

You are now directed to go to the Large Display Indicator MAP.

GO TO MAP 9109, ENTRY POINT A.

```
021
```

POWER-OFF.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

ERROR CODE (03,06,08,09) MAP	D	C MAP 0019-1
MAP 0019		
PAGE 1 OF 4		(Step 006 continued)
ENTRY POINTS	004	POWER-ON.
FROM ENTER THIS MAP MAP ENTRY PAGE STEP NUMBER POINT NUMBER 0009 A 1 001 0010 A 1 001	Was the Error Code 09? Y N 005 You should not be in this MAP without an Error Code.	If you get an Error Code 09, reinstall the original Display Adapter Card. Install a new Electronic Module Distribution Board.
0015 A 1 001 001 (ENTRY POINT A)	Return to MAP 0010, Entry Point A, the System Entry MAP. 006	POWER-ON. If you get an Error Code 09, reinstall the original Electronic Module Distribution Board.
Was the Error Code 03? Y N 002	This Error Code may occur with multiple failures. POWER-OFF.	Install a new System Card. GO TO MAP 0010, ENTRY POINT A,
Was the Error Code 06? Y N	Install a new Memory Card in slot E.	to Verify System Operation. 007
003	POWER-ON.	POWER-OFF.
 Was the Error Code 08? Y N 	If you get an Error Code O9, reinstall the original Memory Card.	Install a new System Card. GO TO MAP 0010, ENTRY POINT A, to
	Install a new Display Adapter Card.	Verify System Operation.
	(Step 006 continues)	
2 2 A B C D		MAP 0019-1

В	ERROR	CODE
---	-------	------

MAP 0019

PAGE 2 OF

4

008

А

1 1

Have you installed a new System Card? Y N 009 POWER-OFF. Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

010

POWER-OFF.

Install a new Memory Card in slot "E".

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

011

POWER-OFF.

Disconnect the Diskette Unit Signal Cable Connector (5) at (Step 011 continues)

POWER-ON. Did vou get Error Code 03 again? ΥN 012 Do you have a Communications Feature Card in the Media Module? YN 013 POWER-OFF. Install a new Diskette Adapter Card. Reconnect the Diskette Unit Signal Cable Connector (5) at Panel 1. GO TO MAP 0010, ENTRY POINT Verify Α, to System Operation. 014 POWER-OFF. (Step 014 continues)

(Step 011 continued)

Panel 1.

3

E

MAP 0019-2

(Step 014 continued)

Remove the Communications Feature Card.

Reconnect the Diskette Unit Signal Cable Connector (5) at Panel 1.

POWER-ON.

Did you get Error Code 03 again? Y N

015

POWER-OFF.

Install a new Communications Feature Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Ó16

POWER-OFF.

Install a new Diskette Adapter Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

E 2	ERROR CODE	F	G	MAP 0019-3
2	MAP 0019	I	ļ	
	PAGE 3 OF 4			
i 017		(Step 020 continued) Card.	(Step 022 cc to Verify Sy	ontinued) Astem Operation.
Do you Feature Electroni Y N 018 Have yo	have a Communications Card in the Base cs Module? u installed a new System	Install a new Memory Card in slot "E". GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 021	 023 Have you insta Card? Y N 024 	lled a new System
Card? Y N		POWER-OFF.	POWER-OFF.	
019		Remove the Communications Feature Card.	Reinstall Feature Ca	the Communications ard.
POW	ER-OFF.	POWER-ON.	Install a	new System Card.
Ins Rec Sig at GO T A, Opera 020 POWER	tall a new System Card. onnect the Diskette Unit mal Cable Connector (5) Panel 1. O MAP 0010, ENTRY POINT to Verify System tion.	Did you get Error Code 03 again? Y N 022 POWER-OFF. Install a new Communications Feature Card. Reconnect the Diskette Unit Signal Cable Connector (5) at Panel 1.	Reconnect Signal Cab Panel 1. GO TO MAP C to Verify Sy 025 POWER-OFF. Reinstall Feature Carc	the Diskette Unit ole Connector (5) at 2010, ENTRY POINT A, 2010, Sentry POINT A, 2010,
Reins (Step O 	tall the original System 20 continues)	GO TO MAP 0010, ENTRY POINT A, (Step 022 continues)	Reinstall th (Step 025 cont	ne original System tinues)
F		l G		MAP 0019-3

F

MAP 0019

PAGE 4 OF 4

(Step 025 continued) Card.

Install a new Memory Card in slot "E".

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

KEYBOARD ENTRY MAP MAP 1010 PAGE 1 OF 4 ENTRY POINTS FROM | ENTER THIS MAP _____ MAP I ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 0009 - 1 Α 1 001 0010 Α 1 001 0015 Α 1 001 1 001 (ENTRY POINT A) This MAP is entered from the Post-CRT Error Code Table in MAP 0010 (System Entry MAP). Was the Error Code 01 or (01 and 02)? YŃ 002 Error Code 02. Have vou installed a new Keyboard Logic Card? ΥÑ 11 1 1 1 ABĊ

```
BC
 003
   POWER-OFF.
   Install a new Keyboard Logic
   Card.
 GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
004
 POWER-OFF.
 Disconnect the Keyboard Module
 Cable Connector (\overline{7}) at Panel 1.
 Using the lowest ohms range,
 measure the continuity of each
 wire in the Keyboard Module
```

Refer to the Product Support Manual for pin assignments.

Cable

D

```
Was the cable continuity correct?
(less than 2 ohms)
Y N
|
| 005
|
| Repair or install a new
(Step 005 continues)
```

(Step 005 continued) Keyboard Module Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 006 Disconnect the Internal Distribution Cable Connectors (P2 and B1). Using the lowest ohms range, measure the continuity of each wire between Connectors (P2/B1) and the Internal Distribution Cable Connector (7). Refer to the Product Support Manual for pin assignments. Was the cable continuity correct? (less than 2 ohms) YN 007 Install а new Internal Distribution Cable. Reconnect all the cable connectors.

(Step 007 continues)

```
2
E
```

D

MAP 1010-1

MAP 1010-1

KEYBOARD ENTRY MAP

MAP 1010-2

MAP 1010

PAGE 2 OF 4

| (Step 007 continued) | GO TO MAP 0010, ENTRY POINT | A, to Verify System | Operation.

008

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Ó09

Is the Keyboard Module Cable Connector (7) connected? Y N

010

POWER-OFF.

```
Reconnect the Keyboard Module
Cable Connector (7) at Panel
1.
```

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

```
011
```

POWER-OFF.

(Step 011 continues)

(Step 011 continued) Disconnect the Keyboard Module Cable Connector (7) at Panel 1.

Jumper Pin 1 to Pin 12 of the Internal Distribution Cable Connector (7) at Panel 1.

POWER-ON.

Observe failure.

Did you stop with an Error Code O2 on the Display Screen? Y N

012

POWER-OFF.

Remove the jumper from Pins 1 and 12 of the Keyboard Module Cable Connector (7) at Panel 1.

Disconnect the Internal Distribution Cable Connectors (P2 and B1).

y Using the lowest ohms range, measure the continuity of each wire between Connectors (P2/B1) and the Internal (Step 012 continues) (Step 012 continued) Distribution Cable Connector (7).

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms) Y N

013

F

Install a new Internal Distribution Cable.

Reconnect the Keyboard Module Cable Connector (7) at Panel 1.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

014

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Ò15

(Step 015 continues)

MAP 1010-2

KEYBOARD ENTRY MAP
MAP 1010
PAGE 3 OF 4
(Step 015 continued) POWER-OFF.
Remove the jumper from Pins 1 and 12 of the Keyboard Module Cable Connector (7) at Panel 1.
POWER-ON.
Using the 20(dc) voltage range, measure from frame ground to Pin 11 of the Internal Distribution Cable Connector (7) at Panel 1 for +4.6 volts to +5.5 volts.
Is the voltage reading between +4.6 volts and +5.5 volts? Y N
016
Using the 20(dc) voltage range, measure from frame ground to Pin 3 of the Internal Distribution Cable Connector (P2) for +4.6 volts to +5.5 volts.
Is the voltage reading between +4.6 volts and +5.5 volts? Y N
GHJ

GHJ
POWER-OFF.
Install a new base Power
Reconnect the Keyboard Module Cable Connector (7) at Panel 1.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
018
POWER-OFF.
Install a new Internal Distribution Cable.
Reconnect the Keyboard Module Cable Connector (7) at Panel 1.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
019
POWER-OFF.

(Step 019 continues)

(Step 019 continued) Using the 200 ohms range, measure the resistance from frame ground to Pins 10 and 12 of the Internal Distribution Cable Connector (7). Was the resistance less than 2.0 ohms? YN 020 Install a new Internal Distribution Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 021

MAP 1010-3

Using the lowest ohms range, measure the continuity of each wire in the Keyboard Module Cable.

Refer to the Product Support Manual for pin assignments. (Step 021 continues)

KEYBOARD ENTRY MAP

MAP 1010

PAGE 4 OF 4

(Step 021 continued)

Was the cable continuity correct? (less than 2 ohms) Y N | 022 | Repair or install a new | Keyboard Module Cable. | GO TO MAP 0010, ENTRY POINT A, | to Verify System Operation. | 023

Reconnect the Keyboard Module Cable Connector (7) at Panel 1.

Have you installed a new Keyboard Logic Card? Y N

024

Install a new Keyboard Logic Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

025

(Step 025 continues)

(Step 025 continued) Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

SPEAKER CHECK MAP

MAP 1011

PAGE 1 OF 1

ENTRY POINTS

FROM	ļ	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
1070	1	A	1	001

001 (ENTRY POINT A)

POWER-OFF.

Using the lowest ohms range, measure the continuity of each wire in the Keyboard Module Cable.

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms) Y N

002

А

Repair or install a new Keyboard Module Cable.

(Step 002 continues)

А

| (Step 002 continued) | GO TO MAP 0010, ENTRY POINT A, | to Verify System Operation.

```
003
```

Disconnect the Internal Distribution Cable Connectors (P2 and B1).

Using the lowest ohms range, measure the continuity of each wire between Connectors (P2/B1)and the Internal Distribution Cable Connector (7).

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms) Y N

004

Install a new Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

(Step 005 continues)

(Step 005 continued) Install a new System Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

DISTRIBUTION CABLE MAP

MAP 1012

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
1070	A	1	001

001 (ENTRY POINT A)

POWER-OFF.

Remove Pins 3 and 10 from the Logic Card Connector at the Keyboard Logic Card.

Reinstall the Logic Card Connector onto the Keyboard Logic Card.

POWER-ON.

Using the 20(dc) voltage range, measure from Keyboard frame ground to Pins 3 and 10 on the Keyboard Logic Card for +4.5 volts to +5.5 volts.

Is the voltage reading between (Step 001 continues)

(Step 001 continued) +4.6 volts and +5.5 volts? Y N

002

POWER-OFF.

Install a new Keyboard Logic
Card.

Reinsert Pins 3 and 10 in the Logic Card Connector at the Keyboard Logic Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

POWER-OFF.

Disconnect B1 from the Electronics Module Distribution Board.

Using the lowest ohms range, measure from wires 3 and 10 to ground.

(Step 003 continues)

(Step 003 continued)
Is either wire 3 or 10 shorted to
ground? (less than 2 ohms)
Y N
|
|
004

Install a new System Card.

Reinsert Pins 3 and 10 in the Logic Card Connector at the Keyboard Logic Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Ó05

| | 2 2 A B

Disconnect Keyboard Module Cable Connector (7) from Panel 1.

Using the lowest ohms range, measure from wires 3 and 10 to ground.

Is either wire 3 or 10 shorted to
ground? (less than 2 ohms)
Y N
| |
| |

MAP 1012-1

АВ DIST CABLE MAP 1 1 MAP 1012 PAGE 2 OF 2 006 Internal Install a new Distribution Cable. Reinsert Pins 3 and 10 in the Logic Card Connector at the Keyboard Logic Card. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 007 Repair or install a new Keyboard Module Cable. Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

KEYLOCK ON FAILURE					
MAP 1013					
PAGE 1 OF 1					
ENTRY POINTS					
FROM ENTER THIS MAP					
MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER					
7070 A 1 001					
001 (ENTRY POINT A) Is there a Communications Keylock					
Y N					
POWER-OFF.					
Install a new System Card.					
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.					
003					
Is the Communications Keylock ON? Y N A B					

AI	В
	004
	Turn the Communications Keylock ON.
	Load the Displaywriter System Diagnostic diskette.
	Select MDIs on the Function Selection menu.
	Run Communications MDIs.
00	5
3	POWER-OFF.
	Disconnect the Internal Distribution Cable Connector (B1) from the Electronics Module Distribution Board.
r I I	Using the lowest ohms range, measure from the Internal Distribution Cable Connector Pin 13A to frame ground.
Was tha Y I	s the continuity correct? (less an 2 ohms)

С

СD MAP 1013-1 006 Install a new System Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. **007** Disconnect either wire from the Communications Keylock. Is the continuity still correct? (less than 2 ohms) Ϋ́Ν 008 Install a new Communications Keylock. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 009 Repair or install a new Internal Distribution Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 1013-1



KEYLOCK OFF FAILURE		A B	MAP 1014-1
MAP 1014			
PAGE 1 OF 2			
ENTRY POINTS	(Step 002 continued) Communications Keylock? Y N	006	
FROM ENTER THIS MAP MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER	003 Reconnect the wires to the	Using the measure the Com terminal	e lowest ohms range, the continuity from munications Keylock to frame ground.
7070 A 1 001	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Was the (less than Y N 	continuity correct? 2 ohms)
(ENTRY POINT A) POWER-OFF. Disconnect the Internal Distribution Cable Connector (B1) from the Electronics Module Distribution Board. Using the lowest ohms range, measure from the Internal Distribution Cable Connector	<pre> 004 Using the lowest ohms range, measure the continuity across the Communications Keylock terminals. Was the continuity correct? (less than 2 ohms) Y N </pre>	007 Repair ground GO TO M A, to Operation 008 Repair	or install a new wire assembly. MAP 0010, ENTRY POINT O Verify System A. or install a new
Pin 13A to frame ground. Was the continuity correct? (less than 2 ohms) Y N	005 Install a new Communications Keylock.	GO TO MAP C to Verify S	Distribution Cable. 0010, ENTRY POINT A, System Operation.
002 Are both wires connected to the (Step 002 continues)	GO TO MAP COLO, ENTRY POINT A, to Verify System Operation.	009 Install a r (Step 009 cor	new System Card. htinues)
A	B		MAP 1014-1

MAP 1014-1

MAP 1014-1

KEYLOCK OFF FAILURE

MAP 1014

PAGE 2 OF 2

(Step 009 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

CABLE SENSE REPAIR-CONN. 0

MAP 4011

PAGE 1 OF 1

ENTRY POINTS

FROM		ENTER	THIS	MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMB	ER	STEP NUMBER
4070		A	1		001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Pin B1-7B in the Internal Distribution Cable to Frame Ground.

Does the meter indicate a short? (two ohms or less) Y N | 002

(Step 002 continues)

Α

(Step 002 continued)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the (Step 002 continues) A

MAP 4011-1

(Step 002 continued) Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

RECEIVE REPAIR-CONN. 6A

MAP 4012

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4070	A	1	001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector O (Zero) and Pin B1-8B in the Internal Distribution Cable and then, measure between Pin 4 on Rear Panel Connector O (Zero) and Pin B1-9B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N

002

Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector O (Zero).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) | | | (Step 002 continued) | instructions will be given. | 003

Α

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector O (Zero). (Step 003 continues)

MAP 4012-1

MAP 4012-2

RECEIVE REPAIR

MAP 4012

PAGE 2 OF 2

(Step 003 continued)

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

TRANSMIT REPAIR-CONN. 6A

MAP 4013

PAGE 1 OF 2

ENTRY POINTS

 FROM
 | ENTER THIS MAP

 MAP
 | ENTRY PAGE
 STEP

 NUMBER
 | POINT
 NUMBER

 4070
 | A
 1
 001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector O (Zero) and Pin B1-10B in the Internal Distribution Cable and then, measure between Pin 2 on Rear Panel Connector O (Zero) and Pin B1-12B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N 002 Repair the Internal Distribution Cable or install a new Internal Distribution Cable. Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module

Reconnect the Printer Sharing Cable to Rear Panel Connector O (Zero).

POWER-ON the work station.

Distribution Board.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) | | (Step 002 continued) | instructions will be given. | 003

Α

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector O (Zero). (Step 003 continues)

MAP 4013-1

TRANSMIT REPAIR

MAP 4013

PAGE 2 OF 2

(Step 003 continued)

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

SHARING INTERRUPT REPAIR

MAP 4211

PAGE 1 OF 1

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	A	1	001

001 (ENTRY POINT A)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Install a new Printer Sharing Card.

3. Install a new Electronic Module Distribution Board.

(Step 001 continues)

(Step 001 continued) POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

MAP 4212

PAGE 1 OF 1

ENTRY POINTS

FROM	!	ENTER	THIS M	AP	
MAP NUMBER		ENTRY POINT	PAGE NUMBE	STEP R NUMBER	
4270		A	1	001	

001 (ENTRY POINT A)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Install a new System Card.

3. Install a new Electronic Module Distribution Board.

(Step 001 continues)

(Step 001 continued) POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

CABLE SENSE REPAIR-CONN. 6A

MAP 4213

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	A	1	001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Pin C1-7 in the Internal Printer Sharing Cable to frame ground.

Does the meter indicate a short? (two ohms or less) Y N

002

Α

(Step 002 continues)

(Step 002 continued) The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

(Step 002 continues)

Α

(Step 002 continued) Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function (Step 003 continues)

CABLE SENSE REPAIR

MAP 4213

PAGE 2 OF 2

(Step 003 continued) Selection Menu, and then press ENTER when the Device Selection Menu appears.

RECEIVE REPAIR-CONN. 6A

MAP 4214

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	A	1	001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector 6A and Pin Cl-8 in the Internal Printer Sharing Cable and then, measure between Pin 4 on Rear Panel Connector 6A and Pin Cl-9 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N

002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) Α

MAP 4214-1

(Step 002 continued) instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Step 003 continues)

RECEIVE REPAIR

MAP 4214

PAGE 2 OF 2

(Step 003 continued) (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

TRANSMIT REPAIR-CONN. 6A

MAP 4215

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	A	1	001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Fin 1 on Rear Panel Connector 6A and Pin C1-10 in the Internal Printer Sharing Cable and then, measure between Fin 2 on Rear Panel Connector 6A and Fin C1-12 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N | | 002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) А

MAP 4215-1

(Step 002 continued) instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Step 003 continues)

A

MAP 4215

PAGE 2 OF 2

(Step 003 continued) (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.
CABLE SENSE REPAIR-CONN. 6B

MAP 4216

PAGE 1 OF 2

ENTRY POINTS

FROM		ENTER	THIS MA	P
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270		A	1	001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Fin C1-19 in the Internal Printer Sharing Cable to frame ground.

Does the meter indicate a short? (two ohms or less) Y N

002

002

(Step 002 continues)

(Step 002 continued) The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

(Step 002 continues)

(Step 002 continued) Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

Α

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function (Step 003 continues)

MAP 4216-1

MAP 4216

PAGE 2 OF 2

(Step 003 continued) Selection Menu, and then press ENTER when the Device Selection Menu appears.

RECEIVE REPAIR-CONN. 6B

MAP 4217

PAGE 1 OF 2

ENTRY POINTS

FROM		ENTER	THIS	MAP	
MAP NUMBER		ENTRY POINT	PAGE NUME	E BER	STEP NUMBER
4270	Ī	 A]	L	001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector 6B and Pin C1-21 in the Internal Printer Sharing Cable and then, measure between Pin 4 on Rear Panel Connector 6B and Pin C1-22 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N

002

А

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) А

| (Step 002 continued) | instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Step 003 continues)

RECEIVE REPAIR

MAP 4217

PAGE 2 OF 2

(Step 003 continued) (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

TRANSMIT REPAIR-CONN. 6B

MAP 4218

PAGE 1 OF 2

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	Ť	A	1	001

⁰⁰¹ (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 6B and Pin C1-23 in the Internal Printer Sharing Cableand then, measure between Pin 2 on Rear Panel Connector 6B and Pin C1-24 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N |

002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B)./

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) Α

(Step 002 continued)
(instructions will be given.
003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Step 003 continues)

TRANSMIT REPAIR

MAP 4218

PAGE 2 OF 2

(Step 003 continued) (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

CABLE SENSE REPAIR-CONN. 0

MAP 5011

PAGE 1 OF 2

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER	ļ	ENTRY POINT	PAGE NUMBER	STEP NUMBER
5070	1	A	1	001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Pin B1-7B in the Internal Distribution Cable to Frame Ground.

Does the meter indicate continuity? (two ohms or less) Y N | | | | | | | | | A B 002

в

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Repair the ground connection on Rear Panel Connector 0 (Zero).

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the (Step 002 continues) Α

MAP 5011-1

(Step 002 continued) Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module (Step 003 continues)

MAP 5011-1

CABLE SENSE REPAIR

MAP 5011

PAGE 2 OF 2

(Step 003 continued) Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

RECEIVE REPAIR-CONN. 0

MAP 5012

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
5070	A	1	001

⁰⁰¹ (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector O (Zero) and Pin B1-8B in the Internal Distribution Cable and then, measure between Pin 4 on Rear Panel Connector O (Zero) and Pin B1-9B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) YN 002 Repair the Internal Distribution Cable or install a Distribution new Internal Cable. Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board. Reconnect the Printer Cable to Rear Panel Connector 0 (Zero). POWER-ON the work station. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then. select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears. А series of tests will automatically begin to run to verify the fix and further instructions will be given.

А

Α

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector 0 (Zero).

POWER-ON the work station.

(Step 003 continues)

RECEIVE REPAIR

MAP 5012

PAGE 2 OF 2

(Step 003 continued) Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

TRANSMIT REPAIR-CONN. 0

MAP 5013

PAGE 1 OF 2

ENTRY POINTS

FROM	ļ	ENTER	THIS	MAP	
MAP NUMBER	+. 	ENTRY POINT	PAGI NUMI	E BER	STEP NUMBER
5070	1	A	1	L .	001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position Bl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 0 (Zero) and Pin B1-10B in the Internal Distribution Cable and then, measure between Pin 2 on Rear Panel Connector 0 (Zero) and Pin B1-12B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N

002

А

Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector O (Zero).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given. A

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector O (Zero),

POWER-ON the work station.

(Step 003 continues)

MAP 5013-1

MAP 5013

PAGE 2 OF 2

(Step 003 continued) Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

FREQUENCY DRIFT ON PRINTER COMMO.

MAP 5030

PAGE 1 OF 1

ENTRY POINTS

FROM ENTER THIS MAP	
+	
MAP ENTRY PAGE STEP	
NUMBER POINT NUMBER NUMB	ER
0070 A 1 0	01

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
1	001	0010	A

001

(ENTRY POINT A)

POWER-OFF the work station.

Install a new System Card. GO TO MAP 0010, ENTRY POINT A.

POWER SUPPLY MAP

MAP 6010

PAGE 1 OF 7

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0009		A	1	001
0010		A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	007	8065	A

001

(ENTRY POINT A)

This MAP isolates the part causing an LED Indicator to light.

LED Indicators:

A = Over/under voltage

B = Overcurrent

C = Overheat

```
Is the "C" LED Indicator ON?
Y N
|
| 002
|
| (Step 002 continues)
|
7
A
```


POWER-OFF (Wait 8 seconds).

Disconnect all cables from the rear panels of the Electronic Module except the (ac) Power Cord or (Cords).

POWER-ON.

Are the "A" and/or "B" LED Indicators ON? Y N 003 POWER-OFF (Wait 8 seconds). Reconnect the Keyboard Module Cable Connector (7). POWER-ON. (Step 003 continues) 3 B MAP 6010-1

POWER SUPPLY MAP	DEF	C G MAP 6010-2
MAP 6010		
PAGE 2 OF 7		
(Step 003 continued) Are the "A" and/or "B" LED Indicators ON? Y N 	 006 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	010 POWER-OFF (Wait 8 seconds).
004	007	Install a new base Power Supply.
POWER-OFF (Wait 8 seconds). Reconnect the Display Module Cable Connector (2).	You are now directed to go to the DC Short Failure MAP.	Reconnect all the cable connectors.
POWER-ON.	GO TO MAP 8065, ENTRY POINT A.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Are the "A" and/or "B" LED Indicators ON? Y N	008	011
005	Has a new Display Module been installed?	POWER-OFF (Wait 8 seconds).
 POWER-OFF (Wait 8 seconds). 	Y N 009	Disconnect the Keyboard Module Cable (Logic Card Connector) at the Keyboard Logic Card.
Reconnect the Diskette DC Connector (10), Diskette Signal Connector (5) and	POWER-OFF (Wait 8 seconds).	POWER-ON.
Communications Power Connector (11) if present.	Install a new Display Module.	Are the "A" and/or "B" LED Indicators ON?
POWER-ON.	connect all the cable connectors.	¥ N 012
Are the "A" and/or "B" LED Indicators ON? V N	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.	POWER-OFF (Wait 8 seconds).
		Reconnect the Keyboard Module (Step 012 continues)
I I I I C D E F	l G	3 H MAP 6010-2

POWER SUPPLY MAP	H J	B MAP 6010-3
MAP 6010		I
PAGE 3 OF 7		
<pre>(Step 012 continued) Cable (Logic Card Connector) at the Keyboard Logic Card. Disconnect the Speaker Connector at the Keyboard Logic Card. POWER-ON.</pre>	<pre>(Step 013 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Ol4 POWER-OFF (Wait 8 seconds).</pre>	Ol6 POWER-OFF (Wait 8 seconds). Disconnect the System Power Cable Connector (P1) at the Power Supply. POWER-ON
Are the "A" and/or "B" LED Indicators ON? Y N 013	Install a new Keyboard Logic Card. Reconnect all the cable connectors.	Are the "A" and/or "B" LED Indicators ON? Y N
POWER-OFF (Wait 8 seconds). Check to ensure that a Speaker Tab is not touching the metal mounting bracket. If a Speaker Tab is touching	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 015 POWER-OFF (Wait 8 seconds).	017 POWER-OFF (Wait 8 seconds). Reconnect the System Power Cable (P1) at the Power Supply.
<pre>the mounting bracket, then rotate the Speaker away from the mounting bracket. Ensure that the Speaker mounting srew is tight. If a Speaker Tab is not touching the metal mounting bracket then</pre>	Repair or install a new Keyboard Module Cable. Reconnect all the cable connectors.	Remove all the Cards from the Electronic Module Distribution Board Assembly. POWER-ON.
Reconnect all the cable connectors. (Step 013 continues)	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.	Are the "A" and/or "B" LED Indicators ON? Y N
J		б54 КLM МАР 6010-3

J

M POWER SUPPLY MAP	Q R	T U MAP 6010-4
3 MAP 6010		
PAGE 4 OF 7		
	i i	
018	021	024
POWER-OFF (Wait 8 seconds).	POWER-OFF (Wait 8 seconds).	POWER-OFF (Wait 8 seconds).
Reinstall the original System Card	Install a new Memory Card.	REPLACE REMAINING CARD
ouru.	Reconnect all the cable	Reconnect all the cable
POWER-ON.	connectors.	connectors.
Are the "A" and/or "B" LED	GO TO MAP 0010, ENTRY POINT A,	GO TO MAP 0010, ENTRY POINT A,
Indicators ON?	to Verify System Operation.	to Verify System Operation.
YN		
	022	025
019		
POWER-OFF (Wait 8 seconds).	POWER-OFF (wait 8 seconds).	shorted.
	Reinstall the original Memory	
Reinstall the original	Card in slot "E".	POWER-OFF.
Display Adapter Card.	DONED ON	Deinstell the eniginal Gauda
POWER-ON	FOWER-ON.	che at a time
	Are the "A" and/or "B" LED	one at a time.
Are the "A" and/or "B" LED	Indicators ON?	POWER-ON.
Indicators ON?	YN	
YN		When the "A" and/or "B" LED
	023	Indicators come on.
020		
	Do you have more than one Card	The last Card installed is the
Do you have more than one	left?	one with a short.
Card Tert?		Fuchanza the failing Cand
		Exchange the failing card.
		(Step 025 continues)
		(Tech one concrush)
551	5	
NPOR	STU	MAP 6010-4

P S POWER SUPPLY MAP	L N	MAP 6010-5
4 4 MAP 6010	3 4	
PAGE 5 OF 7		
(Step 025 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	(Step 027 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	(Step 029 continued) Are the "A" and/or "B" LED Indicators ON? Y N
026	028	
POWER-OFF (Wait 8 seconds).	POWER-OFF (Wait 8 seconds).	POWER-OFF (Wait 8 seconds).
Install a new Memory Card.	Install a new System Card.	Install a new Internal
Reinstall all the original cards.	Reinstall all the original cards.	Distribution Cable.
Reconnect all the cable connectors.	Reconnect all the cable connectors.	Reinstall all the original cards.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	connectors.
 027	 029	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-OFF (Wait 8 seconds).	POWER-OFF (Wait 8 seconds).	031
Install a new Display Adapter Card.	Disconnect the Internal Distribution Cable Connector	POWER-OFF (Wait 8 seconds).
Reinstall all the original cards.	(D1) from the Electronic Module Distribution Board. POWER-ON	Disconnect the Internal Distribution Cable Connector (B1) from the Electronic Module Distribution Board.
Reconnect all the cable connectors.	(Step 029 continues)	POWER-ON.
(Step 027 continues)		(Step 031 continues)

MAP 6010-5

POWER SUPPLY MAP		K MAP 6010-6
MAP 6010		3
PAGE 6 OF 7		
(Step 031 continued) Are the "A" and/or "B" LED Indicators ON? Y N	(Step 033 continued) Indicators ON? Y N	(Step 035 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
032	034	036
POWER-OFF (Wait 8 seconds).	POWER-OFF (Wait 8 seconds).	POWER-OFF (Wait 8 seconds).
Install a new Internal Distribution Cable.	Install a new Electronic Module Distribution Board.	Disconnect the Internal Distribution Cable Connector (P2) at the Power Supply.
Reinstall all the original cards.	Reinstall all the original of cards.	POWER-ON.
Reconnect all the cable connectors.	Reconnect all the cable connectors.	Are the "A" and/or "B" LED Indicators ON? Y N
 GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 	037
 033	035	POWER-OFF (Wait 8 seconds).
POWER-OFF (Wait 8 seconds).	POWER-OFF (Wait 8 seconds).	Install a new Internal Distribution Cable.
Disconnect the System Power Cable Connector (Al) at the	Install a new System Power Cable.	Reconnect all the cable connectors.
Electronic Module Distribution Board.	Reinstall all the original cards.	GO TO MAP 0010, ENTRY POINT A,
POWER-ON.	Reconnect all the cable connectors.	038
Are the "A" and/or "B" LED (Step 033 continues)	(Step 035 continues)	(Step 038 continues)

A POWER SUPPLY MAP	V	MAP 6010-7
MAP 6010		
PAGE 7 OF 7		
(Step 038 continued) POWER-OFF (Wait 8 seconds).	041	(Step 045 continued) POWER-OFF.
Install a new base Power Supply.	Is the Fan making any unusual noise or running slowly? Y N	Install a new base Power Supply.
Reconnect all the cable connectors.	042	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 039	Is the Machine located in direct sunlight or in a very hot area? Y N	
Is the Fan in the Electronic Module running? Y N	043 POWER-OFF.	
040 POWER-OFF. Install a new base Power Supply.	Install a new base Power Supply. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	 044 Advise the Customer of the environmental impact on the machine.	
	 045 (Step 045 continues)	
I V		MAP 6010-7

COMMUNICATIONS		A B MAP 7010-1
MAP 7010		!!
PAGE 1 OF 2		
ENTRY POINTS	(Step 002 continued) Load the Displaywriter System	(Step 003 continued) GO TO MAP 0010, ENTRY POINT
FROM ENTER THIS MAP	Diagnostic diskette.	Operation.
MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER	Select MDIs on the Function Selection menu.	 004
7070 A 1 001	Does the Device Selection menu indicate that Communications is present (green dot next to ID letter)?	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 005
001	YN	
(ENTRY POINT A)	003	Disconnect the Diskette Unit Signal Cable Connectors (5) and
POWER-OFF.		(A1).
Reinstall the original Communications Adapter Card. Is the Communications Adapter	POWER-OFF. Reinstall the original Electronics Module Distribution Board.	Using the lowest ohms range, check the continuity of each wire in the Diskette Unit Signal Cable.
Card in the Diskette Unit? Y N !	Install a new System Card.	Refer to the Product Support Manual for pin assignments.
002	POWER-ON.	
Install a new Electronic Module Distribution Board.	Load the Displaywriter System Diagnostic diskette.	Was the cable continuity correct? (less than 2 ohms). Y N
Reconnect all the cable connectors.	Select MDIs on the Function Selection menu.	006
POWER-ON.	Run the Communications MDIs.	Install a new Diskette Unit Signal Cable.
(Step 002 continues)	(Step 003 continues)	(Step 006 continues)
A	l B	2 C MAP 7010-1

MAP 7010

PAGE 2 OF 2

(Step 006 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

```
007
```

Disconnect the Internal Diskette Signal Cable Connector (S1) in the Electronic Module.

Using the lowest ohms range, check the continuity of each wire between connectors (5) and (S1) in the Internal Diskette Signal Cable.

Refer to the Product Support Manual for pin assignments.

```
Was the cable continuity correct?
(less than 2 ohms).
YN
```

008

Install a new Internal Diskette Signal Cable in the Electronic Module.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, (Step 008 continues)

(Step 008 continued) to Verify System Operation. 009

D

Install a new System Card.

cable Reconnect all the connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

INTERNAL EIA CABLE

MAP 7020

PAGE 1 OF 2

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
7060	1	A	1	001
7061		A	1	001

001 (ENTRY POINT A)

POWER-OFF.

Is the Communications Adapter Card located in the Electronic Module? Y N

002

Disconnect the Internal Communications Cable Connector (C2).

Using the lowest ohms range, check the contunity of each wire between connectors (4A) and (C2) of the Internal Communications Cable. (Step 002 continues) (Step 002 continued)

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms). Y N

003

Install a new Internal Communications Cable in the Diskette Unit.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

Install a new Communications Adapter Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

```
.
005
```

А

Disconnect the Internal Communications Cable Connector (A2).

MAP 7020-1

Using the lowest ohms range, check the contunity of each wire between connectors (4) and (A2) of the Internal Communications Cable.

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms). Y N

```
006
```

Install a new Internal Communications Cable in the Electronic Module.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

```
2
B
```

MAP 7020-1

А

INTERNAL EIA CABLE

MAP 7020

PAGE 2 OF 2

007

Install a new Communications Adapter Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

INTERNAL COMM. CABLE

MAP 7030

PAGE 1 OF 1

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
7075	A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
1	003	7062	A

001 (ENTRY POINT A)

POWER-OFF.

Disconnect the Internal Communications Cable Connector (D2 or D3) from the Diskette Unit Distribution Board.

Using the lowest ohms range, check the contunity of each wire between connectors (4B) and (D2 or D3) of the Internal Communications Cable.

Refer to the Product Support Manual for pin assignments. (Step 001 continues) (Step 001 continued)

Was the cable continuity correct? (less than 2 ohms). Ϋ́Ν 002 Reinstall the original Feature Card in Slot "D". Install Internal a new Communications Cable in the Diskette Unit. Reconnect all cable the connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 003 GO TO MAP 7062, ENTRY POINT A.

PORT 4 NO VOLTAGE

MAP 7060

PAGE 1 OF 2

ENTRY POINTS

	-			
FROM		ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
7074	1	A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	005	7020	A

001 (ENTRY POINT A)

POWER-OFF.

Test Conditions:

- a. Position the Electronics Module Distribution Board to permit access for making voltage measurements on Connector (A1).
- b. All cables are to be connected.
- c. All cards are to be in place.

POWER-ON.

Using the 20(dc) voltage range, (Step 001 continues)

(Step 001 continued) measure from each pin in the following Chart to frame ground at the Power Supply Case. System Power Cable Connector (A1) _____ Voltage Range Pin (dc) Volts _____ -11.04 to -13.20 8 +11.04 to +13.20 20 _____ Were all the voltage measurements correct? YN 002 POWER-OFF. Disconnect System Power Cable Connectors Pl and Al. Using the lowest ohms range, check the continuity of the

Connector (A1) pin 8 to Connector (P1) pin 1. (Step 002 continues)

System Power Cable.

2 A

MAP 7060-1

A 1	PORT 4 NO VOLTAGE
·,	MAP 7060
	PAGE 2 OF 2
	(Step 002 continued)
	Connector (A1) pin 20 to Connector (P1) pin 15.
	Was the cable continuity correct? (less than 2 ohms) Y N
	003
	Install a new System Power Cable.
	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
	004
	Install a new base Power Supply.
	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
0 G	05 O TO MAP 7020, ENTRY POINT A.

P4A/P4B NO VOLTAGE

MAP 7061

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
7074	A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	005	7020	A

001

(ENTRY POINT A)

POWER-OFF.

Test Conditions:

- a. Position the Diskette Unit Distribution Board to permit access for making voltage measurements on Connector (C1).
- b. All cables are to be connected.
- c. All cards are to be in place.

POWER-ON.

Using the 20(dc) voltage range, (Step 001 continues)

(Step 001 continued) measure from each pin in the following Chart to frame ground at the Power Supply Case.

++
Communication Power Cable Connector (C1)
Voltage Range Pin (dc) Volts
5 +11.04 to +13.20 10 +8.25 to +8.93 12 -4.6 to -5.5 17 -11.04 to -13.20
Were all the voltage measurements correct? Y N
002
POWER-OFF.
Disconnect Communication Power Cable Connectors 11 and C1.
Using the lowest ohms range, check the continuity of the Communications Power Cable. (Step 002 continues)
2 A MAP 7061-1

MAP 7061

PAGE 2 OF 2

(Step 002 continued)

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms) Y N

j 003

Install a new Communications Power Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

| 004

> Install a new base Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

GO TO MAP 7020, ENTRY POINT A.

MAP 7062

PAGE 1 OF 2

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER	 	ENTRY POINT	PAGE NUMBER	STEP NUMBER
7030 7076 7077 7078	+ - 	A A A A	1 1 1 1	001 001 001 001
001				

(ENTRY POINT A)

POWER-OFF.

Reinstall the original Communications Feature Card in slot "D". (If you have not already done so.)

POWER-ON.

Using the 20(dc) voltage range, measure from each pin in the following Chart from frame ground to the Pins in the Chart. (Step 001 continues)

(Step 001 continued)

4						+	
1	CONN		Volta	ge F	lange	1	
	D1	Pin	(dc)	Vol	ts		
	D1	10	+8.245	to	+8.92	25	
1	D1.	14	+4.6	to	+5.5		
	D1	18	-11.04	to	-13.2	20	
Ì						<u>;</u>	
	D2 D2	10	+8.245	το to	+8.92	25	
	D2	5	-4.6	to	-5.5	ļ	
	D3	17	+8.245	 to	+8.92	25	
i	D3	14	+4.6	to	+5.5		
-	D4	14	+4 6	 +0	+5 5		
4						+	
v	lere a	11 the	voltag	- me	acure	men	te
	orrec	t?	VOICage	s me	abur	smen	
2	Y N						
	002						
į							
Using the 20(dc) voltage							
range, measure from each pin in the following Chart from							
	(Ste	p 002	continue	es)	mar t		Ja
	>						

А

MAP 7062-1

(Step 002 continued) frame ground to the Pins in the Chart.

+ CONN C1	Pin	Volta (dc)	ge Rang Volts	ge	•
C1 C1 C1 C1 C1 C1 C1 C1	5 10 1 2 13 14 15 16 12 17	+11.04 +8.245 +4.6 +4.6 +4.6 +4.6 +4.6 -4.6 -11.04	to +1: to +8 to +5 to +5 to +5 to +5 to +5 to +5 to -5 to -1:	3.20 .925 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	-
Were al correct Y N	l the ?	voltage	e meası	ıremer	nts
003					
Dis Pow the	conne er Ca Powe	ct the (ble Conn r Supply	Commun: nector /·	icatic (11)	ns at
Usin rand (Step	ng t ge, 003	he 20 measure continue	(dc) e the es)	volta outr	age out
2 B			MAP 7	7062-1	_

MAP 7062-1

FEATORE CARD FOWER	А В 1 1
MAP 7062	· ·
PAGE 2 OF 2	
(Step 003 continued) voltage at the Power Supply Connector (11)	006
	POWE
Refer to the Product Support Manual for Pin assignments.	 Inst Dist
Were all the voltage measurements correct? Y N	GO TO to Ver
 004	007
POWER-OFF.	Instal Adapte
Supply.	GO TO MA Verify S
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	
l 005	

POWER-OFF.

Install a new Communications Power Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

ER-OFF.

all a new Diskette Unit ribution Board.

MAP 0010, ENTRY POINT A, ify System Operation.

l a new Communications er Card.

AP 0010, ENTRY POINT A, to System Operation.

RNA START MAP

MAP 8020

PAGE 1 OF 6

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0009 0010 8021 8028	A A A A A	1 1 1 1	001 001 001 001

001

(ENTRY POINT A)

This MAP is used to isolate the failure to a specific Diskette function.

Select the RNA Diagnostics by pressing the Memory Record Button while turning the POWER Switch ON.

The functions are selected by pressing the MOVE key.

The function is executed by pressing the ENTER key. (Step 001 continues)

+-TEST L or M ERROR CODE	ERROR CODE CHART-
01	GO TO MAP 8021,A
02	GO TO MAP 8022,A
04	GO TO MAP 8025,A
08 or 17	GO TO MAP 8028,A
19 or 20	GO TO MAP 8026,A

TO

MAP

8022

8022

8026

8060

8061

8062

ENTRY

POINT

A

A

Α

А

Α

Α

EXIT POINTS

PAGE

3

4

5

5

6

6

EXIT THIS MAP

STEP

NUMBER NUMBER | NUMBER

009 1

021

027 İ

029 1

033 |

031 |

(Step 001 continued)

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select the Drive Set Ready Test L.

Execute test procedure L by pressing ENTER.

If an Error Code is not displayed on the screen, then execute test M.

|If this is a two-drive | |station, execute the test on | |both drives. It is necessary |to use the D function to | |select the desired drive.

Was an Error Code displayed on the screen? Y N

002

No Error Found.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

2 A

MAP 8020-1

A	RNA START MAP		D	MAP 8020-2
-	MAP 8020		.1	
	PAGE 2 OF 6			
1°		(Step 005 continued)		
003		if an Error Code is not	007	
Was the Er	ror Code 03, 07, 09, 15	displayed on the screen then execute test procedure M.	POWER-OFF.	•
Y N		Wag an Frror Code dignlayed on	Poturn the	Distatta Drive Cable
004		the screen? (Record the Error Code)	to the ori Diskette A	iginal position on the Adapter Card.
Is this	a two Drive station?	Y IN	Ic the Em	on Code which we a
Y N		006	result of te	est L or test M in the
005		POWER-OFF.	Error Code (8020) Y N	nart? (Start of MAP
POWE	R-OFF.	Return the Diskette Drive Cable to the original	008	
Disc Driv	onnect the Diskette e Cable B3 at the ette Adapter Card and	position on the Diskette Adapter Card.	 Was the Er	cror Code 10?
record	nnect the Diskette e Cable in the empty B4	Install a new Diskette Adapter Card.	009	
Disk	ette Adapter Card.	 Verify by running the Drive Set Ready test L.	Error	Code 14: Check for a
Pres	s the Memory Record		and ch	neck that the Diskette
Butte	on while turning the r Switch On.	Verify by running the Stepper Motor Phase test M.	Load Execut	Lever is down. te test L and test M a
Sele	ct the Right Drive.	If an Error Code occurs, go		curs more than once,
Driv	e Station)		go to	the Diskette Drive
Exect	ute test procedure L.	GO TO MAP 0010, ENTRY POINT A,	Not Re	eady MAP.
(Step	005 continues)		(Step 00	09 continues)
63			33	
BC		D	EF	MAP 8020-2
F	RNA START MAP	G	CE	MAP 8020-3
------------	---	---	-----------------------	---
- <u>4</u>	MAP 8020			
	PAGE 3 OF 6			
	(Step 009 continued)	(Step 011 continued)	(Step 01	4 continued)
	GO TO MAP 8022, ENTRY POINT A.	to Verify System Operation.	Button	, while turning the Switch On
0 1	0	012		, , , , , , , , , , , , , , , , , , ,
	Using the lowest ohm range, measure from Pin Al8 (File	Install a new Diskette Adapter Card.	Verify Set Re	ady test L.
	Control Card Connector) to Pin 6 (Connector B3). For a	Press the Memory Record Button	Verify Steppe	by running the r Motor Phase test M.
_	reading of less than 2 ohms.	while turning the Power Switch On.	GO TO MA	P 0010, ENTRY POINT
Y Y	you measure less than 2 onms? N	Execute test L and if an Error	A, to Operatio	n. Verliy System
j	011	execute test M.	015	
	Install a new Diskette Drive Cable.	Was an Error Code displayed on the screen?	Follow the Erro	the instructions in or Code Chart.
	Press the Memory Record	Y N	016	
	Button, while turning the Power Switch On.	013	Are both Dri	ves failing?
Ì	Verify by running the Drive	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Y N	-
	Set Ready test L.	 014		
Ì	Verify by running the Stepper Motor Phase test M.	POWER-OFF.	POWER-OF	F.
	If an Error Code occurs, go back to MAP 8020, Entry A	Install a new File Control Card.	Record f	ailing drive left or
	(Step 011 continues)	(Step 014 continues)	Swap Dr (Step 017	ive Cable Connectors continues)
- I -			I	

5 H

MAP 8020-3

| G

RNA START MAP

MAP 8020

PAGE 4 OF 6

(Step 017 continued) B3 and B4 at the Diskette Adapter.

The purpose of swapping Connector B3 and B4 is to determine if the failure is on the Diskette Adapter Card or on a drive.

Press the Memory Record Button while turning the Power Switch On.

Select the left drive.

Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive.

Execute test L and if an Error Code is not displayed, then execute test M.

If this drive failed, then record that the right drive failed.

Select the right drive.

Load the DISPLAYWRITER SYSTEM DIAGNOSTIS in the left drive.

Execute test L and if an Error (Step 017 continues)

(Step 017 continued) Code is not displayed, then then execute test M.

If this drive failed, then record that the Left Drive failed.

Record the Error Code.

POWER-OFF.

Return Connector B3 and B4 to their original positions.

Is the same Drive failing? Y N $\,$

018

J

Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

(Step 018 continues)

(Step 018 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 019 Is the Error Code in the Error Code Chart? (Start of MAP 8020) ΥN 020 Was the Error Code 10? ΥN 021 Error Code 14: Check for a correctly seated Diskette and check that the Diskette Load Lever is down. Execute test L and test M a few times. If Error Code 14 occurs more than once.

14 occurs more than once, load another Diskette and go to the Diskette Drive Not Ready MAP.

GO TO MAP 8022, ENTRY POINT A.

55 KL

J

MAP 8020-4

L RNA START MAP	нк
4 MAP 8020	5 4
PAGE 5 OF 6	
022	(Step 024 continued) On.
Using the lowest ohm range, measure from Pin A18 (File	Verify by running the Drive Set Ready test L.
6 (Connector B3). For a reading of less than 2 ohms.	Verify by running the Stepper Motor Phase test M.
Do you measure less than 2 ohms? Y N 	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
023	
Install a new Diskette Drive Cable.	Follow the instructions in
Verify by running the Drive Set Ready test L.	 026
Verify by running the Stepper Motor Phase test M.	Are both AC Drive Motors turning? Y N
 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	027
 024	You are now directed to go to the No Index Pulses MAP.
Install a new File Control Card.	GO TO MAP 8026, ENTRY POINT A.
Press the Memory Record Button, while turning the Power Switch	l 028
(Step 024 continues)	(Step 028 continues)

(Step 028 continued) Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 14(+) at Connector B3 and Connector B4. Check for a reading of +4.6 volts to +5.5 volts. Is the voltage between +4.6 volts to +5.5 volts? YN 029 You are now directed to go to the Diskette Unit +5 Vdc Power MAP. GO TO MAP 8060, ENTRY POINT A. 030 Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 5(+) at Connector B3 and Connector B4. Check for a reading of -4.6 volts to -5.5 volts.

(Step 030 continues)

MAP 8020-5

MAP 8020-5

	RNA START MAP
	MAP 8020
	PAGE 6 OF 6
Step 030 co	ntinued)
s the volta co -5.5 volt N	ge between -4.6 volts s?
031	
You are no the Diske MAP.	w directed to go to tte Unit -5 Vdc Power
GO TO MAP	8062, ENTRY POINT A.
032	
Using th range, mea Pin 12(+) Connector reading o +26.4 volt	e 200(dc) voltage sure from Pin 7(-) to at Connector B3 and B4. Check for a ff +22.08 volts to s.
s the vol volts to +26 N	tage between +22.08 .4 volts?
033	
You are no the Disket MAP. (Step 033	w directed to go to te Unit +24 Vdc Power continues)

М

(Step 033 continued)

GO TO MAP 8061, ENTRY POINT A.

034

вМ

2

POWER-OFF.

Install а new Diskette Adapter Card.

Memory Press the Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

If an Error Code occurs, go back to MAP 8020, Entry A.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

POWER-OFF.

(Step 035 continues)

MAP 8020-6

(Step 035 continued) Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

⁰³⁵

MAP 8021

PAGE 1 OF 9

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
8020	A	1	001
8028	A	1	001
8071	A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	8020	 A
2	003	8028	А
3	016	8060	А
5	023	8060	Α
3	014	8061	Α
5	025	8061	Α
7	037	8061	А
9	049	8061	Α

001

(ENTRY POINT A)

This MAP isolates Read failure problems.

Remove the Diskette from failing drive.

Press the Memory Record Button while turning the Power Switch On.

Select the failing drive.

(Step 001 continues)

(Step 001	conti	inued)		
Select	test	procedure	N	by
pressing	g the	MOVE key.		

Execute test procedure N by pressing the ENTER key.

This moves the Head Carriage to Track 40.

Remove the Cable Guide (Warning: Do not let the Head Cable touch the Drive Belt).

The Stepping Motor Pulley is at Track 40 if the timing holes in pulley and casting are aligned.

Use the alignment pin to verify.

Press the END key to terminate test N.

Is the Stepping Motor Pulley located at Track 40?

	_
	1
i	i
i	i
i.	i
ł	
1	
1	
!	
1	
2	2

MAP 8021-1

AB

B READ ID ERROR MAP	A	MAP 8021-2
MAP 8021	1	
PAGE 2 OF 9		
002	005	(Step 006 continued)
<pre>Is the head located at Track 40? (.020 gap, see the Product Support Manual) Y N 003 You are now directed to go to the Seek Error MAP. GO TO MAP 8028, ENTRY FOINT A. 004 Go to the Product Support Manual and perform the Head Carriage adjustment. You are now directed to go to the RNA Start MAP. GO TO MAP 8020, ENTRY FOINT A.</pre>	Is the Drive Pulley turning in a counterclockwise direction? Y N 006 POWER-OFF. Disconnect the AC Cable Connector 8. Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two wires and the other end of the meter lead to the Capacitor Terminal with the single wire. Install a new AC Capacitor. Reconnect the AC Power Cord to the drive. POWER-ON. (Step 006 continues)	Is the Drive Pulley turning in a counterclockwise direction? Y N 007 POWER-OFF. Disconnect the AC Cable Connector 8. Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two wires and the other end of the meter lead to the Capacitor Terminal with the single wire. Reinstall the original AC Capacitor. Install a new AC Motor. Reconnect the AC Power Cord to the drive. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
	3 C	3 D MAP 8021-2

C D READ ID ERROR MAP		MAP 8021-3
MAP 8021		
 PAGE 3 OF 9		
<pre>008 008 009 Load the DISPLAYWRITER SYSTEM DIAGNOSTICS in the failing drive. Select test procedure L by pressing the MOVE key. Execute test procedure L by pressing the ENTER key. If an Error Code is not displayed on the screen, then execute test procedure M.</pre>	<pre>(Step 011 continued) Execute test procedure L by pressing the ENTER key. Does the solenoid pick and drop? Y N 012 For a Diskette 1 Drive connect a meter lead between Pins TPC04 and TPHLD for a Diskette 2D Drive between Pins TPA07 and TPA08, located on the File Control Card. This should activate the Head Load Solenoid. Does the solenoid pick? Y N</pre>	<pre>(Step 013 continued) and +26.4 volts? Y N 014 You are now directed to go to the Diskette Unit +24 Vdc Power MAP. GO TO MAP 8061, ENTRY POINT A. Using the 20(dc) voltage range, measure from Pin B01(+) to Pin A18(-) at the File Control Card Connector. Check for a reading of +4.6 volts to +5.5 volts.</pre>
Was an Error Code displayed on the screen? Y N 010 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 011 (Step 011 continues)	013 Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts. Is the voltage between +22.08 (Step 013 continues)	Is the voltage between +4.6 volts to +5.5 volts? Y N 016 You are now directed to go to the Diskette Unit +5 Vdc Power MAP. GO TO MAP 8060, ENTRY POINT A.
	E F	G MAP 8021-3

READ ID ERROR MAP	Н	F MAP 8021-4
MAP 8021		3
Int Oddi		1
PAGE 4 OF 9		
	(Step 018 continued)	
	Button, while turning the Power Switch On.	020
OWER-OFF.		POWER-OFF.
	Select Test Procedure L by	
isconnect the Head Load olenoid Connector from the	pressing the MOVE key.	Using the lowest ohm range, measure from Pin B15 (File
ile Control Card.	Execute Test Procedure L by pressing the ENTER key.	Control Card Connector) to Pin 17 (Connector B3/B4). Check
sing the 2K ohm range, check		for a reading of less than 2
he Head Load Solenoid	GO TO MAP 0010, ENTRY POINT A,	ohms.
esistance. For a Diskette 1	to Verify System Operation.	
40 to 400 ohms. For a	l 019	Do you measure less than 2 onms? Y N
esistance should be 113 to 248	Install a new File Control Card.	021
		Install a new Diskette Drive
the Solenoid resistance inside se limits?	Press the Memory Record Button, while turning the Power Switch	Cable.
	On.	GO TO MAP 0010, ENTRY POINT A,
18	Verify by running the Drive Set	
	Ready test L.	022
If the solenoid resistance is	Ward for the summing the fits of	Maine the 20(de) weltage worke
Control Card should also be	Motor Phase test M.	measure from Pin BO1(+) to Pin
were land		A + W = A + DT + TOO + A + OH + COH + COH + A + OH
replaced.	CO TO MAD OOLO ENTRY DOLNT & to	Connector Check for a reading

READ ID ERROR MAP	J	E K MAP 8021-5
MAP 8021	ļ	3
PAGE 5 OF 9		
(Step 022 continued)	(Step 025 continued)	(Step 027 continued) Adapter Card.
<pre>Is the voltage between +4.6 volts to +5.5 volts? Y N 023</pre>	GO TO MAP 8061, ENTRY POINT A. 026	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
You are now directed to go to the Diskette Unit +5 Vdc Power	POWER-OFF. Install a new File Control	GO TO MAP 0010, ENTRY POINT A,
Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.	Press the Memory Record Button while turning the Power Switch On. Select test procedure L by pressing the MOVE key. Execute test procedure L by pressing the ENTER key. Does the solenoid pick and drop? Y N	POWER-OFF. Perform the Solenoid and Bail service adjustment as described in the Product Support Manual. Press the Memory Record Button, while turning the Power Switch On.
Is the voltage between +22.08 and +26.4 volts? Y N	027	Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.
025 Vou are now directed to go to the Diskette Unit +24 Vdc Power	POWER-OFF. Reinstall the original File Control Card.	Select test procedure M by pressing the MOVE key. Execute test procedure M by pressing the ENTER key.
MAP. (Step 025 continues) 	Install a new Diskette (Step 027 continues) 	(Step 029 continues)
	I construction of the second se	

MAP 8021-5

к

J

READ ID ERROR MAP MAP 8021 PAGE 6 OF 9 (Step 029 continued) Was test procedure M completed without a failure? 030 Is the failing Drive a type 1 Drive? ΥN 031 Remove the Diskette. Select test procedure N by pressing the MOVE key. Execute test procedure N by pressing the ENTER key. Check the Head Carriage for .020 gap, see the Product Support Manual. Is the adjustment correct? IYN 032

Y N

97

LMN

Go to the Product Support Manual and make the correct adjustments. (Step 032 continues)

while turning the Power Switch On.

033

POWER-OFF.

Assembly.

N

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

GO TO MAP 0010, ENTRY POINT A,

Install a new Head Carriage

Press the Memory Record Button,

to Verify System Operation.

(Step 032 continued)

Select test procedure M by pressing the MOVE key.

Execute test procedure M by pressing the ENTER key.

Was test procedure M completed without a failure? YN

```
034
2
```

7

Р

POWER-OFF.

Install a new File Control (Step 034 continues)

(Step 034 continued) Card.

Press the Memory Record Button, while turning the Power Switch On.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select test procedure M by pressing the MOVE key.

Execute test procedure M by pressing the ENTER kev.

Was test procedure M completed without a failure?

ΥN

7

Q

035

POWER-OFF.

Install Diskette a new Adapter Card.

Press the Memory Record Button, while turning the Power Switch On

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS. (Step 035 continues)

MAP 8021-6

READ ID ERROR MAP
MAP 8021
PAGE 7 OF 9
(Step 035 continued)
Select test procedure M by pressing the MOVE key.
Execute test procedure M by pressing the ENTER key.
Was test procedure M completed without a failure? Y N Y
036
Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.
Is the voltage between +22.08 and +26.4 volts? Y N
037
You are now directed to go to the Diskette Unit +24 Vdc Power MAP.
 (Step 037 continues)

RS

QRS (Step 037 continued) GO TO MAP 8061, ENTRY POINT A. 038 POWER-OFF. Install a new Head Load Solenoid. Press the Memory Record Button, while turning the Power Switch On. Select Test Procedure L by pressing the MOVE key. Execute Test Procedure L by pressing the ENTER key. GO TO MAP 0010, ENTRY POINT Verify Α, to System Operation. 039 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 040 GO TO MAP 0010, ENTRY POINT A, to (Step 040 continues)

6

MAP 8021-7 ΜP 66 (Step 040 continued) | Verify System Operation. 041 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 042 Check the Pressure Pad on the Head Load Arm for wear. Is the Pressure Pad worn? ΥN 043 Remove the Diskette. Select test procedure N by pressing the MOVE key. Execute test procedure N by pressing the ENTER key. Check the Head Carriage for .020 gap, see the Product Support Manual. Is the adjustment correct? Y N 11 988 MAP 8021-7 тиv

U V READ ID ERROR MAP 7 7

MAP 8021

PAGE 8 OF 9

044

Go to the Product Support Manual and make the correct adjustments.

Ó45

POWER-OFF.

Install a new Head Carriage Assembly.

Press the Memory Record Button, while turning the Power Switch On.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select test procedure M by pressing the MOVE key.

Execute test procedure M by pressing the ENTER key.

Was test procedure M completed without a failure? Y N

046

9

w

(Step 046 continues)

(Step 046 continued) POWER-OFF

Install a new File Control Card.

Press the Memory Record Button, while turning the Power Switch On.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select test procedure M by pressing the MOVE key.

Execute test procedure M by pressing the ENTER key.

Was test procedure M completed without a failure? Y N

047

9

х

POWER-OFF.

Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On. (Step 047 continues) (Step 047 continued)

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select test procedure M by pressing the MOVE key.

Execute test procedure M by pressing the ENTER key.

Was test procedure M completed without a failure?

048

Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.

Is the voltage between +22.08 and +26.4 volts? Y N

.

| | 049
| |
| You are now directed to go to
| the Diskette Unit +24 Vdc
| Power MAP.
| (Step 049 continues)
| |
9 9
Y Z MAP 8021-8

XYZ READ II) ERROR MAP	
MAP 802	21	
PAGE	9 OF 9	
(Step 049 co	ntinued)	(Step 052 continued) Verify System Operation.
GO TO MAP 800	51, A.	053 053 GO TO MAP 0010, ENTRY POINT A to Verify System
POWER-OFF.		Operation. 054
Install a h Solenoid. POWER-ON.	iew Head Load	Go to the Product Support Manual for the correct Pressure Pad replacement procedure.
Select Test pressing the Execute Test	MOVE key.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
pressing the	ENTER key.	055
GO TO MAP 0010 A, to Ver Operation.	, ENTRY POINT rify System	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
051		
GO TO MAP 0010, to Verify System	ENTRY POINT A, Operation.	
GO TO MAP 0010, EN (Step 052 continues	TRY POINT A, to s)	

DISKETTE DRIVE NOT READY MAP

MAP 8022

PAGE 1 OF 3

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
8020	A	1	001
8026	A	1	001
8071	A	1	001

001

(ENTRY POINT A)

This MAP isolates problems causing slow Diskette speed.

NOTE: A failing Diskette can cause slow Diskette speed.

POWER-OFF.

Remove the Drive Belt.

Go to the Product Support Manual and check the operator handle and the Collet Flat Spring adjustments. (Step 001 continues)

3	016	8026	A
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
EXIT TH	IS MAP	ТО	
EXIT PO	1NTS		

(Step 001 continued)

Are the adjustments correct? YN 002 Install/Repair the necessary parts. Press the Memory Record Button while turning the Power Switch On. Verify by running the Drive Set Ready test L. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Ó03 Go to the Product Support Manual and perform the Solenoid and Bail ajustment. Verify by running the Drive Set Ready test L. executing the Verify by Diskette MDI. Was test procedure L and the (Step 003 continues)

MAP 8022-1

DRIVE NOT READY

MAP 8022

PAGE 2 OF 3

(Step 003 continued) Diskette MDI completed without a failure? YN 004 Check the Drive Belt. Is the Belt in good condition? ΥN 005 Install a new Drive Belt. Press the Memory Record Button while turning the Power Switch On. Verify by running the Drive Set Ready test L. GO TO MAP 0010, ENTRY POINT to Verifv Α. System Operation. 006 Remove the Diskette from the drive if one is present. Disengage the Collet Spindle, (Step 006 continues)

3

A

(Step 006 continued) by turning the Diskette Handle to the Unload position.

By hand turn the Drive Hub Assembly and check for binds.

Is the Hub free of binds and noise? Y N

007

Install a new Drive Assembly.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

008

Engage the Collet Spindle, by turning the Diskette Handle to the Load position. (Step 008 continues) (Step 008 continued)

By hand turn the Drive Hub assembly and check for binds.

Is the Collet Spindle free of binds? Y N

009

Install a new Diskette Guide Assembly.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

010

Is the AC Motor Drive Pulley Set Screw tight? Y N

011

Check the AC Drive Motor (Step 011 continues)

3 B

MAP 8022-2

B DRIVE NOT READY		A C	MAP 8022-3
2 MAP 8022		∠	
PAGE 3 OF 3			
 (Step 011 continued) Shaft for damage. Check to ensure the Set Screw is over the flat surface on the Motor Shaft when tightening the Set Screw. GO TO MAP 0010, ENTRY POINT A, 	<pre>(Step 013 continued) measure from Pin B07 (File Control Card Connector) to Pin 4 (Connector B3/B4). For a reading of less than 2 ohms. Do you measure less than 2 ohms? Y N </pre>	(Step Was comp Y N 01 Yo	p 015 continued) test procedure I leted without a failure? 6 u are now directed to go
to Verify System Operation. 	014		the No Index Pulses MAP.
012 Install a new AC Drive Motor. Press the Memory Record Button while turning the Power Switch On. Verify by running the Drive Set Ready test L.	Install a new Diskette Drive Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 015 POWER-OFF.	GO EN 017 GO T A, Oper	TO MAP 8026, TRY POINT A. O MAP 0010, ENTRY POINT to Verify System ation.
Was test procedure L completed without a failure? Y N 013 POWER-OFF. Install the original AC Drive Motor.	Install a new File Control Card. Press the Memory Record Button while turning the Power Switch On. Verify by running the Drive Set Ready test L. (Step 015 continues)	018 GO TO to Ver 019 GO TO MA Verify S	MAP 0010, ENTRY POINT A, ify System Operation. P 0010, ENTRY POINT A, to ystem Operation.
Using the lowest ohm range, (Step 013 continues)			

UNSAFE WRITE CONDITION

MAP 8025

PAGE 1 OF 2

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
8020		A	1	001
8071		A	1	001

001 (ENTRY POINT A)

This MAP will isolate Read/Write problems. This problem occurs if a read and a write function occurs at the same time.

CAUTION

A section of the Diskette may lose data if a Read/Write failure is present.

This can cause a Diskette Load Failure.

POWER-OFF.

Using the lowest ohm range, (Step 001 continues)

(Step 001 continued) measure from the File Control Card Connector to Connector B3/B4, using the information in the chart.

+		+
File Control Card Connector	Connect B3/B4	or
PIN	PIN	
AO1 BO3 BO6 B14 BO9 B17	5 12 3 11 9 21	
Do all the wires than 2 ohms? Y N 002	measure	less
Install a new Cable.	Diskette	Drive
GO TO MAP 0010, E	NTRY POIN Operation	ITĄ,

003 Install a new File Control Card. POWER-ON. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS. MDT Execute the Diskette Procedure. Was the Diskette MDI test procedure completed without a failure? YN 004 POWER-OFF. Reinstall the original File Control Card. Install a new Diskette Adapter Card. POWER-ON. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS. (Step 004 continues)

А

2 B

А

MAP 8025-1

MAP 8025-1

MAP 8025

PAGE 2 OF 2

```
(Step 004 continued)
Execute the Diskette MDI
Procedure.
Was the Diskette MDI test
procedure completed without a
failure?
Y N
005
Follow your normal
escalation procedure.
006
GO TO MAP 0010, ENTRY POINT A,
```

to Verify System Operation.

007

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

NO INDEX PULSES MAP

MAP 8026

PAGE 1 OF 14

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER	 	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8020 8022 8070		A A A	1 1 1	001 001 001

001

3 |

AB

(ENTRY POINT A)

This MAP isolates Missing Index Pulse problems.

POWER-ON.

I	3 '	the AC Drive Motor tur	ning in
t]	ıе	failing drive?	
Y	Ν		
	1		

E	XI	т	PO	INT	s
-					
E	IXI	т	ΤH	IS	MAP

PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	014	8022	А
4	024	8060	А
4	022	8062	А

I TO

-									-+
H	÷			CH	ART †	‡1			+
-									-+
1	Co	nnec	tor		174	.1+.	(ac)	Pange	!
		FINS			v		age i	ange	
	6 2	to to	53		104 104	to to	127 127	volts volts	•
- 1									

Refer to the Product Support Manual for other (ac) voltages (use the correct voltage range) ļ

в

002

POWER-OFF.

Disconnect the AC Motor Power Cable Connector from the Motor.

POWER-ON.

DANGER

CAUTION: AC voltage is present on the AC Motor Connector.

Using the 200(ac) voltage range, measure from Pin 6 to Pin 5 on the Diskette Drive AC Distribution Cable. (see chart #1)

Is the voltage correct? Y N 003 Do you have a large Display? Y N 1 004 1 1 Disconnect the Diskette AC 1 Cable from the Electronic 1 (Step 004 continues) 1 2 2 C D MAP 8026-1

NO INDEX PULSES MAP	D 1	C MAP 8026-2
MAP 8026		-
PAGE 2 OF 14		
(Step 004 continued) unit.	007	(Step 009 continued) Verify System Operation.
Using the 200(ac) voltage range, measure from Pin 2 to Pin 3 at the AC out connector on panel 2. (see chart #1) Is the voltage correct?	Disconnect the Media Module AC Cable. Using the 200(ac) voltage range, measure from Pin 2 to Pin 3 at the AC Output	010 POWER-OFF. Leave the Motor Power Cable
Y N 005	Connector on the Large Display Module. (see chart #1)	Remove the Drive Belt.
POWER-OFF.	Is the voltage correct? Y N I	Let the Motor cool for five minutes.
Install a new base Power Supply.	OO8 FOWER-OFF.	Reinstall the Motor Power Cable Connector.
GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.	Install a new Diskette AC Distribution Cable.	POWER-ON. Is the AC Drive Motor turning in
POWER-OFF.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	the failing drive? Y N 011
Install a new Diskette AC Distribution Cable.	DOMED OFF	Give the AC Drive Motor
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Install a new Display AC Input Cable.	the Power ON. (Step Oll continues)
	GO TO MAP 0010, ENTRY POINT A, to (Step 009 continues)	
		E MAP 8026-2

MAP 8026 PAGE 3 OF 14	
PAGE 3 OF 14	
(Step 011 continued) (Step 013 continued)	
Image: Does the AC Drive Motor turn now? Image: meter lead to the Capacitor 015 Y N Image: Terminal with the single Is the Drive Belt Image: Ima	on both
012 Install a new AC Drive Motor Y N	
POWER-OFF. 016	
Image: Press the Memory Record Image: Power Second Image: Press the Memory Record Image: Power Second Image: Press the Memory Record Image: Power Second Image: Press the Memory Record Image: Power Second Image: Press the Memory Record Image: Power Second Image: Press the Memory Record Image: Power Second Image: Power Second Image: Power Second	
Press the Memory RecordCheck the conditionButton, while turning theVerify by running the DriveBelt and install aPower Switch On.Set Ready test L.if it is damaged.	of the new Belt
Verify by running the DriveGO TO MAP 0010, ENTRY POINT A,GO TO MAP 0010, ENTRY FSet Ready test L.to Verify System Operation.to Verify System Operation.	POINT A, tion.
GO TO MAP 0010, ENTRY POINT A, 014 017	
You are now directed to go to theIs the Diskette turning?013Diskette Drive Not Ready MAP.Y N	
POWER-OFF. 018	
GO TO MAP 8022, ENTRY POINT A. Disconnect the Media Module AC Check if the Diskett Cable. is completely in t position.	e Handle he load
Discharge the AC Capacitor by (Step 018 continues) taking a meter lead and (connecting the clip to the (Capacitor Terminal with two) wires and the other end of the (
(Step 013 continues)	
 4 	8026-3

F	
З	

NO INDEX PULSES MAP

MAP 8026

PAGE 4 OF 14

(Step 018 continued)

Is the Diskette Handle completely in the Load position? Y N | | 019

Push the Diskette Handle down completely and check for binds.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

020

Go to the Product Support Manual and install a new Guide Assembly.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

021

Using the 20(dc) voltage range, measure from Pin A18(-) to Pin A01(+) at the File Control Card Connector. Check for a reading of -4.6 volts to -5.5 volts. (Step 021 continues) (Step 021 continued)

Is the voltage between -4.6 volts to -5.5 volts? Y N | | 022

You are now directed to go to the Diskette Unit -5 Vdc Power MAP.

| GO TO MAP 8062, ENTRY POINT A. | 023

Using the 20(dc) voltage range, measure from Fin BO1(+) to Fin Al8(-) at the File Control Card Connector. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to +5.5 volts? Y N |

024

G

You are now directed to go to the Diskette Unit +5 Vdc Power MAP.

(Step 024 continues)

G

(Step 024 continued)

GO TO MAP 8060, ENTRY POINT A.

025

Is the failing Drive a Diskette 2D Drive? Y N

026

LED Service Check.

This measurement is checking the LED Diode, to determine if the Diode is shorted or open.

POWER-OFF.

Set the CE meter on the 2K ohm range.

Remove the LED Cable Connector from the File Control Card.

Place a lead on each of the LED Connector Sockets.

Observe the CE meter.

(Step 026 continues)

8

н

MAP 8026

PAGE 5 OF 14

(Step 026 continued) Reverse the leads on the Connector Pins and observe the CE meter.

Only one of the measurements should have generated a reading of approximately 1.845K ohms.

Did you observe only one reading of approximately 1.845K ohms? Y N

```
027
```

Install a new LED Assembly.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

028

Reconnect the LED Cable Connector to the File Control Card.

(Step 028 continues)

(Step 028 continued) POWER-ON. Using the 2(dc) voltage range, measure from Pin TPLED(+) to Pin TPF01(-) on the File Control Card. Is the voltage reading between 1.0 and 2.0 volts? Y N 029 POWER-OFF. Install a new File Control Card. Verify by running the Drive Set Ready test L. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 030 Remove the Diskette. Using the 20(dc) voltage range, measure from Pin TPFO1(-) to on the File Pin TPCO2(+) Control Card. (Step 030 continues)

(Step 030 continued) The voltage reading should be larger than 2.5 volts. Is the voltage reading 2.5 volts or larger? ΥN 031 Using the 20(dc) voltage measure from Pin range, TPF01(-) to Pin TPA01(+) on the File Control Card. Check for a reading of +4.6 volts to +5.5 volts. Is the voltage between +4.6volts to +5.5 volts? YN 032 POWER-OFF. Install a new File Control Card. GO TO MAP 0010, ENTRY POINT Verify Α. to Svstem Operation. 66 JK MAP 8026-5

JK	NO INDEX PULSES MAP	L	М	MAP 8026-6
5 5	MAP 8026	1	!	
	PAGE 6 OF 14			
033		 036	(Step 03	7 continued)
POWER	-OFF.	PTX Service Check.	Verify Set Rea	by running the Drive ady test L.
Insta	ll a new PTX Assembly.	POWER-OFF.	Verify Motor 1	by running the Stepper Phase test M.
GO TO M to Veri	AP 0010, ENTRY POINT A, fy System Operation.	Disconnect the AC Drive Motor Power Cable.	GO TO MA	AP 0010, ENTRY POINT A,
034		Disconnect the PTX Cable Connector at the File Control	038	
Observe Diskett	the meter and insert a e 1 Diskette.	Card. POWER-ON.	Leave the Motor Poy	e PTX Cable and the wer Cable disconnected.
Repeat	this a few times.			
The read +.5 vol	ding should be less than ts if the Diskette is	Using the 20(dc) voltage range, measure from Pin TPEO3(+) to Pin TPFO1(-) on the File	Leave tl TPEO3(+)	he meter leads on and TPFO1(-).
loaded.		Control Card.	Install Pin 3 of	one end of a jumper to the PTXCP socket on
Is the vo. .5 volts?	ltage reading lower than	Is the voltage reading less than 1.0 volts?	the File	Control Card.
Y N 		Y N I	Observe touching	the CE meter while the other end of the
035		037	jumper to socket of	o Pin 1 of the PTXCP n the File Control Card
POWER	-OFF.	POWER-OFF.	several	times.
Insta	ll a new PTX Assembly.	 Install a new File Control Card.	NOTE: A	wrong measurement can e first time the test
GO TO	MAP 0010, ENTRY POINT A,		Pin is t	ouched.
to veri	ry system operation.	(Step 037 continues)	(Step 038	continues)
L .		M		MAP 8026-6

NO INDEX PULSES MAP Ν MAP 8026 PAGE 7 OF 14 (Step 038 continued) Is the voltage reading 2.5 volts 040 or larger? YN POWER-OFF. 039 Using the lowest ohm range, measure from Pin B04 (File POWER-OFF. Control Card Connector) to Pin 1 (Connector B3/B4). Check for Remove the jumper. a reading of less than 2 ohms. Reinstall the AC Drive Motor Do you measure less than 2 ohms? Power Cable. ΥN Install a new File Control 041 Card. Install a new Diskette Drive POWER-ON. Cable. Verify by running the Drive Press the Set Ready test L. Button, Power Switch On. Verify by running the Stepper Motor Phase test M. Verify by running the Drive Set Ready test L. If Error Code 02 occurs, install a new PTX Assembly. Verify by running the Stepper Motor Phase test M. Verify by running the Drive Set Ready test L. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. N Р

MAP 8026-7 Ρ 042 Install a new Diskette Adapter Card. Press the Memory Record Button, while turning the Power Switch On. Execute test procedure L. Is an Error Code displayed on the screen? ΥN 043 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 044 POWER-OFF. Install a new LED Assembly. Press the Memory Record Button while turning the Power Switch On. Verify by running the Drive Set Readv test L.

(Step 044 continues)

Memory Record

while turning the

NO IN	IDEX	PUL	SES	MAP
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MAP 8026

PAGE 8 OF 14

(Step 044 continued)

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

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045
```

Is the failing Diskette a 2D Diskette? Y N

046

LED Service Check.

This measurement is checking the LED Diode, to determine if the Diode is shorted or open.

POWER-OFF.

Set the CE meter on the 2K ohm range.

Remove the LED Cable Connector from the File Control Card.

Place a lead on each of the LED Connector Sockets, LEDCP 5 and 6.

(Step 046 continues)

(Step 046 continued) Observe the CE meter.

Reverse the leads on the Connector Sockets and observe the CE meter .

Only one of the measurements should have generated a reading of approximately 1.845K ohms.

Did you observe only one reading of approximately 1.845K ohms? Y N

047

Install a new LED Assembly.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

048

Reconnect the LED Cable Connector to the File Control (Step 048 continues) (Step 048 continued) Card.

POWER-ON.

Using the 2(dc) voltage range, measure from Pin TPA07(-) to Pin TPLD1(+) on the File Control Card.

Is the voltage reading between 1.0 and 2.0 volts? Y N I

049

POWER-OFF.

Install a new File Control Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

050

(Step 050 continues)

1 1 Q

NO INDEX PULSES MAP
MAP 8026
PAGE 9 OF 14
(Step 050 continued) Remove the Diskette.
Using the 20(dc) voltage range, measure from Pin TPAO7(-) to Pin TPBO7(+) on the File Control Card.
The voltage reading should be larger than 2.5 volts.
Is the voltage reading 2.5 volts or larger? Y N
051
Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPA09(+) on the File Control Card. Check for a reading of +4.6 volts to +5.5 volts.
Is the voltage between +4.6 volts to +5.5 volts? Y N
052
POWER-OFF.
Install a new File Control (Step 052 continues)
I I R S

R S
(Step 052 continued) Card.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
053
POWER-OFF.
Install a new PTX Assembly.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
054
Observe the meter and insert a Diskette 1 Diskette.
Repeat this a few times.
The reading should be less than +.5 volts if the Diskette is loaded.
Is the voltage reading lower than .5 volts? Y N
055
(Step 055 continues)
Т

υv

MAP 8026-9 т (Step 055 continued) POWER-OFF. Install a new PTX Assembly. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. **0**56 PTX Service Check. POWER-OFF. Disconnect the AC Drive Motor Power Cable. Disconnect the PTX Cable Connector at the File Control Card. POWER-ON. Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPEO1(+) on the File Control Card. Is the voltage reading less than 1.0 volts? ΥN 1 1 1 1 0 0

υν	NO INDEX PULSES MAP		W MAP 8026-10
99	MAP 8026		
	PAGE 10 OF 14		
057 057 POWER-0	DFF.	(Step 058 continued) jumper to Pin 1 of the PTXCP socket on the File Control Card several times.	(Step 059 continued) If Error Code 02 occurs, install a new PTX Assembly.
Instal: Card.	l a new File Control	NOTE: A wrong measurement can occur the first time the test Pin is touched.	Set Ready test L.
Verify Set Rea	by running the Drive ady test L.	Is the voltage reading 2.5 volts or larger? Y N	to verify System Operation. 060
Verify Motor	by running the Stepper Phase test M.	059	POWER-OFF. Using the lowest ohm range,
GO TO MAN to Verif	P 0010, ENTRY POINT A, y System Operation.	Remove the jumper.	Control Card Connector) to Pin 1 (Connector B3/B4). Check for a reading of less than 2 ohms.
058		Reinstall the AC Drive Motor Power Cable.	Do you measure less than 2 ohms?
Leave t Motor Por	he PTX Cable and the wer Cable disconnected.	 Install a new File Control Card	Y N 061
Leave TPAO7(-)	the meter leads on and TPEO1(+).	POWER-ON.	Install a new Diskette Drive Cable.
Install o Pin 3 o the File	one end of a jumper to of the PTXCP socket on Control Card.	Verify by running the Drive Set Ready test L. Verify by running the Stepper	Press the Memory Record Button, while turning the Power Switch On.
Observe touching (Step 058 d	the CE meter while the other end of the continues)	Motor Phase test M. (Step 059 continues)	Verify by running the Drive (Step 061 continues)
		W	1 1 X MAP 8026-10

0MAP 8026PAGE 11 OF 14(Step 061 continued) Set Ready test L.(Step 064 continued) Install a new LED Assembly.(Step 065 continued) Observe the CE meter.Verify by running the Stepper Motor Phase test M.(Step 064 continued) Install a new LED Assembly.(Step 065 continued) Observe the CE meter.GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.Verify by running the Drive Set Ready test L.Reverse the leads on the Connector Pins and observe the Construct Pins and observe the Dower Switch On.O62Install a new Diskette Adapter Card.Go TO MAP 0010, ENTRY POINT A, to Verify System Operation.So To MAP 0010, ENTRY POINT A, to Verify System Operation.Did you observe only one reading of approximately 1.845K ohms?Did you observe test procedure L.LED Service Check. This measurement is checking the LED Diode, to determine if the Diode is shorted or open.Did you checket or open.Y NSet the CE meter on the 2K ohm range.PowER-OFF.Press the Memory Record Button, while turning the Drive Set Ready test L.O63So TO MAP 0010, ENTRY POINT A, to Verify System Operation.Remove the LED Cable Connector from the File Control Card.Verify by running the Drive Set Ready test L.O64Place a lead on each of the LED Onnector Sockets, LEDCP 1 and 3.Off	X NO INDEX PULSES MAP		MAP 8026-11
PAGE 11 OF 14(Step 061 continued) Set Ready test L.(Step 064 continued) Install a new LED Assembly.(Step 065 continued) Observe the CE meter.Verify by running the Stepper Motor Phase test M.Press the Memory Record Button while turning the Power Switch On.Reverse the leads on the Connector Pins and observe the CE meter.062Install a new Diskette Adapter Card.Verify by running the Drive Set Ready test L.Only one of the measurements should have generated a reading of approximately 1.845K ohms?062Install a new Diskette Adapter Card.Co To MAP 0010, ENTRY POINT A, to Verify System Operation.Did you observe only one reading of approximately 1.845K ohms?063Set the CE meter on the 2K ohm range.Press the Memory Record Button, while turning the Drive Set the CE meter on the 2K ohm rom the File Control Card.Press the Memory Record button, while turning the Drive Set Ready test L.064Place a lead on each of the LED Connector Sockets, LEDCP 1 and 3.PowER-OFF.Co To MAP 0010, ENTRY POINT A, to Verify System Operation.	0 MAP 8026		
(Step 061 continued) Set Ready test L.(Step 064 continued) Install a new LED Assembly.(Step 065 continued) Observe the CE meter.Verify by running the Stepper Motor Phase test M.Press the Memory Record Event System Operation.Reverse the leads on the Connector Pins and observe the CE meter .062Go To MAP 0010, ENTRY POINT A, to Verify System Operation.Verify by running the Drive Set Ready test L.Only one of the measurements should have generated a reading of approximately 1.845K ohms.062Go To MAP 0010, ENTRY POINT A, to Verify System Operation.Did you observe only one reading of approximately 1.845K ohms?063Execute test procedure L.LED Service Check. This measurement is checking the LED Diode, to determine if the Diode is shorted or open.Press the Memory Record POWER-OFF.063Co To MAP 0010, ENTRY POINT A, to Verify System Operation.Remove the LED Cable Connector from the File Control Card.Press the Memory Record Button, while turning the Drive Set the CE meter on the 2K ohm range.064POWER-OFF.Co To MAP 0010, ENTRY POINT A, to Verify System Operation.Co To MAP 0010, ENTRY POINT A, to Verify System Operation.064POWER-OFF.Co To MAP 0010, ENTRY POINT A, to Verify System Operation.Co To MAP 0010, ENTRY POINT A, to Verify System Operation.064POWER-OFF.Co To MAP 0010, ENTRY POINT A, to Verify System Operation.Co To MAP 0010, ENTRY POINT A, to Verify System Operation.064POWER-OFF.Co To MAP 0010, ENTRY POINT A, to Verify System Operation.Co To MAP 0010, ENTRY POINT A, to Verify System Operatio	PAGE 11 OF 14		
Verify by running the Stepper Motor Phase test M.Press the Memory Record Button while turning the Power Switch On.Reverse the leads on the Connector Pins and observe the PowerSection.061Verify System Operation.Verify System Operation Card. </td <td>(Step 061 continued) Set Ready test L.</td> <td>(Step 064 continued) Install a new LED Assembly.</td> <td>(Step 065 continued) Observe the CE meter.</td>	(Step 061 continued) Set Ready test L.	(Step 064 continued) Install a new LED Assembly.	(Step 065 continued) Observe the CE meter.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.Verify by running the Drive Set Ready test L.Only one of the measurements should have generated a reading of approximately 1.845K ohms.O62GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.Did you observe only one reading of approximately 1.845K ohms.O63DotDid you observe only one reading of approximately 1.845K ohms.Is an Error Code displayed on the screen?LED Service Check.Y NDotThis measurement is checking the LED Diode, to determine if 	Verify by running the Stepper Motor Phase test M.	Press the Memory Record Button while turning the Power Switch On.	Reverse the leads on the Connector Pins and observe the CE meter .
Install a new Diskette Adapter Card.GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.Did you observe only one reading of approximately 1.845K ohms? Y NPress the Memory Record Button, while turning the Power Switch On.LED Service Check.066Press the Memory Record Button, while turning the Power Switch On.LED Service Check.066Is an Error Code displayed on the screen? Y NPOWER-OFF.PowER-OFF.Is an Error Code displayed on the screen? Y NPOWER-OFF.Press the Memory Record Button, while turning the Power Switch On.063Set the CE meter on the 2K ohm range.Power Switch On.063Remove the LED Cable Connector 	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation. 062	Verify by running the Drive Set Ready test L.	Only one of the measurements should have generated a reading of approximately 1.845K ohms.
Press the Memory Record Button, while turning the Power Switch On.LED Service Check.066On.This measurement is checking the LED Diode, to determine if the Diode is shorted or open.POWER-OFF.Is an Error Code displayed on the screen? Y NPOWER-OFF.Press the Memory Record Button, while turning the Power Switch On.063Set the CE meter on the 2K ohm range.Power Switch On.063Set the LED Cable Connector from the File Control Card.Verify by running the Drive Set Ready test L.064Place a lead on each of the LED Connector Sockets, LEDCP 1 and 3.Go 70	Install a new Diskette Adapter Card.	GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation. 065	Did you observe only one reading of approximately 1.845K ohms? Y N
Execute test procedure L.This measurement is checking the LED Diode, to determine if the Diode is shorted or open.POWER-OFF.Is an Error Code displayed on the screen? Y NPOWER-OFF.Install a new LED Assembly.Is an Error Code displayed on the screen? Y NPOWER-OFF.Press the Memory Record Button, while turning the Power Switch On.063Set the CE meter on the 2K ohm range.Power Switch On.063GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.Remove the LED Cable Connector from the File Control Card.Verify by running the Drive Set Ready test L.064Place a lead on each of the LED Connector Sockets, LEDCP 1 and 3.GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.O67	Press the Memory Record Button, while turning the Power Switch On.	LED Service Check.	066
Is an Error Code displayed on the screen?POWER-OFF.Press the Memory Record Button, while turning the Power Switch On.Y NSet the CE meter on the 2K ohm range.Power Switch On.063Set the CE meter on the 2K ohm range.Power Switch On.GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.Remove the LED Cable Connector 	Execute test procedure L.	This measurement is checking the LED Diode, to determine if the Diode is shorted or open	POWER-OFF.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Remove the LED Cable Connector from the File Control Card. Verify by running the Drive Set Ready test L. O64 Place a lead on each of the LED Connector Sockets, LEDCP 1 and 3. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Is an Error Code displayed on the screen? Y N 063	POWER-OFF. Set the CE meter on the 2K ohm range.	Press the Memory Record Button, while turning the Power Switch On.
GO TO MAP 0010, ENTRY POINT A, 064 Place a lead on each of the LED to Verify System Operation. Connector Sockets, LEDCP 1 and POWER-OFF. 3. 067	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Remove the LED Cable Connector from the File Control Card.	Verify by running the Drive Set Ready test L.
POWER-OFF. 3. 067	 064	Place a lead on each of the LED Connector Sockets, LEDCP 1 and	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
	POWER-OFF.	3.	067

(Step 065 continues)

(Step 064 continues)

MAP 8026-11

(Step 067 continues)

MAP 8026-11

NO INDEX PULSES MAP	Y	Z A MAP 8026-12
MAP 8026		
PAGE 12 OF 14		
(Step 067 continued) Reconnect the LED Cable Connector to the File Control Card.	 069 Remove the Diskette.	(Step 071 continued) Install a new File Control Card.
POWER-ON. Using the 2(dc) voltage range, measure from Pin TPAO7(-) to Pin TPLD2(+) on the File Control Card.	Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPA10(+) on the File Control Card. The voltage reading should be	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 072
Is the voltage reading between 1.0 and 2.0 volts? Y N 068	Is the voltage reading 2.5 volts or larger? Y N 	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-OFF. Install a new File Control Card.	070 Using the 20(dc) voltage range, measure from Pin TFA07(-) to Pin TPA09(+) on the File Control Card. Check	 073 Observe the meter and insert a Diskette 2D Diskette.
<pre>Press the Memory Record Button, while turning the Power Switch On. Verify by running the Drive Set Ready test L.</pre>	<pre>for a reading of +4.6 volts to +5.5 volts. Is the voltage between +4.6 volts to +5.5 volts? Y N</pre>	Repeat this a few times. The reading should be less than +.5 volts if the Diskette is loaded.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	071 POWER-OFF. (Step 071 continues) A Z A	Is the voltage reading lower than .5 volts? Y N 1 1 3 3 A A B C MAP 8026-12

А	A	NO	INDEX	PULSES	MAP	
в	С					

Install a new PTX Assembly.

GO TO MAP 0010, ENTRY POINT A,

Disconnect the AC Drive Motor

the

Connector at the File Control

Using the 20(dc) voltage range,

measure from Pin TPA07(-) to

PTX

on the File

Cable

to Verify System Operation.

1 1 MAP 8026

POWER-OFF.

PTX Service Check.

POWER-OFF.

Power Cable.

Disconnect

POWER-ON.

Pin TPEO1(+)

(Step 075 continues)

Control Card.

Card.

22

075

074

PAGE 13 OF 14

(Step 075 continued)

Is the voltage reading less than 1.0 volts? Y N $\,$

076

POWER-OFF.

Install a new File Control Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

077

Leave the PTX Cable and the Motor Power Cable disconnected.

Leave the meter leads on TPA07(-) and TPE01(+). (Step 077 continues) (Step 077 continued)

Install one end of a jumper to Pin 4 of the PTXCP socket on the File Control Card.

Observe the CE meter while touching the other end of the jumper to Pin 5 of the PTXCP socket on the File Control Card several times.

NOTE: A wrong measurement can occur the first time.

Is the voltage reading 2.5 volts or larger? Y N

078

4 A D

POWER-OFF.

Remove the jumper.

Reinstall the AC Drive Motor Power Cable.

Install a new File Control Card.

Press the Memory Record Button, while turning the (Step 078 continues)

A NO INDEX PULSES MAP	A	A MAP 8026-14
1 MAP 8026	E	F
PAGE 14 OF 14		
(Step 078 continued) Power Switch On.	(Step 080 continued) Install a new Diskette Drive Cable.	083 POWER-OFF
Set Ready test L. Verify by running the Stepper Motor Phase test M	Verify by running the Stepper	Install a new LED Assembly.
If Error Code 02 occurs, install a new PTX Assembly.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	while turning the Power Switch On.
Verify by running the Drive	 081	Verify by running the Drive Set Ready test L.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Install a new Diskette Adapter Card.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
 079	Press the Memory Record Button, while turning the Power Switch On	
POWER-OFF.	Execute test procedure L.	
Using the lowest ohm range, measure from Pin BO4 (File Control Card Connector) to Pin 1 (Connector B3/B4). Check for a reading of less than 2 ohms.	Is an Error Code displayed on the screen? Y N 	
Do you measure less than 2 ohms? Y N 020	082 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	
(Step 080 continues)		
A E	A F	MAP 8026-14

SEEK ERROR MAP

MAP 8028

PAGE 1 OF 8

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
8020		A	1	001
8021		A	1	001
8071		A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
6	029	8020	A
8	045	8021	А
2	007	8060	А
2	009	8061	А

001

(ENTRY POINT A)

This MAP isolates Seek Error problems.

Remove Diskette.

Press the Memory Record Button while turning the Power Switch On.

Select functions by pressing the MOVE key and select test procedure N. $% \left({{{\left({{{{{\rm{N}}}} \right)}_{{{\rm{N}}}}}} \right)} \right)$

Execute test procedure N by pressing the ENTER key.

(Step 001 continues)

(Step 001 continued) This moves the Head Carriage to Track 40.				
Remove the Cable Guide (Warning: Do not let the Head Cable touch the Drive Belt).				
The Stepping Motor Pulley is at Track 40 if the timing holes in pulley and casting are aligned.				
Use the alignment pin to verify.				
Press the END key to terminate test N.				
Is the Stepping Motor Pulley located at Track 40? Y N				
002				
Are the four Stepping Motor mounting screws tight? Y N				
003				
Tighten the mounting				
(Step 003 continues)				
8 2 A B MAP 8028-1				

B SEEK ERROR MAP	С	MAP 8028-2
1 MAP 8028		
PAGE 2 OF 8		
(Step 003 continued) The position of the Stepping Motor may affect Head Alignment.	(Step 005 continued) Verify by running the Stepper Motor Phase test M.	<pre>(Step 008 continued) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.</pre>
Load the DISPLAYWRITER SYSTEM DIAGNOSTICS. 	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation. 	Is the voltage between +22.08 and +26.4 volts?
Execute the 6360 Head	006	Y N
Check, by selecting the Diskette Utility function.	Using the 20(dc) voltage range, measure from Pin B01(+) to Pin	009
Follow the instructions on the screen.	Connector. Check for a reading of +4.6 volts to +5.5 volts.	the Diskette Unit +24 Vdc Power MAP.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Is the voltage between +4.6 volts to +5.5 volts?	GO TO MAP 8061, ENTRY POINT A.
004	I N 1	010
Check that the Stepping Motor Tape is parallel to the pulley.	007 You are now directed to go to	POWER-OFF.
Is the tape parallel to the	the Diskette Unit +5 Vdc Power	Remove the Diskette.
Y N	GO TO MAP 8060. ENTRY POINT A.	By hand, move the Head Carriage to Track 00. (toward the rear of the drive)
005		Press the Memory Record Button
Go to the Product Support Manual for Pulley and Tape	Using the 200(dc) voltage	while turning the Power Switch On.
adjustments. (Step 005 continues) 	range, measure from Pin BO3(+) (Step 008 continues)	(Step 010 continues)
l c		MAP 8028-2

MAP 8028-2
MAP 8028

PAGE 3 OF 8

(Step 010 continued)

Select functions by pressing the MOVE key.

Select the failing drive.

Select test procedure T by pressing the MOVE key.

Execute test procedure T by pressing the ENTER key.

Using the 200(dc) voltage range, measure the (dc) voltage between each File Control Card test point in the Chart (See Chart #1 or Chart #4).

NOTE: Negative lead on TPF01 for a Diskette 1 Drive or TPA07 for a Diskette 2D Drive. These points are on the File Control Card.

The Head may or may not move during this test and audible (Step 010 continues) (Step 010 continued) trackstep sounds may or may not be heard.

Single cycle step to Track 01 by pressing the space bar and repeat the measurements.

Repeat for Tracks 02 and 03 by pressing the space bar.

-------+ | DISKETTE 1 DRIVE CHART #1 STEPPING MOTOR TEST PINS |TPHO1|TPHO2|TPHO3|TPHO4 Trk OUP IUP IUP I DOWN IDOWN UP Trk 1|UP UP |-----|-----|-----|-----|------Trk 2|UP |DOWN |UP IUP Trk 3 DOWN UP İUP ŪP |----|----|-----|-----|------Down lev is 0 to 2.0dc volts Up lev is 21.6 to 26.4dc volts

(Step 010 continues)

MAP 8028-3

(Step 010 continued)				
DISKETTE 2D DRIVE CHART #4				
STE	PPING	MOTOR	TEST H	PINS
	TPA01	TPAO2	TPA03	TPAO4
Trk 0	UP	UP	UP	DOWN
 Trk 1	UP	DOWN	 UP	UP
 Trk 2	 UP	 UP	DOWN	UP
 Trk 3	DOWN	 UP	 UP	UP
Down 1	ev is	0 to 2	2.0dc v	/olts
10p 1ev	' 15 Z.	L.6 to	26.4a0	c voits
Are the results the same as in the chart? Y N				
011				
POWER-OFF.				
Remove Stepping Motor Cable from the Diskette File Control Card.				
(Step Oll continues)				
6				
D			MAP	8028-3

MAP 8028

PAGE 4 OF 8

(Step 011 continued) Using the 2k ohm range, measure from Pin 1 to Pins 3,4,5,6 at the Stepping Motor Cable Connector.

Is the resistance of each of the four coils between 115 and 141 ohms? Y N

012

Install a new 24 Volt DC Synchronous Stepper Motor.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Ó13

Reconnect the Stepping Motor Cable on the Diskette Control Card.

By hand move the Head Carriage to Track 00. (toward the rear of the drive.

Press the Memory Record Button (Step 013 continues)

(Step 013 continued) while turning the Power Switch On.

Select test procedure T, by pressing the MOVE key.

Execute test procedure T, by pressing the ENTER key.

Using the 20(dc) voltage range, measure from Pin TPEO1 to TPFO1 for a Diskette 1 Drive or from Pin TPCO1 to TPAO7 for a Diskette 2D Drive. These points are on the File Control Card.

Slowly press the Space Bar four times while observing the CE Meter.

Was one or more results less than 0.4 volts and one or more results larger than 2.5 volts? Y N

014

5 E POWER-OFF.

Using the lowest ohm range, measure from Pin BlO (File (Step 014 continues) (Step 014 continued) Control Card Connector) to Pin 13 (Connector B3/B4). For a reading of less than 2 ohms.

Did the wire (Access 0) have continuity? Y N

14

015

Install a new Diskette Drive Cable.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Ò16

Install a new File Control Card.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M. (Step 016 continues)

MAP 8028-4

Е	
4	

E	SEEK ERROR MAP		GH	MAP 8028-5
4	MAP 8028		<u> </u>	
	PAGE 5 OF 8			
 (Step 016 Was test completed	continued) procedures L and M without a failure?	(Step 019 continued) Using the 20(dc) voltage range, measure from Pin TPCO1 to TPFO1 for a Diskette 1 Drive or from	 021 Install a new	Diskette Drive
Y N 017 POWER	-OFF.	Pin TPDO1 to TPAO7 for a Diskette 2D Drive. These points are on the File Control Card.	Cable. Verify by runn Set Ready test	ing the Drive L.
Insta Contr	ll the original File ol Card.	Slowly press the Space Bar four times while observing the CE Meter.	Verify by runn Motor Phase te	ing the Stepper st M.
Insta Adapt	ll a new Diskette er Card.	Was one or more results less than 0.4 volts and one or more results	GO TO MAP 0010, to Verify System 022	ENTRY POINT A, Operation.
Verif Set R	y by running the Drive eady test L.	Y N 020	Install a new Card.	File Control
Verif Stepp	y by running the er Motor Phase test M.	POWER-OFF.	Verify by runnin Ready test L.	g the Drive Set
GO TO M A, t Operati	AP 0010, ENTRY POINT o Verify System on.	Using the lowest ohm range, measure from Pin B13 (File Control Connector) to Pin 10 (Connector B3/B4). Check for	Verify by runnin Motor Phase test	g the Stepper M.
018 GO TO MA	P 0010, ENTRY POINT A,	a reading of less than 2 ohms. 	Was test procedu completed without Y N	res L and M a failure?
to Verify	System Operation.	Did the wire have continuity? Y N	023	
(Step 019 c	continues)		POWER-OFF.	ues)
		6'' FGH	ь J	MAP 8028-5

F J SEEK ERROR MAP		DKLM MAP 8028-6
MAP 8028		
PAGE 6 OF 8		
(Step 023 continued) Install the original File Control Card.	(Step 025 continued) Execute Test Procedure M by pressing the ENTER key. Was test procedure M completed	 029 You are now directed to go to the RNA Start MAP.
<pre> Install a new Diskette Adapter Card. Verify by running the Drive Set Ready test L.</pre>	without a failure? Y N 026	GO TO MAP 8020, ENTRY POINT A.
Verify by running the Stepper Motor Phase test M.	POWER-OFF. Install a new Diskette Adapter Card.	030 Install the original Diskette Adapter Card.
A, to Verify System Operation. 024	Verify by running the Stepper Motor Phase test M.	Install a new 24 Volt DC Synchronous Stepper Motor. Verify by running the
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	i the screen? Y N 027	Stepper Motor Phase test M.
POWER-OFF.	GO TO MAP 0010, ENTRY POINT A, to Verify System	
Install a new File Control Card.	028	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Select test procedure M by pressing the MOVE key.	Is the Error Code O8 or 17? Y N	O32
(Step 025 continues)		(Step 032 continues)
	KLM	MAP 8028-6

MAP 8028
PAGE 7 OF 8
(Step 032 continued)
Remove the Diskette.
Remove the Upper Guide Rod screws and slide the rod from left to right a few times.
Is there free movement? Y N
033
Clean the Guide Rods.
Check the Guide Rods for free movement.
Is there free movement? Y N
034
Are both Guide Rods in good condition? Y N
035
Install a new Guide Rod(s).
Verify by running the (Step 035 continues)
1 1 1

NPO

SEEK ERROR MAP

ΡQ (Step 035 continued) Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT Α, to Verify System Operation. 036 Install a new Head Carriage Assembly. Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Reinstall the Guide Rod.

Verify by running the Stepper Motor Phase test M.

037

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

038

N

Reinstall the Guide Rod.

Go to the Product Support Manual and perform the Head Carriage Adjustment.

MAP 8028-7

Press the Memory Record Button while turning the Power Switch On.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select Test Procedure M by pressing the MOVE key.

Execute Test Procedure M by pressing the ENTER key.

Was test procedure M completed without a failure? YN 039 POWER-OFF.

Diskette Install new а Adapter Card.

(Step 039 continues)

8 R

MAP 8028-7

AR	SEEK ERROR MAP	S
· ⊥ /	MAP 8028	
	PAGE 8 OF 8	
(Ste Ve Se	ep 039 continued) erify by running the Drive et Ready test L.	 (Step 042 continued) without a failure? Y N
Ve	erify by running the cepper Motor Phase test M.	043
GO A, Oper	TO MAP 0010, ENTRY POINT to Verify System ration.	Go to the Prod Manual and p Stepper Driv adjustment.
040 GO TO to Ver	MAP 0010, ENTRY POINT A, rify System Operation.	GO TO MAP 0010, A, to Verif Operation. 044
Is the (.020 Support Y N	head located at Track 40? gap, see the Product Manual)	GO TO MAP OOlO, ENTR to Verify System Ope 045
042		At this point it determined that ther failure
Go Manu Carr	to the Product Support aal and perform the Head riage Adjustment.	You are now directed t Read ID Error MAP.
Veri Moto	fy by running the Stepper or Phase Test M.	GO TO MAP 8021, ENTRY
Was te (Step	est procedure M completed 042 continues)	
i		

s

luct Support perform the Band 'e ENTRY POINT System y

RY POINT A, eration.

has been e is a read

o go to the

POINT A.

NOT WRITING/WRITE ERRORS MAP	В	C MAP 8030-1
MAP 8030 PAGE 1 OF 2		
ENTRY POINTS	 002	(Step 003 continued) Cable.
FROM ENTER THIS MAP MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER	POWER-OFF. Install the original File Control Card.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 004
8071 A 1 001 001 (ENTRY POINT A)	Using the lowest ohm range, and using the information in chart #13 or chart #14, Check for a reading of less than 2 ohms.	Install a new Diskette Adapter Card. POWER-ON. Execute the Diskette MDI
This MAP will isolate Write problems in the Diskette Unit.	File Control Card Connector Connector B3/B4	Was the Diskette MDI test procedure completed without a
POWER-OFF. Install a new File Control Card.	PIN B08 PIN 18 PIN B09 PIN 9 PIN B14 PIN 11 PIN B17 PIN 21	failure? Y N 005
POWER-ON. Execute the Diskette MDI.	ON TYPE 2D DRIVES ALSO CHECK THE FOLLOWING PIN. PIN B16 PIN 8	POWER-OFF.
Return to this MAP and continue with this step.	++ Is there continuity in the wire? Y N	Adapter Card. Install a new Head Carriage Assembly.
<pre>procedure completed without a failure? Y N </pre>	003 Install a new Diskette Drive (Step 003 continues)	Press the Memory Record Button, while turning the Power Switch On. (Step 005 continues)
2 I	l C	2 D MAP 8030-1

MAP 8030

PAGE 2 OF 2

(Step 005 continued)

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

| GO TO MAP 0010, ENTRY POINT | A, to Verify System | Operation.

<u>006</u>

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

<u>007</u>

H/S WRAP AND/OR CABLE WRAP ERRORS

MAP 8032

PAGE 1 OF 7

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
0009	A	1	001
0010	A	1	001
0015	A	1	001

EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
4	019	8060	 A
6	034	8060	A
3	008	8061	A
4	014	8061	Α
4	017	8061	Α
2	006	8062	Α

012 |

021

8062

8062

Α

А

EXIT POINTS

3

4

001

(ENTRY POINT A)

This MAP will isolate data flow problems in the Diskette Unit.

ERROR CODE 04

The failing part is most likely the System Card. You may install it now if there is a replacement System Card at your present location.

If the Card is replaced and (Step 001 continues)

(Step 001 continued)

BATs completed successfully, then go to MAP 0010, entry point A to verify system operation.

If BATs failed, continue with step 001.

If a card is not present, then the MAP should be followed to a repair statement before obtaining any parts from the Distribution Center.

ERROR CODE 05

The failing part is most likely the Diskette Adapter Card. You may install it now if there is a replacement Diskette Adapter Card at your present location.

If the Card is replaced and BATs completed successfully, then go to MAP 0010, entry point A to verify system operation.

If BATs failed, continue with step 001.

If a card is not present, then (Step 001 continues)

H/S WRAP ERRORS

MAP 8032

PAGE 2 OF 7

(Step 001 continued) the MAP should be followed to a repair statement before obtaining any parts from the Distribution Center.

POWER-OFF.

Remove the Communications Adapter Card from the Media Module, if one is present.

POWER-ON.

Is the Error Code O4 or O5? Y N

002

Install a new Communications Adapter Card.

GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.

003

POWER-OFF.

Reinstall the Communications Adapter Card.

(Step 003 continues)

(Step 003 continued) POWER-ON. Is the Error Code 04? ΥN 004 POWER-OFF. Disconnect Cable B3 at the Diskette Adapter Card. POWER-ON. Is the Error Code 05? ΥN 005 POWER-OFF Reconnect Cable B3 at the Diskette Adapter Card. POWER-ON.

> Using the 20(dc) voltage range, measure from Pin Al8(-) to Pin AO1(+) at the File Control Card Connector. Check for a reading of -4.6 volts to (Step 005 continues)

63 AB MAP 8032-2

(Step 005 continued) -5.5 volts. Make this measurement on the Left Drive. Is the voltage between -4.6 volts to -5.5 volts? Y N 006 You are now directed to go to the Diskette Unit -5 Vdc Power MAP. GO TO MAP 8062, ENTRY POINT A. 007 Using the 200(ds) weltage

Using the 200(dc) voltage range, measure from Pin Al8(-) to Pin B03(+) of the File Control Card Connector. Check for a reading of 22.08 volts to 26.4 volts.

Make this measurement on the Left Drive. (Step 007 continues)

B H/S WRAP ERRORS		MAP 8032-3
2 MAP 8032		
PAGE 3 OF 7		
(Step 007 continued)	(Step 010 continued)	(Step 011 continued)
Is the voltage between +22.08 volts to +26.4 volts? Y N	If Cable B4 is not present (on a single drive station), then answer the next question yes.	Is the voltage between -4.6 volts to -5.5 volts? Y N
008	POWER-ON.	012
You are now directed to go to the Diskette Unit +24 Vdc Power MAP.	Is the Error Code 05? Y N 011	You are now directed to go to the Diskette Unit -5 Vdc Power MAP.
GO TO MAP 8061, ENTRY POINT A.	POWER-OFF.	 GO TO MAP 8062, ENTRY POINT A. 013
POWER-OFF.	POWER-ON.	Using the 200(dc) voltage range, measure from Pin Al8(-) to Pin B03(+) of the File
Install a new File Control Card.	Using the 20(dc) voltage range, measure from Pin Al8(-) to Pin AO1(+) at the	Control Card Connector. Check for a reading of 22.08 volts to 26.4 volts.
GO TO MAP ODID, ENTRY POINT A, to Verify System Operation. 010	File Control Card Connector. Check for a reading of -4.6 volts to -5.5 volts.	Make this measurement on the Right Drive.
POWER-OFF.	Make this measurement on the Right Drive. (Step Oll continues)	Is the voltage between +22.08 volts to +26.4 volts? Y N
Reconnect Cable B3 and disconnect Cable B4 at the Diskette Adapter Card. (Step 010 continues)		014 (Step 014 continues)
	 4 C	 4 D MAP 8032-3

C D H/S WRAP ERRORS		E MAP 8032-4
3 3 MAD 8032		
MAF 8032		
PAGE 4 OF 7		
(Step 014 continued) You are now directed to go to	(Step 016 continued)	(Step 019 continued) MAP.
the Diskette Unit +24 Vdc	Is the Error Code 05?	İ
Power MAP.	YN	GO TO MAP 8060, ENTRY POINT A.
GO TO MAP 8061	017	 020
ENTRY FOINT A.	You are now directed to go to the Diskette Unit +24 Vdc Power MAP.	Using the 20(dc) voltage range, measure from Pin 15(-) to Pin 5(+) of Connector B2 at the
POWER-OFF. Install a new File Control	GO TO MAP 8061, ENTRY POINT A.	Diskette Adapter Card. Check for a reading of -4.6 volts to -5.5 volts.
Card.	018	Is the voltage between -4.6 volts
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Using the 20(dc) voltage range, measure from Pin 15(-) to Pins	to -5.5 Volts? Y N
016	Connector B2 at the Diskette	021
POWER-OFF.	reading of +4.6 volts to +5.5 volts.	You are now directed to go to the Diskette Unit -5 Vdc Power
Leave Cable B4 disconnected at the Diskette Adapter Card.	Is the voltage between +4.6 volts	MAP.
Disconnect Cable B3 at the Diskette Adapter Card.	Pin indicated? Y N	GO TO MAP 8062, ENTRY POINT A.
POWER-ON.	019	
(Step UI6 continues)	You are now directed to go to the Diskette Unit +5 Vdc Power (Step 019 continues)	Reconnect Cable B3 and B4 at (Step 022 continues)

H/S WRAP ERRORS

MAP 8032

PAGE 5 OF 7

(Step 022 continued) the Diskette Adapter Card.

If you have installed a new Diskette Adapter Card at the start of this MAP, do not install another Diskette Adapter Card. Reinstall the original Diskette Adapter Card. Continue with the next step.

Install a new Diskette Adapter Card.

POWER-ON.

Is an Error Code displayed on the screen? Y N

T IN

| 023 | | GO TO MAP 0010, ENTRY POINT A, | to Verify System Operation.

024

POWER-OFF.

Reinstall the original Diskette Adapter Card.

Install a new External Diskette (Step 024 continues)

(Step 024 continued) Signal Cable.

POWER-ON.

Is an Error Code displayed on the screen? Y N | 025 | GO TO MAP 0010, ENTRY POINT A,

to Verify System Operation.

026

POWER-OFF.

Install the original External Diskette Signal Cable.

Using the lowest ohm range, measure from the File Control Card Connector to Connector B3/B4, using the information in the chart.

(Step 026 continues)

MAP 8032-5

(Step 026 continued)					
	File Control C Connector	ard Connec B3/H	tor 34			
	PIN	PIN				
the second	B06 B14 B09 B17	3 11 9 21				
	Do all the w	ires measu	ce les			

Do all the wires measure less than 2 ohms? Y N | 027 | Install a new Diskette Drive | Cable. | GO TO MAP 0010, ENTRY POINT A, | to Verify System Operation. | 028

Install a new System Card.

POWER-ON. (Step 028 continues)

H/S WRAP ERRORS	A F	MAP 8032-6
MAP 8032		
PAGE 6 OF 7		
(Step 028 continued)		(Step 035 continued) System Card at the start of
Is an Error Code displayed on the screen? Y N 029	Follow your normal escalation procedure. 033	this MAP, do not install another System Card. Reinstall the original System Card. Continue with the next step.
		POWER-OFF.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 	Using the 20(dc) voltage range, measure from Pin 15(-) to Pins 1.2.3.13.14 (+ all) of	Install a new System Card.
ວ່ <u>3</u> 0	Connector B2 at the Diskette Adapter Card, Check for a	POWER-ON.
POWER-OFF.	reading of +4.6 volts to +5.5 volts.	Is an Error Code displayed on the screen?
Reinstall the original System Card.	Is the voltage between +4.6 volts	Y N 036
Install a new Internal Diskette Signal Cable in the Electronic Module.	Fin indicated? Y N	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-ON.	034	 037
Is an Error Code displayed on the screen?	You are now directed to go to the Diskette Unit +5 Vdc Power MAP.	POWER-OFF.
Y N 		Reinstall the original System Card.
031	GO TO MAP 8060, ENTRY POINT A. 	Install a new Diskette Adapter
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	035	Card.
	If you have installed a new (Step 035 continues)	POWER-ON. (Step 037 continues)

F

H/S WRAP ERRORS	G
MAP 8032	1
PAGE 7 OF 7	
(Step 037 continued)	
Is an Error Code displayed on the screen? Y N 038 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 039 POWER-OFF. Install the original Diskette Adapter Card. Install a new External Diskette Signal Cable.	POWER-OFF. Install the original External Diskette Signal Cable. Install a new Internal Diskette Signal Cable in the Electronic Module. POWER-ON. Is an Error Code displayed on the screen? Y N 042
POWER-ON.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Is an Error Code displayed on the screen? Y N 040 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	l 043 Follow your normal escalation procedure.

| G

DISKETTE UNIT +5 VDC POWER MAP

MAP 8060

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
8020	A	1	001
8021	A	1	001
8026	A	1	001
8028	A	1	001
8032	A	1	001

001 (ENTRY POINT A)

> This MAP will isolate +5 (dc) voltage problems in the Diskette Unit and external DC Power Cable.

Remove the Diskette(s) if one is present.

POWER-OFF.

Disconnect the Diskette DC Power Cable from Connector 10, Panel 2.

POWER-ON. (Step 001 continues) (Step 001 continued)

Using the 20(dc) voltage range, measure from Pin 7(-) to Pins 1,2,3,4,14 (all +) of Connector 10 at Panel 2. Check for a reading of +4.6 volts to +5.5 volts. (measure at the Panel).

Is the voltage between +4.6 volts to 5.5 volts on each Connector Pin indicated? Y N

002

POWER-OFF.

Install a new base Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

POWER-OFF.

Reinstall the Diskette DC Power Cable to Connector 10, at Panel 2.

(Step 003 continues)

MAP 8060-1

(Step 003 continued) POWER-ON.

Using the 20(dc) voltage range, measure from Pin 15(-) to Pins 1,2,3,13,14 (all +) of Connector B2, at the Diskette Adapter Card. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to 5.5 volts on each Connector Pin indicated? Y N

004

POWER-OFF.

Install a new Diskette Unit DC Power Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 14(+) at Connector B3 and Connector B4. Check for a reading of +4.6 volts to +5.5 (Step 005 continues)

DISKETTE UNIT +5 VDC

MAP 8060

PAGE 2 OF 2

(Step 005 continued) volts.

Is the voltage between +4.6 volts to +5.5 volts? Y N

```
006
```

POWER-OFF.

Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

007

Using the 20(dc) voltage range, measure from Pin B01(+) to Pin A18(-) at the File Control Card Connector. Check for a reading (Step 007 continues) (Step 007 continued) of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts
to +5.5 volts?
Y N
|
|
008

000

POWER-OFF.

Install a new Diskette Drive Cable.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

009

POWER-OFF.

Install a new File Control Card. (Step 009 continues) (Step 009 continued)

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

DISKETTE UNIT +24 VDC POWER MAP

MAP 8061

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
8020	A	1	001
8021	A	1	001
8026	A	1	001
8028	A	1	001
8032	A	1	001

001

(ENTRY POINT A)

This MAP will isolate +24 (dc) voltage problems in the Diskette Unit and external DC Power Cable.

Remove the Diskette if one is present.

POWER-OFF.

Disconnect the Diskette Unit DC Power Cable from Connector 10, Panel 2.

POWER-ON. (Step 001 continues) (Step 001 continued)

Using the 200(dc) voltage range, measure from Pin 7(-) to Pin 13(+) at Connector 10 at Panel 2. (Measure at the Panel) Check for a reading of +22.08 volts to +26.4 volts.

Is the voltage between +22.08 volts to +26.4 volts? Y N

002

POWER-OFF.

Install a new base Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

ÓОЗ

POWER-OFF.

Reinstall the Diskette Unit DC Power Cable to Connector 10, at Panel 2.

POWER-ON.

(Step 003 continues)

(Step 003 continued) Using the 200(dc) voltage range, measure from Pin 15(-) to Pin 12 (+) of Connector B2, at the Diskette Adapter Card. Check for a reading of +22.08 volts to +26.4 volts.

Is the voltage between +22.08 volts to +26.4 volts? Y N

```
004
```

POWER-OFF.

Install a new Diskette Unit DC Power Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

Using the 200(dc) voltage range, measure from Pin 7(-) to Pin 12(+) at Connector B3 and Connector B4. Check for a reading of +22.08 volts to +26.4 volts. (Step 005 continues)

MAP 8061-1

DISKETTE UNIT +24 VDC

MAP 8061

PAGE 2 OF 2

(Step 005 continued)

Is the voltage between +22.08 volts to +26.4 volts? Y N

```
006
```

POWER-OFF.

Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

007

Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to (Step 007 continues) (Step 007 continued) +26.4 volts.

Is the voltage between +22.08 and +26.4 volts? Y N

008

POWER-OFF.

Install a new Diskette Drive Cable.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Ò09

POWER-OFF.

Install a new File Control Card. (Step 009 continues)

MAP 8061-2

(Step 009 continued)

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

DISKETTE UNIT -5 VDC POWER MAP

MAP 8062

PAGE 1 OF 2

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
8020		A	1	001
8026		A	1	001
8032		A	1	001

001 (ENTRY POINT A)

> This MAP will isolate -5 (dc) voltage problems in the Diskette Unit and external DC Fower Cable.

Remove the Diskette if one is present.

POWER-OFF.

Disconnect the Diskette Unit DC Power Cable from Connector 10, at Panel 2.

POWER-ON.

Using the 20(dc) voltage range, (Step 001 continues)

(Step 001 continued) measure from Pin 7(-) to Pin 12(+) on Connector 10 at Panel 2. (Measure at the Panel) Check for a reading of -4.6 volts to -5.5 volts. Is the voltage between -4.6 volts to -5.5 volts? ΥN 002 POWER-OFF. Install a new base Power Supply. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 003 POWER-OFF. Reinstall the Diskette Unit DC Power Cable to Connector 10, at Panel 2.

POWER-ON. (Step 003 continues) (Step 003 continued)

Using the 20(dc) voltage range, measure from Pin 15(-) to Pin 5(+) of Connector B2, at the Diskette Adapter Card. Check for a reading of -4.6 volts to -5.5 volts.

Is the voltage between -4.6 volts to -5.5 volts? Y N I

004

POWER-OFF.

Install a new Diskette Unit DC Power Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 5(+) at Connector B3 and Connector B4. Check for a reading of -4.6 volts to -5.5 volts.

Is the voltage between -4.6 volts (Step 005 continues)

DISKETTE UNIT -5 VDC

MAP 8062

PAGE 2 OF 2

```
(Step 005 continued)
to -5.5 volts?
Y N
```

006

POWER-OFF.

Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

007

Using the 20(dc) voltage range, measure from Pin Al8(-) to Pin A01(+) at the File Control Card Connector. Check for a reading of -4.6 volts to -5.5 volts.

Is the voltage between -4.6 volts (Step 007 continues)

(Step 007 continued) to -5.5 volts? Y N | 008

POWER-OFF.

Install a new Diskette Drive Cable.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Ó09

POWER-OFF.

Install a new File Control Card.

Verify by running the Drive Set Ready test L. (Step 009 continues) (Step 009 continued)

Verify by running the Stepper Motor Phase test M.

DISKETTE UNIT A/C POWER MAP

MAP 8064

PAGE 1 OF 3

ENTRY POINTS

FROM	ļ	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0010		A	1	001
9165		A	1	001

001 (ENTRY POINT A)

This MAP isolates AC short problems in the Diskette Unit.

The Media Module may get its AC Power from the Electronic Module, or from the large Display Module.

Reconnect the Media Module AC Cable.

POWER-OFF.

Disconnect the Diskette Unit AC Cable from the Diskette Unit. This is done by disconnecting the AC Motor Connector or Connectors (two drives) and the (Step 001 continues) (Step 001 continued) AC Fan Connector in the Diskette Unit.

POWER-ON.

Is the Fan in the Electronic Module running? Y N

002

POWER-OFF.

Install a new Diskette Unit AC Cable. Install a new Fuse.

Reconnect the AC Power Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

2

А

Is this a two Drive station? Y N

004

POWER-OFF.

Disconnect the Media Module (Step 004 continues) (Step 004 continued) AC Cable.

Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two wires and the other end of the meter lead to the Capacitor Terminal with the single wire. Using the lowest ohm range, place a meter lead on each of the black AC wires on the AC Motor Connector.

Record the reading.

Leave the meter leads connected.

Disconnect the blue wire (single wire) from the AC Capacitor.

Did the meter reading increase? Y N

005

2 B Install a new AC Drive Motor.

Reconnect the Media Module AC Cable.

(Step 005 continues)

```
MAP 8064-1
```

C	
(Step 008 continued)	(Step 010 AC Cabl
Install a new Fan in the Diskette Module. Install a new Fuse.	Dischar taking
Reconnect the AC Motor Connector on both drives.	connect Capacit wires a
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	meter Termina
l 009	Using place
POWER-OFF.	Motor C
Connect the Right Drive AC Cable.	Record
POWER-ON.	Leave connect
Is the AC Motor turning on the Right Drive? Y N	Disconn (single Capacit
010	Did the m
 The Right Drive is the failing Drive.	Y N 011
POWER-OFF.	 Insta Capac
Disconnect the Media Module (Step 010 continues)	(Step 0
2	2
	C (Step 008 continued) Install a new Fan in the Diskette Module. Install a new Fuse. Reconnect the AC Motor Connector on both drives. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 009 POWER-OFF. Connect the Right Drive AC Cable. POWER-ON. Is the AC Motor turning on the Right Drive? Y N 010 The Right Drive is the failing Drive. POWER-OFF. Disconnect the Media Module (Step 010 continues)

DICKETTE INTE A CO

continued) e.

ge the AC Capacitor by a meter lead and ting the clip to the tor Terminal with two and the other end of the lead to the Capacitor al with the single wire.

the lowest ohm range, a meter lead on each of ack AC wires on the AC Connector.

the reading.

the meter leads ed.

ect the blue wire wire) from the AC or.

eter reading increase?

all a new AC Drive Motor citor.

011 continues)

MAP 8064-2

D E DISKETTE UNIT A/C

MAP 8064

PAGE 3 OF 3

(Step 011 continued)
Reconnect the Media Module
AC Cable.

| GO TO MAP 0010, ENTRY POINT | A, to Verify System | Operation.

012

22

Install a new AC Drive Motor.

Reconnect the Media Module AC Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

013

The Left Drive is the failing Drive.

POWER-OFF.

Disconnect the AC Cable Connector 8.

Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two wires and the other end of the (Step 013 continues) (Step 013 continued) meter lead to the Capacitor Terminal with the single wire.

Using the lowest ohm range, place a meter lead on each of the black AC wires on the AC Motor Connector.

Record the reading.

Leave the meter leads connected.

Disconnect the blue wire (single wire) from the AC Capacitor.

Did the meter reading increase? Y N | 014 | Install a new AC Drive Motor. | Reconnect the Media Module AC Cable. | GO TO MAP 0010, ENTRY POINT A, | to Verify System Operation. | 015

15

(Step 015 continues)

(Step 015 continued) Install a new AC Drive Motor Capacitor.

Reconnect the Media Module AC Cable.

•

DC SHORT FAILURE MAP

MAP 8065

PAGE 1 OF 6

ENTRY POINTS

FROM I ENTER THIS MAP MAP I ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 6010 | A 1 001

001 (ENTRY POINT A)

> This MAP isolates DC short problems in the Diskette Unit.

POWER-OFF (Wait 8 seconds).

Disconnect the Communications DC Voltage Cable Connector 11 (if present) from Panel 2.

Disconnect all cables from the Connector Strip or from the Diskette Unit Distribution Board.

Remove the Diskette Adapter Card.

if present remaining Remove cards from the Diskette Unit (Step 001 continues)

Distribution Board. POWER-ON. Are the "A" and/or "B" LED indicators ON? ΥN 002 Reconnect the Communications DC Voltage Cable Connector 11 to Panel 2. If this cable is not present, then answer NO to this question. Are the "A" and/or "B" LED indicators ON? ΥN 003 POWER-OFF. Reconnect Cable B2. Reconnect if present Cable C1 to the Diskette Unit Distribution Board. (Step 003 continues) 66

(Step 001 continued)

AB

(Step 003 continued)

POWER-ON.

Are the "A" and/or "B" LED indicators ON? YN 004 POWER-OFF (Wait 8 seconds). Reinstall the original Diskette Adapter Card. POWER-ON. Are the "A" and/or "B" LED indicators ON? ΥN 005 the Communications If feature is not present in Media Module, then the answer NO to this question. Reinstall the remaining original cards one at a time. Power-On after installing each card. (Step 005 continues) 6 6 CD

MAP 8065-1

DC SHORT FAILURE MAP		H MAP 8065-2
MAP 8065		
PAGE 2 OF 6		
(Step 005 continued)	(Step 007 continued)	(Step 009 continued)
Record the part number or card type of the failing card.	Are the "A" and/or "B" LED indicators ON? Y N	 Are the "A" and/or "B" LED indicators ON? Y N
Did the A and/or B LED Indicators remain on after installing each card? Y N L 006	008 POWER-OFF.	010 GO TO MAP 0010, ENTRY POINT A, to Verify System
Sthis a two Drive station? Y N	Solenoid in the failing Drive.	011
007	POWER-ON.	POWER-OFF (Wait 8 seconds).
POWER-OFF. Reconnect the Drive Cable.	Are the A and/or B LED indicators ON? Y N 009	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Disconnect the Head Load Solenoid Connector from the File Control Card.	POWER-OFF.	012 POWER-OFF (Wait 8 seconds).
Disconnect the Stepping Motor Connector from the File Control Card.	Motor Connector in the failing Drive.	Install a new Head Load Solenoid in the failing Drive.
POWER-ON. (Step 007 continues)	POWER-ON. } (Step 009 continues) 	Step 012 continues)
6 3 E F	3 G H	MAP 8065-2

G DC SHORT FAILURE MAP	F	MAP 8065-3
MAP 8065	-	
PAGE 3 OF 6		
(Step 012 continued)	(Step 015 continued)	(Step 018 continued)
Are the "A" and/or "B" LED indicators ON? Y N 013 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 014 FOWER-OFF (Wait 8 seconds). Install a new base Fower Supply. GO TO MAP 0010, ENTRY FOINT A, to Verify System Operation	Are the "A" and/or "B" LED indicators ON? Y N Olf GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. POWER-OFF (Wait 8 seconds). Install a new base Power Supply. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Are the "A" and/or "B" LED indicators ON? Y N 019 This isolates to a failing Right Drive. POWER-OFF. Reconnect the Right Drive Cable to Connector B4 on the Diskette Adapter Card. Disconnect the Head Load Solenoid Connector from the File Control Card on the failing drive.
Co verify system operation.		Discoursest the Stepping Meter
Ol5 FOWER-OFF (Wait 8 seconds). Install a new File Control Card in the failing Drive.	POWER-OFF. Reconnect the Left Drive Cable to Connector B3 on the Diskette	Connector from the File Control Card on the failing drive.
POWER-ON. (Step 015 continues)	Adapter Card. (Step 018 continues)	Are the "A" and/or "B" LED indicators ON? Y N
		544 JKL MAP 8065-3

L DC SHORT FAILURE MAP	M N	K MAP 8065-4
3 MAP 8065		3
PAGE 4 OF 6		
020 POWER-OFF.	(Step 022 continued) A, to Verify System Operation. 023	(Step 026 continued) POWER-OFF (Wait 8 seconds). Install a new base Power Supply.
Reconnect the Head Load Solenoid in the failing Drive.	POWER-OFF (Wait 8 seconds).	 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-ON.	Install a new Stepping Motor.	027
Are the "A" and/or "B" LED indicators ON? Y N	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	POWER-OFF (Wait 8 seconds).
021	024 POWER-OFF (Wait 8 seconds).	Install a new File Control Card in the failing Drive.
POWER-OFF. Reconnect the Stepping Motor Connector in the failing Drive.	Install a new Head Load Solenoid in the failing Drive. POWER-ON.	POWER-ON. Are the "A" and/or "B" LED indicators ON? Y N
POWER-ON.	Are the "A" and/or "B" LED indicators ON^2	028
Are the "A" and/or "B" LED indicators ON? Y N 	Y N 025	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	POWER-OFF (Wait 8 seconds).
FONDR-OFF.	l 026	Install a new base Power
(Step 022 continues)	(Step 026 continues)	(Step 029 continues)

-
J
2
э

DC SHORT FAILURE MAP

MAP 8065

PAGE 5 OF 6

(Step 029 continued)

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

030

This isolates to a failing Left Drive.

POWER-OFF (Wait 8 seconds).

Disconnect the Head Load Solenoid Connector from the File Control Card on the failing drive.

Disconnect the Stepping Motor Connector from the File Control Card on the failing drive.

POWER-ON.

"A" "B" Are the and/or LED indicators ON? YN 031 POWER-OFF. Head Reconnect the Load Solenoid in the failing (Step 031 continues)

POWER-ON. Are the "A" "R" and/or LED indicators ON? YN 032 POWER-OFF. Reconnect the Stepping Motor Connector in the failing Drive. POWER-ON. Are the "A" and/or "B" LED indicators ON? Y N 033 GO TO MAP 0010, ENTRY POINT Α, to Verifv Svstem Operation. 034 POWER-OFF (Wait 8 seconds). (Step 034 continues)

(Step 031 continued)

Drive.

0 MAP 8065-5 (Step 034 continued) Install a new Stepping Motor. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 035 POWER-OFF (Wait 8 seconds). new Head Load Install а Solenoid in the failing Drive. POWER-ON. and/or "B" "A" LED Are the indicators ON? YN 036 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 037 POWER-OFF (Wait 8 seconds). Install a base Power new Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

6 P

MAP 8065-5

EP DO	C SHORT FAILURE MAP	CD	A B R MAP 8065-6
2 5 M2	AP 8065	1 1 	
P2	AGE 6 OF 6		
038 POWER-OFF Install a	(Wait 8 seconds). a new File Control	(Step 041 continued) Install a new Card. GO TO MAP 0010, ENTRY POINT A, to Verify System	 045 POWER-OFF (Wait 8 seconds). Install a new Diskette Unit
POWER-ON.	he failing Drive. A" and/or "B" LED	Operation. 042 POWER-OFF (Wait 8 seconds).	Distribution Board. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
indicators (Y N 039 GO TO MA A, to Operation. 040	ON? AP 0010, ENTRY POINT Verify System	Install a new Diskette Adapter Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 043 Is a Diskette Unit Distribution Board present?	046 POWER-OFF (Wait 8 seconds). Install a new Communications DC Voltage Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-OFF	(Wait 8 seconds). a new base Power	Y N 044	047 POWER-OFF (Wait 8 seconds).
GO TO MAP OC GO TO MAP OC to Verify Sy 041	D10, ENTRY POINT A, ystem Operation.	POWER-OFF (Wait 8 seconds). Install a new Connector Strip. GO TO MAP 0010, ENTRY POINT A,	Install a new Diskette Adapter DC Power Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-OFF (V (Step 041 cont	Nait 8 seconds). tinues)	to Verify System Operation. 	

BLANK DISPLAY MAP

MAP 9010

PAGE 1 OF 2

ENTRY POINTS

FROM		ENTER	THIS	MAP	
MAP NUMBER		ENTRY POINT	PAGI NUMI	E BER	STEP NUMBER
0017		A		1	001

001 (ENTRY POINT A)

The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAPs to a fix statement before obtaining any parts from the distribution center.

DANGER

WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the (Note: no bleeder Display resistor provided). Use CAUTION when handling the Displav Module. The Display (Step 001 continues)

(Step 001 continued) Screen is glass and will implode if cracked or broken. Disconnect the Display Module Connector (2) from Panel 1. Using the 20(dc) voltage range, measure from Pin 2 (ground) to Pin 3 (+12V) of Panel 1 Connector (2), (Pin side). Is the voltage between +11.0 volts and +13.2 volts? ΥN 002 Using the 20(dc) voltage range, measure from frame ground to Pin 10 of Internal Distribution Cable Connector (P2). Is the voltage between +11.0 volts and +13.2 volts? YN 003

> Install a new base Power (Step 003 continues)

POWER-OFF.

| | (Step 003 continued) Supply. GO TO MAP 0010, ENTRY POINT Verify A, to System Operation. 004 POWER-OFF. Repair or install a new Internal Distribution Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Ó05 POWER-OFF. Remove the Electronics Module top cover. Reconnect the Display Module Connector (2).

MAP 9010-1

POWER-ON with the Memory Record Button pressed.

Using the 20(dc) voltage range, measure from frame ground to Pin 13 of the Internal (Step 005 continues)

AB

BLANK DISPLAY MAP

MAP 9010

PAGE 2 OF 2

(Step 005 continued) Distribution Cable Connector (2) (wiring side).

Is the voltage between +4.0 volts and +5.5 volts? Y N

1

006

POWER-OFF.

Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

<u>007</u>

Using the 20(dc) voltage range, measure from frame ground to Pin 4 of the Internal Distribution Cable Connector (D1).

Is the voltage between +4.0 volts and +5.5 volts? Y N

008

C

POWER-OFF.

(Step 008 continues)

(Step 008 continued) Repair or install a new Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

009

С

POWER-OFF.

Install a new Display Adapter Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 9010-2

	DI	SP	LAY	ADAP	TER	MAP
--	----	----	-----	------	-----	-----

MAP 9020

PAGE 1 OF 1

ENTRY POINTS

FROM	ļ	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0009		A	1	001
0010		A	1	001
9030		A	1	001
9040		A	1	001

001 (ENTRY POINT A)

DANGER

WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder provided). resistor Use when handling CAUTION the Display Module. The Display is glass and will Screen implode if cracked or broken.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

(Step 001 continues)

(Step 001 continued) Select and run the Display MDI. Note: The Keying sequence is:

> "A" "ENTER" (Wait two to five seconds for a diskette access.) "A" "ENTER" (Wait two to five seconds for a diskette access.) "ENTER"

(If a wrong key is pressed during the keying sequence, press "END" and restart the sequence.)

Did the Display MDI test fail? (Failure is indicated by a Display message and/or LED Indicators "F" and "H" ON.) Y N

002

A B

Has a new Display Module been installed? Y N | 003 | (Step 003 continues) |

(Step 003 continued) POWER-OFF. Install new Display а Module. GO TO MAP 0010, ENTRY POINT Α, to Verify System Operation. 004 POWER-OFF. Install a new Display Adapter Card. Reinstall the original Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 005 POWER-OFF.

MAP 9020-1

AΒ

Install a new Display Adapter Card.
MAP 9030

PAGE 1 OF 3

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0010	1	A	1	001

EXIT THIS MAP | TO PAGE STEP | MAP ENTRY NUMBER NUMBER | NUMBER POINT 3 010 | 9020 A

EXIT POINTS

001

(ENTRY POINT A)

The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAPs to a fix statement before obtaining any parts from the distribution center.

DANGER

WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display (Step 001 continues)

(Step 001 continued) Screen is glass and will implode if cracked or broken. Is there a single horizontal or vertical line on the Display? (Refer to Figure 2, Appendix A) ΥN 002 Turn the Contrast and Control Knobs Brightness fully clockwise. Turn the Brightness Control Knob slowly counterclockwise until the Display raster is not visible. Is there an Image on the Display Screen? YN 003 Using the 2(dc) voltage range, measure from frame ground to Pin 10 of the Internal Distribution Cable Connector (2) (wiring side). (Step 003 continues)

33 AB

MAP 9030-1

NO VIDEO DATA MAP	CDE	MAP 9030-2
MAP 9030		
PAGE 2 OF 3		
(Step 003 continued) Do NOT disconnect Display Module Connector (2). Is the voltage between +1.2 volts and +1.8 volts? Y N	 005 POWER-OFF. Reconnect Internal Distribution Cable Connector (D1)	<pre>(Step 007 continued) measure from frame ground to Pin 1 of the Internal Distribution Cable Connector (D1). Is the voltage between +1.2 volts and +1 8 volts2</pre>
004	Install a new Display	Y N
POWER-OFF.	Module.	008
Disconnect Internal Distribution Cable Connector (D1).	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.	POWER-OFF. Repair or install a new
POWER-ON with the Memory Record Button pressed.	DOG POWER-OFF.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
range, measure from frame ground to Pin 10 of the Internal Distribution Cable	Install a new Display Adapter Card.	009 POWER-OFF.
Connector (2) (wiring side).	Reconnect Internal Distribution Cable Connector (D1).	Install a new Display Adapter Card.
Is the voltage between +1.2 volts and +1.8 volts? Y N	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 007	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
	Using the 2(dc) voltage range, (Step 007 continues)	
C D E		MAP 9030-2

MAP 9030-2

A B NO VIDEO DATA MAP 1 1 MAP 9030 | | PAGE 3 OF 3 | | 010 | You are now directed to go to the Display Display Adapter MAP. | GO TO MAP 9020, ENTRY POINT A. | 011

POWER-OFF.

Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

-14 ⁻¹

DISTORTED DISPLAY IMAGE MAP

MAP 9040

PAGE 1 OF 3

ENTRY POINTS

FROM	ļ	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0009		A	1	001
0010		A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	ТО	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
1	003	9020	A

001

(ENTRY POINT A)

The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAPs to a fix statement before obtaining any parts from the distribution center.

DANGER

WARNING DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the (Step 001 continues)

(Step 001 continued) Display Module. The Display Screen is glass and will implode if cracked or broken. Turn the Display Brightness and Contrast Control Knobs fully clockwise. Compare the Display Image to the Pictures in Figure 5. Appendix A. Does the Image on the Display match any of the pictures? ΥN 002 Is the Display Image rolling? (Refer to Figure 4, Appendix A.) ΥŃ 003 | You are now directed to go to I the Display Display Adapter I MAP. I GO TO MAP 9020. ENTRY POINT A.

32 AB

MAP 9040-1

MAP 9040-1

B DISTORTED DISP IMAGE		CD	MAP 9040-2
1 MAP 9040			
PAGE 2 OF 3			
Using the 20(dc) voltage range, measure from frame ground to Pin 12 of the Internal Distribution Cable Connector	(Step 006 continued) POWER-ON. Using the 20(dc) voltage range, measure from frame ground to Pin 12 of the Internal	(Step 008 Install Distribu Reconned Cable Co	continued) a new Internal ution Cable. ct the System Power onnector (P1).
<pre>(2) (wiring side). Do NOT disconnect Display Module Connector (2). Record the voltage</pre>	Distribution Cable Connector (2) (wiring side). Do NOT disconnect Display Module Connector (2).	GO TO MA GO TO MA A, to Operation.	AP 0010, ENTRY POINT Verify System
Is the voltage between +4.0 volts and +5.5 volts? Y N	Did the voltage measurement increase +0.3 volts to +0.7 volts above the recorded voltage? Y N	POWER-OFF.	new Display Adapter
005	007	Card.	
POWER-OFF.	Using the 20(dc) voltage	Reconnect Cable Conr	the System Power nector (P1).
Install a new Display Module.	ground to Pin 3 of the	 GO TO MAP (0010, ENTRY POINT A,
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Connector (D1) (wiring side).	 010	ystem operation.
006	volts and +5.5 volts? Y N	POWER-OFF.	
POWER-OFF.		Install a ne	ew Display Module.
Disconnect the System Power Cable Connector (P1). (Step 006 continues)	POWER-OFF. (Step 008 continues)	Reconnect Cable Connec (Step 010 cont	the System Power ctor (P1). tinues)
	C D		MAP 9040-2

DISTORTED DISP IMAGE

MAP 9040

PAGE 3 OF 3

(Step 010 continued)

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Ò11

A 1

POWER-OFF.

Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

.

NO CONTRAST ADJUSTMENT MAP AΒ MAP 9050-1 MAP 9050 PAGE 1 OF 1 (Step 001 continued) Screen is glass will | (Step 003 continued) and ENTRY POINTS implode if cracked or broken. Install a new Internal Distribution Cable. FROM I ENTER THIS MAP POWER-OFF. _____ GO TO MAP 0010, ENTRY POINT MAP I ENTRY PAGE STEP Disconnect the Display Module Α, to Verify System NUMBER | POINT NUMBER NUMBER Connector (2) from Panel 1. Operation. 9070 | A 1 001 Using the 20(Ohm) Resistance 004 range, measure the resistance between Pin 11 and Pin 15 of Install a new Display Adapter 001 Panel 1 Connector (2). Card. (ENTRY POINT A) Is the resistance less than 2 GO TO MAP 0010, ENTRY POINT A, The most probable failing FRU Ohms? to Verify System Operation. is the Display Module. You may ΥN replace it now if there is a 005 replacement Display Module at 002 your present location. Follow Install a new Display Module. the MAPs to a fix statement Using the 20(Ohm) Resistance before obtaining any parts from range, measure the resistance GO TO MAP 0010, ENTRY POINT A, to the distribution center. between Panel 1 Connector (2) Verify System Operation. 11 and Internal Pin DANGER Distribution Cable Connector (D1) Pin 2. WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Is the resistance less than 2 Operating voltages up to 14,000 Ohms? volts are present inside the YN Display (Note: no bleeder resistor provided). Use 1 003 CAUTION when handling the Display Module. The Display | | (Step 003 continues) (Step 001 continues) AB MAP 9050-1

LARGE DISPLAY INDICATOR MAP

MAP 9109

PAGE 1 OF 8

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0010 0017	 	A A	1 1	001 001

001 (ENTRY POINT A)

DANGER

THERE IS UP TO 17,000 VOLTS PRESENT INSIDE THE DISPLAY MODULE. (Note: After the Power is turned off, allow 10 seconds for the High Voltage to reach a safe level.)

Use CAUTION when handling the Display module. Wear SAFETY GLASSES. The Display Screen is glass and will implode if cracked or broken.

The Display Indicators (0,1,2) (Step 001 continues)

EXIT	POINTS			
EXIT	THIS MA	.P]	0	
PAGE	STEF R NUME	N ER N	IAP NUMBER	ENTRY POINT
8	с С	45	9110	A

(Step 001 continued) are located at the rear of the Display Module just above the cables.
The Indicators are normally "ON".
Are all the Display Indicators (0,1,2) ON? Y N
002
Are all the Display Indicators (0,1,2) OFF? Y N
003
Are Display Indicators (O ON and 1,2 OFF)? Y N
004
Are Display Indicators (0,2 ON and 1 OFF)? Y N
005
Are Display Indicators (0 Are Display Indicators (0 (Step 005 continues)
7543 ABCD MAP 9109-1

INDICATOR MAP		E F MAP 9109-2
MAP 9109		
PAGE 2 OF 8		
<pre>(Step 005 continued) OFF and 1,2 ON)? Y N 006 Are Display Indicators (0,1 ON and 2 OFF)? Y N 1 Y N 1 POWER-OFF. 1 Disconnect the Display 1 Indicator (0) Cable Connector (LV1) at the Low Voltage Power Supply in the Display Module. 1 POWER-ON. 1 1 Voltage the 20(dc) voltage 1 range, measure from Pin 1 1(-) to Pin 3(+) of the Display Indicator (0) Cable Conn. (LV1) at the Low Voltage Power Supply. 1 Check for +4.6 to +5.5 Volts. 1 (Step 007 continues)</pre>	<pre>(Step 007 continued) Is the voltage between +4.6 and +5.5 volts? Y N 008 POWER-OFF. Install a new Low Voltage Power Supply in the Display Module. You are now directed to go to the Large Display Indicator MAP. GO TO MAP 9109, ENTRY POINT A. 009 POWER-OFF. Install a new Low Voltage LED Indicator (0) Cable Assembly in the Display Module. You are now directed to go to the Large Display Indicator MAP.</pre>	<pre>010 POWER-OFF. Install a new Deflection Neon Indicator (2) Cable Assembly in the Display Module. POWER-ON. Are all the Display Indicators (0,1,2) ON? Y N 011 POWER-OFF. Install a new Analog Card in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 012 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.</pre>
	GO TO MAP 9109, ENTRY POINT A.	013
ii		(Step 013 continues)

MAP 9109-2

| | | | E F

INDICATOR MAP	D G	H MAP 9109-3
MAP 9109		
PAGE 3 OF 8		
(Step 013 continued) POWER-OFF.	015	(Step 017 continued) to Verify System Operation.
Disconnect the Display Indicator (0) Cable Connector (LV1) at the Low Voltage Power Supply in the Display Module. FOWER-ON. Using the 20(dc) voltage range, measure from Pin 1(-) to Pin 3(+) of the Display Indicator (0) Cable Conn. (LV1) at the Low Voltage Power Supply. Check for +4.6 to +5.5 volts. Is the voltage between +4.6 and +5.5 volts? Y N 014 POWER-OFF. Install a new Low Voltage Power Supply in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	<pre>POWER-OFF. Install a new Low Voltage LED Indicator (0) Cable Assembly in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 016 Has new High Voltage Power Supply been installed in the Display Module? Y N 017 POWER-OFF. * * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure. Install a new High Voltage Power Supply in the Display Module. GO TO MAP 0010, ENTRY POINT A, (Step 017 continues)</pre>	018 Has new Display Analog Card been installed in the Display Module? Y N 019 POWER-OFF. * * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure. Reinstall the original High Voltage Power Supply in the Display Module. Install a new Analog Card in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
G	H	4 J MAP 9109-3

J	INDICATOR MAP	c		K L	MAP 9109-4
3	MAP 9109	T	•		
	PAGE 4 OF 8				
l 020 Has new Cable Ass the Displ Y N I	Display Indicator (1) sembly been installed in lay Module?	(Step 022 c See the Manual Discharge Reinstall component Module.	ontinued) Product Support for the CRT Anode procedure. all the original s in the Display	(Step C You are the La MAP. GO TO M A.	25 continued) now directed to go to arge Display Indicator MAP 9109, ENTRY POINT
021		GO TO MAP	0010, ENTRY POINT A,	026	
POWEI	R-OFF.	to Verify S	ystem Operation.	GO TO MA	AP 0010, ENTRY POINT A, System Operation.
Reins Card Insta	stall the original Analog in the Display Module. all a new High Voltage	023 Has new Displ installed in	ay Analog Card been the Display Module?	j 027 POWER-OFF	·.
Neon Asser Modul	Indicator (l) Cable mbly in the Display le.	Y N 024		* * * See the I for the	DANGER * * * Product Support Manual CRT Anode Discharge
POWEI	R-ON.	POWER-OFF		procedure	2.
GO TO N to Ver	MAP 0010, ENTRY POINT A, ify System Operation.	Install the Displ	a new Analog Card in ay Module.	Install Power Su Module.	a new High Voltage upply in the Display
022		POWER-ON.		POWER-ON.	
POWER-0	DFF.	Are all the (0,1,2) ON?	Display Indicators	Are all t	the Display Indicators
Instal Assemb * * (Step 022	l a new Mainframe ly in the Display Module. * DANGER * * * 2 continues)	Y N 025 (Step 025	continues)	(0,1,2) ON Y N 	
				5 5	WID 0100 (
		KL		MN	MAP 9109-4

M N 4 4	INDICATOR MAP	B	Q MAP 9109-5
T T	MAP 9109	±	
	PAGE 5 OF 8	 030	033
	POWER-OFF. Install a new Mainframe	Is the Display Module (ac) Cable Connector (12) connected? Y N	DANGER HIGH VOLTAGE IS PRESENT AT THE
	Assembly in the Display Module.	031	POWER CORD CONNECTOR.
	* * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure. Reinstall all the original	POWER-OFF. Connect the Display Module (ac) Cable Connector (12) to Panel 2 of the Electronic Module.	Disconnect the AC (input) Cable Connector (LV3) at the Low Voltage Power Supply. POWER-ON.
GO to 029	components in the Display Module. TO MAP 0010, ENTRY POINT A, Verify System Operation.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 032	Using the 200(ac) voltage range, measure from Pin (1) to Pin (3) of AC Cable Connector (LV3). The voltage should be between 104 and 127 volts (ac). (WT-GBC/I use the Product
PO	WER-OFF.	Disconnect the DC Output Cable	Support Manual.)
Re Ca:	install the original Analog rd in the Display Module.	Connector (LV2) at the Low Voltage Power Supply. POWER-ON.	Is the voltage in the correct range? Y N 034
GO T Veri	D MAP 0010, ENTRY POINT A, to fy System Operation.	Is Display Indicator (0) ON? Y N 	DANGER HIGH VOLTAGE IS PRESENT AT (Step 034 continues)
		Þ í P Q	ь R МАР 9109-5

	INDICATOR MAP
	MAP 9109
	PAGE 6 OF 8
(\$	Step 034 continued) THE POWER CORD CONNECTOR.
	POWER-OFF.
	Disconnect the Display Module AC Cable Connector (12) at Panel 2 of the Electronic Module.
	POWER-ON.
	Using the 200(ac) voltage range, measure the (ac) voltage at the AC connector (12) on Panel 2. The voltage should be between 104 and 127 volts (ac). (WT-GBG/I Use voltage chart in the Product Support Manual.)
I: ra Y	s the voltage in the correct ange? N
	035
ļ	POWER-OFF.
	Install a new Power Supply in the Electronic Module.
	Reconnect all the cable connectors. (Step 035 continues)

S

```
(Step 035 continued)
       TO MAP 0010, ENTRY POINT
   GO
   Α,
          to
                Verify
                           System
   Operation.
   POWER-OFF.
    Install a new AC Input Cable
   in the Display Module.
 GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
  POWER-OFF.
  Install a new Low Voltage Power
  Supply in the Display Module.
                            cable
  Reconnect
              all
                     the
  connectors.
GO TO MAP 0010, ENTRY POINT A, to
Verify System Operation.
```

RS

036

Ó37

5

POWER-OFF.

Reconnect the DC Output Cable (LV2) at the Low Connector Voltage Power Supply.

Disconnect the High Voltage Power Supply Cable Connector (J3) at the Connector Strip.

POWER-ON.

Is Display Indicator (0) ON? ΥN

039

7 т

Ρ 5

038

POWER-OFF.

Reconnect the High Voltage Power Supply Cable Connector (J3) at the Connector Strip.

Remove the Analog Card in the Display Module.

POWER-ON. (Step 039 continues)

MAP 9109-6

INDICATOR MAP				
MAP 9109				
PAGE 7 OF 8				
(Step 039 continued)				
Is Display Indicator (0) ON? Y N				
040				
POWER-OFF.				
Install a new Mainframe Assembly in the Display Module.				
* * * DANGER * * * See the Froduct Support Manual for the CRT Anode Discharge procedure.				
Reinstall all the original components in the Display Module.				
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.				
041				
POWER-OFF.				
Install a new Analog Card in the Display Module.				
GO TO MAP 0010, ENTRY POINT A, to (Step 041 continues)				

AT 16 | (Step 041 continued) | Verify System Operation. 042 POWER-OFF. Install a new High Voltage Power Supply in the Display Module. * * * DANGER * * * See the Product Support for the CRT Anode Manual Discharge procedure. Reconnect al] the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 043 Did you come from MAP 0015 with the Error Indicators (D.E.F.G.H) equal to (0,0,1,0,1)? YN 044 Load the Displaywriter System Diagnostic Diskette. (Step 044 continues)

8

П

(Step 044 continued)

Select and run the Display MDI. Note: The Keying sequence is:

"A" "ENTER" (Wait two to five seconds for a diskette access.) "A" "ENTER" (Wait two to five seconds for a diskette access.) "ENTER"

(If a wrong key is pressed the keying sequence, during press "END" and restart the sequence.)

(Failure is indicated bv а LED Display message and/or Indicators "F" and "H" ON.)

Did you get a failure message on the Display and/or are the LED Indicators "F" and "H" ON? YN

```
045
 You are now directed to go to
the Large Display Entry MAP.
```

(Step 045 continues)

8 v

MAP 9109-7

υv

7 7

MAP 9109

PAGE 8 OF 8

INDICATOR MAP

(Step 045 continued)

GO TO MAP 9110, ENTRY POINT A.

046

POWER-OFF.

Install a new Display Adapter Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

```
047
```

POWER-OFF.

Remove the Analog Card in the Display Module.

POWER-ON.

Do the Error Indicators (D, E, F, G, H) equal (0, 0, 1, 0, 1)? ΥN

048

W

POWER-OFF.

Install a new Analog Card in (Step 048 continues)

(Step 048 continued) the Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

049

W

POWER-OFF.

Install а new Mainframe Assembly in the Display Module.

* * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure.

the original Reinstall all the Display components in Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

LARGE DISPLAY ENTRY

MAP 9110

PAGE 1 OF 7

ENTRY POINTS

FROM	1	ENTER	THIS MAP	· · · · · · · · · · · · · · · · · · ·
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
9109		A	1	001
9170		A	1	001

EXIT POINTS					
EXIT TH	IS MAP	ТО			
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT		
33	015 010	9112 9115	A A		
4	018	9115	A		
1	033	9115	A		

001 (ENTRY POINT A)

DANGER

THERE IS UP TO 17,000 VOLTS PRESENT INSIDE THE DISPLAY MODULE. (Note: After the Power is turned off, allow 10 seconds for the High Voltage to reach a safe level.)

Use CAUTION when handling the Display module. Wear SAFETY GLASSES. The Display Screen is glass and will implode if cracked or broken.

(Step 001 continues)

(Step 001 continued)

POWER-OFF.

Remove any Diskette that may be in the Drive.

POWER-ON.

Wait 20 seconds for BAT to complete.

Turn the Brightness Control fully clockwise or until an image or raster can be seen.

Is the Display blank?, (no illumination). Y N

002

At this time find Appendix B in the back of this Manual in order to answer the questions which follow.

Carefully compare your Display Image with Appendix B, Figure 2. (Step 002 continues)

6 A

DISPLAY ENTRY	EF
MAP 9110	11
PAGE 2 OF 7	
(Step 002 continued)	
Does your Display Image match the illustration(s)? Y N	POWER-OFF.
003	the Display Module.
Carefully compare your Display Image with those in Appendix B, Figure 3.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Does your Display Image match the illustration(s)? Y N	POWER-OFF.
004	Disconnect the Large Display Signal Cable Connector (2) at the Electronic Module, Panel 2.
Does your Display Image contain a recognizible IBM logo? Y N	Using the lowest ohms range make the following resistance measurement.
005 Carefully compare your	Display Module Signal Cable Connector (2): Pin 10 to Pin 9.
Display Image with those in Appendix B, Figure 4.	Check for a reading of 200 ohms or less.
Does your Display Image match the illustration(s)? Y N	(Step 007 continues)
BCDEF	

(Step 007 continued) Is the resistance 200 ohms or less? ΥN 008 POWER-OFF. Install а new Mainframe Assembly in the Display Module. * * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure. Reinstall all the original components in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. <u>009</u> Is the resistance 2 ohms or less? ΥN 010 (Step 010 continues)

3 G

MAP 9110-2

MAP 9110-2

G DISPLAY ENTRY	D H	MAP 9110-3
MAP 9110	2 	
PAGE 3 OF 7		
<pre>(Step 010 continued) Reconnect the Display Module Cable Connector (2) at Panel 2 on the Electronic Module. You are now directed to go to the Large Display Image Quality MAP. GO TO MAP 9115, ENTRY POINT A. 011 Remove the Analog Card in the Display Module. Using the lowest ohms range make the following resistance measurement. Display Module Signal</pre>	<pre>(Step 012 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 013 POWER-OFF. Install a new Mainframe Assembly in the Display Module. * * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure.</pre>	<pre>(Step 014 continued) Does your Display Image match the illustration(s)? Y N 015 You are now directed to go to the Large Display Distorted Shape MAP. GO TO MAP 9112, ENTRY POINT A. O16 POWER-OFF.</pre>
Display Module Signal Cable Connector (2): Pin 10 to Pin 9.	Reinstall all the original components in the Display Module.	Disconnect the Video Output Cable Connector (J502).
Check for a reading of 2 ohms or less.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Disconnect the CRT Socket Cable Connector.
Is the resistance 2 ohms or less? Y N 012 Install a new Analog Card in the Display Module. (Step 012 continues)	014 Carefully compare your Display Image with those in Appendix B, Figure 5. (Step 014 continues)	Using the lowest ohms range, make all of the following resistance measurements. ***PROBE WIRING SIDE ONLY TO*** ***PREVENT DAMAGE TO PINS. *** 1. The Video Output Cable Connector (J502): (Step 016 continues)
i H		MAP 9110-3

н

DISPLAY ENTRY	C J	L
MAP 9110		
PAGE 4 OF 7		
<pre>Step 016 continued) Pin 1 to The CRT Socket: Pin 7. 2. The Video Output Cable Connector (J502): Pin 4 to The CRT Connector: Pin 6. Check for a reading of 200 ohms or less.</pre>	<pre>(Step 017 continued) (Step 017 continued) (Reinstall all the original components in the Display Module. (GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. () Ol8 (Vou are now directed to go to the Large Display Image Quality MAP. GO TO MAP 9115, ENTRY POINT A.</pre>	Disconnect the Signal Cable Con the Electronic M Remove the Ana Display Module. Using the lowes make all of resistance measu 1. Connector Str
ere all of the readings 200 ohms	 019	Position J4 H
N 017	POWER-OFF.	The Display M Cable Connect
017	the Display Module.	Pin 12.
POWER-OFF.	POWER-ON.	2. Connector Str
Install a new Mainframe Assembly in the Display	Carefully compare your Display	Position J4 H
Module. * * * DANGER * * *	Image with Appendix B, Figure 1.	The Display M Cable Connect Pin 13.
See the Product Support Manual for the CRT Anode Discharge procedure.	Does your Display Image match the illustration(s)? Y N	Check for a re or less.
(Step 017 continues)		(Step 020 continue
	5 K T.	

MAP 9110-4

Large Display nnector (2) at Module, Panel 2.

alog Card in the

st ohms range, the following urements.

rip:

Pin 24 to

Module tor (2):

rip:

Pin 23 to

Module tor (2):

eading of 2 ohms

es)

MAP 9110-4

DISPLAY ENTRY		B K M MAP 9110-5
MAP 9110		
PAGE 5 OF 7		
<pre>(Step 020 continued) Were all of the readings 2 ohms or less? Y N 021 POWER-OFF. Install a new Mainframe Assembly in the Display Module. * * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure. Reinstall all the original components in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 022 Disconnect Internal Distribution Cable Connector (D1) in the Electronic Module. Using the lowest ohms range, measure the resistance between (Step 022 continues)</pre>	<pre>(Step 022 continued) the Pins shown in the chart for the Internal Distribution Cable Connectors (D1) and (2). (D1) (2) </pre>	<pre>024 Reinstall the original Analog Card in the Display Module. Install a new Display Adapter Card. Reconnect the Display Module Cable Connector (2). GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 025 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 026 POWER-OFF. Disconnect the Deflection Output Cable Connector (J301). Using the lowest ohms range make the following resistance measurement. (Step 026 continues)</pre>

MAP 9110-5

DISPLAY ENTRY MAP 9110 PAGE 6 OF 7 (Step 026 continued) ***PROBE WIRING SIDE ONLY TO*** ***PREVENT DAMAGE TO PINS. *** Deflection Output Cable Connector (J301): Pin 1 to Pin 2. Check for a reading of 8 ohms or less. Is the resistance 8 ohms or less? ΥN 027 POWER-OFF. Install а new Mainframe Assembly in the Display Module. * * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure. Reinstall all the original components in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

N

O28 Install a new Analog Card in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. O29 POWER-OFF

Remove the Large Display Cover.

POWER-ON Wait 20 seconds

Look through the neck of the CRT.(Two cm. foreward of the CRT Socket.) Observe the Filament of the CRT.

Is the Filament of the CRT 'ON'? Y N

```
030
```

7

P

AN 1

POWER-OFF.

Remove the Analog Card in the (Step 030 continues)

(Step 030 continued) Display Module.

Using the lowest ohms range make the following resistance measurement.

Connector Strip:

Position J2 Pin 1 to

Position J2 Pin 13 .

Check for a reading between 3.5 ohms and 25 ohms.

Is the resistance between 3.5 ohms and 25 ohms? Y N

i i

031

POWER-OFF.

Install a new Mainframe Assembly in the Display Module.

* * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure.

(Step 031 continues)

Q

```
DISPLAY ENTRY
           MAP 9110
           PAGE 7 OF
                        7
  (Step 031 continued)
     Reinstall all the original
     components in the Display
     Module.
   GO TO MAP 0010, ENTRY POINT
  İΑ,
          to
                Verify
                          System
   Operation.
 <u> 032</u>
   POWER-OFF.
   Install a new Analog Card in
   the Display Module.
 GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
033
 You are now directed to go to
 the Large Display Image Quality
  MAP.
GO TO MAP 9115, ENTRY POINT A.
```

LARGE DISPLAY DISTORTED SHAPE

MAP 9112

PAGE 1 OF 6

ENTRY POINTS

FROM | ENTER THIS MAP MAP ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 9110 I A 1 001

001 (ENTRY POINT A)

DANGER

THERE IS UP TO 17,000 VOLTS PRESENT INSIDE THE DISPLAY MODULE. (Note: After the Power is turned off, allow 10 seconds for the High Voltage to reach a safe level.)

Use CAUTION when handling the Display module. Wear SAFETY GLASSES. The Display Screen is glass and will implode if cracked or broken.

Load the Displaywriter System Diagnostics (Step 001 continues)

(Step 001 continued)

Do you have a readable Function Selection Menu on the CRT? YN

002

POWER-OFF.

Install a new Display Adapter Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

Select the UTILITIES

Select the Display ID

Select the Test pattern

Adjust the Brightness Control to obtain the correct visual level.

Are all the characters displayed of the same intensity? ΥN

004

в

Carefully compare your Display Image with those in Appendix B, Figure 7.

Does your Display Image match any of the illustration(s)? ΥN

005

Carefully compare vour Display Image with those in Appendix B, Figure 8.

Does your Display Image match any of the illustration(s)? YN

006

3

Carefully compare your Display Image with those in Appendix B, Figure 9. Does your Display Image match any of the illustration(s)? ΥÑ 007 | (Step 007 continues) 3 3 CDE MAP 9112-1

4 AB MAP 9112-1

DISTORTED SHAPE	G	H MAP 9112-2
MAP 9112		
PAGE 2 OF 6		
<pre>Step 007 continued) Carefully compare your Display Image with those in Appendix B, Figure 10. oes your Display Image match any f the illustration(s)? N 008 Select the Font Test Every character or symbol is repeated four times. Verify that all characters or symbols within a four character group are the same.</pre>	At this point you have an image quality problem. Is the problem with focus? Y N 011 The following list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable failure last.	<pre>(Step 011 continued) 3. Install a new High Voltage Power Supply. 012 The following list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable failure last. After each Repair Action carefully compare your Display Image with Appendix B, Figure 1.</pre>
Do all characters within each group look the same? Y N 009	After each Repair Action carefully compare your Display Image with Appendix B, Figure 1.	Each repair action should be performed one at a time until the failure is corrected.
POWER-OFF.	Each repair action should be performed one at a time until the failure is corrected.	 Install a new Analog Card. Install a new High Voltage Power Supply.
Adapter Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	 Install a new Analog Card. Install a new Mainframe Assembly. (Step Oll continues) 	3. Install a new Mainframe Assembly.
	H H	MAP 9112-2

E F DISTORTED SHAPE	D Ј К 1	CL MAP 9112-3
MAP 9112		- 1
PAGE 3 OF 6		
 013		(Step 018 continued)
POWER-OFF.	POWER-OFF.	I Install a new Analog Card I in the Display Module.
Install a new Mainframe Assembly in the Display Module. * * * DANGER * * *	Install a new Analog Card in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 019
See the Product Support Manual for the CRT Anode Discharge procedure.	Operation. 016	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.
Reinstall all the original components in the Display Module.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	O20 POWER-OFF.
GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.	Adjust the Height Control for the correct height.	Check that the Yoke is secure against the CRT.
014		Is the Yoke Assembly secure
Adjust the Width Control for the correct width.	Use the adjustment procedure in the Product Support Manual.	against the CRT? Y N I
Use the adjustment procedure in the Product Support Manual.	Were you able to adjust the Height Control for the correct heigth?	021 FOWER-OFF.
Were you able to adjust the Width Control for the correct width? Y N	018	Install a new Mainframe Assembly in the Display Module.
	(Step 018 continues)	(Step 021 continues)
JK	Ĺ	4 M MAP 9112-3

DISTORTED	SHAPE

MAP 9112

PAGE 4 OF 6

(Step 021 continued) * * * DANGER * * *

See the Product Support Manual for the CRT Anode Discharge procedure.

Reinstall all the original components in the Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

```
022
```

POWER-OFF.

Install a new High Voltage Power Supply in the Display Module.

* * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

023

POWER-OFF. (Step 023 continues) (Step 023 continued)

Install a new Analog Card in the Display Module.

POWER-ON.

Load the Displaywriter System Diagnostics

Select the UTILITIES

Select the Display ID

Select the Test pattern

Adjust the Brightness Control to obtain the correct visual level.

Are all the characters displayed of the same intensity? Y N

024

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

025

POWER-OFF.

(Step 025 continues)

MAP 9112-4

(Step 025 continued) Remove the Analog Card in the Display Module.

Remove the Display Adapter Card in the Electronic Module.

Using the lowest ohms range make the following resistance measurement.

Connector Strip: Position (J1) Pin 1 to

Frame ground.

Is the resistance 2 ohms or less? Y N $\,$

026

Using the lowest ohms range make the following resistance measurement.

Connector Strip: Position (J1) Pin 1 to

Internal Distribution Cable Connector D1 Pin (2)

Check for a reading of 2 ohms or less. (Step 026 continues)

5 N

DISTORTED SHAPE	Q	N P	MAP 9112-5
MAP 9112		4	
PAGE 5 OF 6			
(Step 026 continued)	(Step 028 continued) Module.	030	
<pre>Is the resistance 2 ohms or less? Y N 027 Disconnect the Large Display Signal Cable Connector (2) at the Electronic Module, Panel 2. Using the lowest ohms range make the following resistance measurement. Connector Strip: Position (J1) Pin 1 to Display Module Signal Cable Connector (2): Pin 11. Is the resistance 2 ohms or less? Y N 1 1028 1 1028 1 1028 1 1028 1 1111 1111</pre>	<pre>Module. * * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure. Reinstall all the original components in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 029 Reinstall the original Analog Card in the Display Module. Install a new Internal Distribution Cable. Reinstall all the original cards. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.</pre>	Card in Reinstal Card in Install Card. GO TO MAP to Verify 031 Disconnect Signal Cab the Electr Using the make the measuremen Connector Position Frame gr Is the resis Y N 032 Reinstal (Step 032	<pre>1 the original Analog the Display Module. a new Display Adapter 0010, ENTRY POINT A, System Operation. the Large Display le Connector (2) at onic Module, Panel 2. lowest ohms range following resistance t. Strip: (J1) Pin 1 to ound. tance 2 ohms or less? l the original Analog continues)</pre>
 P Q		6 R	MAP 9112-5

ΡQ

DISTORTED SHAPE

MAP 9112

PAGE 6 OF 6

(Step 032 continued) Card in the Display Module.

Install a new Internal Distribution Cable.

Reinstall all the original cards.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

<u>033</u>

POWER-OFF.

Install a new Mainframe Assembly in the Display Module.

* * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure.

Reinstall all the original components in the Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

LARGE DISPLAY IMAGE QUALITY

MAP 9115

PAGE 1 OF 3

ENTRY POINTS

 FROM
 | ENTER THIS MAP

 MAP
 | ENTRY PAGE

 STEP

 NUMBER
 | POINT

 9110
 | A

001

(ENTRY POINT A)

DANGER

THERE IS UP TO 17,000 VOLTS PRESENT INSIDE THE DISPLAY MODULE. (Note: After the Power is turned off, allow 10 seconds for the High Voltage to reach a safe level.)

Use CAUTION when handling the Display module. Wear SAFETY GLASSES. The Display Screen is glass and will implode if cracked or broken.

(Step 001 continued)

Has new Display Analog Card been installed in the Display Module? Y N

002

POWER-OFF.

Remove the Analog Card in the Display Module.

POWER-ON.

Using the 200(dc) voltage range, make all of the following voltage measurements from frame ground to the points indicated.

Conn Pin Volts dc Jl Pin 7 +28.8 to +35.2 +28.8 to +35.2 J4 Pin 13 Jl Pin 2 + 4.6 to + 5.5+ 4.6 to + 5.5J4 Pin 17 - 4.6 to - 5.5 J1 Pin 11 Is the voltage in the correct range? ΥN 111 2 2 ABC

003

Using the 200(dc) voltage make all of the range, following voltage measurements from frame ground to the points indicated. Conn LV2 Volts dc Pin 1 +28.8 to +35.2 Pin 2 +28.8 to +35.2 + 4.6 to + 5.5Pin 6 + 4.6 to + 5.5Pin 7 - 4.6 to - 5.5 Pin 8 Is the voltage in the correct range? ΥN 004 POWER-OFF. Install a new Low Voltage Power Supply in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 005 (Step 005 continues)

MAP 9115-1

С

MAP 9115

PAGE 2 OF 3

(Step 005 continued) POWER-OFF.

Install a new Mainframe Assembly in the Display Module.

* * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure.

Reinstall all the original components in the Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

006

POWER-OFF.

Using the lowest ohms range make the following resistance measurement.

Connector Strip:

Position J1 Pin 9 to

Position J4 Pin 15 .

(Step 006 continues)

(Step 006 continued) Check for a reading of 2 ohms or less.

Is the resistance 2 ohms or less? Y N $\,$

007

POWER-OFF.

Install a new Mainframe Assembly in the Display Module.

* * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure.

Reinstall all the original components in the Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

800

Install a new Analog Card in the Display Module.

GO TO MAP 0010, ENTRY POINT A, to (Step 008 continues)

(Step 008 continued) Verify System Operation.

009

А

1

Has the Internal Distribution Cable in the Electronic Module been replaced or verified good? Y N

010

POWER-OFF.

Reinstall the original Analog Card in the Display Module.

Disconnect the Large Display Signal Cable Connector (2) at the Electronic Module, Panel 2.

Using the lowest ohms range, measure the resistance between the Pins shown in the chart for the Internal Distribution Cable Connectors (D1) and (2).

(Step 010 continues)

3 D

MAP 9115-2

IMAGE QUALITY	D	E MAP 9115-3	
MAP 9115	2	1	
PAGE 3 OF 3			
Step 010 continued)	(Step 012 continued)	(Step 014 continued)	
(D1) (2)	Install a new High Voltage	Display Module.	
Pin Signal Pin	Power Supply in the Display Module. 	Install a new Display Adapto Card.	er
1 Video 10 2 Bright 11 3 Vertical 12	* * * DANGER * * * See the Product Support Manual for the CRT Anode	GO TO MAP OO1O, ENTRY POINT ; to Verify System Operation.	Α,
4 Horizontal 13	Discharge procedure.	015	
ere all of the readings 2 ohms	Reinstall all the original cards.	POWER-OFF.	
r less? N	Reconnect all the cable connectors.	Install a new Mainfran Assembly in the Display Module	ne e.
011		* * * DANGER * * *	
Install a new Internal Distribution Cable.	to Verify System Operation.	See the Product Support Manua for the CRT Anode Dischard procedure.	ац је
Reinstall all the original cards.	Has a new Display Adapter Card been installed in the Electronic	Reinstall all the origina components in the Displa Module	al ay
Reconnect all the cable	Module?	modulo.	
connectors.	Y N I	GO TO MAP 0010, ENTRY POINT A, · Verify System Operation	tο
GO TO MAP 0010, ENTRY POINT A,	014	vering bybeen operation.	
to Verify System Operation.	POWER-OFF.		
12	Reinstall the original High		

MAP 9115-3

Е
LARGE DISPLAY AC POWER MAP

MAP 9165

PAGE 1 OF 2

ENTRY POINTS

FROM		ENTER	THIS	MAP	
MAP NUMBER		ENTRY POINT	PAGE NUME	E BER	STEP NUMBER
0010		A	1	1	001

EXIT POINTS EXIT THIS MAP | TO PAGE STEP | MAP ENTRY NUMBER NUMBER | NUMBER POINT 2 005 | 8064 A (Step 002 continued)

Disconnect the AC (input) Cable Connector (LV3) at the Low Voltage Power Supply.

Install a new Fuse.

POWER-ON.

001 (ENTRY POINT A)

POWER-OFF.

Reconnect the Display Module AC Cable Connector (12) at panel 2 of the Electronic Module.

Disconnect the Diskette Unit AC (output) Cable Connector (8) at the rear of the Display Module.

POWER-ON.

2 A

```
Is the Fan in the Electronic
Module running?
Y N
|
002
|
POWER-OFF.
| (Step 002 continues)
|
```

Module running? Y N | 003 | POWER-OFF. | Install a new AC Input Cable | in the Display Module.

Is the Fan in the Electronic

Reconnect all the cable connectors.

Install a new Fuse.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

POWER-OFF.

(Step 004 continues)

MAP 9165-1

A	AC POWER
1	MAP 9165
	PAGE 2 OF 2
	(Step 004 continued) Install a new Low Voltage Power Supply in the Display Module.
	Reconnect all the cable connectors.
	Install a new Fuse.
	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
ò	05

You are now directed to go to the Diskette Unit A/C Power Failure MAP.

GO TO MAP 8064, ENTRY POINT A.

MAP 9165-2







Single horizontal line (solid or broken)



Single vertical line (may be flashing)







Figure 3



Display image rolling

Figure 4



Too dim



Too wide



Too narrow

10042

0

Ø



Too short



Tilted



Shrunk



Changes size when Brightness control turned



Out of focus Figure 5 - Distorted Display Images



Normal



Single horizontal line (solid or broken)

Figure 1

Figure 2





Bright raster



Dim raster





Bright raster w/logo (Raster brighter than logo)



Dim raster w/logo (Logo brighter than raster)

Figure 5





Wrong position (Note upper right corner)

Figure 10



APPENDIX D-1

Glossary

This glossary includes definitions developed by the American National Standards Institute (ANSI) and the International Organization for Standardization (ISO). This material is reproduced from the American National Dictionary for Information Processing, copyright 1977 by the Computer and Business Equipment Manufacturers Association, copies of which may be purchased from the American National Standards Institute, 1430 Broadway, New York, NY, 10018.

ANSI definitions are preceded by an asterisk. The symbol "(SCI)" at the beginning of a definition indicates that it is reprinted from an early working document of ISO Technical Committee 97, Subcommittee 1 and that agreement has not yet been reached among its members.

The glossary does not include terms that are defined in nontechnical dictionaries and that have no special meaning in data processing. Some terms may have different meanings in other contexts, or to people not familiar with data processing industry usage.

In the interest of clarity and consistency of style, the glossary uses the same method of arranging, organizing, and cross-referencing entries as the *American National Dictionary for Information Processing*.

А

assigning printer. The action taken by the Primary work station to allow a Secondary work station to control the printer.

в

Basic Assurance Test (BAT). A series of tests exectued in sequence that are automatically started at POR.

BAT. Basic Assurance Test.

bleeder resistor. A resistor located in an electrical circuit which will quickly lower that voltage when power is removed.

break condition. Condition of a Data Link in which no current flow is detected.

С

D

Data Link. The physical connection and the connection protocols between the host and communication controller nodes via the host data channel.

Display Station. A display station consists of a display module, an electronics module and a keyboard module.

Е

escape. Horizontal movement of the printer carrier.

escapement. See escape.

F

Field Replaceable Unit (FRU). A part which can be installed in a customer's office.

FRU. FRU – Field Replaceable Unit.

- G
- н

half index. A 1/2 unit vertical paper movement.

1

I/O. input/output.

ID. Identifier.

*identifier. (ISO A character or group of characters used to identify or name an item of data and possible to indicate certain properties of that data.

implode. To inwardly explode with force.

index. A unit vertical paper movement.

initialize. *(1) To set counters, switches, addresses, or contents of storage to zero or other starting values. (2) To prepare a diskette for use by naming the diskette.

*input/output (I/O). Pertaining to a device or to a channel that may be involved in an input process, and at a different time, in an output process.

J

к

*Link. See Data Link.

locator. Interface board component locator, used to locate test points.

logo The name, symbol or trademark of a company.

М

MAP Diagnostic Integration (MDI). A diagnostic program on the CE Diagnostic Diskette that is a combination of MAPs and CE loadable diagnostics.

MCU Mag Card Unit

MCU Link An electrical circuit which communicates with the Mag Card Unit.

MDI. MAP Diagnostic Integration.

MENU. In computer graphics, options listed in a display image that can be selected by the user of the display device.

multitrack. The function which allows writing on both sides of a diskette with one command.

Ν

0

APPENDIX D-2

P

the printer.

Printer Link. An electrical circuit which communicates with

Problem Determination Diskette. The diskette on which the automated and semi-automated problem determination tests are stored.

Problem Determination Guide. The manual used by the customer when executing Problem Determination Procedures.

PSM. Product Support Manual.

PTXCP. Photo transistor checkpoint on the File Control Card.

Q

R

raster. A predetermined pattern of scanning lines that provides uniform coverage of a display space.

reinitialize. A procedure used to format tracks on a Diskette. See initialize.

Repair Verify MDI. An MDI which is performed to verify a specific repair action.

RNA. Resident Non-Automatic Diagnostics.

Resident Non-Automatic Diagnostics. Diagnostics contained in the system electronics that do not run during BAT.

s

sector. That portion of a track that can be accessed by a magnetic head during a read/write operation.

Sharing Link. An electrical circuit which communicates with another work station.

Sheet Feed. An attachment for the 5218 printer for automatically feeding individual sheets of paper.

soft error. An error that can be recovered from by an automatic repeat of the failing operation.

system. The IBM Displaywriter System.

т

tab. A multiple unit horizontal movement.

TPHLD. Head Load test point.

TPLED. Light Emitting Diode test point.

trace. In diagnostics, the tracking of MDI steps on the display.

Tractor Feed. An attachment for the printer for feeding continuous form paper.

U

Universal Synchronous Asynchronous Receiver Transmitter (USART). A device used to send and receive data.

USART. Universal Synchronous Asynchronous Receiver Transmitter.

v

w

Work station. A display station and a single or dual diskette unit.

х

Y

9- Z

Machine Types

5215 Printer. "Selectric" Element Printer.

5218 Printer. "Printwheel" Element Printer.

READER'S COMMENT FORM

Displaywriter System Maintenance Analysis Procedures

S241-6250-5

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