Displaywriter System

Maintenance Analysis Procedures

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SAFETY PRECAUTIONS

All IBM Customer Service Representatives are expected to take every safety precaution possible and observe the following saftey 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.
- 4. 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 in its approved service position.

General Safety:

- 1. Each Customer Service Representative 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 CSR 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 CSRs 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.

IBM DISPLAYWRITER

MAP REFERENCE TABLE

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9010 BLANK DISPLAY 9020 DISPLAY ADAPTER 9030 NO VIDEO DATA 9040 DISTORTED DISPLAY IMAGE 9050 NO CONTRAST ADJUSTMENT

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MAP	1	-CH/ FITI	ART LE	CONTI	NUED)			-+
9109 9110 9112 9115 9165		AR AR AR AR AR	GE GE GE GE	DISPLA DISPLA DISPLA DISPLA DISPLA	Y IN Y EN Y DI Y IM Y AC	DICA TRY STOR AGE POW	TOR TED QUAL IER	SHAP ITY	E
+									-+
4									
APPEN	DIX			TITLE					-+

MAP 0001-1

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.
 - b. 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.
 - 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.
- 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.

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.

IBM Displaywriter

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 GBG/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.

- 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.

START-OF-CALL MAP

MAP 0009

PAGE 1 OF 5

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
No er	ntries i	n this t	able

EXIT POD	INTS		
EXIT THI	IS MAP	I TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
1 2 5 5	004 012 020 024	0010 0010 0010 0010 0010	A A A A

001

(ENTRY POINT A)

```
Do you have a Service Request Number?
YN
  002
   Do you suspect any specific area of failing?
   YN
      003
      Is the Operator available?
      YN
         004
        You are now directed to go to the System Entry MAP.
         GO TO MAP 0010, ENTRY POINT A.
      005
         Instruct the Operator to use the
Problem Determination Package
(Problem Determination Guide and
Problem Determination Diskette) to
generate a 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.
   006
   Is the problem easy to identify? (loose
   keytops, knobs, covers, cables, etc.)
   YN
      007
             you suspect a Paper Handling
      Do
      problem?
      Y N
3 2 2 2
A B C D
```

SERVICE	NOTE:	Reinsert	the su	spected
failing	Electro	nic Card d	or Cable,	prior
to insta	alling a	new part.	•	

```
B C E F
1 1
                                                                          MAP 0009-2
D
            START-OF-CALL MAP
1
            MAP 0009
            PAGE 2 OF
                          5
                                                   015
008
                                                     Make sure the Mag Card Cable is
Do you suspect the Printer?
                                                     attached.
YN
                                                     POWER-ON the System.
  009
                                                     POWER-ON the Mag Card.
  Do you suspect the Mag Card?
  YN
                                                     Load the DISPLAYWRITER SYSTEM MAG
                                                     CARD UNIT DIAGNOSTICS.
    010
               suspect a Communications
                                                     Select MDIs.
    Do
        you
    problem?
    ΎΝ
                                                     Select Mag Card ID "i".
      011
                                                     Run Mag Card Tests.
      Do you suspect a Shared Resource
                                                 016
      problem?
Y N
                                                   Make sure the Printer Cable is
                                                   attached.
        012
                                                   POWER-ON the System.
        You are now directed to go to the
                                                   POWER-ON the Printer.
        System Entry MAP.
                                                          the
                                                                DISPLAYWRITER
                                                                                 SYSTEM
                                                   Load
        GO TO MAP 0010, ENTRY POINT A.
                                                   DIAGNOSTICS.
      013
                                                   Select MDIs.
        Load the DISPLAYWRITER
                                   SYSTEM
                                                   Select Printer ID "e".
        DIAGNOSTICS.
                                                   Run Printer Tests.
        Select MDIs.
                                               017
        Select Shared Resource ID "f" or "g".
                                                 Load the
                                                                DISPLAYWRITER
                                                                                 SYSTEM
                                                 DIAGNOSTICS.
        Run Shared Resource Tests.
                                                 Select MDIs.
    014
                                                 Select Paper Handling ID "h".
      Make sure all the cables from the
      Media Module are attached.
                                                 Run Paper Handling Tests.
                                             018
      POWER-ON the System.
             the
                   DISPLAYWRITER
                                    SYSTEM
                                               Repair or Replace parts as necessary.
      Load
      COMMUNICATIONS DIAGNOSTICS.
                                             GO TO MAP 0010, ENTRY POINT A, to Verify
      Select the Communications ID "j".
                                             System Operation.
      Run Communications Tests.
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A 1

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START-OF-CALL MAP

MAP 0009

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1			(Step 01	9 continued)	• • • • • • •
019		MAR N	Service	System Area	MAP No.
Service	System Area	MAP NO.	Kequest	or Device	MDT TD
Number	or Device	OF MDT TD	Number		
			110014	Keyboard	NOTE *
000001	Memory	с	111001	Kevboard	NOTE *
000001	Keyboard ID	NOTE *	111002	Keyboard	NOTE *
000001	Mag Card	i	120001	System	0010
000001	Communications	j	120004	Memory	с
000001	Printer	e	120005	Memory	C C
000001	Shared Printer	g	120006	Memory	C
	(Secondary)	£	12000/	Memory	c
000001	(Primary)	1	120011	System	
000001	Shoot Feed	Ь	130001	Mag Card	i
000001	Tractor Feed	h	130005	Mag Card	i
000001	3277 Emulation	k	130006	Mag Card	i i
000002	Call operator	NZA	131001	Mag Card	i i
	for specific		131002	Mag Card	i
	information.		131021	Mag Card	i
000800	LED A, B or C "ON"	6010	131022	Mag Card	1
000800	LED D, E, F, G or H "ON"	0015	131023	Mag Card	1
000801	Post-CRI Code "U1"	1010	140002	Printer Sharing	9
000801	Post-CRI Code "U2"	1010	162001	Printer Sharing	9
000801	Post-CRT Code "04"	8032	150001	Printer Link	
000801	Post-CRT Code "05"	8032	150004	Printer Link	e
000801	Post-CRT Code "06"	0019	151017	5215 Printer	e
000801	Post-CRT Code "08"	0019	151018	5215 Printer	e
000801	Post-CRT Code "09"	0019	151024	5215 Printer	e
000900	*900* FFF0	0011	152016	Printer	e
000900	*900* FFF1	0011	152021	Printer	e
000900	*900* FFF2	0011	160001	Printer Reven Symply) e 0010
000900	×900× FFF6	0011	161002	3277 Emulation	
000000	X900X FFFA	0011	170001	Communications	i
000900	*900* FFFB	0011	170701	Communications	i i
000900	*900* FFFF	0011	170721	Communications	j j
000900	*900* Other	NZA	170722	Communications	j
000900	*903*	NZA	170723	Communications	j
000900	*90B*	d	180001	Diskette	a
010016	Mamanu	NULE *	180025	Diskette	
021000	Memory		181015	Diskette	b d
021002	Memory	c	190001	Display	9020
050002	Printer Link	e	190002	Display	9040
050100	Printer	е	190004	Display	9020
051025	Printer	e	190005	Display	a
052002	Printwheel Printer	e	191001	Display	a
052007	Printwheel Printer	e	191002	Display	0010
052008	Printwheel Printer	e	191005	Display	0010
052010	Printubeel Printer	e	210007	Kovhoard	NOTE *
052012	Printuheel Printer	0	210010	Keyboard	0010
052013	Printwheel Printer	e	220008	Memory	c
052014	Printwheel Printer	е	220009	Memory	l c
052015	Printwheel Printer	e	220010	Memory	0010
052025	Printer	e	231004	Mag Card	1 1
052026	Printer	e	231006	Mag Card	1 1
061000	32// Emulation	K 0010	240001	500 5K# 540001 5215 Printer	-
090000	Display	0010	251008	5215 Frinter	9
110001	Kovboard	NOTE ¥	251017	5215 Printer	6
110004	Keyboard	NOTE *	252001	Printwheel Printer	e
110013	Kevboard	NOTE *	252017	Printer	e
(Step 01	9 continues)		(Step 01	L9 continues)	

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(Step 01	9 continued)		(Step 01	l9 continued)	
Service	System Area	MAP No.	Service	System Area	MAP No.
Request	or Device	or	Request	or Device	or
Number		MDI ID	Number		I MDI ID
252019	Printer	e	352018	Printer	e
252020	Printer	e	352023	Printer	e
252022	Printer	e	354001	Tractor Feed	e
252024	Printer	e	361001	3277 Emulation	k
253005	Printer	e	370753	Communications	l j
253007	Printer	e	371001	Communications	l j
254002	Printer	e	380004	Diskette	d
254003	Printer	e	380006	Diskette	d d
270701	Communications	j	380007	Diskette	d
270702	Communications	j	380026	Diskette	d
270743	Communications	j	380033	Diskette	d
270764	Communications	j	380037	Diskette	b
270775	Communications	j	381004	Diskette	d d
270786	Communications	j	381006	Diskette	8020
270807	Communications	j	381026	Diskette	d d
271002	Communications	j	381027	Diskette	d d
280005	Diskette	d	381028	Diskette	d d
281037	Diskette	d	381031	Diskette	d
290003	Display	0010	381033	Diskette	d
310008	Keyboard	NOTE *	422000	Memory	c
310009	Keyboard	NOTE *	422001	Memory	c
310012	Keyboard	NOTE *	430002	Mag Card	l i
310015	Keyboard	NOTE *	430007	Mag Card	i
321011	Memory	C	431005	Mag Card	l i
321012	Memory	С	431012	Mag Card	i
321021	Memory	С	431013	Mag Card	i
321022	Memory	С	431014	Mag Card	1 1
321023	Memory	С	431018	Mag Card	1 1
321024	Memory	С	431020	Mag Card	1 1
321025	Memory	С	432001	Mag Card	i
321031	Memory	С	432002	Mag Card	1
321032	Memory	С	432004	Mag Card	1 1
321033	Memory	C	432501	Mag Card	1
321034	Memory	C	432601	Mag Card	1 !
321035	Memory	C	432/01	Mag Card	1
322002	Memory	Ċ	432801	Mag Card	1
331003	Mag Card	1	432901	Mag Card	
33100/	Mag Lard]	453003	Sheet reed	e
331011	Mag Card	1	453004	Sneet Feed	e e
331010	Mag Land Mag Canal		401000	Distants	K
332101	Mag Card Mag Cand		400000	Diskette	
332103	Mag Card		680015	Diskette	
332202	Mag Card		480010	Diskette	
332203	Mag Card		480024	Diskette	u d
332301	Mag Card		481008	Diskette	
332302	Mag Card		481009	Diskette	
332601	Mag Card	i	481016	Diskette	2
332402	Mag Card		481034	Diskette	b b
332403	Mag Card		531008	Mag Card	i
332503	Mag Card		531010	Mag Card	
332603	Mag Card		532003	Mag Card	
332703	Mag Card	i	532102	Mag Card	1
332803	Mag Card	i	540001	Printer Sharing	, a
332903	Mag Card	i	540003	Printer Sharing	a
342002	Printer Sharing	f	553001	Sheet Feed	é
342003	Printer Sharing	f	553002	Sheet Feed	e
342004	Printer Sharing	f	580010	Diskette	d
352003	Printwheel Printer	e	581010	Diskette	d
352004	Printwheel Printer	e	581011	Diskett e	d d
352005	Printwheel Printer	e	630004	Mag Card	i
(Step 01	9 continues)		(Step 01	L9 continues)	

MAP 0009

PAGE 5 OF 5

(Step 0)	19 continued)	I MAR No	(Step 019 conti
Request	or Device	or	Is your Servi
Number	l of Device	MDI ID	Table?
	, +	+	YN
632201	Mag Card	i	
652009	Printwheel Printer	e	020
680011	Diskette	d d	
680017	Diskette	8020	You are now
681017	Diskette	8020	System Entry
730003	Mag Card	i	
731015	Mag Card	i	
731017	Mag Card	i	GO TO MAP 001
731019	Mag Card	i	1
732300	Mag Card	i	021
732400	Mag Card	ļi	
752006	Printwheel Printer	e	Does the Servic
777777	Communications	j	the Table more
780018	Diskette	8020	YN
780035	Diskette	8020	
781018	Diskette	8020	022
781035	Diskette	8020	
832200	Mag Card	1	Go to the
880013	Diskette	8020	the MDI lis
880036	Diskette	8020	lable.
881013	Diskette	8020	1 0.27
881036	Diskette	8020	023
000000	DC annan		Deer the od
000006	I FDG error Multimle E-ult	0.01.0	poes the au
900004	I Mam Cand	0010	information li
731007	I Mag Card		Paquast Numbor?
932100	Mag Card		Y N
932500	Mag Card		
932000	Mag Card		0.24
932800	Mag Card		°E1
932900	Mag Card		You are now
951001	5215 Printer	P	System Entry
951020	5215 Printer		
951022	5215 Printer		
951023	5215 Printer	e	GO TO MAP 001
953008	Printer	ē	
980014	Diskette	i d	025
980019	Diskette	8020	
981019	Diskette	8020	Go to the MAP
			MDI listed
			Tabla

***** 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

(Step 019 continues)

MAP 0009-5

nued)

ce Request Number in the directed to go to the MAP. 0, ENTRY POINT A. e Request Number appear in than once? MAP indicated or execute ted in the Service Request ditional information you any of the additional sted for that Service directed to go to the MAP. 0, ENTRY POINT A. indicated or execute the in the Service Request Table.

SYSTEM ENTRY MAP

MAP 0010

PAGE 1 OF 6

ENTRY POINTS

FROM	ENTER	THIS MAP	•
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
ALL I	MAPS RET	URN TO M	IAP 0010

EXIT PO	INTS		
EXIT TH	IS MAP	ТО	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
4	028	0015	A
3	023	0017	Α
3	024	0017	А
4	027	0017	А
4	029	6010	A
5	043	8020	A
5	044	8020	А
6	054	8020	A
3	015	8064	А
5	039	9020	A
3	022	9030	А
4	033	9040	A
4	034	9109	A
5	040	9109	Α
3	018	9165	A

001

(ENTRY POINT A)

POWER-OFF.

Remove any Diskette that may be in the Drive.

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?
Y N
002
```

Is an Error Code displayed at the bottom of the screen? Y N

003 Check the LED Indicators.

```
Are there any LED Indicators ON?
(A,B,C,D,E,F,G,H)
Y N
```

4 4 3 2 A B C D D SYSTEM ENTRY MAP F MAP 0010-2 1 MAP 0010 PAGE 2 OF 6 (Step 006 continued) 004 the Product Support Manual.) Check to see if the Fan in the Is the voltage in the correct voltage Electronic Module is running. range? ΥN Is the Fan in the Electronic Module 007 running? YN Disconnect the Power Cord Connector 005 from the wall outlet. Using the 200(ac) voltage range, It appears that AC Power is not present at the Power Supply. measure the voltage at the outlet. POWER-OFF. Is the voltage in the correct voltage range? Remove the Primary Power Fuse from Panel 2. YN 008 Using the lowest ohms range, check the continuity (less than 2 ohms) of the Fuse. Inform the Customer. 009 Is the Power Supply Fuse bad? YN Install a new Power Cord. 006 GO TO MAP 0010, ENTRY POINT A, to DANGER Verify System Operation. HIGH VOLTAGE IS PRESENT AT THE 010 POWER CORD CONNECTOR. POWER-OFF. Disconnect the Power Cord Connector Install a new base Power Supply. (9) at Panel 2. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Power Cord Connector (9) **011** configuration. Install a new Fuse. POWER-ON. L === Is the Fan in the Electronic Module G running? === YN N 012 === Is there a Large Display Mo connected to the Electronic Module? Large Display Module Using the 200(ac) voltage range, ΥN connector (9). Connector | (ac) Pins Voltage Range _____ to G | 104 to 127 volts to N | 104 to 127 volts L Ι. _____ (WT-GBG/I refer to Voltage Chart in (Step 006 continues) 333 GHJ ĒF MAP 0010-2

```
H J
2 2
                                                                             MAP 0010-3
            SYSTEM ENTRY MAP
                                               CEGK
                                               1 2 2
            MAP 0010
            PAGE
                    3 OF
                           6
  013
                                                     018
    POWER-OFF.
                                                     You are now directed to go to the
                                                     Large Display AC Power MAP.
    Disconnect the Diskette Unit
AC(output) Cable Connector (8) at
                                                     GO TO MAP 9165, ENTRY POINT A.
    Panel 2.
    Install a new Fuse.
                                                   019
                                                   GO TO MAP 0010, ENTRY POINT A, to
    POWER-ON.
                                                   Verify System Operation.
  Is the Fan in the Electronic Module
                                                 020
  running?
  YN
                                                 Is the Display Screen totally blank?
   014
                                                 (no illumination)
                                                 YN
      POWER-OFF.
                                                   021
      Install a new base Power Supply.
                                                   Is there a Large Display Module connected to the Electronic Module?
    GO TO MAP 0010, ENTRY POINT A, to
   Verify System Operation.
                                                   YN
  015
                                                     022
    The Problem is in the Diskette Area.
                                                     You are now directed to go to the
                                                     Display No Video Data MAP.
  You are now directed to go to the
  Diskette Unit A/C Power Failure MAP.
                                                     GO TO MAP 9030, ENTRY POINT A.
  GO TO MAP 8064, ENTRY POINT A.
                                                   023
                                                   You are now directed to go to the LED
016
                                                   Status MAP.
  POWER-OFF.
  Disconnect the Large Display Module
Cable Connector (12) at the Electronic
                                                  GO TO MAP 0017, ENTRY POINT A.
  Module, Panel 2.
                                                 024
  Install a new fuse.
                                                 You are now directed to go to the LED
                                                 Status MAP.
 POWER-ON.
                                                 GO TO MAP 0017, ENTRY POINT A.
Is the Fan in the Electronic Module
running?
YN
                                               025
                                                   any of the A, B or C LED Indicators
  017
                                               Are
                                               ON?
    POWER-OFF.
                                               YN
    Install a new base Power Supply.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                     . .
                                                 4
                                       ·.
                                              LM
                                                                             MAP 0010-3
```

K

.

```
MAP 0010-4
B L M
1 3 3
             SYSTEM ENTRY MAP
                                                 Α
                                                 1
             MAP 0010
             PAGE
                     4 OF
                             6
    026
                                                 031
      POWER-OFF.
                                                   Adjust the Brightness Control to obtain
                                                   a correct visual level.
      Position the Electronic Module so
the LED Indicators may be easily
                                                   Compare the Display Image to the
Picture of a normal Display in Figure
1, Appendix A or Figure 1, Appendix B
      observed.
      While observing the LED Indicators,
      POWER-ON.
                                                    for a large Display.
                                                 Does the Display Image look normal?
(Ignore any characters in the lower left
corner.)
          the
                start, did all the LED
    At
    Indicators light?
    ΥN
                                                 ΥN
      027
                                                   032
      You are now directed to go to the
                                                        there a Large Display Module
      LED Status MAP.
                                                   Is.
                                                   connected to the Electronic Module?
                                                   YN
      GO TO MAP 0017, ENTRY POINT A.
                                                      033
    028
                                                      You are now directed to go to the
    You are now directed to go to the Error LED Status MAP.
                                                     Display Distorted Image MAP.
                                                      GO TO MAP 9040, ENTRY POINT A.
    GO TO MAP 0015, ENTRY POINT A.
                                                    ñ34
  029
                                                   You are now directed to go to the Large
                                                   Display Indicator MAP.
  You are now directed to go to the Power
  Supply MAP.
                                                   GO TO MAP 9109, ENTRY POINT A.
  GO TO MAP 6010, ENTRY POINT A.
                                                 035
030
                                                   The Diskette Unit may have one or two
  Select the Error Code in the following
                                                   Diskette Drives.
  Chart and go to the indicated MAP.
                                                   Check the left Diskette Drive first.
Post-CRT Error Code Table
                                                              the
                                                                     DISPLAYWRITER
                                                                                         SYSTEM
                                                   load
 Error LED
                                                   DIAGNOSTICS in the left Diskette Drive.
               MAP Entry
               Number Point
 Code
        Code
       DEFGH
                                                 Did a readable CE Diagnostic Function
                                                 Selection Menu appear on the Screen?
   01
       00110
                1005
                                                 YN
                         Α
   02
       00110
                1005
                          Α
   03
       00111
                0019
                                                   036
                         A
   04
       01000
                8032
                          A
   05
       01000
                                                   Is the IBM LOGO still visible on the
                8032
                         Α
   06
       01001
                0019
                                                   Display?
                         Α
   08
       01010
                0019
                                                    YN
                          A
   09
       01100
                0019
                          Α
                                                      037
                                                      Is the Display Screen totally blank?
                                                      (no illumination)
                                                      YN
                                                 5 5 5 5
```

NPQR

MAP 0010-4

```
SYSTEM ENTRY MAP
                                               Ν
                                                                             MAP 0010-5
PQR
  4 4
                                               4
            MAP 0010
            PAGE
                    5 OF
                           6
                                               <u>045</u>
    038
                                               Can you select the MDI function and load
    Is there a Large Display
                                     Module
    connected to the Electronic Module?
                                               it?
                                               ΥN
    Y N
                                                 046
      039
                                                   Turn the Diskette Load Lever to the
      You are now directed to go to the
     Display Display Adapter MAP.
                                                   left, then to the right.
                                                   The DISPLAYWRITER SYSTEM DIAGNOSTICS
      GO TO MAP 9020, ENTRY POINT A.
                                                   Procedures (MDIs) will load.
                                                   Repeat the above procedure and the Keyboard Diagnostic procedures (MDIs)
    040
    You are now directed to go to the
                                                   will load.
    Large Display Indicator MAP.
                                                            the
                                                                   instructions
                                                                                   on the
                                                   Follow
                                                   Display.
    GO TO MAP 9109, ENTRY POINT A.
                                               047
  041
                                                 The System
                                                                may have two
                                                                                 Diskette
                                                 Drives, left and right.
    POWER-OFF.
    POWER-ON.
                                               Does the System have a right Diskette
                                               Drive?
    Load a known good Diskette.
                                               YN
  Is the Display Screen totally blank?
                                                 048
  (no illumination)
                                                 Are there any LED
                                                                         Indicators
                                                                                       ON?
  YN
                                                 (A,B,C,D,E,F,G,H)
    042
                                                 YN
      Obtain a new DISPLAYWRITER SYSTEM
                                                   049
      DIAGNOSTIC diskette.
                                                     Run all MDI unit tests required for
    GO TO MAP 0010, ENTRY POINT A, to
                                                     your configuration.
    Verify System Operation.
                                                     If no unit tests failed, run the
                                                     System Exerciser.
  n43
  You are now directed to go to the RNA
                                                     If no trouble is found, and you think the System is working
  Start MAP.
                                                                            it
                                                     correctly,
                                                                                  to
                                                                  return
                                                                                       the
                                                     customer.
  GO TO MAP 8020, ENTRY POINT A.
                                                     If you think there is still a problem, go to the Intermittent
044
                                                     Problem Diagnostic Approach section
                                                     in the Product Support Manual.
  The Problem is in the Diskette Area.
You are now directed to go to the RNA
Start MAP.
                                                 050
                                                 Are any of the A, B or C LED Indicators
                                                 ON?
GO TO MAP 8020, ENTRY POINT A.
                                                 YN
                                               6 6 6
S T U
                                                                              MAP 0010-5
```

```
MAP 0010-6
S T U
5 5 5
                                              νw
            SYSTEM ENTRY MAP
            MAP 0010
            PAGE
                    6 OF
                           6
    051
                                                 056
      POWER-OFF.
                                                   Select MDIs.
                                                   Run all MDI unit tests required for
      Install a new System Card.
                                                   your configuration.
    GO TO MAP 0010, ENTRY POINT A, to
    Verify System Operation.
                                                   If no unit tests failed, run the
                                                   System Exerciser.
  052
                                                   If no trouble is found, and you think
                                                   the System is working correctly,
return it to the customer.
    POWER-OFF.
    Install a new base Power Supply.
                                                   If you think there is still a problem, go to the Intermittent Problem Diagnostic Approach section
  GO TO MAP 0010, ENTRY POINT A,
                                         to
  Verify System Operation.
                                                   in the Product Support Manual.
053
                                               057
  Select Diskette ID "d".
                                               Are any of the A, B or C LED Indicators
  Run Diskette Tests.
                                               ON?
                                               YN
                   DISPLAYWRITER
                                   SYSTEM
            the
  Remove
  DIAGNOSTICS from the left Diskette
                                                 058
  Drive.
                                                   POWER-OFF.
  POWER-OFF, then POWER-ON the System.
                                                   Install a new System Card.
           the
                  DISPLAYWRITER
                                     SYSTEM
  Load
  DIAGNOSTICS
                                                 GO TO MAP 0010, ENTRY POINT A, to
               in the right Diskette
                                                 Verify System Operation.
  Drive.
Did a readable CE Diagnostic Function
                                               059
Selection Menu appear on the Screen?
                                                 POWER-OFF.
YN
  054
                                                 Install a new base Power Supply.
    The Problem is in the Diskette Area.
                                               GO TO MAP 0010, ENTRY POINT A, to Verify
                                               System Operation.
 You are now directed to go to the RNA Start MAP.
  GO TO MAP 8020, ENTRY POINT A.
055
      there
              any
                    LED
                           Indicators ON?
Are
(A,B,C,D,E,F,G,H)
YN
```

900 ERROR CODES A B MAP 0011-1 MAP 0011 PAGE 1 OF 1 ENTRY POINTS 006 POWER-OFF. FROM ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER Reinstall the Original System Card. Install a new Memory Card in the correct position.(If the Memory 0009 | A 1 001 Configuration is made up of multiple Memory Cards, one Memory Card at a time may have to be installed to correct the problem.), (Refer to the Product Support Manual (PSM) or Information Card for Memory Card Type 001 (ENTRY POINT A) Do you have Error Code "900 FFFA"? Identification Information.) YN 002 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. ERROR CODES 007 POWER-OFF. 900 FFF0 900 FFF1 900 FFF2 900 FFF3 Install a new Memory Card in the correct position.(If the Memory Configuration is made up of multiple 900 FFF4 Memory Cards, one Memory Card at a time may have to be installed to correct the 900 FFFB 900 FFFF problem.), (Refer to the Product Support Manual (PSM) or Information Card for Memory Card Type ______ Is the "900" Error Code shown on the Identification Information.) screen listed in the Error Code Chart on this page? YN POWER-ON. the 003 DISPLAYWRITER SYSTEM Load DIAGNOSTICS. Follow your normal escalation Do you have a "900" Error Code again? procedure. N 004 008 POWER-OFF. GO TO MAP 0010, ENTRY POINT A, to Install a new System Card. Verify System Operation. POWER-ON. 009 DISPLAYWRITER SYSTEM POWER-OFF. Load the DIAGNOSTICS. Reinstall the Original Memory Card(s) Do you have a "900" Error Code again? in the correct position(s). YN Install a new System Card. 005 GO TO MAP 0010, ENTRY POINT A, to Verify GO TO MAP 0010, ENTRY POINT A, to System Operation. Verify System Operation.

MAP 0015

PAGE 1 OF 10

ENTRY POINTS

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

EXIT POI	NTS		
EXIT THI	S MAP	то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
5 6 8 9 3	043 052 067 075 084 016	2210 2210 2210 2210 2210 2210 9109	A A A A A A 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: 0=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 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)? YN 003 Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,0)? YN

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

YN

9 8 6 5 2 A B C D E

004

```
Ε
              ERROR LED STATUS MAP
                                                   J
                                                                                    MAP 0015-2
1
             MAP 0015
             PAGE 2 OF 10
005
                                                   010
Do the Error Indicators (D,E,F,G,H) equal
                                                   Is there a Large Display Module connected
                                                   to the Electronic Module?
(0,1,1,1,0)?
                                                   YN
YN
  006
                                                     011
  Do the Error Indicators (D,E,F,G,H)
                                                       Using the 20(dc)
                                                                               voltage
                                                                                         range,
                                                       measure from Pin 2 (ground) to Pin 7
(+5V) of the Internal Distribution
Cable Connector (2) (pin side).
  equal (0,0,1,0,0)?
  YN
    007
                                                     Is the voltage reading between +4.6 volts and +5.5 volts?
    Do the Error Indicators (D,E,F,G,H)
    equal (0,0,1,0,1)?
                                                     YN
    YN
                                                       012
      008
                                                          Using the 20(dc) voltage range,
                                                         measure from frame ground to Pin 8
of the Internal Distribution Cable
         Select the Displayed Error Code
                                                          Connector (P2).
        or if it is not readable, select
the LED Error Code in the
following Chart and go to the
indicated MAP.
                                                       Is
                                                           the voltage reading between +4.6
                                                       volts and +5.5 volts?
                                                       YN
        Post-CRT Error Code Table
                                                          013
        Error LED MAP Entry
Code Code Number Point
                                                            POWER-OFF.
               DEFGH
                                                            Install a new base Power Supply.
        _ _ _ _
         01
               00110
                        1005
                                 A
         02
               00110
                        1005
                                 A
                                                          GO TO MAP 0010, ENTRY POINT A, to
         03
               00111
                        0019
                                 A
                                                         Verify System Operation.
                        8032
         04
               01000
                                 A
         05
               01000
                        8032
                                 A
                                                       014
         06
               01001
                        0019
                                 A
                        0019
                                                          POWER-OFF.
         08
              01010
                                 A
         09
              01100
                        0019
                                 A
                                                          Install a new Internal Distribution
       +
                                                         Cable.
    009
                                                           TO MAP 0010, ENTRY POINT A, to
                                                       GD
      POWER-OFF.
                                                       Verify System Operation.
       Disconnect the
                            Display
                                        Module
                                                     015
      Connector (2).
                                                       POWER-OFF.
      POWER-ON.
                                                       Install a new Display Module.
      Wait about 10 seconds, then check
      the Error Indicators.
                                                     GO TO MAP 0010, ENTRY POINT A, to
                                                     Verify System Operation.
    Did
         the BAT
                       fail with
                                         Error
                     (D,E,F,G,H)
    Indicators
                                         equal
    (0,0,1,0,1)?
    YN
  33
4
FGHJ
                                                  Ř
                                                                                    MAP 0015-2
```

```
ΗK
            ERROR LED STATUS MAP
                                                                             MAP 0015-3
                                              GL
2 2
                                              2
            MAP 0015
            PAGE 3 OF 10
  016
                                                021
    POWER-OFF.
                                                  POWER-OFF.
    Reconnect the Display Module Cable Connector (2).
                                                   Reinstall
                                                               the original
                                                                                  Display
                                                   Adapter Card.
                                                  Reconnect the Display Module Cable
Connector (2).
  You are now directed to go to the Large
 Display Indicator MAP.
                                                   Remove the Card(s) from slot(s) "A"
                                                  and/or "C".
 GO TO MAP 9109, ENTRY POINT A.
017
                                                  POWER-ON.
Has a new Display Adapter Card been
                                                Do the Error Indicators (D,E,F,G,H)
                                                equal (0,0,1,0,1)?
installed?
YN
                                                 YN
 018
                                                  022
    POWER-OFF.
                                                    POWER-OFF.
    Install a new Display Adapter Card.
                                                     Reinstall one of the removed Cards.
   Reconnect the Display Module Cable
Connector (2).
                                                     POWER-ON.
                                                     If the Error Indicators (D,E,F,G,H)
  GO TO MAP 0010, ENTRY POINT A,
                                                     = (0, 0, 1, 0, 1),
                                        to
                                                                                      is
                                                                 just reinstalled is
If not, repeat this
  Verify System Operation.
                                                     the Card just
                                                     defective.
                                                     procedure until the failing Card is
019
                                                     identified.
Do you have Cards plugged in slot "A" or
"C" of the Electronic Module Distribution
                                                    Exchange the failing Card.
Board?
                                                  GO TO MAP 0010, ENTRY POINT A, to
YN
                                                  Verify System Operation.
  020
                                                023
    POWER-OFF.
                                                  POWER-OFF.
                       original
                                   Display
    Reinstall
                the
    Adapter Card.
                                                  Install a new System Card.
                                                  Reinstall Card(s) in slot(s)
and/or "C".
                                                                                      ** A **
    Install a new System Card.
    Reconnect the Display Module Cable
    Connector (2).
                                                GO TO MAP 0010, ENTRY POINT A, to
                                                Verify System Operation.
  GO TO MAP 0010, ENTRY POINT A,
                                        to
  Verify System Operation.
                                              024
                                              Has a new Display Adapter Card been
                                              installed?
                                              YN
                                                025
                                                  POWER-OFF.
                                                  Install a new Display Adapter Card.
                                                GO TO MAP 0010, ENTRY POINT A, to
                                                Verify System Operation.
```

I.

```
F
Μ
             ERROR LED STATUS MAP
                                                                                MAP 0015-4
                                                2
3
             MAP 0015
             PAGE
                   4 OF 10
026
                                                031
Do you have Cards plugged in slot "A" or
                                                Is the Memory Size Suffix a letter "F" or
                                                "G" ? (Refer to the Product Support
Manual (PSM) or Information Card for
"C" of the Electronic Module Distribution
Board?
YN
                                                Memory
                                                           Card
                                                                     Type
                                                                             Identification
                                                Information.)
  027
                                                YN
    POWER-OFF.
                                                  032
    Install a new Electronic
                                      Module
                                                  Has a New Memory Card been installed in
                                                  slot "E"?
    Distribution Board.
                                                   Y
                                                    N
    Reinstall
                  the
                        original
                                     Display
    Adapter Card.
                                                     033
  GO TO MAP 0010, ENTRY POINT A,
                                                       POWER-OFF.
                                          to
  Verify System Operation.
                                                       Install a new Memory Card in slot
028
                                                       "E".
  POWER-OFF.
                                                    GO TO MAP 0010, ENTRY POINT A, to
                                                    Verify System Operation.
  Remove the Card(s) from and/or "C".
                               slot(s) "A"
                                                  034
  POWER-ON.
                                                  Has a new System Card been installed?
                                                  ΥN
Do the Error Indicators (D,E,F,G,H) equal
(0,0,1,0,0)?
                                                    035
YN
                                                       POWER-OFF.
  029
                                                       Install a new System Card.
    POWER-OFF.
                                                    GO TO MAP 0010, ENTRY POINT A, to
    Reinstall one of the removed Cards.
                                                    Verify System Operation.
    POWER-ON.
                                                  036
    If the Error Indicators (D,E,F,G,H) =
                                                    POWER-OFF.
    (0,0,1,0,0),
    the Card just reinstalled is
defective. If not, repeat this
procedure until the failing Card is
                                                    Remove the Display Adapter Card and
any card or cards in slot(s) "A","C"
                                                     and "F".
    identified.
                                                    POWER-ON.
    Exchange the failing Card.
                                                  Do the Error Indicators (D,E,F,G,H)
  GO TO MAP 0010, ENTRY POINT A,
                                          to
                                                  equal (0,1,1,1,0)?
  Verify System Operation.
                                                     N
030
  POWER-OFF.
  Install
                        Electronic
            а
                 new
                                      Module
  Distribution Board.
GO TO MAP 0010, ENTRY POINT A, to Verify
System Operation.
                                                5
                                                  5
                                                    -5
```

NPQ

MAP 0015-4

```
MAP 0015-5
             ERROR LED STATUS MAP
PQ
                                                DNR
4 4
                                                 1 4
             MAP 0015
             PAGE 5 OF 10
                                                     042
  037
    POWER-OFF.
                                                       POWER-OFF.
    Reinstall one of the removed Cards.
                                                       Install a new Electronic Module
                                                       Distribution Board.
    POWER-ON
                                                       Reinstall all the original cards.
    If the Error Indicators (D,E,F,G,H) =
                                                       Reconnect all the cable connectors.
    (0,1,1,1,0),
    the Card just reinstalled is
defective. If not, repeat this
procedure until the failing Card is
                                                     GO TO MAP 0010, ENTRY POINT A, to
                                                     Verify System Operation.
    identified.
                                                   043
    Exchange the failing Card.
                                                     You are now directed to go to the LED
  GO TO MAP 0010, ENTRY POINT A, to
                                                     Memory Isolation MAP.
  Verify System Operation.
                                                   GO TO MAP 2210, ENTRY POINT A.
038
Do you have a Memory Card in slot "F"?
                                                 044
YN
                                                 Has a new System Card been installed?
  039
                                                 YN
                                                   045
    POWER-OFF.
    Install a new Electronic
                                      Module
                                                     POWER-OFF.
    Distribution Board.
                                                     Install a new System Card.
    Reinstall all the original cards.
                                                   GO TO MAP 0010, ENTRY POINT A, to
    Reconnect all the cable connectors.
                                                   Verify System Operation.
  GO TO MAP 0010, ENTRY POINT A, to
                                                 046
  Verify System Operation.
                                                 Is the Memory Size Suffix a letter "F" or
"G" ? (Refer to the Product Support
                                                        (Refer to the Product Support
(PSM) or Information Card for
Card Type Identification
040
  POWER-OFF.
                                                Manual
                                                 Memory
  Remove the Memory Card in slot "F".
                                                 Information.)
                                                 YN
  POWER-ON.
                                                   047
                                                     POWER-OFF.
Do the Error Indicators (D,E,F,G,H) equal
(0,1,1,1,0)?
                                                     Remove all cards from the Electronic
Module Distribution Board except the
                                                             all cards from the Electronic
YN
  041
                                                     Display Adapter Card.
                                                     Reinstall the original System Card.
    POWER-OFF.
    Install a new Memory Card in slot
                                                     POWER-ON.
    "F".
                                                   Do the Error Indicators (D,E,F,G,H)
  GO TO MAP 0010, ENTRY POINT A, to
                                                   equal (0,0,0,1,1)?
  Verify System Operation.
                                                     Ν
                                                 6 6 6
                                                                                 MAP 0015-5
R
                                                 STU
```

TU ERROR LED STATUS MAP С MAP 0015-6 S 55 5 MAP 0015 PAGE 6 OF 10 **048** 053 POWER-OFF. Is the Memory Size Suffix a letter "F" or (Refer to the Product Support (PSM) or Information Card for Card Type Identification 11 G11 ? Reinstall one of the removed Cards. Manual Memory POWER-ON. Information.) YN If the Error Indicators (D,E,F,G,H) = (0,0,0,1,1), 054 the Card just reinstalled is defective. If not, repeat this procedure until the failing Card is Has a New Memory Card been installed in slot "E"? identified. YN Exchange the failing Card. 055 GO TO MAP 0010, ENTRY POINT A, to POWER-OFF. Verify System Operation. Install a new Memory Card in slot 049 "E". POWER-OFF. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Remove the Display Adapter Card and install the Memory Card in slot "E". 056 POWER-ON. Using the 20(dc) voltage range, measure from frame ground to the pins Do the Error Indicators (D,E,F,G,H) in the following Chart. equal (0,0,0,1,1)? Y N Conn. | Pin | Voltage Range +4.6 to +5.5 -4.6 to -5.5 +8.245 to +8.925 050 E1 11 E1 13 POWER-OFF. E1 15 +11.04 to +13.20 E1 20 Install a new Display Adapter Card. +4.6 E2 to +5.5 11 GO TO MAP 0010, ENTRY POINT A, to E2 13 -4.6 to -5.5 15 +8.245 to +8.925 Verify System Operation. E2 E2 20 +11.04 to +13.20 051 ------+5.5 E3 +4.6 11 to POWER-OFF. ----to +5.5 E4 11 +4.6 Install a new Electronic Module Distribution Board. Were all the voltage measurements Reinstall all the original cards. correct? YN Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 052 You are now directed to go to the LED Memory Isolation MAP. GO TO MAP 2210, ENTRY POINT A.

.

X 6 ERROR LED STATUS MAP

MAP 0015

PAGE 7 OF 10

057

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 connected.

c. All cards are to be in place.

POWER-ON.

N

Ϋ́Ζ

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

				+
Pin	Voltag	je F	Range	
3	-0.1	to	+0.1	
4	-0.1	to	+0.1	
5	-0.1	to	+0.1	
6	-0.1	to	+0.1	
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	
21	+4.6	to	+5.5	
22	+4.6	ŧŏ	+5.5	
23	+4 6	ŧõ	+5 5	
24	+4 6	.to	+5 5	
L 7	• • • •			

Were all the voltage measurements correct?

058

WYZ

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.

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

059

Install a new System Power Cable.

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

060

Install a new base Power Supply.

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

061

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.

Do you have a Memory Card in slot "F"? Y N

063

062

POWER-OFF.

Install a new System Card.

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

064

8 8 A A

A B

Has a new System Card been installed? Y N

```
MAP 0015-8
            ERROR LED STATUS MAP
BVAA
                                             A A A
C D E
16A
     В
      7
            MAP 0015
            PAGE
                   8 OF 10
      065
                                                 072
                                                 Has a new System Card been installed?
        POWER-OFF.
                                                 YN
        Install a new System Card.
                                                   073
      GO TO MAP 0010, ENTRY POINT A, to
                                                     POWER-OFF.
      Verify System Operation.
                                                     Install a new System Card.
    066
      POWER-OFF.
                                                   GO TO MAP 0010, ENTRY POINT A, to
                                                   Verify System Operation.
      Install a new Memory Card in slot
      "F".
                                                 074
      Reinstall all the original cards.
                                                   POWER-OFF.
      Reconnect all the cable connectors.
                                                   Install a new Electronic Module
                                                   Distribution Board.
   GO TO MAP 0010, ENTRY POINT A, to
   Verify System Operation.
                                                   Reinstall all the original cards.
  067
                                                   Reconnect all the cable connectors.
                                                 GO TO MAP 0010, ENTRY POINT A, to
    You are now directed to go to the LED
                                                 Verify System Operation.
   Memory Isolation MAP.
                                               075
  GO TO MAP 2210, ENTRY POINT A.
                                                 You are now directed to go to the LED
                                                 Memory Isolation MAP.
068
Do you have a card present in slot "C" on
the System Electronic Module Distribution
                                               GO TO MAP 2210, ENTRY POINT A.
Board?
                                             076
YN
  069
                                               POWER-OFF.
  Is the Memory Size Suffix a letter "F"
                                               Remove the Card located in slot "C", on
  or "G" ? (Refer to the Product Support
                                               the Electronic Module Distribution
 Manual (PSM) or Information Card for
                                               Board.
         Card
                   Type Identification
  Memory
                                               POWER-ON.
  Information.)
  YN
                                             Do the Error Indicators (D,E,F,G,H) equal
   070
                                             (0,0,0,0,1)?
                                             YN
    Has a New Memory Card been installed
    in slot "E"?
                                               077
    YN
                                                 POWER-OFF.
      071
                                                 Install a new Card in slot "C".
        POWER-OFF.
                                               GO TO MAP 0010, ENTRY POINT A, to
        Install a new Memory Card in slot
                                               Verify System Operation.
        "E".
      GO TO MAP 0010, ENTRY POINT A, to
      Verify System Operation.
                                             9
                                             А
 A A
 DΕ
C
                                             F
                                                                           MAP 0015-8
```

```
A
             ERROR LED STATUS MAP
                                                                               MAP 0015-9
                                                A A
F
                                                1 G
            MAP 0015
8
             PAGE 9 0F 10
                                                  084
078
Is the Memory Size Suffix a letter "F" or
                                                    POWER-OFF.
       (Refer to the Product Support
(PSM) or Information Card for
"G" ?
                                                    Reinstall the Original Card in slot
Manual
           Card
                          Identification
                                                    "C".
Memory
                    Type
Information.)
YN
                                                    POWER-ON.
  079
                                                    You are now directed to go to the LED
                                                    Memory Isolation MAP.
  Has a New Memory Card been installed in slot "E"?
                                                  GO TO MAP 2210, ENTRY POINT A.
  YN
    080
                                                085
      POWER-OFF.
                                                Has a new System Card been installed?
                                                ΥN
      Reinstall the original card in slot
                                                  086
      "C".
      Install a new Memory Card in slot
                                                    POWER-OFF.
      "E".
                                                    Install a new System Card.
    GO TO MAP 0010, ENTRY POINT A, to
                                                  GO TO MAP 0010, ENTRY POINT A, to
    Verify System Operation.
                                                  Verify System Operation.
  081
                                                087
  Has a new System Card been installed?
  YN
                                                  POWER-OFF.
    082
                                                  Test Conditions:
      POWER-OFF.
                                                      Position the Electronic Module
Distribution Board to permit access
                                                   a. Position
      Reinstall the original card in slot
                                                      for making voltage measurements on Connector (A1).
      "C".
      Install a new System Card.
                                                   b. All cables are to be connected.
    GO TO MAP 0010, ENTRY POINT A,
                                          to
    Verify System Operation.
                                                   c. All cards are to be in place.
  083
                                                  POWER-ON.
                                                  Using the 20(dc) voltage range, measure from each pin in the following Chart to
    POWER-OFF.
                                                  frame ground at the Power Supply Case.
    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.
                                                (Step 087 continues)
```

A

G

ERROR LED STATUS MAP MAP 0015

PAGE 10 OF 10

(Step 087 continued)

Pin	Volta	ge H	Range
3	-0.1	to	+0.1
5	-0.1	to	+0.1+0.1
6	-0.1	to	+0.1
9	+4.6	to	+5.5
	+4.6 +4.6	to to	+5.5
12	+4.6	to	+5.5
	-4.6 +8.245	to to	-5.5 +8 925
16	-0.1	to	+0.1
	-0.1 -0.1	to to	+0.1+0.1
20	+11.04	to	+13.20
21	+4.6 +4.6	to to	+5.5
23	+4.6	to	+5.5
24	+4.6	to	+5.5

Were all the voltage measurements correct? YN

```
088
```

POWER-OFF.

Disconnect System Connectors P1 and A1. Power Cable

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.

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

089

Install a new System Power Cable.

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

```
090
```

Install a new base Power Supply.

1

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

<u>091</u>

A

н

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.

LED STATUS MAP

MAP 0017

PAGE 1 OF 3

ENTRY POINTS

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

EXIT PO	INTS		
EXIT TH	IS MAP	ТО	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
33	019	9010	A
	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

```
002
Did "A", "B" or "C" fail to light?
YN
  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?
  YN
     004
       Using the 20(dc) voltage range,
measure from frame ground to the
Pins in the following Chart.
     +--SYSTEM POWER CABLE (A1)--+
                      Voltage Range
        Pin
            9
                      +4.6 to +5.5
          10
                      +4.6
                             to
                                  +5.5
                      +4.6
                                   +5.5
          11
                             to
          12
                      +4.6
                              to
                                   +5.5
                      +4.6
          22
                                   +5.5
                             to
          23
                                   +5.5
                      +4.6
                             to
          24
                      +4.6 to
                                   +5.5
                Is the voltage reading between +4.6 volts and +5.5 volts?
     YN
```

3 2 2 2 2 A B C D E

```
MAP 0017-2
             LED STATUS MAP
                                                 В
CDE
1 1 1
                                                  1
             MAP 0017
             PAGE 2 OF
                             3
                                                    (Step 009 continued)
    005
                                                    Did each LED Indicator light?
      POWER-OFF.
                                                     N
                                                      010
      Using the
                   lowest ohms
                                       range,
      measure the continuity of each wire
in the System Power Cable (P1 to
                                                        POWER-OFF.
      A1).
                                                        Install
                                                                        new
                                                                               LED
                                                                                      Indicator
                                                                   а
      Refer to the Product Support Manual
                                                        Assembly.
      for pin assignments.
                                                      GO TO MAP 0010, ENTRY POINT A, to
    Was the cable continuity correct?
                                                      Verify System Operation.
    (less than 2 ohms)
                                                    011
    YN
                                                      POWER-OFF.
      006
        Install a new System Power Cable.
                                                      Install a new System Card.
                                                    GO TO MAP 0010, ENTRY POINT A, to
      GO TO MAP 0010, ENTRY POINT A, to
                                                    Verify System Operation.
      Verify System Operation.
    007
                                                  012
                                                    Using the 20(dc) voltage range, measure
from frame ground to Pin 5 of the LED
Assembly Cable Connector (L1) (still
connected to the Power Supply) for
+15.0 volts to +16.0 volts.
      Install a new base Power Supply.
    GO TO MAP 0010, ENTRY POINT A,
                                            to
    Verify System Operation.
  008
                                                    Record the measurement.
    POWER-OFF.
                                                  Was the voltage +15 volts to +16 volts?
    Install a new System Card.
                                                  ΥN
  GO TO MAP 0010, ENTRY POINT A, to
                                                    013
  Verify System Operation.
                                                      POWER-OFF.
009
                                                      Install a new base Power Supply.
  POWER-OFF.
                                                    GO TO MAP 0010, ENTRY POINT A, to
  Use a CE Meter lead for a jumper.
                                                    Verify System Operation.
            CAUTION
                                                  014
  Do NOT ground Pin 8. It is +5 volts.
                                                    Using the 20(dc) voltage range, measure
  Connect each Pin of LED Assembly Cable
Connector (S2) in the Chart to frame
                                                    from frame ground to Pins 1, 2 and 3 of
                                                    the LED Assembly Cable Connector (L1).
  ground.
                                                    Record the voltage measurements.
  POWER-ON.
                                                  Were all measurements 1.2 volts less than
                                           LED
                                                  Pin 5?
  Verify
          that
                    the
                           respective
                                                  YN
  Indicator lights.
     Pin
                      LED
                                                    015
     2
                       D
                                                      POWER-OFF.
     3
                        Ε
     5
                       F
                                                      Install a new LED Indicator Assembly.
                        G
     6
                                                                          ENTRY POINT A, to
     7
                       н
                                                    GO TO MAP 0010,
                                                    Verify System Operation.
(Step 009 continues)
```

F

```
LED STATUS MAP
AF
1 2
               MAP 0017
               PAGE 3 OF 3
  016
    POWER-OFF.
     Install a new base Power Supply.
  GO TO MAP 0010, ENTRY POINT A, to
Verify System Operation.
017
  It should take ten (10) to twenty (20)
seconds after POWER-ON for all LED
Indicators to disappear.
Was it less than ten (10) seconds?
YN
  018
 Is there a Large Display Module connected to the Electronic Module?
  YN
   019
   You are now directed to go to the Display Blank Screen MAP.
   GO TO MAP 9010, 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.

MAP 0017-3

ERROR CODE (03,06,08,09) MAP

MAP 0019

PAGE 1 OF 5

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 POINT	S		
EXIT THIS	MAP	TO	
PAGE ST NUMBER NU	EP MBER	MAP NUMBER	ENTRY POINT
2 2 3 4 5 5	008 014 027 034 042 049	2220 2220 2220 2220 2220 2220 2220 222	A A A A A A

001 (ENTRY POINT A)

Was the Error Code 03? ΥN 002 Was the Error Code 06? YN . 003 Was the Error Code 08? YN 004 Was the Error Code 09? YN 005 You should not be in this MAP without an Error Code. Return to MAP 0010, Entry Point A, the System Entry MAP. 006 Is the Memory Size Suffix a letter "F" or "G" ? (Refer to the Product Support Manual (PSM) or Information Card for Memory Card Type Identification Information.) Y N 2 2 2 2 2 2 A B C D E

```
BCDE
             ERROR CODE
                                                AFG
                                                                                MAP 0019-2
1 1 1 1
                                                1
             MAP 0019
             PAGE 2 OF
                            5
      007
                                                    011
                                                      POWER-OFF.
        This Error Code may occur with
        multiple failures.
                                                      Install a new System Card.
        POWER-OFF.
                                                    GO TO MAP 0010, ENTRY POINT A, to
                                                    Verify System Operation.
        Install a new Memory Card in slot
        Ε.
                                                  012
        POWER-ON.
                                                  Is the Memory Size Suffix a letter "F"
                                                  or "G" ? (Refer to the Product Support
Manual (PSM) or Information Card for
Memory Card Type Identification
        If you get an Error Code 09,
reinstall the original Memory
        Card.
                                                  Information.)
        Install a new Display Adapter
                                                  YN
        Card.
                                                    013
        POWER-ON.
                                                      POWER-OFF.
        If you get an Error Code 09,
reinstall the original Display
                                                      Reinstall the original System Card.
        Adapter Card.
                                                      Install a new Memory Card in slot
                                                      "E".
                 a new Electronic Module
        Install
        Distribution Board.
                                                    GO TO MAP 0010, ENTRY POINT A, to
        POWER-ON.
                                                    Verify System Operation.
        If you get an Error Code 09,
reinstall the original Electronic
                                                  014
                                                    POWER-OFF.
        Module Distribution Board.
        Install a new System Card.
                                                    Reinstall the original System Card.
      GO TO MAP 0010, ENTRY POINT A, to
                                                    POWER-ON.
      Verify System Operation.
                                                    You are now directed to go to the
    008
                                                    Memory Error Code MAP.
      You are now directed to go to the
                                                  GO TO MAP 2220, ENTRY POINT A.
      Memory Error Code MAP.
                                                015
   GO TO MAP 2220, ENTRY POINT A.
                                                  POWER-OFF.
  009
                                                  Disconnect the Diskette Unit Signal
                                                  Cable Connector (5) at Panel 1.
    POWER-OFF.
   Install a new System Card.
                                                  POWER-ON.
                                                Did you get Error Code 03 again?
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                YN
010
                                                  016
                                                  Do you have a Communications Feature
Have you installed a new System Card?
                                                  Card in the Media Module?
YN
                                                  Y N
                                                 - 3
                                                Ĥ Ĵ K
FG
                                                                                MAP 0019-2
```

```
MN
                                                                             MAP 0019-3
H J K
2 2 2
            ERROR CODE
            MAP 0019
            PAGE 3 OF
                           5
                                                023
    017
      POWER-OFF.
                                                Have you installed a new System Card?
                                                 YN
      Install
                a new Diskette Adapter
                                                  024
      Card.
      Reconnect the Diskette Unit Signal
                                                    Install a new System Card.
      Cable Connector (5) at Panel 1.
                                                  GO TO MAP 0010, ENTRY POINT A, to
    GO TO MAP 0010, ENTRY POINT A, to
                                                  Verify System Operation.
    Verify System Operation.
                                                 025
  018
                                                Is the Memory Size Suffix a letter "F"
                                                or "G"? (Refer to the Product Support
Manual (PSM) or Information Card for
Memory Card Type Identification
    POWER-OFF.
                                                                   Type Identification
             the Communications Feature
                                                Memory
                                                          Card
    Remove
                                                Information.)
    Card.
                                                 YN
    Reconnect the Diskette Unit Signal
    Cable Connector (5) at Panel 1.
                                                  026
                                                    Reinstall the original System Card.
    POWER-ON.
                                                    Install a new Memory Card in slot
  Did you get Error Code 03 again?
                                                    "E".
  ΥN
                                                  GO TO MAP 0010, ENTRY POINT A, to
    019
                                                  Verify System Operation.
      POWER-OFF.
                                                 027
                            Communications
                      new
      Install
                a
                                                  POWER-OFF.
      Feature Card.
                                                  Reinstall the original System Card.
    GO TO MAP 0010, ENTRY POINT A,
                                        to
    Verify System Operation.
                                                  POWER-ON.
  020
                                                  You are now directed to go to the Memory Error Code MAP.
    POWER-OFF.
    Install a new Diskette Adapter Card.
                                                GO TO MAP 2220, ENTRY POINT A.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                              028
                                                Remove the Communications Feature Card.
021
                                                POWER-ON.
  POWER-OFF.
              the Diskette Unit Signal
                                              Did you get Error Code 03 again?
  Reconnect
  Cable Connector (5) at Panel 1.
                                              ΥН
Do you have a card present in slot "C" on
                                                029
the System Electronic Module Distribution
                                                  POWER-OFF.
Board?
YN
                                                  Install a new Communications Feature
  022
                                                  Card.
                                                GO TO MAP 0010, ENTRY POINT A,
  Do you have a Communications Feature
                                                                                       to
  Card in the Base Electronics Module?
                                                Verify System Operation.
  Y N
                                              4
```

Ρ

LMN

MAP 0019-3

ERROR CODE P MAP 0019-4 L 3 3 MAP 0019 PAGE 4 OF 5 030 035 Remove the Card located in slot "C", on Have you installed a new System Card? ΥN the Electronic Module Distribution Board. 031 POWER-ON. POWER-OFF. Did you get Error Code 03 again? Reinstall the Communications Feature YN Card. 036 Install a new System Card. POWER-OFF. Reconnect the Diskette Unit Signal Cable Connector (5) at Panel 1. Install a new Card in slot "C". GO TO MAP 0010, ENTRY POINT A, to GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Verify System Operation. 032 037 Is the Memory Size Suffix a letter "F" or Do you have a Communications Feature Card "G" ? (Refer to the Product Support in the Base Electronics Module? (PSM) or Information Card for Manual YN Memory Card Type Identification Information.) 038 YN Have you installed a new System Card? 033 YN POWER-OFF. 039 Reinstall the Communications Feature POWER-OFF. Card. Reinstall the original card in slot "C". Reinstall the original System Card. Install a new Memory Card in slot Install a new System Card. "E". GO TO MAP 0010, ENTRY POINT Α, to GO TO MAP 0010, ENTRY POINT Verify System Operation. Α, to Verify System Operation. 040 034 Is the Memory Size Suffix a letter "F" or "G" ? (Refer to the Product Support Manual (PSM) or Information Card for POWER-OFF. Reinstall the Communications Feature Card Type Memory Identification Information.) Card. YN Reinstall the original System Card. 041 POWER-ON. POWER-OFF. You are now directed to go to Memory Error Code MAP. the Reinstall the original card in slot "C". GO TO MAP 2220, ENTRY POINT A. Install a new Memory Card in slot "E". GO TO MAP 0010, ENTRY POINT Α, to Verify System Operation.

MAP 0019-4

55 QR

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ERROR CODE
                                            S
QR
                                                                          MAP 0019-5
  4
            MAP 0019
            PAGE
                   5 OF
                          5
  042
                                             047
    POWER-OFF.
                                            Is the Memory Size Suffix a letter "F" or
                                            "G" ? (Refer to the Product Support
Manual (PSM) or Information Card for
    Reinstall the Original Card in slot
    "0".
                                            Memory
                                                       Card
                                                                Type
                                                                       Identification
                                            Information.)
    POWER-ON.
                                             YN
    You are now directed to go to
                                               048
                                      the
    Memory Error Code MAP.
                                                POWER-OFF.
  GO TO MAP 2220, ENTRY POINT A.
                                                 Reinstall the Communications Feature
                                                Card.
043
                                                 Reinstall the original System Card.
  POWER-OFF.
                                                 Install a new Memory Card in slot
                                                 "E".
  Reinstall the original card in slot
  "C".
                                               GO TO MAP 0010, ENTRY POINT A,
                                                                                    to
  Remove the Communications Feature Card.
                                              Verify System Operation.
  POWER-ON.
                                            049
Did you get Error Code 03 again?
                                              POWER-OFF.
YN
                                               Reinstall the Communications Feature
  044
                                               Card.
    POWER-OFF.
                                               Reinstall the original System Card.
    Install a new Communications Feature
                                              POWER-ON.
    Card.
                                               You are now directed to go to the
                                              Memory Error Code MAP.
    Reconnect the Diskette Unit Signal
    Cable Connector (5) at Panel 1.
  GO TO MAP 0010, ENTRY POINT A, to
                                            GO TO MAP 2220, ENTRY POINT A.
  Verify System Operation.
045
Have you installed a new System Card?
YN
 046
   POWER-OFF.
    Reinstall the Communications Feature
   Card.
   Install a new System Card.
   Reconnect the Diskette Unit Signal
   Cable Connector (5) at Panel 1.
 GO TO MAP 0010, ENTRY POINT A, to
 Verify System Operation.
```

KEYBOARD ENTRY MAP

MAP 1005

PAGE 1 OF 1

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 POINTS	
EXIT THIS MAP	ТО
PAGE STEP	MAP ENTRY
NUMBER NUMBER	NUMBER POINT
1 002	1010 A
1 003	1015 A

001 (ENTRY POINT A)

This MAP is entered from the Post-CRT Error Code Table in MAP 0010 (System Entry MAP).

Do you have a thin keyboard that has adjustable tilt buttons located on either side of the keyboard? Y N

002You are now directed to go toKeyboard "A" Entry Map.GO TO MAP 1010, ENTRY POINT A.003

You are now directed to go to Keyboard "B" Entry Map. GO TO MAP 1015, ENTRY POINT A.
KEYBOARD "A" ENTRY MAP A B MAP 1010-1 MAP 1010 PAGE 1 OF 3 006 ENTRY POINTS FROM | ENTER THIS MAP Disconnect the Internal Distribution Cable Connectors (P2 and B1). _ _ _ _ _ _ _ _ _ MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER Using the lowest ohms scale, measure the continuity of each wire between Connectors (P2/B1) and the Internal -----001 1005 A 1 Distribution Cable Connector (7). 001 Refer to the Product Support Manual (ENTRY POINT A) for pin assignments. Was the Error Code 01 or (01 and 02)? Does the meter indicate continuity? YN (two ohms or less) 002 YN Error Code 02. 007 Have you installed a new Keyboard Logic Repair or install a new Internal Distribution Cable. Card? YN Reconnect all the cable connectors. 003 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. POWER-OFF. Install a new Keyboard Logic Card. 008 GO TO MAP 0010, ENTRY POINT A, to Install a new System Card. Verify System Operation. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 004 POWER-OFF. 009 Disconnect the Keyboard Module Cable Connector (7) at Panel 1. Is the Keyboard Module Cable Connector (7) connected? Y N Using the lowest ohms scale, measure the continuity of each wire in the 010 Keyboard Module Cable. POWER-OFF. Refer to the Product Support Manual (Keyboard Module "A") for pin Reconnect the Keyboard Module Cable Connector (7) at Panel 1. assignments. GO TO MAP 0010, ENTRY POINT A, to / Verify System Operation. Does the meter indicate continuity? (two ohms or less) YN 005 Repair or install a new Keyboard Module Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

D **KEYBOARD ENTRY MAP** MAP 1010-2 С 1 MAP 1010 PAGE 2 OF 3 Ó11 015 POWER-OFF. POWER-OFF. Disconnect the Keyboard Module Cable Connector (7) at Panel 1. Remove the jumper from Pins 1 and 12 of the Keyboard Module Cable Connector (7) at Panel 1. Jumper Pin 1 to Pin 12 of the Internal Distribution Cable Connector (7) at POWER-ON. Panel 1. the 20 (DC) voltage scale, Usina measure from frame ground to pin 11 of the Internal Distribution Cable Connector (7) at Panel 1 for + 4.5 volts to + 5.5 volts. Refer to the Product Support Manual for pin assignments. POWER-ON. Observe Failure. Is the voltage reading between + 4.5 volts and + 5.5 volts? Did you stop with an Error Code 02 on the YN display screen? YN 016 012 Using the 20 (DC) voltage scale, measure from frame ground to Pin 3 of the Internal Distribution Connector (P2) for + 4.5 volts to + 5.5 volts. POWER-OFF. Remove the jumper from Pins 1 and 12 Is the voltage reading between + 4.5 volts and + 5.5 volts? of the Keyboard Module Cable Connector (7) at Panel 1. YN Disconnect the Internal Distribution Cable Connectors (P2 and B1). 017 Using the lowest ohms scale, measure POWER-OFF. the continuity of each wire between Connectors (P2/B1) and the Internal Install a new base Power Supply. Distribution Cable Connector (7). Reconnect the Keyboard Module Cable Connector (7) at Panel 1. Refer to the Product Support Manual for pin assignments. TO MAP 0010, ENTRY POINT A, to GO Verify System Operation. Does the meter indicate continuity? **018** (two ohms or less) YN POWER-OFF. 013 Repair or install a new Internal Repair or install a new Internal Distribution Cable. Distribution Cable. Reconnect the Keyboard Module Cable Connector (7) at Panel 1. Reconnect the Keyboard Module Cable Connector (7) at Panel 1. GO TO MAP 0010, ENTRY POINT A, to GO TO MAP 0010, ENTRY POINT A, Verify System Operation. to Verify System Operation. 014 Install a new System Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

D

```
Ε
              KEYBOARD ENTRY MAP
2
              MAP 1010
              PAGE 3 OF
                              3
019
  POWER-OFF.
  Using the 200 ohms scale, 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
    Repair or install a new Internal
    Distribution Cable.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
021
  Using the lowest ohms scale, measure
the continuity of each wire in the
Keyboard Module Cable.
  Refer to the Product Support Manual
(Keyboard Module "A") for pin
  assignments.
Does the meter indicate continuity?
(two ohms or less)
YN
  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?
YN
  024
    Install a new Keyboard Logic Card.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
025
  Install a new System Card.
GO TO MAP 0010, ENTRY POINT A, to Verify
System Operation.
```

KEYBOARD "A" SPEAKER CHECK MAP 1011-1 Α MAP 1011 PAGE 1 OF 1 ENTRY POINTS 005 FROM | ENTER THIS MAP Install a new System Card. ---+-___________ MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify _____ _ _ _ _ ~ _____ 001 1070 A 1 System Operation. 001 (ENTRY POINT A) POWER-OFF. Using the lowest ohms scale, measure the continuity of each wire in the Keyboard Module Cable. Refer to the Product Support Manual (Keyboard Module "A") for pin assignments. Does the meter indicate continuity? (two ohms or less) YN 002 Repair or install a new Keyboard Module Cable. 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 scale, 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. Does the meter indicate continuity? (two ohms or less) YN 004 Repair or install a new Internal Distribution Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

KEYBOARD "A" CABLE MAP A B MAP 1012-1 MAP 1012 1 OF PAGE 1 ENTRY POINTS 004 _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Install a new System Card. FROM ENTER THIS MAP _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Reinsert pins 3 and 10 in the Keyboard Module Cable Connector at ENTRY PAGE STEP MAP NUMBER POINT NUMBER NUMBER the Keyboard Logic Card. 1070 A 001 1 Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to 001 (ENTRY POINT A) Verify System Operation. 005 POWER-OFF. Remove pins 3 and 10 from the Keyboard Disconnect the Keyboard Module Cable Cable Connector at the Keyboard Logic Connector (7) at Panel 1. Card. Using the lowest ohm scale, measure from wires 3 and 10 to ground. Reinstall the Keyboard Cable Connector onto the Keyboard Logic Card. Is either wire 3 or 10 shorted to ground? POWER-ON. YN 20 (DC) voltage scale, 006 Using the measure from Keyboard frame ground to pins 3 and 10 on the Keyboard Logic Card for + 4.5 volts to + 5.5 volts. Repair or install a new Internal Distribution Cable. Reinsert pins 3 and 10 in the Keyboard Module Cable Connector at Is the voltage reading between + 4.5 volts and + 5.5 volts? the Keyboard Logic Card. YN 002 Reconnect all the cable connectors. POWER-OFF. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Install a new Keyboard Logic Card. 007 Reinsert pins 3 and 10 in the Keyboard Module Cable Connector at Repair or install a new Keyboard Module the Keyboard Logic Card. Cable. Reconnect all the cable connectors. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to GO TO MAP 0010, ENTRY POINT A, to Verify Verify System Operation. System Operation. 003 POWER-OFF. Disconnect B1 from the Electronics Module Distribution Board. Using the lowest ohm scale, measure from wires 3 and 10 to ground. Is either wire 3 or 10 shorted to ground? Y N

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MAP 1013-1
```

ENTRY POINTS FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 7070 | A 1 001

1

```
001
(ENTRY POINT A)
```

KEYLOCK ON FAILURE

MAP 1013

PAGE 1 OF

Is there a Communications Keylock on the Displaywriter system? Y N

```
002
```

POWER-OFF.

Install a new System Card.

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

```
003
```

004

```
Is the Communications Keylock ON?
Y N
I
```

Turn the Communications Keylock ON.

```
Load the Displaywriter System
Diagnostics diskette.
Select the MDIs on the Function
```

Run Communications MDIs.

```
005
```

POWER-OFF.

Selection menu.

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 Pin 13A to frame ground.

```
Does the meter indicate continuity?
(τωο ohms or less)
Υ΄ Ν
```

```
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)
Y N
008
Install a new Communications Keylock.
```

Install a new System Card.

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

```
<u>009</u>
```

A B

006

POWER-OFF.

Repair or install a new Internal Distribution Cable.

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

KEYLOCK OFF FAILURE A B MAP 1014-1 MAP 1014 PAGE 1 OF 1 ENTRY POINTS 006 _____ FROM ENTER THIS MAP Using the lowest ohms range, measure the continuity from the Communications Keylock terminal to ____+ MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER MAP ground. 7070 A 1 001 Does the meter indicate continuity? (two ohms or less) 001 YN (ENTRY POINT A) 007 POWER-OFF. Repair of install a new ground wire Disconnect the Internal Distribution assembly. Cable Connector (B1) from the Electronics Module Distribution Board. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Using the lowest ohms range, measure from the Internal Distribution Cable Connector Pin 13A to frame ground. 008 Repair or install a new Internal Distribution Cable. Does the meter indicate continuity? GO TO MAP 0010, ENTRY POINT A, to (two ohms or less) Verify System Operation. YN 002 <u>009</u> Are both wires connected the Install a new System Card. to Communications Keylock? GO TO MAP 0010, ENTRY POINT A, to Verify YN System Operation. 003 the Reconnect wires to the of the Communications terminals Keylock. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 004 Using the lowest ohms range, measure the continuity across Communications Keylock terminals. the Does the meter indicate continuity? (two ohms or less) YN 005 Communications Install а new Keylock. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

A B MAP 1015-1 **KEYBOARD "B" ENTRY MAP** MAP 1015 PAGE 1 OF 3 006 ENTRY POINTS _____ Disconnect the Internal Distribution FROM ENTER THIS MAP Cable Connectors (P2 and B1). MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER STEP Using the lowest ohms scale, measure the continuity of each wire between Connectors (P2/B1) and the Internal Distribution Cable Connector (7). 1005 A 1 001 Refer to the Product Support Manual 001 (ENTRY POINT A) for pin assignments. Was the Error Code 01 or (01 and 02)? Does the meter indicate continuity? YN (two ohms or less) 002 YN 007 Error Code 02. Have you installed a new Repair or install a new Internal Keyboard Distribution Cable. Assembly? YN GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 003 POWER-OFF. 008 Install a new System Card. Install a new Keyboard Assembly. GO TO MAP 0010, ENTRY POINT A, to GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Verify System Operation. 004 009 Is the Keyboard Module Cable Connector POWER-OFF. (7) connected? Disconnect the Keyboard Module Cable Connector (7) at Panel 1. YN 010 Using the lowest ohms scale, measure the continuity of each wire in the POWER-OFF. Keyboard Module Cable. Reconnect the Keyboard Module Cable Connector (7) at Panel 1. Refer to the Product Support Manual (Keyboard Module "B") for pin GO TO MAP 0010, ENTRY POINT A, to assignments. Verify System Operation. Does the meter indicate continuity? (two ohms or less) YN 005 Repair or install a new Keyboard Module Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

C 1 KEYBOARD ENTRY MAP

MAP 1015	1
PAGE 2 OF 3	
011	015
POWER-OFF.	POWER-OFF.
Disconnect the Keyboard Module Cable Connector (7) at Panel 1.	Remove the jumper from Pins 1 and 12 of 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.
Refer to the Product Support Manual for pin assignments.	measure from frame ground to pin 11 of the Internal Distribution Cable Connector (7) at Panel 1 for + 4.5
POWER-ON.	volts to + 5.5 volts.
Observe Failure.	Is the voltage reading between + 4.5 volts and + 5.5 volts?
Did you stop with an Error Code 02 on the display screen? Y N	Y N 016
012 POWER-OFF.	Using the 20 (DC) voltage scale, measure from frame ground to Pin 3 of the Internal Distribution Connector (P2) for 4 5 volts
Remove the jumper from Pins 1 and 12 of the Keyboard Module Cable Connector (7) at Panel 1.	Is the voltage reading between + 4.5 volts and + 5.5 volts? Y N
Disconnect the Internal Distribution Cable Connectors (P2 and B1).	017
Using the lowest ohms scale, measure the continuity of each wire between Connectors (P2/B1) and the Internal Distribution Cable Connector (7).	POWER-OFF. Install a new base Power Supply.
Refer to the Product Support Manual for pin assignments.	Reconnect the Keyboard Module Cable Connector (7) at Panel 1.
Does the meter indicate continuity? (two ohms or less)	Verify System Operation.
	POWER-OFF.
013	Repair or install a new Internal
Repair or install a new Internal Distribution Cable.	Distribution Cable.
Reconnect the Keyboard Module Cable Connector (7) at Panel 1.	Connector (7) at Panel 1.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Verify System Operation.
014	
Install a new System Card.	
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	

```
E
2
              KEYBOARD ENTRY MAP
              MAP 1015
              PAGE 3 OF
                              3
019
  POWER-OFF.
  Using the 200 ohms scale, 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?
ΥN
  020
     Repair or install a new Internal
    Distribution Cable.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
021
  Using the lowest ohms scale, measure
the continuity of each wire in the
Keyboard Module Cable.
  Refer to the Product Support Manual
(Keyboard Module "B") for pin
  assignments.
Does the meter indicate continuity?
(two ohms or less)
YN
  022
    Repair or install a new Keyboard
Module Cable.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
Ó23
  Reconnect the Keyboard Module Cable
Connector (7) at Panel 1.
       you
Have
              installed a new Keyboard
Assembly?
YN
  024
    Install a new Keyboard Assembly.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
025
  Install a new System Card.
GO TO MAP 0010, ENTRY POINT A, to Verify
System Operation.
```

KEYBOARD "B" SPEAKER CHECK MAP 1016-1 Α MAP 1016 PAGE 1 OF 1 ENTRY POINTS 005 _________ FROM | ENTER THIS MAP Install a new System Card. ------MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify _____ -------1170 | A 1 001 System Operation. 001 (ENTRY POINT A) POWER-OFF. Using the lowest ohms scale, measure the continuity of each wire in the Keyboard Module Cable. Refer to the Product Support Manual (Keyboard Module "B") for pin assignments. Does the meter indicate continuity? (two ohms or less) N 002 Repair or install a new Keyboard Module Cable. 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 scale, 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. Does the meter indicate continuity? (two ohms or less) YN 004 Repair or install a new Internal Distribution Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

KEYBOARD "B" CABLE MAP A B MAP 1017 1 OF PAGE 1 ENTRY POINTS 004 _____ FROM I ENTER THIS MAP -----MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 1170 A 1 001 001 (ENTRY POINT A) 005 POWER-OFF. Remove pins 3 and 11 from the Keyboard Cable Connector at the Keyboard Assembly Circuit Card. Reinstall the Keyboard Cable Connector onto the Keyboard Assembly Circuit Card. YN POWER-ON. 006 Using the 20 (DC) voltage scale, measure from Keyboard frame ground to pad 3 and 11 on the back of the Keyboard Assembly Circuit Card for + 4.5 volts to + 5.5 volts. Is the voltage reading between + 4.5 and + 5.5 volts? Ň Y 002 POWER-OFF. 007 Install a new Keyboard Assembly. Reinsert pins 3 and 11 in the Keyboard Module Cable Connector at Cable. the Keyboard Assembly Circuit 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 scale, measure from wires 3 and 11 to ground. Is either wire 3 or 11 shorted to ground? Ν

Install a new System Card. Reinsert pins 3 and 11 in the Keyboard Module Cable Connector at the Keyboard Assembly Circuit Card. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Disconnect the Keyboard Module Cable Connector (7) at Panel 1. Using the lowest ohms scale, measure from wires 3 and 11 to ground. Is either wire 3 or 11 shorted to ground? Repair or install a new Internal Distribution Cable. Reinsert pins 3 and 11 in the Keyboard Module Cable Connector at the Keyboard Assembly Circuit Card. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Repair or install a new Keyboard Module Reconnect all the cable connectors.

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

LED MEMORY ISOLATION MAP	D MAP 2210-1
MAP 2210	
PAGE 1 OF 13	
ENTRY POINTS	006
ENTRY POINTS FROM ENTER THIS MAP MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER 0015 A 1 001 001 (ENTRY POINT A) Do the Error Indicators (D,E,F,G,H) equal (0,0,0,0,1)? Y N 002 Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,0)? Y N 003 Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,1)? Y N 004 Do the Error Indicators (D,E,F,G,H) equal (0,1,1,1,0)? Y N 005 Select the Displayed Error Code or if it is not readable, select the LED Error Code in the following Chart and go to the indicated MAP. Post-CRT Error Code Table Error LED MAP Entry Code Code Number Point Dot 0110 1005 A 03 00111 0019 A 04 01000 8032 A 05 01000 8032 A 06 01001 0019 A 09 01100 0019 A 09 01100 0019 A	<pre>1 006 Has a new Memory Control Card been installed? Y N 007 POWER-OFF. Install a new Memory Control Card in slot "E". GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 008 Has a new Memory Card been installed in Position 1? Y N 009 POWER-OFF. Reinstall the Original Memory Control Card. Install a new Memory Card in Position 1. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 010 Is there a Memory Card in Position 2? Y N 011 Has a new System Card been installed? Y N 012 POWER-OFF. Reinstall the Original Memory Card in Position 1. Install a new System Card been installed? Y N 011 Has a new System Card been installed? Y N 011 Has a new System Card been installed? Y N 012 POWER-OFF. Reinstall the Original Memory Card in Position 1. Install a new System Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.</pre>
1 174 ABCD	2 2 E F MAP 2210-1

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MEMORY LED MAP
                                                 GΗ
                                                                                 MAP 2210-2
EF
1 1
             MAP 2210
             PAGE
                     2 OF 13
  013
                                                   017
    POWER-OFF.
                                                     POWER-OFF.
    Remove the Display Adapter Card and any card or cards in slot(s) "A" and "C".
                                                     Reinstall the Original Memory Card in
                                                     Position 1.
                                                     Install a new Memory Card in Position
    POWER-ON.
                                                     2.
                                                   GD TO MAP 0010, ENTRY POINT A,
Verify System Operation.
  Do the Error Indicators (D,E,F,G,H)
                                                                                            to
  equal (0,1,1,1,0)?
  YN
                                                 018
    014
                                                 Are there any Memory Cards remaining in Position(s) 3,4,5 or 6?
      POWER-OFF.
                                                 YN
      Reinstall one of the removed Cards.
                                                   019
      POWER-ON.
                                                   Has a new System Card been installed?
      If the Error Indicators (D,E,F,G,H)
                                                   YN
      = (0,1,1,1,0),
      the Card just reinstalled is
defective. If not, repeat this
                                                     020
      procedure until the failing Card is
                                                       POWER-OFF.
      identified.
                                                        Reinstall the Original Memory Card
      Exchange the failing Card.
                                                        in Position 2.
    GO TO MAP 0010, ENTRY POINT A, to
                                                        Install a new System Card.
    Verify System Operation.
                                                     GO TO MAP 0010, ENTRY POINT A, to
  015
                                                     Verify System Operation.
    POWER-OFF.
                                                   021
    Install
                   new Electronic Module
                                                     POWER-OFF.
               a
    Distribution Board.
                                                     Remove the Display Adapter Card and
any card or cards in slot(s) "A" and
"C".
    Reinstall all the original cards.
    Reconnect all the cable connectors.
                                                     POWER-ON.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                   Do the Error Indicators (D,E,F,G,H)
                                                   equal (0,1,1,1,0)?
016
                                                    YN
Has a new Memory Card been installed in
Position 2?
YN
                                                   33
KL
                                                 3
GH
                                                                                  MAP 2210-2
```

```
MEMORY LED MAP
                                                                               MAP 2210-3
JKL
222
                                                Μ
            MAP 2210
             PAGE 3 OF 13
                                                026
    022
      POWER-OFF.
                                                Has a new System Card been installed?
                                                ΥN
      Reinstall one of the removed Cards.
                                                  027
      POWER-ON.
                                                    POWER-OFF.
      If the Error Indicators (D,E,F,G,H)
      = (0, 1, 1, 1, 0),
                                                    Reinstall any Memory Card(s) removed
                         reinstalled
                                         is
                                                    from Position(s) 3,4,5 or 6.
      the Card just
      defective. If not, repeat this procedure until the failing Card is
                                                    Install a new System Card.
      identified.
                                                  GO TO MAP 0010, ENTRY POINT A, to
                                                  Verify System Operation.
      Exchange the failing Card.
    GO TO MAP 0010, ENTRY POINT A, to
                                                028
    Verify System Operation.
                                                  POWER-OFF.
  023
                                                  Remove the Display Adapter Card and any card or cards in slot(s) "A" and "C".
    POWER-OFF.
    Install a new Electronic
                                      Module
                                                  POWER-ON.
    Distribution Board.
                                                Do the Error Indicators (D,E,F,G,H) equal
    Reinstall all the original cards.
                                                (0,1,1,1,0)?
                                                YN
    Reconnect all the cable connectors.
                                                  029
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                    POWER-OFF.
024
                                                    Reinstall one of the removed Cards.
  POWER-OFF.
                                                    POWER-ON.
                                                    If the Error Indicators (D,E,F,G,H) =
  Reinstall the Original Memory Card in
  Position 2.
                                                    (0,1,1,1,0),
                                                    the Card
                                                                  just reinstalled
                                                                                          is
                                                    defective. If not, repeat this
procedure until the failing Card is
identified.
  Remove
                            Card(s)
            the
                  Memory
                                       from
  Position(s) 3,4,5 and 6 if present.
  POWER-ON.
                                                    Exchange the failing Card.
Do the Error Indicators (D,E,F,G,H) equal
                                                  GO TO MAP 0010, ENTRY POINT A, to
(0,1,1,1,0)?
YN
                                                  Verify System Operation.
  025
                                                030
    POWER-OFF.
                                                  POWER-OFF.
    One of the Memory Card(s) in
Position(s) 3,4,5 or 6 is defective.
                                                  Install
                                                                        Electronic
                                                                                      Module
                                                            a
                                                                new
                                                  Distribution Board.
    Reinstall the card(s) one card at a time until the failing card is
                                                  Reinstall all the original cards.
    isolated.
                                                  Reconnect all the cable connectors.
    Exchange the failing Card.
                                                GO TO MAP 0010, ENTRY POINT A, to Verify
                                                System Operation.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
```

С MEMORY LED MAP QR MAP 2210-4 1 MAP 2210 PAGE 4 OF 13 031 036 POWER-OFF. POWER-OFF. Install a new Memory Control Card in slot "E". Remove all cards from the Electronic Module Distribution Board except the Display Adapter Card. Reinstall the remaining original Reinstall the original System Card. card(s). POWER-ON. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,1)? 037 ΥN POWER-OFF. 032 Reinstall the original card in slot Was one of the cards removed from the Electronic Module Distribution Board plugged into slot "A"? "C". POWER-ON. YN Do the Error Indicators (D,E,F,G,H) equal 033 (0,0,0,1,1)?YN Was one of the cards removed from the Electronic Module Distribution Board plugged into slot "C"? 038 ΥN POWER-OFF. 034 Reinstall the Original Memory Control Card. POWER-OFF. POWER-ON. Reinstall the Original Memory Control Card. Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,1)? POWER-ON. YN 039 Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,1)? Ϋ́Ν POWER-OFF. Reinstall the Original Memory Card 035 in Position 1. POWER-OFF. POWER-ON. Reinstall the Original Memory Card in Position 1. If the Error Indicators (D,E,F,G,H) = (0, 0, 0, 1, 1),the Card just reinstalled is defective. If not, Reinstall the POWER-ON. card(s) in Position(s) 2,3,4,5 and Error Indicators If the It the Error indicators (D,E,F,G,H) = (0,0,0,1,1), the Card just reinstalled is defective. If not, Reinstall the card(s) in Position(s) 2,3,4,5 and 6, one card at a time until the failing card is 6, one card at a time until the failing card is isolated. Exchange the failing Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. isolated. Exchange the failing Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 5 5 6 NPQR S Т MAP 2210-4

```
MEMORY LED MAP
                                               VWX
                                                                               MAP 2210-5
PST
 4
   4
            MAP 2210
            PAGE
                    5 OF 13
    040
                                                    045
      POWER-OFF.
                                                      POWER-OFF.
      Install a new Memory Control Card in slot "E".
                                                      Reinstall the Original Memory Card
                                                      in Position 1.
      Reinstall the remaining original
                                                      POWER-ON.
      card(s).
                                                      If the Error Indicators (D,E,F,G,H)
                                                      = (0,0,0,1,1),
    GO TO MAP 0010, ENTRY POINT A,
                                          to
                                                      the Card just reinstalled is
defective. If not, Reinstall the
card(s) in Position(s) 2,3,4,5 and
    Verify System Operation.
  041
                                                      6, one card at a time until the
    POWER-OFF.
                                                      failing card is isolated.
    Install a new Card in slot "C".
                                                      Exchange the failing Card.
                                                    GO TO MAP 0010, ENTRY POINT A, to
    Reinstall the
                      remaining
                                  original
                                                    Verify System Operation.
    card(s).
  GO TO MAP 0010, ENTRY POINT A, to
                                                  046
  Verify System Operation.
                                                    POWER-OFF.
042
                                                    Install a new Memory Control Card in slot "E".
  POWER-OFF.
  Reinstall the original card in
                                      slot
                                                    Reinstall
                                                                 the
                                                                       remaining original
  "A".
                                                    card(s).
                                                  GO TO MAP 0010, ENTRY POINT A,
  POWER-ON.
                                                                                         to
                                                  Verify System Operation.
Do the Error Indicators (D,E,F,G,H) equal
                                                047
(0,0,0,1,1)?
YN
                                                 POWER-OFF.
  043
                                                  Reinstall the original card in slot
                                                  "C".
  Was one of the cards removed from the
  Electronic Module Distribution Board plugged into slot "C"?
                                                  POWER-ON.
  YN
                                                Do the Error Indicators (D,E,F,G,H) equal
    044
                                                (0,0,0,1,1)?
                                                ΥN
      POWER-OFF.
                                                  148
      Reinstall
                   the
                          Original
                                      Memorv
                                                    POWER-OFF.
      Control Card.
                                                    Reinstall the Original Memory Control
      POWER-ON.
                                                    Card.
    Do the Error Indicators (D, E, F, G, H)
    equal (0,0,0,1,1)?
                                                    POWER-ON.
     N
                                                 Do the Error Indicators (D,E,F,G,H)
equal (0,0,0,1,1)?
                                                    N
                                                6
                                                 6
                                                   A
                                                                               MAP 2210-5
UVWX
                                                  Ζ
                                                   Δ
```

```
UYZA
5554
              MEMORY LED MAP
                                                    N
                                                                                      MAP 2210-6
       5
              MAP 2210
              PAGE 6 OF 13
       049
                                                    053
         POWER-OFF.
                                                      POWER-OFF.
                                                      Remove the Display Adapter Card and
install the Memory Control Card in slot
"E". Reinstall all of the Memory
Card(s) in Position(s) 1,2,3,4,5 or 6.
         Reinstall the Original
                                         Memory
         Card in Position 1.
         POWER-ON.
         If the Error Indicators
(D,E,F,G,H) = (0,0,0,1,1),
the Card just reinstalled is
defective. If not, Reinstall the
card(s) in Position(s) 2,3,4,5
                                                      POWER-ON.
                                                    Do the Error Indicators (D,E,F,G,H) equal
                                                    (0,0,0,1,1)?
                                                    YN
         and 6, one card at a time until
         the failing card is isolated.
                                                      054
         Exchange the failing Card.
                                                        POWER-OFF.
       GO TO MAP 0010, ENTRY POINT A, to
                                                         Install a new Display Adapter Card.
       Verify System Operation.
                                                        Reinstall the
                                                                            remaining
                                                                                         original
     050
                                                        card(s).
                                                      GO TO MAP 0010, ENTRY POINT A, to
      POWER-OFF.
                                                      Verify System Operation.
       Install a new Memory Control Card
       in slot "E".
                                                    055
       Reinstall the remaining original
                                                      POWER-OFF.
       card(s).
                                                      Remove the
                                                                      Memory
                                                                                  Card(s)
                                                                                               from
    GO TO MAP 0010, ENTRY POINT A, to
                                                      Position(s) 2,3,4,5 and 6 if present.
    Verify System Operation.
                                                      POWFR-ON.
  051
                                                    Do the Error Indicators (D,E,F,G,H) equal
    POWER-OFF.
                                                    (0,0,0,1,1)?
                                                    YN
    Install a new Card in slot "C".
                                                      056
    Reinstall the
                        remaining
                                     original
    card(s).
                                                        POWER-OFF.
  GO TO MAP 0010, ENTRY POINT A, to
                                                         Reinstall the Original Memory Card in
  Verify System Operation.
                                                        Position 2.
052
                                                        POWER-ON.
  POWER-OFF.
                                                         If the Error Indicators (D,E,F,G,H) =
                                                         (0, 0, 0, 1, 1),
                                                        the card just reinstalled is
defective. If not, reinstall the
Memory Card(s) one card at a time
  Install a new Card in slot "A".
  Reinstall
                the
                       remaining
                                     original
  card(s).
                                                         until the failing card is isolated.
GO TO MAP 0010, ENTRY POINT A, to Verify
                                                        Exchange the failing Card.
System Operation.
                                                      GO TO MAP 0010, ENTRY POINT A, to
                                                      Verify System Operation.
```

```
BA
            MEMORY LED MAP
                                            Δ
                                                                          MAP 2210-7
                                            D
1
 B
            MAP 2210
  6
            PAGE 7 OF 13
                                             <u>063</u>
  057
                                              Using the 20(dc) voltage range, measure
    POWER-OFF.
                                              from frame ground to the pins in the
    Install a new
                      Electronic
                                   Module
                                              following Chart.
    Distribution Board.
                                             ______
    Reinstall all the original cards.
                                             Conn. | Pin | Voltage Range
                                                                  to +5.5
    Reconnect all the cable connectors.
                                                          +4.6
                                               E1
                                                     11
                                                           -4.6
                                                           -4.6 to -5.5
+8.245 to +8.925
                                               E1
                                                     13
  GO TO MAP 0010, ENTRY POINT A, to
                                                     15
                                               E1
  Verify System Operation.
                                               E1
                                                     20
                                                         +11.04 to +13.20
                                               E2
                                                          +4.6
                                                                  to +5.5
058
                                                     11
                                                          -4.6
                                               E2
                                                     13
                                                                  to -5.5
                                                          +8.245 to +8.925
    a new Memory Control Card been
                                               E2
                                                     15
Has
installed?
                                               E2
                                                      20
                                                         +11.04 to +13.20
YN
                                                _ _
                                               E3
                                                     11
                                                          +4.6
                                                                  to
                                                                    +5.5
  059
                                               _ _ _ _
                                                          ------
                                                                     _____
                                               E4
                                                          +4.6
                                                                  to +5.5
                                                     11
   POWER-OFF.
                                               _____
                                                     _____
    Install a new Memory Control Card in
    slot "E".
                                                         the
                                            Were
                                                   all
                                                               voltage
                                                                         measurements
  GO TO MAP 0010, ENTRY POINT A, to
                                            correct?
  Verify System Operation.
                                             YN
                                              064
060
Has a new Memory Card been installed in
                                                POWER-OFF.
Position 1?
YN
                                                Test Conditions:
                                                  a. Position the Electronic Module
  061
                                                    Distribution
                                                                   Board to permit
making voltage
    POWER-OFF.
                                                    access for
                                                    measurements on Connector (A1).
    Reinstall the Original Memory Control
                                                 b. All cables are to be connected.
    Card.
    Install a new Memory Card in Position
                                                 c. All cards are to be in place.
    1.
                                                POWER-ON.
  GO TO MAP 0010, ENTRY POINT A, to
                                                Using the 20(dc)
  Verify System Operation.
                                                                    voltage
                                                                               range,
                                                measure from each pin in the
following Chart to frame ground at
the Power Supply Case.
062
Is there a Memory Card in Position 2?
                                                 YN
                                                 Pin
                                                           Voltage Range
                                                          _____
                                                 -0.1
                                                                  to +0.1
                                                   3
                                                    4
                                                          -0.1
                                                                  to
                                                                     +0.1
                                                   5
                                                          -0.1
                                                                      +0.1
                                                                  to
                                                          -0.1
                                                                  to +0.1
                                                   6
                                                                 to -13.20
                                                   8
                                                         -11.04
                                                                  to +5.5
to +5.5
                                                           +4.6
                                                   9
                                                   10
                                                          +4.6
                                                           +4.6
                                                                  to
                                                                    +5.5
                                                  11
                                               +----- CHART CONTINUES -----+
                                              (Step 064 continues)
                                            8
8
A
C
                                            A
E
  Α
                                                                          MAP 2210-7
 D
```

MEMORY LED MAP	A A A MAP 2210-8
MAP 2210	
PAGE 8 OF 13	
Step 064 continued)	
CHART CONTINUED+ Pin Voltage Range	POWER-OFF.
12 +4.6 to +5.5 13 -4.6 to -5.5	Install a new Electronic Module Distribution Board.
15 +8.245 to +8.925 16 -0.1 to +0.1	Reinstall all the original cards.
17 -0.1 to +0.1 18 -0.1 to +0.1	Reconnect all the cable connectors.
20 +11.04 to +13.20 21 +4.6 to +5.5	GO TO MAP 0010, ENTRY POINT A, to
22 +4.6 to +5.5 23 +4.6 to +5.5 24 +4.6 to +5.5	Verify System Operation. 069
+	POWER-OFF.
ere all the voltage measurements	Reinstall the Original Memory Card ir Position 1.
N N	Install a new System Card.
065	GO TO MAP 0010, ENTRY POINT A, to
POWER-OFF.	verity system uperation.
Disconnect System Power Cable Connectors P1 and A1.	Has a new Memory Card been installed in
Using the lowest ohms range, check the continuity of each wire in the System Power Cable.	Y N 071
Refer to the Product Support Manual	POWER-OFF.
Was the cable continuity correct? (less	Reinstall the Original Memory Card in Position 1.
Y N	Install a new Memory Card in Positior
066	
Install a new System Power Cable.	Verify System Operation.
GO TO MAP 0010, ENTRY POINT A, to	072
067	Are there any Memory Cards remaining ir Position(s) 3,4,5 or 6?
Install a new base Power Supply.	
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	
	1 0 9
	A G H M∆P 2210-8

MEMORY LED MAP A Ĥ MAP 2210 8 PAGE 9 OF 13 (Step 074 continued) 073 +---- CHART CONTINUED -----+ Voltage Range Pin -----Using the 20(dc) voltage range, measure 10 +4.6 +5.5 to +4.6 from frame ground to the pins in the to +5.5 11 +4.6 +5.5 following Chart. 12 to -4.6 13 to -5.5 +8.245 to +8.925 15 Conn. | Pin | Voltage Range -0.1 to +0.1 16 -0.1 +0.1 _____ 17 to +4.6 to +5.5 -0.1 11 18 to +0.1 E1 -4.6 to -5.5 +8.245 to +8.925 +11.04 to +13.20 E1 20 13 21 +5.5 E1 15 +4.6 to 20 +11.04 to +13.20 22 +4.6 to +5.5 E1 +4.6 23 +5.5 to ---------+4.6 to +5.5 +4.6 +5.5 E2 11 24 to -4.6 to -5.5 +8.245 to +8.925 E2 13 E2 15 E2 20 +11.04 to +13.20

measurements

voltage

voltage range, h pin in the

```
the
Were all
                 voltage
                          measurements
correct?
ΥN
```

```
075
```

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.

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

076

Install a new System Power Cable.

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

077

Install a new base Power Supply.

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

MAP 2210-9

1 0 A K

measure from each pin in the following Chart to frame ground at the Power Supply Case. _____ Pin _____

> 3 4

5

6

8

Q

E3

Ε4

Were all

correct?

074

YN

11

11

POWER-OFF.

POWER-ON.

Test Conditions:

access for

Using the 20(dc)

+4.6

the

to +5.5

voltage

a. Position the Electronic Module Distribution Board to permit

measurements on Connector (A1).

b. All cables are to be connected. c. All cards are to be in place.

Voltage Range

-11.04 to -13.20 +4.6 to +5.5

-0.1

-0.1

-0.1

-0.1

+4.6

(Step 074 continues)

--- CHART CONTINUES -----+

to +0.1 to +0.1

to +0.1

to +0.1

making

+4.6 to +5.5

1

0

A

J

```
MEMORY LED MAP
                                                                             MAP 2210-10
A A A
                                               A
G
  J
    Κ
8
  9
    Q
            MAP 2210
            PAGE 10 OF 13
    078
                                               082
      POWER-OFF.
                                                  Using the 20(dc) voltage range, measure
                                                  from frame ground to the pins in the
      Install a new Electronic Module
                                                  following Chart.
      Distribution Board.
                                                               _____
      Reinstall all the original cards.
                                                Conn. | Pin | Voltage Range
                                                               Reconnect all the cable connectors.
                                                   E1
                                                         11
                                                              +4.6
                                                                    to +5.5
                                                              -4.6 to -5.5
+8.245 to +8.925
                                                   E1
                                                         13
    GO TO MAP 0010, ENTRY POINT A, to
                                                   E1
                                                         15
    Verify System Operation.
                                                             +11.04 to +13.20
                                                   E1
                                                         20
                                                   -----
                                                                  079
                                                   E2
                                                         11
                                                              +4.6 to +5.5
                                                              -4.6 to -5.5
                                                   E2
                                                         13
                                                              +8.245 to +8.925
    POWER-OFF.
                                                   E2
                                                         15
                                                   E2
                                                         20
                                                             +11.04 to +13.20
    Reinstall the Original Memory Card in
                                                   ----
                                                                  -----
                                                         _ _ _ _
    Position 2.
                                                   E3
                                                         11
                                                               +4.6 to
                                                                         +5.5
    Install a new System Card.
                                                   E4
                                                         11
                                                              +4.6 to +5.5
  GO TO MAP 0010, ENTRY POINT A,
                                         to
  Verify System Operation.
080
                                               Were all
                                                             the
                                                                    voltage measurements
                                               correct?
  POWER-OFF.
                                               YN
  Reinstall the Original Memory Card in Position 2.
                                                 083
                                                    POWER-OFF.
  Remove the Memory Card(s)
Position(s) 3,4,5 and 6 if present.
                                      from
                                                    Test Conditions:
                                                                        ŧ
  POWER-ON.
                                                     a. Position the Electronic Module
                                                        Distribution Board to permit
access for making voltage
Do the Error Indicators (D,E,F,G,H) equal
(0,0,0,1,0)?
                                                        measurements on Connector (A1).
Y N
                                                     b. All cables are to be connected.
  081
                                                     c. All cards are to be in place.
    POWER-OFF.
                                                    POWER-ON
    One of the Memory Card(s) in
Position(s) 3,4,5 or 6 is defective.
                                                   Using the 20(dc) voltage range,
measure from each pin in the
following Chart to frame ground at
    Reinstall the card(s) one card at a time until the failing card is
                                                    the Power Supply Case.
    isolated.
                                                             Exchange the failing Card.
                                                     Pin
                                                           Voltage Range
                                                              -----
  GO TO MAP 0010, ENTRY POINT A,
                                                              -0.1
                                                                          +0.1
                                                       3
                                          to
                                                                      to
  Verify System Operation.
                                                       4
                                                              -0.1
                                                                          +0.1
                                                                      to
                                                              -0.1
                                                                          +0.1
                                                       5
                                                                      to
                                                              -0.1
                                                       6
                                                                      to
                                                                          +0.1
                                                                      to -13.20
                                                       8
                                                              -11.04
                                                       9
                                                               +4:6
                                                                     to +5.5
                                                      10
                                                               +4.6
                                                                          +5.5
                                                                      to
                                                               +4.6
                                                                          +5.5
                                                                      +0
                                                      11
                                                    ---- CHART CONTINUES -----+
                                                  (Step 083 continues)
                                               1
                                               1
                                               A
                                               Μ
```

MAP 2210-10

MEMORY LED MAP A A A 1 M N MN MAP 2210 1 0 PAGE 11 OF 13 (Step 083 continued) **087** +---- CHART CONTINUED ----+ POWER-OFF. Pin Voltage Range _ _ _ _ Install a new Electronic Module +4.6 to +5.5 12 -4.6 to -5.5 Distribution Board. 13 +8.245 to +8.925 15 to +0.1 to +0.1 -0.1 Reinstall all the original cards. 16 -0.1 17 Reconnect all the cable connectors. -0.1 to +0.1 18 +11.04 20 to +13.20 GO TO MAP 0010, ENTRY POINT A, to 21 +4.6 to +5.5 $\overline{2}\overline{2}$ +4.6 to +5.5 Verify System Operation. 23 +4.6 to +5.5 24 +4.6 +5.5 088 to POWER-OFF. Reinstall any Memory Card(s) removed from Position(s) 3,4,5 or 6. Were all the voltage measurements correct? Install a new System Card. YN GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 084 POWER-OFF. 089 Disconnect System Connectors P1 and A1. Power Cable a new Memory Control Card been Has installed? Using the lowest ohms range, check the continuity of each wire in the YN 090 System Power Cable. Refer to the Product Support Manual POWER-OFF. for pin assignments. Install a new Memory Control Card in slot "E". Was the cable continuity correct? (less than 2 ohms) GO TO MAP 0010, ENTRY POINT A, to YN Verify System Operation. 085 091 Install a new System Power Cable. Has a new Memory Card been installed in Reinstall any Memory Card(s) removed from Position(s) 3,4,5 or Position 1? ΥN 6. 092 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. POWER-OFF. Reinstall the Original Memory Control 086 Card. Install a new base Power Supply. Install a new Memory Card in Position Reinstall any Memory Card(s) removed 1. from Position(s) 3,4,5 or 6. GO TO MAP 0010, ENTRY POINT A, to GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Verify System Operation.

> 1 2 A

P

A

N

```
MEMORY LED MAP
                                                                          MAP 2210-12
AP
                                             A A
                                             QR
1
            MAP 2210
1
            PAGE 12 OF 13
093
                                               100
Is there a Memory Card in Position 2?
                                               Has a new System Card been installed?
YN
                                               YN
 094
                                                 101
                                                   POWER-OFF.
  Has a new System Card been installed?
  ΥN
                                                   Reinstall the Original Memory Card
    095
                                                   in Position 2.
      POWER-OFF.
                                                   Install a new System Card.
                                                 GO TO MAP 0010, ENTRY POINT A, to
      Reinstall the Original Memory Card
      in Position 1.
                                                 Verify System Operation.
      Install a new System Card.
                                               102
    GO TO MAP 0010, ENTRY POINT A, to
                                                 POWER-OFF.
    Verify System Operation.
                                                 Install a new
Distribution Board.
                                                               new Electronic Module
  096
    POWER-OFF.
                                                 Reinstall all the original cards.
                  new Electronic Module
                                                 Reconnect all the cable connectors.
    Install
             a
    Distribution Board.
                                               GO TO MAP 0010, ENTRY POINT A, to
    Reinstall all the original cards.
                                               Verify System Operation.
    Reconnect all the cable connectors.
                                             103
  GO TO MAP 0010, ENTRY POINT A, to
                                               POWER-OFF.
  Verify System Operation.
                                               Reinstall the Original Memory Card in
                                               Position 2.
097
Has
    a new Memory Card been installed in
                                               Remove
                                                       the
                                                             Memory
                                                                       Card(s)
                                                                                   from
                                               Position(s) 3,4,5 and 6 if present.
Position 2?
YN
                                               POWER-ON.
 098
                                             Do the Error Indicators (D,E,F,G,H) equal
                                             (0,0,0,0,1)?
   POWER-OFF.
                                             YN
    Reinstall the Original Memory Card in
   Position 1.
                                               104
    Install a new Memory Card in Position
                                                 POWER-OFF.
   2.
                                                 One of the Memory Card(s) i
Position(s) 3,4,5 or 6 is defective.
                                                                                    in
  GO TO MAP 0010, ENTRY POINT A,
                                        to
  Verify System Operation.
                                                 Reinstall the card(s) one card at a
099
                                                 time until the failing card is
                                                 isolated.
Are there any Memory Cards remaining in Position(s) 3,4,5 or 6?
                                                 Exchange the failing Card.
ΥN
                                               GO TO MAP 0010, ENTRY POINT A, to
                                               Verify System Operation.
                                             1
                                             3
                                             A
 A
                                             S
0 R
                                                                           MAP 2210-12
```

```
MEMORY LED MAP
A
S
1
2
              MAP 2210
              PAGE 13 OF 13
1
i05
Has a new System Card been installed?
YN
 106
    POWER-OFF.
    Reinstall any Memory Card(s) removed from Position(s) 3,4,5 or 6.
    Install a new System Card.
  GO TO MAP 0010, ENTRY POINT A, to
Verify System Operation.
107
  POWER-OFF.
  Install a new Electronic
Distribution Board.
                                        Module
  Reinstall all the original cards.
  Reconnect all the cable connectors.
```

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

MEMORY ERROR CODE MAP MAP 2220-1 MAP 2220 PAGE 1 OF 4 (Step 005 continued) Install a new System Card. ENTRY POINTS ______ FROM ENTER THIS MAP POWER-ON. .---+-MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER Was the Error Code 09? 0019 | A 001 ΥN 1 006 001 (ENTRY POINT A) The card removed was defective. GO TO MAP 0010, ENTRY POINT A, to Was the Error Code 03? Verify System Operation. YN 002 007 Are there any memory Position(s) 3,4,5 or 6? any memory card(s) Was the Error Code 06? in YN ΥN 003 008 Was the Error Code 09? POWER-OFF. YN 004 Reinstall the original System Card. You should not be in this MAP without an Error Code. Return to MAP 0010, Entry Point A, the Install a new Memory Control Card in slot "E". System Entry MAP. POWER-ON. Was the Error Code 09? 005 YN This Error Code may occur with multiple failures. 009 The card removed was defective. POWER-OFF. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Install a new Display Adapter Card. 010 POWER-ON. Is there a Memory Card in Position 2? YN If you get an reinstall the Adapter Card. Error Code 09, 011 original Display POWER-OFF. Reinstall the Original Memory Install a new Electronic Module Control Card. Distribution Board. Install a new Memory Card in Position 1. POWER-ON. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. If you get an Error Code 09, reinstall the original Electronic Module Distribution Board. (Step 005 continues)

33 AB

```
C D
1 1
             MEMORY ERROR CODE
                                                EF
                                                                                MAP 2220-2
             MAP 2220
             PAGE 2 OF
                            4
  012
                                                  016
    POWER-OFF.
                                                    One of the Memory Card(s) in
                                                    Position(s) 3,4,5 or 6 is defective.
    Install a new Memory Card in Position
                                                    Reinstall the card(s) one card at a
time until the failing card is
isolated.
    Remove the Memory
                             Card(s) from
    Position(s) 3,4,5 and 6 if present.
                                                    Exchange the failing Card.
    POWER-ON.
                                                  GO TO MAP 0010, ENTRY POINT A, to
  Was the Error Code 09?
                                                  Verify System Operation.
  YN
                                                017
    013
                                                  POWER-OFF.
      The card removed was defective.
                                                  Install a new Memory Control Card in
                                                  slot "E".
      Reinstall any Memory Card(s)
removed from Position(s) 3,4,5 or
                                     Card(s)
                                                  POWER-ON.
      6.
    GO TO MAP 0010, ENTRY POINT A, to
                                                Was the Error Code 09?
    Verify System Operation.
                                                ΥN
  014
                                                  018
    POWER-OFF.
                                                    The card removed was defective.
                                                    Reinstall any Memory Card(s) removed from Position(s) 3,4,5 or 6.
    Install a new Memory Card in Position
    Reinstall the Original Memory Card in
                                                  GO TO MAP 0010, ENTRY POINT A, to
    Position 1.
                                                  Verify System Operation.
    Reinstall any Memory Card(s) removed from Position(s) 3,4,5 or 6.
                                                019
                                                  POWER-OFF.
  GO TO MAP 0010, ENTRY POINT A, to
                                                  Reinstall the Original Memory Control
  Verify System Operation.
                                                  Card.
015
                                                  Install a new Memory Card in Position
  POWER-OFF.
                                                  1
 Remove the Memory Card(s) from Position(s) 3,4,5 and 6 if present.
                                                  POWER-ON.
                                                Was the Error Code 09?
  POWER-ON.
                                                YN
                                                  020
Was the Error Code 09?
  N
                                                    POWER-OFF.
                                                    Reinstall any Memory Card(s) removed
                                                    from Position(s) 3,4,5 or 6.
                                                  GO TO MAP 0010, ENTRY POINT A, to
                                                  Verify System Operation.
                                                3
```

G

ΕF

```
MEMORY ERROR CODE
                                              A H
                                                                             MAP 2220-3
ΒG
1 2
                                               1
            MAP 2220
            PAGE
                   3 OF
                           4
  021
                                                026
                                                  POWER-OFF.
    POWER-OFF.
    Install a new Memory Card in Position
                                                   Remove the Memory
                                                                           Card(s) from
                                                   Position(s) 3,4,5 and 6 if present.
    2
                                                   Reinstall the Original Memory Control
    Reinstall the Original Memory Card in
    Position 1.
                                                   Card.
    Reinstall any Memory Card(s) removed from Position(s) 3,4,5 or 6.
                                                   Install a new Memory Card in Position
                                                   1.
  GO TO MAP 0010, ENTRY POINT A, to
                                                  POWER-ON.
  Verify System Operation.
                                                Was the Error Code 06?
                                                 ΥN
022
Has a new Memory Control Card
                                                   027
                                       been
installed?
                                                     POWER-OFF.
YN
                                                     Reinstall any Memory Card(s)
removed from Position(s) 3,4,5 or
 023
    POWER-OFF.
                                                     6.
    Install a new Memory Control Card in slot "E".
                                                   GO TO MAP 0010, ENTRY POINT A, to
                                                   Verify System Operation.
  GO TO MAP 0010, ENTRY POINT A,
                                         to
                                                028
  Verify System Operation.
                                                   POWER-OFF.
024
                                                   Reinstall the Original Memory Card in
                                                   Position 1.
Is there a Memory Card in Position 2?
YN
                                                   Reinstall any Memory Card(s) removed from Position(s) 3,4,5 or 6.
  025
    POWER-OFF.
                                                   Install a new Memory Card in Position
                                                   2.
    Reinstall the Original Memory Control
                                                GO TO MAP 0010, ENTRY POINT A, to
    Card.
                                                Verify System Operation.
    Install a new Memory Card in Position
                                               029
    1.
  GO TO MAP 0010, ENTRY POINT A, to
                                              Has a new Memory Control Card
                                                                                      been
  Verify System Operation.
                                               installed?
                                               YN
                                                030
                                                  POWER-OFF.
                                                  Install a new Memory Control Card in
                                                   slot "E".
                                                GO TO MAP 0010, ENTRY POINT A, to
                                                Verify System Operation.
                                               4
```

```
J
3
             MEMORY ERROR CODE
             MAP 2220
             PAGE 4 OF
                             4
031
Is there a Memory Card in Position 2?
YN
  032
    POWER-OFF.
    Reinstall the Original Memory Control
    Card.
    Install a new Memory Card in Position
    1.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
033
  POWER-OFF.
  Remove the Memory Card(s)
Position(s) 3,4,5 and 6 if present.
                                        from
  Reinstall the Original Memory Control
  Card.
  Install a new Memory Card in Position
  1.
  POWER-ON.
Was the Error Code 03?
YN
  034
    POWER-OFF.
    Reinstall any Memory Card(s) removed from Position(s) 3,4,5 or 6.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
035
  POWER-OFF.
  Reinstall the Original Memory Card in Position 1.
  Reinstall any Memory Card(s) removed from Position(s) 3,4,5 or 6.
  Install a new Memory Card in Position
  2.
GO TO MAP 0010, ENTRY POINT A, to Verify
System Operation.
```

POWER SUPPLY MEMORY MAP CDE MAP 2230-1 MAP 2230 PAGE 1 OF 3 007 ENTRY POINTS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ POWER-OFF (Wait 8 seconds). FROM | ENTER THIS MAP STEP ENTRY PAGE REPLACE REMAINING CARD MAP NUMBER | POINT NUMBER NUMBER Reconnect all the cable connectors. 6010 | A 1 001 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 001 (ENTRY POINT A) 008 POWER-OFF (Wait 8 seconds). One of the remaining Cards i s shorted. Reinstall the Original Memory Control POWER-OFF (Wait 8 seconds). Card. POWER-ON. Reinstall the original Cards one at a time. Are the "A" and/or "B" LED Indicators ON? POWER-ON. ΥN ** A ** "B" 002 When the and/or LED Indicators come on. POWER-OFF (Wait 8 seconds). The last Card installed is the one Reinstall the Original Memory Card in with a short. Position 1. Exchange the failing Card. POWER-ON. GO TO MAP 0010, ENTRY POINT A, to Are the "A" and/or "B" LED Indicators Verify System Operation. ON? 009 YN POWER-OFF (Wait 8 seconds). 003 Was there a Memory Card in Position Reinstall the Original Memory Card in 2? Position 2. YN POWER-ON. 004 Are the "A" and/or "B" LED Indicators ON? Was any Card(s) plugged into slot(s) "A" and/or "C". N 010 ΥN Were there any Mer Position(s) 3,4,5 or 6? 005 any Memory Cards in All of the Card(s) should now YN be reinstalled. 011 GO TO MAP 0010, ENTRY POINT A, to Was any Card(s) plugged into slot(s) "A" and/or "C". Verify System Operation. YN 006 you have more than one Card 012 Do left? All of the Card(s) should now be YN reinstalled. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 3 2 2 2 F ĞΗ MAP 2230-1 **A B C D E**

```
GΗ
             POWER/MEMORY MAP
                                               BFJ
                                                                               MAP 2230-2
  1
                                                 1
1
             MAP 2230
             PAGE 2 OF
                            3
  013
                                                    018
  Do you have more than one Card left?
                                                    Do you have more than one Card left?
  YN
                                                    Y N
    014
                                                      019
                                                        POWER-OFF (Wait 8 seconds).
      POWER-OFF (Wait 8 seconds).
      REPLACE REMAINING CARD
                                                        REPLACE REMAINING CARD
      Reconnect all the cable connectors.
                                                        Reconnect
                                                                      all
                                                                             the
                                                                                      cable
                                                        connectors.
    GO TO MAP 0010, ENTRY POINT A, to
                                                      GO TO MAP 0010, ENTRY POINT A, to
    Verify System Operation.
                                                      Verify System Operation.
  015
                                                    020
    One
          of
                the
                      remaining Cards is
    shorted.
                                                           of the remaining Cards is
                                                      0ne
                                                      shorted.
    POWER-OFF (Wait 8 seconds).
                                                      POWER-OFF (Wait 8 seconds).
    Reinstall the original Cards one at a
                                                      Reinstall the original Cards one at
    time.
                                                      a time.
    POWER-ON.
                                                      POWER-ON.
                  "A
                                  "B"
                                         LED
    When
           the
                       and/or
                                                                  "A"
                                                                         and/or "B"
                                                           the
                                                                                        LED
    Indicators come on.
                                                      When
                                                      Indicators come on.
    The last Card installed is the
                                        one
    with a short.
                                                      The last Card installed is the one
                                                      with a short.
  Exchange the failing Card.
                                                    Exchange the failing Card.
  GO TO MAP 0010, ENTRY POINT A, to
                                                    GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                    Verify System Operation.
016
                                                 021
  POWER-OFF (Wait 8 seconds).
                                                   POWER-OFF.
  Reinstall the Memory Card(s) one card
at a time until all the Memory Card(s)
have been reinstalled. If the A and/or
B Indicator(s) come on, the memory card
                                                    Install a new Memory Card in Position
  just reinstalled is defective.
                                                    Reinstall
                                                                 the
                                                                       remaining original
                                                   card(s).
Was any Card(s) plugged into slot(s) "A" and/or "C".
                                                 GO TO MAP 0010, ENTRY POINT A,
                                                                                         to
                                                 Verify System Operation.
ΥN
  017
                                               022
    All of the Card(s)
                                                 POWER-OFF.
                             should now be
    reinstalled.
                                                 Install a new Memory Card in Position
  GO TO MAP 0010, ENTRY POINT A,
                                          to
                                                 1.
  Verify System Operation.
                                                 Reinstall
                                                              the
                                                                     remaining
                                                                                   original
                                                 card(s).
                                               GO TO MAP 0010, ENTRY POINT A, to Verify
                                               System Operation.
```

A POWER/MEMORY MAP MAP 2230 PAGE 3 OF 3

023

POWER-OFF.

Install a new Memory Control Card in slot "E".

Reinstall the remaining original card(s).

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	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4070	A	1	001

001 (ENTRY POINT A)

002

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) YN

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.

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.

003

Α

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.

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

MAP 4012

PAGE 1 OF 1

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 0 (Zero) and Pin B1-8B in the Internal Distribution Cable and then, measure between Pin 4 on Rear Panel Connector 0 (Zero) and Pin B1-9B in the Internal Distribution Cable.

Does the meter indicate 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 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.

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

~

003

А

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 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.

A series of tests will automatically begin to run to verify the fix and further instructions will be given. TRANSMIT REPAIR-CONN. 6A

MAP 4013

PAGE 1 OF 1

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 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 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 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.

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

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

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.

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.
SHARING INTERRUPT REPAIR

MAP 4212

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 Printer Sharing Card.

2. Install a new System Card.

3. Install a new 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.

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

CABLE SENSE REPAIR-CONN. 6 A Α MAP 4213-1 MAP 4213 PAGE 1 OF 1 (Step 002 continued) ENTRY POINTS POWER-ON the work station. FROM | ENTER THIS MAP DISPLAYWRITER Load the SYSTEM DIAGNOSTICS then, MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER STEP select MDIs on the Function Selection Menu, 4270 A 1 001 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. 001 (ENTRY POINT A) POWER-OFF the work station. 003 Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Module Distribution Board. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable. Using the lowest ohms range, measure from Pin C1-7 in the Internal Printer Sharing Cable to frame ground. Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board. Does the meter indicate a short? Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A). (two ohms or less) YN POWER-ON the work station. 002 Load the DISPLAYWRITER SYSTEM DIAGNOSTICS 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. then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears. Each repair action should be performed one at a time until the failure is A series of tests will automatically begin to run to verify the fix and corrected. further instructions will be given. Install a new Printer Sharing Card. 1. 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 C1 of the Electronic Module Distribution Board. Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A). (Step 002 continues)

RECEIVE REPAIR-CONN. 6A

MAP 4214

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)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector 6A and Pin C1-8 in the Internal Printer Sharing Cable and then, measure between Pin 4 on Rear Panel Connector 6A and Pin C1-9 in the Internal Printer Sharing Cable.

Does the meter indicate 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 C1 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 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 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 C1 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 instructions will be given. TRANSMIT REPAIR-CONN. 6A

MAP 4215

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)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Module Distribution Board.

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

Does the meter indicate 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 C1 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 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 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 C1 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 instructions will be given.

CABLE SENSE REPAIR-CONN. 6B Α MAP 4216-1 MAP 4216 PAGE 1 OF 1 (Step 002 continued) ENTRY POINTS POWER-ON the work station. FROM ENTER THIS MAP DISPLAYWRITER ______ Load the SYSTEM DIAGNOSTICS then, MAP ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER select MDIs on the Function Selection Menu. 4270 I A 1 001 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. 001 (ENTRY POINT A) POWER-OFF the work station. 003 Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Module Distribution Board. Cable. Using the lowest ohms range, measure from Pin C1-19 in the Internal Printer Sharing Cable to frame ground. Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board. Does the meter indicate a short? Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B). (two ohms or less) YN POWER-ON the work station. 002 Load the DISPLAYWRITER SYSTEM DIAGNOSTICS 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. then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears. Each repair action should be performed one at a time until the failure is A series of tests will automatically begin to run to verify the fix and corrected. further instructions will be given. 1. Install a new Printer Sharing Card. 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 C1 of the Electronic Module Distribution Board. Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B). (Step 002 continues)

RECEIVE REPAIR-CONN. 6B

MAP 4217

PAGE 1 OF 1

ENTRY POINTS

FROM	ENTER	THIS MAP	
	+		~~~~~~
MAP	ENTRY	PAGE	STEP
NUMBED	DOTHT	NUMBED	NUMBER

1	1.1	v			-		•		•	U	+		•			**	v	• •	-	-	N		.,	v	•	5		n	
•		-	-	• •••		-	-	÷	 -		-	-	-	-	-	-	-	-		-	-	 -	-		-	-		-	
		4	2	27	0			ł			A								1							0	0	1	

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 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 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 C1 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 instructions will be given. 003 ·

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. 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 C1 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 instructions will be given.

A

TRANSMIT REPAIR-CONN. 6B

MAP 4218

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)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 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 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 C1 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 instructions will be given. 003

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. 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 C1 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

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. RECEIVE REPAIR-CONN. 0

MAP 5012

PAGE 1 OF 1

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 0 (Zero) and Pin B1-8B in the Internal Distribution Cable and then, measure between Pin 4 on Rear Panel Connector 0 (Zero) and Pin B1-9B in the Internal Distribution Cable.

Does the meter indicate continuity for both of these measurements? (two ohms or less) YN

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 Cable to Rear Panel Connector 0 (Zero).

POWER-ON the work station.

Load the DI DIAGNOSTICS then, DISPLAYWRITER SYSTEM 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

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 Distribution Board. Module

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.

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

TRANSMIT REPAIR-CONN. 0

MAP 5013

PAGE 1 OF 1

ENTRY POINTS

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

001 (ENTRY POINT A)

YN

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 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 continuity for both of these measurements? (two ohms or less)

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 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.

A series of tests will automatically begin to run to verify the fix and further instructions will be given. MAP 5013-1

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 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.

A series of tests will automatically begin to run to verify the fix and further instructions will be given. FREQUENCY DRIFT ON PRINTER COMMO.

MAP 5030

PAGE 1 OF 1

ENTRY POINTS				EXIT POINTS						
FROM	ENTER	THIS MAP		EXIT TH	IS MAP	TO				
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER	PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY			
0070	A	1	001	1	001	0010	A			

1

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 6

ENTRY POINTS

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

EXIT PO	INTS		
EXIT TH	IS MAP	T0	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
4	028	2230	A
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
```

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

```
POWER-ON.
```

632 ABC

```
Are the "A" and/or "B" LED Indicators
ON?
Y N
```

```
POWER SUPPLY MAP
С
                                              DEF
                                                                             MAP 6010-2
1
            MAP 6010
            PAGE 2 OF
                           6
003
                                                   009
 POWER-OFF (Wait 8 seconds).
                                                    POWER-OFF (Wait 8 seconds).
  Reconnect the Keyboard Module Cable
Connector (7).
                                                     Install a new Display Module.
                                                     Reconnect all the cable connectors.
  POWER-ON.
                                                  GO TO MAP 0010, ENTRY POINT A, to
Are the "A" and/or "B" LED Indicators ON?
                                                  Verify System Operation.
 N
                                                010
  004
                                                  POWER-OFF (Wait 8 seconds).
    POWER-OFF (Wait 8 seconds).
Reconnect the Display Module Cable
                                                  Install a new base Power Supply.
    Connector (2).
                                                  Reconnect all the cable connectors.
    POWER-ON.
                                                GO TO MAP 0010, ENTRY POINT A, to
  Are the "A" and/or "B" LED Indicators
                                                Verify System Operation.
  ON?
  ΥŇ
                                              011
                                                POWER-OFF (Wait 8 seconds).
    005
      POWER-OFF (Wait 8 seconds).
                                                Disconnect the Keyboard Module Cable
                                                (Logic Card Connector) at the Keyboard
      Reconnect the Diskette DC Connector
                                                Logic Card.
      (10), Diskette Signal Connector (5)
      and Communications Power Connector
                                                POWER-ON.
      (11) if present.
                                              Are the "A" and/or "B" LED Indicators ON?
      POWER-ON.
                                              Y
                                               N
    Are the "A" and/or "B" LED Indicators
                                                012
    ON?
    ΥŃ
                                                  POWER-OFF (Wait 8 seconds).
                                                  Reconnect the Keyboard Module Cable
(Logic Card Connector) at the
      006
      GO TO MAP 0010, ENTRY POINT A, to
                                                  Keyboard Logic Card.
      Verify System Operation.
    007
                                                   Disconnect the Speaker Connector at
                                                   the Keyboard Logic Card.
    You are now directed to go to the DC
    Short Failure MAP.
                                                  POWER-ON.
                                                Are
                                                     the "A" and/or "B" LED Indicators
   GO TO MAP 8065, ENTRY POINT A.
                                                ON?
                                                YN
  800
 Has
                  Display
                             Module
                                       been
       а
           new
  installed?
  ΥN
                                              333
GHJ
DEF
                                                                             MAP 6010-2
```

```
MAP 6010-3
BGHJ
             POWER SUPPLY MAP
                                                 L
1222
             MAP 6010
             PAGE 3 OF
                             6
      013
                                                 017
        POWER-OFF (Wait 8 seconds).
                                                   POWER-OFF (Wait 8 seconds).
                                                   Reconnect the System Power Cable (P1)
         Check to ensure that a Speaker
        Tab is not touching the metal
mounting bracket. If a Speaker
Tab is touching the mounting
                                                   at the Power Supply.
                                                   Remove all the Cards from the Electronic Module Distribution Board
                  then rotate the Speaker
         bracket,
        away from the mounting bracket.
Ensure that the Speaker mounting
                                                   Assembly.
         srew is tight. If a Speaker Tab
                                                   POWER-ON.
        is not touching the metal
mounting bracket, then install a
                                                 Are the "A" and/or "B" LED Indicators ON?
        new Speaker.
                                                   N
        Reconnect
                        all
                                the
                                        cable
                                                   018
        connectors.
                                                      POWER-OFF (Wait 8 seconds).
      GO TO MAP 0010, ENTRY POINT A, to
      Verify System Operation.
                                                      Reinstall the original System Card.
                                                      POWER-ON.
    014
      POWER-OFF (Wait 8 seconds).
                                                   Are the "A" and/or "B" LED Indicators
                                                   ON?
                                                   YN
      Install a new Keyboard Logic Card.
      Reconnect all the cable connectors.
                                                      019
    GO TO MAP 0010, ENTRY POINT A, to
                                                        POWER-OFF (Wait 8 seconds).
    Verify System Operation.
                                                        Reinstall the
                                                                         original
                                                                                       Display
                                                        Adapter Card.
  015
    POWER-OFF (Wait 8 seconds).
                                                        POWER-ON.
                                                      Are the "A" and/or "B" LED Indicators
    Repair or install a new Keyboard
    Module Cable.
                                                      ON?
                                                      ΥŃ
    Reconnect all the cable connectors.
                                                        020
  GO TO MAP 0010, ENTRY POINT A, to
                                                        Is the Memory Size Suffix a letter
"F" or "G"? (Refer to the Product
  Verify System Operation.
                                                        Support Manual (PSM) or Information
Card for Memory Card Type
016
                                                                        Memory
  POWER-OFF (Wait 8 seconds).
                                                        Identification Information.)
                                                        YN
                       System Power Cable
  Disconnect
                the
  Connector (P1) at the Power Supply.
                                                          021
                                                          Do you have more than one Card
  POWER-ON.
                                                          left?
Are the "A" and/or "B" LED Indicators ON?
                                                          Y N
 N
5
                                                   444
ŘΕ
                                                 MNPQRS
                                                                                  MAP 6010-3
```

```
POWER SUPPLY MAP
R S
3 3
                                                                          MAP 6010-4
                                            MNPQT
                                            333
                                                  3
            MAP 6010
            PAGE 4 OF
                          6
                                                     027
  022
   POWER-OFF (Wait 8 seconds).
                                                       POWER-OFF (Wait 8 seconds).
    Install a new Memory Card.
                                                       Install a new Memory Card.
   Reconnect all the cable connectors.
                                                       Reinstall
                                                                   all
                                                                         the original
                                                       cards.
 GO TO MAP 0010, ENTRY POINT A, to
 Verify System Operation.
                                                       Reconnect
                                                                   all
                                                                          the
                                                                                 cable
                                                       connectors.
023
                                                    GO TO MAP 0010, ENTRY POINT A, to
 POWER-OFF (Wait 8 seconds).
                                                    Verify System Operation.
 Reinstall the original Memory Card in
                                                  028
 slot "E"
                                                    You are now directed to go to the
 POWER-ON.
                                                    Power Supply Memory Map.
Are the "A" and/or "B" LED Indicators ON?
                                                  GO TO MAP 2230, ENTRY POINT A.
 N
 024
                                                029
                                                  POWER-OFF (Wait 8 seconds).
 Do you have more than one Card left?
 YN
                                                  Install a new Display Adapter Card.
   025
                                                  Reinstall all the original cards.
     POWER-OFF (Wait 8 seconds).
                                                  Reconnect all the cable connectors.
     REPLACE REMAINING CARD
                                                GO TO MAP 0010, ENTRY POINT A, to
     Reconnect all the cable connectors.
                                                Verify System Operation.
   GO TO MAP 0010, ENTRY POINT A, to
                                              030
   Verify System Operation.
                                                POWER-OFF (Wait 8 seconds).
 026
                                                Install a new System Card.
   One of
               the
                     remaining Cards is
   shorted.
                                                Reinstall all the original cards.
   POWER-OFF.
                                                Reconnect all the cable connectors.
   Reinstall the original Cards one at a
                                              GO TO MAP 0010, ENTRY POINT A, to
   time.
                                              Verify System Operation.
   POWER-ON.
                                            031
               "A"
                                WR W
                                      LED
                                              POWER-OFF (Wait 8 seconds).
   When
          the
                      and/or
   Indicators come on.
                                              Disconnect the Internal Distribution
   The last Card installed is the
                                              Cable Connector (D1) from t
Electronic Module Distribution Board.
                                      one
                                                                                   the
   with a short.
   Exchange the failing Card.
                                              POWER-ON.
 GO TO MAP 0010, ENTRY POINT A, to
                                            Are the "A" and/or "B" LED Indicators ON?
 Verify System Operation.
                                              N
```

```
55
IIV
```

Т

```
υv
            POWER SUPPLY MAP
                                             кωх
                                                                           MAP 6010-5
44
            MAP 6010
            PAGE
                   5 OF
                           6
  032
                                                  036
    POWER-OFF (Wait 8 seconds).
                                                    POWER-OFF (Wait 8 seconds).
    Install a new Internal Distribution
                                                    Install a new Electronic Module
                                                    Distribution Board.
    Cable.
    Reinstall all the original cards.
                                                    Reinstall all the original cards.
    Reconnect all the cable connectors.
                                                    Reconnect all the cable connectors.
  GO TO MAP 0010, ENTRY POINT A,
                                                 GO TO MAP 0010, ENTRY POINT A, to
                                       to
  Verify System Operation.
                                                 Verify System Operation.
033
                                               037
 POWER-OFF (Wait 8 seconds).
                                                 POWER-OFF (Wait 8 seconds).
  Disconnect the Internal Distribution
                                                 Install a new System Power Cable.
  Cable Connector (B1)
                              from the
  Electronic Module Distribution Board.
                                                 Reinstall all the original cards.
  POWER-ON.
                                                 Reconnect all the cable connectors.
                                               GO TO MAP 0010, ENTRY POINT A, to
Are the "A" and/or "B" LED Indicators ON?
                                               Verify System Operation.
Y N
  034
                                             038
    POWER-OFF (Wait 8 seconds).
                                               POWER-OFF (Wait 8 seconds).
                                               Disconnect the Internal Distribution
Cable Connector (P2) at the Power
    Install a new Internal Distribution
    Cable.
                                               Supply.
    Reinstall all the original cards.
                                               POWER-ON.
    Reconnect all the cable connectors.
                                             Are the "A" and/or "B" LED Indicators ON?
  GO TO MAP 0010, ENTRY POINT A,
                                       to
                                               N
  Verify System Operation.
                                               039
035
                                                 POWER-OFF (Wait 8 seconds).
 POWER-OFF (Wait 8 seconds).
                                                  Install a new Internal Distribution
 Disconnect the System Power Cable
Connector (A1) at the Electronic Module
                                                 Cahle.
                                                 Reconnect all the cable connectors.
  Distribution Board.
 POWER-ON.
                                               GO TO MAP 0010, ENTRY POINT A, to
                                               Verify System Operation.
Are the "A" and/or "B" LED Indicators ON?
ΥN
                                             040
                                               POWER-OFF (Wait 8 seconds).
                                               Install a new base Power Supply.
                                               Reconnect all the cable connectors.
                                             GO TO MAP 0010, ENTRY POINT A, to Verify
                                             System Operation.
```

```
POWER SUPPLY MAP
A
1
             MAP 6010
             PAGE 6 OF 6
041
Is the Fan in the Electronic Module running?
YN
 042
    POWER-OFF.
    Install a new base Power Supply.
  GO TO MAP 0010, ENTRY POINT A, to
Verify System Operation.
043
Is the Fan making any unusual noise or
running slowly?
Y N
  044
 Is the Machine located in sunlight or in a very hot area?
                                    direct
  ΫN
   045
      POWER-OFF.
      Install a new base Power Supply.
    GO TO MAP 0010, ENTRY POINT A, to
    Verify System Operation.
  046
                    Customer of
    Advise the
                                        the
    environmental impact on the machine.
047
```

POWER-OFF.

Install a new base Power Supply.

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

COMMUNICATIONS A B MAP 7010-1 MAP 7010 PAGE 1 OF 2 ENTRY POINTS 004 _____ FROM **ENTER THIS MAP** GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. -+-_ _ _ _ _ _ _ _ _ _ _ _ _ MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 005 7070 I A Disconnect the Diskette Unit Signal 1 001 Cable Connectors (5) and (A1). 001 Using the lowest ohms range, check the (ENTRY POINT A) continuity of each wire in the Diskette Unit Signal Cable. POWER-OFF. Refer to the Product Support Manual for Reinstall the original Communications pin assignments. Adapter Card. Was the cable continuity correct? (less Is the Communications Adapter Card in the than 2 ohms). Diskette Unit? YN Y N 006 002 Install a new Diskette Unit Signal Install a new Electronic Module Distribution Board. Cable. GO TO MAP 0010, ENTRY POINT A, to Reconnect all the cable connectors. Verify System Operation. POWER-ON. 007 Disconnect the Internal Diskette Signal Load the Displaywriter System Cable Connector (S1) in the Electronic Diagnostic diskette. Module. Select MDIs on the Function Selection menu. Using the lowest ohms range, check the continuity of each wire between connectors (5) and (S1) in the Internal Does the Device Selection menu indicate that Communications is present (green dot next to ID letter)? Diskette Signal Cable. ΥN Refer to the Product Support Manual for pin assignments. 003 Was the cable continuity correct? (less POWER-OFF. than 2 ohms). ΥN Reinstall the original Electronics Module Distribution Board. 008 new Internal Diskette Install a new System Card. Install a Cable in the Electronic Signal POWER-ON. Module. the Displaywriter System Reconnect all the cable connectors. Load Diagnostic diskette. GO TO MAP 0010, ENTRY POINT A, to MDIs Verify System Operation. Select on the Function Selection menu. Run the Communications MDIs. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

- COMMUNICATIONS
 - MAP 7010
- PAGE 2 OF 2
- 009

С 1

Install a new System Card.

Reconnect all the cable connectors.

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

.

· · · ·

MAP 7020-1 INTERNAL EIA CABLE A MAP 7020 PAGE 1 OF 1 ENTRY POINTS 005 ______ FROM | ENTER THIS MAP Disconnect the Internal Communications Cable Connector (A2). ____ MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER Using the lowest ohms range, check the contunity of each wire between connectors (4) and (A2) of the Internal 7060 Α 1 001 7061 A 1 001 Communications Cable. Refer to the Product Support Manual for 001 pin assignments. (ENTRY POINT A) Was the cable continuity correct? (less than 2 ohms). POWER-OFF. YN Is the Communications Adapter located in the Electronic Module? Communications Adapter Card 006 Y N Install a new Internal Communications 002 Cable in the Electronic Module. Disconnect Reconnect all the cable connectors. the Internal Communications Cable Connector (C2). GO TO MAP 0010, ENTRY POINT A, to Using the lowest ohms range, check the contunity of each wire between connectors (4A) and (C2) of the Verify System Operation. 007 Internal Communications Cable. Install a new Communications Adapter Refer to the Product Support Manual Card. for pin assignments. Reconnect all the cable connectors. Was the cable continuity correct? (less GO TO MAP 0010, ENTRY PDINT A, to Verify than 2 ohms). Ý N System Operation. 003 Install new Internal á 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.

A

INTERNAL COMM. CABLE

MAP 7030

PAGE 1 OF 1

ENTRY POINTS

FROM	ENTER	THIS MAP		EXIT TH	IS MAP	I TO	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER	PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
7075	A	1	001	1	003	7062	A

EXIT POINTS

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.

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

002 Reinstall the original Feature Card in Slot "D". 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. 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	A	1	001

001

2 A

(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, measure from each pin in the following Chart to frame ground at the Power Supply Case.

System Power Cable Connector (A1)		
Pin	Voltage Range (dc) Volts	
8 20	-11.04 to -13.20 +11.04 to +13.20	

Were all the voltage measurements correct? Y N 002 POWER-OFF. Disconnect System Power Cable Connectors P1 and A1. Using the lowest ohms range, check the continuity of the System Power Cable. Connector (A1) pin 8 to Connector (P1) pin 1. Connector (P1) pin 15. (Step 002 continues)

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

```
A PORT 4 NO VOLTAGE

MAP 7060

PAGE 2 OF 2

(Step 002 continued)

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.
```

005

GO 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

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, measure from each pin in the following Chart to frame ground at the Power Supply Case.

Communication Power Cable Connector (C1)			
Pin	Volta (dc)	ge Range Volts	
5 10 12 17	+11.04 +8.25 -4.6 -11.04	to +13.20 to +8.93 to -5.5 to -13.20	

Were all the voltage measurements correct? Y N

EXIT	POINTS		
EXIT	THIS MAP	TO	
		+	
		• • • • • •	

PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY Point
2	005	7020	A

```
A B
1 1
              P4A/P4B NO VOLTAGE
              MAP 7061
              PAGE 2 OF 2
  002
     POWER-OFF.
    Disconnect Communication Power Cable
Connectors 11 and C1.
    Using the lowest ohms range, check
the continuity of the Communications
Power Cable.
    Refer to the Product Support Manual for pin assignments.
  Was the cable continuity correct? (less
  than 2 ohms)
  YN
    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	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	Point	NUMBER	NUMBER
7030	A	1	001
7076	A	1	001
7077	A	1	001
7078	A	1	001

001

2

A B

(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.

+				
CONN D1	Pin	Voltag (dc)	ye F Vol	Range Lts
D1 D1 D1 D1 D1 D1	10 14 5 18	+8.245 +4.6 -4.6 -11.04	to to to	+8.925 +5.5 -5.5 -13.20
D2 D2 D2 D2	10 14 5	+8.245 +4.6 -4.6	to to to	+8.925 +5.5 -5.5
D3 D3	17 14	+8.245 +4.6	to to	+8.925 +5.5
D4	14	+4.6	to	+5.5

Were all the voltage measurements correct? Y N | | 002

В

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

				+
CONN		Voltag	ge Range	
C1	Pin	(dc)	Volts	1
				1
C1	5	+11.04	to +13.20	i.
CI	10	+8.245	to +8.925	Ì
CI	1	+4.6	to +5.5	İ
C1	2	+4.6	to +5.5	İ
C1	13	+4.6	to +5.5	j
CI	14	+4.6	to +5.5	1
C1	15	+4.6	to +5.5	İ
C1	16	+4.6	to +5.5	Ì
C1	12	-4.6	to -5.5	İ.
C1	17	-11.04	to -13.20	Í
				÷.

Were all the voltage measurements correct? Y N

003

Disconnect the Communications Power Cable Connector (11) at the Power Supply.

Using the 20 (dc) voltage range, measure the output voltage at the Power Supply Connector (11).

Refer to the Product Support Manual for Pin assignments.

Were all the voltage measurements correct? Y N

004

POWER-OFF.

Install a new base Power Supply.

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

005

POWER-OFF.

Install a new Communications Power Cable.

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

```
A C FEATURE CARD POWER

1 1

MAP 7062

PAGE 2 OF 2

006

POWER-OFF.

Install a new Diskette Unit

Distribution Board.

GO TO MAP 0010, ENTRY POINT A, to

Verify System Operation.

007
```

Install a new Communications Adapter Card.

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

.

RNA START MAP

MAP 8020

PAGE 1 OF 5

ENTRY POINTS

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

EXIT POINTS				
EXIT TH	ES MAP	ТО	,	
PAGE	STEP	MAP	ENTRY	
NUMBER	NUMBER	NUMBER		
2	009	8022	A	
4	021	8022	A	
4	027	8026	A	
4	029	8060	A	
5	033	8061	A	
4	031	8062	A	

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 or tests are selected by pressing the MOVE key.

The function or test is executed by pressing the ENTER key.

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. +-TEST L or M ERROR CODE CHART-+

ERROR CODE			<i>ا</i>	ACIT	лс
01	1	GO	то	MAP	8021,A
02	1	GO	то	MAP	8022,A
04	1	GO	то	MAP	8025,A
08 or 17		GO	то	MAP	8028,A
19 or 20	I	GO	то	MAP	3026,A

RNA START MAP D MAP 8020-2 A 1 MAP 8020 PAGE 2 OF 5 003 <u>007</u> Was the Error Code 03, 07, 09, 15 or 16? POWER-OFF. ΥN Return the Diskette Drive Cable to the original position on the Diskette Adapter Card. 004 Is this a two Drive station? YN Is the Error Code which was a result of test L or test M in the Error Code Chart? (Start of MAP 8020) 005 YN POWER-OFF. 008 Disconnect the Diskette Drive Cable Was the Error Code 10? B3 at the Diskette Adapter Card and reconnect the Diskette Drive Cable YN in the empty B4 Connector position on the Diskette Adapter Card. 009 Code 14: Check for a the Memory Record Button Press Error correctly seated Diskette and check that the Diskette Load Lever is while turning the Power Switch On. Select the Right Drive. (You are down. Execute test L and test M a few times. If Error Code 14 occurs selecting the B4 Drive Station) more than once, load another Diskette and go to the Diskette Execute test procedure L, if an Error Code is not displayed on the Drive Not Ready MAP. screen then execute test procedure Μ. GO TO MAP 8022, ENTRY POINT A. Was an Error Code displayed on the screen? (Record the Error Code) 010 YN Using the lowest ohm range, measure from Pin A18 (File Control Card Connector) to Pin 6 (Connector B3). 006 POWER-OFF. For a reading of less than 2 ohms. Return the Diskette Drive Cable Do you measure less than 2 ohms? YN to the original position on the Diskette Adapter Card. 011 Install a new Diskette Adapter Install a new Diskette Drive Cable. Card. Verify by running the Drive Set Press the Memory Record Button, Ready test L. 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 Verify by running the Stepper Motor to MAP 8020, Entry A. Phase test M. GO TO MAP 0010, ENTRY POINT A, to If an Error Code occurs, go back to Verify System Operation. MAP 8020, Entry A. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. -3 3 B C D EF MAP 8020-2

MAP 8020-3 Н C E F 2 2 2 RNA START MAP MAP 8020 PAGE 3 OF 5 Ó17 012 POWER-OFF. Install a new Diskette Adapter Card. Record failing drive left or right. the Memory Record Button Press while turning the Power Switch On. Swap Drive Cable Connectors B3 and B4 at the Diskette Adapter. Execute test L and if an Error Code The purpose of swapping Connector B3 and B4 is to determine if the failure is not displayed, then execute test Μ. is on the Diskette Adapter Card or on a drive. Was an Error Code displayed on the screen? Press the Memory Record Button while turning the Power Switch On. YN 013 Select the left drive. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive. 014 Execute test L and if an Error Code is not displayed, then execute test M. POWER-OFF. Install a new File Control Card. If this drive failed, then record that the right drive failed. Press the Memory Record Button, while turning the Power Switch On. Select the right drive. Verify by running the Drive Set load the DISPLAYWRITER SYSTEM Ready test L. DIAGNOSTIS in the left drive. Execute test L and if an Error Code is Verify by running the Stepper Motor Phase test M. not displayed, then then execute test Μ. GO TO MAP 0010, ENTRY POINT A, to If this drive failed, then record that Verify System Operation. the Left Drive failed. 015 Record the Error Code. Follow the instructions in the Error POWER-OFF. Code Chart. 016 Return Connector B3 and B4 to their original positions. Are both Drives failing? YN Is the same Drive failing? ΥN 018 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. 4 4 MAP 8020-3 GH .1

MAP 8020-4 RNA START MAP GΚ J 3 ٦ MAP 8020 4 OF PAGE 5 019 025 Is the Error Code in the Error Code Follow the instructions in the Error Chart? (Start of MAP 8020) Code Chart. YN 026 020 Are both AC Drive Motors turning? Was the Error Code 10? ΥN YN 027 021 You are now directed to go to the No Error Code 14: Check Index Pulses MAP. for а 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 GO TO MAP 8026, ENTRY POINT A. more than once, load another Diskette and go to the Diskette 028 Drive Not Ready MAP. 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. GO TO MAP 8022, ENTRY POINT A. 022 Is the voltage between +4.6 volts to +5.5 volts? Using the lowest ohm range, measure ΥN from Pin A18 (File Control Card Connector) to Pin 6 (Connector B3). Card 029 For a reading of less than 2 ohms. You are now directed to go to the Diskette Unit +5 Vdc Power MAP. Do you measure less than 2 ohms? YN 023 GO TO MAP 8060, ENTRY POINT A. Install a new Diskette Drive Cable. 030 Verify by running the Drive Set Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 5(+) at Connector B3 and Connector B4. Check for a Ready test L. reading of -4.6 volts to -5.5 volts. Verify by running the Stepper Motor Phase test M. Is the voltage between -4.6 volts to -5.5 GO TO MAP 0010, ENTRY POINT A, to volts? Verify System Operation. YN 024 031 Install a new File Control Card. You are now directed to go to the Diskette Unit -5 Vdc Power MAP. Press the Memory Record Button, while turning the Power Switch On. GO TO MAP 8062, ENTRY POINT A. 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.

5

L

```
RNA START MAP
BL
2 4
             MAP 8020
             PAGE 5 OF 5
  032
    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.
  Is the voltage between +22.08 volts to
  +26.4 volts?
  YN
    033
  You are now directed to go to the
Diskette Unit +24 Vdc Power MAP.
    GO TO MAP 8061, ENTRY POINT A.
  034
    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.
    If an Error Code occurs, go back to MAP 8020, Entry A.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
035
  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.
```

READ ID ERROR MAP

MAP 8021

PAGE 1 OF 7

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 POINTS		
EXIT THIS MAP	I TO	
PAGE STEP	MAP	ENTRY
NUMBER NUMBER	NUMBER	POINT
2 004	8020	A
2 003	8028	A
3 016	8060	A
4 023 3 014	8060 8061	Ă
4 025	8061	A
5 037	8061	A
7 049	8061	A

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.

Select test procedure N by pressing the $\ensuremath{\text{MOVE}}$ 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? Y N

```
002
Is the head located at Track 40? (.020
gap, see the Product Support Manual)
Y N
| |
| |
| |
| |
```

2 2 2 A B C ABC READ ID ERROR MAP DEF MAP 8021-2 1 1 1 MAP 8021 7 PAGE 2 OF 007 003 POWER-OFF. You are now directed to go to the Seek Error MAP. Disconnect the AC Cable Connector 8. GO TO MAP 8028, ENTRY POINT A. the AC Capacitor by Discharge 004 taking a meter lead and connecting the clip to the Capacitor Terminal Go to the Product Support Manual and with two wires and the other end of the meter lead to the Capacitor perform the Head Carriage adjustment. Terminal with the single wire. You are now directed to go to the RNA Start MAP. Reinstall the original AC Capacitor. GO TO MAP 8020, ENTRY POINT A. Install a new AC Motor. 005 Reconnect the AC Power Cord to the drive. Is the Drive Pulley turning in а counterclockwise direction? GO TO MAP 0010, ENTRY POINT A, to YN Verify System Operation. 006 008 POWER-OFF. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Disconnect the AC Cable Connector 8. 009 Discharge the AC Capacitor by taking the a meter lead and connecting the clip DISPLAYWRITER SYSTEM load to the Capacitor Terminal with two wires and the other end of the meter lead to the Capacitor Terminal with DIAGNOSTICS in the failing drive. Select test procedure L by pressing the the single wire. MOVE key. Install a new AC Capacitor. Execute test procedure L by pressing the ENTER kev. Reconnect the AC Power Cord to the If an Error Code is not displayed on drive. the screen, then execute test procedure POWER-ON. Μ. Is the Drive Pulley turning in an Error Code displayed on the Was а counterclockwise direction? screen? ΥN Y N 010 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 011 Execute test procedure L by pressing the ENTER key. Does the solenoid pick and drop? N 4 3 DEF G H MAP 8021-2

Н READ ID ERROR MAP κ MAP 8021-3 2 MAP 8021 PAGE 3 OF 7 Ó12 Ó17 For a Diskette 1 Drive connect a meter POWER-OFF. lead between Pins TPC04 and TPHLD for a Diskette 2D Drive between Pins TPA07 Disconnect the Head Load Solenoid and TPA08, located on the File Control Connector from the File Control Card. Card. Using the 2K ohm range, check the Head This should activate the Head Load Load Solenoid resistance. For a Solenoid. Diskette 1 Drive the resistance should be 140 to 400 ohms. For a Diskette 2D Drive the resistance should be 113 to Does the solenoid pick? 248 ohms. YN 013 Is the Solenoid resistance inside these limits? Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) YN on the File Control Card Connector. 018 Check for a reading +22.08 volts to If the solenoid resistance is below the limit, the File Control Card should also be replaced. +26.4 volts. Is the voltage between +22.08 and +26.4 volts? Y N Install a new Head Load Solenoid. 014 Press the Memory Record Button, while turning the Power Switch On. You are now directed to go to the Diskette Unit +24 Vdc Power MAP. Select Test Procedure L by pressing the MOVE key. GO TO MAP 8061, ENTRY POINT A. Execute Test Procedure L by pressing the ENTER key. 015 GO TO MAP 0010, ENTRY POINT A, to Using the 20(dc) Verify System Operation. voltage range, measure from Pin B01(+) to Pin A18(~) at the File Control Card Connector. 019 Check for a reading of +4.6 volts to +5.5 volts. Install a new File Control Card. Is the vo +5.5 volts? Press the Memory Record Button, while turning the Power Switch On. the voltage between +4.6 volts to ΥN Verify by running the Drive Set Ready 016 test L. You are now directed to go to the Verify by running the Stepper Motor Phase test M. Diskette Unit +5 Vdc Power MAP. GO TO MAP 0010, ENTRY POINT A, to Verify GO TO MAP 8060, ENTRY POINT A. System Operation.

```
MAP 8021-4
             READ ID ERROR MAP
                                                 GL
3
                                                 2
             MAP 8021
             PAGE
                     4 OF
                             7
020
                                                   026
  POWER-OFF.
                                                     POWER-OFF.
  Using the lowest ohm range, measure
from Pin B15 (File Control Card
Connector) to Pin 17 (Connector B3/B4).
                                                      Install a new File Control Card.
                                                     Press the Memory Record Button while
  Check for a reading of less than 2
                                                      turning the Power Switch On.
  ohms.
                                                      Select test procedure L by pressing
                                                      the MOVE key.
Do you measure less than 2 ohms?
YN
                                                      Execute test procedure L by pressing
                                                      the ENTER key.
  021
    Install a new Diskette Drive Cable.
                                                   Does the solenoid pick and drop?
                                                    YN
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                     027
                                                        POWER-OFF.
022
  Using the 20(dc) voltage range, measure
                                                        Reinstall the original File Control
  from Pin B01(+) to Pin A18(-) at the
File Control Card Connector. Check for
a reading of +4.6 volts to +5.5 volts.
                                                        Card.
                                                        Install
                                                                   a new Diskette Adapter
                                                        Card.
Is the voltage between +4.6 volts to +5.5
volts?
                                                      GO TO MAP 0010, ENTRY POINT A, to
YN
                                                     Verify System Operation.
                                                   028
  023
                                                   GO TO MAP 0010, ENTRY POINT A, to
  You are now directed to go to the
  Diskette Unit +5 Vdc Power MAP.
                                                   Verify System Operation.
                                                 029
  GO TO MAP 8060, ENTRY POINT A.
                                                   POWER-OFF.
024
 Using the 200(dc) voltage range,
measure from Pin B03(+) to Pin A18(-)
on the File Control Card Connector.
                                                   Perform the Solenoid and Bail service
                                                   adjustment as described in the Product
                                                   Support Manual.
  Check for a reading +22.08 volts to
                                                   Press the Memory Record Button,
                                                                                         while
                                                   turning the Power Switch On.
  +26.4 volts.
Is the voltage between +22.08 and +26.4
                                                            the
                                                                    DISPLAYWRITER
                                                                                        SYSTEM
                                                   Load
volts?
                                                   DIAGNOSTICS.
YN
                                                   Select test procedure M by pressing the
  025
                                                   MOVE key.
                                                             test procedure M by pressing
  You are now directed to go to the
                                                   Execute
  Diskette Unit +24 Vdc Power MAP.
                                                   the ENTER key.
                                                 Was test procedure M completed without a
  GO TO MAP 8061, ENTRY POINT A.
                                                 failure?
                                                 YN
                                                   030
                                                   Is the failing Drive a type 1 Drive?
                                                   YN
                                                 765
MNP
                                                                                  MAP 8021-4
```

MAP 8021-5 Ρ READ ID ERROR MAP 4 MAP 8021 PAGE 5 OF 7 (Step 034 continued) 031 Was test procedure M completed without a Remove the Diskette. failure? YN Select test procedure N by pressing the 035 MOVE kev. Execute test procedure N by pressing the ENTER key. POWER-OFF. Install a new Diskette Adapter Card. Check the Head Carriage for .020 gap, see the Product Support Manual. Press the Memory Record Button, while turning the Power Switch On. Is the adjustment correct? DISPLAYWRITER SYSTEM YN the Load DIAGNOSTICS. 032 Select test procedure M by pressing the MOVE key. Go to the Product Support Manual and make the correct adjustments. GO TO MAP 0010, ENTRY POINT Execute test procedure M by pressing Α. to the ENTER key. Verify System Operation. test procedure M completed without 033 Was a failure? POWER-OFF. Ν 036 Install a new Head Carriage Assembly. 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. DISPLAYWRITER SYSTEM Load the DIAGNOSTICS. Is the voltage between +22.08 and Select test procedure M by pressing the +26.4 volts? MOVE key. YN Execute test procedure M by pressing 037 the ENTER key. You are now directed to go to the Was test procedure M completed without a Diskette Unit +24 Vdc Power MAP. failure? YN GO TO MAP 8061, ENTRY POINT A. 034 038 POWER-OFF. Install a new File Control Card. POWER-OFF. Install a new Head Load Solenoid. Press the Memory Record Button, while turning the Power Switch On. Press the Memory Record Button, while turning the Power Switch On. DISPLAYWRITER SYSTEM Load the DIAGNOSTICS. Select Test Procedure L by pressing the MOVE key. Select test procedure M by pressing the MOVE key. Procedure L by Execute Test pressing the ENTER key. Execute test procedure M by pressing the ENTER key. GO TO MAP 0010, ENTRY POINT A, to (Step 034 continues) Verify System Operation.

66

R S

MAP 8021-5
```
READ ID ERROR MAP
                                                                            MAP 8021-6
NQRS
4 5 5 5
            MAP 8021
            PAGE 6 OF
                           7
                                              (Step 045 continued)
      039
                                              Was test procedure M completed without a
      GO TO MAP 0010, ENTRY POINT A, to
                                              failure?
      Verify System Operation.
                                              YN
    040
                                                046
    GO TO MAP 0010, ENTRY POINT A, to
                                                  POWER-OFF.
    Verify System Operation.
                                                  Install a new File Control Card.
  041
                                                  Press the Memory Record Button, while
  GO TO MAP 0010, ENTRY POINT A, to
                                                  turning the Power Switch On.
  Verify System Operation.
                                                  load
                                                         the
                                                                 DISPLAYWRITER
                                                                                   SYSTEM
042
                                                  DIAGNOSTICS.
  Check the Pressure Pad on the Head Load
                                                  Select test procedure M by pressing
                                                  the MOVE key.
  Arm for wear.
Is the Pressure Pad worn?
                                                  Execute test procedure M by pressing
YN
                                                  the ENTER key.
  043
                                                     test procedure M completed without
                                                Was
                                                a failure?
    Remove the Diskette.
                                                  N
    Select test procedure N by pressing
                                                  047
    the MOVE key.
                                                    POWER-OFF.
    Execute test procedure N by pressing
    the ENTER kev.
                                                    Install a new Diskette Adapter
                                                    Card.
    Check the Head Carriage for .020 gap,
    see the Product Support Manual.
                                                    Press the Memory Record Button,
                                                    while turning the Power Switch On.
 Is the adjustment correct?
  YN
                                                           the
                                                                  DISPLAYWRITER
                                                                                   SYSTEM
                                                    Load
                                                    DIAGNOSTICS.
    044
                                                    Select test procedure M by pressing
                                                    the MOVE key.
      Go to the Product Support Manual
      and make the correct adjustments.
                                                               test
                                                    Execute
                                                                     procedure
                                                                                   M
                                                                                       by
                                                    pressing the ENTER key.
  045
    POWER-OFF.
                                                              procedure M completed
                                                  Was test
                                                  without a failure?
    Install a new Head Carriage Assembly.
                                                  ΥN
    Press the Memory Record Button, while
                                                    048
    turning the Power Switch On.
                                                      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.
                  DISPLAYWRITER
           the
                                    SYSTEM
    Load
    DIAGNOSTICS.
    Select test procedure M by pressing the MOVE key.
                                                    Is the voltage between +22.08 and
                                                    +26.4 volts?
    Execute test procedure M by pressing
    the ENTER key.
                                                    YN
  (Step 045 continues)
                                                7777
                                              UVWXY
Т
                                                                            MAP 8021-6
```

Μ MAP 8021-7 T U V W X Y READ ID ERROR MAP 666666 4 MAP 8021 PAGE 7 OF 7 **049** 055 GO TO MAP 0010, ENTRY POINT A, to Verify You are now directed to go to the Diskette Unit +24 Vdc Power System Operation. MAP. GO TO MAP 8061, ENTRY POINT A. **050** POWER-OFF. a new Head Load Install Solenoid. POWER-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 A, to Verify System Operation. 051 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 052 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 053 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. **054**

Go to the Product Support Manual for the correct Pressure Pad replacement procedure.

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

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

EXIT PO	INTS		
EXIT TH	IS MAP	1 то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	016	8026	A

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.

Are the adjustments correct? Y N

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.

003

32 AB

Go to the Product Support Manual and perform the Solenoid and Bail ajustment.

Verify by running the Drive Set Ready test L.

Verify by executing the Diskette MDI.

Was test procedure L and the Diskette MDI completed without a failure? Y N В DRIVE NOT READY C D MAP 8022-2 1 MAP 8022 PAGE 2 OF 3 009 004 Check the Drive Belt. Diskette Guide Install a new Assembly. Is the Belt in good condition? Press the Memory Record Button while YN turning the Power Switch On. 005 Verify by running the Drive Set Ready Install a new Drive Belt. test 1. GO TO MAP 0010, ENTRY POINT A, to Press the Memory Record Button while turning the Power Switch On. Verify System Operation. Verify by running the Drive Set Ready 010 test L. Is the AC Motor Drive Pulley Set Screw GO TO MAP 0010, ENTRY POINT A, to tight? Verify System Operation. ΥN 006 011 Remove the Diskette from the drive if Check the AC Drive Motor Shaft for one is present. damage. Disengage Collet Spindle, by Check to ensure the Set Screw is over the the flat surface on the Motor Shaft when tightening the Set Screw. turning the Diskette Handle to the Unload position. By hand turn the Drive Hub Assembly and GO TO MAP 0010, ENTRY POINT A, to check for binds. Verify System Operation. 012 Is the Hub free of binds and noise? YN Install a new AC Drive Motor. 007 Press the Memory Record Button while turning the Power Switch On. Install a new Drive Assembly. Verify by running the Drive Set Ready Press the Memory Record Button while test L. turning the Power Switch On. Was test procedure L completed without a Verify by running the Drive Set Ready failure? test L. YN Verify by running the Stepper Motor 013 Phase test M. POWER-OFF. GO TO MAP 0010, ENTRY POINT A, to Install the original AC Drive Motor. Verify System Operation. Using the lowest ohm range, measure 008 from Pin B07 (File Control Card Connector) to Pin 4 (Connector Engage the Collet Spindle, by turning B3/B4). For a reading of less than 2 the Diskette Handle to the Load position. ohms. Do you measure less than 2 ohms? By hand turn the Drive Hub assembly and check for binds. YN Is the Collet Spindle free of binds? YN ĒFĞ C D MAP 8022-2

A E F G 1 2 2 2 DRIVE NOT READY MAP 8022 PAGE 3 OF 3 014 Install a new Diskette Drive Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 015 POWER-OFF. Install a new File Control Card. Press the Memory Record Button while turning the Power Switch On. Button Verify by running the Drive Set Ready test L. Was test procedure L completed without a failure? YN 016 You are now directed to go to the No Index Pulses MAP. GO TO MAP 8026, ENTRY POINT A. 017 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 018 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. **019**

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

.

MAP 8025

PAGE 1 OF 1

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

File Control Card Connector	Connector B3/B4
PIN	PIN
A01 803	5
B06 B14	3
B09 B17	9 21
i	

Do all the wires measure less than 2 ohms? Y N

002

Install a new Diskette Drive Cable.

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

003 Install a new File Control Card. POWER-ON. DISPLAYWRITER Load the SYSTEM DIAGNOSTICS. Execute the Diskette MDI Procedure. Was the Diskette MDI test procedure completed without a failure? Was YN 004 POWER-OFF. Reinstall the original File Control Card. Install a new Diskette Adapter Card. POWER-ON. the DISPLAYWRITER SYSTEM Load DIAGNOSTICS. Execute the Diskette MDI Procedure. Was the Diskette MDI test procedure completed without a failure? YN 005 normal escalation Follow your procedure. 006 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 007

A

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

NO INDEX PULSES MAP

MAP 8026

PAGE 1 OF 11

ENTRY POINTS

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

001

```
(ENTRY POINT A)
```

This MAP isolates Missing Index Pulse problems.

POWER-ON.

EXIT PO	INTS		
EXIT TH	IS MAP	То	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	
3	014	8022	A
3	024	8060	A
3	022	8062	A

4	⊦ ⊦			СН	ART	#1			+++
	Co	nnec Pins	tor		V	olt	(ac) age	Range	
	6 2	to to	53		104	to to	127 127	volts volts	

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

```
Is the AC Drive Motor turning in the
failing drive?
Y N
```

002

Y, N

3 2 2 2 A B C D

I

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?
```

```
003
Do you have a large Display?
Y N
```

```
NO INDEX PULSES MAP
                                               B
                                                                             MAP 8026-2
C D
1 1
                                               1
            MAP 8026
            PAGE 2 OF 11
  004
                                               010
    Disconnect the Diskette AC Cable from
                                                POWER-OFF.
    the Electronic unit.
                                                 Leave the Motor Power Cable Connector
    Using the 200(ac) voltage
                                                 disconnected.
                                     range,
   measure from Pin 2 to Pin 3 at the AC
    out connector on panel 2. (see chart
                                                 Remove the Drive Belt.
    #1)
                                                 Let the Motor cool for five minutes.
  Is the voltage correct?
  YN
                                                 Reinstall
                                                             the
                                                                    Motor
                                                                            Power
                                                                                     Cable
                                                 Connector.
    005
                                                 POWER-ON.
      POWER-OFF.
                                               Is the AC Drive Motor turning in the
      Install a new base Power Supply.
                                               failing drive?
                                               YN
    GO TO MAP 0010, ENTRY POINT A, to
    Verify System Operation.
                                                 011
  006
                                                   Give the AC Drive Motor Pulley a few
                                                   quick turns with the Power ON.
    POWER-OFF.
                                                 Does the AC Drive Motor turn now?
                            Diskette
                                         AC
    Install
                                                 YN
               а
                    new
    Distribution Cable.
                                                   012
  GO TO MAP 0010, ENTRY POINT A, to
                                                     POWER-OFF.
 Verify System Operation.
                                                     Install a new AC Drive Motor.
007
  Disconnect the Media Module AC Cable.
                                                     Press the Memory Record Button,
                                                     while turning the Power Switch On.
 Using the 200(ac) voltage range,
measure from Pin 2 to Pin 3 at the AC
                                                     Verify by running the Drive Set
 Output Connector on the Large Display
Module. (see chart #1)
                                                     Ready test L.
                                                   GO TO MAP 0010, ENTRY POINT A, to
                                                   Verify System Operation.
Is the voltage correct?
YN
                                                 013
  008
                                                   POWER-OFF.
    POWER-OFF.
                                                   Disconnect the Media Module AC Cable.
    Install
              а
                    new
                            Diskette
                                         AC
   Distribution 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
  GO TO MAP 0010, ENTRY POINT A, to
 Verify System Operation.
009
                                                   the single wire.
 POWER-OFF.
                                                   Install a
                                                                        AC
                                                                              Drive Motor
                                                                  new
                                                   Capacitor.
  Install a new Display AC Input Cable.
                                                   Press the Memory Record Button, while
GO TO MAP 0010, ENTRY POINT A, to Verify
                                                   turning the Power Switch On.
System Operation.
                                                   Verify by running the Drive Set Ready
                                                   test L.
                                                 (Step 013 continues)
```

```
MAP 8026-2
```

3 E

```
MAP 8026-3
                                                F
             NO INDEX PULSES MAP
ΑE
1 2
             MAP 8026
             PAGE
                    3 OF 11
    (Step 013 continued)
GO TO MAP 0010, ENTRY POINT A, to
                                                021
    Verify System Operation.
                                                  Using the 20(dc) voltage range, measure
                                                  from Pin A18(-) to Pin A01(+) at the
  014
                                                  File Control Card Connector. Check for
                                                  a reading of -4.6 volts to -5.5 volts.
  You are now directed to go to the
  Diskette Drive Not Ready MAP.
                                                Is the voltage between -4.6 volts to -5.5
                                                volts?
                                                YN
  GO TO MAP 8022, ENTRY POINT A.
015
                                                  022
                                                  You are now directed to go to the Diskette Unit -5 Vdc Power MAP.
Is the Drive Belt on both pulleys?
YN
  016
                                                  GO TO MAP 8062, ENTRY POINT A.
    POWER-OFF.
                                                023
    Check the condition of the Belt and
                                                  Using the 20(dc) voltage range, measure from Pin B01(+) to Pin A18(-) at the File Control Card Connector. Check for
    install a new Belt if it is damaged.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                  a reading of +4.6 volts to +5.5 volts.
017
                                                Is the voltage between +4.6 volts to +5.5
                                                volts?
Is the Diskette turning?
                                                YN
YN
                                                  024
  018
                                                  You are now directed to go to the Diskette Unit +5 Vdc Power MAP.
    Check if the Diskette Handle is
    completely in the load position.
                                                  GO TO MAP 8060, ENTRY POINT A.
  Is the Diskette Handle completely in
  the Load position?
                                                025
  YN
                                                Is the failing Drive a Diskette 2D Drive?
    019
                                                YN
      Push the Diskette
                             Handle
                                       down
      completely and check for binds.
                                                  026
    GO TO MAP 0010, ENTRY POINT A, to
                                                    LED Service Check.
    Verify System Operation.
                                                    This measurement is checking the LED
                                                    Diode, to determine if the Diode is shorted or open.
  020
    Go to the Product Support Manual and
                                                    POWER-OFF.
    install a new Guide Assembly.
  GO TO MAP 0010, ENTRY POINT A, to
                                                    Set the CE meter on the 200K ohm
  Verify System Operation.
                                                    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.
                                                    Reverse the leads on the Connector
                                                  (Step 026 continues)
                                                6
```

G

NO INDEX PULSES MAP ΗJ MAP 8026-4 MAP 8026 PAGE 4 OF 11 (Step 026 continued) 031 Pins and observe the CE meter Using the 20(dc) voltage range, measure from Pin TPF01(-) to Pin TPA01(+) on the File Control Card. Check for a reading of +4.6 volts to Only one of the measurements should have generated a reading between 100K and 200K ohms. Did you observe only one reading between +5.5 volts. 100K and 200K ohms? Is the voltage between +4.6 volts to +5.5 volts? YN 027 YN Install a new LED Assembly. 032 Press the Memory Record Button, while POWER-OFF. turning the Power Switch On. Install a new File Control Card. Verify by running the Drive Set Ready GO TO MAP 0010, ENTRY POINT A, test L. to Verify System Operation. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 033 028 POWER-OFF. Reconnect the LED Cable Connector to Install a new PTX Assembly. the File Control Card. GO TO MAP 0010, ENTRY POINT A, to POWER-ON. Verify System Operation. Using the 2(dc) voltage range, measure 034 from Pin TPLED(+) to Pin TPF01(-) on the File Control Card. Observe the meter and insert a Diskette 1 Diskette. Is the voltage reading between 1.0 and 4.5 volts? Repeat this a few times. YN The reading should be less than +.5 029 volts if the Diskette is loaded. POWER-OFF. Is the voltage reading lower than .5 volts? Install a new File Control Card. YN Verify by running the Drive Set Ready 035 test L. POWER-OFF. GO TO MAP 0010, ENTRY POINT A, to Install a new PTX Assembly. Verify System Operation. 030 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Remove the Diskette. Using the 20(dc) voltage range, measure from Pin TPF01(-) to Pin TPC02(+) on the File Control Card. The voltage reading should be larger than 2.5 volts. Is the voltage reading 2.5 volts or larger? YN ĸ MAP 8026-4 ΗJ

NO INDEX PULSES MAP LM MAP 8026-5 κ 4 MAP 8026 PAGE 5 OF 11 036 039 PTX Service Check. POWER-OFF. POWER-OFF. Remove the jumper. Disconnect the AC Drive Motor Power Reinstall the AC Drive Motor Power Cable. Cable. Disconnect the PTX Cable Connector at Install a new File Control Card. the File Control Card. POWER-ON. POWER-ON. Verify by running the Drive Set Ready Using the 20(dc) voltage range, measure from Pin TPE03(+) to Pin TPF01(-) on the File Control Card. test L. Verify by running the Stepper Motor Phase test M. Is the voltage reading less than 1.0 volts? If Error Code 02 occurs, install a YN new PTX Assembly. 037 Verify by running the Drive Set Ready test L. POWER-OFF. GO TO MAP 0010, ENTRY POINT A, to Install a new File Control Card. Verify System Operation. POWER-ON. 040 Verify by running the Drive Set Ready POWER-OFF. test L. Using the lowest ohm range, measure from Pin B04 (File Control Card Connector) to Pin 1 (Connector B3/B4). Verify by running the Stepper Motor Phase test M. Check for a reading of less than 2 GO TO MAP 0010, ENTRY POINT A, to ohms. Verify System Operation. Do you measure less than 2 ohms? 038 YN Leave the PTX Cable and the Motor Power 041 Cable disconnected. Install a new Diskette Drive Cable. Leave the meter leads on TPE03(+) and TPF01(-). Press the Memory Record Button, while turning the Power Switch On. Install one end of a jumper to Pin 3 of the PTXCP socket on the File Control Verify by running the Drive Set Ready Card. test L. Observe the CE meter while touching the other end of the jumper to Pin 1 of the PTXCP socket on the File Control Card Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, to several times. Verify System Operation. NOTE: A wrong measurement can occur the first time the test Pin is touched. Is the voltage reading 2.5 volts or larger? YN

```
NO INDEX PULSES MAP
                                                                             MAP 8026-6
GN
3 5
            MAP 8026
            PAGE
                   6 OF 11
                                              (Step 046 continued)
 042
                                              Did you observe only one reading between 100K and 200K ohms?
    Install a new Diskette Adapter Card.
                                              YN
   Press the Memory Record Button, while
    turning the Power Switch On.
                                                047
    Execute test procedure L.
                                                  Install a new LED Assembly.
 Is an Error Code displayed on the
                                                  Press the Memory Record Button, while
 screen?
                                                  turning the Power Switch On.
  YN
                                                  Verify by running the Drive Set Ready
   043
                                                  test L.
   GO TO MAP 0010, ENTRY POINT A, to
                                                GO TO MAP 0010, ENTRY POINT A, to
   Verify System Operation.
                                                Verify System Operation.
 044
                                              048
   POWER-OFF.
                                                Reconnect the LED Cable Connector to
                                                the File Control Card.
   Install a new LED Assembly.
                                                POWER-ON.
   Press the Memory Record Button while
                                                Using the 2(dc) voltage range, measure from Pin TPA07(-) to Pin TPLD1(+) on
    turning the Power Switch On.
                                                the File Control Card.
    Verify by running the Drive Set Ready
    test L.
                                              Is the voltage reading between 1.0 and
 GO TO MAP 0010, ENTRY POINT A, to
                                              4.5 volts?
                                              YN
 Verify System Operation.
045
                                                049
Is the failing Diskette a 2D Diskette?
                                                  POWER-OFF.
YN
                                                  Install a new File Control Card.
 046
                                                  Press the Memory Record Button, while
    LED Service Check.
                                                  turning the Power Switch On.
    This measurement is checking the LED
                                                  Verify by running the Drive Set Ready
    Diode, to determine if the Diode is shorted or open.
                                                  test L.
                                                GO TO MAP 0010, ENTRY POINT A, to
    POWER-OFF.
                                                Verify System Operation.
                                              050
    Set the CE meter on the 200K ohm
    range.
                                                Remove the Diskette.
   Remove the LED Cable Connector from the File Control Card.
                                                Using the 20(dc) voltage range, measure
                                                from Pin TPA07(-) to Pin TPB07(+) on
   Place a lead on each of the LED Connector Sockets, LEDCP 5 and 6.
                                                the File Control Card.
                                                The voltage reading should be larger
    Observe the CE meter.
                                                than 2.5 volts.
                                              Is the voltage reading 2.5 volts or
    Reverse the leads on the Connector
    Sockets and observe the CE meter .
                                              larger?
                                              ΥN
    Only one of the measurements should
   have generated a reading between 100K
    and 200K ohms.
  (Step 046 continues)
8
                                              7
```

QR

S MAP 8026-7 NO INDEX PULSES MAP QR 6 6 MAP 8026 PAGE 7 OF 11 **051** 056 PTX Service Check. Using the 20(dc) voltage range. measure from Pin TPA07(-) to Pin TPA09(+) on the File Control Card. POWER-OFF. Check for a reading of +4.6 volts to Disconnect the AC Drive Motor Power +5.5 volts. Cable. Is the voltage between +4.6 volts to Disconnect the PTX Cable Connector at +5.5 volts? the File Control Card. YN POWER-ON. 052 Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPE01(+) on POWER-OFF. the File Control Card. Install a new File Control Card. TO MAP 0010, ENTRY POINT A, to Is the voltage reading less than 1.0 GO Verify System Operation. volts? YN 053 057 POWER-OFF. POWER-OFF. Install a new PTX Assembly. Install a new File Control Card. GO TO MAP 0010, ENTRY POINT A, to POWER-ON. Verify System Operation. Verify by running the Drive Set Ready 054 test L. Observe the meter and insert a Diskette Verify by running the Stepper Motor 1 Diskette. Phase test M. Repeat this a few times. GO TO MAP 0010, ENTRY POINT A, to The reading should be less than +.5 volts if the Diskette is loaded. Verify System Operation. 058 Is the voltage reading lower than .5 Leave the PTX Cable and the Motor Power volts? Cable disconnected. YN Leave the meter leads on TPA07(-) and 055 TPE01(+). POWER-OFF. Install one end of a jumper to Pin 3 of the PTXCP socket on the File Control Install a new PTX Assembly. Card. GO TO MAP 0010, ENTRY POINT A, to Observe the CE meter while touching the Verify System Operation. other end of the jumper to Pin 1 of the PTXCP socket on the File Control Card several times. NOTE: A wrong measurement can occur the first time the test Pin is touched. Is the voltage reading 2.5 volts or larger? ΥN 8 8 MAP 8026-7

Т U

S

T U NO INDEX PULSES MAP	P V MAP 8026-8
MAP 8026	
PAGE 8 OF 11	
	062
POWER-OFF.	Install a new Diskette Adapter Card.
Remove the jumper.	Press the Memory Record Button, while
Reinstall the AC Drive Motor Power	turning the Power Switch On.
Cable.	Execute test procedure L.
Install a new File Control Card. POWER-ON.	Is an Error Code displayed on the screen? Y N
Verify by running the Drive Set Ready	063
Verify by running the Stepper Motor	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
The first of the second s	064
new PTX Assembly.	POWER-OFF.
Verify by running the Drive Set Ready	Install a new LED Assembly.
GO TO MAP 0010, ENTRY POINT A, to	Press the Memory Record Button while turning the Power Switch On.
060	Verify by running the Drive Set Ready test L.
POWER-OFF.	GO TO MAP 0010, ENTRY POINT A, to
Using the lowest ohm range, measure	
Connector) to Pin 1 (Connector B3/B4). Check for a reading of less than 2 ohms.	LED Service Check.
Do you measure less than 2 ohms? Y N	This measurement is checking the LED Diode, to determine if the Diode is shorted or open.
061	POWER-OFF.
Install a new Diskette Drive Cable.	Set the CE meter on the 200K ohm range.
Press the Memory Record Button, while turning the Power Switch On.	Remove the LED Cable Connector from the File Control Card.
Verify by running the Drive Set Ready test L.	Place a lead on each of the LED Connector Sockets, LEDCP 1 and 3.
Verify by running the Stepper Motor	Observe the CE meter.
GO TO MAP 0010, ENTRY POINT A, to	Reverse the leads on the Connector Pins and observe the CE meter .
vertig system operation.	Only one of the measurements should have generated a reading between 100K and 200K ohms.
	Did you observe only one reading between 100K and 200K ohms? Y N
V	9 9 W X MAP 8026-8

ΥZ MAP 8026-9 NO INDEX PULSES MAP WΧ 88 MAP 8026 9 OF 11 PAGE 070 066 POWER-OFF. Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPA09(+) on the File Control Card. Install a new LED Assembly. Check for a reading of +4.6 volts to Press the Memory Record Button, while +5.5 volts. turning the Power Switch On. Is the voltage between +4.6 volts to Verify by running the Drive Set Ready +5.5 volts? YN test L. GO TO MAP 0010, ENTRY POINT A, to 071 Verify System Operation. POWER-OFF. 067 Install a new File Control Card. Reconnect the LED Cable Connector to GO TO MAP 0010, ENTRY POINT A, to the File Control Card. Verify System Operation. POWER-ON. 072 Using the 2(dc) voltage range, measure from Pin TPA07(-) to Pin TPLD2(+) on POWER-OFF. the File Control Card. Install a new PTX Assembly. Is the voltage reading between 1.0 and GO TO MAP 0010, ENTRY POINT A, 4.5 volts? Y N to Verify System Operation. 068 073 POWER-OFF. Observe the meter and insert a Diskette 2D Diskette. Install a new File Control Card. Repeat this a few times. Press the Memory Record Button, while The reading should be less than +.5 volts if the Diskette is loaded. turning the Power Switch On. Verify by running the Drive Set Ready test L. Is the voltage reading lower than .5 volts? GO TO MAP 0010, ENTRY POINT A, to ΥN Verify System Operation. 074 069 POWER-OFF. Remove the Diskette. Install a new PTX Assembly. Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPA10(+) on GO TO MAP 0010, ENTRY POINT A, to the File Control Card. Verify System Operation. The voltage reading should be larger than 2.5 volts. Is the voltage reading 2.5 volts or larger? ΥN 1 0 A MAP 8026-9

A

ΥZ

MAP 8026-10 NO INDEX PULSES MAP A A A B C A 9 MAP 8026 PAGE 10 OF 11 078 075 PTX Service Check. POWER-OFF. POWER-OFF. Remove the jumper. Disconnect the AC Drive Motor Power Reinstall the AC Drive Motor Power Cable. Cable. Disconnect the PTX Cable Connector at Install a new File Control Card. the File Control Card. Press the Memory Record Button, while turning the Power Switch On. POWER-ON. Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPE01(+) on Verify by running the Drive Set Ready test L. the File Control Card. Verify by running the Stepper Motor Phase test M. the voltage reading less than 1.0 Is volts? If Error Code 02 occurs, install a YN new PTX Assembly. 076 Verify by running the Drive Set Ready POWER-OFF. test L. Install a new File Control Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Press the Memory Record Button, while turning the Power Switch On. 079 Verify by running the Drive Set Ready POWER-OFF. test L. Using the lowest ohm range, measure from Pin B04 (File Control Card Connector) to Pin 1 (Connector B3/B4). Verify by running the Stepper Motor Phase test M. Check for a reading of less than 2 GO TO MAP 0010, ENTRY POINT Verify System Operation. ohms. A, to Do you measure less than 2 ohms? 077 Y N Leave the PIX Cable and the Motor Power 080 Cable disconnected. Install a new Diskette Drive Cable. Leave the meter leads on TPA07(-) and Verify by running the Drive Set Ready TPE01(+). test L. Install one end of a jumper to Pin 4 of Verify by running the Stepper Motor the PIXCP socket on the File Control Phase test M. Card. GO TO MAP 0010, ENTRY POINT A, to Observe the CE meter while touching the Verify System Operation. 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? YN 1 1 A В С D MAP 8026-10

```
A
D
              NO INDEX PULSES MAP
1
0
              MAP 8026
              PAGE 11 OF 11
1
081
  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?
YN
  082
  GO TO MAP 0010, ENTRY POINT A, to
Verify System Operation.
<u>083</u>
  POWER-OFF.
  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.

SEEK ERROR MAP

MAP 8028

PAGE 1 OF 6

ENTRY POINTS

FROM	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	I TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY
5 6 2	029 045 007	8020 8021 8060	A A A
2	009	8061	A

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.

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? Y N

002 Are the four Stepping Motor mounting screws tight? Y N

SEEK ERROR MAP MAP 8028-2 B C D 1 1 MAP 8028 PAGE 2 OF 6 003 008 measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts. Tighten the mounting screws. Using the 200(dc) voltage The position of the Stepping Motor may affect Head Alignment. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS. Is the voltage between +22.08 and +26.4 volts? Execute the 6360 Head Alignment Compatibility Check, by selecting the YN Diskette Utility function. 009 You are now directed to go to the Follow the instructions on the screen. Diskette Unit +24 Vdc Power MAP. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. GO TO MAP 8061, ENTRY POINT A. 004 010 Check that the Stepping Motor Tape is parallel to the pulley. POWER-OFF. Remove the Diskette. Is the tape parallel to the pulley? Ϋ́Ν By hand, move the Head Carriage to Track 00. (toward the rear of the 005 drive) Go to the Product Support Manual for Press the Memory Record Button while turning the Power Switch On. Pulley and Tape adjustments. Verify by running the Stepper Motor Phase test M. Select functions by pressing the MOVE kev. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Select the failing drive. 006 Using the 20(dc) voltage range, measure from Pin B01(+) to Pin A18(-) at the File Control Card Connector. Check for Select test procedure T by pressing the MOVE key. a reading of +4.6 volts to +5.5 volts. Execute test procedure T by pressing Is the voltage between +4.6 volts to +5.5 the ENTER key. volts? YN Using the 200(dc) voltage range, measure the (dc) voltage between each File Control Card test point in the 007 You are now directed to go to the Diskette Unit +5 Vdc Power MAP. 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 GO TO MAP 8060, ENTRY POINT A. the File Control Card. The Head may or may not move during this test and audible trackstep sounds may or may not be heard. (Step 010 continues)

D

PAGE 3 OF 6

(Step 010 continued)

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.

+				+
DISK	ETTE 1	DRIVE	CHAR	r #1
STI	EPPING	MOTOR	TEST	PINS
	TPH01	TPH02	TPH03	TPH04
Trk 0	UP	UP	UP	DOWN
Trk 1	UP	UP	DOWN	UP
Trk 2	UP	DOWN	 UP	 UP
 Trk 3	DOWN	 UP	 UP	 UP
 Down lev is 0 to 2.0dc volts				
llp lev is 21 6 to 26 6dc volts				
				+

DISKE	ITE 2	2D DRI	VE CH	ART #4
STI	EPPING	MOTOR	TEST	PINS
	TPA01	TPA02	TPA03	TPA04
Trk 0	UP	UP	UP	DOMN
Trk 1	UP	DOWN	UP	UP
Trk 2	UP	UP	DOWN	UP
Trk 3	DOWN	UP	UP	UP
Down lev is 0 to 2.0dc volts				
Up lev	/ is 21	L.6 to	26.4d	volts

EF

Are the results the same as in the chart? Y N Ò11

F

POWER-OFF.

Remove Stepping Motor Cable from the Diskette File Control Card.

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.

013

44

GH

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 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 TPE01 to TPF01 for a Diskette 1 Drive or from Pin TPC01 to TPA07 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

SEEK ERROR MAP G MAP 8028-4 Η 3 3 MAP 8028 PAGE 4 OF 6 014 019 Using the 20(dc) voltage range, measure from Pin TPC01 to TPF01 for a Diskette 1 Drive or from Pin TPD01 to TPA07 for POWER-OFF. lowest ohm range, measure Bl0 (File Control Card Using the a Diskette 2D Drive. These points are from Pin Connector) to Pin 13 (Connector B3/B4). on the File Control Card. For a reading of less than 2 ohms. Slowly press the Space Bar four times while observing the CE Meter. Did the wire (Access 0) have continuity? N Was one or more results less than 0.4 015 volts and one or more results larger than 2.5 volts? ΫN Install a new Diskette Drive Cable. Verify by running the Drive Set Ready 020 test L. POWER-OFF. Verify by running the Stepper Motor Phase test M. Using the lowest ohm range, measure from Pin B13 (File Control Connector) to Pin 10 (Connector B3/B4). Check GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. for a reading of less than 2 ohms. 016 Did the wire have continuity? YN Install a new File Control Card. 021 Verify by running the Drive Set Ready Install a new Diskette Drive Cable. test L. Verify by r Phase test M. running the Stepper Motor Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Was test procedures L and M completed Phase test M. without a failure? YN GO TO MAP 0010, ENTRY POINT A, to 017 Verify System Operation. 022 POWER-OFF. Install a new File Control Card. Install the original File Control Card. Verify by running the Drive Set Ready Install a new Diskette Adapter Card. test L. Verify by running the Drive Set Ready Verify by running the Stepper Motor Phase test M. test L. Was test procedures L and M completed Verify by running the Stepper Motor Phase test M. without a failure? Ν GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 018 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

```
JKL
444
            SEEK ERROR MAP
                                            EMNP
                                                                         MAP 8028-5
            MAP 8028
            PAGE
                   5 OF
                          6
    023
                                                  029
      POWER-OFF.
                                                  You are now directed to go to the
                                                  RNA Start MAP.
      Install the original File Control
      Card.
                                                  GO TO MAP 8020, ENTRY POINT A.
      Install a new Diskette
                                  Adapter
                                                030
      Card.
      Verify by running the Drive Set
Ready test L.
                                                  Install
                                                            the
                                                                 original
                                                                             Diskette
                                                  Adapter Card.
      Verify by running the Stepper Motor
                                                  Install
                                                                      24 Volt
                                                                                   DC
                                                           a
                                                                new
                                                  Synchronous Stepper Motor.
      Phase test M.
    GO TO MAP 0010, ENTRY POINT A,
                                                  Verify by running the Stepper Motor
                                      to
    Verify System Operation.
                                                  Phase test M.
                                                GO TO MAP 0010, ENTRY POINT A, to
  024
                                                Verify System Operation.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                              031
                                              GO TO MAP 0010, ENTRY POINT A,
025
                                                                                   to
                                              Verify System Operation.
  POWER-OFF.
                                            032
  Install a new File Control Card.
                                              POWER-OFF.
  Select test procedure M by pressing the
                                              Remove the Diskette.
  MOVE key.
  Execute Test Procedure M by pressing
                                              Remove the Upper Guide Rod screws and
  the ENTER key.
                                              slide the rod from left to right a few
                                              times.
Was test procedure M completed without a
failure?
Y N
                                            Is there free movement?
                                            YN
  026
                                              033
    POWER-OFF.
                                                Clean the Guide Rods.
    Install a new Diskette Adapter Card.
                                                Check the Guide
                                                                    Rods
                                                                           for
                                                                                  free
                                                movement.
    Verify by running the Stepper Motor
   Phase test M.
                                              Is there free movement?
                                              YN
          Error Code displayed on the
  Was an
                                                034
  screen?
  YN
                                                      both
                                                             Guide
                                                                     Rods
                                                                            in
                                                Are
                                                                                  good
                                                condition?
Y N
    027
    GO TO MAP 0010, ENTRY POINT A,
                                       to
   Verify System Operation.
                                                  035
  028
                                                    Install a new Guide Rod(s).
  Is the Error Code 08 or 17?
                                                    Verify by running the Stepper
                                                    Motor Phase test M.
  YN
                                                  GO TO MAP 0010, ENTRY POINT A, to
                                                  Verify System Operation.
                                              6
                                                6
                                              RS
                                                                         MAP 8028-5
MNP
                                            0
```

SEEK ERROR MAP A T MAP 8028-6 QRS 5 5 5 1 MAP 8028 PAGE 6 OF 6 036 040 GO TO MAP 0010, ENTRY POINT A, to Install Carriage а new Head Verify System Operation. Assembly. Verify by running the Drive Set Ready test L. 041 Is the head located at Track 40? (.020 gap, see the Product Support Manual) Verify by running the Stepper Motor Phase test M. N GO TO MAP 0010, ENTRY POINT A, 042 to Verify System Operation. Go to the Product Support Manual and 037 perform the Head Carriage Adjustment. Reinstall the Guide Rod. Verify by running the Stepper Motor Phase Test M. Verify by running the Stepper Motor Phase test M. Was test procedure M completed without a failure? Y N GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 043 038 Go to the Product Support Manual Reinstall the Guide Rod. and perform the Stepper Drive Band adjustment. Go to the Product Support Manual and perform the Head Carriage Adjustment. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Press the Memory Record Button while turning the Power Switch On. 044 GO TO MAP 0010, ENTRY POINT A, to the DISPLAYWRITER SYSTEM Load Verify System Operation. DIAGNOSTICS. Select Test Procedure M by pressing the 045 MOVE key. At this point it has been determined Execute Test Procedure M by pressing that there is a read failure . the ENTER key. You are now directed to go to the Read ID Was test procedure M completed without a Error MAP. failure? YN GO TO MAP 8021, ENTRY POINT A. 039 POWER-OFF. Install a new Diskette Adapter Card. 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.

NOT WRITING/WRITE ERRORS MAP A B MAP 8030-1 MAP 8030 PAGE 1 OF 1 ENTRY POINTS 004 FROM Install a new Diskette Adapter Card. ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER POWER-ON. Execute the Diskette MDI. _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 8071 A 1 001 Was the Diskette MDI test procedure completed without a failure? 001 YN (ENTRY POINT A) 005 This MAP will isolate Write problems in the Diskette Unit. POWER-OFF. Install the Adapter Card. POWER-OFF. original Diskette Install a new File Control Card. Install a new Head Carriage POWER-ON. Assembly. Execute the Diskette MDI. Return to this MAP and continue with this step. Press the Memory Record Button, while turning the Power Switch On. Was the Diskette MDI test procedure completed without a failure? Verify by running the Drive Set Ready test L. YN Verify by running the Stepper Motor 002 Phase test M. POWER-OFF. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Install the original File Control 006 Card. GO TO MAP 0010, ENTRY POINT A, Using the lowest ohm range, and using to the information in chart #13 or chart Verify System Operation. #14, Check for a reading of less than 2 ohms. 007 _____ GO TO MAP 0010, ENTRY POINT A, to Verify File Control Card Connector System Operation. Connector B3/B4 _ _ _ _ _ _ _ _ _ _ _ _ _ ______ PIN 18 PIN BO8 PIN B09 PIN B14 PIN 9 PIN 11 PIN B17 21 PIN ON TYPE 2D DRIVES ALSO CHECK THE FOLLOWING PIN. PIN B16 PIN 8 Is there continuity in the wire? YN 003 Install a new Diskette Drive Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

CARD AND CABLE WRAP ERRORS

MAP 8032

PAGE 1 OF 5

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 POIN	TS		
EXIT THIS	MAP	ТО	
PAGE S	T EP	MAP	ENTRY
NUMBER N	UMBER	NUMBER	
3 5	019 034	8060 8060	A
2	018	8061	A
3	014	8061	A
3	017	8061	A
2	006	8062	A
3	012	8062	A
3	021	8062	A

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 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 the MAP should be followed to a repair statement before obtaining any parts from the Distribution Center.

POWER-OFF.

(Step 001 continues)

```
H/S WRAP ERRORS
                                                   BCD
                                                                                     MAP 8032-2
             MAP 8032
             PAGE 2 OF
                              5
(Step 001 continued)
  Remove the Communications Adapter Card
from the Media Module, if one is
                                                        006
                                                        You are now directed to go to the Diskette Unit -5 Vdc Power MAP.
  present.
  POWER-ON.
Is the Error Code 04 or 05?
                                                        GO TO MAP 8062, ENTRY POINT A.
YN
                                                      007
  002
                                                        Using the 200(dc) voltage range,
measure from Pin A18(-) to Pin B03(+)
of the File Control Card Connector.
    Install a new Communications Adapter
    Card.
                                                        Check for a reading of 22.08 volts to
                                                        26.4 volts.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                        Make this measurement on the Left
003
                                                        Drive.
  POWER-OFF.
                                                      Is the voltage between +22.08 volts to
                                                      +26.4 volts?
  Reinstall the Communications Adapter
                                                      YN
  Card.
                                                        008
  POWER-ON.
                                                        You are now directed to go to the
                                                        Diskette Unit +24 Vdc Power MAP.
Is the Error Code 04?
Y N
  004
                                                        GO TO MAP 8061, ENTRY POINT A.
    POWER-OFF.
                                                      009
    Disconnect Cable B3 at the Diskette
                                                        POWER-OFF.
    Adapter Card.
                                                        Install a new File Control Card.
    POWER-ON.
                                                      GO TO MAP 0010, ENTRY POINT A,
                                                                                                to
                                                      Verify System Operation.
  Is the Error Code 05?
  YN
                                                   010
    005
                                                      POWER-OFF.
      POWER-OFF.
                                                      Reconnect Cable B3 and disconnect Cable
      Reconnect Cable B3 at the Diskette
                                                      B4 at the Diskette Adapter Card.
      Adapter Card.
                                                      If Cable B4 is not present (on a single
                                                      drive station), then answer the next
      POWER-ON.
                                                      question yes.
      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.
                                                      POWER-ON.
                                                   Is the Error Code 05?
                                                   YN
      Make this measurement on the Left
      Drive.
    Is the voltage between -4.6 volts to
    -5.5 volts?
    YN
ĀBCD
                                                    ĒĒ
                                                                                     MAP 8032-2
```

H/S WRAP ERRORS Ε MAP 8032-3 2 2 MAP 8032 PAGE 3 OF 5 011 016 POWER-OFF. POWER-OFF. Reconnect Cable B4 at the Diskette Leave Cable B4 disconnected at the Diskette Adapter Card. Adapter Card. POWER-ON. Disconnect Cable B3 at the Diskette Adapter Card. 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. POWER-ON. Is the Error Code 05? N Make this measurement on the Right Drive. 017 Is the voltage between -4.6 volts to -5.5 You are now directed to go to the volts? Diskette Unit +24 Vdc Power MAP. YN 012 GO TO MAP 8061, ENTRY POINT A. You are now directed to go Diskette Unit -5 Vdc Power MAP. go to the 018 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 GO TO MAP 8062, ENTRY POINT A. +4.6 volts to +5.5 volts. 013 Using the 200(dc) the voltage between +4.6 volts to 5.5 voltage Is range, measure from Pin A18(-) to Pin B03(+) of the File Control Card Connector. Check for a reading of 22.08 volts to volts on each Connector Pin indicated? ΥN 26.4 volts. 019 You are now directed to go to Diskette Unit +5 Vdc Power MAP. Make this measurement on the Right the Drive. Is the voltage between +22.08 volts to +26.4 volts? GO TO MAP 8060, ENTRY POINT A. Y N 020 014 Using the 20(dc) voltage range, measure from Pin 15(-) to Pin 5(+) of Connector You are now directed to go to the Diskette Unit +24 Vdc Power MAP. B2 at the Diskette Adapter Card. Check for a reading of -4.6 volts to -5.5 volts. GO TO MAP 8061, ENTRY POINT A. Is the voltage between -4.6 volts to -5.5 015 volts? YN POWER-OFF. 021 Install a new File Control Card. You are now directed to go to the Diskette Unit -5 Vdc Power MAP. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. GO TO MAP 8062, ENTRY POINT A.

```
G
3
            H/S WRAP ERRORS
                                                                              MAP 8032-4
            MAP 8032
                    4 OF
                           5
            PAGE
                                               (Step 026 continued)
022
                                                File Control Card
                                                                     Connector
  POWER-OFF.
                                                    Connector
                                                                       B3/B4
  Reconnect Cable B3 and B4 at
                                                      PIN
                                                                       PIN
                                        the
  Diskette Adapter Card.
                                                      B06
                                                                         3
  If you have installed a new Diskette
Adapter Card at the start of this MAP,
                                                      B14
                                                                        11
                                                      B09
                                                                         9
  do not install another Diskette Adapter
                                                                        21
                                                      B17
  Card. Reinstall the original Diskette
Adapter Card. Continue with the next
  step.
                                               Do all the wires measure less than 2
                                               ohms?
  Install a new Diskette Adapter Card.
                                               ΥN
 POWER-ON.
                                                 027
Is an Error Code displayed on the screen?
                                                   Install a new Diskette Drive Cable.
 Ν
                                                 GO TO MAP 0010, ENTRY POINT A, to
  023
                                                 Verify System Operation.
  GO TO MAP 0010, ENTRY POINT A, to
                                               028
  Verify System Operation.
                                                 Install a new System Card.
024
                                                 POWER-ON.
 POWER-OFF.
                                               Is an Error Code displayed on the screen?
  Reinstall the original Diskette Adapter
                                               YN
  Card.
                                                 029
  Install a new External Diskette Signal
                                                 GO TO MAP 0010, ENTRY POINT A, to
  Cable.
                                                 Verify System Operation.
 POWER-ON.
                                               030
Is an Error Code displayed on the screen?
YN
                                                 POWER-OFF.
  025
                                                 Reinstall the original System Card.
  GO TO MAP 0010, ENTRY POINT A, to
                                                 Install a new Internal Diskette Signal
                                                 Cable in the Electronic Module.
  Verify System Operation.
026
                                                 POWER-ON.
                                               Is an Error Code displayed on the screen?
 POWER-OFF.
                                               YN
                                                 031
 Install the original External Diskette Signal Cable.
                                                 GO TO MAP 0010, ENTRY POINT A, to
                                                 Verify System Operation.
                                               032
  Using the lowest ohm range, measure
                                                 Follow
                                                            your
                                                                     normal
                                                                                escalation
  from the File Control Card Connector to
                                                procedure.
  Connector B3/B4, using the information
```

(Step 026 continues)

in the chart.

```
H/S WRAP ERRORS
                                                   Н
                                                                                     MAP 8032-5
A
2
              MAP 8032
              PAGE
                      5 OF
                              5
033
                                                   039
  Using the 20(dc) voltage range, measure
                                                     POWER-OFF.
  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.
                                                     Install the original Diskette Adapter
                                                     Card.
                                                     Install a new External Diskette Signal
Is the voltage between +4.6 volts to 5.5
                                                     Cable.
volts on each Connector Pin indicated?
                                                     POWER-ON.
YN
  034
                                                   Is an Error Code displayed on the screen?
                                                     N
  You are now directed to go to the Diskette Unit +5 Vdc Power MAP.
                                                     040
                                                     GO TO MAP 0010, ENTRY POINT A, to
  GO TO MAP 8060, ENTRY POINT A.
                                                     Verify System Operation.
                                                   041
035
  If you have installed a new System Card
                                                     POWER-OFF.
  at the start of this MAP, do not
install another System Card. Reinstall
the original System Card. Continue
                                                     Install the original External Diskette
                                                     Signal Cable.
  with the next step.
                                                     Install a new Internal Diskette Signal
                                                     Cable in the Electronic Module.
  POWER-OFF.
                                                     POWER-ON.
  Install a new System Card.
  POWER-ON.
                                                   Is an Error Code displayed on the screen?
                                                     Ν
Is an Error Code displayed on the screen?
                                                     042
YN
                                                     GO TO MAP 0010, ENTRY POINT
  036
                                                                                            Α,
                                                                                                to
                                                     Verify System Operation.
  GO TO MAP 0010, ENTRY POINT
                                         A, to
                                                   043
  Verify System Operation.
037
                                                     Follow
                                                                your
                                                                          normal
                                                                                       escalation
                                                     procedure.
  POWER-OFF.
  Reinstall the original System Card.
  Install a new Diskette Adapter Card.
  POWER-ON.
Is an Error Code displayed on the screen?
YN
  038
  GO TO MAP 0010, ENTRY POINT A,
                                             to
  Verify System Operation.
```

MAP 8060 2 PAGE 1 OF ENTRY POINTS 003 ______ | ENTER THIS MAP FROM _ _ _ _ _ MAP ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 8020 001 1 Α 8021 A 1 001 8026 Α 1 001 8028 001 Δ. 1 8032 001 A 1 001 (ENTRY POINT A) This MAP will isolate +5 (dc) voltage problems in the Diskette Unit and external DC Power Cable. YN the Diskette(s) if one is Remove present. POWER-OFF. Disconnect the Diskette DC Power Cable from Connector 10, Panel 2. POWER-ON. 005 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). the voltage between +4.6 volts to 5.5 Ts volts on each Connector Pin indicated? YN YN 002 POWER-OFF. Install a new base Power Supply. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

DISKETTE UNIT +5 VDC POWER MAP

A

POWER-OFF.

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

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?

004

POWER-OFF.

Install a new Diskette Unit DC Power Cable.

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

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?

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.

2 B DISKETTE UNIT +5 VDC MAP 8060 PAGE 2 OF 2

007

В

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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. Is the voltage between +4.6 volts to +5.5 volts? YN 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. **009** POWER-OFF. Install a new File Control Card. 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.

MAP 8060-2

DISKETTE UNIT +24 VDC POWER MAP A MAP 8061 PAGE 1 OF 2 ENTRY POINTS 003 FROM ENTER THIS MAP ENTRY PAGE STEP POINT NUMBER NUMBER MAP NUMBER _ _ _ _ _ _ 8020 A 1 001 001 8021 Α 1 8026 001 A 1 8028 Δ 1 0.01 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. YN 004 Remove the Diskette if one is present. POWER-OFF. Disconnect the Diskette Unit DC Power Cable from Connector 10, Panel 2. POWER-ON. 005 Using the 200(dc) voltage range, measure from Pin 7(-) to Pin 13(+) at Using Connector 10 at Panel 2. (Measure at the Panel) Check for a reading of +22.08 volts to +26.4 volts. volts. Is the voltage between +22.08 volts to +26.4 volts? YN YN 002 006 POWER-OFF. Install a new base Power Supply. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

POWER-OFF.

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

POWER-ON.

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?

POWER-OFF.

Install a new Diskette Unit DC Power Cable.

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

200(dc) the 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

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

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.

A

```
В
                DISKETTE UNIT +24 VDC
1
                MAP 8061
                PAGE
                         2 OF
                                   2
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
+26.4 volts.
Is the voltage between +22.08 and +26.4
volts?
YN
  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.
009
  POWER-OFF.
  Install a new File Control Card.
  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.
```

DISKETTE UNIT -5 VDC POWER MAP Α MAP 8062 PAGE 1 OF 2 ENTRY POINTS 003 FROM ENTER THIS MAP POWER-OFF. PAGE STEP MAP ENTRY NUMBER POINT NUMBER NUMBER ----8020 1 001 POWER-ON. Α 001 8026 Α 1 Α 1 001 8032 001 (ENTRY POINT A) This MAP will isolate -5 (dc) voltage problems in the Diskette Unit and external DC Power Cable. volts? YN Remove the Diskette if one is present. 004 POWER-OFF. POWER-OFF. Disconnect the Diskette Unit DC Power Cable from Connector 10, at Panel 2. Cable. POWER-ON. Verify System Operation. Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 12(+) on Connector 10 at Panel 2. (Measure at the Panel) 005 Check for a reading of -4.6 volts to -5.5 volts. Is the voltage between -4.6 volts to -5.5 volts? YN volts? 002 YN POWER-OFF. 006 Install a new base Power Supply. POWER-OFF. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. test L. Phase test M.

> 2 В

MAP 8062-1 Reinstall the Diskette Unit DC Power Cable to Connector 10, at Panel 2. 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 Install a new Diskette Unit DC Power GO TO MAP 0010, ENTRY POINT A, to 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 to -5.5 Install a new Diskette Adapter Card. Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready

Verify by running the Stepper Motor

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

```
DISKETTE UNIT -5 VDC
B
1
               MAP 8062
               PAGE 2 OF
                                 2
007
  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.
Is the voltage between -4.6 volts 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.
009
  POWER-OFF.
  Install a new File Control Card.
  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.
```

MAP 8062-2

DISKETTE UNIT A/C POWER MAP MAP 8064-1 A B MAP 8064 PAGE 1 OF 2 ENTRY POINTS 004 POWER-OFF. FROM ENTER THIS MAP ENTRY PAGE POINT NUMBI MAP STEP Disconnect the Media Module AC Cable. NUMBER | NUMBER NUMBER 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 001 0010 A 1 1 001 9165 Δ lead to the Capacitor Terminal with the single wire. 001 (ENTRY POINT A) Using the lowest ohm range, place a meter lead on each of the black AC wires on the AC Motor Connector. This MAP isolates AC short problems in the Diskette Unit. Record the reading. The Media Module may get its AC Power from the Electronic Module, or from the Leave the meter leads connected. large Display Module. Disconnect the blue wire (single POWER-OFF. wire) from the AC Capacitor. Reconnect the Media Module AC Cable. Did the meter reading increase? ΥN 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 AC Fan Connector in the Diskette Unit. 005 Install a new AC Drive Motor. Reconnect the Media Module AC POWER-ON. Cable. GO TO MAP 0010, ENTRY POINT A, to Is the Fan in the Electronic Module Verify System Operation. running? YN 006 002 Install a new AC Drive Motor POWER-OFF. Capacitor. Install a new Diskette Unit AC Cable. Reconnect the Media Module AC Cable. Install a new Fuse. GO TO MAP 0010, ENTRY POINT A, to Reconnect the AC Power Cable. Verify System Operation. GO TO MAP 0010, ENTRY POINT A, to 007 Verify System Operation. POWER-OFF. 003 Reconnect the Fan in the Diskette Unit. Is this a two Drive station? Y N POWER-ON. Is the Fan in the Diskette Unit running? ΥN 2 2 С D A B MAP 8064-1
```
DISKETTE UNIT A/C
                                                  EF
                                                                                   MAP 8064-2
CD
1
 1
             MAP 8064
             PAGE
                     2 OF
                             2
  008
                                                    012
                                                       Install a new AC Drive Motor.
    POWER-OFF.
    Install a new Fan in the Diskette
Module. Install a new Fuse.
                                                       Reconnect the Media Module AC Cable.
                                                    GO TO MAP 0010, ENTRY POINT A, to
    Reconnect the AC Motor Connector on
                                                    Verify System Operation.
    both drives.
                                                  013
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                    The Left Drive is the failing Drive.
009
                                                    POWER-OFF.
  POWER-OFF.
                                                    Disconnect the AC Cable Connector 8.
  Connect the Right Drive AC Cable.
                                                    Discharge the AC Capacitor by taking a
                                                    meter lead and connecting the clip to
  POWER-ON.
                                                    the Capacitor Terminal with two wires
                                                    and the other end of the meter lead to
                                                    the Capacitor Terminal with the single
Is the AC Motor turning on the Right
Drive?
                                                    wire.
YN
                                                    Using the lowest ohm range, place a meter lead on each of the black AC wires on the AC Motor Connector.
  010
    The Right Drive is the failing Drive.
                                                    Record the reading.
    POWER-OFF.
                                                    Leave the meter leads connected.
    Disconnect the Media Module AC Cable.
                                                    Disconnect the blue wire (single wire)
                                                    from the AC Capacitor.
    Discharge the AC Capacitor by taking
    a meter lead and connecting the clip
to the Capacitor Terminal with two
                                                  Did the meter reading increase?
    wires and the other end of the meter
lead to the Capacitor Terminal with
                                                  ΥN
    the single wire.
                                                    014
    Using the lowest ohm range, place a meter lead on each of the black AC wires on the AC Motor Connector.
                                                      Install a new AC Drive Motor.
                                                      Reconnect the Media Module AC Cable.
    Record the reading.
                                                    GO TO MAP 0010, ENTRY POINT A, to
                                                    Verify System Operation.
    Leave the meter leads connected.
                                                  015
    Disconnect the blue wire (single wire) from the AC Capacitor.
                                                    Install a new AC Drive Motor Capacitor.
  Did the meter reading increase?
                                                    Reconnect the Media Module AC Cable.
  YN
                                                  GO TO MAP 0010, ENTRY POINT A, to Verify
    011
                                                  System Operation.
      Install
                     new AC Drive Motor
                а
      Capacitor.
      Reconnect
                    the
                           Media Module AC
      Cable.
    GO TO MAP 0010, ENTRY POINT A.
                                           to
    Verify System Operation.
```

EF

MAP 8065-1 DC SHORT FAILURE MAP D MAP 8065 PAGE 1 OF 5 ENTRY POINTS 004 POWER-OFF (Wait 8 seconds). FROM ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER Reinstall the original Diskette Adapter Card. ____ _ _ _ _ . 001 POWER-ON. 6010 A 1 Are the "A" and/or "B" LED indicators ON? 001 YN (ENTRY POINT A) 005 This MAP isolates DC short problems in If the Communications feature is not present in the Media Module, then answer NO to this question. the Diskette Unit. POWER-OFF (Wait 8 seconds). remaining original Disconnect the Communications DC Reinstall the cards one at a time. Voltage Cable Connector 11 (if present) from Panel 2. Power-On after installing each card. Disconnect all cables from the Connector Strip or from the Diskette Record the part number or card type Unit Distribution Board. of the failing card. Did the A and/or B LED Indicators Remove the Diskette Adapter Card. remain on after installing each card? YN Remove if present remaining cards from the Diskette Unit Distribution Board. 006 POWER-ON. Is this a two Drive station? Are the "A" and/or "B" LED indicators ON? YN N 007 002 POWER-OFF. the Communications DC Reconnect Reconnect the Drive Cable. Voltage Cable Connector 11 to Panel 2 Disconnect the Head Load Solenoid Connector from the File Control If this cable is not present, then answer NO to this question. Card. Disconnect the Stepping Motor Connector from the File Control Are the "A" and/or "B" LED indicators Motor ON? YŇ Card. POWER-ON. 003 POWER-OFF. ** A ** and/or "B" LED the Are indicators ON? Reconnect Cable B2. YN Reconnect if present Cable C1 to the Diskette Unit Distribution Board. POWER-ON. Are the "A" and/or "B" LED indicators ON? YN 4 4 2 2 2 E F G H J -5 MAP 8065-1 ABCD

```
J
          DC SHORT FAILURE MAP
                                               GΗ
                                                                             MAP 8065-2
1
                                               1 1
            MAP 8065
            PAGE
                           5
                    2 OF
                                                 015
008
  POWER-OFF.
                                                   POWER-DFF (Wait 8 seconds).
                                                   Install a new File Control Card in
  Reconnect the Head Load Solenoid in the
  failing Drive.
                                                   the failing Drive.
                                                   POWER-ON.
  POWER-ON.
                                                 Are the "A" and/or "B" LED indicators
Are the "A" and/or "B" LED indicators ON?
                                                 ON?
ΥN
                                                 YN
  009
                                                   016
    POWER-OFF.
                                                   GO TO MAP 0010, ENTRY POINT A,
                                                                                       to
    Reconnect
                  the
                         Stepping
                                      Motor
                                                   Verify System Operation.
    Connector in the failing Drive.
                                                 017
    POWER-ON.
                                                   POWER-OFF (Wait 8 seconds).
      the "A" and/or "B" LED indicators
  Arp
  ON?
                                                   Install a new base Power Supply.
  YN
                                                 GO TO MAP 0010, ENTRY POINT A, to
                                                 Verify System Operation.
   010
    GO TO MAP 0010, ENTRY POINT A,
                                         to
                                               018
   Verify System Operation.
                                                 POWER-OFF.
  011
                                                 Reconnect the Left Drive Cable to
Connector B3 on the Diskette Adapter
    POWER-OFF (Wait 8 seconds).
                                                 Card.
    Install a new Stepping Motor.
                                               Are the "A" and/or "B" LED indicators ON?
  GO TO MAP 0010, ENTRY POINT A, to
                                               YN
  Verify System Operation.
                                                 019
012
                                                   This isolates to a failing Right
  POWER-OFF (Wait 8 seconds).
                                                   Drive.
  Install a new Head Load Solenoid in the
                                                   POWER-OFF.
  failing Drive.
                                                   Reconnect the Right Drive Cable to
                                                   Connector B4 on the Diskette Adapter
  POWER-ON.
                                                   Card.
Are the "A" and/or "B" LED indicators ON?
                                                   Disconnect the Head Load Solenoid
Connector from the File Control Card
 Ν
Υ
  013
                                                   on the failing drive.
                                                   Disconnect the Stepping Motor
Connector from the File Control Card
  GO TO MAP 0010, ENTRY POINT A,
                                         to
  Verify System Operation.
                                                   on the failing drive.
014
                                                   POWER-ON.
  POWER-OFF (Wait 8 seconds).
                                                 Are the "A" and/or "B" LED indicators
  Install a new base Power Supply.
                                                 ON?
                                                 ΥN
GO TO MAP 0010, ENTRY POINT A, to Verify
System Operation.
                                               333
KLM
```

MAP 8065-2

```
DC SHORT FAILURE MAP
                                             KLN
                                                                           MAP 8065-3
Μ
2
                                             2 2
            MAP 8065
            PAGE
                   3 OF
                          5
020
                                                 026
                                                   POWER-OFF (Wait 8 seconds).
  POWER-OFF.
  Reconnect the Head Load Solenoid in the
                                                   Install a new base Power Supply.
  failing Drive.
                                                 GO TO MAP 0010, ENTRY POINT A, to
  POWER-ON.
                                                 Verify System Operation.
Are the "A" and/or "B" LED indicators ON?
                                               027
YN
                                                 POWER-OFF (Wait 8 seconds).
  021
                                                 Install a new File Control Card in
                                                 the failing Drive.
    POWER-OFF.
                                                 POWER-ON.
    Reconnect
                the
                        Stepping
                                    Motor
    Connector in the failing Drive.
                                               Are the "A" and/or "B" LED indicators
    POWER-ON.
                                               ON?
                                               YN
  Are the "A" and/or "B" LED indicators
  ON?
                                                 028
  YN
                                                 GO TO MAP 0010, ENTRY POINT A, to
    022
                                                 Verify System Operation.
      POWER-OFF.
                                               029
    GO TO MAP 0010, ENTRY POINT A, to
                                                 POWER-OFF (Wait 8 seconds).
    Verify System Operation.
                                                 Install a new base Power Supply.
  023
                                               GO TO MAP 0010, ENTRY POINT A, to
    POWER-OFF (Wait 8 seconds).
                                               Verify System Operation.
                                             030
    Install a new Stepping Motor.
  GO TO MAP 0010, ENTRY POINT A, to
                                               This isolates to a failing Left Drive.
  Verify System Operation.
                                               POWER-OFF (Wait 8 seconds).
024
                                               Disconnect the Head Load Solenoid
Connector from the File Control Card on
  POWER-OFF (Wait 8 seconds).
                                               the failing drive.
  Install a new Head Load Solenoid in the
                                               Disconnect the Stepping Motor Connector
  failing Drive.
                                               from the File Control Card on the
  POWER-ON.
                                               failing drive.
Are the "A" and/or "B" LED indicators ON?
                                               POWER-ON.
 N
                                             Are the "A" and/or "B" LED indicators ON?
  025
                                             Y
                                               N
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                                           MAP 8065-3
Ν
                                             P
                                               0
```

```
DC SHORT FAILURE MAP
                                                                        MAP 8065-4
Q
                                            CEFP
3
           MAP 8065
           PAGE
                  4 OF
                          5
                                                 038
031
 POWER-OFF.
                                                    POWER-OFF (Wait 8 seconds).
 Reconnect the Head Load Solenoid in the
                                                    Install a new File Control Card
 failing Drive.
                                                    in the failing Drive.
                                                    POWER-ON.
 POWER-ON.
                                                           "A"
Are the "A" and/or "B" LED indicators ON?
                                                                   and/or
                                                                            ** B **
                                                                                  LED
                                                  Are the
                                                  indicators ON?
 N
                                                  YN
 032
                                                   039
   POWER-OFF.
                                                    GO TO MAP 0010, ENTRY POINT A, to
    Reconnect
               the
                        Stepping
                                   Motor
                                                   Verify System Operation.
   Connector in the failing Drive.
                                                  040
   POWER-ON.
                                                   POWER-OFF (Wait 8 seconds).
  Are the "A" and/or "B" LED indicators
                                                    Install a new base Power Supply.
 UN?
 YN
                                                  GO TO MAP 0010, ENTRY POINT A, to
                                                  Verify System Operation.
   033
   GO TO MAP 0010, ENTRY POINT A,
                                                041
                                      to
   Verify System Operation.
                                                 POWER-OFF (Wait 8 seconds).
 034
                                                 Install a new Card.
   POWER-OFF (Wait 8 seconds).
                                                GO TO MAP 0010, ENTRY POINT A, to
   Install a new Stepping Motor.
                                                Verify System Operation.
 GO TO MAP 0010, ENTRY POINT A, to
                                              042
 Verify System Operation.
                                               POWER-OFF (Wait 8 seconds).
035
                                               Install a new Diskette Adapter Card.
 POWER-OFF (Wait 8 seconds).
                                              GO TO MAP 0010, ENTRY POINT A, to
  Install a new Head Load Solenoid in the
                                              Verify System Operation.
 failing Drive.
                                            043
 POWER-ON .
                                            Is a Diskette Unit Distribution Board
Are the "A" and/or "B" LED indicators ON?
                                            present?
YN
                                            YN
                                              044
 036
                                               POWER-OFF (Wait 8 seconds).
 GO TO MAP 0010, ENTRY POINT A,
                                      to
 Verify System Operation.
                                                Install a new Connector Strip.
037
                                              GO TO MAP 0010, ENTRY POINT A, to
 POWER-OFF (Wait 8 seconds).
                                              Verify System Operation.
 Install a new base Power Supply.
GO TO MAP 0010, ENTRY POINT A, to Verify
System Operation.
```

```
A B R
1 1 4
             DC SHORT FAILURE MAP
             MAP 8065
             PAGE 5 OF 5
    045
      POWER-OFF (Wait 8 seconds).
      Install a new Diskette Unit
Distribution Board.
    GO TO MAP 0010, ENTRY POINT A, to
    Verify System Operation.
  046
    POWER-OFF (Wait 8 seconds).
    Install a new Communications DC
Voltage Cable.
  GO TO MAP 0010, ENTRY POINT A, to
Verify System Operation.
047
  POWER-OFF (Wait 8 seconds).
  Install a new Diskette Adapter DC Power
  Cable.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
```

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	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 Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display 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?
Y N
```

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? Y N 003 POWER-OFF. Install a new base Power Supply. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

```
004
POWER-OFF.
```

Repair or install a new Internal Distribution Cable.

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

005

A B

POWER-OFF.

Remove the Electronics Module top cover.

Reconnect the Display Module Connector (2).

 $\ensuremath{\text{POWER-ON}}$ with the Memory Record Button pressed.

Using the 20(dc) voltage range, measure from frame ground to Pin 13 of the Internal Distribution Cable Connector (2) (wiring side).

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

006

POWER-OFF.

Install a new Display Module.

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

007

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

POWER-OFF.

Repair or install a new Internal Distribution Cable.

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

BLANK DISPLAY MAP Map 9010

PAGE 2 OF 2

009

C 1

POWER-OFF.

Install a new Display Adapter Card.

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

PAGE 1 OF 1

ENTRY POINTS

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

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 resistor provided). Use CAUTION when handling the Display Module. The Display Screen is glass and will implode if cracked or broken.

DISPLAYWRITER Load the SYSTEM DIAGNOSTICS.

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.)

Was there a Service Request Number 190001 and/or did the Display MDI test fail? (Test failure is indicated by a Display message and/or LED indicators "F" and "H" on.)

YN 002 Has а new Display Module been installed? Y N

```
003
  POWER-OFF.
  Install a new Display Module.
```

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

004

ABC

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.

Install a new Display Adapter Card.

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

NO VIDEO DATA MAP

MAP 9030

PAGE 1 OF 2

ENTRY POINTS

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

00	1
----	---

(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 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) Y N

002 Turn the Contrast and Brightness Control Knobs fully clockwise. Turn the Brightness Control Knob slowly counterclockwise until the Display raster is not visible. there an Image on the Display Is Screen? ΥN 003 Using the 2(dc) voltage range, measure from frame ground to Pin 10 of the Internal Distribution Cable Connector (2) (wiring side). Do NOT disconnect Display Module Connector (2). Is the voltage between +1.2 volts and +1.8 volts? YN

EXIT POINTS EXIT THIS MAP | TO PAGE STEP | MAP ENTRY NUMBER NUMBER | NUMBER POINT 2 010 | 9020 A

2 2 2 2 A B C D

ì

```
CD
            NO VIDEO DATA MAP
                                               ABEF
                                                                              MAP 9030-2
1 1
                                                 1
            MAP 9030
            PAGE 2 OF
                           2
  004
                                                     008
    POWER-OFF.
                                                       POWER-OFF.
                                                       Repair or install a new Internal
    Disconnect Internal
                              Distribution
    Cable Connector (D1).
                                                       Distribution Cable.
                                                     GO TO MAP 0010, ENTRY POINT A, to
    POWER-ON with the
                           Memory
                                     Record
                                                     Verify System Operation.
    Button pressed.
    Using the 2(dc) voltage
                                                   009
                                     range,
    measure from frame ground to Pin 10
of the Internal Distribution Cable
                                                     POWER-OFF.
    Connector (2) (wiring side).
                                                     Install a new Display Adapter Card.
    Do NOT disconnect Display
                                     Module
    Connector (2).
                                                   GO TO MAP 0010, ENTRY POINT A, to
                                                   Verify System Operation.
  Is
     the voltage between +1.2 volts and
  +1.8 volts?
                                                 010
  YN
                                                 You are now directed to go to the
                                                 Display Display Adapter MAP.
    005
      POWER-OFF.
                                                 GO TO MAP 9020, ENTRY POINT A.
      Reconnect Internal
                              Distribution
      Cable Connector (D1).
                                               011
      Install a new Display Module.
                                                 POWER-OFF.
    GO TO MAP 0010, ENTRY POINT A, to
                                                 Install a new Display Module.
    Verify System Operation.
                                               GO TO MAP 0010, ENTRY POINT A, to Verify
  006
                                               System Operation.
    POWER-OFF.
    Install a new Display Adapter Card.
    Reconnect Internal Distribution Cable
    Connector (D1).
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
007
 Using the 2(dc) voltage range, measure
from frame ground to Pin 1 of the
Internal Distribution Cable Connector
  (D1).
Is the voltage between +1.2 volts and
+1.8 volts?
Y N
                                                                              MAP 9030-2
EF
```

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY Point	PAGE NUMBER	STEP NUMBER
0009 0010	AA	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 Display (Note: no bleeder resistor provided). Use CAUTION when handling the 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? Y N

002 Is the Display Image rolling? (Refer to Figure 4, Appendix A.) Y N 003

You are now directed to go to the Display Display Adapter MAP.

GO TO MAP 9020, ENTRY POINT A.

2 2

A B

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

DISTORTED DISP IMAGE ACDE MAP 9040-2 B 1 MAP 9040 PAGE 2 OF 2 008 004 Using the 20(dc) voltage range, measure POWER-OFF. from frame ground to Pin 12 of the Internal Distribution Cable Connector Install new Internal a (2) (wiring side). Distribution Cable. Reconnect the System Power Cable Do NOT disconnect Display Module Connector (2). Connector (P1). GO TO MAP 0010, ENTRY POINT A, to Record the voltage. Verify System Operation. Is the voltage between +4.0 volts and +5.5 volts? Y N 009 POWER-OFF. 005 Install a new Display Adapter Card. POWER-OFF. Reconnect the System Power Cable Install a new Display Module. Connector (P1). GO TO MAP 0010, ENTRY POINT A, to GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Verify System Operation. 010 006 POWER-OFF. POWER-OFF. Install a new Display Module. Disconnect the System Power Cable Connector (P1). Reconnect the System Power Cable Connector (P1). POWER-ON. GO TO MAP 0010, ENTRY POINT A, Using the 20(dc) voltage range, measure to from frame ground to Pin 12 of the Internal Distribution Cable Connector Verify System Operation. (2) (wiring side). 011 Do NOT disconnect Connector (2). POWER-OFF. Display Module Install a new Display Module. Did the voltage measurement increase +0.3 volts to +0.7 volts above the recorded GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. voltage? YN 007 Using the 20(dc) voltage range, measure from frame ground to Pin 3 of the Internal Distribution Cable Cable Connector (D1) (wiring side). the voltage between +4.5 volts and Is +5.5 volts? YN

MAP 9040-2

CDE

PAGE 1 OF 1

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
9070	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 Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display Screen is glass and will implode if cracked or broken.

POWER-OFF.

Disconnect the Display Module Connector (2) from Panel 1.

Using the 20(0hm) Resistance range, measure the resistance between Pin 11 and Pin 15 of Panel 1 Connector (2).

```
Is the resistance less than 2 Ohms?

Y N

002

Using the 20(Ohm) Resistance range,

measure the resistance between Panel

1 Connector (2) Pin 11 and Internal

Distribution Cable Connector (D1) Pin

2.

Is the resistance less than 2 Ohms?

Y N

003

Install a new Internal Distribution

Cable.

GO TO MAP 0010, ENTRY POINT A, to

Verify System Operation.
```

004 Install a new Display Adapter Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

A B

Install a new Display Module.

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

PAGE 1 OF 6

ENTRY POINTS

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

The Display Indicators (0,1,2) 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?
ΥŇ
  002
  Are all the Display Indicators (0,1,2)
  OFF?
  YN
    003
    Are Display Indicators (0 ON and 1,2
    OFF)?
    YN
      004
      Are Display Indicators (0,2 ON and
      1 OFF)?
      Y N
        005
        Are Display Indicators (0 OFF and
1,2 ON)?
Y N
6 4 3 3 2 2
A B C D E F
```

EXIT PO	INTS		
EXIT TH	IS MAP	то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
6	045	9110	A

F INDICATOR MAP EG MAP 9109-2 1 1 MAP 9109 PAGE 2 OF 6 006 010 Are Display Indicators (0,1 ON and 2 POWER-OFF. OFF)? YN Install a new Deflection Neon Indicator (2) Cable Assembly in the Install 007 Display Module. POWER-OFF. POWER-ON. Disconnect the Display Indicator (0) Are all the Display Indicators (0,1,2) Cable Connector (LV1) at the Low Voltage Power Supply in the Display ON? YN Module. 011 POWER-ON. POWER-OFF. Using the 20(dc) voltage range, measure from Pin 1(-) to Pin 3(+) of the Display Indicator (0) Cable Conn. Install a new Analog Card in the Display Module. (LV1) at the Low Voltage Power Supply. Check for +4.6 to +5.5 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. volts. Is the voltage between +4.6 and +5.5 012 volts? GO TO MAP 0010, ENTRY POINT A, to YN Verify System Operation. 008 013 POWER-OFF. POWER-OFF. Install a new Low Voltage Power Disconnect the Display Indicator (0) Cable Connector (LV1) at the Low Voltage Power Supply in the Display Supply in the Display Module. You are now directed to go to the Large Display Indicator MAP. Module. GO TO MAP 9109, ENTRY POINT A. POWER-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. 009 POWER-OFF. Install a new Low Voltage LED Indicator (0) Cable Assembly in the Low Voltage Display Module. Is the voltage between +4.6 and +5.5 volts? You are now directed to go to the Large YN Display Indicator MAP. 014 GO TO MAP 9109, ENTRY POINT A. POWER-OFF. Install a new Low Voltage Power Supply in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

G

```
MAP 9109-3
            INDICATOR MAP
                                               СЈК
DH
1 2
            MAP 9109
            PAGE 3 OF
                            6
                                                    021
  015
    POWER-OFF.
                                                      POWER-OFF.
                                                      Reinstall the original Analog Card
    Install a new Low Voltage LED
Indicator (0) Cable Assembly in the
                      Low Voltage LED
                                                      in the Display Module.
    Display Module.
                                                      Install a new High Voltage Neon
Indicator (1) Cable Assembly in the
  GO TO MAP 0010, ENTRY POINT A,
                                          to
                                                      Display Module.
  Verify System Operation.
                                                      POWER-ON.
016
                                                    GO TO MAP 0010, ENTRY POINT A, to
Has new High Voltage Power Supply been
installed in the Display Module?
                                                    Verify System Operation.
ΥN
                                                  022
  017
                                                    POWER-OFF.
    POWER-OFF.
                                                    Install a new Mainframe Assembly in
    * * * DANGER * * *
See the Product Support Manual for
the CRT Anode Discharge procedure.
                                                    the Display Module.
                                                       * * * DANGER * * *
                                                    See the Product Support Manual for
the CRT Anode Discharge procedure.
    Install a new High Voltage Power
Supply in the Display Module.
                                                    Reinstall all the original components
                                                    in the Display Module.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                  GO TO MAP 0010, ENTRY POINT A, to
                                                  Verify System Operation.
018
Has new Display Analog
                               Card
                                        been
                                               023
installed in the Display Module?
                                                                               Card been
                                                      new Display Analog
YN
                                               Has
                                               installed in the Display Module?
                                                Ý N
  019
    POWER-OFF.
                                                  024
                                                    POWER-OFF.
       * * * DANGER * * *
    See the Product Support Manual for
    the CRT Anode Discharge procedure.
                                                    Install a new Analog Card in the
                                                    Display Module.
    Reinstall the original High Voltage
                                                    POWER-ON.
    Power Supply in the Display Module.
    Install a new Analog Card in the Display Module.
                                                  Are all the Display Indicators (0,1,2)
                                                  ON?
                                                  YŃ
  GO TO MAP 0010, ENTRY POINT A,
                                         to
  Verify System Operation.
                                                    025
020
                                                    You are now directed to go to the
                                                    Large Display Indicator MAP.
          Display Indicator (1)
                                      Cable
Has new
          been installed in the Display
                                                    GO TO MAP 9109, ENTRY POINT A.
Assembly
Module?
YN
                                                  026
                                                  GO TO MAP 0010, ENTRY POINT A, to
                                                  Verify System Operation.
                                                4
                                                                               MAP 9109-3
                                               L
JK
```

ΒL INDICATOR MAP Μ MAP 9109-4 1 3 MAP 9109 PAGE 4 OF 6 027 032 POWER-OFF. POWER-OFF. Disconnect the DC Output Cable Connector (LV2) at the Low Voltage * * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure. Power Supply. Install a new High Voltage Power POWER-ON. Supply in the Display Module. Is Display Indicator (0) ON? POWER-ON. N Are all the Display Indicators (0,1,2) 033 ON? Y N DANGER 028 HIGH VOLTAGE IS PRESENT AT THE POWER CORD CONNECTOR. POWER-OFF. POWER-OFF. Install a new Mainframe Assembly in Disconnect the AC (input) Cable Connector (LV3) at the Low Voltage the Display Module. Power Supply. * * * DANGER * * * See the Product Support Manual for the CRT Anode Discharge procedure. POWER-ON. 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-GBG/I use the Product Support Manual.) the Reinstall all original components in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 029 Is the voltage in the correct range? POWER-OFF. YN Reinstall the original Analog Card in 034 the Display Module. DANGER GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. HIGH VOLTAGE IS PRESENT AT THE POWER CORD CONNECTOR. 030 POWER-OFF. Is the Display Module (ac) Cable Disconnect the Display Module AC Cable Connector (12) at Panel 2 of Connector (12) connected? YN the Electronic Module. 031 POWER-ON. POWER-OFF. Using the 200(ac) voltage range, Connect the Display Module (ac) Cable Connector (12) to Panel 2 of the Electronic Module. 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 GO TO MAP 0010, ENTRY POINT A, to Support Manual.) Verify System Operation. Is the voltage in the correct range? Y N 5 5 NPQR Μ MAP 9109-4

```
MAP 9109-5
                                                  S T
NPQR
             INDICATOR MAP
  444
             MAP 9109
             PAGE 5 OF
                             6
                                                    039
      035
         POWER-OFF.
                                                      POWER-OFF.
                                                      Reconnect the High Voltage Power
Supply Cable Connector (J3) at the
Connector Strip.
         Install a new Power Supply in the
         Electronic Module.
                         all
                                the
                                         cable
         Reconnect
                                                      Remove the Analog Card in the Display
         connectors.
                                                      Module.
      GO TO MAP 0010, ENTRY POINT A, to
                                                      POWER-ON.
      Verify System Operation.
                                                    Is Display Indicator (0) ON?
    036
                                                    YN
      POWER-OFF.
                                                      040
      Install a new AC Input Cable in the
                                                        POWER-OFF.
      Display Module.
    GO TO MAP 0010, ENTRY POINT A, to
                                                         Install a new Mainframe Assembly in
                                                         the Display Module.
    Verify System Operation.
                                                           * * * DANGER * * *
  037
                                                         See the Product Support Manual for
                                                         the CRT Anode Discharge procedure.
    POWFR-OFF.
    Install a new Low Voltage Power
Supply in the Display Module.
                                                         Reinstall
                                                                       all
                                                                               the
                                                                                       original
                                                         components in the Display Module.
                                                      GO TO MAP 0010, ENTRY POINT A, to
    Reconnect all the cable connectors.
                                                      Verify System Operation.
  GO TO MAP 0010, ENTRY POINT A, to
Verify System Operation.
                                                    041
                                                      POWER-OFF.
038
                                                       Install a new Analog Card in the
  POWER-OFF.
                                                       Display Module.
  Reconnect the DC Output Cable Connector (LV2) at the Low Voltage Power Supply.
                                                    GO TO MAP 0010, ENTRY POINT A, to
                                                    Verify System Operation.
  Disconnect the High Voltage Power
Supply Cable Connector (J3) at the
                                                  042
  Connector Strip.
                                                    POWER-OFF.
  POWER-ON.
                                                    Install a new High Voltage Power Supply
                                                    in the Display Module.
Is Display Indicator (0) ON?
  N
                                                       * * * DANGER * * *
                                                    See the Product Support Manual for the CRT Anode Discharge procedure.
                                                    Reconnect all the cable connectors.
                                                  GO TO MAP 0010, ENTRY POINT A, to Verify
                                                  System Operation.
```

```
U
                                                                                        MAP 9109-6
A
              INDICATOR MAP
1
              MAP 9109
              PAGE 6 OF
                               6
<u>0</u>43
                                                     <u>0</u>47
Did you come from MAP 0015 with the Error
Indicators (D,E,F,G,H) equal to
                                                       POWER-OFF.
                                                       Remove the Analog Card in the Display
(0,0,1,0,1)?
                                                       Module.
YN
  044
                                                       POWER-ON.
                                                     Do the Error Indicators (D,E,F,G,H) equal
    Load
           the
                     Displavwriter
                                          System
    Diagnostic Diskette.
                                                     (0,0,1,0,1)?
                                                     YN
    Select and run the Display MDI.
Note: The Keying sequence is:
                                                       048
       ** 4 **
                                                          POWER-OFF.
       "ENTER"
       (Wait two to five seconds for a
                                                          Install a new Analog Card in the
       diskette access.)
                                                         Display Module.
       "A"
       "ENTER"
                                                       GO TO MAP 0010, ENTRY POINT A, to
       (Wait two to five seconds for
                                                       Verify System Operation.
                                                a
       diskette access.)
                                                     049
       "ENTER"
    (If a wrong key is pressed during the
keying sequence, press "END" and
restart the sequence.)
                                                       POWER-OFF.
                                                       Install a new Mainframe Assembly in the
                                                       Display Module.
  (Failure is indicated by a Display message and/or LED Indicators "F" and
                                                           * * * DANGER * * *
                                                       See the Product Support Manual for the
  "H" ON.)
                                                       CRT Anode Discharge procedure.
  Did you get a failure message on the Display and/or are the LED Indicators "F" and "H" ON?
                                                       Reinstall all the original components
                                                       in the Display Module.
  YN
                                                     GO TO MAP 0010, ENTRY POINT A, to Verify
    045
                                                     System Operation.
    You are now directed to go to the Large Display Entry MAP.
    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.
```

LARGE DISPLAY ENTRY

MAP 9110

PAGE 1 OF 5

ENTRY POINTS

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

EXIT POINTS	
EXIT THIS MAP	то
PAGE STEP NUMBER NUMBER	MAP ENTRY NUMBER POINT
3 015 2 010 3 018 5 033	9112 A 9115 A 9115 A 9115 A 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.

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

542 ABC

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.

Does your Display Image match the illustration(s)?

```
MAP 9110-2
             DISPLAY ENTRY
                                                  FG
С
ĩ
             MAP 9110
             PAGE 2 OF
                             5
                                                    008
003
  Carefully compare your Display Image with those in Appendix B, Figure 3.
                                                       POWER-OFF.
                                                       Install a new Mainframe Assembly in the Display Module.
               Display Image match the
Does
      your
illustration(s)?
                                                          * * * DANGER * * *
ΥN
                                                       See the Product Support Manual for
  004
                                                       the CRT Anode Discharge procedure.
                                                       Reinstall all the original components
          your Display Image contain a
  Does
                                                       in the Display Module.
  recognizible IBM logo?
  YN
                                                    GO TO MAP 0010, ENTRY POINT A, to
                                                    Verify System Operation.
    005
      Carefully compare your Display
Image with those in Appendix B,
                                                  009
                                                  Is the resistance 2 ohms or less?
       Figure 4.
                                                   / N
    Does your Display Image match the
                                                     010
    illustration(s)?
    YN
                                                       Reconnect the Display Module Cable
Connector (2) at Panel 2 on the
Electronic Module.
      006
                                                       You are now directed to go to the
         POWER-OFF.
                                                    Large Display Image Quality MAP.
GO TO MAP 9115, ENTRY POINT A.
         Install a new Analog Card in the
         Display Module.
                                                  011
      GO TO MAP 0010, ENTRY POINT A, to
      Verify System Operation.
                                                     Remove the Analog Card in the Display
                                                    Module.
    007
                                                     Using the lowest ohms range make the
      POWER-OFF.
                                                     following resistance measurement.
      Disconnect the Large Display Signal
Cable Connector (2) at the
Electronic Module, Panel 2.
                                                    Display Module Signal
                                                    Cable Connector (2):
Pin 10 to Pin 9.
                                                     Check for a reading of 2 ohms or less.
      Using the lowest ohms range make
                 following
       the
                                  resistance
      measurement.
                                                  Is the resistance 2 ohms or less?
                                                  YN
       Display Module Signal
      Cable Connector (2):
Pin 10 to Pin 9.
                                                     012
                                                       Install a new Analog Card in the
                                                       Display Module.
       Check for a reading of 200 ohms or
       less.
                                                     GO TO MAP 0010, ENTRY POINT A,
                                                                                              to
    Is the resistance 200 ohms or less?
                                                     Verify System Operation.
      N
                                                  3
                                                  Ĥ
                                                                                    MAP 9110-2
DEFG
```

MAP 9110-3 ΕH DISPLAY ENTRY D 2 2 2 MAP 9110 PAGE 3 OF 5 (Step 016 continued) 013 less. POWER-OFF. Were all of the readings 200 ohms or less? Install a new Mainframe Assembly in YN the Display Module. 017 * * * DANGER * * * See the Product Support Manual for POWER-OFF. the CRT Anode Discharge procedure. Install a new Mainframe Assembly in Reinstall all the original components the Display Module. in the Display Module. * * * DANGER * * * See the Product Support Manual for GO TO MAP 0010, ENTRY POINT A, to the CRT Anode Discharge procedure. Verify System Operation. all original 014 Reinstall the components in the Display Module. Carefully compare your Display Image with those in Appendix B, Figure 5. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Does your Display match the Image illustration(s)? 018 YN You are now directed to go to Large Display Image Quality MAP. GO TO MAP 9115, ENTRY POINT A. the 015 You are now directed to go to the Large Display Distorted Shape MAP. 019 POWER-OFF. GO TO MAP 9112, ENTRY POINT A. Install a new Analog Card in Display Module. the 016 POWER-OFF. POWER-ON. Disconnect the Video Output Cable Carefully compare your Display Image Connector (J502). with Appendix B, Figure 1. CRT Socket Cable your Display Image match the Disconnect the Does Connector. illustration(s)? YN Using the lowest ohms range, make all of the following resistance 020 measurements. POWER-OFF. ***PROBE WIRING SIDE ONLY TO*** ***PREVENT DAMAGE TO PINS. *** Disconnect the Large Display Signal Cable Connector (2) at the Electronic Module, Panel 2. 1. The Video Output Cable Connector (J502): Pin 1 to Remove the Analog Card in the Display The CRT Socket: Module. Pin 7. Using the lowest ohms range, make all 2. The Video Output following resistance of the Cable Connector (J502): Pin 4 to measurements. 1. Connector Strip: The CRT Connector: Position J4 Pin 24 to Pin 6. The Display Module Check for a reading of 200 ohms or (Step 016 continues) (Step 020 continues)

```
DISPLAY ENTRY
                                                                           MAP 9110-4
                                             BJKL
            MAP 9110
            PAGE 4 OF
                          5
(Step 020 continued)
     Cable Connector (2):
Pin 12 .
                                                   023
                                                     Reinstall the original Analog
  2. Connector Strip:
                                                     Card in the Display Module.
     Position J4 Pin 23 to
                                                     Install
                                                                        new
                                                                               Internal
                                                                 a
                                                     Distribution Cable.
     The Display Module
     Cable Connector (2):
                                                     Reconnect
                                                                 the
                                                                        Display Module
                                                     Cable Connector (2).
     Pin 13.
  Check for a reading of 2 ohms or less.
                                                   GO TO MAP 0010, ENTRY POINT A, to
                                                   Verify System Operation.
Were all of the readings 2 ohms or less?
YN
                                                 n24
                                                   Reinstall the original Analog Card in the Display Module.
  021
    POWER-OFF.
                                                   Install a new Display Adapter Card.
    Install a new Mainframe Assembly in the Display Module.
                                                   Reconnect the Display Module Cable
                                                   Connector (2).
       * * * DANGER * * *
    See the Product Support Manual for
                                                 GO TO MAP 0010, ENTRY POINT A, to
    the CRT Anode Discharge procedure.
                                                 Verify System Operation.
                                               025
    Reinstall all the original components
    in the Display Module.
                                               GO TO MAP 0010, ENTRY POINT A, to
  GO TO MAP 0010, ENTRY POINT A, to
                                               Verify System Operation.
 Verify System Operation.
                                             026
022
                                               POWER-OFF.
  Disconnect Internal Distribution Cable
  Connector (D1) in the Electronic
                                               Disconnect the Deflection Output Cable Connector (J301).
 Module.
  Using the lowest ohms range, measure
                                               Using the lowest ohms range make the
  the resistance between the Pins shown
                                               following resistance measurement.
  in the chart for the Internal
                                             ***PROBE WIRING SIDE ONLY TO***
***PREVENT DAMAGE TO PINS. ***
  Distribution Cable Connectors (D1) and
  (2).
                                               Deflection Output Cable
 Connector (J301):
  (D1)
                       (2)
                                                 Pin 1 to Pin 2.
                      Pin
  Pin
          Signal
                                               Check for a reading of 8 ohms or less.
                       10
          Video
    1
    2
          Bright
                       11
                                             Is the resistance 8 ohms or less?
    3
          Vertical
                       12
                                               N
    4
          Horizontal
                       13
Is the resistance 2 ohms or less?
YN
```

```
PQR
                                                                               MAP 9110-5
            DISPLAY ENTRY
AMN
1 4
            MAP 9110
            PAGE
                    5 OF
                            5
    027
                                                    031
      POWER-OFF.
                                                      POWER-OFF.
                                                      Install a new Mainframe Assembly in
      Install a new Mainframe Assembly in
      the Display Module.
                                                      the Display Module.
         * * * DANGER * * *
                                                         * * * DANGER * * *
      See the Product Support Manual for
the CRT Anode Discharge procedure.
                                                      See the Product Support Manual for
                                                      the CRT Anode Discharge procedure.
      Reinstall
                   all
                           the
                                   original
                                                      Reinstall
                                                                   all
                                                                           the
                                                                                   original
      components in the Display Module.
                                                      components in the Display Module.
    GO TO MAP 0010, ENTRY POINT A, to
                                                    GO TO MAP 0010, ENTRY POINT A, to
    Verify System Operation.
                                                    Verify System Operation.
  028
                                                  032
    Install a new Analog Card in the
                                                    POWER-OFF.
    Display Module.
                                                    Install a new Analog Card in the
                                                    Display Module.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                  GO TO MAP 0010, ENTRY POINT A,
                                                                                          to
029
                                                  Verify System Operation.
                                                033
  POWER-OFF
                                                  You are now directed to go to the Large
                                               Display Image Quality MAP.
GO TO MAP 9115, ENTRY POINT A.
  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'?
YN
  030
    POWER-OFF.
    Remove the Analog Card in the 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?
  YN
```

LARGE DISPLAY DISTORTED SHAPE В MAP 9112-1 MAP 9112 PAGE 1 OF 5 ENTRY POINTS 004 _____ Carefully compare your Display Image FROM ENTER THIS MAP with those in Appendix B, Figure 7. MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER Does your Display illustration(s)? Image match the _______ 9110 A 1 001 YN 005 001 Carefully compare your Display Image with those in Appendix B, Figure 8. (ENTRY POINT A) DANGER your Display Image match the Does THERE IS UP TO 17,000 VOLTS PRESENT INSIDE THE DISPLAY MODULE. (Note: After illustration(s)? YN the Power is turned off, allow 10 seconds for the High Voltage to reach a safe 006 level.) Carefully compare your Display Image with those in Appendix B, Use CAUTION when handling the Display module. Wear SAFETY GLASSES. The Display Screen is glass and will implode Figure 9. if cracked or broken. Does your Display Image match the illustration(s)? ***** Y N Load the Displaywriter 007 System Diagnostics Carefully compare your Display Image with those in Appendix B, Do you have a readable Function Selection Menu on the CRT? Figure 10. YN Does your Display Image match the illustration(s)? Y N 002 POWER-OFF. 008 Install a new Display Adapter Card. Select the Font Test GO TO MAP 0010, ENTRY POINT A, to Every character or symbol is repeated four times. Verify that all characters or symbols Verify System Operation. 003 within a four character group Select the UTILITIES are the same. Do all characters within each group look the same? Select the Display ID Select the Test pattern N Adjust the Brightness Control to obtain the correct visual level. Are all the characters displayed of the same intensity? Y Ν 322222 CDEFGH 3

A B

```
D E F
1 1 1
GΗ
              DISTORTED SHAPE
                                                                                       MAP 9112-2
1 1
              MAP 9112
              PAGE
                      2 OF
                               5
                                                            (Step 012 continued)
                                                            3. Install a new Mainframe
  009
                                                                Assembly.
    POWER-OFF.
                                                         013
    Install a new Display Adapter Card.
                                                           POWER-OFF.
  GO TO MAP 0010, ENTRY POINT A, to
  Verify System Operation.
                                                            Install a new Mainframe Assembly in
                                                            the Display Module.
010
                                                               * * * DANGER * * *
                                                            See the Product Support Manual for
the CRT Anode Discharge procedure.
At this point you have an image quality
problem.
                                                                          all
                                                           Reinstall
                                                                                    the
                                                                                            original
                                                            components in the Display Module.
Is the problem with focus?
YN
                                                         GO TO MAP 0010, ENTRY POINT A, to
  011
                                                         Verify System Operation.
    The following list of all repair
actions which might be necessary to
correct the failure. The list is
                                                       014
                                                         Adjust the Width Control for
                                                                                                  the
    ordered from the most probable
failure first to the least probable
                                      probable
                                                         correct width.
    failure last.
                                                         Use the adjustment procedure in the
                                                         Product Support Manual.
    After each Repair Action carefully
    compare your Display Image with
Appendix B, Figure 1.
                                                       Were you able to adjust the Width
                                                       Control for the correct width?
                                                       YN
    Each repair action should performed one at a time until
                                              be
                                             the
                                                         015
    failure is corrected.
                                                           POWER-OFF.
  1. Install a new Analog Card.
                                                            Install a new Analog Card in the
  2.
      Install a new Mainframe
                                                           Display Module.
       Assembly.
                                                         GO TO MAP 0010, ENTRY POINT A, to
       Install a new High Voltage
                                                         Verify System Operation.
  3.
       Power Supply.
                                                       016
012
                                                       GO TO MAP 0010, ENTRY POINT A,
                                                                                                 to
  The following list of all repair
actions which might be necessary to
correct the failure. The list is
                                                       Verify System Operation.
                                                    017
  ordered from the most probable failure
first to the least probable failure
                                                       Adjust the Height Control for
                                                                                                  the
                                                       correct height.
  last.
  After each Repair Action carefully
compare your Display Image with
                                                       Use the adjustment procedure in the
                                                       Product Support Manual.
  Appendix B, Figure 1.
                                                    Were you able to adjust the Height
Control for the correct heigth?
  Each repair action should be performed
one at a time until the failure is
                                                     YN
  corrected.
   Install a new Analog Card.
1.
2.
    Install a new High Voltage
    Power Supply.
(Step 012 continues)
```

```
C J K
1 2 2
            DISTORTED SHAPE
                                                                           MAP 9112-3
                                             A
                                             1
            MAP 9112
                   3 OF
            PAGE
                          5
    018
                                             023
      POWER-OFF.
                                               POWER-OFF.
      Install a new Analog Card in the
                                                        a new Analog Card in the
                                               Install
      Display Module.
                                               Display Module.
    GO TO MAP 0010, ENTRY POINT A, to
                                               POWER-ON.
    Verify System Operation.
                                               Load the Displaywriter
  019
                                               System Diagnostics
  GO TO MAP 0010, ENTRY POINT A, to
                                               Select the UTILITIES
  Verify System Operation.
                                               Select the Display ID
020
                                               Select the Test pattern
  POWER-OFF.
                                               Adjust the Brightness Control to obtain
                                               the correct visual level.
  Check that the Yoke is secure against
  the CRT.
                                             Are all the characters displayed of the
Is the Yoke Assembly secure against the CRT?
                                             same intensity?
                                             YN
YN
                                               024
  021
                                               GO TO MAP 0010, ENTRY POINT A, to
    POWER-OFF.
                                               Verify System Operation.
                                             025
    Install a new Mainframe Assembly in
    the Display Module.
                                               POWER-OFF.
       * * * DANGER * * *
    See the Product Support Manual for
                                               Remove the Analog Card in the Display
    the CRT Anode Discharge procedure.
                                               Module.
    Reinstall all the original components
                                               Remove the Display Adapter Card in the
    in the Display Module.
                                               Electronic Module.
  GO TO MAP 0010, ENTRY POINT A, to
                                               Using the lowest ohms range make the
  Verify System Operation.
                                               following resistance measurement.
022
                                               Connector Strip:
                                                 Position (J1) Pin 1 to
  POWER-OFF.
                                                 Frame ground.
  Install a new High Voltage Power Supply
  in the Display Module.
                                             Is the resistance 2 ohms or less?
                                             Y
                                               N
     * * * DANGER * * *
  See the Product Support Manual for the CRT Anode Discharge procedure.
GO TO MAP 0010, ENTRY POINT A, to Verify
System Operation.
                                             66
```

LM

```
LNP
Μ
            DISTORTED SHAPE
                                                                           MAP 9112-4
3
            MAP 9112
            PAGE 4 OF
                           5
                                                  029
026
  Using the lowest ohms range make the
                                                    Reinstall the original Analog Card
  following resistance measurement.
                                                   in the Display Module.
 Connector Strip:
                                                    Install a new Internal Distribution
   Position (J1) Pin 1 to
                                                    Cable.
                                                             一般的 网络小学会议会会
  Internal Distribution
                                                    Reinstall all the original cards.
 Cable Connector D1 Pin (2)
                                                    Reconnect all the cable connectors.
 Check for a reading of 2 ohms or less.
                                                  GO TO MAP 0010, ENTRY POINT A, to
Is the resistance 2 ohms or less?
                                                 Verify System Operation.
YN
                                                030
 027
                                                 Reinstall the original Analog Card in
    Disconnect the Large Display Signal
                                                 the Display Module.
    Cable Connector (2) at the Electronic
   Module, Panel 2.
                                                  Install a new Display Adapter Card.
                                               GO TO MAP 0010, ENTRY POINT A, to
   Using the lowest ohms range make the
    following resistance measurement.
                                               Verify System Operation.
   Connector Strip:
                                             031
     Position (J1) Pin 1 to
                                               Disconnect the Large Display Signal
Cable Connector (2) at the Electronic
   Display Module Signal
   Cable Connector (2):
Pin 11.
                                               Module, Panel 2.
                                               Using the lowest ohms range make the
 Is the resistance 2 ohms or less?
                                               following resistance measurement.
  YN
                                               Connector Strip:
   028
                                                 Position (J1) Pin 1 to
     POWER-OFF.
                                                 Frame ground.
     Install a new Mainframe Assembly in
                                             Is the resistance 2 ohms or less?
      the Display Module.
                                              YN
         * * * DANGER * * *
                                               032
     See the Product Support Manual for
the CRT Anode Discharge procedure.
                                                 Reinstall the original Analog Card in
                                                  the Display Module.
                  all
     Reinstall
                          the
                                 original
      components in the Display Module.
                                                  Install a new Internal Distribution
                                                 Cable.
    GO TO MAP 0010, ENTRY POINT A, to
    Verify System Operation.
                                                 Reinstall all the original cards.
                                                 Reconnect all the cable connectors.
                                               GO TO MAP 0010, ENTRY POINT A, to
                                               Verify System Operation.
```

PAGE 5 OF 5

033

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 BC MAP 9115-1 MAP 9115 PAGE 1 OF 3 ENTRY POINTS 003 Using the 200(dc) voltage range, make all of the following voltage measurements from frame ground to the FROM | ENTER THIS MAP MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER points indicated. 9110 | A 1 001 Conn LV2 Volts dc +28.8 to +35.2 +28.8 to +35.2 Pin 1 Pin 2 + 4.6 to + 5.5 + 4.6 to + 5.5 Pin 001 6 (ENTRY POINT A) Pin 7 - 4.6 to - 5.5 Pin 8 DANGER Is the voltage in the correct range? THERE IS UP TO 17,000 VOLTS PRESENT INSIDE THE DISPLAY MODULE. (Note: After YN the Power is turned off, allow 10 seconds for the High Voltage to reach a safe 004 level.) POWER-OFF. Install a new Low Voltage Power Supply in the Display Module. Use CAUTION when handling the Display module. Wear SAFETY GLASSES. The Display Screen is glass and will implode if cracked or broken. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. ***** 005 Has Display Analog Card been new installed in the Display Module? POWER-OFF. YN Install a new Mainframe Assembly in 002 the Display Module. * * * DANGER * * * POWER-OFF. See the Product Support Manual for Remove the Analog Card in the Display the CRT Anode Discharge procedure. Module. Reinstall all the original components POWER-ON. in the Display Module. GO TO MAP 0010, ENTRY POINT A, to Using the 200(dc) voltage range, make all of the following voltage Verify System Operation. measurements from frame ground to the 006 points indicated. POWER-OFF. Conn Pin Volts dc +28.8 to +35.2 +28.8 to +35.2 J1 Pin 7 J4 Pin 13 Using the lowest ohms range make the + 4.6 to + 5.5 + 4.6 to + 5.5 - 4.6 to - 5.5 J1 Pin 2 following resistance measurement. J4 Pin 17 J1 Pin 11 Connector Strip: Is the voltage in the correct range? Position J1 Pin 9 to YN Position J4 Pin 15 . Check for a reading of 2 ohms or less. Is the resistance 2 ohms or less? N 2 ABC DE MAP 9115-1

```
MAP 9115-2
             IMAGE QUALITY
                                                 F
ADE
                                                                No. State P
 1 1
             MAP 9115
             PAGE 2 OF
                             3
                                                   (Step 010 continued)
    007
                                                   Were all of the readings 2 ohms or
      POWER-OFF.
                                                    less?
                                                    YN
      Install a new Mainframe Assembly in
                                                      011 - Andreas Conservation and Anna and
      the Display Module.
          * * * DANGER * * *
                                                        Install a new Internal Distribution
      See the Product Support Manual for
the CRT Anode Discharge procedure.
                                                        Cable.
                                                        Reinstall all the original cards.
      Reinstall
                    all
                             the
                                     original
                                                        Reconnect all the cable connectors.
      components in the Display Module.
                                                      GO TO MAP 0010, ENTRY POINT A, to
Verify System Operation.
    GO TO MAP 0010, ENTRY POINT A, to
    Verify System Operation.
  008
                                                    012
    Install a new Analog Card in the Display Module.
                                                      POWER-OFF.
                                                      Install a new High Voltage Power
  GO TO MAP 0010, ENTRY POINT A,
                                                      Supply in the Display Module.
                                           to
  Verify System Operation.
                                                         * * * DANGER * * *
                                                      See the Product Support Manual for the CRT Anode Discharge procedure.
009
Has the Internal Distribution Cable in
the Electronic Module been replaced or
                                                      Reinstall all the original cards.
verified good?
                                                      Reconnect all the cable connectors.
YN
                                                   GO TO MAP 0010, ENTRY POINT A, to
  010
                                                   Verify System Operation.
    POWER-OFF.
                                                 013
                                                 Has a new Display Adapter Card been installed in the Electronic Module?
    Reinstall the original Analog Card in
    the Display Module.
                                                 ΥN
    Disconnect the Large Display Signal
Cable Connector (2) at the Electronic
                                                   014
    Module, Panel 2.
                                                      POWER-OFF.
                                                      Reinstall the original High Voltage
                                                      Power Supply in the Display Module.
    Using the lowest ohms range, measure
    the resistance between the Pins shown
in the chart for the Internal
Distribution Cable Connectors (D1)
                                                      Install a new Display Adapter Card.
                                                    GO TO MAP 0010, ENTRY POINT A, to
    and (2).
                                                    Verify System Operation.
   (D1)
                            (2)
                           Pin
     Pin
             Signal
             Video
                            10
      1
      2
                            11
             Bright
      ٦
             Vertical
                            12
             Horizontal
                          13
      4
  (Step 010 continues)
```

3 G

F

IMAGE QUALITY

MAP 9115

PAGE 3 OF 3

015

G 2

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 AC POWER MAP MAP 9165 1 OF PAGE 2 ENTRY POINTS EXIT POINTS FROM | ENTER THIS MAP EXIT THIS MAP | TO MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER PAGE STEP | MAP ENTRY NUMBER NUMBER | NUMBER POINT 2 005 | 8064 A 0010 | A 1 001 001 (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. Is the Fan in the Electronic Module running? YN 002 POWER-OFF. Disconnect the AC (input) Cable Connector (LV3) at the Low Voltage Power Supply. Install a new Fuse. POWER-ON. Is the Fan in the Electronic Module running? YN 003 POWER-OFF. Install a new AC Input Cable in the Display Module. Reconnect all the cable connectors. Install a new Fuse. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 22

MAP 9165-1

MAP 9165-1

```
A B AC POWER

1 1 MAP 9165

PAGE 2 OF 2

004

POWER-OFF.

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.

005
```

You are now directed to go to the Diskette Unit A/C Power Failure MAP.

GO TO MAP 8064, ENTRY POINT A.



Normal display image after BAT completion Figure 1





Single horizontal line (solid or broken)

Single vertical line (may be flashing)

Figure 2


Display raster

Figure 3



Display image rolling

Figure 4



Too dim



Too short



Tilted



Too narrow



Too wide



Shrunk



Out of focus



Changes size when Brightness control turned

Figure 5 - Distorted Display Images

Appendix A-4





Single horizontal line (solid or broken)

Figure 1

Normal



Vertical roll



Horizontal roll



Shrunken raster

Vertical and horizontal roll













Bright raster w/logo (Raster brighter than logo)



Dim raster w/logo (Logo brighter than raster)





Too Big (Height and width larger than normal)

Too talı (Width normal)



Too small (Height and width smaller than normal)



Too short (Width normal)







Tilted

.

0^{0,} 11 PQQ N, S U Ď E Ċ W e ! @ ē * ¢ 6 1 6 1 1 2 6 .8°9 6 1 $\frac{1}{2}$ 2 Ø 9 3 45 1 8 0 0 0 2 3 9 8 0 <u>abcde</u> <u>a b c d e</u> Ζz

Appendix C-2

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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 <u>American</u> <u>National Dictionary for Information</u> <u>Processing</u>, 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 non-technical 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 <u>American National Dictionary for</u> <u>Information Processing</u>.

A

assigning printer. The action taken by the primary workstation to allow a secondary work station to control the printer.



Basic Assurance Test (BAT). A series of tests executed 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.



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 a keyboard module.



escape. Horizontal movement of the printer carrier.

escapement. See escape.



Field Replaceable Unit (FRU). A part which can be installed in a customer's office.

FRU. Field Replaceable Unit





half index. A 1/2 unit vertical paper movement.



I/O. input/output.

ID. Identifier.

* identifier (ID). A character or group of characters used to identify

Appendix D-1

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.





L

M

* link. See data link.

locator. Interface board component locator, used to find test points.

logo. The name, symbol or trademark of a company.

MAP Diagnostic Integration (MDI). A diagnostic program on the diagnostic diskette that is a combination of MAPs and 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.

	Ł
N	L
••	

)



printer link. An electrical circuit which communicates with the printer.

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.

Product Support Manual (PSM). The manual used to service the Displaywriter.

PSM. Product Support Manual.

PTXCP. Photo transistor checkpoint on the file control card.





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.



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 move-

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	
	-



workstation. A display station and a single or dual diskette unit.



Y



APPENDIX D-2

APPENDIX D-3

APPENDIX D-4

APPENDIX D-5

APPENDIX D-6



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