CYBER 18-20
TIMESHARE COMPUTER SYSTEMS
HARDWARE MAINTENANCE MANUAL

CONTROL
DATA

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TABLE 6-3. LDCHK: LOADCHECK DDLT

ASSUMPTIONS:

1 - System is plugged into power outlet
2 - CDT is plugged into power outlet
3 - Power is turned on at each device

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12
1 - Is this a CYBER 18-10M or CYBER 18-20 system?	Y	N										
2 - Is this a CYBER 18-30 Timeshare system		Y	N									
ACTIONS:												
1 - Go to sheet 2 of this Table	X											
2 - Go to sheet 3 of this Table		X										
3 - This Hardware Maintenance Manual is applicable only to the CYBER 18-10M CYBER 18-20, or CYBER 18-30 Timeshare systems. Use the correct manual for the system under test.			X									

TABLE 6-3 LDCHK: LOADCHECK DDLT

ASSUMPTIONS

1 - Entry is made from sheet 1 of this table.
2 - This is a CYBER 18-10M or CYBER 18-20 system.
3 - MASTER CLEAR on operators panel is pressed.
4 - CLEAR key on keyboard is pressed to master clear the display (If KEYBOARD LOCK indicator is illuminated, press BREAK key to unlock)
5 - The following is entered at the keyboard
ESC key is pressed.
J58G is typed in.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12
1- Did CDT screen clear when CLEAR key on the keyboard was pressed?	Y							N				
2- Does the CDT display: J000008x0 or J000008x8	Y	N										
Jxxxxxxx1		Y	N									
Jxxxxxxx2			Y	N								
Jxxxxxxx4				Y	N							
Jxxxxxx8x					Y	N						
Jxxxxxxxx or *Jxxxxxxxx						Y	N					
Where x may equal any number												
ACTIONS:												
1 - Go to sheet 4 of this table	X											
2 - Replace ALU, slot M.		1	7	7	5	6	3					
3 - Replace panel interface, slot U		2	6	5	3	2	9					
4 - Replace SMI, slot L.		3	8	8	4	7	8					
5 - Replace transform, slot R.		4	1	1	6	5	6					
6 - Replace memory interface, slot V.		5	2	2	9	10	10					
7 - Replace memory interface, slot W.		6	3	3	10	11	11					
8 - Replace control 1, slot P.		7	9	9	1	4	4					
9 - Replace Control 2, slot N.		8	10	10	7	3	5					
10 - Replace memory , slot X		9	5	6	8	9	12					
11 - Replace I/O - TTY, slot K		10	4	4	2	8	7	3				
12 - Go to table 6-101		11	11	11	11	12	13					

	1	2	3	4	5	6	7	8	9	10	11	12
ACTIONS (Continued):												
13. Verify the power supplies (Procedures A7, A9, & A11)							2					
14. Ensure shiftlock on keyboard is released. Restart this page.						1						
15. Check cabling to operator's panel and multiplexer (figure 5A-2 and 5A-3).								1				
16. Replace operator's panel board (procedure A20)								4				
17. Run CDT off-line test: Table 6-13 if CDT is a CC614; if CDT is a CC555, go to Table CRT1 of Keyboard Display Terminal Hardware Maintenance Manual 62957400 and perform the specified tests and checks.							1	2				
18. Call next level of support.								5				

ASSUMPTIONS:

1 - Entry is made from Sheet 1 of this table.
2 - This is a CYBER 18-30 Timeshare system.
3 - CPU to be tested is selected by pressing PANEL SELECT on operator's panel.
4 - Tests are preformed first on CPU 1. After completion of all Level I tests on CPU 1, tests must be performed on CPU 2.
5 - MASTER CLEAR on operators panel is pressed
6 - CLEAR key on keyboard is pressed to master clear the display. (If KEYBOARD LOCK indicator is illuminated, press BREAK key to unlock).
7 - The following is entered at the keyboard:
ESC key is pressed.
J58G is typed in.

CONDITIONS:

1 - Can CPU be selected as in assumption 3
2 - Did CDT screen clear when CLEAR key on the keyboard was pressed?
3 - Does the CDT display
J000008x0 or J000008x8
Jxxxxxxx1
Jxxxxxxx2
Jxxxxxxx4
Jxxxxxx8x
Jxxxxxxxx or *Jxxxxxxxx

where x may equal any number

	1	2	3	4	5	6	7	8	9	10	11	12
1	Y								N			
2	Y							N				
3	Y	N										
		Y	N									
			Y	N								
				Y	N							
					Y	N						
						Y	N					
ACTIONS:												
1 - Go to sheet 4 of this table.	X											
2 - Replace ALU, slot M		1	7	7	5	6	3					
3 - Replace panel interface, slot U		2	6	5	3	2	9					
4 - Replace SMI, slot L.		3	8	8	4	7	8					
5 - Replace transform, slot R		4	1	1	6	5	6					
6 - Replace memory interface, slot V		5	2	2	9	10	10					
7 - Replace memory interface, Slot W.		6	3	3	10	11	11					
8 - Replace control 1, slot P.		7	9	9	1	4	4					
9 - Replace control 2, slot N.		8	10	10	7	3	5					
10 - Replace memory, slot X.		9	5	6	8	9	12					
11 - Replace I/O TTY, slot K.		10	4	4	2	8	7	4				
12 - Go to table 6-101.		11	11	11	11	12	13					
13 - Ensure SHIFT LOCK on keyboard is released. Restart this page.						1						
14 - Verify the power supplies (procedures A7, A9, and A11)							2					
15 - Check cabling to operators panel and multiplexer (figures 5A-2 and 5A-3).								1	1			
16 - Replace dual-CPU multiplexer board (procedure A22)								2	2			
17 - Replace operators panel board (procedure A20)								3	3			

Continued next page

TABLE 6-3 LDCHK: LOADCHECK DDLT

	1	2	3	4	5	6	7	8	9	10	11	12
ACTIONS:												
18. Run CDT off-line test: Table 6-13 if CDT is a CC614; if CDT is a CC555, go to Table CRT1 of Keyboard Display Terminal Hardware Maintenance Manual 62957400 and perform the specified tests and checks.							1					
19. Call next level of support.								5	4			

TABLE 6-3 LDCHK: LOADCHECK DDLT

ASSUMPTIONS:

Entry is made from sheet 2 or sheet 3 of this table.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12
1 - Is the Load Device a flexible disk?	Y	N										
2 - Is the Load Device a cassette?		Y	N									
3 - Is the Load Device a card reader?			Y	N								
ACTIONS:												
1 - Go to sheet 5 of this table	X											
2 - Go to sheet 6 of this table		X										
3 - Go to sheet 7 of this table			X									
4 - Loadcheck diagnostic Load device must be either flexible disk, cassette, or card reader. Restart this page with one of these load devices.				X								

TABLE 6-3 LDCHK: LOADCHECK DDLT

ASSUMPTIONS:

1 - Entry is made from sheet 4 of this table.
2 - Insert the ODS Level I diskette into the unit 0 flexible disk drive (procedure K3)
3 - Close the door of the unit.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12
1 - Is the UNIT REV. indicator on the operators panel illuminated?	Y	N										
2 - Is the WRITE ENAB. indicator on the operators panel illuminated?		Y	N									
3 - Press DEADSTART switch. Does the DEADSTART indicator illuminate?			Y	N								
ACTIONS:												
1 - Press UNIT REV. switch. Return to condition 1 if UNIT REV. indicator is now extinguished.	1											
2 - Check cabling to operators panel (figure 5A-2)	2	2										
3 - Replace operators panel (procedure A20)	3	3										
4 - Press WRITE ENAB. switch. Return to condition 2 if WRITE ENAB. indicator is now extinguished.		1										
5 - Go to sheet 8 of this table.			X									
6 - Restart this page. Probably an operator error has occurred				1								
7 - Use another diskette, if available				2								
8 - Use another load device, if available (Go to sheet 1 of this table)				3								
9 - Replace flexible disk controller, slot E				4								
10 - Replace SMI board, slot L.				5								
11 - Replace panel interface, slot U				6								
12 - Replace flexible disk drive (procedure K9)				7								
13 - Call next level of support	4	4		8								

ASSUMPTIONS:

1 - Entry is made from sheet 4 of this table.
2 - Read the conditions below before going to the next assumption.
3 - Insert the level I cassette tape into the respective unit if this is dual CPU system. Otherwise, insert tape into unit 0.
4 - Close the lid and observe whether the cassette spools move in both directions, first rewinding and then loading to beginning of tape.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12
1 - Did the tape move in both directions?	Y				N							
2 - Did the tape move in only one direction					Y	N						
3 - After approximately five seconds, did the cassette READY indicator illuminate?	Y			N								
4 - Press DEADSTART switch. Does the DEADSTART indicator illuminate?	Y	N										
5 - Did tape attempt to load?			Y	N								
ACTIONS:												
1 - Go to sheet 8 of this table.	X											
2 - Use another tape, if available.		3	2	2	1	1						
3 - Check cassette power supply voltages (procedure H8)					2	2						
4 - Replace the cassette drive (procedure H7)		6	7	5	3	6						
5 - Replace the cassette controller, slot E		4	3	4	4	5						
6 - Restart this page. Probably an operator error has occurred.		1										
7 - Verify that system is 9600 baud (See figures 4E-3 and 4E-4). If system is not 9600 baud, set system to 9600 baud. If system is 9600 baud, continue to next action.		2										
8 - Replace I/O TTY board, slot K.		5										
9 - Replace SMI board, slot L.		7	4									
10 - Replace panel interface, slot U.		8										
11 - Check power distribution box(procedure A13)						3						
12 - Verify the processor power supplies (procedures A7, A7.1, A9, A11)						4						
13 - Call next level of support		9	9	7	5	7						
- Ensure that the cassette tape has been inserted into the correct drive unit and the CPU selected is correct.			1	1								

Continued next page

TABLE 6-3 LDCHK: LOADCHECK DDLT

	1	2	3	4	5	6	7	8	9	10	11	12
ACTIONS:												
15 - Check that cables on operators panel and multiplexer board, if present, are properly connected (figures 5A-2 and 5A-3) and that LOCAL/REMOTE switch on operators panel is set to REMOTE.			5	3								
16 - Replace dual-CPU multiplexer (procedure A22), if present.			8	6								
17 - Replace operators panel (procedure A20)			6									

TABLE 6-3 LDCHK: LOADCHECK DDLT

ASSUMPTIONS:

' - Entry is made from sheet 4 of this table
- Card reader hopper is loaded with loadcheck card deck (procedure A33).
3 - Card reader/line printer controller card cycle switch is off (the lever in card slot J pointing to the operator).

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12
1 - Press card reader RESET. Does motor come on?	Y					N						
2 - Do any cards feed after step 1 above?	N				Y							
3 - Press the DEADSTART switch. Do one or more of the loadcheck cards feed?	Y			N								
4 - Does the DEADSTART indicator illuminate?	Y		N									
- Is the READ CHECK light on?	N	Y										
ACTION:												
1 - Go to sheet 8 of this table	X											
2 - Replace I/O-TTY, slot K.			6	1	1							
3 - Replace SMI, slot L.			7	2	2							
4 - Go to table 6-102.		X	8		3	X						
5 - Go to table 6-101				4								
6 - Restart sheet 1 of this table. Probably an operator error has occurred.			1									
7 - Use another card deck, if available.			3									
8 - Verify that system is 9600 baud (see figures 4E-3 and 4E-4). If system is not 9600 baud, set system to 9600 baud. If system is 9600 baud, continue to next action.			2									
9 - Replace card reader controller, slot J.			4									
10 - Replace panel interface, slot U.			5	3								

ASSUMPTIONS:
Entry is made from sheet 5,6 or 7 of this table.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12
1 - Does the CDT display the following (after approximately two minutes): X 123456 DPSR Level XX Released date MM/DD/YY 12345 1234 123 12 1	Y						N Y	N Y	N Y	N Y	N Y	
2 - Have all other deadstartable devices on the system for which diagnostic load media are available been used?	Y	N										
3 - Is the deadstart capability of the card reader being tested?	N		Y									
ACTIONS:												
1 - Go to Table 6-4.	X											
2 - Set up and deadstart system using another load device, if available. Return to table 6-3, sheet 1.		X					2	2	2	2	2	2
3 - Card reader deadstart testing is now complete. Set up and deadstart system using a diskette or cassette tape as the diagnostic load device. Return to sheet 1 of this table.			X									
(4) - Use another diskette or cassette tape or card deck, if available, and restart.							1	1	1	1	1	1
X 5 - Replace memory, slot X.							3	7	3	X	3	
6 - Replace memory interface, slot V.							4	8	4		4	
7 - Replace memory interface, slot W.							5	9	5		5	
8 - Replace ALU, slot M.							6	6	7		7	
9 - Replace transform, slot R.							7	5	10		8	
10 - Replace SMI, slot L.							8	10	8		6	

ACTIONS: Continued.	1	2	3	4	5	6	7	8	9	10	11	
11 - Replace I/O-TTY, slot K.							9	3	9		9	
12 - Replace panel interface, slot U.								4				3
13 - Replace load device controller: card reader (slot J) or cassette (slot E) or flexible disk controller (slot E).										3		6
14 - Go to sheet 9 of this table.							10	11	14		10	
15 - Go to table 6-101 & replace any controller not replaced by a prior action.								12				
16 - Call next level of support.									11			
17 - Check cables on operators panel printed wiring assembly and multiplexer printed wiring assembly (figure 5A-3 sheet 1).									12			
18 - Replace multiplexer printed wiring assembly (procedure A22).									13			
19 - Replace operators panel printed wiring assembly (procedure A20).									6			5
20 - Replace ECC array board, slot AC.												4
21- Run CDT off-line test: Table 6-13 if CDT is a CC614; if CDT is a CC555, go to Table CRT1 of the Keyboard Display Terminal Hardware Maintenance Manual 62957400 and perform the specified tests and checks.												

TABLE 6-3 LDCHK: LOADCHECK DDLT

ASSUMPTIONS:

1 - Entry is made from sheet 8 of this table

2 - The following is entered on the keyboard:
ESC Key is pressed.
J11G is typed in.

(If the amber KEYBOARD LOCK indicator is on, press the blue BREAK key before completing the above)

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12
1 - Is RUN indicator illuminated?	Y	N										
2 - Does the CDT display:												
Jxxxxxxx0 or Jxxxxxxx1		Y	N									
Jxxxxxxx2 or Jxxxxxxx4			Y	N								
Jxxxxxxx6				Y	N							
Jxxxxxxx8 or JxxxxxxxC or Jxxxxxxx9					Y	N						
JxxxxxxxE						Y	N					
where x may equal any number.												
ACTIONS:												
1 - Go to sheet 10 of this table.		X										
2 - Replace transform, slot R.	1		3	1	8	3	1					
3 - Replace memory interface, slot V.	5		4	2	3	1	4					
4 - Replace memory interface, slot W.	6		5	3	4	2	5					
5 - Replace memory, slot X.	4		8	5	2	4	3					
6 - Replace ALU, slot M.	3		1	6	7	7	6					
7 - Replace SMI, slot L.	2		2	7	5	6	2					
8 - Replace control 1, slot P.	8		6	8	9	8	7					
9 - Replace control 2, slot N.	9		7	9	10	9	8					
10 - Replace I/O-TTY, slot K.	7		9	4	6	5	9					
11 - Go to procedure A34.					1							
12 - Replace micro-memory, slot T.	10		10	10	11	10	10					
13 - Replace micro-memory, slot S.	11		11	11	12	11	11					
14 - Check cables on operators panel printed wiring assembly and multiplexer printed wiring assembly (Figure 5A-3, sheet 1)	12		12	12	13	12	12					
15 - Replace multiplexer printed wiring assembly (procedure A22)	13		13	13	14	13	13					
16 - Replace operators panel printed wiring assembly (procedure A20)	14		14	14	15	14	14					
17 - Go to table 6-101.	15		15	15	16	15	15					

ASSUMPTIONS:

1 - Entry is made from sheet 9 of this table.

2 - KG is typed in at the keyboard.

3 - Observe the CDT display for one of the following conditions.

	1	2	3	4	5	6	7	8	9	10	11	12
Does the CDT display:												
1. K0056 or K0059 or K005C	Y	N										
2. K1003 or K1006 or K1009		Y	N									
3. K100C			Y	N								
4. K100F or K1011 or K1013 or K1015				Y	N							
5. K101A					Y	N						
6. K101C or K101E or K1020 or K1022 or K1024 or K1026						Y	N					
K1029							Y	N				
8. K102C								Y	N			
9. K102F									Y	N		
10. K1032										Y	N	
11. K1035											Y	N
ACTIONS:												
1 - Replace memory, slot X (power down micro processor)	1	6	6	4	5	7	6	6	6	6	6	
2 - Replace memory interface, slot V	2	7	7	8	8	4	8	7	8	7	7	
3 - Replace memory interface, slot W	3	8	8	9	9	5	9	8	9	8	8	
4 - Replace SMI, slot L	4	5	5	2	2	2	4	4	4	5	4	
5 - Replace ALU, slot M.	5	2	3	3	3	3	3	3	3	3	3	
6 - Replace transform, slot R.	6	1	4	5	4	6	1	5	1	4	5	
7 - Replace control 2, slot N.	7	3	2	7	7	9	7	2	7	1	2	
8 - Replace control 1, slot P.	8	4	1	6	6	8	2	1	2	2	1	
9 - Replace I/O-TTY, slot K.	9	9	9	1	1	1	5	9	5	9	9	
10 - Replace micro - memory slot T.	10	10	10	10	10	10	10	10	10	10	10	
11- Replace micro-memory slot S.	11	11	11	11	11	11	11	11	11	11	11	
12- Check cables on operators panel printed wiring assembly and multiplexer printed wiring assembly (figure 5A-3, sheet 1)	12	12	12	12	12	12	12	12	12	12	12	
13- Replace multiplexer printed wiring assembly (procedures A22)	13	13	13	13	13	13	13	13	13	13	13	
14- Replace operators panel printed wiring assembly (procedure A20)	14	14	14	14	14	14	14	14	14	14	14	
Go to table 6-101	15	15	15	15	15	15	15	15	15	15	15	
16- Go to sheet 11 of this table												X

TABLE 6-3 LDCHK: LOADCHECK DDLT (CONT)

ASSUMPTIONS:
Entry is made from sheet 10 of this table

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12
1 - K1038 or K103B or K103E or K1041	Y	N										
2 - K1044		Y	N									
3 - K1047 or K104A or K104D or K1050 or K1053			Y	N								
4 - K1056 or K1059 or K105C				Y	N							
5 - K1073 or K1076 or K1079 or K107B or K107C or K107E or K107F					Y	N						
6 - K1081 or K1082 or K1084 or K1085 or K1087 or K1088 or K108A						Y	N					
7 - K108C							Y	N				
8 - K108D or K1090								Y	N			
9 - K1094 or K10DA									Y	N		
10 - K10D5										Y	N	
11 - K10D7 or K10E0 or K10E2											Y	N
ACTIONS:												
1- Replace transform, slot R.	1	5	1	6	1	1	4	1	4	3	4	1
2- Replace control 1, slot P.	2	1	2	8	4	4	3	4	1	2	1	3
3- Replace ALU, slot M.	3	3	3	5	2	2	2	2	2	1	2	4
4- Replace SMI, slot L.	4	4	4	4	5	5	5	5	5	5	5	5
5- Replace I/O-TTY, slot K.	5	9	5	9	9	9	9	9	9	9	9	9
6- Replace memory, slot X.	6	6	6	1	6	6	6	6	6	6	6	6
7- Replace control 2, slot N	7	2	7	7	3	3	1	3	3	4	3	2
8- Replace memory interface, slot V.	8	7	8	2	7	7	7	7	7	7	7	7
9- Replace memory interface, slot W.	9	8	9	3	8	8	8	8	8	8	8	8
10- Replace micro memory, slot T	10	10	10	10	10	10	10	10	10	10	10	10
11- Replace micro memory, slot S	11	11	11	11	11	11	11	11	11	11	11	11
12- Check cables on operators panel printed wiring assembly and multiplexer printed wiring assembly (figure 5A-3, sheet 1)	12	12	12	12	12	12	12	12	12	12	12	12
13- Replace multiplexer printed wiring assembly (procedure A22)	13	13	13	13	13	13	13	13	13	13	13	13
14- Replace operators panel printed wiring assembly (procedure A20)	14	14	14	14	14	14	14	14	14	14	14	14
15- Go to table 6-101.	15	15	15	15	15	15	15	15	15	15	15	15

TABLE 6-4. MPINS: INSTRUCTION TEST DDLT

ASSUMPTIONS:

1. For the remaining testing in tables 6-4 through 6-103, all tests must be loaded from the same load device that loadcheck is loaded from. This recuires a full set of diagnostics on either diskette or cassette.
2. After xxxxx? is displayed, the following is entered at the keyboard (if xxxxx is not displayed, go to table 6-100):
   MPINS is typed in.
   CARRIAGE RETURN is pressed.
   NOTE: xxxxx = test name
3. Observe the CDT display for the following conditions.

	CONDITIONS:	1	2	3	4
	1. Does the CDT display: MPINS EXECUTING MPINS SUSPENDED BOT			Y	N
X	2. Is RUN indicator illuminated?			N	Y
	3. Is the equipment one of the following? a. AA132-A or AA133-A with ST010428-1 installed or b. AA132-B or AA133-B	Y	N		
	ACTIONS:				
	1. Go to sheet 2.	X			
	2. Enter the following at the keyboard 5,9000 (CR) B,0 (CR) GO (CR)		1		
	3. Go to sheet 3.		2		
X	4. Go to table 6-101.			2	X
	5. Replace operator's panel.			1	

TABLE 6-4. MPINS: INSTRUCTION TEST DDLT

SHEET 2 of 3

ASSUMPTIONS:

1. Entry was made from sheet 1.
2. System under test has 1700 Emulator Version D.
3. MPINS SUSPENDED BOT is displayed on the CDT.
4. Enter the following at the keyboard -

   GO (CR)
5. Observe that the following is displayed on the CDT -

   SET MULTI-LEVEL INDIRECT SWITCH OFF {ESC J40 @ GO CR}

   MPINS SUSPENDED SELF
6. Enter the following at the keyboard -

   ESCAPE {KEY} J40 @ GO (CR)

   Observe the CDT for the following conditions -

CONDITIONS:	1	2	3	4
1. Is the RUN indicator illuminated?	Y	N		
2. Is the following displayed after approximately 10 seconds:	Y		N	
MPINS SECTION 0001				
MPINS SECTION 0002				
MULTILEVEL INDIRECT SWITCH IS EXPECTED TO BE OFF				
MPINS SECTION 0003				
MPINS SECTION 0004				
MPINS SECTION 0005				
MPINS SECTION 0006				
MPINS SECTION 0007				
MPINS SECTION 0008				
MPINS SECTION 0009				
MPINS SECTION 000A				
MPINS SECTION 000B				
MPINS COMPLETED 0001 PASSES				
SET MULTILEVEL INDIRECT SWITCH ON {ESC J42 @ GO CR}				
MPINS SUSPENDED SELF				
3. Is an action code displayed?			Y	N
ACTIONS:				
1. Enter the following at the keyboard -	X			
ESCAPE {KEY} J42 @ GO (CR) and proceed to table 6-5.				

TABLE 6-4. MPINS: INSTRUCTION TEST DDLT

SHEET 2 of 3 (cont)

ACTIONS (CONTINUED):	1	2	3	4
2. Replace operators panel (procedures A20 & A21)		1		
3. Replace Transform, slot R.			1	
4. Replace ALU, slot M.			2	
5. Replace Control 1, slot P.			3	
6. Replace Control 2, slot N.			4	
7. Replace SMI, slot L.			5	
8. Replace Memory Data I/F, slot V.			6	
9. Replace Memory Address I/F, slot W.			7	
10. Replace I/O-TTY, slot K.			8	
11. Replace MOS Memory array (s), slot (s) X, (Y, Z, AC)			9	
12. Go to Table 6-101.		2	10	X

TABLE 6-4. MPINS: INSTRUCTION TEST DDLT

ASSUMPTIONS:

1. Entry was made from sheet 1.
2. System under test does not have 1700 Emulator Version D.
3. MPINS SUSPENDED BOT is displayed on the CDT.
4. Enter the following at the keyboard -

   GO (CR)
5. Observe that the following is displayed on the CDT -

   SET MULTI-LEVEL INDIRECT SWITCH OFF {ESC J40 @ GO CR}

   MPINS SUSPENDED SELF
6. Enter the following at the keyboard -

   ESCAPE {KEY} J40 @ GO CR

   Observe the CDT for the following conditions -

CONDITIONS

1. Is the RUN indicator illuminated? NO
2. Is the following displayed after approximately 10 seconds:

   MPINS SECTION 0001

   MPINS SECTION 0002

   MULTILEVEL INDIRECT SWITCH IS EXPECTED TO BE OFF

   MPINS SECTION 0003

   MPINS SECTION 0004

   MPINS SECTION 0005

   MPINS SECTION 0006

   MPINS SECTION 0007

   MPINS SECTION 0008

   MPINS SECTION 0009

   MPINS COMPLETED 0001 PASSES

   SET MULTILEVEL INDIRECT SWITCH ON
   {ESC J42 @ GO CR}

   MPINS SUSPENDED SELF
3. Are any of the following action codes displayed?

   xx11 or xx12 or xx13 or xx14

   xx11 or xx21

   xx12 or xx22

   xx13 or xx23

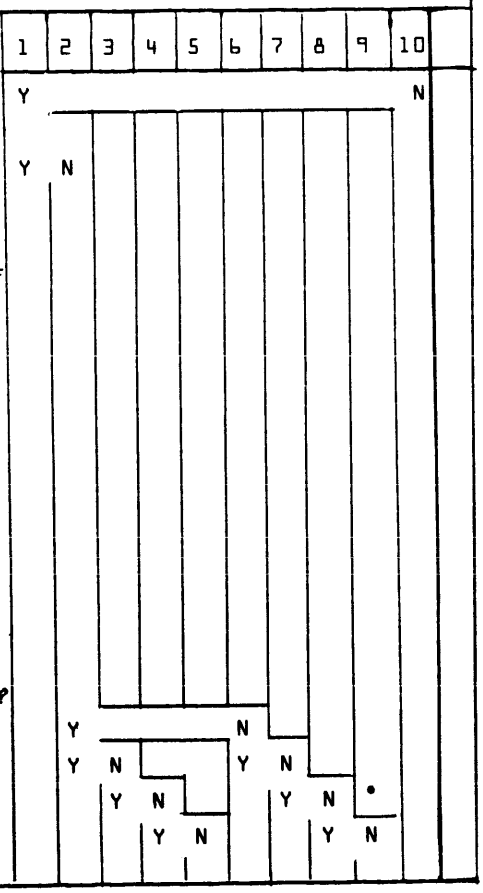

TABLE 6-4. MPINS: INSTRUCTION TEST DDLT

SHEET 3 of 3 (Continued)

ACTIONS:	1	2	3	4	5	6	7	8	9	10	
1. Enter the following at the keyboard - ESCAPE (KEY) J42 @ GO (CR) and proceed to table 6-5.	X										
2. Go to table 6-101.											
3. Replace operators panel (procedures A20 and A21).										1	
4. Replace transform, slot R.		1	1	1	1	2	2	2	2		
5. Replace ALU, slot M.		2	2	2	2	1	1	1	1		
6. Replace control 1, slot P.		5	5	3	3	5	5	3	3		
7. Replace control 2, slot N.		4	4	5	4	4	4	5	4		
8. Replace SMI, slot L.		3	6	4	5	3	6	4	5		
9. Replace memory, slot X.		6	7	6	6	6	7	6	6		
10. Replace I/O-TTY, slot K.		9	3	9	9	9	3	9	9		
11. Replace memory interface, slot V.		7	8	7	7	7	8	7	7		
12. Replace memory interface, slot U.		8	9	8	8	8	9	8	8		
13. Go to table 6-101.		10	10	10	10	10	10	10	10	2	

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TABLE 6-5. CUSTOMER INPUT

Sheet 1 of 1

ASSUMPTIONS:

Customer engineer discusses nature of problems with customer.

CONDITIONS:	1	2	3
1. Does customer suspect a particular device or retest after an action?	N	Y	
2. Is the computer suspected of having the failure?		N	Y
ACTIONS:			
1. Go to table 6-6.	X		X
2. Select the suspected device from the list below and go to the designated table number.		X	

DEVICE	TABLE
CARD READER	6-11
LINE PRINTER	6-11
CASSETTE	6-12
CDT-CC614 (as console)	6-14
STORAGE MODULE DRIVE	6-15
COMMUNICATION MULTIPLEXER	6-16
KEYBOARD DISPLAY TERMINAL-CC555 (as console)	6-17
DUAL MODE LCTT	**6-18**
CARTRIDGE DISK DRIVE	**6-19**
ALL OTHER	**6-50**

TABLE 6-6. MPMOS and MOSMA: MOS MAIN MEMORY DDLT

ASSUMPTIONS:

1. If this test is not to be run, go to table 6-7.
2. The loadcheck test (table 6-3) and the instruction test (table 6-4) run successfully (in both CPUs if dual processor system).
3. After xxxxx? is displayed, the following is entered at the keyboard (if xxxxx is not displayed, go to table 6-100):

   MPMOS is typed in.
   CARRIAGE RETURN is pressed.

   NOTE: xxxxx = test name
4. Observe the CDT display for the following conditions.

CONDITIONS:	1	2	3
1. Does the CDT display: MPMOS EXECUTING MPMOS SUSPENDED BOT	Y		N
2. Is this CPU 2 of a dual-CPU system?	Y	N	
ACTIONS:			
1. Go to table 6-100.			X
2. At the CDT keyboard enter parameter for executing out of CPU 1. Fill in the spaces below with run parameters as directed in procedure A26. Type in A, — — — Press CARRIAGE RETURN Type in D, — , — — — — Press CARRIAGE RETURN		1	
3. At the CDT keyboard enter parameter for executing out of CPU 2. Fill in the spaces below with run parameters as directed in procedure A26. Type in A, — — — Press CARRIAGE RETURN Type in D, — , — — — — Press CARRIAGE RETURN	1		
4. At the CDT keyboard: Type in GO Press CARRIAGE RETURN	2	2	
5. Go to sheet 2 of this table.	3	3	

TABLE 6-6. MPMOS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

Observe CDT display for the following conditions.

CONDITIONS:	1	2
1. Does the CDT display: SET MULTI-LEVEL INDIRECT SWITCH OFF (ESC J40 @ GO CR) MPMOS SUSPENDED SELF	Y	N

ACTIONS:		
1. At the CDT keyboard: Press ESC key Type in J40 @ GO Press CARRIAGE RETURN	1	
2. Go to sheet 3 of this table.	2	
3. Repeat the loadcheck test (table 6-3) and repeat this test. Operator error is suspected.		1
4. Call next level of support.		2

TABLE 6-6. MPMOS AND MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

			Sheet 3 of 14
ASSUMPTIONS: Entry is made from sheet 2 of this table.			
CONDITIONS: After several minutes delay does the CDT display: MPMOS SECTION 0001 MPMOS SECTION 0003 MPMOS SECTION 0004 MPMOS SECTION 0005 MPMOS SECTION 0006 MPMOS COMPLETED 0001 PASSES SET MULTI-LEVEL INDIRECT SWITCH ON (ESC J42 @ GO CR) MPMOS SUSPENDED SELF		1 Y	2 N
ACTIONS:			
1.	At the CDT keyboard: Press ESC key Type in J42 @ GO Press CARRIAGE RETURN	1	
2.	Go to sheet 4 of this table.	2	
3.	Go to sheet 5 of this table.		X

TABLE 6-6. MPMOS AND MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

				Sheet 4 of 14
ASSUMPTIONS: Entry is made from sheet 3 of this table.				
CONDITIONS:		1	2	3
1.	Does the CDT display: MPMOS TERMINATED 0000 ERRORS	Y	N	
2.	Is an error code displayed?		Y	N
ACTIONS:				
1.	Go to sheet 8 of this table.	X		
2.	Repeat the loadcheck test (table 6-3) and repeat this test. Operator error is suspected.			1
3.	Call next level of support.			2
4.	Go to sheet 5 of this table		X	

TABLE 6-6. MPMOS AND MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

Entry is made from sheet 4 of this table.

CONDITIONS: Does the CDT display:	1	2	3	4	5	6	7
1. 04E7	Y	N					
2. 04E8		Y	N				
3. 04E9			Y	N			
4. 04D0				Y	N		
5. xxx0 through xxx7					Y	N	
6. xxx8 through xxxF						Y	N
ACTIONS:							
1. Repeat the loadcheck test (table 6-3) and repeat this test. Run parameters are incorrect.	1	1	1				
2. Replace memory interface, local slot V.	2	3		1			3
3. Replace memory interface, local slot W.	3	4		2			2
4. Replace MOS array, local slot X.	4						
5. Replace MOS array, local slot Y.	5						
6. Replace MOS array, local slot Z.	6						
7. Replace MOS array, local slot AC.	7						
8. Replace ECC array, local slot AC.	8						
9. Replace 1700 transform, local slot R.	9			3			
10. Replace control 2, local slot N.	10			4			9
11. Replace control 1, local slot P.	11			5			10
12. Replace I/O-TTY, local slot K.	12			6			11
13. Replace panel interface, local slot U.	13			7			12

Continued on next page

TABLE 6-6. MPMOS AND MOSMA: MOS MAIN MEMORY DDLT (Contd)

Sheet 5 of 14 (Contd)

ACTIONS (Continued):		1	2	3	4	5	6	7
14.	Replace SMI, local slot L.	14			8			13
15.	Replace ALU, local slot M.	15			9			14
16.	Run the loadcheck test (table 6-3) and run this test in alternate CPU.		2					1
17.	Replace memory interface, remote slot V.		5					5
18.	Replace memory interface, remote slot W.		6					4
19.	Replace cable at local slot V, pin 228.		7					
20.	Replace cable at local slot V, pin 240.		8					
21.	Replace cable at local slot W, pin 53.		9					6
22.	Replace cable at local slot W, pin 77.		10					7
23.	Verify proper placement of MOS address connectors at local slots Y through AC and reseat each one. See procedure A21.	16						
24.	Verify proper placement of array boards in local slots X through AC. See procedure A21.	17						
25.	Call next level of support.	18	11	2	10			15
26.	Go to sheet 6 of this table.					X		
27.	Go to sheet 7 of this table.						X	

TABLE 6-6. MPMOS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

Entry is made from sheet 5 of this table.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12	13
Does the CDT display:													
1. xxx0	Y	N											
2. xxx6 or xxx7		Y	N										
3. xxx1			Y	N									
4. xxx2					Y	N							
5. xxx3							Y	N					
6. xxx4								Y	N				
7. Are there any 32K boards in the local CPU?			Y	N	Y	N	Y		N				
8. Is there only one 32K board in the local CPU?							Y	N		Y	N		
9. Are there only two 32K boards in the local CPU?												Y	N
ACTIONS:													
1. Replace MOS array board in one of the following local slots:													
X	1	4	1	5	5	5	5	5	5	5	5	5	5
Y	5	5	5	1	1	6	6	1	6	6	6	6	6
Z	6	6	6	6	6	1	1	6	7	7	1	7	1
AC	7	1	7	7	7	7	7	7	1	1	7	1	7
2. Replace ECC array board (if present), local slot AC.	2		2	2	2	2	2	2	2	2	2	2	2
3. Replace memory interface board, local slot V.	3	2	3	3	3	3	3	3	3	3	3	3	3
4. Replace memory interface board, local slot W.	4	3	4	4	4	4	4	4	4	4	4	4	4
5. Call next level of support.	8	7	8	8	8	8	8	8	8	8	8	8	8

TABLE 6-6. MPMOS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

Entry is made from sheet 5 of this table.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12	13
Does the CDT display:													
1. xxx8	Y	N											
2. xxxE or xxxF		Y	N										
3. xxx9			Y		N								
4. xxxA					Y		N						
5. xxxB							Y			N			
6. xxxC										Y		N	
7. Are there any 32K boards in the remote CPU?			Y	N	Y	N	Y		N				
8. Is there only one 32K board in the remote CPU?							Y	N		Y	N		
9. Are there only two 32K boards in the remote CPU?												Y	N
ACTIONS:													
1. Replace MOS array board in one of the following remote slots:													
X	1	10	1	11	11	11	11	11	11	11	11	11	11
Y	11	11	11	1	1	12	12	1	12	12	12	12	12
Z	12	12	12	12	12	1	1	12	13	13	1	13	1
AC	13	1	13	13	13	13	13	13	1	1	13	1	13
2. Replace ECC array board, remote slot AC.	2		2	2	2	2	2	2	2	2	2	2	2
3. Replace memory interface board, remote slot V.	3	2	3	3	3	3	3	3	3	3	3	3	3
4. Replace memory interface board, remote slot W.	4	3	4	4	4	4	4	4	4	4	4	4	4
5. Replace memory interface board, local slot V.	5	4	5	5	5	5	5	5	5	5	5	5	5
6. Replace memory interface board, local slot W.	6	5	6	6	6	6	6	6	6	6	6	6	6

Continued on next page

TABLE 6-6. MPMOS and MOSMA: MOS MAIN MEMORY DDLT (Contd)

Sheet 7 of 14 (Contd)

ACTIONS (Continued):	1	2	3	4	5	6	7	8	9	10	11	12	13
7. Replace cable at local slot V, pin 228.	7	6	7	7	7	7	7	7	7	7	7	7	7
8. Replace cable at local slot V, pin 240.	8	7	8	8	8	8	8	8	8	8	8	8	8
9. Replace cable at local slot W, pin 53.	9	8	9	9	9	9	9	9	9	9	9	9	9
10. Replace cable at local slot W, pin 77.	10	9	10	10	10	10	10	10	10	10	10	10	10
11. Call next level of support.	14	13	14	14	14	14	14	14	14	14	14	14	14

TABLE 6-6. MPMOS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

1. Entry is made from sheet 4 of this table.
2. If this test is not to be run, go to table 6-7.
3. After xxxxx? is displayed, the following is entered at the keyboard (if xxxxx is not displayed, go to table 6-100):

   MOSMA is typed in.
   CARRIAGE RETURN is pressed.

   NOTE: xxxxx = test name
4. Observe the CDT display for the following conditions.

CONDITIONS:	1	2	3
1. Does the CDT display: MOSMA EXECUTING MOSMA SUSPENDED BOT	Y		N
2. Is this CPU 2 of a dual CPU system?	Y	N	
ACTIONS:			
1. Go to table 6-100.			X
2. At the CDT keyboard enter parameters for executing out of CPU 1. Fill in the spaces below with run parameters as directed in procedure A26. Type A, _ _ _ Press CARRIAGE RETURN Type D, _ , _ _ _ _ , _ Press CARRIAGE RETURN Type 3, _ _ _ _ Press CARRIAGE RETURN		1	
3. At the CDT keyboard enter parameters for executing out of CPU 2. Fill in the spaces below with run parameters as directed in procedure A26. Type A, _ _ _ Press CARRIAGE RETURN Type D, _ , _ _ _ _ , _ Press CARRIAGE RETURN Type 3, _ _ _ _ Press CARRIAGE RETURN	1		
4. At the CDT keyboard: Type GO Press CARRIAGE RETURN	2	2	
5. Go to sheet 9 of this table.	3	3	

TABLE 6-6. MPMOS and MOSMA: MOS MAIN MEMORY DDLT (Contd)

Sheet 9 of 14

ASSUMPTIONS:

Observe CDT display for the following conditions.

CONDITIONS:		1	2
1.	Does the CDT display: SET MULTI-LEVEL INDIRECT SWITCH OFF (ESC J40 @ GO CR) MOSMA SUSPENDED SELF	Y	N
ACTIONS:			
1.	At the CDT keyboard: Press ESC key Type J40 @ GO Press CARRIAGE RETURN	1	
2.	Go to sheet 10 of this table.	2	
3.	Repeat the loadcheck test (table 6-3) and repeat this test (from sheet 8). Operator error is suspected.		1
4.	Call next level of support.		2

TABLE 6-6. MPMOS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

Entry is made from sheet 9 of this table.

CONDITIONS:	1	2
After several minutes delay does the CDT display:	Y	N
MOSMA SECTION 0007		
MOSMA SECTION 0008		
MOSMA SECTION 0009 (optional)		
MOSMA SECTION 000A		
MOSMA COMPLETED 0001 PASSES		
SET MULTI-LEVEL INDIRECT SWITCH ON (ESC J42 @ GO CR)		
MOSMA SUSPENDED SELF		
ACTIONS:		
1. At the CDT keyboard: Press ESC key Type J42 @ GO Press CARRIAGE RETURN	1	
2. Go to sheet 11 of this table.	2	
3. Go to sheet 12 of this table.		X

TABLE 6-6. MPMOS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

Entry is made from sheet 10 of this table.

CONDITIONS: Does the CDT display: MOSMA TERMINATED 0000 ERRORS	1 Y	2 N
ACTIONS:		
1. Go to table 6-7.	X	
2. Repeat the loadcheck test (table 6-3) and repeat this test (from sheet 8). Operator error is suspected.		1
3. Call next level of support.		2

TABLE 6-6. MPMOS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

Entry is made from sheet 10 of this table.

CONDITIONS:	1	2	3	4	5	6	7	8
Does the CDT display:								
1. 24CO or 24CE	Y	N						
2. 24DO		Y	N					
3. 24E4, 24E5, 24E6, or 24E9			Y	N				
4. 24E7, 24EA, or 24EC				Y	N			
5. 24E8					Y	N		
6. xxx0 through xxx7						Y	N	
7. xxx8 through xxxF							Y	N
ACTIONS:								
1. Repeat the loadcheck test (table 6-3) and repeat this test (from sheet 8). Run parameters are incorrect.			1	1	1			
2. Replace memory interface, local slot V.	5	1		2	3			3
3. Replace memory interface, local slot W.	6	2		3	4			2
4. Replace MOS array, local slot X.	1			4				
5. Replace MOS array, local slot Y.	2			5				
6. Replace MOS array, local slot Z.	3			6				
7. Replace MOS array, local slot AC.				7				
8. Replace ECC array, local slot AC.	4			8				
9. Replace 1700 transform, local slot R.		3		9				8
10. Replace control 2, local slot N.		4		10				9
11. Replace control 1, local slot P.		5		11				10
12. Replace I/O-TTY, local slot K.		6		12				11

Continued on next page

TABLE 6-6. PMCS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

Sheet 12 of 14 (Contd)

ACTIONS (Continued):	1	2	3	4	5	6	7	8
13. Replace panel interface, local slot U.		7		13				12
14. Replace SMI, local slot L.		8		14				13
15. Replace ALU, local slot M.		9		15				14
16. Run the loadcheck test (table 6-3), and run this test in the alternate CPU.					2			1
17. Replace memory interface, remote slot V.					5			5
18. Replace memory interface, remote slot W.					6			4
19. Replace cable at local slot V, pin 228.					7			
20. Replace cable at local slot V, pin 240.					8			
21. Replace cable at local slot W, pin 53.					9			6
22. Replace cable at local slot W, pin 77.					10			7
23. Call next level of support.	7	10	2	16	11			15
24. Go to sheet 13 of this table.						X		
25. Go to sheet 14 of this table.							X	

TABLE 6-6. MPMOS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

Entry is made from sheet 12 of this table.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12	13
Does the CDT display:													
1. xxx0	Y	N											
2. xxx6 or xxx7		Y	N										
3. xxx1			Y		N								
4. xxx2					Y		N						
5. xxx3							Y			N			
6. xxx4										Y		N	
7. Are there any 32K boards in the local CPU?			Y	N	Y	N	Y		N				
8. Is there only one 32K board in the local CPU?							Y	N		Y	N		
9. Are there only two 32K boards in the local CPU?												Y	N
ACTIONS:													
1. Replace MOS array board in local slot:													
X	1	4	1	5	5	5	5	5	5	5	5	5	5
Y	5	5	5	1	1	6	6	1	6	6	6	6	6
Z	6	6	6	6	6	1	1	6	7	7	1	7	1
AC	7	1	7	7	7	7	7	7	1	1	7	1	7
2. Replace ECC array board if present, local slot AC.	2		2	2	2	2	2	2	2	2	2	2	2
3. Replace memory interface board, local slot V.	3	2	3	3	3	3	3	3	3	3	3	3	3
4. Replace memory interface board, local slot W.	4	3	4	4	4	4	4	4	4	4	4	4	4
5. Call next level of support.	8	7	8	8	8	8	8	8	8	8	8	8	8

TABLE 6-6. MPMOS and MOSMA: **MOS MAIN MEMORY DDLT (Contd)**

ASSUMPTIONS:

Entry is made from sheet 12 of this table.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10	11	12	13
Does the CDT display:													
1. xxx8	Y	N											
2. xxxE or xxxF		Y	N										
3. xxx9			Y		N								
4. xxxA					Y		N						
5. xxxB							Y			N			
6. xxxC										Y		N	
7. Are there any 32K boards in the remote CPU?			Y	N	Y	N	Y		N				
8. Is there only one 32K board in the remote CPU?							Y	N		Y	N		
9. Are there only two 32K boards in the remote CPU?												Y	N
ACTIONS:													
1. Replace MOS array board in remote slot: X	1	10	1	11	11	11	11	11	11	11	11	11	11
Y	11	11	11	1	1	12	12	1	12	12	12	12	12
Z	12	12	12	12	12	1	1	12	13	13	1	13	1
AC	13	1	13	13	13	13	13	13	1	1	13	1	13
2. Replace ECC array board, remote slot AC.	2		2	2	2	2	2	2	2	2	2	2	2
3. Replace memory interface board, remote slot V.	3	2	3	3	3	3	3	3	3	3	3	3	3
4. Replace memory interface board, remote slot W.	4	3	4	4	4	4	4	4	4	4	4	4	4
5. Replace memory interface board, local slot V.	5	4	5	5	5	5	5	5	5	5	5	5	5

Continued on next page

TABLE 6-6. MPMOS and MOSMA: MOS MAIN MEMORY DDLT (Contd)

Sheet 14 of 14 (Contd)

ACTIONS (Continued):	1	2	3	4	5	6	7	8	9	10	11	12	13
6. Replace memory interface board, local slot W.	6	5	6	6	6	6	6	6	6	6	6	6	6
7. Replace cable at local slot V, pin 228.	7	6	7	7	7	7	7	7	7	7	7	7	7
8. Replace cable at local slot V, pin 240.	8	7	8	8	8	8	8	8	8	8	8	8	8
9. Replace cable at local slot W, pin 53.	9	8	9	9	9	9	9	9	9	9	9	9	9
10. Replace cable at local slot W, pin 77.	10	9	10	10	10	10	10	10	10	10	10	10	10
11. Call next level of support.	14	13	14	14	14	14	14	14	14	14	14	14	14

TABLE 6-7. MPRTC: MEMORY PROTECT AND INTERRUPT SYSTEM TEST DDLT

ASSUMPTIONS:

1. If this test is not to be run, go to next table.

2. After xxxxx? is displayed, the following is entered at the keyboard (if xxxxx is not displayed, go to table 6-100):

   MPRTC is typed in.
   CARRIAGE RETURN is pressed.

   NOTE: xxxxx = test name

3. See the table below for operator actions as directed by diagnostic. Then observe the CDT display for the following conditions after approximately two minutes. Following program input requests, observe conditions.

Display message directive	Operator response
1. Clear protect and stop switches	1. Press ESC key 2. Type in J20@GO 3. Press CARRIAGE RETURN
2. Set protect and clear stop switches	1. Press ESC key 2. Type in J28@GO 3. Press CARRIAGE RETURN
3. Set protect and stop switches	1. Press ESC key 2. Type in J2A@GO 3. Press CARRIAGE RETURN
4. Verify CPU is halted at xxxx and restart CPU.	1. Press ESC key 2. Type in J11GKG 3. Observe the value Knnnn, where nnnn portion equals the xxxx value in message. If not equal, go to next page and assume code 0651. If equal, type in I@ at the keyboard.
5. Set protect and clear stop switches	1. Press ESC key 2. Type in J28@GO 3. Press CARRIAGE RETURN
6. Clear protect and set stop switches	1. Press ESC key 2. Type in J22@GO 3. Press CARRIAGE RETURN

Continued on next page

TABLE 6-7. MPRTC: MEMORY PROTECT AND INTERRUPT SYSTEM TEST (Contd)

Sheet 1 of 2 (Contd)

CONDITIONS:	1	2	3	4	5	6	7	8
1. Is MPRTC EXECUTING displayed?	Y						N	
2. Is RUN indicator illuminated?							N	Y
3. Is micro processor halted at address displayed in display message directive 4 (see previous page)?	Y				N			
4. Is MPRTC TERMINATED displayed?	Y		N					
5. Are action codes displayed?			Y	N	Y	N		
X 6. Is there a ghost interrupt message?	N	Y						
ACTIONS:								
1. Go to next table.	X							
2. Go to table 6-100.							X	
3. Go to sheet 2 of this table.			X		X			
4. Go to sheet 2 of this table and assume action code 0651.						X		
5. Go to sheet 2 of this table and assume action code 0657.								X
X 6. Replace SMI board, slot L.		1						
7. Go to table 6-101.		2						
8. Go to sheet 2 of this table and assume action code 0652.				X				

TABLE 6-7. MPRTC: MEMORY PROTECT AND INTERRUPT SYSTEM TEST (Contd)

ASSUMPTIONS:

1. A failure has been detected. The following analyzes and isolates the detected failure.
2. Observe CDT display for any of the following conditions.

CONDITIONS: Does the CDT display:	1	2	3	4	5	6	7	8	9
1. 0641 or 0642	Y	N							
2. 0651 or 0654 or 0656		Y	N						
3. 0652 or 0653			Y	N					
4. 0655				Y	N				
5. 0657 or 0621					Y	N			
6. 0661 or 06B2 or 06B3						Y	N		
7. 0671 or 0672							Y	N	
8. 06A1								Y	N
9. 06B1									Y
ACTIONS:									
1. Replace memory interface, slot V.	2	2	1		4		3	2	3
2. Replace memory interface, slot W.	3	3	2		5		4	3	4
3. Replace transform, slot R.	5	1	4	2	3	1	5	6	1
4. Replace SMI, slot L.	4	4	3	1	2	2	6	5	5
5. Replace memory, slot X.	1	5	5				2	4	2
6. Replace I/O-TTY, slot K.		6			1				
7. Go to procedures A7, A9, and A11.							1		
8. Restart this test (go back to sheet 1 of this table).								1	
9. Go to table 6-101.	6	7	6	3	6	3	7	7	6

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TABLE 6-13:CC614 CONVERSATIONAL DISPLAY TERMINAL OFF-LINE TEST DDLT

Read-Only Memory (ROM) Test (Test Section 0) — Sheet 1 of 6

ASSUMPTIONS:

1. Conversational display terminal (CDT) power cord is connected to ac outlet.
2. Circuit breaker CB1 (rear panel) is up.
3. POWER ON switch is in ON position.

CONDITIONS:	1	2	3	4	5	6	7	8	9	10
1. Does circuit breaker CB1 remain up?	Y									N
2. Place TEST/NORMAL switch (rear panel) in NORMAL position. Place ON LINE/LOCAL switch in LOCAL position. Wait 30 seconds. Does blinking cursor appear on screen?	Y						N			
3. Place TEST/NORMAL switch in TEST position. Press MASTER CLEAR switch (rear panel). Does checksum display appear as shown in figure 6E-39?	Y		N							
4. Is ALERT indicator illuminated?	Y	N								
5. Turn up INTENSITY control. Is normal raster visible (figure 6E-45)?							Y	N		
6. Do any characters appear on screen?			Y			N				
7. Is anything visible?								Y	N	
8. Is a general checksum display format recognizable?			Y		N					
9. Does one or more of checksum digits have nonzero value (alarm sounds)?			Y	N						
ACTIONS:										
1. Go to sheet 2 of this table.	X									
2. Go to sheet 6 of this table and perform all voltage checks.								4	1	
3. Check printed-circuit boards for proper seating.		1	1	1	1	1	1	1	6	
4. Perform monitor adjustment and troubleshooting (procedure E26). If required, replace monitor board (procedure E11).							8	3	7	
5. Replace refresh board U6 (procedure E8).			4	2	6		2	2	4	
6. Check CDT cables and connections and CRT for lighted filament.								5	2	
7. Check back panel cable connector connection.		5	8	6	5	6	6	8	3	
8. Replace CRT (procedure E13).								7	11	

Continued on next page

TABLE 6-13:CC614 CONVERSATIONAL DISPLAY TERMINAL OFF-LINE TEST DDLT (Contd)

Read-Only Memory (ROM) Test (Test Section 0)										Sheet 1 of 6 (Contd)	
ACTIONS (Continued):		1	2	3	4	5	6	7	8	9	10
9.	Check yoke (procedure E14). Replace yoke, if required (procedure E15).								6	8	
10.	Check voltages: +5v, ±12v. and -9v (procedure E22).			7	7	7	5	7			
11.	Replace processor board 09 (procedure E8).		4	5	5	2	4	5			
12.	Replace ROM/RAM board 08 (procedure E8).		2	2	3	3	2	3			
13.	Replace extended memory board 05B (procedure E8).		3	3	4	4	3	4			
14.	Replace indicator-panel LED board (procedure E10).		6								
15.	Replace TEST/NORMAL and MASTER CLEAR switches (procedures E6 and E7).					8	7				
16.	Replace high-voltage transformer (procedure E3).									9	
17.	Check INTENSITY control and related cabling (procedure E23).									10	
18.	Check POWER ON/OFF switch (procedure E28).									12	3
19.	Replace +5v regulator board 03A (procedure E8).										1
20.	Replace circuit breaker (procedure E5).										2
21.	Call next level of support.		7	8	8	9	8	9	9	13	4

TABLE 6-13:CC614 CONVERSATIONAL DISPLAY TERMINAL OFF-LINE TEST DDLT (Contd)

Random-Access Memory (RAM) Test (Test Section 1) — Sheet 2 of 6

ASSUMPTIONS:

1. Review conditions prior to next step.
2. 9-key on keyboard is pressed.

CONDITIONS:	1	2	3	4	5	6
1. Does ALERT light blink off? (It must blink off to indicate start of RAM test.)	Y					N
2. Does display cycle through full screen of all 128 displayable characters twice without halting? (Second pass displays blinking underline under alternate character positions.)	Y	N				
3. Did test halt before two complete passes?		Y		N		
4. Did alarm sound?		Y	N			
5. Is checksum display from ROM test (test section 0) still being displayed?				Y	N	
ACTIONS:						
1. Go to sheet 3 of this table.	X					
2. Check for proper printed-circuit board seating.		1	1	2	1	1
3. Replace ROM/RAM board 08 (procedure E8).		2	2		2	
4. Replace extended memory board 05B (procedure E8).		3	3		3	
5. Replace processor board 09 (procedure E8).		6	4		4	2
6. Check voltages: +5v, ±12v, and -9v (procedure E22).		4	5		5	
7. Check back cable connector.		5	6	4	6	4
8. Check keyboard cable and connector.				1		3
9. Replace keyboard (procedure E18).				3		5
10. Call next level of support.		7	7	5	7	6

NOTE: After completing any repairs and after performing any maintenance, verify that the system is fully operational by rerunning test mode.

TABLE 6-13:CC614 **CONVERSATIONAL DISPLAY TERMINAL OFF-LINE TEST DDLT (Contd)**

Shifting Pattern and I/O Test (Test Section 2)				Sheet 3 of 6
ASSUMPTIONS: 9-key on keyboard is pressed.				
CONDITIONS:	1	2	3	4
1. Is continuously shifting pattern of characters displayed on screen?	Y		N	
2. Did alarm sound?			Y	N
3. Are REC and TRANS indicators illuminated and do they blink occasionally?	Y	N		
ACTIONS:				
1. Go to sheet 4 of this table.	X			
2. Check for proper printed-circuit board seating.		1	1	1
3. Replace ROM/RAM board 08 (procedure E8).			6	2
4. Replace processor board 09 (procedure E8).		3	2	3
5. Check voltages: +5v, ±12v, and -9v (procedure E22).			3	5
6. Check back cable connection.		2	4	6
7. Replace TEST/NORMAL switch (procedure E6).			5	7
8. Replace LED board for indicator/switch (procedure E10).		4		
9. Replace extended memory board 05B (procedure E8).			7	4
10. Call next level of support.		5	8	8

NOTE: After completing any repairs and after performing any maintenance, verify that the system is fully operational by rerunning test mode.

TABLE 6-13:CONTD CONVERSATIONAL DISPLAY TERMINAL OFF-LINE TEST DDLT (Contd)

Keyboard and Display Quality Checks (Test Section 3) Sheet 4 of 6

ASSUMPTIONS:

9-key on keyboard is pressed.

CONDITIONS:	1	2	3	4	5	6	7	8	9
1. Does shifting pattern of previous test halt?	Y								N
2. Remove hood (procedure E21). Perform keyboard checks (procedure E25). Was proper character displayed for each keyboard entry?	Y							N	
3. Place 64 CHAR/96 CHAR switch in 96 CHAR position. Press lowercase M key. Are Ms clear and well-defined over entire screen? (Upon completion of test, return switch to its original position.)	Y						N		
4. Press uppercase H key. Are all Hs same height and width?	Y					N			
5. Are Hs stable?	Y				N				
6. Press space bar once. Turn INTENSITY control until raster appears. Is CRT phosphor free of any objectionable burn spots or blemishes?	Y			N					
7. Are all four sides of raster rectangle straight?	Y		N						
8. Are height and width of display approximately 5.25 inches (13.3 cm) and 8 inches (20.3 cm), respectively?	Y	N							
ACTIONS:									
1. Press a character and return INTENSITY control to normal. Press space bar twice. Go the sheet 5 of this table.	X								
2. Check printed-circuit boards for proper seating.								4	1
3. Replace ROM/RAM board 08 (procedure E8).									2
4. Replace extended memory board 05B (procedure E8).									3
5. Replace processor board 09 (procedure E8).								5	4
6. Check voltages: +5v, ±12v, and -9v (procedure E22).									5
7. Check back panel connections.								2	6
8. Check keyboard cable and connector.								1	
9. Replace keyboard (procedure E18).								3	

Continued on next page

TABLE 6-13:CC614 **CONVERSATIONAL DISPLAY TERMINAL OFF-LINE TEST DDLT (Contd)**

Keyboard and Display Quality Checks (Test Section 3)									Sheet 4 of 6 (Contd)	
ACTIONS (Continued):	1	2	3	4	5	6	7	8	9
10. Replace refresh board 06 (procedure E8).								6	
11. Check 64 CHAR/96 CHAR switch (procedure E28).							1		
12. Perform adjustment and troubleshooting (procedure E26).		1			1	1			
13. Perform refresh stability adjustment and troubleshooting (procedure E30).					2				
14. Replace CRT (procedure E13) if spot interferes with character display.				1					
15. Perform horizontal and vertical alignment adjustment and troubleshooting (procedure E14).			1						
16. Call next level of support.		2	2	2	3	2	2	7	7

TABLE 6-13:CC61 CONVERSATIONAL DISPLAY TERMINAL OFF-LINE TEST DDLT (Contd)

External Switch Checks (Test Section 7) — Sheet 5 of 6

ASSUMPTIONS:

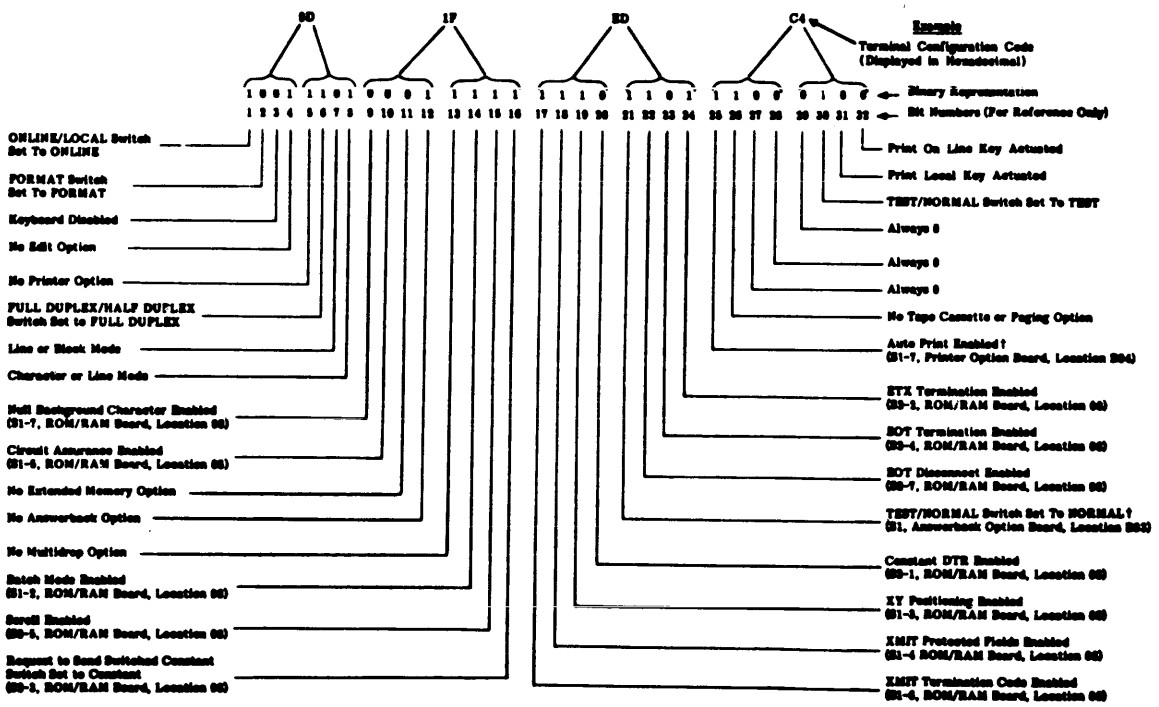
1. Record original position of switches listed in assumption 2 and upon completion of tests return them to these positions.
2. External switches are set to: 64 CHAR, non-format, ON LINE, CHARACTER, EVEN PAR, FULL DUPLEX, HIGH RATE.
3. CDT is in page mode (see table 7E-1).

CONDITIONS:	1	2	3	4	5	6	7
1. Is terminal configuration code displayed on screen? 9D 1F ED C4	Y					N	
2. Place CHARACTER/LINE/BLOCK switch in each of its positions while observing the code displayed above. Does CHARACTER = 9D 1F ED C4, LINE = 9F 1F ED C4, BLOCK = 9E 1F ED C4? (Return switch to CHARACTER.)	Y				N		
3. Place ON LINE/LOCAL switch to ON LINE and then to LOCAL while observing the code displayed above. Does ON LINE = 9D 1F ED C4, LOCAL = 1D 1F ED C4? (Return switch to ON LINE.)	Y			N			
4. Place FULL DUPLEX/HALF DUPLEX switch to FULL DUPLEX and then to HALF DUPLEX while observing code on display. Does FULL DUPLEX = 9D 1F ED C4, HALF DUPLEX = 99 1F ED C4? (Return switch to FULL DUPLEX.)	Y		N				
5. Place FORMAT switch in FORMAT position while observing code on display. Does FORMAT = DD 1F ED C4? (Return switch to alternate position.)	Y	N					
ACTIONS:							
1. (Return test mode to NORMAL.) Press red MASTER CLEAR button at rear of CDT. Replace cover. Go to sheet 1, table 6-3.	X						
2. Verify that printed circuit boards are properly seated.		2	2	2	2	2	
3. Replace ROM/RAM boards 08 amd 05 (procedure E8).		4	4	4	4	3	
4. Replace extended memory board 05B (procedure E8).		5	5	5	5	4	
5. Replace processor board 09 (procedure E8).					6	5	
6. Check voltages: +5v, +12v, and -9v (procedure E22).						6	
7. Observe back panel connections.		3	3	3	3	7	
8. Check CHARACTER/LINE/BLOCK switch and wiring (procedure E27).					1		
9. Check ON LINE/LOCAL switch and wiring (procedure E28).				1			

Continued on next page

TABLE 6-13:CC614 **CONVERSATIONAL DISPLAY TERMINAL OFF-LINE TEST DDLT (Contd)**

External Switch Checks (Test Section 7)	Sheet 5 of 6 (Contd)						
ACTIONS (Continued):	1	2	3	4	5	6	7
10. Check FULL DUPLEX/HALF DUPLEX switch and wiring (procedure E28).			1				
11. Check FORMAT switch and wiring (procedure E28).		1					
12. If the CDT display 9D IF ED C4 is not correct, see figures 4E-5 and 4E-6 for location and set switches as shown in the table below.						1	
13. Call next level of support.		6	6	6	7	8	



†Bit is set to 1 when option is not installed.

Terminal Configuration Display Bit Assignments

TABLE 6-13. CONVERSATIONAL DISPLAY TERMINAL OFF-LINE TEST DDLT (Contd)

Voltage Checks — Sheet 6 of 6

ASSUMPTIONS:

Voltage checks are performed (procedure E20).

CONDITIONS:	1	2	3	4	5
1. Were all voltage checks OK (procedure E20, steps 1 through 17)?	Y	N			
2. Where +15v and +5v checks OK (procedure E20, steps 18 through 26)?		Y	N		
3. Are LEDs illuminated on +5v regulator board 03 (figure 6E-33)?			Y	N	
4. Are LEDs illuminated on bulk power supply printed-circuit board (figure 6E-33)?				Y	N
ACTIONS:					
1. Replace high-voltage transformer (procedure E3).	1				
2. Replace video printed-circuit board (procedure E11).		1			
3. Check for +19 vdc on base of +15v regulator power transistor (figure 6E-4). Check for +15 vdc on emitter of +15v regulator power transistor (figure 6E-4). If +19 ±2v is found on base of transistor, but +15 ±2v is not found on emitter, replace power transistor (procedure E4). If voltages are OK, replace printed-circuit board.			1		
4. Replace +5v regulator board 03A (procedure E8).				1	
5. Check for 110 vac to 124 vac at wall outlet.					1
6. Check input power cabling from ac wall outlet to bulk power supply.					2
7. Replace bulk power supply (procedure E17).					3
8. Call next level of support.	2	2	2	2	4

NOTE: After completing any repairs and after performing any maintenance, verify that the system is fully operational by rerunning test mode.

TABLE 6-14 LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT

Diagnostic Test of CC614 when connected to I/O TTY Card

ASSUMPTIONS:

1. If this test is not to be run, go to next table.
2. The CDT off-line test (table 6-13) has been performed. If not go to table 6-13, then return to this table. CDT is in page mode (see table 7E-1).
3. After xxxxx? is displayed, the following is entered at the keyboard (if xxxxx is not displayed, go to table 6-100):

   LIAT2 is typed in.
   CARRIAGE RETURN is pressed.

   NOTE: xxxxx = test name
4. Observe the CDT display for the following conditions.

CONDITIONS:	1	2	3
1. Is LIAT2 EXECUTING displayed?	Y	N	
2. Is RUN indicator illuminated?		N	Y
ACTIONS:			
1. Go to sheet 2 of this table.	X		
2. Go to table 6-100.		X	
3. Go to table 6-101.			X

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected toI/O TTY Card			Sheet 2 of 14
ASSUMPTIONS: Observe CDT display for any of the following conditions.			
CONDITIONS:	1	2	3
1. Is LIAT2 SUSPENDED ENDS displayed?	Y	N	
2. Is there an action code?		Y	N
ACTIONS:			
1. Go to sheet 3 of this table.	X		
2. Go to sheet 14 of this table.		X	
3. Call next level of support.			X

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected to I/O TTY Card — Sheet 3 of 14

ASSUMPTIONS:

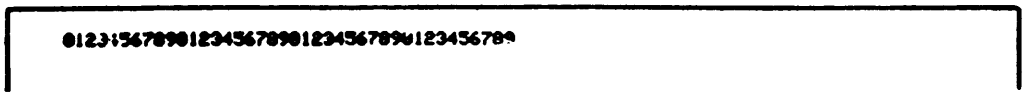
1. Conditions 1 through 6 below are understood before test execution.
2. The following is entered at the keyboard:
   GO is typed in.
   CARRIAGE RETURN is pressed.
3. Observe CDT display for any of the following conditions.

CONDITIONS:	1	2	3	4	5	6	7
1. Does sonic alarm sound three times?	Y						N
2. Does the screen clear?	Y					N	
3. Does the cursor move from position 0 to 80 and back across the screen several times?	Y				N		
4. Are the following test patterns displayed in order (see sheet 4 of this table)?	Y			N			
5. Does the screen clear?	Y		N				
6. Is LIAT2 SUSPENDED ENDS displayed?	Y	N					
ACTIONS:							
1. Go to sheet 5 of this table.	X						
2. Replace processor board, CDT, slot 9.			1	1	3		2
3. Replace refresh board, CDT, slot 6.			2	2		2	
4. Replace I/O-TTY, micro processor, slot K.					1		1
5. Replace SMI board, micro processor, slot L.					2		
6. Go to sheet 14 of this table.		X					
7. Check and replace audible alarm (procedure E29).							3
8. Call next level of support.			3	3	4	3	

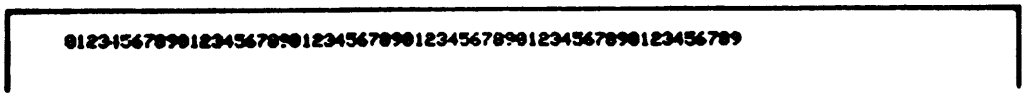
TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected to I/O TTY Card — Sheet 4 of 14

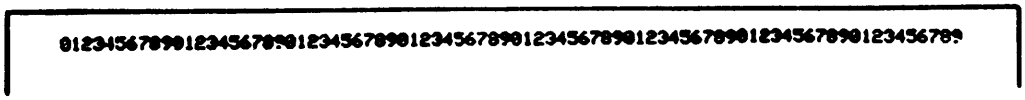
Test Pattern 1



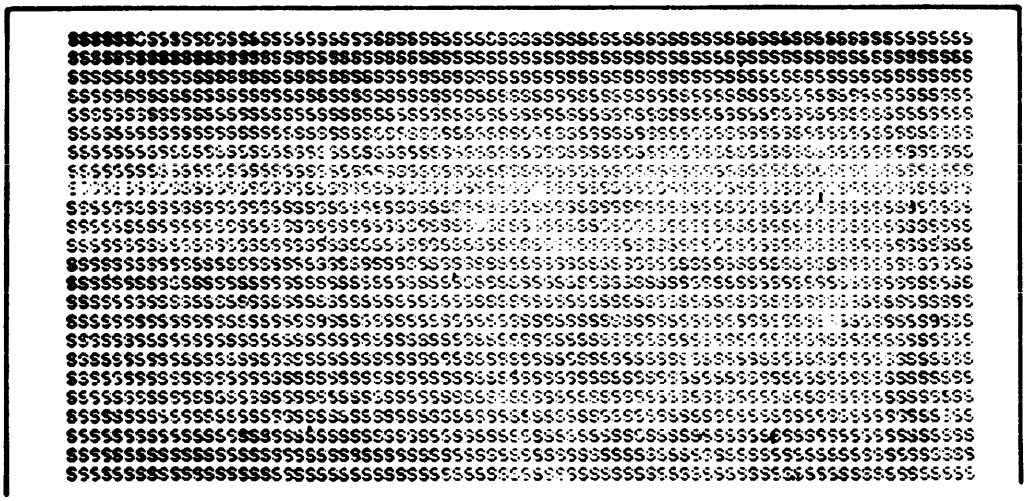
Test Pattern 2



Test Pattern 3



Test Pattern 4



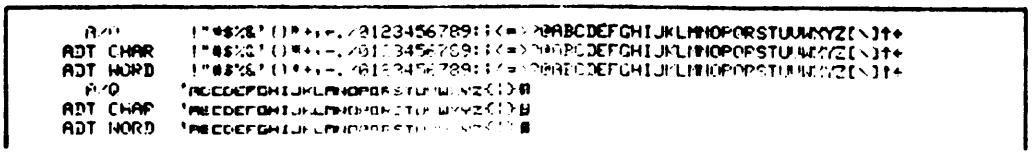
Test Pattern 5

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

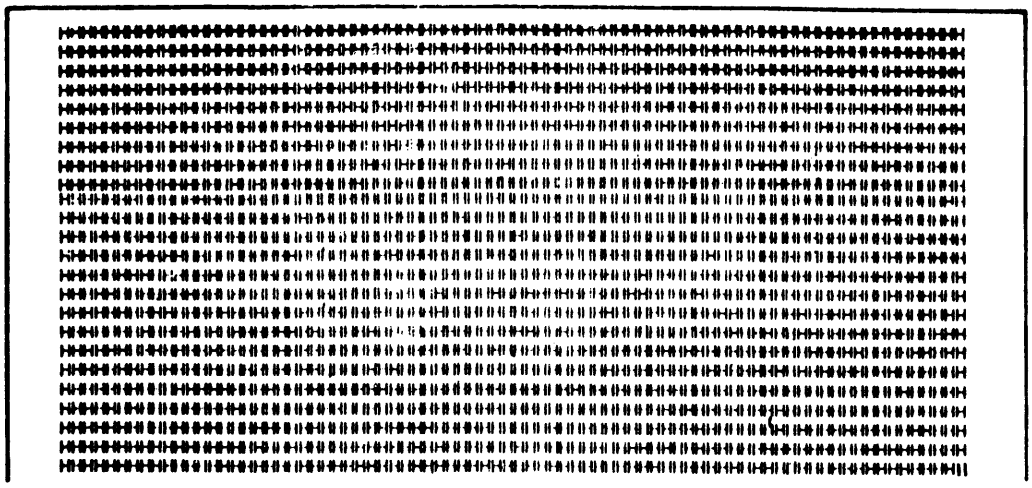
Diagnostic Test of CC614 when connected to I/O TTY Card			Sheet 5 of 14
ASSUMPTIONS:			
1. Conditions 1 and 2 are read to prepare for test execution.			
2. The following is entered at the keyboard: GO is typed in. CARRIAGE RETURN is pressed.			
3. Observe CDT display for any of the following conditions.			
CONDITIONS:	1	2	3
1. Are test patterns on sheet 6 of this table displayed in order?	Y		N
2. Is LIAT2 SUSPENDED ENDS displayed?	Y	N	
ACTIONS:			
1. Go to sheet 7 of this table.	X		
2. Go to sheet 14 of this table.		X	
3. Replace processor board, CDT, slot 9.			1
4. Replace refresh board, CDT, slot 6.			2
5. Call next level of support.			3

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

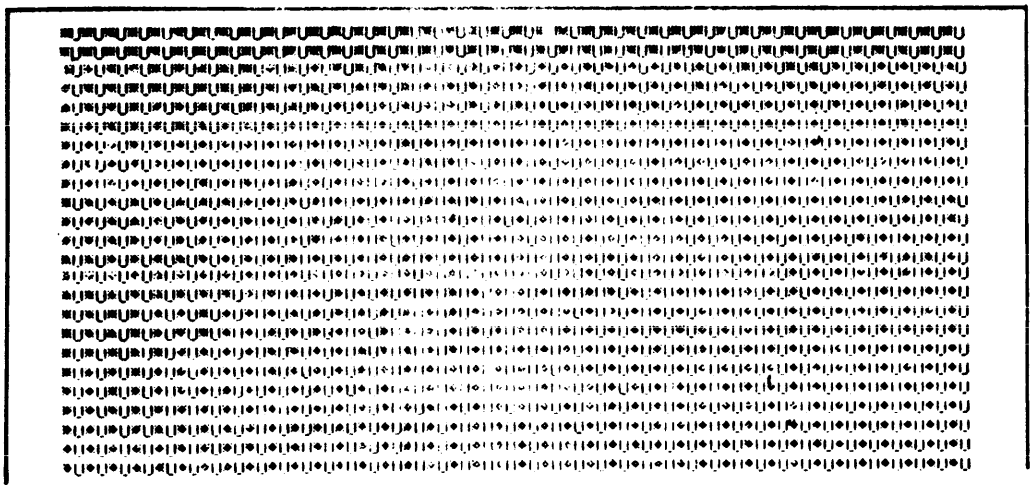
Diagnostic Test of CC614 when connected to I/O TTY Card — Sheet 6 of 14



Test Pattern 6



Test Pattern 7



Test Pattern 8

Test Pattern 9

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected to I/O TTY Card — Sheet 7 of 14

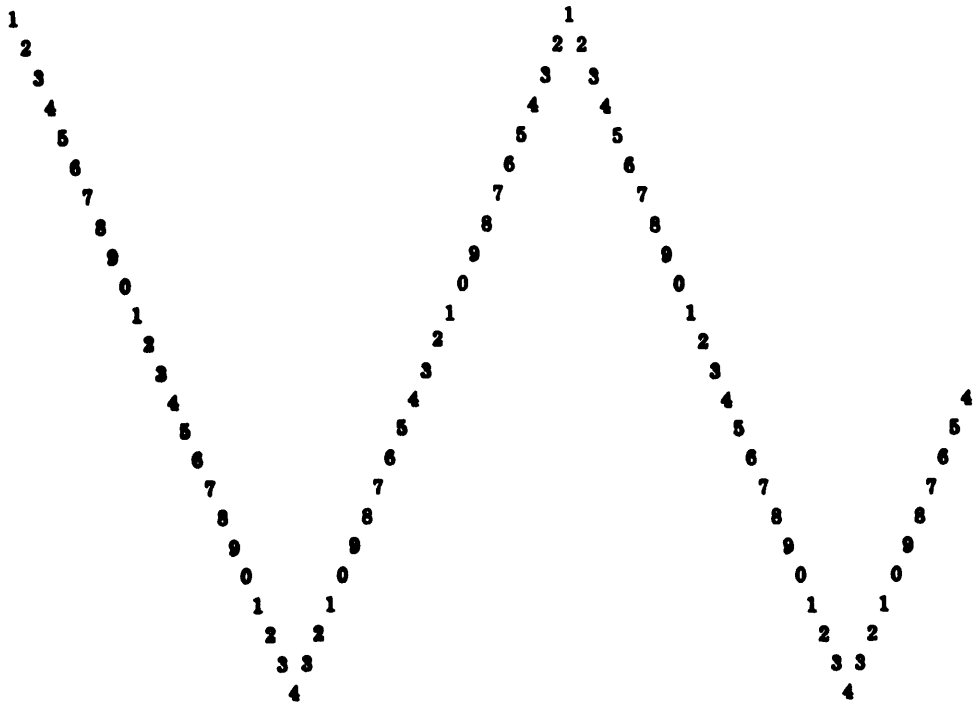
ASSUMPTIONS:

1. The following is entered at the keyboard:
   GO is typed in.
   CARRIAGE RETURN is pressed.
2. Observe CDT display for test pattern 10 (next page) and for any of the following conditions.

CONDITIONS:	1	2	3
1. Is LIAT2 SUSPENDED ENDS displayed?	Y	N	
2. Is there an action code?		Y	N
ACTIONS:			
1. Go to sheet 9 of this table.	X		
2. Go to sheet 14 of this table.		X	
3. Call next level of support.			X

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected to I/O TTY Card



Test Pattern 10

TABLE 6-14. LIAT2: **CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)**

Diagnostic Test of CC614 when connected to I/O TTY Card			Sheet 9 of 14
ASSUMPTIONS:			
1. The following is entered at the keyboard: GO is typed in. CARRIAGE RETURN is pressed.			
2. Observe CDT display for any of the following conditions.			
NOTE: All indicators are illuminated except LINE, BLOCK MODE, ALERT and FORMAT MODE during the lamp test.			
CONDITIONS:	1	2	3
1. Is LIAT2 SUSPENDED ENDS displayed?	Y	N	
2. Is there an action code?		Y	N
ACTIONS:			
1. Go to sheet 10 of this table.	X		
2. Go to sheet 14 of this table.		X	
3. Call next level of support.			X

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected to I/O TTY Card	Sheet 10 of 14		
ASSUMPTIONS:			
1. The following is entered at the keyboard: GO is typed in. CARRIAGE RETURN is pressed.			
2. When requested by the display, 1234567890 is typed in on the keyboard.			
3. Observe CDT display for any of the following conditions.			
CONDITIONS:	1	2	3
1. Is LIAT2 SUSPENDED ENDS displayed?	Y	N	
2. Is there an action code?		Y	N
ACTIONS:			
1. Go to sheet 11 of this table.	X		
2. Go to sheet 14 of this table.		X	
3. Call the next level of support.			X

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected to I/O TTY Card — Sheet 11 of 14

ASSUMPTIONS:

1. The following is entered at the keyboard:

   GO is typed in.
   CARRIAGE RETURN is pressed.

2. When requested by display, the following is entered at the keyboard:

   ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890 is typed in.
   CARRIAGE RETURN key is pressed.

3. Observe CDT display for any of the following conditions.

CONDITIONS:	1	2	3	4
1. Is LIAT2 SUSPENDED ENDS displayed?	Y		N	
2. Does the display repeat that data exactly below the input data?	Y	N		
3. Is there an action code?			Y	N
ACTIONS:				
1. Go to sheet 12 of this table.	X			
2. Replace processor board, CDT, slot 9.		2		
3. Replace I/O-TTY, micro processor, slot K.		1		1
4. Replace SMI board, micro processor, slot L.				2
5. Go to sheet 14 of this table.			X	
6. Call next level of support.		3		3

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected to I/O TTY Card — Sheet 12 of 14

ASSUMPTIONS:

1. The following is entered at the keyboard:
   GO is typed in.
   CARRIAGE RETURN is pressed.
2. Entries are made as directed by the display.
3. Observe CDT display for any of the following conditions.

CONDITIONS:	1	2	3
1. Is LIAT2 SUSPENDED ENDS displayed?	Y	N	
2. Is there an action code?		Y	N
ACTIONS:			
1. Go to sheet 13 of this table.	X		
2. Go to sheet 14 of this table.		X	
3. Call the next level of support.			X

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected to I/O TTY Card

ASSUMPTIONS:

1. The following is entered at the keyboard:
   GO is typed in.
   CARRIAGE RETURN is pressed.
2. Entries and switch changes are made as directed by display.
3. Observe CDT display for any of the following conditions.

CONDITIONS:	1	2	3	4
1. Is LIAT2 SUSPENDED ENDS displayed?	Y		N	
2. Is there an action code?			Y	N
3. Is this a verification run?	Y	N		
ACTIONS:				
1. At the keyboard: Type in GO Press CARRIAGE RETURN	1	1		
2. Go to next table.	3			
3. Go to sheet 14 of this table.			X	
4. Call next level of support.				X
5. Using notes prepared at the beginning of CDT testing, set switches to their original positions.	2	2		
6. Go to table 6-3 and begin verification run.		3		

TABLE 6-14. LIAT2: CONVERSATIONAL DISPLAY TERMINAL DIAGNOSTIC DDLT (Contd)

Diagnostic Test of CC614 when connected to I/O TTY Card — Sheet 14 of 14

ASSUMPTIONS:

1. An action code is displayed on CDT screen.
2. Observe CDT display for the following conditions.

CONDITIONS:	1	2	3	4	5	6	7
Does the CDT display:							
1. 0711 or 0731 or 0721 or 0722 or 0732	Y	N					
2. 0733		Y	N				
3. 0741			Y	N			
4. 0742				Y	N		
5. 0750					Y	N	
6. 0751						Y	N
ACTIONS:							
1. Replace processor board, CDT, slot 9.	1	1	3	1	1	1	
2. Replace refresh board, CDT, slot 6.				4		2	
3. Replace memory board, CDT, slot 8.			1	2			
4. Replace memory board, CDT, slot 5B.			2	3			
5. Replace I/O-TTY, micro processor, slot K.	2	3	4		2	3	
6. Replace SMI board, micro processor, slot L.		2			3		
7. Call next level of support.	3	4	5	5	4	4	1

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7. Apply firm pressure at the upper and lower corners of the boards and seat them into their respective backplane connectors.

8. Replace the processor cover plate and side panels. Restore power to the processor.

A26 MOS MAIN MEMORY RUN PARAMETERS

NOTES

1. Read the entire procedure before entering parameters in tables 6-6 and 6-9.

2. In a dual-processor system, processor 1 is the AB113 and processor 2 is the AA109. The local processor is the one in which the diagnostic resides and can be either processor 1 or processor 2.

1. Examine the FCO tags on both sides of the front covers of processor 1 and processor 2 to determine the MOS memory configuration (slots X through AC). Fill in the equipment number columns of table 6A-6.

2. Fill in the 16K blocks per board column of table 6A-6 using the following information:

Equipment Number	Board Type	16K Blocks per Board
AT241	32K array	2
AT275	16K array	1
DT223	Error correction code array	0

Calculate the total number of 16K blocks per processor for each processor by adding up the 16K blocks per board in each processor.

3. Use the total number of 16K blocks for each processor (derived from table 6A-6) and select the correct V, W, X, Y, Z parameters from table 6A-7.

For example, if processor 1 is the local processor and has a total of six 16K blocks, follow the horizontal numbers at the top of table 6A-8 to 6; and if processor 2 has a total of two 16K blocks, follow the vertical numbers at the left of the table to 2. At the point where they intersect on table 6A-8, read the parameters:

V = 206
W = 2
X = 0
Y = 7FFF Z=7FFF

From table 6A-8, determine the values for parameters T and U.

TABLE 6A-6. SYSTEM MOS MEMORY CONFIGURATION

	Processor 1		Processor 2	
Slot	Equipment Number	16K Blocks per Board	Equipment Number	16K Blocks per Board
X				
Y				
Z				
AC				
Total Number of 16K Blocks per Processor				

TABLE 6A-7. MOS MEMORY RUN PARAMETERS

16K Blocks per Remote Processor	16K Blocks per Local Processor								Parameters
	1	2	3	4	5	6	7	8	
0	001 0 0 3FFF 3FFF	002 0 0 7FFF 7FFF	003 0 0 BFFF BFFF	004 0 0 FFFF FFFF	005 1 1 3FFF 3FFF	006 1 1 7FFF 7FFF	007 1 1 BFFF BFFF	008 1 1 FFFF FFFF	V W X Y Z
1	101 2 0 3FFF 3FFF	102 2 0 7FFF 3FFF	103 2 0 BFFF 3FFF	104 2 0 FFFF 3FFF	105 2 0 3FFF 3FFF	106 2 0 7FFF 3FFF	107 2 0 BFFF 3FFF	108 2 0 FFFF 3FFF	V W X Y Z
2	201 2 0 3FFF 7FFF	202 2 0 7FFF 7FFF	203 2 0 BFFF 7FFF	204 2 0 FFFF 7FFF	205 2 0 3FFF 7FFF	206 2 0 7FFF 7FFF	207 2 0 BFFF 7FFF	208 2 0 FFFF 7FFF	V W X Y Z
3	301 2 0 3FFF BFFF	302 2 0 7FFF BFFF	303 2 0 BFFF BFFF	304 2 0 FFFF BFFF	305 2 1 3FFF BFFF	306 2 1 7FFF BFFF	307 2 1 BFFF BFFF	308 2 1 FFFF BFFF	V W X Y Z
4	401 2 0 3FFF FFFF	402 2 0 7FFF FFFF	403 2 0 BFFF FFFF	404 2 0 FFFF FFFF	405 2 1 3FFF FFFF	406 2 1 7FFF FFFF	407 2 1 BFFF FFFF	408 2 1 FFFF FFFF	V W X Y Z
5	501 3 0 3FFF 3FFF	502 3 0 7FFF 3FFF	503 3 0 BFFF 3FFF	504 3 0 FFFF 3FFF	505 3 1 3FFF 3FFF	506 3 1 7FFF 3FFF	507 3 1 BFFF 3FFF	508 3 1 FFFF 3FFF	V W X Y Z
6	601 3 0 3FFF 7FFF	602 3 0 7FFF 7FFF	603 3 0 BFFF 7FFF	604 3 0 FFFF 7FFF	605 3 1 3FFF 7FFF	606 3 1 7FFF 7FFF	607 3 1 BFFF 7FFF	608 3 1 FFFF 7FFF	V W X Y Z
7	701 3 0 3FFF BFFF	702 3 0 7FFF BFFF	703 3 0 BFFF BFFF	704 3 0 FFFF BFFF	705 3 1 3FFF BFFF	706 3 1 7FFF BFFF	707 3 1 BFFF BFFF	708 3 1 FFFF BFFF	V W X Y Z
8	801 3 0 3FFF FFFF	802 3 0 7FFF FFFF	803 3 0 BFFF FFFF	804 3 0 FFFF FFFF	805 3 1 3FFF FFFF	806 3 1 7FFF FFFF	807 3 1 BFFF FFFF	808 3 1 FFFF FFFF	V W X Y Z

TABLE 6A-8. ERROR CORRECTION CODE RUN PARAMETER

Local Processor, Slot AC	Parameter T	Parameter U
With Error Correction Code Array	3	789A
Without Error Correction Code Aray	2	78A0

4. Utilizing the parameters derived from tables 6A-7 and 6A-8, enter the required test parameters as called for in the DDLTs:

DDLT/Test	Parameter Word and Input Values
Table 6-6, sheet 1/ MPM0S test	A, ___ → Parameter V D, ___ → Parameter Z → Parameter W
Table 6-6, sheet 8/ M0SMA test	A, ___ → Parameter V D, ___ → Parameter T → Parameter Y → Parameter X 3, ___ → Parameter U
Table 6-9, sheet 1 PAGE1 test	A, ___ → Parameter V

A27 Procedure A-27 is not used.

A28 INTERRUPT/EQUIPMENT NUMBER ASSIGNMENT AND MULTIPLE SUBSYSTEMS TESTING

This procedure provides information on the standard assignments of Interrupts and Equipment numbers. A copy of table 6A-10 filled out will normally be installed on the CPU plenim cover. This will identify the Interrupt and Equipment Numbers assigned on that system. If one does not exist, you will have to fill out Table 6-10 in order to run the system diagnostics if any non-standard Interrupts and Equipment Codes are used. {See steps outlined below under Diagnostic Parameter Changes for non-standard Interrupt/ Equipment number assignments.}

Table 6A-12 identifies the normal/ standard Interrupt and Equipment number assignments. These are the assignments used by most systems. A general description of Interrupt/ Equipment number assignments is outlined below under System Interrupt/Equipment Tables.

If a system has multiple controllers installed, the 2nd controller would be required to use a non-standard Interrupt/ Equipment number assignment. The actual Interrupt/Equipment number used will have to be determined in order to be able to