ſ	EC 826380		PN 2597102
ſ	27MAY83		

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001

(Entry Point A)

1.Bad card: A-A3S2 (95% probable)

---or---

2.Bad channel cable (5% probable)

- If you want to isolate a failing channel cable, see:

Chart A (at the end of this MAP) - meter signals 13, 16

Chart B (at the end of this MAP) – meter all signals Chart C (at the end of this MAP) – meter signal 60

(see note A)

---or---

3.Bad power distribution cables from ICLJ75 to A3 board.

- Use FLD YC905 to check the +5V supply.

MAP DESCRIPTION:

This MAP supplies the FRU isolation between the data communications controller card and the channel cables.

START CONDITIONS: none

FRUs PARTIALLY TESTED:

A-A3S2, controller card A-A3Y4, channel cable A-A3Y5, channel cable A-A3Y6, channel cable

(Entry Point B)

1.Bad card: A-A3S2 (95% probable)

---or---

2.Bad channel cable (5% probable)

If you want to isolate a failing channel cable, see:
 Chart B (at the end of this MAP) - meter signal 43
 Chart C (at the end of this MAP) - meter signals 44, 45, 46, 55, 58, 59

(see note A)

(Step 001 continues)

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(Step 001 continued) (Entry Point C)

1.Bad card: A-A3S2 (95% probable)

---or---

2.Bad channel cable (5% probable)

 If you want to isolate a failing channel cable, see: Chart A (at the end of this MAP) - meter signal 4 (see note A)

(Entry Point D)

1.Bad card: A-A3S2 (95% probable)

---or---

2.Bad channel cable (5% probable)

If you want to isolate a failing channel cable, see:
 Chart A (at the end of this MAP) - meter signal 11
 Chart C (at the end of this MAP) - meter signals 49, 50

(see note A)

(Entry Point E)

1.Bad card: A-A3S2 (95% probable)

---or---

2.Bad channel cable (5% probable)

If you want to isolate a failing channel cable, see:
 Chart A (at the end of this MAP) - meter signal 20
 Chart B (at the end of this MAP) - meter signal 41
 (see note A)

. . .

(Entry Point F)

1.Bad card: A-A3S2 (95% probable)

---or---

2.Bad channel cable (5% probable)

 If you want to isolate a failing channel cable, see: Chart A (at the end of this MAP) - meter signal 18 (see note A)

(Entry Point G)

1.Bad card: A-A3S2 (95% probable)

---or---

2.Bad channel cable (5% probable)

If you want to isolate a failing channel cable, see:
 Chart A (at the end of this MAP) - meter signal 8
 Chart C (at the end of this MAP) - meter signals 48, 62

(see note A) (Step 001 continues) Note A: Using the meter, and the charts, check the signals for opens from A-A1 to A-A3. If there is no A-A2 board installed, the channel cables take Path 'A' to the A-A3 board (see top of each chart). If there is an A-A2 board installed, then Path 'B' is used.

Note A: Using the meter, and the charts, check the signals for opens from A-A1 to A-A3. If there is no A-A2 board installed, the channel cables take Path 'A' to the A-A3 board (see top of each chart). If there is an A-A2 board installed, then Path 'B' is used.

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(Step 001 continued)

(Entry Point H)

1.Bad card: A-A3S2 (95% probable)

2.Bad channel cable (5% probable)

If you want to isolate a failing channel cable, see:
 Chart A (at the end of this MAP) - meter signal 21

(see note A)

(Entry Point I)

1.Bad card: A-A3S2 (95% probable)

2.Bad channel cable (5% probable)

If you want to isolate a failing channel cable, see:
 Chart B (at the end of this MAP) - meter signal 30 (see note A)

	Chart A								
Path	А								
-	->								
		۷			V				
Path	В								
-	->	1							
		V	V	V	V				
INET	/	1-A I	A-AZ	A-A2	A-A31				
#	(out	lin	out	linļ				
1	+		+ '	┣╼╼╼ <u>╼</u> ┥	⊦ '				
	IZ	1803	Y 1B03	Z4B03	Y4B031				
12	IZ	1804	Y1B04	Z4B04	Y4B04				
13	ΙZ.	IB05	Y1B05	Z4B05	Y4B05				
4	Z	1B06	Y1B06	Z4B06	Y4B06				
5	Z '	IB07	Y1B07	Z4B07	Y4B07				
6	Z	IB08	Y1B08	Z4B08	Y4B08				
17	Z	IB09	Y1B09	Z4B09	Y4B091				
8	Z '	IB10	Y1B10	Z4B10	Y4B10				
19	Z '	IB11	Y1B11	Z4B11	Y4B11				
110	Z	IB12	Y1B12	Z4B12	Y4B12				
11	Z '	IB13	Y1B13	Z4B13	Y4B13				
12	Z '	ID02	Y1D02	Z4D02	Y4D02				
113	Z '	ID03	Y1D03	Z4D03	Y4D031				
14	Z '	1D04	Y1D04	Z4D04	Y4D041				
(Step	001	conti	inues)						

Note A: Using the meter, and the charts, check the signals for opens from A-A1 to A-A3. If there is no A-A2 board installed, the channel cables take Path 'A' to the A-A3 board (see top of each chart). If there is an A-A2 board installed, then Path 'B' is used.

Chart B										
Path	A· ->			 i						
	V V									
Path B										
	-> V									
		v 	v 	v						
Net	A-A1	A-A2	A-A2	A-A3						
#	out	l in	out	in						
	+ 	F	┝╼╼╼╼┽ 	⊦ 						
22	I Z2B03	Y2B03	Z5B03							
23	Z2B04	Y2B04	Z5B04	Y5B04						
24	Z2B05	Y2B05	Z5B05	Y5B05						
25	Z2B06	Y2B06	Z5B06	Y5B06						
26	Z2B07	Y2B07	Z5B07	Y5B07						
12/	Z2B08	Y2B08	Z5B08	Y5B081						
120			25809	Y58091						
129	Z Z D I U 7 2 D 1 1	1 Z D I U V 2 D 1 1	25010 75011							
131	72B12	Y2B12	75B12							
132	72B13	Y2B13	75B13	Y5B13						
1										
33	Z2D02	Y2D02	Z5D02	Y5D02						
34	Z2D03	Y2D03	Z5D03	Y5D03						
35	Z2D04	Y2D04	Z5D04	Y5D041						
(Step (001 conti	inues)								

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(Step	001 continued)
115	Z1D05 Y1D05 Z4D05 Y4D05
16	Z1D06 Y1D06 Z4D06 Y4D06
17	Z1D07 Y1D07 Z4D07 Y4D07
18	Z1D09 Y1D09 Z4D09 Y4D09
19	Z1D10 Y1D10 Z4D10 Y4D10
20	Z1D11 Y1D11 Z4D11 Y4D11
21	Z1D12Y1D12Z4D12Y4D12

-				ርኬ	+	c				
F	Path A									
	v v									
F	ath	В	:		•		· ·		•	
		->	1		1					
			v 		v 		v 		v 	
1	Net	A	-A1	A	-A2	A	-A2	A	-A3	
	#	0	ut		in	0	ut		in l	
		+				+				
		 				r 				
Ì	44	İZ3	B03	Y3	B03	Z6	B03	Y6	B03	
	45	Z3	B04	Y3	B04	Z6	804	Y6	B04	
	46	Z3	B05	Y3	B05	Z6	B05	Y6	B05	
	4/ // 8	Z 3 7 2	B06	Y 3 V 2	B06	26 76	B06	Y6 v6	B061	
	49	123	B08	Y 3	B08	76	B08	1 Y 6	B071	
Ì	50	Z3	B09	Y3	B09	Z6	B09	Y6	B09	
	51	Z 3	B10	Y3	B10	Z6	B10	Y6	B10	
	52	Z3	B11	Y3	B11	Z6	B11	Y6	B11	
	53 Eli	Z 3 7 2	B12	Y 3 V 2	B12	Z6	B12	Y6	B12	
	24	נ <i>ב</i> ו 	כום	כי	נוס	120	נוס	TO 	ונום 	
1	55	İZ3	D02	Y3	D02	Z6	D02	1 Y 6	D02	
	56	Z 3	D03	Y3	D03	Z6	D03	Y6	D03	
	57	Z 3	D04	Y3	D04	Z6	D04	Y6	D041	
	58	Z 3 7 2	D05	Y3 v2		Z6		Y6		
	55	123 172		173		1 2 0 1 7 6		110	0001 0071	
Ì	61	123	D09	Y3	D09	Z6	D09	Y6	D091	
İ	62	IZ3	D10	Ŷ3	D10	Z6	D10	Y6	D10	
۱	63	Z3	D11	Y3	D11	Z6	D11	Y6	D111	
(Step (001	conti	nue	s)					

ntinued)	
06 Y2D06 Z5D06 Y5D06	
7 2007 7 7 5007 25007	

(Step 001 contin 36 Z2D05	nued) Y2D05 Z5D05 Y5D05
37 Z2D06	Y2D06 Z5D06 Y5D06
38 Z2D07	Y2D07 Z5D07 Y5D07
39 Z2D09 '	Y2D09 Z5D09 Y5D09
40 Z2D10	Y2D10 Z5D10 Y5D10
41 Z2D11	Y2D11 Z5D11 Y5D11
42 Z2D12	Y2D12 Z5D12 Y5D12
43 Z2D13	Y2D13 Z5D13 Y5D13

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(Step 001 continued) |64 |Z3D12|Y3D12|Z6D12|Y6D12| |65 |Z3D13|Y3D13|Z6D13|Y6D13| MAP 3001-5

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Multiple Adaptor Error

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8106	Α	1 .	001
8131	B	3	009
8132	C	3	009
8133	В	3	009
8133	C	3	009

EXIT POINTS

EXIT TH	IS MAP	то			
PAGE	STEP	MAP	ENTRY		
NUMBER	NUMBER	NUMBER	POINT		
3	008	0101	A		
2	003	0500	A		

001

(Entry Point A)

- Connect the meter from the pins in chart A of this MAP to return (A-A3L2D08) and compare the readings to the low limits in chart A.

MAP DESCRIPTION:

This MAP is used to instruct the CE/CSR during periods when the machine has to be powered down.

START CONDITIONS:

An error has been found.

FRUs PARTIALLY TESTED: None

Chart A								
 Voltage	 A-A3 board	Low limit						
+5V +8.5V +1.7V -5V -12V Return	L2D03 L2B11 S2B05 L2B06 U2B05 L2D08	+4.5V +7.6V +1.5V -4.5V -10.8V X						

Does	the	meter	read	more	than	the	low	limit	for
each	level	7							

Y	Ν
-	
3 A	2 B

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 MAP 3002-1

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Multiple Adaptor Error

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002

B 1

- Connect the meter from the pins in chart B of this MAP to ground and compare the readings to the low limits in chart A.

	Chart B	
 Voltage	ICLJ75 pin	Low limit +
+5V +8.5V +1.7V -5V -12V Return	7-10 12 1,4 5 6 E14	+4.5V +7.6V +1.5V -4.5V -10.8V X

Does the mater read more than the low limit for each level?

ΥN

003

Go To Map 0500, Entry Point A.

004

- See FLD YC905.

Are all minibus connectors correctly installed on the A-A3 board?

ΥN

005

- Select mode 6.
- Press the Power key (power off).
- Check all connectors for correct locations and connections.

006

Bad power distribution cables or bad connection at ICLJ75.

- Tighten all screws at ICLJ75.
- Return to Entry Point A and repeat measurements after fix.

Multiple Adaptor Error

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007

A 1

- Select mode 6.
- Press the Power key (power off).
- Remove all of the communications adapter cards (if installed) from board sockets 01A-A3N2, P2, Q2, R2.
- Record each cards' location because they must be installed in their original locations later.
- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Load with diskette DIAG21.
- Wait approximately 1 minute for the system to CSIPL.

Did the Main Option Menu appear on the console? \underline{Y} N

008

This path cannot be taken unless the CSIPL sequence can be completed. Go To Map 0101, Entry Point A.

009

- Select 'MDI Special' option.
- Select any communications line (1-4)
- For the first 'IDID' only, enter 8131.
- For the first 'NNN' only, enter 001.
- Press Enter.
- Follow the MDI instructions.

(Entry Point B)

- Select mode 6.
- Press the Power key (power off).
- Install one communications adapter card back into its original location.
- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Load with diskette DIAG21.
- Wait approximately 1 minute for the system to (Step 009 continues)

(Step 009 continued) CSIPL.

- Select 'MDI Special' option.
- Select any communications line (1-4)
- For the first 'IDID' only, enter 8132.
- For the first 'NNN' only, enter 001.
- Press Enter.
- Follow the MDI instructions.

(Entry Point C)

- Select mode 6.
- Press the Power key (power off).
- Install one more communications adapter card back into its original location.
- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Load with diskette DIAG21.
- Wait approximately 1 minute for the system to CSIPL.
- Select 'MDI Special' option.
- Select any communications line (1-4)
- For the first 'IDID' only, enter 8133.
- For the first 'NNN' only, enter 001.
- Press Enter.
- Follow the MDI instructions.

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 MAP 3002-3

Data Communications Entry

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
0114	A	1	001
0116	A	1	001
0199	A	1	001

EXIT POINTS

EXIT TH	IS MAP	то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0101	Α
12	053	0101	А
4	014	0101	Α
7	028	0101	А
13	058	0500	Α

001 (Entry Point A)

MAP DESCRIPTION:

This MAP instructs the CE to run the MDI tests for data communications (MLCA).

START CONDITIONS:

A data communications wrap error occurred or communications not working on one or more lines.

FRUs PARTIALLY TESTED:

A-A3S2, A-A3N2, A-A3P2, A-A3Q2, A-A3R2, A-A1K (if installed)

Is the system available for dedicated maintenance?

ΥN

2 A

002

- Run concurrent diagnostics.

- See maintenance manual section 30-410.

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Data Communications Entry

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003

A 1

- If you have not already done so:
- Power on and CSIPL from DIAG21 diskette.
- Press the Power key (power on).
- Select mode E.
- Enter 0000.
- Insert diskette DIAG21.
- Press the Load key.

- Wait approximately 3 minutes for the system to CSIPL.

Did the system IPL (DCP option menu or wrap errors displayed on the system console)?

Y N

004

This path cannot be taken unless the CSIPL sequence can be completed.

Go To Map 0101, Entry Point A.

005

Are there any communications SRC's (example: C8xx)?

```
ΥN
```

006 Go to Page 3, Step 011, Entry Point D.

007

Y N

```
Is the SRC a C80x?
```

008 Is there a C810 or C811 SRC? Y N

009

1 4 9 8 3 B C D E

Is this a new installation? Y N

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MAP 3003-2

E Data Communications Entry 2 5360 Systems Unit PAGE 3 OF 14

010

(Entry Point E)

Is there more than one communications SRC (example: C81x, C82x)? Y N 011 (Entry Point D) - Select MDI MAPs option. - Select communications line (1-4) or SLCA for the failing communications line (If X.25 is configured, be sure to run the MDIs on both lines of the X.25 pair). - Select option 1 (complete communications diagnostics). - Follow the MDI instructions to fix the failing area. 012 . Are there any C8x7 SRC's? Y N 013 (Entry Point H) - Select mode 6. - Press the Power key (power off). - Remove all communication adapter cards from board positions: A-A3R2 (Line 1) A-A3Q2 (Line 2) A-A3P2 (Line 3) A-A3N2 (Line 4) if installed. - Reinstall one of the adapter cards (See Note 1). - Record each card's location because they must be installed in their original locations later (see Note 2). - Press the Power key (power on). - Select mode E. - Enter FF00. - Insert diskette DIAG21. - Press the Load key. - Wait approximately two minutes for the system to CSIPL. (Step 013 continues) 8 F

Note 1: There is an error affecting more than one communications line. Isolation will be performed by removing all communications lines installed and installing cards one at a time.

Note 2: Jumpering options on the adapter cards cause them to operate in different modes. Card swapping without changing the jumpering options could cause a hardware error.

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	MAP 3003-3

Data Communications Entry

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(Step 013 continued)

Did the Main Option Menu appear on the console? Y N

014 This path cannot be taken unless the CSIPL sequence can be completed. Go To Map 0101, Entry Point A.

015

- Select MDI MAPs option.
- Select communications line (1-4) for the communications adapter card just installed (see Note 3).
- Select 'Option 2' for communications line hardware diagnostics.
- If the MDIs fail, answer 'NO' to the following question and ignore any instructions or FRU replacements on the system console. (see Note 3A)

Did the tests run OK?

```
Υ
  Ν
  016
  Is there more than one line of communications
  installed in this system?
  Y N
    017
    - Probe the following pin:
             Light: On or flashing
       Up
       Down Light: On or flashing
      A-A3U1D13 (1.02 MS Clock).
    Are the lights correct?
       Ν
       018
       Go to Page 6, Step 022, Entry Point G.
 5
H
```

- Note 3: A-A3R2 = Communications Line 1 A-A3Q2 = Communications Line 2 A-A3P2 = Communications Line 3 A-A3N2 = Communications Line 4
- Note 3A: Any external wrap prompts, or operator panel communications indicator prompts indicate that the MDIs ran OK.

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H J Data Communications Entry

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019

Bad card: Communication Adapter Card A-A3N2, P2, Q2, or R2 (only one of which is installed) ---or---Bad card: A-A3S2.

020

- Select mode 6.
- Press the Power key (power off).
- Remove the failing communications adapter card just tested.
- Install another communications adapter card into its original board position.
- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait approximately two minutes for the system to CSIPL.
- Select MDI MAPs option.
- Select communications line (1-4) for the communications adapter card just installed (see Note 3).
- Select 'option 2' for communications hardware diagnostics.
- If the MDIs fail, answer 'NO' to the following question and ignore any instructions or FRU replacements on the system console (see Note 3A).

Did the tests run OK?

N

Note 3A: Any external wrap prompts, or operator panel comm indicator prompts indicate that the MDIs ran OK.

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MAP 3003-5

66 KL

```
K L
5 5
               Data Communications Entry
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  021
  - Probe the following pin:
     Up Light: On or flashing
     Down Light: On or flashing
   A-A3U1D13 (1.02 MS Clock).
  Are the lights correct?
  ΥΝ
     022
     (Entry Point G)
     Is there a logic card in the A-A1L2 socket?
     Y N
       023
       Bad card:
       A-A1N2
       ---or---
       Bad channel cable A-A1 to A-A3 board.
       ----or---
       Bad card:
       A-A3U3.
     024
     Bad card:
     A-A1L2
     ---or---
     Bad channel cable A-A1 to A-A3 board.
     ---or---
     Bad card:
     A-A3U3.
  025
  Bad card:
  A-A3S2.
```

026

The first communications adapter card reinstalled and tested was bad.

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027

G 4

(Entry Point B)

- Select mode 6.
- Press the Power key (power off).
- Install any one of the communications adapter cards removed earlier into its original location (See Note 4).
- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait approximately two minutes for the system to CSIPL.
- Did the Main Option Menu appear on the console? Y $\,N$

028

This path cannot be taken unless the CSIPL sequence can be completed.

Go To Map 0101, Entry Point A.

029

- Select MDI MAPs option.
- Select communications line (1-4) for the communications adapter card just installed (see Note 3).
- Select 'Option 2' for communications line hardware diagnostics (see Note 3A).

Did the tests run OK?

γN

030

The communications adapter card just tested is bad. Exchange it.

031

Have you reseated and run MDIs on all communication adapter cards removed earlier?

ΥN

8 M 032 Go to Step 027, Entry Point B. Note 4: Install one communications adapter card at a time and run MDIs. When the failing card is installed, the MDIs will fail. If the MDIs ran correctly on all of the adapter cards then one of the cards was unseated.

- Note 3: A-A3R2 = Communications Line 1 A-A3Q2 = Communications Line 2 A-A3P2 = Communications Line 3 A-A3N2 = Communications Line 4
- Note 3A: Any external wrap prompts, or operator panel communications indicator prompts indicate that the MDIs ran OK.

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D F M Data Communications Entry 2 3 7 5360 Systems Unit PAGE 8 OF 14

033

The MDIs ran correctly on all communications lines. One of the adapter cards was unseated or there is an intermittent problem.

- See the intermittent FRU replacement MAP 3009.
- Run MDIs on all installed lines again to verify that all is OK.

034

Go to Page 3, Step 011, Entry Point D.

035

- Check the device address switches on the failing line or lines indicated by the wrap errors.

Each communications adapter card must have a unique device address (see chart 1).

CHART 1

Devi on c	ce ado commun	dress switc ications ad	hes 5 & 6 lapter card
 Devic 5	e Addı	ress Select Device Address	ion
 Off Off On On	Off On On Off	10 20 40 80	A-A3R2 (line 1) A-A3Q2 (line 2) A-A3P2 (line 3) A-A3P2 (line 4)

Are the switches set correctly?

ΥN

036

- Set switches.

```
C N
2 8
              Data Communications Entry
              5360 Systems Unit
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  037
  - Check the switches in chart 2.
            Chart 2
             ______
  |Configuration switches|
     on communications
                            adapter card
          always 'off'
    1
    always 'off'
  | 4 |
                              Are these switches set correctly?
  Y N
    038
    - Set them both 'off'.
  039
  Go to Page 3, Step 010, Entry Point E.
040
- If the machine is not powered down, do so now.
- Select mode 6.
- Press the Power key (power off).
- Reseat cards A-A3S2, A-A3N2, A-A3P2
                  A-A3Q2, A-A3R2 (if installed).
- Reseat cables A-A3Y4, A-A3Y5, A-A3Y6
- Press the Power key (power on).
- Select mode E.
- Enter 0000.
- Insert diskette DIAG21.
- Press the Load key.
- Wait approximately 3 minutes for the system to
 CSIPL.
Is there still a C810 or C811 SRC?
Y N
  041
  - One of the logic cards or cables was unseated.
  - Run communications MDI MAPs on all lines
   installed to verify data communications is
   operating.
```

```
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MAP 3003-9
```

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042

Р 9

- Select mode 6.
- Press the Power key (power off).
- Remove all communications adapter cards from board positions: A-A3N2, A-A3P2, A-A3Q2, A-A3R2 (if installed).
- Record each card's location since they must be installed in their original locations later (See Note 2).
- Press the Power key (power on).
- Select mode E.
- Enter 0000.
- Insert diskette DIAG21.
- Press the Load key.
- Wait approximately 3 minutes for the system to CSIPL.

Is there still a C810 or C811 SRC?

```
ΥN
```

043

(Entry Point C)

- Select mode 6.
- Press the Power key (power off).
- Install one of the communications adapter cards into its original location: A-A3R2 (Line 1), or A-A3Q2 (Line 2), or A-A3P2 (Line 3), or A-A3N2 (Line 4).
- Press the Power key (power on).
- Select mode E.
- Enter 0000.
- Insert diskette DIAG21.
- Press the Load key.
- Wait approximately 3 minutes for the system to CSIPL.

Is there a C810 or C811 SRC?

```
Y N
```

044 Go to Step 043, Entry Point C. Note 2: Jumpering options on the adapter cards cause them to operate in different modes. Card swapping without changing the jumpering options could cause a hardware error.

> 15Feb84 PN 4177411 EC 826487 PEC 826380 MAP 3003-10

R 1 0

Data Communications Entry

5360 Systems Unit

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Ö45

Did the C810 or C811 SRC appear again when the first communications adapter card was reinstalled? Y N $\,$

046

The last communications adapter card plugged in is bad.

5

047

Are there communications adapter cards to be tested?

Y N

048

Bad communications adapter card ---or---Bad card: A-A3S2 ---or---Bad cable: A-A3Y4, Y5, Y6.

049

- Check the other communications adapter cards using the plugging procedure at Entry Point C.

Note 5: If only one communications adapter card causes a C810 or C811 SRC and the others do not, then that adapter card is suspect.

> If any communications adapter card installed in it's original location causes the wrap error to occur, then the controller card (A-A3S2) or cable (A-A3Y4, Y5, Y6) are suspect.

Does the C810 or C811 SRC occur with only one of the adapter cards (see Note 5)? Y N

••

1 2 S 050 Bad card: A-A3S2 ---or---Bad cable: A-A3Y4, Y5, Y6.

> 15Feb84 PN 4177411 EC 826487 PEC 826380 MAP 3003-11

Data Communications Entry

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051

The single adapter card causing the C810 or C811 SRC is bad.

052

- Select mode 6.
- Press the Power key (power off).
- Reinstall communications adapter cards into their original locations (See Note 3).
- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait approximately two minutes for the system to CSIPL.

Did the DCP Option Menu appear on the console? N

053

This path cannot be taken unless the CSIPL sequence can be completed.

Go To Map 0101, Entry Point A.

054

(Entry Point F)

- Connect the meter from the pins in Chart A of this MAP to return (A-A3L2D08) and compare the readings to the low limits in Chart A.

 Voltage A-A3 ++	3 board	Low limit
+5V L2 +8.5V L2 +1.7V S2 -5V L2 -12V U2 Return L2	2D03 2B11 2B05 2B06 2B05 2D08	+4.5V +7.6V +1.5V -4.5V -10.8V X

Chart A

Note: If -5V only is missing from the A-A3 board, that may cause the communications controller card (A-A3S2, if installed) to be bad.

(Step 054 continues)

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Note 3: A-A3R2 = Communications Line 1 A-A3Q2 = Communications Line 2 A-A3P2 = Communications Line 3

A-A3N2 = Communications Line 4

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(Step 054 continued) Does the meter read more than the low limit for each level?

ΥN

055

- See FLD page YC905.

Are all the A3 board minibus connectors correctly installed?

ΥN

056

- Install them in the correct location.

057

- Select mode 6.
- Press the Power key (power off).
- Unplug the A3 board DC distribution cable from power supply connector J75.
- Plug remote sense jumper into the top row of the J75 connector on the power supply.
- Press the Power key (power on).

- Connect the meter from the pins in Chart B of this MAP to ground and compare the readings to the low limits in Chart B.

Chart B

 Voltage	J75 Power Supply Con nector pin	Low limit
	+	F=
+5V	7-10	+4.50
+8.5V	12	+7.6V
+1.7V	1,4	+1.5V
-5V	5	-4.5V
-12V	6	-10.8V
Return	E14	X

Note: If -5V only is missing from the A-A3 board, that may cause the communications controller card (A-A3S2, if installed) to be bad.

Does the meter read more than the low limit for each level?

ΥN

058

Go To Map 0500, Entry Point A.

059

4 T Bad DC distribution cable from power supply L (A3 board) to the A-A3 board.

```
В
2
  Τ
               Data Communications Entry
                                                                                          MAP 3003-14
  13
               5360 Systems Unit
               PAGE 14 OF 14
  060
  Is there a C810 SRC?
  Y N
     061
     Bad card:
     A-A3S2.
  062
  Bad card:
  A-A3S2 (95 percent probable)
  ---or---
  Bad cable:
  A-A3Y4, Y5 or Y6 (5 percent probable) (see Note
  6).
                                                       Note 6: Although the card or cables may cause the
                                                            same symptoms, the logic card A-A3S2 should
                                                            be suspect before the cables. If you want to
                                                            check the cables for continuity, see charts A, B,
                                                            C at the end of MAP 3001 for cable probe chart
                                                            information.
```

063

Go to Page 3, Step 011, Entry Point D.

15Feb84 PN 4177411 EC 826487 PEC 826380 MAP 3003-14

đ

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8112 8113 8136 8136 8137 8140 8141 8142 8143 8143	A B F C C C C C	1 2 1 3 1 2 2 2 2 2 2	001 001 001 001 001 001 001 001

001

- (Entry Point A)
- Select mode 6.
- Press the Power key (power off).
- Disconnect cable from A-A3A2 (see note 1).
- Install wrap card p/n 4233787 (raw card p/n 4233786), end 'A', into A-A3A2.
- Press the Power key (power on).

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MAP DESCRIPTION: This MAP describes how to install the diagnostic wrap card on the communications logic board for SLCA line 1 problems.

START CONDITIONS: None

FRUs PARTIALLY TESTED: A-A3R2, A-A3M2 (MLCA LINE 1)

Note 1: If it is necessary to temporarily remove some of the logic cards to perform this function, ensure that they are installed into their original locations when these steps are completed.

15Feb84	PN 4177412
EC 826487	PEC 826380
	MAP 3004-1

Data Comm (MLCA) (Line 1) 5360 Systems Unit PAGE 2 OF 4 - Select mode E. - Enter FF00. - Insert diskette DIAG21. - Press the Load key. - Wait for the Main Menu display and select MDI MAPs. - Select line 1 as the failing data communications line. - Select the 'Error MAP 1' option. - Follow the MDI instructions to fix. the failing area. (Entry Point B) - Select mode 6. - Press the Power key (power off) - Remove wrap card p/n 4233787 (raw card p/n 4233786), from A-A3A2 (see note 2). - Reinstall the cable into A-A3A2. Go To Entry Point D. (Entry Point C) - Select Mode 6. - Press the Power key (power off). Go To Entry Point D. (Entry Point D) - Remove 2-wide card from A-A3M2. (Note: If end 'A' of the wrap card is plugged in by mistake, a power check will occur). - Install wrap card p/n 4233787 (raw card p/n 4233786),end 'B', into A-A3M2. - Press the Power key (power on). - Select mode E. - Enter FF00. - Insert diskette DIAG21. - Press the Load key. - Wait for the Main Menu display and select MDI MAPs.

- Select line 1 as the failing

Note 2: If it is necessary to temporarily remove some logic cards to perform this function, ensure that they are installed into their original locations when these steps are completed.

```
15Feb84
            PN 4177412
EC 826487
           PEC 826380
            MAP 3004-2
```

5360 Systems Unit PAGE 3 OF 4 data communications line. - Select the 'Error MAP 2' option. - Follow the MDI instructions to fix the failing area. (Entry Point E) - Select mode 6. - Press the Power key (power off). - Remove the logic card from A-A3M2. (Note: If end A of the wrap card is plugged in by mistake, a power check will occur.) - Install wrap card p/n 4233787 (raw card p/n 4233786), into A-A3L2. - Press the Power key (power on). - Select mode E. - Enter FF00. - Insert diskette DIAG21. - Press the Load key. - Wait for the Main Menu display and select MDI MAPs. - Select line 2 as the failing data communications line. - Select the 'Error MAP 2' option. - Follow the MDI instructions to fix the failing area. (Entry Point F) - Select mode 6. - Press the Power key (power off). - Remove the logic card from A-A3M2. Install the following board jumpers: A-A3M2B02 to A-A3M2B13 A-A3M2B05 to A-A3M2D10 A-A3M2D02 to A-A3M2D13 A-A3M2D04 to A-A3M2B10

> 15Feb84 PN 4177412 EC 826487 PEC 826380 MAP 3004-3

MAP 3004-3

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- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and select MDI MAPs.
- Select line 1 as the failing data communications line.
- Select the 'Error MAP 2' option.
- Follow the MDI instructions to fix the failing area.

15Feb84 PN 4177412 EC 826487 PEC 826380 MAP 3004-4

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ENTRY POINTS

MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER 8112 A 1 001 8113 B 2 001 8118 A 1 001 8136 F 3 001 8137 A 1 001 8140 C 2 001	FROM	ENTER	THIS MAP	
8112 A 1 001 8113 B 2 001 8118 A 1 001 8136 F 3 001 8137 A 1 001 8140 C 2 001	MAP NUMBER	ENTRY	PAGE NUMBER	STEP NUMBER
8141 C 2 001 8142 C 2 001	8112 8113 8118 8136 8137 8140 8141 8142	A B F C C	1 2 1 3 1 2 2 2	001 001 001 001 001 001 001 001

001

(Entry Point A)

- Select mode 6.
- Press the Power key (power off).
- Disconnect cable from A-A3A3 (see note 1).
- Install wrap card p/n 4233787 (raw card p/n 4233786), end 'A', into A-A3A3.
- Press the Power key (power on).
- Select mode E.

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MAP DESCRIPTION: This MAP describes how to install the diagnostic wrap card on the communications logic board for SLCA line 2 problems.

START CONDITIONS: None

FRUS PARTIALLY TESTED: A-A3Q2, A-A3L2

Note 1: If it is necessary to temporarily remove some logic cards to perform this function, ensure that they are installed into their original locations when these steps are completed.

> 15Feb84 PN 4177413 EC 826487 PEC 826380 MAP 3005-1

5360 Systems Unit

```
PAGE 2 OF 3
- Enter FEOO.
- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and
  select MDI MAPs.
- Select line 2 as the failing
  data communications line.
- Select the 'Error MAP 1' option.
- Follow the MDI instructions to fix
  the failing area.
(Entry Point B)
- Select mode 6.
                                           Note 2: If it is necessary to
- Press the Power key (power off)
                                                   temporarily remove some logic
- Remove wrap card p/n 4233787 (raw
                                                   cards to perform this
  card p/n 4233786), from A-A3A3
                                                   function, ensure that they are
  (see note 2).
                                                   installed into their original
- Reinstall the cable into A-A3A3.
                                                   locations when these steps are
Go To Entry Point D.
                                                   completed.
(Entry Point C)
- Select Mode 6.
- Press the Power key (power off).
  Go To Entry Point D.
(Entry Point D)
- Remove 2-wide card from A-A3L2.
  (Note: If end 'A' of the wrap card
         is plugged in by mistake, a
         power check will occur).
- Install wrap card p/n 4233787
  (raw card p/n 4233786),
  end 'B', into A-A3L2.
- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and
  select MDI MAPs.
- Select line 2 as the failing
  data communications line.
```

15Feb84 PN 4177413 EC 826487 PEC 826380 MAP 3005-2

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 Select the 'Error MAP 2' option. Follow the MDI instructions to fix the failing area.
(Entry Point F) - Select mode 6. - Press the Power key (power off). - Remove the logic card from A-A3L2.
- Install the following board jumpers:
A-A3L2B02 to A-A3L2B13 A-A3L2B05 to A-A3L2D10 A-A3L2D02 to A-A3L2D13 A-A3L2D04 to A-A3L2B10
 Press the Power key (power on). Select mode E. Enter FF00. Insert diskette DIAG21. Press the Load key. Wait for the Main Menu display and select MDI MAPs. Select line 2 as the failing
 data communications line. Select the 'Error MAP 2' option. Follow the MDI instructions to fix the failing area.

.

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY	PAGE NUMBER	STEP NUMBER
8112 81-3 8118 8136 8137 8140 8141	A B A F A C	1 2 1 3 1 2 2	001 001 001 001 001 001 001
8142 8143	I C I C	2 2	001 001

001

- (Entry Point A)
- Select mode 6.
- Press the Power key (power off).Disconnect cable from A-A3A4
- (see note 1).
- Install wrap card p/n 4233787, end 'A', into A-A3A4.
- Press the Power key (power on).
- Select mode E.
- Enter FF00.

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MAP 3006-1

MAP DESCRIPTION: This MAP describes how to install the diagnostic wrap card on the communications logic board for SLCA line 3 problems.

START CONDITIONS: None

FRUS PARTIALLY TESTED: A-A3P2, A-A3M4

Note 1: If it is necessary to temporarily remove some logic cards to perform this function, ensure that they are installed into their original locations when these steps are completed.

> 15Feb84 PN 4177414 EC 826487 PEC 826380 MAP 3006-1

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```
PAGE 2 OF 4
```

- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and select MDI MAPs.
- Select line 3 as the failing data communications line.
- Select the 'Error MAP 1' option.
- Follow the MDI instructions to fix the failing area.

(Entry Point B)

- Select mode 6.
- Press the Power key (power off)
- Remove wrap card p/n 4233787, from A-A3A4 (see note 2).
 Reinstall the cable into A-A3A4.
- Go To Entry Point D.

(Entry Point C)
- Select mode 6.
- Press the Power key (Power off).
Go To Entry Point D.

```
(Entry Point D)
- Remove 2-wide card from A-A3M4.
 (Note: If end 'A' of the wrap card
            is plugged in by mistake, a
            power check will occur.)
```

```
- Install wrap card p/n 4233787,
end 'B', into A-A3M4.
```

- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and select MDI MAPs.
- Select line 3 as the failing data communications line.
- Select the 'Error MAP 2' option.
- Follow the MDI instructions to fix the failing area.

Note 2: If it is necessary to temporarily remove some logic cards to perform this function, ensure that they are installed into their locations when these steps are completed.

MAP 3006-2

15Feb84 PN 4177414 EC 826487 PEC 826380 MAP 3006-2

536	5360 Systems Unit				
PAG	GE 3 OF 4				
(Er - S - F - (ntry Point E) Select mode 6. Press the Power key (power off). Remove the logic card from A-A3M4. (Note: If end A of the wrap card is plugged in by mistake, a power check will occur.)				
-	lnstall wrap card p/n 4233787, end 'B' into A-A3L4.				
- F - E - F - V - F - V - S - S - S - T	Press the Power key (power on). Select mode E. Enter FF00. Insert diskette DIAG21. Press the Load key. Wait for the Main Menu display and select MDI MAPs. Select line 4 as the failing data communications line. Select the 'Error MAP 2' option. Follow the MDI instructions to fix the failing area.				
(Er - S - F - F - F - F	ntry Point F) Select mode 6. Press the Power key (power off). Remove the logic card from A-A3M4. Install the following board jumpers: A-A3M4B02 to A-A3M4B13 A-A3M4B05 to A-A3M4D10 A-A3M4D02 to A-A3M4D13 A-A3M4D04 to A-A3M4B10				
- F - S - E - F - F	Press the Power key (power on). Select mode E. Enter FF00. Insert diskette DIAG21. Press the Load key. Wait for the Main Menu display and				

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select MDI MAPs.

- Select line 3 as the failing
- data communications line.
 Select the 'Error MAP 2' option.
 Follow the MDI instructions to fix the failing area.

MAP 3006-4

15Feb84 PN 4177414 EC 826487 PEC 826380 MAP 3006-4

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8112 8113 8118 8136 8137 8140	A B A F A	1 2 1 3 1	001 001 001 001 001
8140 8141 8142 8143 8152		2 2 2 2 2 2	001 001 001 001 001

001

- (Entry Point A)
- Select mode 6.
- Press the Power key (power off).
- Disconnect cable from A-A3A5 (see note 1).
- Install wrap card p/n 4233787, end 'A', into A-A3A5.
- Press the Power key (power on).
- Select mode E.

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MAP DESCRIPTION: This MAP describes how to install the diagnostic wrap card on the communications logic board for SLCA line 4 problems.

START CONDITIONS: None

FRUS PARTIALLY TESTED: A-A3N2, A-A3L4

Note 1: If it is necessary to temporarily remove some logic cards to perform this function, ensure that they are installed into their original locations when they these steps are completed.

> 15Feb84 PN 4177415 EC 826487 PEC 826380 MAP 3007-1

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- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and select MDI MAPs.
- Select line 4 as the failing data communications line.
- Select the 'Error MAP 1' option.
- Follow the MDI instructions to fix the failing area.
- (Entry Point B)
- Select mode 6.
- Press the Power key (power off)
- Remove wrap card p/n 4233787, from A-A3A5 (see note 2).
- Reinstall the cable into A-A3A5. Go To Entry Point D.

(Entry Point C)

- Select mode 6.
- Press the Power key (Power off). Go To Entry Point D.

(Entry Point D)

- Remove 2-wide card from A-A3L4. (Note: If end 'A' of the wrap card is plugged in by mistake, a power check will occur.)
- Install wrap card p/n 4233787, end 'B', into A-A3L4.
- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and select MDI MAPs.
- Select line 4 as the failing data communications line.
- Select the 'Error MAP 2' option.
- Follow the MDI instructions to fix the failing area.

Note 2: If it is necessary to temporarily remove some logic cards to perform this function, ensure that they are installed into their original locations when these steps are completed.

> 15Feb84 PN 4177415 EC 826487 PEC 826380 MAP 3007-2
Data Comm (MLCA) (Line 4)

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```
(Entry Point F)
- Select mode 6.
- Press the Power key (power off).
- Remove the logic card from A-A3L4.
- Install the following board jumpers:
    A-A3L4B02 to A-A3L4B13
    A-A3L4B05 to A-A3L4D10
    A-A3L4D02 to A-A3L4D13
    A-A3L4D04 to A-A3L4B10
- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
```

- Wait for the Main Menu display and select MDI MAPs.
- Select line 4 as the failing data communications line.
- Select the 'Error MAP 2' option.
- Follow the MDI instructions to fix the failing area.

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3021	A	 1 1	001
3054		1	001
30/0		1	001

MAP DESCRIPTION:

This MAP instructs the CE/CSR to analyze the data communications error logs. This MAP also instructs the CE/CSR to attempt to trap or obtain a trace of the transmitted and received data while attempting to duplicate an error condition. This MAP also lists specific data communications failures that are assumed to have a feature

visibility, some of them during a trap or trace.

```
START CONDITIONS:
```

This MAP should be run if no error is found or corrected using MDI diagnostics, hardmaps or the Intermittent Failure Replacement List, or if there is an intermittent failure that cannot be isolated.

LOGIC CARDS TESTED: None

The problem at this point is expected to be in the data communications line.

- Print or record the data communications ERAP data stored in the system.
- See Sections 30-500 through 598 of the maintenance manual to identify what errors were recorded in the ERAP table.

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- Look at the repeated errors and the errors that were recorded at the times the customers reported problems.

, e

- See the list in this MAP of data communications failures that are assumed to have a failure visibility during a trap or trace.
- If time permits and if the system is available, and the failure to the customer is severe or needs to be corrected, run a trap or trace of the transmitted and received data. Run an online test (BSCA or SDLC) or a customer program in an attempt to duplicate the failing conditions or error. Analyze the trap data.

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Data Communications Failures ------

Legend

Facility Type _____

D = Dial up

L = Leased

Failure Visibility -----

T = Trap/trace R = Remote end type facility W = Wrap test I = Microcode found and indicated

S = Speaker

Modem ____

> E = External IBM modem I = Internal IBM modem $0 = 0EM \mod$

Acronyms

- DTR = Data terminal ready DSR = Data set ready RTS = Request to send CTS = Clear to send XMIT = Transmit RCV = Receive= Off hook OH CCT = Coupler cut through SH = Switch hook
- RI = Ring indicate

MAP 3008-3

PN 4177416 15Feb84 EC 826487 PEC 826380 MAP 3008-3

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Des	cription	Facil Type	ity	Mo 	dem	Fai Vis	i] ı 5 i b 	ure bil	e it 	су
1 2 3 4 5	No DTR Drop DTR Hot DTR No DSR Drop DSR	D L D L D L D L D L		E E E E	0 0 0 0 0	T T T T		¥		
6 7 8 9 10	No RTS Hot RTS Drop RTS No CTS Hot CTS	DL DL DL DL DL		E E E E E	0 0 0 0 0	T T T T T		W W W W W	 	
11 12 13 14 15	Drop CTS Wrong CTS delay No RI pulses (AA) Hot RI No internal xmit Or rcv clock	D L D L D D D D L		E E E E E	0 0 0 0 0	T T T T	R	W W W		
16 17	No external xmit Or rcv clock Failing xmit or rcv clock pulses	D L D L		E	0 0			W		
18 19 20	No answer tone Hot answer tone No coupler sh transition	D D D		E E E	0 0 0	т т	R R		1	
21 22 23 24	No CCT (coupler) No coupler power No OH from modem Coupler cutting	D D D D D L		E E E E	0 0 0 0	т т	R	W W W	 	
25	Xmit data Rcv data cut By DE coupler	DL		E	10	Т	R			
26	No xmit data to	D L		E	1 0	T	R	W	1	S
27	No rcv data from modem	DL		Ε	10	Т		W	I	S

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MAP 3008-4

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28	Disconnected	D	L	Ε	I	0				I	S
29 30	Wrong type coupler Disconnecting modem cable	D D	L L	E E		0 0					S
31	Local loop hi-freq	D		E	1	0	Т	R			S
32	Open local loop (coupler to telco office)	D		Ε	I	0	Т	R			S
33	Impulse noise hits on line	D	L	Ε	I	0	Т	R		I	S
34	White noise on telco line	D	L	Ε	I	0	Т	R		I	
35	Phase jitter	D	L	Ε	I	0	Т	R		Ι	
36	Line distortion (freq amplitude, etc.)	D	L	Ε	1	0		R		1	
37	Wrong response	D	L	Ε	I	0	Т			I	
38	No response received	D	L	Ε	I	0	Т			I	S
39	Sent wrong response	D	L	Е	I	0	Т	R			
40	Terminal answering Wrong address		L	E	I	0	Т	R			S
41	Two terminals answer One address		L	E	1	0	T			1	
42	Terminals address	D	L	Ε	1	0	Т	R		I	
43	Calculating wrong BCC	D	L	Ε	I	0	Т	R		I	
44	Remote end	D	L	Ε	I	0	Т	R		I	
45	Sequence count Errors	D	L	E	I	0	T		W	1	

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46	Echo clamp problems	D	L	Ε	I	0	Т			
47	Line cross talk	D	L	Ε		0	Т	R	1	S
48	Wrong line propagation delay	D	L	Ε	I	0	Т	R		
49	Missing/extra data records (no errors)	D	L	Ε	I	0	Т	R		
50	Missing/extra data bytes (no errors)	D	L	E .	 	0	Т 	R		
51	Unattended remote end not set up	D	L	E.	I	0				
52	Unattended terminal locked up because of failure	D	L	E.	Ι	0				
53	Wrong rcv level	D	L	E	I	0			I	
54	Terminal fails to disconnect	D		E.	I	0		R	I	
55	Lack of leading sync character	D	L 	E.	 	0	Т 			

MAP 3008-6

MLCA Data Communications IFRL

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
3021	A	1	001
3028	A	1	001
3054	A	1	001
3078	A	1	001

001 (Entry Poir

(Entry Point A)

MAP DESCRIPTION: This MAP lists all the cards pertaining to the MLCA and SLCA Data Communications area and their configurations. Because there is no specific symptom to be listed, the user may install the cards in any sequence.

START CONDITIONS: None

LOGIC CARDS TESTED: All SLCA cards located on the A-Al board. All MLCA cards located on the A-A3 board.

MLCA/SLCA Data Communications Intermittent Failure Replacement List

- Run ERAP and analyze the data in the error history table. The information stored there may be helpful in determining the failing FRU.

There will not be any specific symptoms or specific FRUs listed for data communications. The following list shows the cards pertaining to that area.

- For possible microcode problems reload the communications

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MAP 3009-1

MAP 3009-1

MLCA Data Communications IFRL

5360 Systems Unit PAGE 2 OF 3 microcode. -- SLCA hardware --Board A-A1 ----> A-A1G2 ----- If EIA, 1200 integrated modem, DDSA, X.21 non-sw A-A1B2 ---- Internal clock (EIA-optional) (1200 integrated modem mandatory) A-A1K2 ----- Communications adapter card -- MLCA Line 1 hardware --Board A-A3 -----> A-A3M2 ----- If EIA, 1200 integrated modem, DDSA, autocall, X.21 A-A3U2 ---- Internal clock (EIA-optional) (1200 integrated modem mandatory) A-A3S2 ----- Communications controller A-A3U3 ----- Channel terminator A-A3R2 ----- Communications adapter card -- Line 2 hardware --Board A-A3 -----> A-A3L2* ----- If EIA, 1200 integrated modem, DDSA, autocall, X.21 A-A3Q2 ----- Communications adapter card A-A3U2 ---- Internal clock (ElA-optional) (1200 IM-mandatory) A-A3S2 ----- Communications controller A-A3U3 ----- Channel terminator *Note: If X.25 network support is configured for EIA or X.21 non-sw hardware, only the A-A3Q2 card will be installed

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on line 2.

-- Line 3 hardware --Board A-A3 -----> A-A3M4 ----- If EIA, 1200 integrated modem, DDSA, autocall, X.21 A-A3P2 ----- Communications adapter card A-A3U2 ---- Internal clock (EIA-optional) (1200 IM-mandatory) A-A3S2 ------ Communications controller A-A3U3 ------ Channel terminator -- Line 4 hardware --Board A-A3 -----> A-A3L4* ----- If EIA, 1200 integrated modem,

A-A3U2 ----- Communications adapter card A-A3S2 ----- Internal clock (EIA optional) (1200 Integrated modem mandatory) A-A3S2 ----- Communications controller A-A3U3 ------ Channel terminator

^{*}Note: If X.25 network support is configured for EIA or X.21 non-sw hardware, only the A-A3N2 card will be installed on line 4.

Data Comm Entry MAP Line 1

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8108	Α	2	001

EXIT TH	IS MAP	то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
4	017	3014	A
4	014	3014	А
4	014	3014	В
4	017	3014	С
4	014	3014	С
4	014	3014	D
4	016	3021	А
4	013	3023	А
5	022	3031	Α
5	023	3033	Α
5	022	3050	А
5	022	3051	А
5	022	3052	Α
5	022	3053	А
4	021	3054	А
4	018	3054	А
5	023	3059	Α
5	023	3060	Α
5	023	3061	Α
5	023	3062	Α
3	010	3073	А
3	010	3074	Α
4	011	3074	А
3	010	3075	Α
3	010	3076	Α
4	011	3076	Α
3	010	3077	Α
3	010	3078	А

EXIT POINTS

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	MAP 3010-1

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Data Comm Entry MAP 5360 Systems Unit

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001

Data Communications Entry MAP

(Entry Point A)

- If the data communications MDI tests were not run, run them at this time.

The data communications adapter card and most of the integrated modem, if present, have checked out OK.

- If you were instructed to come here from the diagnostics and are performing a new installation, you may stop here. For all other cases, continue on.

Data communications line adapter and modem abbreviations are listed in the MLM.

- For information needed to answer questions in the data communications MAPs on what data communications hardware has been installed and what strapping options and configurations options were selected at installation time, list the system configuration.

(Entry Point B)

Is a 1200 Switched integrated modem installed on the failing line?

Y N 002 Is a 1200 Nonswitched integrated modem installed on the failing line? Y N 003 Is the EIA configuration installed on the failing line? Y N Y N 4 4 4 3 A B C D MAP DESCRIPTION: This is the Data Communications Entry MAP.

START CONDITIONS: The data communications MDI diagnostics were run.

FRUs PARTIALLY TESTED: None

	Н МАР 3010-3
5360 Systems Unit	
PAGE 3 OF 5	
04	(Step 010 continued) or grounded.
the Autocall configuration installed on the ailing line? N	Bad card: If SLCA - A-A1G2
005 Is the DDSA configuration installed on the	If MLCA line 1 - A-A3M2 Line 2 - A-A3L2 line 3 - A-A3M4
failing line? Y N	Line 4 - A-A3L4
006 Is the V.35 Wideband configuration installed on the failing line? Y N 007	or - Use the correct continuity hardmap below to check the cables. If a problem is found, use the continuity charts in the hardmap to isolate to the failing FRU. If no problems are found, Go To Map 3078, Entry Point A.
Is the X.21 configuration installed on the failing line? Y N	If SLCA X.21, Go To Map 3073, Entry Point A.
008 - Check the hardware configuration. One	If MLCA line 1 X.21, Go To Map 3074, Entry Point A.
of the above configurations must be installed. Go to Page 2, Step 001, Entry Point B.	If line 2 X.21, Go To Map 3075, Entry Point A.
009 Is X 25 network configured?	If line 3 X.21, Go To Map 3076, Entry Point A.
Y N	If line 4 X.21, Go To Map 3077, Entry Point A.
010 - Select mode 6. Bross the Payor key (news off)	l 011 Salast mada C
 Check the card strapping on the X.21 adapter card. Verify that all six jumpers are installed 	 Select mode 0. Press the Power key (power off). One X.21 (X.25) line uses 2 communications ports. Check the card strapping on the line adapter.
- See the Maintenance Manual Section 30-950.	lf line 1/2 - A-A3M2 Line 3/4 - A-A3M4
Because of the manner in which the X.21 differential drivers and receivers operate, the MDI wrap tests may run without error	 Verify that all six jumpers are installed correctly. See the Maintenance Manual section 30-950.
even when one of the signal pairs is open (Step 010 continues)	Because of the manner in which the X.21 differential (Step 011 continues)
	15Feb84 PN 4177418

Ę	F	ဌ Data Comm Entry MAP	ĄĮ	3 C		MAP 3010-4
3 1	3 1	5 5360 Systems Unit	2 4	2 Z		
		PAGE 4 OF 5				
		(Step 011 continued) drivers and receivers operate, the MDI wrap tests may run without error even when one of the signal pairs is open or grounded.		015 Is X.25 netw Y N	ork configured?	
		Bad card: If line 1/2 - A-A3M2 Line 3/4 - A-A3M4		016 (Online tes Go To Ma	t) p 3021, Entry Poi	nt A.
		 or Use the correct continuity hardmap below to check the cables. IF line 1/2, Go To Map 3074, Entry Point A. 		017 One EIA (X. ports. If line 1/2, Go To Map 3	25) line uses 2 8014, Entry Point	communications A.
		IF line 3/4, Go To Map 3076, Entry Point A.		If line 3/4, Go To Map 3	 8014, Entry Point	С.
014 If I Go	01 Go 4 ine	 012 Because of the manner in which the V.35 differential drivers and receivers operate, the MDI wrap tests may run without error even when one of the signal pairs is open or grounded. Use the chart in hardmap 3080 to check continuity from the A-A3L4 card to the end of the external cable. or The A-A3L4 card could be bad. 3 5 To Map 3023, Entry Point A. 	019 Is net Y 1	018 Go To Map 305 this a WTC work)? N 020 s this a US or 0 Y N 021 (Online test w Go To Map 3	4, Entry Point A. switch/PSN (F Canada switched //remote) 8054, Entry Point	Public switched network? A.
 If I	ine					
Go) T	o Map 3014, Entry Point B.				
lf I Go	ine • T	e 3, o Map 3014, Entry Point C.				
lf I Go	ine • T	 ∋ 4, o Map 3014, Entry Point D.				
					15Feb84	PN 4177418
					EC 826487	PEC 826380
			5 5 J 1	5 (MAP 3010-4

J K Data Comm Entry MAP

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022

If SLCA Go To Map 3031, Entry Point A. If MLCA line 1, Go To Map 3050, Entry Point A. If line 2, Go To Map 3051, Entry Point A. If line 3, Go To Map 3052, Entry Point A. If line 4, Go To Map 3053, Entry Point A.

023

If SLCA , Go To Map 3033, Entry Point A. If MLCA line 1, Go To Map 3059, Entry Point A. If line 2, Go To Map 3060, Entry Point A. If line 3, Go To Map 3061, Entry Point A.

If line 4,

Go To Map 3062, Entry Point A.

Data Comm Indicator MAP

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
0101	B	2	002
8108		1	001

001

(Entry Point A)

EXIT POINTS

EXIT TH	IS MAP	то				
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT			
4	016	0500	А			
3	007	0584	А			
4	012	0584	Α			

MAP DESCRIPTION:

This MAP will isolate a data communications indicator problem to the failing FRU.

START CONDITIONS:

You were instructed to come here from the MDIs after an indicator light was found in error.

FRUs PARTIALLY TESTED:

A-A3R2 MLCA Line 1 A-A3Q2 MLCA Line 2 A-A3P2 MLCA Line 3 A-A3N2 MLCA Line 4 A-A1K2 SLCA Control panel Cables from A-A3V5 to control panel (MLCA) Cables from A-A1V3 to control panel (SLCA)

You are here because a data communications indicator light failed.

- Answer 'Y' if it failed to come on.

- Answer 'N' if it failed to go off.



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Data Comm Indicator MAP

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002

B 1

(Entry Point B)

- If you have not already done so, power on the system.
- Using the CE probe, probe 'Comm Dsply Sw' input on all the communications adapter cards installed. (see Chart A)

(for SLCA there will only be one communications adapter card).

For MLCA, only the line selected in the control panel line hex light should have the:

Up Light: Off Down Light: On

Chart A	I
	İ.
Select Probe	Ì
MLCA Line 1 A-A3R2SO3	l
MLCA Line 21A-A3Q2S03	l
MLCA Line 31A-A3P2S03	I
MLCA Line 4 A-A3N2SO3	I
ISLCA IA-A1K2S03	I

Line not selected will be floating - both probe lights will be off.

Are the lights correct?

ΥN

3 C

003

1.Bad control panel board B-A1
--or--2.Bad or unseated cable from: A-A1V3 if SLCA A-A3V5 if MLCA
to control panel location: B-A1J4B.

Data Comm Indicator MAP 5360 Systems Unit

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004

C 2

- Select mode 6.

- Press the Power key (power off).

Is the failing display light on?

ΥN

005

- Remove the communications adapter cards one at a time (starting with the failing line) until all cards are removed (see chart B).
- Each time a card is removed, power on the machine and check the failing display light. If it goes out then the last communications adapter card removed is bad.

Did the failing display light go out? (control panel)

ΥN

006

With power on, remove the cable from control panel location B-A1J4B.
Did the failing light go out?
Y N

```
007
Go To Map 0584, Entry Point A.
```

008

Bad cable from: A-A1V3 if SLCA A-A3V5 if MLCA to control panel location: B-A1J4B.

009

The communications adapter card you just removed is bad.

| Chart B | |-----| |MLCA Line 1 - A-A3R2| |MLCA Line 2 - A-A3Q2| |MLCA Line 3 - A-A3P2| |MLCA Line 4 - A-A3N2| |SLCA - A-A1K2| A D Data Comm Indicator MAP

5360 Systems Unit

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010

- Remove the communications adapter cards one at a time (starting with the failing line) until all cards are removed (see chart B).
 Each time a card is removed, check the failing
- display light. If it goes out then the last communications adapter card removed is bacl.

Did the failing display light go out? (control panel)

```
ΥN
```

011

- Remove the cable from control panel location B-A1J4B.

Did the failing light go out? Y N

Í

012 Go To Map 0584, Entry Point A.

013

```
Bad cable from:
A-A1V3 if SLCA
A-A3V5 if MLCA
to control panel location: B-A1J4B.
```

014

The communications adapter card just removed is bad.

015

You are here because one of the communications indicator lights failed to come on.

- Press and hold the Lamp Test key.

Do all of the communications indicator light come on?

```
ΥN
```

5 E 016 Go To Map 0500, Entry Point A.

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 MAP 3011-4

Data Comm Indicator MAP 5360 Systems Unit

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017

E 4

- Using Chart C or D, jumper the failing light to ground to attempt to force it on.

Chart C - SLCA
DTR - A-A1V3B02 to A-A1V3D08
DSR - A-A1V3B03 to A-A1V3D08
RTS - A-A1V3B04 to A-A1V3D08
CTS - A-A1V3B05 to A-A1V3D08
TDS - A-A1V3B06 to A-A1V3D08
RDS - A-A1V3B07 to A-A1V3D08
TI - A-A1V3B08 to A-A1V3D08
SYNC- A-AIV3B09 to A-AIV3D08
I INART D - MLIA
Chart D - MLLA
 DTR - A-A3V5B02 to A-A3V5D08
 DTR - A-A3V5B02 to A-A3V5D08 DSR - A-A3V5B03 to A-A3V5D08
 DTR - A-A3V5B02 to A-A3V5D08 DSR - A-A3V5B03 to A-A3V5D08 RTS - A-A3V5B04 to A-A3V5D08
Image: Chart D - MLCA Image: Chart D - MLCA Image: Chart D - MLA Image: Chart D - MLA
Image: Chart D - MLCA Image: Chart D - MLCA Image: Chart D - MLA Image: Chart D - MLA
Image: Chart D - MLCA Image: Chart D - MLCA Image: Chart D - MLA Image: Chart D - MLA

SYNC- A-A3V5809 to A-A3V5D081

With the board jumper installed, does the failing display light come on? (control panel)

Y N

018 1.Check for an unseated cable from: A-A1V3 if SLCA A-A3V5 if MLCA to J4B of the control panel. ---or---2.Bad panel board: B-A1 ---or---B-A2 ---or---3.Bad cable from: A-A1V3 if SLCA (Step 018 continues)

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6 F

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(Step 018 continued) A-A3V5 if MLCA to the control panel.

019

F 5

- Using the CE probe, probe 'Comm Dsply Sw' input on the failing line communications adapter. (see Chart A)

Up Light: Off Down Light: On

Chart A					
1		C	hart	A	
MLCA Line 1 - A-A3R2SO3 MLCA Line 2 - A-A3Q2SO3 MLCA Line 3 - A-A3P2SO3 MLCA Line 4 - A-A3N2SO3 SLCA - A-A1K2SO3	MLCA MLCA MLCA MLCA MLCA SLCA	A Line A Line A Line A Line A	1 - 2 - 3 - 4 -	A-A3R2S03 A-A3Q2S03 A-A3P2S03 A-A3P2S03 A-A3N2S03 A-A1K2S03	

Are the lights correct?

020

ΥN

020 1.Bad panel board: B-A1 ---or---2.Bad cable from: A-A1V3 if SLCA A-A3V5 if MLCA to control panel, location: B-A1J4B.

021

The communications adapter card installed in the failing line is bad (see Chart B).

1	Char	٠t	E	3
MLCA	Line	1	-	A-A3R2
MLCA	Line	2	-	A-A3Q2
MLCA	Line	3	-	A-A3P2
MLCA	Line	4	-	A-A3N2
SLCA			-	A-A1K2
i				

Data Comm (SLCA)

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY	PAGE NUMBER	STEP NUMBER
8112	A	1	001
8113	B	2	001
8118	A	1	001
8136	F	3	001
8137	A I	1	001
8140	l C	2	001
8141	L C	2	001
8142	C I	2	001
8143	l C	2	001

001

- (Entry Point A)
- Select mode 6.
- Press the Power key (power off).
- Disconnect cable from A-A1A4 (see note 1).
- Install wrap card p/n 4233787 (raw card p/n 4233786), end 'A', into A-A1A4.
- Press the Power key (power on).
- Select mode E.

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	MAP 3012-1

MAP 3012-1

MAP DESCRIPTION: This MAP describes how to install the diagnostic wrap card on the communications logic board for SLCA line problems.

START CONDITIONS: None

FRUS PARTIALLY TESTED: A-A1K2, A-A1G2

Note 1: If it is necessary to temporarily remove some logic cards to perform this function, ensure that they are installed into their original locations when the steps are completed.

```
Data Comm (SLCA)
```

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```
PAGE 2 OF 3
```

- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and select MDI MAPs.
- Select SLCA as the failing data communications line.
- Select the 'Error MAP 1' option.
- Follow the MDI instructions to fix the failing area.

```
(Entry Point B)
```

- Select mode 6.
- Press the Power key (power off)
- Remove wrap card p/n 4233787 (raw card p/n 4233786), from A-A1A4 (see note 2).
- Reinstall the cable into A-A1A4. Go To Entry Point D.

(Entry Point C) - Select Mode 6.

- Press the Power key (power off). Go To Entry Point D.

```
(Entry Point D)
```

```
    Remove 2-wide card from A-A1G2.
(Note: If end 'A' of the wrap card
is plugged in by mistake, a
power check will occur).
    Install wrap card p/n 4233787
```

- (raw card p/n 4233786), end 'B', into A-A1G2.
- Press the Power key (power on).
 Select mode E.
 Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and select MDI MAPs.
- Select SLCA as the failing data communications line.

Note 2: If it is necessary to temporarily remove some logic cards to perform this function, ensure that they are installed into their original locations when these steps are completed.

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 MAP 3012-2

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Select the 'Error MAP 2' option.
Follow the MDI instructions to fix the failing area.
(Entry Point F)
Select mode 6.

- Press the Power key (power off).
- Remove the logic card from A-A1G2.
- Install the following board jumpers:

A-A1G2B02 to A-A1G2B13 A-A1G2B05 to A-A1G2D10 A-A1G2D02 to A-A1G2D13 A-A1G2D04 to A-A1G2B10

- Press the Power key (power on).
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Wait for the Main Menu display and select MDI MAPs.
- Select SLCA as the failing data communications line.
- Select the 'Error MAP 2' option.
- Follow the MDI instructions to fix the failing area.

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 MAP 3012-3

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ENTRY POINTS

FROM	ENTER 1	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010 3010	A B	1 1	001 001
3010	Č	1	001

* NOTE *

Entry	Point	Α	=	MLCA	line	1				
Entry	Point	В	=	MLCA	line	2				
Entry	Point	С	=	MLCA	line	3				
Entry	Point	D	=	MLCA	line	4				

Chart	Α	=	Autocall external
			cable connector.
C	D	_	Autocoll cohlo to

Chart B = Autocall cable tower wrap connector.

Chart C = 2-ended wrap card pn 4233787. MAP DESCRIPTION: This MAP is an autocall interface chart. It shows all the interface pins or the logic cards and cables supplying the interface. The chart can be used to trace cable problems.

START CONDITIONS: Communications MDI diagnostics have been run.

LOGIC CARDS TESTED: None

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Line 1 Interface wiring and board wiring for autocall

*** CONTINUITY CHECK TABLE ***

- If you have an autocall, perform the continuity check shown in the chart below. Also check for grounded lines.
 - Note: The driver/receiver pairs, as shown in the chart below, are wrapped to each other only when the external cable wrap plug is installed. The cable tower wrap plug changes these pairs.

l	1	Bo wi V	ard res V	Boa win V	ard -es ca V V	nt able ca VV	Ext able V	I
 Sec 	t Line name	 A C D A A R P D T E R M L C A A-A3 R2	 A C U A T R O D C A L L 	 A C U A T R O D C A L L L L L L M2	* C C A O B N L N E E C T O R A-A3 A2	** C / O 0 N E C T 0 R Green Trian- gle 1	*** A C U A T B O L C E A L L 	
		+	+		·		+	
1	¦ Call req	M13	B02	J02	D04	20	4	>
2	Pres nxt dig	S09 +	D13 +	G10 ++	B08	5 	5	<
				11		1		

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	+	++	++-		F		+	1
3	Digit present	PO6 DO	2	G03	D06	4	2	>
4	ABAN call/ret	U10 B1	0	G04	D12	3	3	<
	+ -	· · · · ·						
5	NBR 4	MO4 BC	9	G08	D13	14	16	 >
6	Data line occ	S10 B1	3	J09	D02	6	22	 <
	+	++- - -					r	1 1
7	NBR 1	P10 BC)4	J06	B02	23	14	 >
8	See note 1	SO5 BC)8	J10	l D05	B05	8	 <
	+	++ 						
9	NBR 8	M10 BC)5	J07	B04	18	17	 >
10	Dist sta conn	S13 B1	2	J12	D09	8	13	 <
	+	+- +						1
11	NBR 2	M05 BC)3	G05	B05	11	15	>
12	Power indicate	SO7 D1	2	G13	D11	22	6	<
		++	++-		+		+	
13	Signal ground	D08 D0)8	J08	D08	B08	7	1

* I/O board cable socket

** I/O connector (cable tower, external cable side, 25-pin connector) *** Autocall cable connector (25-pin plug)

- Note 1: This receiver is not used under normal operation of autocall but is needed for sensing the
 - 'NBR 1' driver during wrap tests (rec clk).

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 MAP 3014-3

MAP 3014-4

Autocall Interface Chart Line 1-4

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Line 2 Interface Wiring and Board Wiring for Autocall

*** CONTINUITY CHECK TABLE ***

- If you have an autocall, perform the continuity check shown in the chart below. Also check for grounded lines.
 - Note: The driver/receiver pairs, as shown in the chart below, are wrapped to each other only when the external cable wrap plug is installed. The cable tower wrap plug changes these pairs.

1	1	Boa win V	ard res V	Boa wir V	es ca V V	nt E able ca	xt able V	l
 Sect 	 Line name 	 A C D A A R P D T E R H L C A A-A3 Q2	 A C U A T R O D C A L 	A C U A T R O D C A L L L L A-A3 L2	* C C A O B N L N E E C T O R A-A3 A3	** C 0 N E C T 0 R Green Trian- gle 2	*** A C U A T B O L C E A L L	
	•		, +	 ++		, 	+	
1 	Call req	M13	BO2	J02	D04	20	4 +	>
2	Pres nxt dig	I S09	D13	G10	B08	5	5	<
	T	T	T	++	r 			

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			• 1						ı –
3	Digit present	P06	D02		G03	D06	+ 4	2	 >
4	ABAN call/ret	U10	B10		G04	D12	3	3	 <
			+	++ 		+		+	
5	NBR 4	M04	B09		G08	D13	14	16	>
6	Data line occ	S10	B13		J09	D02	6	22	<
 				┍╼ ╎╎ ┺╼			+		
7	NBR 1	P10	B04	┍╼ ╎╎ ╺╼	J06	B02	23	14	>
8	See note 2	S05	B08	┍᠇	J10	D05	B05	8	<
	· · · · · · · · · · · · · · · · · · ·						•		
9	I NBR 8	M10	B05		J07	B04	18	17	>
10	Dist sta conn	S13	B12		J12	D09	8	13	<
							+		
11	NBR 2	M05	B03		G05	B05	11	15	 >
12	Power indicate	S07	D12		G13	D11	22	6	<
 				++ 		+	+- -	+	
13	Signal ground	D08	D08		J08	D08	B08	7	

* //O board cable socket

** I/O connector (cable tower, external cable side, 25-pin connector) *** Autocall cable connector (25-pin plug)

Note 2: This receiver is not used under normal operation of autocall but is needed for sensing the 'NBR 1' driver during wrap tests (rec clk). MAP 3014-5

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Line 3 Interface wiring and board wiring for autocall

*** CONTINUITY CHECK TABLE ***

- If you have an autocall, perform the continuity check shown in the chart below. Also check for grounded lines.
 - Note: The driver/receiver pairs, as shown in the chart below, are wrapped to each other only when the external cable wrap plug is installed. The cable tower wrap plug changes these pairs.

			Boa wit	ard res	Boa wit	ard res ca	 nt able ca	Ext able	
			V	V	V	l vv	l vv	l v	
	Sect	Line name	 A C D A A R P D T E R R M L C A-A3 P2	A C U A C T R O D C A L L L 	 A C U A T R O D C A L L 	* C C A O B N L N E E C T O R A-A3 A4	** C / O 0 N E C T 0 R Green Trian- gle 3	*** A C U A T B O L C E A L L 	
İ					i				1
	1	Call req	M13	BO2	J02	 D04	20		 >
	2	Pres nxt dig	\$09	D13	G10	во8	5	5	 <
		r 	T	+ 		+	+ 	+	

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MAP 3014-6

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3 | Digit present | P06 | D02 || G03 | D06 | 4 | 2 |-->| |----+--+----| || 4 | ABAN call/ret | U10 | B10 || G04 | D12 | 3 | 3 |<--| 11 5 | NBR 4 | MO4 | BO9 || G08 | D13 | 14 | 16 |-->| 6 | Data line occ | S10 | B13 || J09 | D02 | 6 | 22 |<--| 11 1 7 | NBR 1 | P10 | B04 || J06 | B02 | 23 | 14 |-->| 8 | See note 3 | S05 | B08 || J10 | D05 || B05 | 8 |<--| 9 | NBR 8 | M10 | B05 || J07 | B04 | 18 | 17 |-->| 10 | Dist sta conn | S13 | B12 || J12 | D09 | 8 | 13 |<--| 11 | NBR 2 | MO5 | BO3 || GO5 | BO5 | 11 | 15 |-->| 12 | Power indicate | S07 | D12 || G13 | D11 | 22 | 6 |<--| | 13 | Signal ground | D08 | D08 || J08 | D08 | B08 | 7 |

I/O board cable socket

*

** I/O connector (cable tower, external cable side, 25-pin connector) *** Autocall cable connector (25-pin plug)

Note 3: This receiver is not used under normal operation of autocall but is needed for sensing the 'NBR 1' driver during wrap tests (rec clk).

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Line 4 Interface wiring and board wiring for autocall

*** CONTINUITY CHECK TABLE ***

- If you have an autocall, perform the continuity check shown in the chart below. Also check for grounded lines.
 - Note: The driver/receiver pairs, as shown in the chart below, are wrapped to each other only when the external cable wrap plug is installed. The cable tower wrap plug changes these pairs.

		Boa wi V	ard res V	Boa wii V	ard - res ca V V	 Int able ca VV	Ext able V	1
Sect	Line name	 A C D A A R P D T E R H L C A A-A3 N2	A C U A C T R O D C A L L L L 	 A C U A T R O D C A L r> C C A O B N L N E E C T O R A-A3 A5	** C / O 0 N E C T C T 0 R Green Trian-	*** A C U A T B O L C E A L L 		
 	+	+	 ++	 +	+	 +	+	
1 	Call req +	M13 +	BO2 ++	J02	D04 +	20	4 +	>
2 	Pres nxt dig +	S09 +	D13 ++	G10	во8 +	5 +	5 +	<
İ				1				

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									1
3	Digit present	P06	D02		G03	D06	4	2	>
4	ABAN call/ret	U10	B10		G04	D12	3	3	<
5	INBR4	M04	B09		G08	D13	14	16	>
6	Data line occ	S10	B13		J09	D02	6	22	<
								·	
7	NBR 1	P10	B04		J06	B02	23	14	>
8	See note 4	S05	B08		J10	D05	B05	8	<
	+								
9	NBR 8	M10	B05		J07	B04	18	+ 17	>
10	Dist sta conn	S13	B12		J12	D09	8	13	< <
	+		+			+			·
11	NBR 2	M05	B03		G05	B05	11	15	>
12	Power indicate	s07	D12		G13	D11	22	6	· <
	+		+			+	+	+ -	
13	Signal ground	D08	D08		J08	D08	B08	7	
									-

* 1/0 board cable socket

** 1/0 connector (cable tower, external cable side, 25-pin connector) *** Autocall cable connector (25-pin plug)

Note 4: This receiver is not used under normal operation of autocall but is needed for sensing the 'NBR 1' driver during wrap tests (rec clk).

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- If you suspect a bad wrap connector, check the wrap connector for continuity.

Chart A Autocall External Cable Wrap Connector

	Note: The fol autocal	lowing lines l wrap conne	are jumpe ctor is or	ered together when the n the autocall cable:
1				
	DRIVER	FROM	то	RECEIVER
	Call request Digit present Number 4	4 2 16	5 3 22	Present next digit Abandon call/retry Data line occupied
 	Number 1 Number 8 Number 2	17 15	o 13 6,18	(see note 6) Distant station conn Power indicate

Chart B Autocall Cable Tower Wrap Connector

Note: The follo	wing lines	are jump	pered together when the
wrap conn	ector is i	nstalled	at the cable tower:
DRIVER	FROM	ΤO	RECEIVER
Digit present	4	5	Present next digit
Xmit data	2	3	Abandon call/retry
Call request	20	6	Data line occupied
Number 4	14	8	Distant station conn
Number 8	18	15	Transmit clock
Number 2	11	22	Power indicate
Number 1	23	17	Receive clock

The 2-ended wrap card is used at the cable socket and in place of the line adapter card to perform board level wraps.

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- If the wrap card is suspect, use this chart to check it out.

	2-E	nded Wra	Chart C ap card PN 42337	87
	End	(raw ca A	ard PN 4233786) End	В
- •	FROM	T0	FROM	T0
	B02 B04 B05 B08	D05 D07 D11 D06	B02 B03 B04 B05	B13 D12 B08 B07
 	D02 D09 D10	DO4 D13 D12	B09 D02 D04	B12 D13 B10

- When completed, remove the wrap plug and reinstall the autocall cable if removed.

Note 6: This receiver is not used under normal operation of autocall but is required for sensing the 'NBR 1' driver during wrap tests (rec clk).

EIA/CCITT Interface Chart Line 1-4

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1			
ENTER	THIS MAP		
ENTRY POINT	PAGE NUMBER	STEP NUMBER	
A B C D	1 1 1 1	001 001 001 001 001	
int A = I int B = I int C = I int D = I int E = S = EIA ex cable	Line 1 MLC Line 2 MLC Line 3 MLC Line 4 MLC SLCA ternal cal tower wra	CA CA CA CA Dle and D connector	MAP DESCRIPTION: This MAP is an EIA/CCITT interface chart. It shows all the interface pins of the logic cards and cables supplying the interface. The chart can be used to trace cable problems.
= 2-ende 423378	d wrap ca 7.	rd pn	START CONDITIONS: None
******** * Entr	******** y Point A	***	LOGIC CARDS TESTED: None
	<pre>I ENTER I ENTRY I POINT I I A I B I C I D I I C = I I I C = I I I C = I I I C = I I I C = I I I C = I I I C = I I I C = I I I C = I I I C = I I I C = I I I C = I I I C =</pre>	<pre>I ENTER THIS MAP I ENTRY PAGE I POINT NUMBER I A 1 I B 1 I C 1 I D 1 I C 1 I D 1 I C 1 I D 1 I C 1 I D 1 I C 1 I D 1 I C 1 I C 2 Line 3 MLC Int C 2 Line 3 MLC Int C 2 Line 4 MLC Int E 2 SLCA = EIA external cal cable tower wrap = 2-ended wrap can 4233787. ***********************************</pre>	<pre>I ENTER THIS MAP I ENTRY PAGE STEP I POINT NUMBER NUMBER I A 1 001 I B 1 001 I C 1 001 I D</pre>

This chart shows the EIA interface wiring and the board wiring for the stand-alone modem, line 1.

Continuity Check Table ***

- If you have a stand-alone modem, perform the continuity check shown in the chart below. Also check for grounded lines.

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MAP 3020-1
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		Boa wir V	 es V	Boa wir V	 es ca V V	int able c V V	ext able V	
Sect	Line name	A C D A A R P D T E R	E C A A R D 	 E C I A A R D 	* C C B N L N E E C T O R	** C O N O N E C T O R	*** M C O A D B E L M E	
 	 	 A-A3 R2	 A-A3 M2	 A-A3 M2	A-A3 A2	Green Trian- gle 1		
 				 	r			
1	Data term rdy	M13	B02	J02	D04	20	20	 >
2	Data set rdy	S10	B13	J09	D02	6	6	 <
							·	1
3	Req to send	P06	D02	G03	D06	4	4	 >
4	Clear to send	\$09	D13	G10	I B08	5	5	< <
	T		┎╴╸╸╸╸╸╸		+		+	
5	Xmit data	P13	D04	G07	D10	2	2	 >
6	Rec data	l U10	B10	G04	D12	3	3	<
 	+	+	• • •+	 .+	+	 +	+	

MAP 3020-2

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| 7 | Rate select | P10 | B04 || J06 | B02 | 23 | 23 |-->| 8 | Rec clock | S05 | B08 || J10 | D05 | 17 | 17 |<--| 9 | Wrap | M10 | B05 || J07 | B04 | 18 | 18 |-->| 10 | Xmit clock | S08 | B07 || J04 | D07 | 15 | 15 |<--| 11 | 11 | Standby | M05 | B03 || G05 | B05 | 11 | 11 |-->| | 12 | Ring indicate | S07 | D12 || G13 | D11 | 22 | 22 |<--| | 13 | New sync | M04 | B09 || G08 | D13 | 14 | 14 |-->| 14 | Rec line sig d| \$13 | B12 || J12 | D09 | 8 | 8 |<--| | 15 | Signal ground | D08 | D08 || J08 | D08 | 7 | 7 |

*

** 1/0 connector (cable tower, external cable side, 25-pin connector)

> 15Feb84 PN 4177422 EC 826487 PEC 826380 MAP 3020-3

1/0 board cable socket

*** Modem cable connector (25-pin plug)

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This chart shows the EIA interface wiring and the board wiring for the stand-alone modem, line 2.

*** Continuity Check Table ***

- If you have a stand-alone modem, perform the continuity check shown in the chart below. Also check for grounded lines.

1	l	 Boa win V	 ard res V	 Boa wir V	ard res ca V V	Int able o VV	ext cable V	
 Sect 	Line name	+ A C D A A R P D T E R 	+ E C A R D 	++ E C I A A R D * C C A O B N L N E E C T 0 R A-A3 A3	** C / 0 0 N E C T 0 R Green Trian-	+ *** M C D B E L M E 		
	+	+	+	++	·		+	
1	Data term rdy 	M13	BO2	J02	DO4	20	20	>
2	Data set rdy	S10	B13	J09	D02	6	6	<
	T 		+ - -		r		 -	

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	+	L	L		.		L	
3	Req to send	P06	D02	G03	D06	4	4	>
4	Clear to send	\$09	D13	G10	B08	5	5	<
	•		+ 		·			1
5	Xmit data	P13	D04	G07	D10	2	2	>
6	Rec data	U10	B10	G04	D12	3	3	<
	+							1
7	Rate select	P10	BO4	J06	B02	23	23	 >
8	Rec clock	\$05	BO8	J10	D05	17	17	<
	+							
9	Wrap	M10	B05	J07	B04	18	18	>
10	Xmit clock	\$08	B07	J04	D07	15	15	<
	+	+			+			
11	Standby	M05	BO3	G05	B05	11	11	 >
12	Ring indicate	S07	D12	G13	D11	22	22	<
	+	+	++	1	·			1
13	New sync	1 MO4	B09	G08	D13	14	+ 14	>
14	Rec line sig d	\$13	B12	J12	D09	8	8	<
	+	+	++		+	+	+	
15	Signal ground	D08	D08	J08	D08	7	7	

* I/O board cable socket

- *** Modem cable connector (25-pin plug)

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This chart shows the EIA interface wiring and the board wiring for the stand-alone modem, line 3.

Continuity Check Table ***

- If you have a stand-alone modem, perform the continuity check shown in the chart below. Also check for grounded lines.

1		 Boa win 	ard res 	 Boa win 	ard res ca	Int able c	ext cable	1
	 	, v +	V ++	• •	V V +	V V 	• • • • • • • • • • • • • • • • • • •	
i I		l		l	*	**	***	İ 👘
Sect	Line name	AC	IECI	E C			MC	ļ
			A K D		i dini I i ni			1
• 						E		
i i		İΕ	i i	i	i c	i c		i
		R		1	T	T		1
				1	0	0		ļ
					I R	R		ļ
		 ^ _ ^ ?				Green		1
			IA-АЗ I I мЦ I	ТА-АЗ	Ι Α-Α3 Ι ΔΔ	lirian-		1
	, •	· · · · · · · · · · · · · · · · · · ·	++	·+·	+	+	+	
				1				
1	Data term rdy	M13	BO2	J02	DO4	20	20	 >
2	Data set rdy	\$10	B13	J09	D02	6	6	<

MAP 3020-6

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 PEC 826380

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11 3 | Reg to send | P06 | D02 || G03 | D06 | 4 | 4 |-->| 4 | Clear to send | S09 | D13 || G10 | B08 | 5 | 5 |<--| 5 | Xmit data | P13 | D04 || G07 | D10 | 2 | 2 |-->| -+----| 6 | Rec data | U10 | B10 || G04 | D12 | 3 | 3 |<--| 7 | Rate select | P10 | B04 || J06 | B02 | 23 | 23 |-->| 8 | Rec clock | S05 | B08 || J10 | D05 | 17 | 17 | <--| 11 9 | Wrap | M10 | B05 || J07 | B04 | 18 | 18 |-->| 10 | Xmit clock | S08 | B07 || J04 | D07 | 15 | 15 |<--| 11 | Standby | M05 | B03 || G05 | B05 | 11 | 11 |-->| 12 | Ring indicate | S07 | D12 || G13 | D11 | 22 | 22 |<--| 13 | New sync | M04 | B09 || G08 | D13 | 14 | 14 |--> 14 | Rec line sig d| S13 | B12 || J12 | D09 | 8 | 8 |<--| 15 | Signal ground | D08 | D08 || J08 | D08 | 7 | 7 | * 1/0 board cable socket ** 1/0 connector (cable tower, external cable side, 25-pin connector)

*** Modem cable connector (25-pin plug)

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This chart shows the EIA interface wiring and the board wiring for the stand-alone modem, line 4.

Continuity Check Table ***

- If you have a stand-alone modem, perform the continuity check shown in the chart below. Also check for grounded lines.

1		 Boa win V	ard res V	 Boa wir V	ard -es ca	 Int able c	ext cable V	I
Sect	Line name	A C D A A R P D T E R R A-A3 N2	E C A R A R D 	E C I A A R D 	<pre></pre>	** C O N N E C T C R Green Green Trian-	*** M C O A D B E L M E	
 1 	 Data term rdy	+	 ++ B02 ++	 J02	+	 20	+	 :
2	 Data set rdy +	S10	B13 ++	i J09	DO2 +	6 +	6 +	<-

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3 | Reg to send | P06 | D02 || G03 | D06 | 4 | 4 |-->| | 4 | Clear to send | S09 | D13 || G10 | B08 | 5 | 5 |<--| 5 | Xmit data | P13 | D04 || G07 | D10 | 2 | 2 |-->| 6 | Rec data | U10 | B10 || G04 | D12 | 3 | 3 |<--| 11 | 7 | Rate select | P10 | B04 || J06 | B02 | 23 | 23 |-->| 8 | Rec clock | S05 | B08 || J10 | D05 | 17 | 17 | <--| 11 9 | Wrap | M10 | B05 || J07 | B04 | 18 | 18 |-->| 10 | Xmit clock | S08 | B07 || J04 | D07 | 15 | 15 |<--| 11 | Standby | M05 | B03 || G05 | B05 | 11 | 11 |-->| 12 | Ring indicate | S07 | D12 || G13 | D11 | 22 | 22 |<--| 13 | New sync | M04 | B09 || G08 | D13 | 14 | 14 |-->| 14 | Rec line sig d| S13 | B12 || J12 | D09 | 8 | 8 |<--| 11 | 15 | Signal ground | D08 | D08 || J08 | D08 | 7 | 7 | _____ * 1/0 board cable socket ** 1/0 connector (cable tower, external cable side, 25-pin connector)

*** Modem cable connector (25-pin plug)

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This chart shows the EIA interface wiring and the board wiring for the stand-alone modem, SLCA.

*** Continuity Check Table ***

- If you have a stand-alone modem, perform the continuity check shown in the chart below. Also check for grounded lines.

1	1	 Boa win 	ard res 	Boa wir 	ard res ca	Int able c	ext cable	I
 	 +	V +	I V +4	V -+	V V +	V V 	V +	
İ	ĺ	1	1 1		*	**	***	İ
Sect	Line name	AC	EC	EC		IC	MC	
1	1							1
1	1				I BN	IUN. INI		
1	1							
1	1	İ E	ì					1
l	l	R	i i	İİ	Í T	I T		İ
		1	1		I 0	0	l	l
					R	l R		!
						lGreen		ļ
1	1			A-A1		Irian-		
	 +	K2 +	G2 +	GZ -+	A4 +	igie i +	 +	1
1	Data term rdy	M13	BO2	J02	D04	20	20	 >
2	Data set rdy	S10	B13	J09	D02	6	6	 <
1								1

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| 3 | Req to send | P06 | D02 || G03 | D06 | 4 | 4 |-->| 4 | Clear to send | S09 | D13 || G10 | B08 | 5 | 5 |<--| 5 | Xmit data | P13 | D04 || G07 | D10 | 2 | 2 |-->| 6 | Rec data | U10 | B10 || G04 | D12 | 3 | 3 |<--| 7 | Rate select | P10 | B04 || J06 | B02 | 23 | 23 |-->| 8 | Rec clock | S05 | B08 || J10 | D05 | 17 | 17 |<--| 11 9 | Wrap | M10 | B05 || J07 | B04 | 18 | 18 |-->| -+------------+----+-----| | 10 | Xmit clock | S08 | B07 || J04 | D07 | 15 | 15 |<--| 11 | Standby | M05 | B03 || G05 | B05 | 11 | 11 |-->| 12 | Ring indicate | S07 | D12 || G13 | D11 | 22 | 22 |<--| 11 1 13 | New sync | M04 | B09 || G08 | D13 | 14 | 14 |-->| 14 | Rec line sig d| S13 | B12 || J12 | D09 | 8 | 8 |<--| 15 | Signal ground | D08 | D08 || J08 | D08 | 7 | 7 | * 1/0 board cable socket ** I/O connector (cable tower, external cable side, 25-pin connector)

*** Modem cable connector (25-pin plug)

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- If you suspect a bad wrap connector, check the wrap connector for continuity (see note below)

- Chart A -EIA External Cable -or- Cable Tower Wrap Connector

Note: The following ElA wrap con ElA cable tow	g line nector wer co	is are jump is on the onnector fo	ered together when the EIA cable or on the r an EIA configuration.
 	ROM	то	
I Xmit data	2	3	Received data
Request to send	4	5	Clear to send
Data terminal ready	20	é	Data set ready
Rate select	23	17	Received clock
Select standby	11	22	Ring indicator
/ Wrap	18	15	Transmit clock
New sync	14	8	Receive line signal detect

The 2-ended wrap card is used at the board cable socket and in place of the line adapter card to perform board level wraps. - If the wrap card is suspect, use this chart to check it out.

2-E	C Inded Wrap (raw card	hart B card Pn 42337 Pn 4233786)	87
End	A	End	В
FROM	TO I	FROM	TO
BO2 BO4 BO5 BO8	D05 D07 D11 D06	B02 B03 B04 B05	B13 D12 B08 B07
DO2 DO9 D10	D04 D13 D12	B09 D02 D04 	B12 D13 B10

.

Note: When completed, remove the wrap jumpers and reinstall the modem cable if removed.

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EIA On Line Test

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	A	1	001

EXIT POINTS

EXIT TH	S MAP	то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
2	002	3008	A
2	004	3008	
2	006	3008	A
3	007	3008	A
2	002	3009	A
2	004	3009	A
2	006	3009	
3	007	3009	A
2	002	3020	A
2	006	3020	A
2	002	3020	B
2		3020	B
2 2 2	002 006 002	3020 3020 3020	C D
2	006	3020	D
2	002	3020	E
2	006	3020	F

001 (Entry Point A)

external modem.

MAP DESCRIPTION:

This MAP runs the Online test.

START CONDITIONS:

The data communications MDI diagnostics were run.

FRUs PARTIALLY TESTED: None

with a remote system. It is not important which system you select as the primary (requestor) or the secondary (responder).

- Ensure that the external cable is connected to the

- Run the SDLC online test or the BSCA online test

(See the maintenance manual section 30-410 or 30-415).

- Ensure that the same data rate and the same selection of NRZI or not NRZI is used.

(Step 001 continues)

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(Step 001 continued) Does the test run without error? Y N

002

- Suspect the modem or the data communications equipment.
- Select the one you will go to first from the list below:

Intermittent Failure Replacement List,

Go To Map 3009, Entry Point A.

Error Log MAP, Go To Map 3008, Entry Point A. _____

If SLCA (continuity chart),

Go To Map 3020, Entry Point E. ~-----

If MLCA line 1 (continuity chart), Go To Map 3020, Entry Point A.

If line 2 (continuity chart), Go To Map 3020, Entry Point B.

If line 3 (continuity chart), Go To Map 3020, Entry Point C. ------

If line 4 (continuity chart), Go To Map 3020, Entry Point D.

003

Is there a switched network backup feature in the modem?

Y N

004

- Suspect possible program incompatibility. Dump and analyze the ERAP data. Error Log MAP, Go To Map 3008, Entry Point A.

Intermittent failure replacement list, Go To Map 3009, Entry Point A.

Α

005

MAP 3021-2

- Run the SDLC online test or the BSCA online 1 with a remote system. It is not important wh

system you select as the primary (requestor) or 1 secondary (responder).

(See the maintenance manual section 30-410 30-415).

- Ensure that the same data rate and the sa selection of NRZI or not NRZI is used.

Does the test run without error?

Y N

3 B

006

- Suspect the modem or the data communication equipment.
- Select the one you will to go to first from the below:

Intermittent failure replacement list, Go To Map 3009, Entry Point A.

Error Log MAP Go To Map 3008, Entry Point A. ----

If SLCA (continuity chart), Go To Map 3020, Entry Point E.

If MLCA line 1 (continuity chart),

Go To Map 3020, Entry Point A.

If line 2 (continuity chart). Go To Map 3020, Entry Point B. ------

If line 3 (continuity chart), Go To Map 3020, Entry Point C.

If line 4 (continuity chart), Go To Map 3020, Entry Point D.

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	MAP 3021-2

EIA On Line Test

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007

B 2

 Suspect possible program incompatibility. Dump and analyze the ERAP data.
 Error Log MAP,
 Go To Map 3008, Entry Point A.

Intermittent failure replacement list, Go To Map 3009, Entry Point A.

nt nt /

DDSA Remote Loop-back Test

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

EXIT POINTS

EXIT TH	IS MAP	то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
12	025	3024	Α
12	025	3025	Α
12	025	3026	Α
12	025	3027	Α
12	020	3028	Α
12	021	3028	Α
12	025	3029	Α

001 (Entry Point A)

1 2 2 A B

MAP DESCRIPTION:

This MAP tests the remote DDSA Loop-back test. Do not use this MAP on a multipoint network. Aid from a remote system is necessary to complete this test.

START CONDITIONS:

The data communications MDI diagnostics were run and no problem was found or was not corrected.

FRUs PARTIALLY TESTED:

SLCA	- A-A	4 1 K	(2,	, A-A1G2	
MLCA	line	1	-	A-A3R2,	A-A3M2
	line	2	-	A-A3Q2,	A-A3L2
	line	3	-	A-A3P2,	A-A3M4
	line	4	-	A-A3N2,	A-A3L4

Υ	Ν					
	1					

Is this a DDSA local attach configuration?

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DDSA Loop-back Test 5360 Systems Unit

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002

В

ĭ

Note: This test is in two parts. It is necessary that the remote system or device can perform either or both of the following:

(1) enable the DDSA Wrap function and/or

(2) transmit a DDSA remote loop-back test. Determine what the remote system or device can perform before continuing.

- Now, decide which system (local or remote) should transmit the remote DDSA loop-back test and which system should be in wrap mode (this decision relies on system availability). If availability is no problem, always transmit from the local system first, using the following procedure:

Does the remote system have to transmit first?

```
Ν
  003
  (Entry Point B)
                 *****
                 * Part A *
                 ******
  The local system is transmitting the remote
  Loop-back test and the remote system is in wrap
  mode.
  - Enable the DDSA Wrap function at the remote
   system.
   1.If the remote system is a S/36 enable DDSA
    wrap at the remote station by doing the
    following:
   - Perform CSIPL at the remote end using the
    diagnostic diskette DIAG21.
   - Select mode 1.
   - Press the System Reset key.
   - Select mode E.
   - Enter FF00.
   - Insert diskette DIAG21.
   - Press the Load key.
   - Select the 'TU Select' option on the first screen
     display (Main Option Menu).
  (Step 003 continues)
                                                      (Step 003 continues)
1
2
C
```

MAP 3023-2

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EC 826487

PN 4177424

PEC 826380 MAP 3023-2

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(Step 003 continued)

- Select the failing data communications line.
- Enter 71 as the last two digits of the test ID.
- Select option 1 (execute test display and stop).
- 2.If the remote system is a 5340, perform this at the remote system by jumpering from:(If remote 5340 has MLCA (4-line communications, feature code 4500 installed).

-DS wrap interface

line 1, A-B3L2B05 to A-B3L2D08(gnd) line 2, A-B3M2B05 to A-B3L2D08(gnd) line 3, A-B3L4B05 to A-B3L2D08(gnd) line 4, A-B3M4B05 to A-B3L2D08(gnd)

(If remote 5340 has 2-line communications, feature code 2500, 3500 installed) -DS Wrap Interface line 1, A-A2H2B05 to A-A2H2D08(gnd)

line 2, A-A3H4B05 to A-A2H4D08(gnd)

- Ensure that the local and remote systems are jumpered for the same speed (see maintenance manual section 34-310).
- Perform system CSIPL at the local end using the DIAG21 diagnostic diskette (see note 1).
- Select mode 1.
- Press the System Reset key.
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Select the TU Select option on the first screen display (Main Option Menu).
- Select the failing data communications line.
- Insert the DIAG23 diskette in place of the DIAG21 diskette.
- On the next screen display, type in 50 (system console).
- On the next screen display, select option 3 (loop test until error).

Correct test results are: 0000 (Step 003 continues) Note 1: If system CSIPL was performed using the DIAG21 diagnostic diskette and the Main Option Menu is displayed or can be obtained by pressing the Attn and the Enter keys (system console) skip this part of step 002 in this MAP.

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(Step 003 continued)

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- Press the Attn key twice to return to the TU

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(Step 003 continued)

Are the test results always correct?

ΥN

0 D 004

Select menu. - Run the transmit exerciser test. - Enter 73 as the last two digits of the test ID. - Select option 1 (execute test, display and stop). - Select option 3 (transmit alternating pulses) or Option 1 if NRZI is enabled (check configuration). - Select option 5 (transmits for 1 hour). - Scope the '+ Transmit' line and the '- Transmit' line. Sync '-external' on: SLCA, A-A1G2D04 MLCA line 1, A-A3M2D04 line 2, A-A3L2D04 line 3, A-A3M4D04 line 4, A-A3L4D04 '-DS send data space' line. Use add mode. 0.5 MS/Div (if line speed is 2400 BPS). 0.2 MS/Div (if line speed is 4800 BPS). 0.1 MS/Div (if line speed is 9600 BPS). Channel 1, 1.0 V/div AC. Channel 2, 1.0 V/div AC invert. Scope on channel 1 (DT): SLCA, A-A1G2G02 MLCA line 1, A-A3M2G02 line 2, A-A3L2G02 line 3, A-A3M4G02 line 4, A-A3L4G02 - Scope on channel 2 (DR): SLCA, A-A1G2J05 MLCA line 1, A-A3M2J05 line 2, A-A3L2J05 line 3, A-A3M4J05 line 4, A-A3L4J05 (Step 004 continues)

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(Step 004 continued)

To aid in comparison, see figures 3 and 4.



Alternate 1 and 0 bits

Figure 1

Do the waveshapes compare with Figure 1 and is the transmit amplitude 1.4 V or more?

Idle characters

For 2400 to 9600 BPS data rate the Bit pattern is: 1 1 1 X 0 V For 56 K BPS the character is 7 bits long: 1 1 1 1 X 0 V

'V is a violation character. The bit pattern violates the opposite polarity rule.



(Step 004 continues)

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(Step 004 continues)

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(Step 004 continued) Y N



(Step 004 continued)

PN 4177424 PEC 826380 MAP 3023-6

77 EF

E F DDSA Loop-back Test 6 6 5360 Systems Unit PAGE 7 OF 12

005

Remove the external cable from the CSU (channel service unit) and install a wrap connector.
 Do the waveshapes now compare with Figure 1 and is the transmit amplitude 1.4 V or more?

YN

006 If SLCA, the A-A1G2 is bad. MLCA If line 1, the A-A3M2 is bad. If line 2, the A-A3L2 is bad. If line 3, the A-A3M4 is bad. If line 4, the A-A3L4 is bad.

007

There is a possible CSU or network problem.

008

- Scope the '+ Receive line' and the '- Receive' line. Sync '- External' on: The '- DS Send Data Space' line. SLCA, A-A1G2D04 MLCA line 1, A-A3M2D04 line 2, A-A3L2D04 line 3, A-A3M4D04 line 4, A-A3L4D04 Use add mode.

0.5 MS/div (if line speed is 2400 BPS).0.2 MS/div (if line speed is 4800 BPS).0.1 MS/div (if line speed is 9600 BPS).

Channel 1, 2.0 V/div DC. Channel 2, 2.0 V/div AC invert.

- Scope on channel 1: (DT1, +Receive) SLCA, A-A1G2G09 MLCA line 1, A-A3M2G09 line 2, A-A3L2G09 line 3, A-A3M4G09 (Step 008 continues) (Step 008 continued) line 4, A-A3L4G09

Scope on channel 2:

(DR1, - Receive) SLCA, A-A1G2J13 MLCA line 1, A-A3M2J13 line 2, A-A3L2J13 line 3, A-A3M4J13 line 4, A-A3L4J13





Figure 2

Do the waveshapes compare with Figure 2 and is the amplitude 1.33 V or more?

ΥN

Ğ

009

- See Figure 3 if the waveshapes do not compare tc Figure 2.

The problem is in the network or the remote system.

- To isolate the problem, have the remote system verify that it is receiving and transmitting alternate 0 and 1 bits.

(Step 009 continues)

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	MAP 3023-7

DDSA Loop-back Test

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(Step 009 continued)

Idle characters

For 2400 to 9600 BPS data rate the Bit pattern is: 1 1 1 X 0 V For 56 K BPS the character is 7 bits long: 1 1 1 1 X 0 V

'V' is a violation character. The bit pattern violates the opposite polarity rule.



F i g u r e 3 Idle characters indicate the remote system is not in the wrap mode.

(Step 009 continues)

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(Step 009 continues)

G 7

DDSA Loop-back Test

5360 Systems Unit

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(Step 009 continued)

(Step 009 continued)

All 1 bits are being transmitted.



All 1 data bits

Figure 4

010

If SLCA, the A-A1G2 is bad. MLCA If line 1, the A-A3M2 is bad. If line 2, the A-A3L2 is bad. If line 3, the A-A3M4 is bad. If line 4, the A-A3L4 is bad.

DDSA Loop-back Test

5360 Systems Unit

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011

1 2 H

D 4

The test is running correctly (no problem has been found at your end).

- Display the Main Option Menu.
- Press the Cmd key (system console).
- Press the 7 key (system console).
- Repeat this several times if the test continues to run.

The second part (part B) of this MAP, starting at Entry Point C, runs the remote Loop-back test in the opposite direction.

Was part B of this MAP performed first and was no error found? Y N

012 (Entry Point C) ****** * Part B * **** The remote system is transmitting the remote Loop-back test and the local system is in wrap mode (see note 1). At the local system, enable the wrap line to the DDSA card by doing the following: - Perform CSIPL using the DIAG21 diagnostic diskette (see note 2). - Select mode 1. - Press the System Reset key. - Select mode E. - Enter FF00. - Insert diskette DIAG21. - Press the Load key. - Select the 'TU Select' option on the Main Option Menu screen. - Select the failing communications line. - Enter 71 as the last two digits of the test ID. - Select option 1 (execute test, display and stop). - Instruct the remote system to transmit a remote (Step 012 continues)

If you cannot stop running the test,

- Press the System Reset key.
- Press the CSP Start key.

Note 1: If the remote system is a S/36 system, repeat the same procedure you followed at the start of this MAP. Instruct the remote system to perform part A of this MAP.

Note 2: If system CSIPL was performed using the diagnostic diskette DIAG21 and the Main Option Menu can be displayed, skip this part of step 012 of this MAP.

DDSA Loop-back Test

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(Step 012 continued) DDSA loop test.

Does the test run correctly?

ΥN

013 Was part A of this MAP performed? Y N

014 Is the remote system a S/36? Y N

015

Go to Page 2, Step 003, Entry Point B, unless remote end wants to follow the troubleshooting procedure first. If the problem is not isolated by the remote system, the CE should return and

Go to Page 2, Step 003, Entry Point B.

016

- Instruct the CE at the remote system to complete the troubleshooting using this MAP.

017

The problem is in the remote system, CSU or network.

018

Was Part A of this MAP performed at your local system?

ΥN

019

1 2 J Go to Page 2, Step 003, Entry Point B.

Note: Use the scope procedure and Figures 1 and 2 to verify the receiving and transmitting of the alternate 0 and 1 bits if it is requested by the CE at the remote system. A C H J 1 2 1 1 - 0 1 **DDSA Loop-back Test** MAP 3023-12 5360 Systems Unit PAGE 12 OF 12 (Step 025 continued) **020** - Use the continuity charts to check for a cable open, No problem is found in the remote DDSA short circuit, or ground problem. Loop-back test. Go To Map 3028, Entry Point A. - Run the Online test. 021 No problem is found in the remote DDSA Loop-back test. Go To Map 3028, Entry Point A. - Run the Online test. 022 Go to Page 10, Step 012, Entry Point C. 023 - Run the MDIs on the remote DDSA system. Do the MDIs run OK? Y N 024 The problem is in the remote system. 025 The local attach adapter cable p/n 4236967 is bad. If SLCA, Go To Map 3029, Entry Point A. If MLCA line 1, Go To Map 3024, Entry Point A. -----If line 2, Go To Map 3025, Entry Point A. ------If line 3, Go To Map 3026, Entry Point A. If line 4, Go To Map 3027, Entry Point A. -----(Step 025 continues) 15Feb84 PN 4177424

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MAP 3023-12

EC 826487

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER		NUMBER	NUMBER
3023	A	1	001
3028	A	1	001

001

(Entry Point A)

MAP DESCRIPTION: This MAP contains the DDSA interface charts. It shows all the interface pins on the logic cards and cables supplying the interface. Use the charts to trace any cable problems and to free-lance scoping (line 1). Chart 1: This chart shows the adapter card to DDSA card interface on the A-A3 board. Chart 2: This chart shows the interconnection of the cable lines from the A-A3 board through the external cable. Chart 3: This chart shows the DDSA lines jumpered by the cable and cable tower wrap connectors. Chart 4: This chart shows the interconnections of the DDSA local attach adapter cable P/N 4236967. START CONDITIONS: 1. The system power is off. 2. The data communications MDI diagnostics were run.

LOGIC CARDS TESTED: None

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MAP 3024-1

5360 Systems Unit

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DDSA interface wiring and board wiring

*** CONTINUITY CHECK TABLE ***

- Reinstall the cables.
- Remove the wrap connector.
- Perform the continuity checks specified by the charts below. Also check for grounded lines.
- When the checks are completed, reset the machine to its original configuration.

Chart 1

	- -	 Boa win 	ard res	Board wires Int Ext cable cable
		V	I VI	
 	Line name	A C D A A R P D T E R R A-A3 R2	D C D A S R A D 	* ** ** D C C C I C M D C C C I C M C D A O I A O I A O A S R B N I B W D B A D I N I L E L I A D I N I L E L I A D I N I L E L I I E E I E R I
 1 	+ -DS terminal ready	+ M13 	++ B02 	+ Line not used
2 	-DS data set ready +	S10 +	++ B13 +	Note: See the following chart for cable interface wiring.

MAP 3024-2

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MAP 3024-2

5360 Systems Unit

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3 	-DS request to send	P06	D02
4 	-DS ring indicate	S07 	D12
5	-DS send data space	P13 	D04
6	-DS clear to send	S09 	D13
7 	-Rate select	++	B04
	+	+	⊦
8 	Transmit clock	S08 	B07
9	-DS wrap interface	M10 	B05
10	-DS receive data space	U10	B10
11 	-DS select standby	M05 	B03
12	Receive clock	S05 	B08
13	-DS new sync	MO4	B09
14	-DS carrier detect	S13 	B12
15	Ground	D08	D08

* I/O board cable socket ** Cable tower connector (25 pin conn) *** Modem cable connector (15 pin plug)

MAP 3024-3

5360 Systems Unit

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Chart	t 2	ı -	I			
 !	 !	Boa Win V	ard res cal VV	 nt ble d V V	Ext cable V	1
	Line name	D C D A S R A D 	* C C A O B N L N E E C T O R A-A3 A2	* * C T A O B W L E E R C C N N N Green Trian-	<pre>*** M C O A D B E L M E 15- pin conn (CSU end) </pre>	
1 	Ground	D08	D08			
2	-Received data (DR1)	J13 	B12	25	4	<
3	+Received data (DT1)	G09 	B13	12	3	<
4	-Transmitted data (DR)	J05 	B09	 21	6	 +
5	+Transmitted data (DT)	G02 	B10	 19	5	

* I/O board cable socket
** Cable tower connector (25 pin conn)
*** Modem cable connector (15 pin plug)

- If you suspect a bad wrap connector, check the wrap connectors for continuity.

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Chart 3 - 15-pin connector (end of external cable)

1 1	Note: The	e fol	lowing	lines	are	jumpe	red	togeth	ner	wher	1	
	the	e DDSA	A wrap	connec	tor	is on	the	CSU e	end	of		
	the	e DDSA	A cable	e.								
				Connec	tor	pin						1
				Fro	om T	O						
	-Received	data	(DR1)	4		6 -	Tran	smitte	ed	data	(DR)	
	+Received	data	(DT1)	3		5 +	Tran	smitte	ed	data	(DT)	1
				-		-						

Note: - When completed, remove the wrap jumpers and reinstall the modem cable, if it was removed.

25-pin cable tower wrap connector (for DDSA)

 	Note:	The whe ins	e foll en the stalle	lowing e 25-pi ed.	DDSA lin n cable	es ar tower	e jumpered wrap plug	toge is	ether	•	-
 					Connecto From	r pir To	ì				
	-Receiv +Receiv	ed ed	data data	(DR1) (DT1)	25 12	21 19	-Transmit +Transmit	ted o	data data	(DR) (DT)	

End 'A' of the 2-ended wrap card is used in place of the internal cable to perform a board cable socket wrap.
If the 2-ended wrap card pn 4233787 (raw card p/n 4233786) is suspect, use this chart to check end 'A' (End 'A' chart continued on next page).

MAP 3024-6

DDSA Interface Chart MLCA Line 1

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End	'A'
FROM	T0
B09	B12
B10	B13)





5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3023 3028	A A	1	001

001 (Entry Point A)

> MAP DESCRIPTION: This MAP contains the DDSA interface charts. It shows all the interface pins on the logic cards and cables supplying the interface. Use the charts to trace any cable problems and to free-lance scoping (line 2).

- Chart 1: This chart shows the adapter card to DDSA card interface on the board.
- Chart 2: This chart shows the interconnection of the cable lines from the board through the external cable.
- Chart 3: This chart shows the DDSA lines jumpered by the cable and cable tower wrap connectors.
- Chart 4: This chart shows the interconnections of the DDSA local attach adapter cable P/N 4236967.

START CONDITIONS:

- 1. The system power is off.
- 2. The data communications MDI diagnostics were run.

LOGIC CARDS TESTED: None

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MAP 3025-1

5360 Systems Unit

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DDSA interface wiring and board wiring

*** CONTINUITY CHECK TABLE ***

- Reinstall the cables.
- Remove the wrap connector.
- Perform the continuity checks specified by the charts below. Also check for grounded lines.
- When the checks are completed, reset the machine to its original configuration.

Chart 2

		Board wires 		
Sect	Line name	A C D A A R P D T E R	D C D A S R A D	D C C C C T M C D C C C C T M C D A A O A O O A S R B N B W D B A D L N L E E L E E E R M E C C R R
 	 	 + +	L2 ++ +	L2 A3
1 	-DS terminal ready	M13 	BO2 	Line not used
2 	-DS data set ready +	S10 +	B13 +	Note: See the following chart for cable interface wiring.

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MAP 3025-2

MAP 3025-2

5360 Systems Unit

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3 	-DS request to send	P06 	DO2
4	-DS ring indicate	S07 	D12
5 	-DS send data space	P13	D04
6 	-DS clear to send	S09 	D13
7 	-Rate select +	P10 +	B04
 0	+	+	+
0 	Iransmit clock +	508 +	
9 	-DS wrap interface	M10	B05
10 	-DS receive data space	U10	B10
11 	-DS select standby	M05	B03
12	Receive clock	S05 	B08
13	-DS new sync	MO4	B09
 14 	-DS carrier detect	+ S13 	B12
15	Ground	D08	D08

* I/O board cable socket
** Cable tower connector (25 pin conn)
*** Modem cable connector (15 pin plug)

5360 Systems Unit

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Chart	t 2	l	I			
 !	 !	Boa win V	ard res cal VV	nt ble d V V	Ext cable V	l
 Sect 	Line name	 D C D A S R A D 	* C C A O B N L N E E C T O R Tria	* * C T A O B W L E E R C C N N Green	*** M C O A D B E L M E 15- pin conn (CSU end)	
 1		+ D08	D08	+ 	+ 	•
 2 	+ -Received data (DR1)	+ J13 	B12	+ 25	+ 4	 <
3	+Received data (DT1)	G09 	B13	12	3	<
4	-Transmitted data (DR)	J05 	B09	21	6	 +
5	+Transmitted data (DT)	G02 	B10	 19	5	

*

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1

⁻ If you suspect a bad wrap connector, check the wrap connectors for continuity.
5360 Systems Unit

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```
Chart 3 - 15-pin connector (end of external cable)
```

Note:	The fol	lowing	lines	are	jumpered	together	wher	<u>ו</u>
	the DDS/	A wrap	connec	tor	is on the	e CŠU end	l of	
	the DDS/	A cable	е.					
			Connec	tor	pin 👘			
			Fro	om T	o			
-Recei	ved data	(DR1)	4		6 -Tra	nsmitted	data	(DR)
+Recei	ved data	(DT1)	3		5 +Tra	nsmitted	data	(DT)

Note: - When completed, remove the wrap jumpers and reinstall the modem cable, if it was removed.

25-pin cable tower wrap connector (for DDSA)

Note:	Note: The following DDSA lines are jumpered together when the 25-pin cable tower wrap plug is installed.						
		C	onnecto From	r pir To	1		
-Recei +Recei	ved data ved data	(DR1) (DT1)	25 12	21 19	-Transmitted +Transmitted	data data	(DR) (DT)

End 'A' of the 2-ended wrap card is used in place of the internal cable to perform a board cable socket wrap.
If the 2-ended wrap card pn 4233787 (raw card p/n 4233786) is suspect, use this chart to check end 'A' (End 'A' chart continued on next page).

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End	'A'
FROM	T0
B09	B12
B10	B13)





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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
3023	A	1	001
3028	A		001

001

(Entry Point A)

MAP DESCRIPTION: This MAP contains the DDSA interface charts. It shows all the interface pins on the logic cards and cables supplying the interface. Use the charts to trace any cable problems and to free-lance scoping (line 3).

- Chart 1: This chart shows the adapter card to DDSA card interface on the board.
- Chart 2: This chart shows the interconnection of the cable lines from the board through the external cable.
- Chart 3: This chart shows the DDSA lines jumpered by the cable and cable tower wrap connectors.
- Chart 4: This chart shows the interconnections of the DDSA local attach adapter cable P/N 4236967.

START CONDITIONS:

- 1. The system power is off.
- 2. The data communications MDI diagnostics were run.

LOGIC CARDS TESTED: None

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MAP 3026-1

5360 Systems Unit

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DDSA interface wiring and board wiring

*** CONTINUITY CHECK TABLE ***

- Reinstall the cables.
- Remove the wrap connector.
- Perform the continuity checks specified by the charts below. Also check for grounded lines.
- When the checks are completed, reset the machine to its original configuration.

Chart 2

		Boa wir V	ard res V	Board wires Int Ext cable cable V V V V V V
Sect	Line name	A C D A A R P D T E R 	D C D A S R A D 	* ** *** D C C C C T M C D A A O A O O A D A A O A O O A S R B N B W D B A D L N L E E L I E E R M E I C I I C I I I I I I I I I I I I I I I I I I I I I
 	 	! +	M4 +-	+
1	-DS terminal ready	M13 	B02	Line not used
2 	-DS data set ready	S10 +	B13 +	Note: See the following chart for cable interface wiring.

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MAP 3026-2

5360 Systems Unit

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3	-DS request to send	P06 	D02
4	-DS ring indicate	S07 	D12
5	-DS send data space	P13	D04
6	-DS clear to send	S09 	D13
7 	 -Rate select +	P10 +	⊢ ⊦
	+ Transmit clock	+ S08 	+ B07
9	-DS wrap interface	M10	B05
10	-DS receive data space	U10 	B10
11	-DS select standby	M05	B03
12	Receive clock	S05 	B08
13	-DS new sync	M04	B09
14	-DS carrier detect	S13 	B12
15	Ground	D08	I D08

> 15Feb84 PN 4177427 EC 826487 PEC 826380 MAP 3026-3

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Chart	t 2 	 Boa win V	ard res cal VV	 nt ble o V V	Ext cable V	ļ
Sect	Line name	D C D A S R A D 	+	+ * * C T A O B W L E E R C C N N Green an- gle 3	+ *** M C D B E L M E 15- pin conn (CSU end) 	
1	Ground	+ D08	+ D08	+ 	+ 	
2	-Received data (DR1)	J13 	B12	 25	4	 <
3	+Received data (DT1)	G09 	B13	 12	3	<
4	-Transmitted data (DR)	J05 	B09 	 21	6	+
5	+Transmitted data (DT)	G02 	B10	 19	5	

* I/O board cable socket ** Cable tower connector (25 pin conn) *** Modem cable connector (15 pin plug)

- If you suspect a bad wrap connector, check the wrap connectors for continuity.

15Feb84 PN 4177427 EC 826487 PEC 826380 MAP 3026-4

5360 Systems Unit

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Chart 3 - 15-pin connector (end of external cable)

N	lote: The	e fol	lowing	lines	are	jump	ered	togeth	er whe	n	
1 	the	9 DDS4	A wrap A cable	connec	LOF	15 0	on Lne	e csu e	πα στ		l
i	CIN		Cubi	•							ĺ
Ì				Connec	tor	pin					
l				Fro	om T	o					
	-Received	data	(DR1)	4		6	-Trai	nsmitte	d data	(DR)	
	+Received	data	(DT1)	3		5	+Trai	nsmitte	d data	(DT)	

Note: - When completed, remove the wrap jumpers and reinstall the modem cable, if it was removed.

25-pin cable tower wrap connector (for DDSA)

- 	Note:	The whe ins	e foll en the stalle	lowing e 25-pi ed.	DDSA lir n cable	nes ai towei	re jumpered r wrap plug	tog is	gether	-	
					Connecto From	or pin To	n				
	-Receiv +Receiv	ved ∕ed	data data	(DR1) (DT1)	25 12	21 19	-Transmit1 +Transmit1	ted ted	data data	(DR) (DT)	

End 'A' of the 2-ended wrap card is used in place of the internal cable to perform a board cable socket wrap.
If the 2-ended wrap card pn 4233787 (raw card p/n 4233786) is suspect, use this chart to check end 'A' (End 'A' chart continued on next page).

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MAP 3026-6

DDSA Interface Chart Line 3

5360 Systems Unit

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5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
3023	A	1	001
3028	A		001

001

(Entry Point A)

MAP DESCRIPTION:

This MAP contains the DDSA interface charts. It shows all the interface pins on the logic cards and cables supplying the interface. Use the charts to trace any cable problems and to free-lance scoping (line 4).

- Chart 1: This chart shows the adapter card to DDSA card interface on the board.
- Chart 2: This chart shows the interconnection of the cable lines from the board through the external cable.
- Chart 3: This chart shows the DDSA lines jumpered by the cable and cable tower wrap connectors.
- Chart 4: This chart shows the interconnections of the DDSA local attach adapter cable P/N 4236967.

START CONDITIONS:

- 1. The system power is off.
- 2. The data communications MDI diagnostics were run.

LOGIC CARDS TESTED: None

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MAP 3027-1

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DDSA interface wiring and board wiring

*** CONTINUITY CHECK TABLE ***

- Reinstall the cables.
- Remove the wrap connector.
- Perform the continuity checks specified by the charts below. Also check for grounded lines.
- When the checks are completed, reset the machine to its original configuration.

Chart 2

 ! !		 Boa wir V	ard es V	 Board wires Int Ext cable cable V V V V V V
+- Sect 	Line name	A C D A P D T E R	D C D A S R A D 	i * ** *** D C C C I C I D A A O I A O I A I I C I I I C I A O I A O I A O I A I D A I <td< td=""></td<>
	-DS terminal ready	M13	BO2 	Line not used
2	-DS data set ready	S10 	+++- B13 +	Note: See the following chart for cable interface wiring.

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MAP 3027-2

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3	-DS request to send	P06 	D02
4	-DS ring indicate	S07 	D12
5	-DS send data space	P13 	D04
6	-DS clear to send	S09 	D13
7	-Rate select	P10 +	BO4 ⊢
8	Transmit clock	+ S08 	⊦ B07
9	-DS wrap interface	M10	B05
10	-DS receive data space	U10	B10
11	-DS select standby	M05	B03
12	Receive clock	S05 	B08
13	-DS new sync	MO4	B09
14	-DS carrier detect	S13 +	B12
15	, Ground	D08	D08

* 1/0 board cable socket ** Cable tower connector (25 pin conn) *** Modem cable connector (15 pin plug)

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Chart 2

	 	Boa wir V	ard res cal VV	nt ble 0 V V	Ext cable V	ļ
 Sect 	Line name	 D C D A S R A D 	* C C A O B N L N E E C T O R	+ * * C T B W L E E R C C N N N	+ *** M C D B E L M E 15- pin conn (CSU end)	
 	 	i L4 +	A5	gle 4	 +	
1 	Ground	D08	D08			
2	-Received data (DR1)	J13	B12	 25	4	<
3	+Received data (DT1)	G09 	B1 <u>3</u>	12	3	<
4	-Transmitted data (DR)	J05 	B0 <u>9</u>	21	 6	+
5	+Transmitted data (DT)	i GO2	B10	 19	 5	

* I/O board cable socket
 ** Cable tower connector (25 pin conn)
 *** Modem cable connector (15 pin plug)

- If you suspect a bad wrap connector, check the wrap connectors for continuity.

MAP 3027-4

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T

5360 Systems Unit

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Chart 3 - 15-pin connector (end of external cable)

Note:	The fol	lowing l	ines are	jumpered	together	when	
1	the DDS/	A wrap c	onnector	is on th	e CSU end	of	
l	the DDS/	A cable.					
ł							
		C	onnector	pin			
1			From T	о			
-Recei	ved data	(DR1)	4	6 -Tra	nsmitted	data	(DR)
+Recei	ved data	(DT1)	3	5 +Tra	nsmitted	data	(DT)
1							

Note: - When completed, remove the wrap jumpers and reinstall the modem cable, if it was removed.

25-pin cable tower wrap connector (for DDSA)

	lote:	The whe ins	foll n the talle	owing 25-pi ed.	DDSA lin n cable	es ar tower	e jumpered wrap plug	tog is	gether	•	-
 					Connecto From	r pir To	ו				
 1	-Receiv +Receiv	ed ed	data data	(DR1) (DT1)	25 12	21 19	-Transmit +Transmit	ted ted	data data	(DR) (DT)	

End 'A' of the 2-ended wrap card is used in place of the internal cable to perform a board cable socket wrap. - If the 2-ended wrap card pn 4233787 (raw card p/n 4233786) is suspect, use this chart to check end 'A' (End 'A' chart continued on next page).

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MAP 3027-6

DDSA Interface Chart Line 4

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End	'A'
FROM	T0
B09	B12
B10	B13)





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DDSA Online Test

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER	
3023	А	1	001	

EXIT POINTS

EXIT TH	IS MAP	то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	002	3008	A
2	003	3008	Α
2	002	3009	Α
2	003	3009	Α
2	002	3024	А
2	002	3025	Α
2	002	3026	Α
2	002	3027	А
2	002	3029	Α

001 (Entry Point A)

N

2 2 A B

- Ensure that the external cable is connected to the external CSU.
- Run the SDLC Online test or the BSCA Online test with the remote system. It is not important which system you select as the Primary (requestor) or the Secondary (responder) (see the maintenance manual section 30-415 or 30-420).
- Ensure that you use the same clock rate.

Does the test run without error?

MAP DESCRIPTION:

This MAP runs the DDSA Online test.

START CONDITIONS: Data communications MDI diagnostics were run.

FRUs PARTIALLY TESTED: A-A1K2, A-A1G2 (SLCA) A-A3R2, A-A3M2 (MLCA line 1) A-A3Q2, A-A3L2 (MLCA line 2) A-A3P2, A-A3M4 (MLCA line 3) A-A3N2, A-A3L4 (MLCA line 4)

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 MAP 3028-1

DDSA Online Test

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002

A B 1 1

> - Suspect a modem or data communications equipment problem. Error Log MAP, Go To Map 3008, Entry Point A. -----Intermittent failure replacement list, Go To Map 3009, Entry Point A. If SLCA (DDSA continuity chart), Go To Map 3029, Entry Point A. -----If MLCA line 1 (DDSA continuity chart), Go To Map 3024, Entry Point A. -----If line 2 (DDSA continuity chart), Go To Map 3025, Entry Point A.

If line 3 (DDSA continuity chart), Go To Map 3026, Entry Point A.

If line 4 (DDSA continuity chart), Go To Map 3027, Entry Point A.

003

 Suspect a possible program incompatibility problem. Dump and analyze the ERAP data.
 Error Log MAP,
 Go To Map 3008, Entry Point A.

Intermittent failure replacement list, Go To Map 3009, Entry Point A.

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3023 3028	A A	 1 1	001 001

001

(Entry Point A)

MAP DESCRIPTION: This MAP contains the DDSA interface charts. It shows all the interface pins on the logic cards and cables supplying the interface. Use the charts to trace any cable problems and to free-lance scoping (SLCA).

- Chart 1: This chart shows the adapter card to DDSA card interface on the A-A1 board.
- Chart 2: This chart shows the interconnection of the cable lines from the A-A1 board through the external cable.
- Chart 3: This chart shows the DDSA lines jumpered by the cable and cable tower wrap connectors.
- Chart 4: This chart shows the interconnections of the DDSA local attach adapter cable P/N 4236967.

START CONDITIONS: 1.The system power is off. 2.The data communications MDI diagnostics were run.

LOGIC CARDS TESTED: None

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MAP 3029-1

5360 Systems Unit

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DDSA interface wiring and board wiring

*** CONTINUITY CHECK TABLE ***

- Reinstall the cables.
- Remove the wrap connector.
- Perform the continuity checks specified by the charts below. Also check for grounded lines.
- When the checks are completed, reset the machine to its original configuration.

Chart 2

onui	. .		ı	I I
		 Boa win V	ard res V	 Board wires Int Ext cable cable V V V V V V
Sect	Line name	+ A C D A A R P D T E R 	D C D C D A S R A D 	D C C C C T M C D A A O A O O A S R B N B W D B A D L N L E E L E E E R M E C T R
	 +	K2 +	G2 +++	G2 A4
1	-DS terminal ready	M13 	BO2	Line not used
2	-DS data set ready +	S10 +	B13 +	Note: See the following chart for cable interface wiring.

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MAP 3029-2

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3	-DS request to send	P06 	DO2
4	-DS ring indicate	S07	D12
5	-DS send data space	P13 	DO4
6	-DS clear to send	S09 	D13
7	-Rate select	P10	BO4 +
8	+ Transmit clock	+ S08 	+ B07
9	-DS wrap interface	M10	B05
10	-DS receive data space	U10 	B10
11	-DS select standby	M05	B03
12	Receive clock	S05 	B08
13	-DS new sync	MO4	B09
14	-DS carrier detect	S13 	B12
15	, Ground	D08	do8

* 1/0 board cable socket

** Cable tower connector (25 pin conn)
*** Modem cable connector (15 pin plug)

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MAP 3029-3

5360 Systems Unit

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_____ Board | ----wires || Int | | Ext | ||cable| |cable| 1 I V 1 ٧V VI | V VI ____+ -+---_ _ _ _ | * * * | *** Sect | Line name DCI C C I C T IMCI DAI A 0 | A 0 | 0 A | SR | ΒN I B W DB ADI LN LE | E L | ER ΕΕ | ME | С Т С | 15-0 | 0 | pin R Ν | conn| N I (CSU | |Green | end)| A-A1 A-A1 |Trian-| | G2 | A4 |qle 1 | ---+-----| D08 | D08 1 Ground --------+--------+----+----2 -Received | J13 | B12 | data (DR1) 25 | 4 _____ ----+ | +Received 3 | G09 | B13 | |<-data (DT1) | 12 | 3 4 | -Transmitted | J05 | B09 | | data (DR) 21 | 6 5 | +Transmitted | GO2 | B10 1 | data (DT) | 19 | 5

* 1/0 board cable socket

** Cable tower connector (25 pin conn)

*** Modem cable connector (15 pin plug)

- If you suspect a bad wrap connector, check the wrap connectors for continuity.

> 15Feb84 PN 2597061 EC 826487 PEC 826380 MAP 3029-4

Chart 2

MAP 3029-5

DDSA Interface Chart SLCA

5360 Systems Unit

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```
Chart 3 - 15-pin connector (end of external cable)
```

Note:	The f	Following DSA wrap	lines an connecto	re jum or is	pered on the	together CSU enc	wher l of	ן ו
	the t	JUSA CADI	connecto From	or pin To	I			
-Rece +Rece	ived da ived da	ata (DR1) ata (DT1)	4 3	6 5	-Tran +Tran	smitted smitted	data data	 (DR) (DT)

Note: - When completed, remove the wrap jumpers and reinstall the modem cable, if it was removed.

25-pin cable tower wrap connector (for DDSA)

 	Note: Th wi in	ne fol nen the nstalle	lowing e 25-pi ed.	DDSA lin n cable	es ar tower	re jumpered - wrap plug	togethei is	-
				Connecto From	r pin To	ו		
	-Receive +Receive	d data d data	(DR1) (DT1)	25 12	21 19	-Transmit1 +Transmit1	ted data ted data	(DR) (DT)

End 'A' of the 2-ended wrap card is used in place of the internal cable to perform a board cable socket wrap.
If the 2-ended wrap card pn 4233787 (raw card p/n 4233786) is suspect, use this chart to check end 'A' (End 'A' chart continued on next page).

MAP 3029-6

DDSA Interface Chart SLCA

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l End	'A'
FROM	T0
B09	B121
B10	B13)







1200 I.M. Auto Answer SLCA

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER THIS MAP							
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER					
3010	A	1	001					

EXIT POINTS

EXIT TH	IS MAP	ТО		
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT	
3	019	3032	A	
5	022	3032	Α	
2	015	3034	Α	
2	013	3035	А	
5	024	3054	Α	

001

(Entry Point A)

MAP DESCRIPTION:

This MAP tests the auto-answer function of the 1200 BPS integrated modem (SLCA).

Note: For aid in continuity checking and isolation of cable problems, go to MAP 3032, Entry Point A.

START CONDITIONS:

The data communications MDI diagnostics have been run.

FRUs PARTIALLY TESTED: A-A1K2, A-A1G2

Is the DSR display light on?

Ν

002

γ

- The CBS coupler answer switch must be Off (if the coupler has an answer switch).
- The CBS coupler test switch must be Off.
- The system telephone hand set must be cradled.
- Perform system CSIPL using the DIAG21 diagnostic diskette (see note).
- Select mode 1.
- Press the System Reset key.
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Select the 'TU Select' option on the first display (main option menu).
- Select the failing data communication line.
- (Step 002 continues)

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Note: If system CSIPL was performed using the diagnostic diskette DIAG21 and the Main Option Menu is displayed or can be displayed by pressing the Attn and Enter keys (system console), skip part 4 of this step).

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	MAP 3031-1

- 5 A

Auto Answer	BCD	MAP 3031-2	
5360 Systems Unit			
PAGE 2 OF 5			
 (Step 002 continued) Enter '70' as the last two digits of the test ID. Select option 1 (Execute test, display and stop). Note: DTR should now be active (DTR indicator on). Is the DSR display light off? Y N 	008 - Check the +Off h the cable to the C up, repair the cab common carrier.	ook line at the spade lugs o CBS coupler again. If OH i ble. If it is not up, call th	on is ie
	009		
003 Bad card: A-A1G2	- Press the System Re- - Probe the following:	set key.	
Bad cable: A-A1A4 to coupler.	Down Light: Of Down Light: On	ta terminal readu)	
004	Are the lights correct		
- Dial the system from a nearby telephone.	YN		
(Entry Point B) Is the system telephone ringing, or does it ring and then stop? Y N I	010 Bad card: A-A1G2. 011		
005	Bad card: A-ATK2.		
Is there a busy signal? Y N 006 Go to Stop 004 Entry Boint B	012 Does the telephone stor Y N	p ringing?	
Go to Step 004, Entry Point B.	Go To Man 3035 Entr	ry Point A	
007			
- Probe the following:	014		
Up Light: On Down Light: Off	Is the 3-second answer Y N 015	tone heard?	
A-A1G2G03 (+Off hook).	Go To Map 3034, Enti	ry Point A.	
Are the lights correct? Y N	 016 Does the answer tone of the only communicatio on? Y N	end and are DTR and DSI ns display lights that are	R e
	1	5Feb84 PN 2597062	
1 1	E E	C 826487 PEC 826380	
B C D	S S E F	MAP 3031-2	

```
E F Auto Answer

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017

Bad card:

A-A1G2

---or---

A-A1K2.
```

018

- Recradle all telephones.

- Press the Enter key (run the TU again),

Note: DTR should now be active (DTR display light on).

- Dial a nearby telephone from your local system telephone. Leave the receiver uncradled (off the hook).

- When the nearby telephone rings, pick up its receiver and leave the receiver uncradled (off the hook).
- Hang up the system telephone (cradle the system telephone).

Is the DSR display light on?

ΥN

4 G

019

Bad card:

A-A1G2.

 Check the (Sw Hook) cable line for continuity and grounding by using of the following MAP.
 Go To Map 3032, Entry Point A.

Auto Answer

5360 Systems Unit

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020

G

- Recradle all the telephones.
- Press the Attn key twice to return to the TU Select menu.
- Run the transmit exerciser test.
- Enter 73 as the last two digits of the test ID.
- Select option 1 (execute test, display and stop).
- Select option 5 (transmit continuous X'16').
- Select option 5 (transmits for 1 hour).
- On the next display screen dial the system telephone from a nearby telephone (do not dial the remote system). Leave the receiver of the nearby telephone uncradled (off the hook).
- Using the dB meter set to bridging, clip the leads to the DT and DR spade lugs at the data coupler and measure the transmit level.
- Is the transmit level correct (see note 1)?

Y N

021

- Remove the external cable wires from the DT and DR spade lugs at the data coupler.
- Set the dB meter to 600 ohms termination.
- Clip the dB meter leads to the two removed cable wires and measure the transmit level again.

Is the transmit level now correct?

Y N

022

Bad card:

A-A1G2 (see note 2).

(Step 022 continues)

- Remove any jumpers you have installed.
- Reinstall all removed cables.
- Check the data tip and data ring cable lines for continuity and grounding by use of the following MAP.

When the telephone connection is made, DTR, DSR, RTS and CTS should come active.

(DTR,DSR, RTS & CTS display lights on).

A transmit tone should be heard at the nearby telephone.

Note 1: See section 33-350 of the maintenance manual for the correct transmit level for the country of installation (switched line).

It should be the same as that recorded on the data coupler.

The measured level should be + or - 1 dB from the recorded level.

Note 2: Check the transmit level switches, on the card indicated, for the correct setting according to the coupler requirements. See maintenance manual section 33–310, 320 and 330.

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	MAP 3031-4

55 HJ

A H J 1 4 4 **Auto Answer** 5360 Systems Unit PAGE 5 OF 5 (Step 022 continued) Go To Map 3032, Entry Point A. 023 There is a possible data coupler problem. 024 - Recradle all telephones. - Remove any jumpers you have installed. - Press the System Reset key. Go To Map 3054, Entry Point A. 025 - Probe the following: Light: Off Up Down Light: On

```
A-A1K2M13 (-DS data terminal ready).
Are the lights correct?
```

```
Y N

026

- Probe the following:

Up Light: Off

Down Light: On

A-A1K2S10 (-DS data set ready).

Are the lights correct?

Y N

027
```

```
Bad card: A-A1K2.
```

028

```
Bad card:
A-A1G2.
```

029

Bad card: A-A1K2.

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	MAP 3031-5

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ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
3031 3033		A A	 1 1	001
3054	Ì	Α	1	001

001 (Entry Point A)

Chart 1A = 1200 IM sw US Chart 1B = 1200 IM n/sw US/WT Chart 1C = 1200 IM PSN WT Chart 2 = 1200 IM n/sw wrap plugs and wrap card MAP DESCRIPTION: The following charts show the 1200 BPS integrated modem board and cable interface wiring. Use these charts to check continuity and as a free-lance tool in troubleshooting trace signals and data flow for the 1200 IM SLCA.

START CONDITIONS: The system power is off.

LOGIC CARDS TESTED: A-A1K2, A-A1G2

1200 BPS integrated modem board and cable interface wiring

CONTINUITY CHECK TABLE

- If you have a 1200 integrated modem, check for an open or a short circuit as shown in the chart below. Also check for grounded lines.
 - Note: If you were sent here from a failing wrap test, first check for an open or short circuit and grounding checks of the failing lines.

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This chart describes the interface between the data communications adapter and the 1200 BPS integrated modem.

		Boo wit	ard res 	Bo wi 	ard res 	Cable wires	
		V	l V	II V	l vv	11	I V
 Sect 	Line name	 A C D A A R P D T E R 	 1 C 2 A 0 R 0 D M 0 D E M A-A1 G2	1 C 2 A 0 R 0 D 0 0 0 0 1 0 1 4 4 4 4 4 4 62	* C C A O B N L N E E C T O R A-A1 A4	++ ** C O N O N E C T O R R	*** M C O A D B E L M E W C I O R L E O R
	+	+	+ +	⊦+ 	+	++	+
1	-DS terminal ready	M13 	BO2	Not	e: See t chart	he follo s for ca	owing able
2	-DS data set ready	S10	B13	 1	for a netwo	specif rk.	ic
3	-DS request to send	P06	D02				
4 	 -DS ring indicate	S07	D12	 			

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 MAP 3032-2

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 5 	+ -DS transmit data space +	+ P13 +	+ D04 +
 6 	-DS clear to send	+ S09 	+ D13
 7 	-DS high rate	P10	B04
8	Transmit clock	S08	B07
 9 	-DS wrap interface	M10	B05
10	-DS receive data space	U10	B10
 11 	-DS select standby	M05	B03
12	Receive clock	S05	B08
13	-DS new sync	MO4	B09
	-DS carrier detect	S13 	B12
15 	-DS test indicate	P11	D10

* I/O board cable socket

** 1/0 connector (cable tower, external cable side)

*** Modem cable wires

۲

1200 I.M. Interface Chart SLCA 5360 Systems Unit

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_____ Chart 1A _____

1200 integrated modem - switched U.S. and Canada

Sect	Line name	1 C 2 A 0 R 0 D M 0 E M A-A1 G2	* C C A O B N L N E E C T O R A-A1 A4	* * C / O O N E C T O R Green Trian-	*** M C O A D B E L M E 	W C 0 R L E 0 R					
 1 	+ +Data modem ready	++ J02 	 D04 	20 	I DA	Yellow					
2	+Coupler cut through	J09 	D02	6 	I CCT	Brown					
3	+0ff hook	G03	D06	4 -++	І ОН	Blue					
4	+Ring indicate	G13	D11	22	R	Violet					
, 5 	Data tip 	D05	B03 +	9 -++	DT +	White 					

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 	6	Sw hook	-++-	G 1 0	+	B08	-++- -++-	5	+ SH	+- +-	Red	·
	7	Data ring		D08		B07		10	DR	+- +-	Black	
	8	Signal ground		D08		D08		7	SG	+-	Gray	·

 MAP 3032-5

5360 Systems Unit

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----- Chart 1B -----1200 integrated modem - non-switched U.S. or W.T. (see note 1)

	Boar	d Int	E×	ternal			
	wire V	es cab asm Not VV1	01 c n w ce V V	able vires V			
Line name	1 C 2 A 0 R 0 D M 0 E M E M	* C C A O B N L N E E C T O R A-A1A4	* * C O N E C	* * * M O W D I E R M E C C A O B L L O E R			
 -Xmit line	++ J05	 B09	21	White/Green			
+Xmit line	++ GO2	B10	19	Red			
+Receive line	G09	B13	12	Yellow			
-Receive line	J13	B12	25	Black	ļ		
 * I/O board cable socket ** I/O connector (cable tower, external cable side) *** Modem cable wires Note 1: The 1200 LL internal cable asm contains a surge protect circuit in-line with the cable. This assembly is one FRU. A continuity check of the internal cable asm 							

from the cable connector to the 1/0 connector should show about 10 ohms.

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.

EC 826487 PEC 826380

MAP 3032-6

5360 Systems Unit

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----- Chart 1C -----

1200 integrated modem - WT PSN

l	I	 Bo wi V	ard res na ca VV	 hter- Ext al cable able wires VV V	
Sect	Line name	 1 C 2 A 0 R 0 D M 0 E M A-A1 G2	 * A O B N L N E E C T O R A-A1 A4	 ** * * * L L I I E E P P W C L L I 0 L L O A A O R L T N T U E O E E T R	
1	-3.5 V	J09	D02	B07	
2	-Data	J02	D04	A04	
3	+Transfer relay	GO3 	D06	B05 	
4	Current detect 2	G13 	D11	A02 	
5	+8.5 V	G11	B11	B03	
6 	Current detect 1 +	G10 ++	B08 	B01 	

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MAP 3032-7

5360 Systems Unit

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J

7	DR (line 2) DO8 BC7 BO8 TB1-8 White
8	DT (line 1) DO6 B03 A08 TB1-9 Red
9	Handset 2 **** TB1-6 B1ack
10	Handset 1 **** TB1-7 Yellow

* I/O board cable socket ** PSN line plate input (berg conn) *** Modem cable wires **** Handset wires

- If you suspect a bad wrap connector, check the wrap connectors for continuity.

Chart 2 283-8, 4-pin connector (end of external cable)

	Note: T t t	he he he	foll 4 pi exte	owing n wrap rnal c	lines plug able.	are is c	jumpered onnected	tog to	ether the e	wher nd of	n =	
İ												Ì
1					Conne	ctor	pin					
					Fre	om T	0					
1												
1	+Receive	1	ine		yellow	v r	ed		+Tran	smit	line	
1	-Receive	1	ine		black	W	hite/gree	en	-Tran	smit	line	

1200 I.M. Interface Chart SLCA 5360 Systems Unit

PAGE 9 OF 9

283-B Plug (end of external cable)

Pin Side



Figure 1

25 pin connector (cable tower wrap)

Note:	The followir the 25 pin w tower.	ng lines are vrap plug is	jur in:	npered together when stalled at the cable	
		Connector From	pi To	n ,	
+Recei -Recei	ve line ve line	12 25	19 21	+Transmit line -Transmit line	
1200 I.M. (PSN) SLCA

5360 Systems Unit

PAGE 1 OF 7

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

001 (Entry Point A)

- Pick up your system telephone.

.

MAP 3033-1

EXIT POINTS

EXIT TH	IS MAP	то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
2	005	3032	A
7	034	3054	A

MAP DESCRIPTION:

This MAP checks the World Trade Public Switched Network (PSN) 1200 integrated modem connection to the telephone network (SLCA).

START CONDITIONS:

The data communications diagnostics were run.

FRUs PARTIALLY TESTED: Card A-A1G2 card A-A1K2 and WTC PSN line plate

Do you hear a dial tone?

ΥN

002

- Use the meter to measure the DC voltage at the B05 berg connector (Transfer relay) on the PSN line plate.

Does the meter read between -2.8 V and -1.0 V? Y N $\,$

3 2 A B **003** The PSN line plate is bad. There is a possible telephone line problem. Is the 'Transfer relay' line picked? For the berg connector location, see Figure 1 in this MAP.

```
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```

15Feb84 PN 2597064 EC 826487 PEC 826380 MAP 3033-1

5360 Systems Unit

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004

B 1

- Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A1G2G03. Is the 'Transfer relay' line picked?





PSN line plate

Does the meter read between -2.8 V and -1.0 V? Y N

005

- Check the cables for an open (Transfer relay) line.

- To perform this check,

Go To Map 3032, Entry Point A.

15Feb84 PN 2597064 EC 826487 PEC 826380 MAP 3033-2

3 C

5360 Systems Unit

PAGE 3 OF 7

006

A C 1 2

- Select mode 1.
- Press the System Reset key.
- Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A1G2G03.

Does the meter read between -2.8 V and -1.0 V? Y N $\,$

007

Hang up your telephone.
Go to Page 1, Step 001, Entry Point A.

008

- Probe the following:

Up Light: Off Down Light: On

A-A1G2B02 (-DS data terminal ready). Are the lights correct?

ΥN

009 David set

Bad card: A-A1G2.

010

Bad card: A-A1K2.

011

- Hang up your telephone.

- Enable the adapter, and activate the DTR.

- Press the Attn key (system console) to return to the main menu.
- Select the TU Select option.
- Select the failing data communications line.
- Enter 70 as the last two digits of the test ID.
- Select option 1 (execute test, display and stop).

Is the CE panel DSR display light On?

YN		
11		
	15Feb84	PN 2597064
74		FEC 020380
ĎÈ		MAP 3033-3

5360 Systems Unit

PAGE 4 OF 7

012

E 3

- Dial system telephone from nearby telephone.
- Wait for at least 3 rings then listen for a 3 second answer tone.

Does the system answer the call?

013

Y N

- Use the meter to measure the DC voltage at the B05 Berg connector.

(Transfer relay) on PSN line plate.

Does the meter read between -2.8 V and -1.0 V? Y N

014

- Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A1G2G03.

Does the meter read between -2.8 V and -1.0 V?

```
ΥN
```

015

- Probe the following:

```
Up Light: Off
Down Light: On
```

A-A1G2B02 (-DS data terminal ready). Are the lights correct?

ΥN

15Feb84 PN 2597064 EC 826487 PEC 826380 MAP 3033-4

Is the 'Transfer relay' line picked?

6 6 6 6 5 F G H J K

5360 Systems Unit

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Ö16

K 4

- Probe the following: A-A1G2D12 (-DS ring indicator).

The lights come on when the system telephone is not ringing (between rings).

Up Light: On Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Up Light: Off Down Light: On

Are the lights correct?

ΥN

66 I M

017

- Switch probe to MST 2/4, : A-A1G2G10 (Current detect 1) and A-A1G2G13 (Current detect 2).

The lights come on when the system telephone is not ringing (between rings).

Up Light: On Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Up Light: On Down Light: On

Are the lights correct for either point probed? Y $\,N$

- Ensure that the telephone is ringing while you are

٠

probing the ring indicator.

- Ensure that the telephone is ringing while you are probing.

15Feb84 PN 2597064 EC 826487 PEC 826380 MAP 3033-5



```
D R S
3 6 6
               1200 I.M. PSN
               5360 Systems Unit
               PAGE 7 OF 7
     031
     - Probe the following:
           Light: Off
       Up
       Down Light: On
      A-A1G2B13 (-DS data set ready).
     Are the lights correct?
     ΥN
       032
       Bad card:
       A-A1G2.
    033
     Bad card:
     A-A1K2.
  034
  Go To Map 3054, Entry Point A.
035
- Probe the following:
  Up Light: Off
  Down Light: On
 A-A1G2B13 (-DS data set ready).
Are the lights correct?
Y N
  036
  Bad card:
  A-A1K2.
037
Bad card:
A-A1G2.
```

1200 IM Answer Tone Line 4

5360 Systems Unit

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3031	А	1	001

001

Y N

2 2 2 2 2 A B C D

(Entry Point A)

Is the DSR display light on?

Note: For aid in continuity checking and isolation of the cable problem, see MAP 3032.

MAP DESCRIPTION: This MAP determines why no answer tone is supplied to incoming calls.

START CONDITIONS: You have entered this MAP from MAP 3031 and found an error condition.

FRUs PARTIALLY TESTED: Card A-A1G2

OO2 - Probe the following: Up Light: On Down Light: Off A-A1G2J09 (+Coupler cut through (CCT)). Are the lights correct? Y N OO3 - Measure the voltage on line CCT at the CBS coupler (use SG (signal ground) as a reference). Is the line equal to or between +3 V and +15 V? Y N Copyright IBM Corp. 1983

15Feb84 PN 2597065 EC 826487 PEC 826380 MAP 3034-1

MAP 3034-1

Answer Tone

5360 Systems Unit

PAGE 2 OF 2

004

D

ĭ

- Probe the following:

Up Light: On Down Light: Off

A-A1G2J02 (+Data modem ready). Are the lights correct?

ΥN

005

While the power is Off and the terminal is removed from the coupler:

- Check for an open or a short circuit in the cable from the CBS coupler SG to A-A1A4D08 (signal ground).

Bad card:

A-A1G2.

006

- Measure the voltage on line DA at the CBS coupler (use SG as a reference).

Is the line equal to or between +3 V and +15 V? Y N

007

- While the power is Off and the terminal is removed from the coupler, check for an open or short circuit in the cable from the CBS coupler DA to A-A1A4D04 (+Data modem ready).

008

Bad card:

A-A1G2.

There is a CBS coupler problem.

MAP 3034-2

Ö09

A B C 1 1 1

> Measure the voltage on the '+Coupler cut through' line again at the A-A1G2J09 modem pin (use A-A1G2J08 (ground) as a reference).

> Is the voltage still equal to or between +3 V and +15 V and approximately equal to earlier measurement?

Y N

010

- While the power is Off and the terminal is removed from the coupler, check for an open or a short circuit in the cable from the CBS coupler CCT to A-A1A4D02 (+Coupler cut through).

011 Bad card: A-A1G2.

012 Bad card:

A-A1G2.

013

- While the power is Off and the terminal is removed from the coupler,
- Check for an open or short circuit in the cable from the CBS coupler DT to A-A1A4B03 (Data tip).
- Check for an open or short circuit in the cable from the CBS coupler DR to A-A1A4B07 (Data ring).

Bad card: A-A1G2.

> 15Feb84 PN 2597065 EC 826487 PEC 826380 MAP 3034-2

1200 IM No Answer SLCA

5360 Systems Unit

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3031	А	1	001

001

ΥN

(Entry Point A)

This MAP determines why the system does not answer incoming calls.

MAP DESCRIPTION:

START CONDITIONS: You have entered this MAP from MAP 3053 and found an error condition.

FRUs PARTIALLY TESTED: Card A-A1K2, card A-A1G2

002 - Probe the following: Up Light: Off Down Light: On

Is the control panel DSR light On?

A-A1K2M13 (-DS data terminal ready). Are the lights correct? Y N

003 Bad card:

2 2 A B A-A1K2.

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MAP 3035-1

A B No Answer

5360 Systems Unit

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004

Bad card: A-A1G2.

- While the power if Off and the terminals are removed:
- Check for an open or a short circuit in the cable from the CBS coupler OH to A-A1A4D06 (Off hook).
- Check for an open or a short circuit in the cable from the CBS coupler RI to A-A1A4D11 (Ring indicate).

005

- Probe the following:

Up Light: On Down Light: Off

A-A1G2G03 (+Off hook).

Are the lights correct?

ΥN

006

- Probe the following:

Up Light: On Down Light: On

A-A1G2G13 (+Ring indicate).

Are the lights correct?

ΥN

007

 Measure the voltage on the RI (+Ring indicate) line at the CBS coupler (use SG (signal ground) as a reference).

Does the line voltage change when the telephone rings?

ΥN

008 There is a CBS coupler problem.

009

- Check for an open or a short circuit in the cables from the CBS coupler RI to A-A1A4D11 (+Ring indicator).

010

CDE

Bad card: A-A1G2.

011

- Measure the voltage on the OH (+Off hook) line at the CBS coupler (use SG (signal ground) as a reference).

Is the line equal to or between +3 V and +15 V? Y N

012

- Check for an open or a short circuit in the cables from the CBS coupler OH to A-A1A4D06 (+Off hook).

013

There is a CBS coupler problem.

15Feb84 PN 2597066 EC 826487 PEC 826380 MAP 3035-2

CDE

MAP 3035-2

1200 I.M. Auto Answer Line 1

5360 Systems Unit

PAGE 1 OF 5

ENTRY POINTS

FROM	ENTER	THIS MAP	•
MAP * NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

EXIT POINTS

EXIT THIS MAP		то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
5	024	3054	A
3	019	3055	А
5	022	3055	Α
2	015	3063	Α
2	013	3067	Α

001 (Entry Point A)

MAP DESCRIPTION:

START CONDITIONS:

FRUs PARTIALLY TESTED: A-A3R2, A-A3M2 MLCA line 1

part 4 of this step).

run.

This MAP tests the auto-answer function of the 1200 BPS integrated modem (MLCA line 1).

The data communications MDI diagnostics have been

- Note: For aid in continuity checking and isolation of cable problems, go to MAP 3055, Entry Point A.
- For MLCA line 1 perform the following:
- Press the Line Select key.
- Using the input keys, select the number '1'.

Is the DSR display light on?

YN

002

- The CBS coupler answer switch must be Off (if the coupler has an answer switch).
- The CBS coupler test switch must be Off.
- The system telephone hand set must be cradled.
- Perform system CSIPL using the DIAG21 diagnostic diskette (see note).
- Select mode 1.
- Press the System Reset key.
- Select mode E.
- Enter FF00.

5 A

- Insert diskette DIAG21.
- Press the Load key.
- Select the 'TU Select' option on the first display screen (main option menu).
- Select the failing data communication line. (Step 002 continues)

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Note: If system CSIPL was performed using the diagnostic diskette DIAG21 and the Main Option Menu is displayed or can be displayed by pressing the Attn and Enter keys (system console), skip

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EC 826487	PEC 826380
	MAP 3050-1

Auto Answer	B C D MAP 3050-2
5360 Systems Unit	
PAGE 2 OF 5	
 (Step 002 continued) Enter '70' as the last two digits of the test ID. Select option 1 (Execute test, display and stop). Note: DTR should now be active (DTR indicator on). Is the DSR display light off? Y N 	008 - Check the +Off hook line at the spade lugs on the cable to the CBS coupler again. If OH is up, repair the cable. If it is not up, call the common carrier.
003	009 - Press the System Reset key
Bad card: A-A3M2 or	- Probe the following: Up Light: Off
Bad cable:	Down Light: On
 A-A3A2 to coupler. 004 Dial the system from a nearby telephone. 	A-A3M2B02 (-DS data terminal ready). Are the lights correct? Y N
(Entry Point B)	010
Is the system telephone ringing, or does it ring and then stop?	Bad card: A-A3M2.
Y N	Bad card:
005	A-A3R2.
Is there a busy signal?	l 012
Y N	Does the telephone stop ringing?
000	Y N
Go to Step 004, Entry Point B.	013 Go To Map 3067, Entry Point A
007	
- Probe the following:	014
	Is the 3-second answer tone heard?
Down Light: Off	015
A-A3M2G03 (+Off hook).	Go To Map 3063, Entry Point A.
Are the lights correct?	 016
líï	Does the answer tone end and are DTR and DSR
	the only communications display lights that are
	on? Y N
	15Feb84 PN 2596036
1 1	EC 826487 PEC 826380
BCD	Ĕ Ĕ MAP 3050-2



018

- Recradle all telephones.

- Press the Enter key (run the TU again).

Note: DTR should now be active (DTR display light on).

- Dial a nearby telephone from your local system telephone. Leave the receiver uncradled (off the hook).

- When the nearby telephone rings, pick up its receiver and leave the receiver uncradled (off the hook).

- Hang up the system telephone (cradle the system telephone).

Is the DSR display light on?

ΥN

019

Bad card: A-A3M2.

Check the (Sw Hook) cable line for continuity and grounding by using the following MAP.
 Go To Map 3055, Entry Point A.

15Feb84 PN 2596036 EC 826487 PEC 826380 MAP 3050-3

5360 Systems Unit

PAGE 4 OF 5

020

G

- Recradle all the telephones.
- Press the Attn key twice to return to the TU Select menu.
- Run the transmit exerciser test.
- Enter 73 as the last two digits of the test ID.
- Select option 1 (execute test, display and stop).
- Select option 5 (transmit continuous X'16').
- Select option 5 (transmits for 1 hour).
- On the next display screen dial the system telephone from a nearby telephone (do not dial the remote system). Leave the receiver of the nearby telephone uncradled (off the hook).
- Using the dB meter set to bridging, clip the leads to the DT and DR spade lugs at the data coupler and measure the transmit level.
- Is the transmit level correct (see note 1)?

ΥN

021

- Remove the external cable wires from the DT and DR spade lugs at the data coupler.
- Set the dB meter to 600 ohms termination.
- Clip the dB meter leads to the two removed cable wires and measure the transmit level again.
- Is the transmit level now correct?

ì	N
	022
	Bad card:
	A-A3M2 (see note 2).
	 Remove any jumpers you have installed.
	- Reinstall all removed cables.
	- Check the data tip and data ring cable lines for
	continuity and grounding by use of the

following MAP.

(Step 022 continues)

When the telephone connection is made, DTR, DSR, RTS and CTS should come active.

(DTR,DSR, RTS & CTS display lights on.)

A transmit tone should be heard at the nearby telephone.

Note 1: See section 33-350 of the maintenance manual for the correct transmit level for the country of installation (switched line).

It should be the same as that recorded on the data coupler.

The measured level should be + or - 1 dB from the recorded level.

```
Note 2: Check the transmit level switches, on the card indicated, for the correct setting according to the coupler requirements. See maintenance manual section 33-310, 320 and 330.
```

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EC 826487	PEC 826380
	MAP 3050-4

```
A H J
1 4 4
                Auto Answer
                5360 Systems Unit
                PAGE 5 OF 5
       (Step 022 continued)
Go To Map 3055, Entry Point A.
     023
     There is a possible data coupler problem.
  024
  - Recradle all telephones.
  - Remove any jumpers you have installed.
  - Press the System Reset key.
  Go To Map 3054, Entry Point A.
025
- Probe the following:
  Up
         Light: Off
  Down Light: On
 A-A3R2M13 (- DS data terminal ready)
Are the lights correct?
ΥN
  026
  - Probe the following:
     Up
           Light: Off
     Down Light: On
    A-A3R2S10 (- DS data terminal ready)
  Are the lights correct?
   Y N
     027
     Bad card:
     A-A3R2.
  028
  Bad card: A-A3M2.
029
Bad card:
A-A3R2.
```

15Feb84 PN 2596036 EC 826487 PEC 826380 MAP 3050-5

1200 I.M. Auto Answer Line 2

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

EXIT POINTS

EXIT TH	IS MAP	то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
5	024	3054	A
3	019	3056	А
5	022	3056	А
2	015	3064	А
2	013	3068	Α

001

(Entry Point A)

MAP DESCRIPTION:

START CONDITIONS:

A-A3Q2, A-A3L2

FRUs PARTIALLY TESTED:

part 4 of this step).

run.

This MAP tests the auto-answer function of the 12C BPS integrated modem (MLCA line 2).

The data communications MDI diagnostics have been

Note: If system CSIPL was performed using the

diagnostic diskette DIAG21 and the Main Optior

Menu is displayed or can be displayed by pressing

the Attn and Enter keys (system console), skip

- Note: For aid in continuity checking and isolation of cable problems, go to MAP 3056, Entry Point A.
- For MLCA line 2 perform the following:
- Press the Line Select key.
- Using the input keys, select the number '2'.

Is the DSR display light on?

Y N

5 A

002

- 1. The CBS coupler answer switch must be Off (if the coupler has an answer switch).
- 2. The CBS coupler test switch must be Off.
- 3. The system telephone hand set must be cradled.
- 4. Perform system CSIPL using the DIAG21 diagnostic diskette (see note).
 - Select mode 1.
 - Press the System Reset key.
 - Select mode E.
 - Enter FF00.
 - Insert diskette DIAG21.
 - Press the Load key.
- 5. Select the 'TU Select' option on the first display (main option menu). (Step 002 continues)

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MAP 3051-1

Auto Answer	B C D MAP 3051-2
5360 Systems Unit	
PAGE 2 OF 5	
(Step 002 continued) - Select the failing data communication line. - Enter '70' as the last two digits of the test I[). -Select option 1 (Execute test, display and stop).	008 - Check the +Off hook line at the spade lugs on the cable to the CBS coupler again. If OH is up, repair the cable. If it is not up, call the
Note: DTR should now be active (DTR indicator on). Is the DSR display light off?	common carrier.
YN	009
003 Rad pardi	 Press the System Reset key. Probe the following:
A-A3L2 or Bad cable:	Up Light: Off Down Light: On
A-A3A3 to coupler.	A-A3L2B02 (-DS data terminal ready). Are the lights correct?
004	YN
 Dial the system from a nearby telephone. 	
(Entry Point B)	Bad card: A-A3L2.
Is the system telephone ringing, or does it ring and then stop?	011 Bad cost A A202
Y N	Bad card: A-A302.
	012
005	Does the telephone stop ringing?
Y N	
	013
006	Go To Map 3068, Entry Point A.
Go to Step 004, Entry Point B.	 014
007	Is the 3-second answer tone heard?
- Probe the following:	Y N
Up Light: On Down Light: Off	015 Go To Map 3064, Entry Point A.
A-A3L2G03 (+Off hook).	016
Are the lights correct? Y N 	Does the answer tone end and are DTR and DSR the only communications display lights that are
	Y N
	EC 826487 PEC 826390
BCD	3 3 E F MAP 3051-2

```
E F Auto Answer

5360 Systems Unit

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017

Bad card: A-A3L2.

---or---

A-A3Q2.
```

018

1. - Recradle all telephones.

2. - Press the Enter key (run the TU again).

- Note: DTR should now be active (DTR display light on).
- 3. Dial a nearby telephone from your local system telephone. Leave the receiver uncradled (off the hook).
- 4. When the nearby telephone rings, pick up its receiver and leave the receiver uncradled (off the hook).
- 5. Hang up the system telephone (cradle the system telephone).

Is the DSR display light on?

ΥN

4 G

019

Bad card: A-A3L2.

 Check the (Sw Hook) cable line for continuity and grounding by using the following MAP.
 Go To Map 3056, Entry Point A.

15Feb84 PN 2596037 EC 826487 PEC 826380 MAP 3051-3

Auto Answer

5360 Systems Unit

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020

G 3

- Recradle all the telephones.
- Press the Attn key twice to return to the TU Select menu.
- Run the transmit exerciser test.
- Enter 73 as the last two digits of the test ID.
- Select option 1 (execute test, display and stop).
- Select option 5 (transmit continuous X'16').
- Select option 5 (transmits for 1 hour).
- On the next display screen dial the system telephone from a nearby telephone (do not dial the remote system). Leave the receiver of the nearby telephone uncradled (off the hook).
- Using the dB meter set to bridging, clip the leads to the DT and DR spade lugs at the data coupler and measure the transmit level.
- Is the transmit level correct (see note 1)?

Y N

021

- Remove the external cable wires from the DT and DR spade lugs at the data coupler.
- Set the dB meter to 600 ohms termination.
- Clip the dB meter leads to the two removed cable wires and measure the transmit level again.
- Is the transmit level now correct?

ΥN

022

- Bad card:
- A-A3L2 (see note 2).

(Step 022 continues)

- Remove any jumpers you have installed.
- Reinstall all removed cables.
- Check the data tip and data ring cable lines for continuity and grounding by use of the following MAP.

When the telephone connection is made, DTR, DSR, RTS and CTS should come active.

(DTR, DSR, RTS & CTS display lights on.)

A transmit tone should be heard at the nearby telephone.

Note 1: See section 33-350 of the maintenance manual for the correct transmit level for the country of installation (switched line).

It should be the same as that recorded on the data coupler.

The measured level should be + or - 1 dB from the recorded level.

Note 2: Check the transmit level switches, on the card indicated, for the correct setting according to the coupler requirements. See maintenance manual section 33-310, 320 and 330.

15Feb84	PN 2596037
EC 826487	PEC 826380
	MAP 3051-4

5 5 H J

A H J Auto Answer

5360 Systems Unit

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(Step 022 continued) Go To Map 3056, Entry Point A.

023

There is a possible data coupler problem.

024

- Recradle all telephones.

- Remove any jumpers you have installed.
- Press the System Reset key.
- Go To Map 3054, Entry Point A.

025

```
- Probe the following:
```

Up Light: Off Down Light: On

A-A3Q2M13 (-DS data terminal ready). Are the lights correct?

ΥN

026

```
- Probe the following:
```

```
Up Light: Off
Down Light: On
```

```
A-A3Q2S10 (-DS data set ready). Are the lights correct?
```

```
Y N
```

027 Bad card: A-A3Q2.

028

Bad card: A-A3L2.

029

Bad card: A-A3Q2.

15Feb84 PN 2596037 EC 826487 PEC 826380 MAP 3051-5

1200 I.M. Auto Answer Line 3

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

EXIT POINTS

EXIT THIS MAP		то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
5	024	3054	A
3	019	3057	А
5	022	3057	А
2	015	3065	А
2	013	3069	А

001 (Entry Poi

(Entry Point A)

MAP DESCRIPTION:

START CONDITIONS:

A-A3P2, A-A3M4

FRUs PARTIALLY TESTED:

run.

This MAP tests the auto-answer function of the 120 BPS integrated modem (MLCA line 3).

The data communications MDI diagnostics have beer

Note: For aid in continuity checking and isolation of cable problems, go to MAP 3057, Entry Point A.

For MLCA line 3 perform the following:

- Press the Line Select key.
- Using the input keys, select the number '3'.

Is the DSR display light on?

ΥN

5 A

002

- 1. The CBS coupler answer switch must be Off (if the coupler has an answer switch).
- 2. The CBS coupler test switch must be Off.
- 3. The system telephone hand set must be cradled.
- 4. Perform system CSIPL using the DIAG21 diagnostic diskette (see note).
 - Select mode 1.
 - Press the System Reset key.
 - Select mode E.
 - Enter FF00.
 - Insert diskette DUAG21.
 - Press the Load key.
- 5. Select the 'TU Select' option on the first display (main option menu).

(Step 002 continues)

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Note: If system CSIPL was performed using the diagnostic diskette DIAG21 and the Main Optior Menu is displayed or can be displayed by pressing the Attn and Enter keys (system console), skip part 4 of this step).

15Feb84	PN 2596038
EC 826487	PEC 826380
	MAP 3052-1

BCD **Auto Answer** MAP 3052-2 5360 Systems Unit PAGE 2 OF 5 (Step 002 continued) - Select the failing data communication line. **Ö08** - Enter '70' as the last two digits of the test ID. Check the +Off hook line at the spade lugs on - Select option 1 (Execute test, display and stop). the cable to the CBS coupler again. If OH is up, repair the cable. If it is not up, call the Note: DTR should now be active (DTR indicator on). common carrier. Is the DSR display light off? Y N 009 - Press the System Reset key. 003 - Probe the following: Bad card: A-A3M4 Up Light: Off ---or---Down Light: On Bad cable: A-A3A4 to coupler. A-A3M4B02 (-DS data terminal ready). Are the lights correct? 004 Y N - Dial the system from a nearby telephone. 010 (Entry Point B) Bad card: A-A3M4. Is the system telephone ringing, or does it ring and 011 then stop? Bad card: A-A3P2. Y N 012 005 Does the telephone stop ringing? Is there a busy signal? ΥN Y N 013 006 Go To Map 3069, Entry Point A. Go to Step 004, Entry Point B. 014 007 Is the 3-second answer tone heard? - Probe the following: ΥN Light: On Up 015 Down Light: Off Go To Map 3065, Entry Point A. A-A3M4G03 (+Off hook). 016 Are the lights correct? Does the answer tone end and are DTR and DSR N the only communications display lights that are on? ΥN 15Feb84 PN 2596038 EC 826487 PEC 826380 33 FF BCD MAP 3052-2

```
E F Auto Answer

2 2 5360 Systems Unit

PAGE 3 OF 5

017

Bad card: A-A3M4.

---or---

A-A3P2.

018
```

1. - Recradle all telephones.

- 2. Press the Enter key (run the TU again).
- Note: DTR should now be active (DTR display light on).
- 3. Dial a nearby telephone from your local system telephone. Leave the receiver uncradled (off the hook).
- When the nearby telephone rings, pick up its receiver and leave the receiver uncradled (off the hook).
- 5. Hang up the system telephone (cradle the system telephone).

Is the DSR display light on?

ΥN

Ġ

019

```
Bad card: A-A3M4.
```

- Check the (Sw Hook) cable line for continuity and grounding by using the following MAP.

Go To Map 3057, Entry Point A.

15Feb84 PN 2596038 EC 826487 PEC 826380 MAP 3052-3

Auto Answer

5360 Systems Unit

PAGE 4 OF 5

020

G

- Recradle all the telephones.

- Press the Attn key twice to return to the TU Select menu.
- Run the transmit exerciser test.
- Enter 73 as the last two digits of the test ID.
- Select option 1 (execute test, display and stop).
- Select option 5 (transmit continuous X'16').
- Select option 5 (transmits for 1 hour).
- On the next display screen dial the system telephone from a nearby telephone (do not dial the remote system). Leave the receiver of the nearby telephone uncradled (off the hook).

- Using the dB meter set to bridging, clip the leads to the DT and DR spade lugs at the data coupler and measure the transmit level.

```
Is the transmit level correct (see note 1)?
```

ΥN

021

- Remove the external cable wires from the DT and DR spade lugs at the data coupler.
- Set the dB meter to 600 ohms termination.
- Clip the dB meter leads to the two removed cable wires and measure the transmit level again.

Is the transmit level now correct?

ΥN

022

Bad card:

A-A3M4 (see note 2).

- Remove any jumpers you have installed.
- Reinstall all removed cables.
- Check the data tip and data ring cable lines for continuity and grounding by use of the following MAP.

(Step 022 continues)

When the telephone connection is made, DTR, DSR, RTS and CTS should come active.

(DTR,DSR, RTS & CTS display lights on.)

A transmit tone should be heard at the nearby telephone.

Note 1: See section 33-350 of the maintenance manual for the correct transmit level for the country of installation (switched line).

It should be the same as that recorded on the data coupler.

The measured level should be + or - 1 dB from the recorded level.

Note 2: Check the transmit level switches, on the card indicated, for the correct setting according to the coupler requirements. See maintenance manual section 33–310, 320 and 330.

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	MAP 3052-4

```
A H J
1 4 4
                Auto Answer
                5360 Systems Unit
                PAGE 5 OF 5
        (Step 022 continued)
Go To Map 3057, Entry Point A.
     023
     There is a possible data coupler problem.
  024
  - Recradle all telephones.
  - Remove any jumpers you have installed.
  - Press the System Reset key.
  Go To Map 3054, Entry Point A.
025
- Probe the following:
  Up
         Light: Off
  Down Light: On
 A-A3P2M13 (-DS data terminal ready).
Are the lights correct?
ΥN
  026
  - Probe the following:
     Up Light: Off
     Down Light: On
  A-A3P2S10 (-DS data set ready).
  Are the lights correct?
  Y N
     027
     Bad card: A-A3P2.
  028
  Bad card: A-A3M4.
029
Bad card: A-A3P2.
```

1200 I.M. Auto Answer Line 4

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

MAP 3053-1

EXIT POINTS

EXIT THIS MAP		то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
5	024	3054	A
3	019	3058	Α
5	022	3058	Α
2	015	3066	Α
2	013	3070	Α

001

(Entry Point A)

MAP DESCRIPTION:

START CONDITIONS:

A-A3N2, A-A3L4

FRUs PARTIALLY TESTED:

run.

This MAP tests the auto-answer function of the 120C BPS integrated modem (MLCA line 4).

The data communications MDI diagnostics have been

- Note: For aid in continuity checking and isolation of cable problems, go to MAP 3058, Entry Point A.
- For MLCA line 4 perform the following:
- Press the Line Select key.
- Using the input keys, select the number '4'.

Is the DSR display light on?

ΥN

002

- 1. The CBS coupler answer switch must be Off (if the coupler has an answer switch).
- 2. The CBS coupler test switch must be Off.
- 3. The system telephone hand set must be cradled.
- 4. Perform system CSIPL using the DIAG21 diagnostic diskette (see note).
- Select mode 1.
- Press the System Reset key.
- Select mode E.
 - Enter FF00.
 - Insert diskette DIAG21.
- Press the Load key.
- 5. Select the 'TU Select' option on the first display (main option menu).(Step 002 continues)

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Note: If system CSIPL was performed using the diagnostic diskette DIAG21 and the Main Option Menu is displayed or can be displayed by pressing the Attn and Enter keys (system console), skip part 4 of this step).

15Feb84	PN 2596039
EC 826487	PEC 826380
	MAP 3053-1

Auto Answer	ВСD	MAP 3053-2
5360 Systems Unit		
PAGE 2 OF 5		
 Step 002 continued) Select the failing data communication line. Enter '70' as the last two digits of the test ID. Select option 1 (Execute test, display and stop). Note: DTR should now be active (DTR indicator on). s the DSR display light off? N 	008 - Check the +Off hook line the cable to the CBS cour up, repair the cable. If it common carrier.	at the spade lugs on ler again. If OH is is not up, call the
	009	
003	- Press the System Reset key.	
Bad card:	- Probe the following:	
	Up Light: Off	
Bad cable:	Down Light: On	
A-A3A5 to coupler.		
	A-A3L4B02 (-DS data termina	al ready).
)04	Are the lights correct?	
· Dial the system from a nearby telephone.	YN	
Entry Point B)	010	
	Bad card:	
s the system telephone ringing, or does it ring and	A-A3L4.	
then stop?		
YN	011	
005	Bad card: A-A3N2.	
UU5		
Y N	Does the telephone stop ringing	2
	Y N	•
006		
Go to Step 004, Entry Point B.	013	
	Go To Map 3070, Entry Point	А.
007		
- Probe the following:	014	12
lln light: On	Is the 3-second answer tone hea	ra /
Down light: Off		
	015	
A-A3L4G03 (+Off hook).	Go To Map 3066, Entry Point	Α.
Are the lights correct?		
YN	016	
	Does the answer tone end and	are DTR and DSR
	the only communications displ	ay lights that are
	on <i>r</i> Y N 	
	15Feb84	PN 2596039
	FC 82648	7 PEC 826380
 		. 10 010000
י ט ט ו	C F	MAP 3053-2



1.- Recradle all telephones.

- 2. Press the Enter key (run the TU again),
- Note: DTR should now be active (DTR display light on).
- Dial a nearby telephone from your local system telephone. Leave the receiver uncradled (off the hook).
- When the nearby telephone rings, pick up its receiver and leave the receiver uncradled (off the hook).
- 5. Hang up the system telephone (cradle the system telephone).

Is the DSR display light on?

ΥN

019

Bad card: A-A3L4. Check the (Sw Hook) cable line for continuity and grounding by using of the following MAP. **Go To Map 3058, Entry Point A.**

15Feb84 PN 2596039 EC 826487 PEC 826380 MAP 3053-3

Auto Answer

5360 Systems Unit

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020

G 3

- Recradle all the telephones.
- Press the Attn key twice to return to the TU Select menu.
- Run the transmit exerciser test.
- Enter 73 as the last two digits of the test ID.
- Select option 1 (execute test, display and stop).
- Select option 5 (transmit continuous X'16').
- Select option 5 (transmits for 1 hour).
- On the next display screen dial the system telephone from a nearby telephone (do not dial the remote system). Leave the receiver of the nearby telephone uncradled (off the hook).
- Using the dB meter set to bridging, clip the leads to the DT and DR spade lugs at the data coupler and measure the transmit level.
- Is the transmit level correct (see note 1)?

ΎΝ

021

- Remove the external cable wires from the DT and DR spade lugs at the data coupler.
- Set the dB meter to 600 ohms termination.
- Clip the dB meter leads to the two removed cable wires and measure the transmit level again.

Is the transmit level now correct?

YN

022

Bad card:

- A-A3L4 (see note 2).
- Remove any jumpers you have installed.
- Reinstall all removed cables.
- Check the data tip and data ring cable lines for continuity and grounding by use of the following MAP.

(Step 022 continues)

When the telephone connection is made, DTR, DSR, RTS and CTS should come active.

(DTR, DSR, RTS & CTS display lights on).

A transmit tone should be heard at the nearby telephone.

Note 1: See section 33-350 of the maintenance manual for the correct transmit level for the country of installation (switched line).

It should be the same as that recorded on the data coupler.

The measured level should be + or - 1 dB from the recorded level.

Note 2: Check the transmit level switches, on the card indicated, for the correct setting according to the coupler requirements. See maintenance manual section 33-310, 320 and 330.

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EC 826487	PEC 826380
	MAP 3053-4

A H J Auto Answer

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(Step 022 continued) Go To Map 3058, Entry Point A.

023

There is a possible data coupler problem.

024

- Recradle all telephones.

- Remove any jumpers you have installed.

- Press the System Reset key. Go To Map 3054, Entry Point A.

025

```
- Probe the following:
```

Up Light: Off Down Light: On

A-A3N2M13 (-DS data terminal ready). Are the lights correct?

ΥN

026

```
- Probe the following:
```

Up Light: Off Down Light: On

A-A3N2S10 (-DS data set ready). Are the lights correct?

Y N

027 Bad card: A-A3N2.

+ 1°

028

Bad card: A-A3L4.

029

Bad card: A-A3N2.

15Feb84 PN 2596039 EC 826487 PEC 826380 MAP 3053-5

1200 I.M. Online Test

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010 3031 3033 3050 3051	A A A A	2 2 2 2 2 2	001 001 001 001 001
3052 3053 3059 3060 3061 3062	A A A A A	2 2 2 2 2 2 2	001 001 001 001 001

EXIT POINTS

EXIT THIS MAP		то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
10	015	3008	A
10	016	3008	Α
10	015	3009	Α
10	016	3009	Α
6	012	3032	А
9	014	3032	Α
10	015	3032	Α
10	016	3032	Α
4	007	3032	Α
7	012	3055	Α
10	014	3055	Α
10	015	3055	А
10	016	3055	А
4	007	3055	А
7	012	3056	А
10	014	3056	А
10	015	3056	А
10	016	3056	А
4	007	3056	А
7	012	3057	А
10	014	3057	Α
10	015	3057	А
10	016	3057	А
4	007	3057	Α
7	012	3058	А
10	014	3058	А
10	015	3058	Α
10	016	3058	А
5	007	3058	Α

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	MAP 3054-1

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Online Test

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001 (Entry Point A)

- Ensure that the external cable is connected to the telephone line.

MAP DESCRIPTION:

This MAP attempts to establish an Online test with a remote system.

START CONDITIONS: None

FRUs PARTIALLY TESTED: SLCA A-A1K2, A-A1G2 MLCA line 1 A-A3R2, A-A3M2 line 2 A-A3Q2, A-A3L2 line 3 A-A3P2, A-A3M4 line 4 A-A3N2, A-A3L4

Is this a non-switched network?

Y N

002 Go to Page 5, Step 010, Entry Point C.

003

- Press the Line Select key (control panel).
- Enter the failing communication line number.
- Perform system CSIPL, using the diagnostic diskette DIAG21 (see note 1).
- Select mode 1.
- Press the System Reset key.
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Select the 'TU Select' option on the first screen display (Main Option Menu).
- Select the failing data communications line.
- Enter 73 as the last two digits of the test ID.
- Select option 1 (execute test, display and stop).
- Select option 5 (transmits X'16' data.
- Select option 5 (transmits for 1 hour).

DTR. DSR. RTS and CTS should now be active. Are Display lights DTR, DSR, RTS and CTS on? N

Note 1: If system CSIPL was performed using the diagnostic diskette DIAG21 and the Main Option Menu is displayed or can be displayed by pressing the Attn and Enter keys (system console), skip this part of step 003 in this MAP.

	MAP 3054-2	
EC 826487	PEC 826380	
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```
A B Online Test

2 2

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004

Bad card:

SLCA - A-A1G2

MLCA line 1 - A-A3M2

line 2 - A-A3L2

line 3 - A-A3M4

line 4 - A-A3L4.
```

005

It is assumed that the data communications external cable is connected to the telephone line.

- Using a dB meter set to bridging, measure the local modem transmit level at the 283-B plug (plug at end of external cable).

The transmit level is measured between the R (red wire) and GN (green or white wire) at the 283-B plug (see Figure 1).

- Remove the plug cover and attach the dB meter leads to the screwheads or partially remove the plug from the outlet and attach them to the prongs.
- Note: In World Trade countries except Canada, measure the transmit level (by the locally approved method) at the spade lugs for the line connection.





Figure 1

Note A: See section 33-350 in the maintenance manual for the correct transmit level according to country of installation.

The measured level should be equal or -2 dB from the recorded level. The normal recorded level is 0 dB in the U.S. and Canada.

15Feb84 PN 2596040 EC 826487 PEC 826380 MAP 3054-3

Is the transmit level correct (see Note A)?

Online Test

5360 Systems Unit

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Ö06

D 3

- Set the dB meter to 600 ohm termination.
- Disconnect the 283-B plug from the line and plug it into the dB meter. If your meter does not have a plug socket, attach the meter leads to the two transmit prongs (see figure 1).
- Note: In World Trade countries except Canada, use the locally approved meter and method to measure the transmit level from a terminated modem.

Is the transmit level now correct (see Note A)? γ N

007 Bad card: SLCA - A-A1G2 MLCA line 1 - A-A3M2 line 2 - A-A3L2 line 3 - A-A3M4 line 4 - A-A3L4. ---or---Bad internal/external cable. - Use the 1200 non-switched continuity charts to check for an open, short circuit or grounded internal cable, external cable or cable tower connector. If SLCA, Note: Check the transmit level switches on the card indicated for the correct setting, according to the country of installation. See maintenance manual sections 30-310, 320 and 330. Go To Map 3032, Entry Point A. ------If MLCA line 1, Go To Map 3055, Entry Point A. If line 2, Go To Map 3056, Entry Point A. If line 3, Go To Map 3057, Entry Point A. ------(Step 007 continues) 5 E

Online Test

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(Step 007 continued) If line 4, Go To Map 3058, Entry Point A.

800

C E 3 4

There is a possible telephone line problem.

009

-Select mode 1 (control panel).

- Press the System Reset key.

Go to Step 010, Entry Point C.

010 (Entry Point C)

- Now run the SDLC or BSCA Online test between the local and remote systems.

The local system may be either the primary (requester or the secondary (responder) but always set up the responder system first. The on-line test start executing as soon as the requester system is set up. - See maintenance manual section 30-415 or 30-420.

- Ensure that the clocking on both systems is the same speed and that the use of NRZI or not NRZI is also the same.

Does the test run without an error?

N 011 (Entry Point B)

- Prepare the remote system for the SDLC Online test or the BSCA Online test by making it the secondary (responder) system.
- See maintenance manual section 30-415 c 30-420.

At the local system:

- Perform CSIPL using the DIAG21 diagnostic diskette.
- Select mode 1.
- Press the System Reset key.
- Select mode E.
- Enter FF00.

0 F

- Insert diskette DIAG21.
- Press the Load key.
- Select the TU Select option on the first screen display (Main Option Menu).
- Select the failing data communication line.
- Enter 73 as the last two digits of the test ID.
- (Step 011 continues)

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	MAP 3054-5
Online Test

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(Step 011 continued)

- Select option 1 (execute, test, display and stop).

- Select: Option 4 if you are running SDLC (sends continuous flags). Option 5 if you are running BSC ASCII (sends continuous syns). Option 6 if you are running BSC EBCDIC (sends continuous syns). - Select option 5 (transmits for 1 hour). If you have a switched network, you will have to make connection. The following is to be done at the remote system: If the remote system is a S/36: - Press the Line Select key. - Enter the failing data communications line number. The sync light on the CE panel should come on or flash indicating that continuous syns or flags are being received. - If the remote system is a 5340, probe: (Remote 5340 2-line communications feature code 2500,3500 installed) line 1, A-A2J2J09 line 2, A-A2K2J09. (Remote 5340 MLCA communications feature code 4500) (Micro-intr on) line 1, A-A3F2J09 line 2, A-A3G2J09 line 3, A-A3H2J09 line 4, A-A3J2J09. - If the remote system is a 5320, probe A-A2L2J09 (The Up light on the CE probe should be On and the Down light should flash for the first 20 seconds indicating the receiving of syns or flags). - If the remote system is not a S/36, 5320 or 5340, (Step 011 continues)

(Step 011 continued)

use an alternate method of determining if continuous syns or continuous flags are being received (see the Remote System's Maintenance Manual Service Guide or Diagnostic Users Guide).

Are continuous syns or flags being received at the remote system?

ΥN

012 (For a non-switched network only) - Select mode 6. - Press the Power key (power off). - Check for an open or a short circuit in the cable from: (+Transmit line) SLCA, A-A1A4B10 MLCA line 1, A-A3A2B10 line 2, A-A3A3B10 line 3, A-A3A4B10 line 4, A-A3A5B10 to the 283-B plug (red wire) (+Transmit line). - Check for an open or a short circuit in the cable from: (-Transmit line) SLCA, A-A1A4B09 MLCA line 1, A-A3A2B09 line 2, A-A3A3B09 line 3, A-A3A4B09 line 4, A-A3A5B09 to the 283-B plug (white/green wire) (-Transmit line). - Also check these pins for grounded lines. (For a switched or non-switched network) If SLCA, Go To Map 3032, Entry Point A. (Step 012 continues) 15Feb84 PN 2596040 EC 826487 PEC 826380 Ġ MAP 3054-6

G

Online Test

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(Step 012 continued)

If MLCA LINE 1.

Go To Map 3055, Entry Point A.

If line 2,

Go To Map 3056, Entry Point A.

If line 3.

Go To Map 3057, Entry Point A.

If line 4,

Go To Map 3058, Entry Point A.

- Use the continuity charts to freelance a cable or cable connector open, short circuit or ground.

Bad card: SLCA, A-A1G2 MLCA line 1, A-A3M2 line 2, A-A3L2 line 3, A-A3M4 line 4, A-A3L4.

013

(Entry Point D)

 Prepare the local system for the SDLC Online test or the BSCA Online test by making it the secondary (responder) system. See maintenance manual section 30-415 or 30-420.

The following is to be done at the remote system:

If the remote system is a S/36:

- Perform CSIPL using the DIAG21 diagnostic diskette.
- Select mode 1.
- Press the System Reset key.
- Select mode E.
- Enter FF00.
- Insert diskette DIAG21.
- Press the Load key.
- Select the 'TU Select' option on the first screen display (Main Option Menu).
- Select the failing communication line.
- Enter 73 as the last two digits of the test ID.
- Select option 1 (execute test, display and stop).

(Step 013 continues)

MAP 3054-7

Online Test

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(Step 013 continued)

- Select:

Option 4 if you are running SDLC (sends continuous flags). Option 5 if you are running BSC ASCII (sends continuous syns). Option 6 if you are running BSC EBCDIC (sends continuous syns).

-Select option 5 (transmits for 1 hour).

If the remote system is a 5340:

- Set Mode Selector to Proc Run (CE panel).
- Set Address/Data switches to X'0000'.
- Set MSIPL to diskette (CE panel).
- Set CSIPL to diskette (CE panel).
- Set all other ce panel switches to their down position.
- Insert diskette DIAGB1.
- Select the communications exerciser test (continuous transmit test). If you have BSCA, send continuous syns, if you have SDLC, make selection for sending continuous flags.
- Select Loop On Cmd table.

- If the remote system is a 5320 and BSCA is installed, load and run BSCA7 (sends continuous syns) from the remote system.
- If SDLC is installed on a remote 5320, load and run SDLC 11 (make selection for sending continuous flags).

- If the remote system is not a S/36, 5320 or 5340, use an alternate method of sending continuous syns or continuous flags (see the Remote System Maintenance Manual, Service Guide or Diagnostic User's Guide).
- Note: Make a connection if you have a switched network.

(Step 013 continues)

Online Test

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(Step 013 continued)

0 H

- Perform the following at your local system:

- Press the Line Select key.

- Enter the failing data communications.

The sync light on the CE panel should come on or flash indicating continuous syns or flags are being received.

Does the sync light come on or flash?

```
Y N
  014
  (For a non-switched network only).
  - Select mode 6.
  - Press the Power key (power off).
  - Check for an open or a short circuit in the cable
   from:
    (-Receive line)
    SLCA, A-A1A4B12
  MLCA
    line 1, A-A3A2B12
    line 2, A-A3A3B12
    line 3, A-A3A4B12
    line 4, A-A3A5B12
  to the 283-B plug (black wire) (-Receive line).
  - Check for an open or a short circuit in the cable
   from:
    (+Receive line)
    SLCA, A-A1A4B13
  MLCA
    line 1, A-A3A2B13
    line 2, A-A3A3B13
    line 3, A-A3A4B13
    line 4, A-A3A5B13
  to the 283-B plug (yellow wire) (+Receive line).
  - Also check these pins for grounded lines.
         (For a switched or non-switched network).
  - If SLCA.
  Go To Map 3032, Entry Point A.
  (Step 014 continues)
```

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	MAP 3054-9

F 5 **Online Test** MAP 3054-10 5360 Systems Unit PAGE 10 OF 10 (Step 014 continued) (Step 015 continued) If line 4, If MLCA line 1, Go To Map 3058, Entry Point A. Go To Map 3055, Entry Point A. - Use the continuity charts to freelance a cable or l f line 2. cable connector open, short circuit or ground. Go To Map 3056, Entry Point A. 016 line 3, ١f - A possible program incompatibility problem is Go To Map 3057, Entry Point A. suspected. Dump and analyze the ERAP data. Error Log MAP ----line 4. lf Go To Map 3008, Entry Point A. Go To Map 3058, Entry Point A. _____ Intermittent Failure Replacement List - Use the continuity charts to freelance a cable or Go To Map 3009, Entry Point A. cable connector open, short circuit or ground ------If SLCA. - Bad card: SLCA, A-A1G2 Go To Map 3032, Entry Point A. MLCA line 1, A-A3M2 ----line 2, A-A3L2 If MLCA line 1, line 3, A-A3M4 Go To Map 3055, Entry Point A. line 4, A-A3L4 ------If line 2, 015 Go To Map 3056, Entry Point A. - Suspect a CTS/echo clamp incompatibility problem. ------ If no problem is found in CTS/echo clamp or if it is If line 3, Go To Map 3057, Entry Point A. not visible, continue below. Error Log MAP ------Go To Map 3008, Entry Point A. If line 4. Go To Map 3058, Entry Point A. Intermittent Failure Replacement List Go To Map 3009, Entry Point A. - Use the continuity charts to freelance a cable or cable connector open, short circuit or ground. If SLCA. Go To Map 3032, Entry Point A. -----If MLCA line 1, Go To Map 3055, Entry Point A. -----If line 2, Go To Map 3056, Entry Point A. _____ If line 3.

Go To Map 3057, Entry Point A.

(Step 015 continues)

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5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
3050	A	1	001
3054	A	1	001
3059	A	1	001

001 (Entry Point A)

Chart 1A = 1200 IM sw US Chart 1B = 1200 IM n/sw US/WT Chart 1C = 1200 IM PSN WT Chart 2 = 1200 IM n/sw wrap plugs and wrap card MAP DESCRIPTION: The following charts shows the 1200 BPS integrated modem board and cable interface wiring. Use these charts to check continuity and as a free-lance tool in trouble shooting trace signals and data flow for the 1200 IM line 1.

START CONDITIONS: The system power is off.

LOGIC CARDS TESTED: A-A3R2, A-A3M2

1200 BPS integrated modem board and cable interface wiring

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CONTINUITY CHECK TABLE ***

- If you have a 1200 integrated modem, check for an open or a short circuit as shown in the chart below. Also check for grounded lines.

Note: If you were sent here from a failing wrap test, first check for an open or short circuit and grounding checks of the failing lines.

1200 I.M. Interface Chart MLCA Line 1 5360 Systems Unit

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This chart describes the interface between the data communications adapter and the 1200 BPS integrated modem.

		Bo wi 	 ard res 	 Boa wit	ard res 	Cable wires	
 	 	V +	V	V .+	V V		
Sect	Line name	 A C D A A R P D T E R M L C A A-A3 R2	1 C 2 A 0 R 0 D 0 M E M A-A3 M2	 1 C 2 A 0 R 0 D M 0 D E M A-A3 M2	* C C A O B N L N E E C T O R A-A3 A2	** C / 0 0 N 0 N E C T 0 R R	*** M C O A D B E L M E W C I O R L E O R
 	 -DS terminal readv	+ + M13 	+ + B02 	 Note	e: See t	he follo	wing
	-DS data set ready	+ S10 	+ B13 	 	inter for a netwo	face wir specifi ork.	ing ic
3	-DS request to send	+ P06 	+ DO2 				
4	-DS ring	S07	D12				

MAP 3055-2

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	indicate		
5	-DS transmit data space	P13 	D04
	+	+	F==== F== = =
6	-DS clear to send	S09 	D13
7	-DS high rate	P10 	B04
8	Transmit clock	S08 	B07
9	-DS wrap interface	M10 	B05
10	-DS receive data space	U10 	B10
11	-DS select standby	M05 	B03
12	Receive clock	S05 	B08
13	-DS new sync	M04 	B09
14	-DS carrier detect	S13 	B12
15	-DS test indicate	P11 	D10

- * I/O board cable socket
- ** 1/0 connector (cable tower, external cable side)
- *** Modem cable wires

1200 I.M. Interface Chart MLCA Line 1 5360 Systems Unit

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_____ Chart 1A _____

1200 integrated modem - switched U.S. and Canada

	l	 Boa win 	 ard In res na ca 	 hter- E hl d hble v 	Ext cable vires	
Sect	Line name	V 1 C 2 A 0 R 0 D 0 0 0 0 0 0 				W C
1	+ +Data modem ready	++ J02 	++ D04 	20	+ DA 	Yellow
2	+Coupler cut through	J09 	D02	6	CCT 	Brown
3	+0ff hook	GO3	D06	4	ОН	Blue
4	+Ring indicate	G13	DI1	22	R	Violet
5	Data tip	D05	B03	9	DT	White

5360 Systems Unit

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 -	6	+	Sw hook	-++· 	G 1 0	+-· +-·	B08	-++- -++-	5	+ SH	+ Red
- 	7	[)ata ring		D08		B07	-++-	10	DR	Black
 -	8	9	Signal ground		D08	 	D08		7	SG	Gray

- * I/O board cable socket
- ** I/0 connector (cable tower, external cable side)
- *** Modem cable wires

5360 Systems Unit

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----- Chart 1B -----1200 integrated modem - non-switched U.S. or W.T. (see note 1) Board Int External ----| wires| |cab1| | cab1e | | |asm | | wires | | Note| | 1 V V V 1 V V V * * * 11 | * | * * | Line name Μ || 2 A | A O | / O | 0 W II OR I BNIONI DI IIOD | LN | N | ER | EE | E | 11 ME II M || 0 T | T | СС II D A 0 R | R | | | E B L Green | M L 0 Trian E R ||A-A3M2|A-A3A2|qle 1| || J05 | B09 | 21 | White/Green| -Xmit line || GO2 | B10 | 19 | Red +Xmit line +Receive line || GO9 | B13 | 12 | Yellow -Receive line || J13 | B12 | 25 | Black _____ _____ × 1/0 board cable socket ** 1/0 connector (cable tower, external cable side) *** Modem cable wires Note 1: The 1200 LL internal cable asm contains a surge protect circuit in-l[®]ne with the cable. This assembly is one FRU. A continuity check of the internal cable asm from the cable connector to the 1/0 connector should show about 10 ohms.

MAP 3055-6

1200 I.M. Interface Chart MLCA Line 1 5360 Systems Unit

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----- Chart 1C -----

1200 integrated modem - WT PSN

l	1	 Boa win V	ard res n c VV	nter- al able VV	Ext cable wires	- V
Sect	Line name	 1 C 2 A 0 R 0 D M M 0 E M A-A3 M2	 * A O B N L N E E C T O R A-A3 A2	 ** L L E E P L A I T N E	 * * * L I E P L A O T U E T	* W C I O R L E O R
1	-3.5 V	J09	D02	B07		
2	-Data	J02	D04	A04		
3	+Transfer relay	GO3 	D06 	B05 		
4	Current detect 2	G13 	D11 	A02 	 	+
5	+8.5 V	G11	B11	B03		
6	Current detect 1	G10 	B08	B01 	, +	

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MAP 3055-7

MAP 3055-7

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	DR (line 2) D08 B07	+
8	DT (line 1) D06 B03	A08 TB1-9 Red
9	Handset 2 ****	TB1-6 Black
10	Handset 1 ****	TB1-7 Yellow

* I/O board cable socket ** PSN line plate input (berg conn) *** Modem cable wires **** Handset wires

- If you suspect a bad wrap connector, check the wrap connectors for continuity.

Chart 2 283-B, 4-pin connector (end of external cable)

 	Note: Th th	e e	following 4 pin wrap	lines a plug i	re s co	jumpered connected	tog to	ether the en	wher id of)
	LU	ie	external c	Comment		- •				
				From	or (Te	pin o				
	+Receive -Receive	1 i 1 i	ine	yellow black	r	ed hite/area	en.	+Trans -Trans	mit mit	line line
İ						, gi ou				

1200 I.M. Interface Chart MLCA Line 1 5360 Systems Unit

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Pin Side



25 pin connector (cable tower wrap)

Note:	The following lines are jumpered together when	
l	the 25 pin wrap plug is installed at the cable	
	cower.	
Ì	Connector pin	
	From To	
+Recei	e line 12 19 +Transmit line	
-Recei	e line 25 21 - Transmit line	

5360 Systems Unit

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ENTRY POINTS

FROM		ENTER	чли 21НТ	
	+-			
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
	+-			
3051		А	1	001
3054		А	1	001
3060	ľ	А	1	001

001 (Entry Point A)

Chart 1A = 1200 IM sw US Chart 1B = 1200 IM n/sw US/WT Chart 1C = 1200 IM PSN WT Chart 2 = 1200 IM n/sw wrap plugs and wrap card MAP DESCRIPTION: The following charts show the 1200 BPS integrated modem board and cable interface wiring. Use these charts to check continuity and as a free-lance tool in troubleshooting trace signals and data flow for the 1200 IM line 2.

START CONDITIONS: The system power is off.

LOGIC CARDS TESTED: A-A3Q2, A-A3L2

1200 BPS integrated modem board and cable interface wiring

*** CONTINUITY CHECK TABLE ***

- If you have a 1200 integrated modem, check for an open or a short circuit as shown in the chart below. Also check for grounded lines.
 - Note: If you were sent here from a failing wrap test, first check for an open or short circuit and grounding checks of the failing lines.

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This chart describes the interface between the data communications adapter and the 1200 BPS integrated modem.

		 Boa wit	ard res 	Boa wii	ard res 	Cable wires	
	 +	V	V	V	V V	 ++	V
Sect	Line name	 A C D A A R P D T E R 	1 C 2 A 0 R 0 D M 0 D E M A-A3 L2	 1 C 2 A 0 R 0 D M 0 D E M A-A3 L2	* C C A O B N L N E E C T O R A-A3 A3	** C / O O N N E C T O R	*** M C D B E L E L W C U C R L R L R L
1	-DS terminal -DS terminal	+ + M13 	+ B02 	 Note	e: See t chart	he follo s for ca	owing able
2	 -DS data set ready	+ S10 	+ B13 		inter for a netwo	face win specif rk.	ring ic
3	-DS request to send	P06	D02				
4 	-DS ring indicate	S07 	D12				

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 MAP 3056-2

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 5 	+ -DS transmit data space	+ P13 	D04
	+	*	
6	-DS clear to send	S09 	D13
7	-DS high rate	P10	B04
8	Transmit clock	S08 	B07
9	-DS wrap interface	M10 	B05
10	-DS receive data space	U10	B10
11	-DS select standby	M05	B03
12	Receive clock	S05	B08
13	-DS new sync	MO4 	B09
14	-DS carrier detect	S13 	B12
15	-DS test indicate	P11 	D10

* 1/0 board cable socket

** 1/0 connector (cable tower, external cable side)

*** Modem cable wires

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 MAP 3056-3

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5360 Systems Unit

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_____ Chart 1A _____

1200 integrated modem - switched U.S. and Canada

1	I	Bo Wi 	ard In res na ca 	 ter- E 1 c ble v 	Ext cable vires 	, 1
	Line name	-++ 1 C 2 A 0 R 0 D M 0 1 M A-A3 L2 -++	++ * C C A 0 B N L N E E C T C R A-A3 A3	* * I C / 0 0 N 0 E C T 0 R Green Trian- gle 2	*** M C O A D B E L M E	W C I O R L E O R
 1 	+ +Data modem ready	-++ J02 	++ DC4 	20 	DA	Yellow
2	+Coupler cut through	J09	DC2	6	CCT	Brown
3	+0ff hook	G03	D06	4	OH	Blue
4	+Ring indicate	G13	D11	22	RI	Violet
5	Data tip +	D05	B03 ++	9	DT +	White

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MAP 3056-4

5360 Systems Unit

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- -	6	 Sw hook	-++· 	G 1 0	· + 	в08	-++- ·	5	+ SH +	+ Red
- _	7	Data ring		D08		B07		10	DR	Black
-	8	Signal ground		D08		D08		7	SG	Gray

MAP 3056-5

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• '

5360 Systems Unit

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----- Chart 1B -----1200 integrated modem - non-switched U.S. or W.T. (see note 1)

Board Int External										
	wire V	es cab lasn Not VV1	01 c n w cel V V	able vires V						
Line name	 1 C 2 A 0 R 0 D M 0 D E M A-A3L2	* C C A O B N L N E E C T O R A-A3A3	* * C / O O N E C C C C C C C C C C	* * * M O W D I E R M E C C A O B L L O E R						
	J05	B09	21	White/Green	 					
+Xmit line	G02	B10	19	Red	 					
+Receive line	G09	B13	12	Yellow						
-Receive line	J13	B12	25	Black	İ					
<pre>* I/O board cable socket ** I/O connector (cable tower, external cable side) *** Modem cable wires</pre>										
Note 1: The 1200 surge pro This asse	LL inte otect ci embly is	rnal ca rcuit i one FR	ble asm n-line U.	m contains a with the cab	le.					

A continuity check of the internal cable asm from the cable connector to the 1/0 connector

should show about 10 ohms.

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MAP 3056-6

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----- Chart 1C -----

1200 integrated modem - WT PSN

		 Boa wir 	 ord In oes na ca 	 ter- 1 ble 	Ext cable wires	
		V	VV	VV		V
Sect	Line name	1 C 2 A 0 R 0 D M 0 D E M A-A3 L2	* A 0 B N L N E E C T O R A-A3 A 3	 ** L L E E L L L T N E	* * * L N E P L A O T U E T	W C 0 R L E 0 R
1	-3.5 V	J09	D02	B07		
2	-Data	J02	D04	A04		
3	+Transfer relay	GO3 	D06	B05 		
4	Current detect 2	G13 	D11	A02 	+	
5	+8.5 V	G11	B11	B03		
6	Current detect 1 +	G10 ++	B08 	BO1 	+	

•

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MAP 3056-7

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1 -		+++++++++++++
: -	7	DR (line 2) D08 B07 B08 TB1-8 White
-	8	DT (line 1) DO6 B03 A08 TB1-9 Red
- 	9	Handset 2 **** TB1-6 B1ack
-	10	Handset 1 **** TB1-7 Yellow

* I/O board cable socket ** PSN line plate input (berg conn) *** Modem cable wires **** Handset wires

- If you suspect a bad wrap connector, check the wrap connectors for continuity.

Chart 2 283-B, 4-pin connector (end of external cable)

	Note: T t	he he	following 4 pin wrap	lines a p plug i cable	re jumpered s connected	togeth to the	er wher end of	ר ד	
	L	ne		Connect.	ornin				
				Connecto	or pin To				1
				From	I Ci				
1		,	• _	1 1 .	- 1	. +	• • •	1 •	
	TReceive		ine	yerrow	rea	$+ \mathbf{r}$	ansmit	line	
	-Receive	1	ine	black	white/gree	en -Tra	ansmit	line	
1					5				

1200 I.M. Interface Chart Line 2 5360 Systems Unit

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283-B Plug (end of external cable)

Pin Side



Figure 1

25 pin connector (cable tower wrap)

Note: The following lines are jumpered together when the 25 pin wrap plug is installed at the cable tower. Connector pin From To +Receive line -Receive line 25 21 -Transmit line

5360 Systems Unit

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ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
3052 3054		А А	1 1	001
3061	İ	A	1	001

001 (Entry Point A)

Chart 1A = 1200 IM sw US Chart 1B = 1200 IM n/sw US/WT Chart 1C = 1200 IM PSN WT Chart 2 = 1200 IM n/sw wrap plugs and wrap card MAP DESCRIPTION: The following charts show the 1200 BPS integrated modem board and cable interface wiring. Use these charts to check continuity and as a free-lance tool in troubleshooting trace signals and data flow for the 1200 IM line 3.

START CONDITIONS: The system power is off.

LOGIC CARDS TESTED: A-A3P2, A-A3M4

1200 BPS integrated modem board and cable interface wiring

CONTINUITY CHECK TABLE

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- If you have a 1200 integrated modem, check for an open or a short circuit as shown in the chart below. Also check for grounded lines.

Note: If you were sent here from a failing wrap test, first check for an open or short circuit and grounding checks of the failing lines.

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This chart describes the interface between the data communications adapter and the 1200 BPS integrated modem.

		 Boa win 	ard res 	 Boa wi 	ard res 	Cable wires	
		V	l V	l v	I V V	/	V I
Sect 	Line name	 A C D A A R P D T E R A-A3 P2	1 C 2 A 0 R 0 D M 0 E M A-A3 M4	1 C 2 A 0 R 0 D 0 0 0 0 1 4 4 4 4 4 4	* C C A O B N L N E E C T O R A-A3 A4	** C / O O N R C T O R R	*** M C D A E L E L M E W C N C R L R L R L
 1 	- -DS terminal ready	+ M13 +	+ B02 	 Note	e: See char	the follo	owing able
2	-DS data set ready	S10	B13		for	a specif work.	ic
3	-DS request to send	P06 	D02				
 4 	 -DS ring indicate	S07	D12				

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 5 	+ -DS transmit data space +	+	 D04
 6 	+ -DS clear to send	+ S09 	D13
7	-DS high rate	P10	B04
8	Transmit clock	S08	B07
9	-DS wrap interface	M10	B05
10	-DS receive data space	U10	B10
11	-DS select standby	M05	B03
12	Receive clock	S05	в08
13	-DS new sync	MO4	B09
14	-DS carrier detect	S13	B12
15	-DS test indicate	P11	D10

- * I/O board cable socket
- ** 1/0 connector (cable tower, external cable side)
- *** Modem cable wires

1200 I.M. Interface Chart Line 3 5360 Systems Unit

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_____ Chart 1A _____

1200 integrated modem - switched U.S. and Canada

ł	I	 Boa wir V	 es na ca VV	 ter- E 1 c ble v VV	 able vires V	
Sect	Line name	1 C 2 A 0 R 0 D M M 0 E E M A-A3 M4	* C C A O B N L N E E C T O R AA3 A4	* * C / O 0 N 0 N E C T 0 R Green Trian- gle 3	*** M C O A D B E L M E	
 1 	+ +Data modem ready	++ J02 	1004 	+ 20 	DA	Yellow
2	+Coupler cut through	J09 	D02	6	ССТ 	Brown
3	+ +0ff hook	G03	D06	4	OH	Blue
4	+Ring indicate	G13	C 11	22	R	Violet
5 	Data tip	D05	B03	9	DT	White

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MAP 3057-4

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- _	6	+ Sw hook	-++ 	G10	- +- - - -	в08	-++- -+	5	• + • 	SH	+ Red
	7	Data ring		D08		B07		10		DR	Black
-	8	Signal ground		D08		D08	-++- 	7		SG	Gray

- *
- *** Modem cable wires

.

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----- Chart 1B -----1200 integrated modem - non-switched U.S. or W.T. (see note 1) Board Int External _ _ _ _ | wires| |cab1| | cab1e | | |asm | | wires | I | Note | V V V 1 V V V * | * * | * * * || 1 C Line name Μ || 2 A A 0 | / 0 | 0 W I O R I B N I O N I DI Ε || O D NI R 11 EEI Εİ ME || M 110 ТІ ТІ С С II D A 0 RI RI | | E B 1 |Green| II M 0 L |Trian| ER ||A-A3M4|A-A3A4|g1e 3| ++----+---+-_____ _ _ _ _ _ _ _ _ _ _____ || J05 | B09 | 21 | White/Green| -Xmit line ------+ || GO2 | B10 | 19 | Red +Xmit line || G09 | B13 | 12 | Yellow +Receive line -----+ || J13 | B12 | 25 | Black -Receive line _____ * 1/0 board cable socket ** I/O connector (cable tower, external cable side) *** Modem cable wires

Note 1: The 1200 LL internal cable asm contains a surge protect circuit in-line with the cable. This assembly is one FRU. A continuity check of the internal cable asm from the cable connector to the 1/0 connector should show about 10 ohms.

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----- Chart 1C -----

1200 integrated modem - WT PSN

ļ	I	Boa wir V	ard Ir res na ca VV	nter- al able VV	Ext cable wires	- V
Sect	Line name	 1 C 2 A 0 R 0 D M 0 D E M A-A3 M4	* C C A O B N L N E E C T O R A-A3 A4	 ** L E E E L A I T N	 * * ' L L E P L A O T U E T	W C 0 1 0 1 0 2 0
1	-3.5 V	J09	D02	B07		
2	-Data	J02	D04	A04		
3	+Transfer relay	G03 	D06	B05		
4	Current detect 2	G13 	D11	A02		
5	+8.5 V	G11	B11	B03	+	
6 	Current detect 1	G10 +	B08	B01	+	

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MAP 3057-7

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	+++++ DR (line 2) D08	++++++
8	DT (line 1) DO6	B03 A08 TB1-9 Red
9	Handset 2 ****	TB1-6 B1ack
10	Handset 1 ****	TB1-7 Yellow

* I/O board cable socket ** PSN line plate input (berg conn) *** Modem cable wires **** Handset wires

- If you suspect a bad wrap connector, check the wrap connectors for continuity.

Chart 2 283-B, 4-pin connector (end of external cable)

Note:	The following the 4 nin w	ng lines an	re jumpered	to the end	en
	the externa	l cable.	5 connected		
		Connect From	or pin To		
+Receiv -Receiv	ve line ve line	yellow black	red white/gree	+Transmi n -Transmi	t line t line

1200 I.M. Interface Chart Line 3 5360 Systems Unit

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283-B Plug (end of external cable)







25 pin connector (cable tower wrap)

	Note: The follo	wing lines ar	e jur	npered togeth	er when
	the 25 pi	n wrap plug i	s ins	stalled at th	e cable
 	tower.				
		Connecto From	or pin To	1	
	+Receive line	12	19	+Transmit	ine
	-Receive line	25	21	-Transmit	ine

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ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
3053 3054 3062	-+- 	A A A	1 1 1	001 001 001

001 (Entry Point A)

Chart 1A = 1200 IM sw US Chart 1B = 1200 IM n/sw US/WT Chart 1C = 1200 IM PSN WT Chart 2 = 1200 IM n/sw wrap plugs and wrap card MAP DESCRIPTION: The following charts show the 1200 BPS integrated modem board and cable interface wiring. Use these charts to check continuity and as a free-lance tool in troubleshooting trace signals and data flow for the 1200 IM line 4.

START CONDITIONS: The system power is off.

LOGIC CARDS TESTED: A-A3N2, A-A3L4

1200 BPS integrated modem board and cable interface wiring

CONTINUITY CHECK TABLE ***

- If you have a 1200 integrated modem, check for an open or a short circuit as shown in the chart below. Also check for grounded lines.

Note: If you were sent here from a failing wrap test, first check for an open or short circuit and grounding checks of the failing lines.

> 15Feb84 PN 2596044 EC 826487 PEC 826380 MAP 3058-1

MAP 3058-1

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5360 Systems Unit

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This chart describes the interface between the data communications adapter and the 1200 BPS integrated modem.

	l	Boa win V	ard res V	 Bo wi V	ard res V V	Cable wires	 V
Sect	Line name	A C D A A R P D T E R R N2	1 C 2 A 0 R 0 D 0 0 0 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 1 2 4 1 2 4 1 1 1 1 2 4 1 0 7 1 1 1 1 1 1 1 1 1 1	1 C 2 A 0 R 0 D M D E M A-A3 L4	* C C A O B N L N E E C T C T 0 R A-A3 A5	** C / O O N E C T O R R	*** M C D B E L M E M E W C I O R L E O R L
 1 	 -DS terminal ready	+ M13 	+ B02 	 Not	e: See t chart	the follo ts for ca	owing able
2	-DS data set ready	S10	B13		for a netwo	specif	ic
3	-DS request to send	P06	D02				
 4 	-DS ring indicate	+ S07 	+ D12 				

5360 Systems Unit

PAGE 3 OF 9

|-----+-----| | 5 | -DS transmit | P13 | D04 | | data space | | | 6 | -DS clear | S09 | D13 | | to send | | | 7 | -DS high | P10 | B04 | | rate | | | |----+-----| 8 | Transmit | S08 | B07 | | clock | | | 9 | -DS wrap | M10 | B05 | | interface | | | 10 | -DS receive | U10 | B10 | | data space | | | ----+---------+----+-----| 11 | -DS select | M05 | B03 | | standby | | | 12 | Receive | S05 | B08 | | clock | | | ------13 | -DS new | MO4 | BO9 | | sync | | | 14 | -DS carrier | S13 | B12 | detect | | 15 | -DS test | P11 | D10 | | indicate | | |

* 1/0 board cable socket

- ** 1/0 connector (cable tower, external cable side)
- *** Modem cable wires

1200 I.M. Interface Chart Line 4 5360 Systems Unit

PAGE 4 OF 9

_____ Chart 1A _____

1200 integrated modem - switched U.S. and Canada

	l	 Boa wir V	 es na ca VV	 ter- E c ble v VV	Ext cable wires 	, I
Sect	Line name	++	* A 0 B N L N E E C T O R A-A3 A5	* * I C / O 0 N E C T 0 R Green Trian- gle 4	<pre> *** M C O A D B E L M E M E </pre>	W C
 1	+ +Data modem ready	++ J02 	[)04 	20 	DA 	Yellow
2	+Coupler cut through	J09	[)02	6	CCT	Brown
3	+0ff hook	G03	006	4	OH	Blue
4	+Ring indicate	G13	D11	22	R	Violet
5	Data tip	D05	EIO3	9	DT	White

15Feb84 PN 2596044

EC 826487 PEC 826380

MAP 3058-4
5360 Systems Unit

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- 	6	+ Sw hook	++- 	G 1 0	+-	во8 во8	-++- -++-	5	+ SH	+ Red
- -	7	Data ring		D08		B07	-++- -++-	10	DR	Black
	8	Signal ground		D08	1	D08		7	SG	Gray

15Feb84 PN 2596044 EC 826487 PEC 826380 MAP 3058-5

5360 Systems Unit

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----- Chart 1B -----1200 integrated modem - non-switchec U.S. or W.T. (see note 1)

	Boai	d Int	t Ex	(ternal
	wire V	es cat asr Not V V 1	01 c n w te V V	cable vires V
Line name 	 1 C 2 A 0 R 0 D M 0 D E M A-A3L4	* A O B N L N E E C T O R A-A3A5	* * C 0 N 0 N E C C C C C 1 1 = 1	* * * M D E R M E C C A 0 B L L 0 E R
	J05	+ B09	.21	White/Green
+Xmit line	GO2	B10	19	Red
+Receive line	G09	B13	12	Yellow
-Receive line	J13	B12	25	Black
* I/O board ca ** I/O connecto *** Modem cable	ble socl or (cable wires	ket e tower	, exter	rnal cable side)

Note 1: The 1200 LL internal cable asm contains a surge protect circuit in-line with the cable. This assembly is one FRU. A continuity check of the internal cable asm from the cable connector to the 1/0 connector should show about 10 ohms. MAP 3058-6

15Feb84 PN 2596044 EC 826487 PEC 826380 MAP 3058-6

5360 Systems Unit

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----- Chart 1C -----

1200 integrated modem - WT PSN

	ł	 Bo wi V	ard r res na ca VV	 nter- al able VV	Ext cable wires V	
Sect	Line name	- 1 C 2 A 0 R 0 D M 0 1 E M A-A3 L4	 * C C A O B N L N E E C T O R A-A3 A5	 ** L L E E P L A I T N	 * * * L I E E E L I A O R T U E E T	
1	-3.5 V	J09	D02	B07		
2	-Data	J02	- D04	A04	· · · · · · · · · · · · · · · · · · ·	
3	+Transfer relay	GO3 	D06	B05 		
4	Current detect 2	G13 	D11	A02 		
5	+8.5 V	G11	B11	B03	· · · · · · · · · · · · · · · · · · ·	
6 	Current detect 1	G10 	B08	B01 	,+ ++	

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MAP 3058-7

5360 Systems Unit

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	++
7	DR (line 2) DO8 B07 B08 TB1-8 White
8	DT (line 1) DO6 B03 A08 TB1-9 Red
9	Handset 2 **** TB1-6 Black
10	Handset 1 **** TB1-7 Yellow

* I/O board cable socket ** PSN line plate input (berg conn) *** Modem cable wires **** Handset wires

- If you suspect a bad wrap connector, check the wrap connectors for continuity.

Chart 2 283-B, 4-pin connector (end of external cable)

Note:	The followi the 4 pin w the externa	ng lines ar rap plug is l cable.	e jumpered to connected to	gether wher the end of	 	
	Connector pin From To					
+Recei -Recei	ve line ve line	yellow black	red white/green	+Transmit -Transmit	line line	

15Feb84 PN 2596044 EC 826487 PEC 826380 MAP 3058-8 1200 I.M. Interface Chart Line 45360 Systems UnitPAGE 9 OF 9

283-B Plug (end of external cable)

Pin Side



Figure 1

25 pin connector (cable tower wrap)

Note: 	The following the 25 pin wr tower.	lines ard ap plug i	e jun s ins	npered together when stalled at the cable	
1 		Connecto From	r pin To	n	
+Recei -Recei	ive line ive line	12 25	19 21	+Transmit line -Transmit line	

15Feb84 PN 2596044 EC 826487 PEC 826380 MAP 3058-9

1200 I.M. (PSN) Line 1

5360 Systems Unit

PAGE 1 OF 7

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

001 (Entry Point A)

- Pick up your system telephone.

MAP 3059-1

EXIT POINTS

EXIT TH	IS MAP	то		
PAGE	STEP	MAP	ENTRY	
NUMBER	NUMBER	NUMBER	POINT	
7	034	3054	A	
2	005	3055	A	

MAP DESCRIPTION:

This MAP checks the World Trade Public Switched Network (PSN) 1200 integrated modem connection to the telephone network (line 1).

START CONDITIONS:

The data communications diagnostics were run.

FRUs PARTIALLY TESTED: A-A3R2, A-A3M2 and WTC PSN line plate

Do you hear a dial tone?

ΥN

002

- Use the meter to measure the DC voltage at the B05 berg connector 'Transfer relay' on the PSN line plate.

Does the meter read between -2.8 V and -1.0 V? Y N $\,$

003

3 2 A B The PSN line plate is bad. There is a possible telephone line problem. Is the 'Transfer relay' line picked?

For the berg connector location, see Figure 1 in this MAP.

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5360 Systems Unit

PAGE 2 OF 7

004

B 1

- Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A3M2G03.

Is the 'Transfer relay' line picked?





PSN line plate

Does the meter read between -2.8 V and -1.0 V? Y N

005

Check the cables for an open (Transfer relay) line.
To do this check,
Go To Map 3055, Entry Point A.

15Feb84 PN 2596045 EC 826487 PEC 826380 MAP 3059-2

3 C A C 1 2 1200 I.M. PSN MAP 3059-3 5360 Systems Unit PAGE 3 OF 7 **006** - Select mode 1. - Press the System Reset key. - Use the meter to measure the DC voltage of (Transfer relay) at A-A3M2G03. Does the meter read between -2.8 V and -1.0 V? Y N 007 - Hang up your telephone. Go to Page 1, Step 001, Entry Point A. 008 - Probe the following: Up Light: Off Down Light: On A-A3M2B02 (-DS data terminal ready). Are the lights correct? ΥN 009 Bad card: A-A3M2. 010 Bad card: A-A3R2. 011 - Hang up your telephone. - Enable the adapter, and activate DTR. - Press the Attn key (system console) to return to the main menu. - Select the TU Select option. - Select the failing data communications line. - Enter 70 as the last two digits of the test ID. - Select option 1 (execute test, display and stop). Is the CE panel DSR display light On? Υ N 15Feb84 PN 2596045 EC 826487 PEC 826380 7 4 D E

MAP 3059-3

5360 Systems Unit

PAGE 4 OF 7

012

E 3

- Dial the system telephone from nearby telephone.

```
- Wait for at least 3 rings then listen for a 3 second answer tone.
```

Does the phone stop ringing?

ΥN

013

Use the meter to measure the DC voltage at the Is the 'Transfer relay' line picked?
 B05 berg connector (Transfer relay) on
 PSN line plate.

Does the meter read between -2.8 V and -1.0 V? Y N

014

- Use the meter to measure the DC voltage of (Transfer Relay) at A-A3M2G03.

Does the meter read between -2.8 V and -1.0 V? Y N

Y N

6 6 6 6 5 F G H J K

015 - Probe the following:

Up Light: Off Down Light: On

A-A3M2B02 (-DS data terminal ready). Are the lights correct?

15Feb84 PN 2596045 EC 826487 PEC 826380 MAP 3059-4

5360 Systems Unit

PAGE 5 OF 7

016

K 4

- Probe the following: A-A3M2D12 (-DS ring indicator).

The lights come on when the system telephone is not ringing (between rings).

Light: On Up Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Up Light: Off Down Light: On

Are the lights correct?

ΥN 017 - Switch probe to MST 2/4, : A-A3M2G10, (Current detect 1) and A-A3M2G13, (Current detect 2).

The lights come on when the system telephone is not ringing (between rings).

Up Light: On Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Light: On Up Down Light: On

ΥN

Are the lights correct for either point probed?

- Ensure that the telephone is ringing while you are probing.

- Ensure that the telephone is ringing while you are

probing ring indicator.

15Feb84 PN 2596045 EC 826487 PEC 826380 MAP 3059-5

MAP 3059-5



```
D R S
3 6 6
               1200 I.M. PSN
               5360 Systems Unit
               PAGE 7 OF 7
     031
     - Probe the following:
       Up Light: Off
       Down Light: On
     A-A3M2B13 (-DS data set ready).
     Are the lights correct?
     Y N
       032
       Bad card:
       A-A3M2.
     033
     Bad card:
     A-A3R2.
  034
  Go To Map 3054, Entry Point A.
035
- Probe the following:
  Up
        Light: Off
  Down Light: On
A-A3M2B13 (-DS data set ready).
Are the lights correct?
```

Y N I

> **036** Bad card: A-A3R2.

037

Bad card: A-A3M2.

1200 I.M. (PSN) Line 2

5360 Systems Unit

PAGE 1 OF 7

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

001 (Entry Point A)

- Pick up your system telephone.

EXIT POINTS

EXIT TH	IS MAP	то		
PAGE	STEP	MAP	ENTRY	
NUMBER	NUMBER	NUMBER	POINT	
7	034	3054	A	
2	005	3056	A	

MAP DESCRIPTION:

This MAP checks the World Trade Public Switched Network (PSN) 1200 integrated modem connection to the telephone network (line 2).

START CONDITIONS:

The data communications diagnostics were run.

FRUs PARTIALLY TESTED: Card A-A3Q2 card A-A3L2 and WTC PSN line plate

Do you hear a dial tone?

ΥN

002

- Use the meter to measure the DC voltage at the B05 berg connector (Transfer relay) on the PSN line plate.

Does the meter read between -2.8 V and -1.0 V?

ΥN

003

The PSN line plate is bad. There is a possible telephone line problem.

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Is the 'Transfer relay' line picked?

- For the berg connector location, see Figure 1 in this MAP.

5360 Systems Unit

PAGE 2 OF 7

004

B 1

- Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A3L2G03.

Is the 'Transfer relay' line picked?





PSN line plate

Does the meter read between -2.8 V and -1.0 V? \underbrace{Y} N

005

- Check the cables for an open 'Transfer relay' line.

- To perform this check,
- Go To Map 3056, Entry Point A.

15Feb84 PN 2596046 EC 826487 PEC 826380 MAP 3060-2

3 C A C 1 2 1200 I.M. PSN 5360 Systems Unit PAGE 3 OF 7 **006** - Select mode 1. - Press the System Reset key. Ø - Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A3L2G03. Does the meter read between -2.8 V and -1.0 V? Y N 007 - Hang up your telephone. Go to Page 1, Step 001, Entry Point A. 008 - Probe the following: Up Light: Off Down Light: On A-A3L2B02 (-DS data terminal ready). Are the lights correct? Y N 009 Bad card: A-A3L2. 010 Bad card: A-A3Q2. 011 - Hang up your telephone. - Enable the adapter, and activate the DTR. - Press the Attn key (system console) to return to the main menu. - Select the TU Select option. - Select the failing data communications line. - Enter 70 as the last two digits of the test ID. - Select option 1 (execute test, display and stop). Is the control panel DSR display light On? Y N 15Feb84 PN 2596046 EC 826487 4 E / D

PEC 826380 MAP 3060-3

5360 Systems Unit

PAGE 4 OF 7

012

Е 3

- Dial the system telephone from nearby telephone.

- Wait for at least 3 rings then listen for a 3 second answer tone.

Does the phone stop ringing?

```
Y N
  013
  - Use the meter to measure the DC voltage at the Is the transfer relay picked?
  B05 berg connector.
    (Transfer relay) on PSN line plate.
  Does the meter read between -2.8 V and -1.0 V?
  Y N
     014
     - Use the meter to measure the DC voltage
     of the 'Transfer relay' line at A-A3L2G03.
     Does the meter read between -2.8 V and -1.0
     V?
     Y N
        015
        - Probe the following:
          Up Light: Off
          Down Light: On
         A-A3L2B02 (-DS data terminal ready).
        Are the lights correct?
        ΥN
                                                                              15Feb84
6 6 6 6 5
F G H J K
```

15Feb84 PN 2596046 EC 826487 PEC 826380 MAP 3060-4 1200 I.M. PSN 5360 Systems Unit

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016

K 4

- Probe the following: A-A3L2D12 (-DS ring indicator).

The lights come on when the system telephone is not ringing (between rings).

Up Light: On Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Up Light: Off Down Light: On

Are the lights correct?

ΥN

66 LM

```
017

- Switch probe to MST 2/4, :

A-A3L2G10, (Current detect 1)

and

A-A3L2G13, (Current detect 2).
```

The lights come on when the system telephone is not ringing (between rings).

Up Light: On Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Up Light: On Down Light: On

Are the lights correct for either point probed? Y N

- Ensure that the telephone is ringing while you are probing the ring indicator.

- Ensure that the telephone is ringing while you are probing.

15Feb84 PN 2596046 EC 826487 PEC 826380 MAP 3060-5

MAP 3060-5



```
D R S
3 6 6
               1200 I.M. PSN
               5360 Systems Unit
               PAGE 7 OF 7
     031
     - Probe the following:
       Up Light: Off
       Down Light: On
      A-A3L2B13 (-DS data set ready).
     Are the lights correct?
     Y N
       032
       Bad card:
       A-A3L2.
     033
     Bad card:
     A-A3Q2.
  034
  Go To Map 3054, Entry Point A.
035
- Probe the following:
```

Up Light: Off Down Light: On

A-A3L2B13 (-DS data set ready). Are the lights correct? Y N

...

036 Bad card: A-A3Q2.

037

Bad card: A-A3L2.

> 15Feb84 PN 2596046 EC 826487 PEC 826380 MAP 3060-7

1200 I.M. (PSN) Line 3

5360 Systems Unit

PAGE 1 OF 7

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	A	1	001

001

(Entry Point A)

- Pick up your system telephone.

Is a dial tone heard?

Y N

002

- Use the meter to measure the DC voltage at the B05 berg connector (Transfer relay) on the PSN line plate.

Does the meter read between -2.8 V and -1.0 V? Y N

003

The PSN line plate is bad. There is a possible telephone line problem.

EXIT POINTS

EXIT THIS MAP		TO TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
7	034	3054	A
2	005	3057	А

MAP DESCRIPTION:

This MAP checks the World Trade Public Switched Network (PSN) 1200 integrated modem connection to the telephone network (line 3).

START CONDITIONS:

The data communications diagnostics were run.

FRUs PARTIALLY TESTED: Card A-A3P2 card A-A3M4 and WTC PSN line plate

Is the 'Transfer relay' line picked?

- For the berg connector location, see Figure 1 in this MAP.

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15Feb84 PN 2596047 EC 826487 PEC 826380 MAP 3061-1

3 2 A B B 1200 I.M. PSN 1 5360 Systems Unit PAGE 2 OF 7 004

- Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A3M4G03.

Is the 'Transfer relay' line picked?





PSN line plate

Does the meter read between -2.8 V and -1.0 V? Y N

005

Check the cables for an open (Transfer relay) line.
To perform this check,
Go To Map 3057, Entry Point A.

15Feb84 PN 2596047 EC 826487 PEC 826380 MAP 3061-2

3 C

```
A C
1 2
                1200 I.M. PSN
                5360 Systems Unit
                PAGE 3 OF 7
  006
   - Select mode 1.
  - Press the System Reset key.
   - Use the meter to measure the DC voltage of
    (Transfer relay) at A-A3M4G03.
   Does the meter read between -2.8 V and -1.0 V?
   ΥN
     007
     - Hang up your telephone.
     Go to Page 1, Step 001, Entry Point A.
  800
   - Probe the following:
     Up
            Light: Off
     Down Light: On
  A-A3M4B02 (-DS data terminal ready).
   Are the lights correct?
   ΥN
     009
     Bad card:
     A-A3M4.
  010
  Bad card:
  A-A3P2.
011
- Hang up your telephone.
                                                         - Enable the adapter, and activate the DTR.
- Press the Attn key (system console) to return to the
 main menu.
- Select the TU Select option.
- Select the failing data communications line.
- Enter 70 as the last two digits of the test ID.
- Select option 1 (execute test, display and stop).
Is the control panel DSR display light On?
Υ
  N
7 4
D E
```

```
15Feb84
            PN 2596047
EC 826487
            PEC 826380
            MAP 3061-3
```

5360 Systems Unit

PAGE 4 OF 7

012

E 3

```
- Dial system telephone from nearby telephone.
```

- Wait for at least 3 rings then listen for a 3 second answer tone.

Does the phone stop ringing?

Y N 013 - Use the meter to measure the DC voltage at the B05 berg connector (Transfer relay) on PSN line plate. Does the meter read between -2.8 V and -1.0 V? Y N 014 - Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A3M4G03. Does the meter read between -2.8 V and -1.0 V? Y N 015 - Probe the following: Up Light: Off Down Light: On A-A3M4B02 (-DS data terminal ready). Are the lights correct? N 66665 FGHJK

15Feb84 PN 2596047 EC 826487 PEC 826380 MAP 3061-4

Is the 'Transfer relay' line picked?

1200 I.M. PSN 5360 Systems Unit

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016

```
- Probe the following:
A-A3M4D12 (-DS ring indicator).
```

The lights come on when the system telephone is not ringing (between rings).

Up Light: On Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Up Light: Off Down Light: On

Are the lights correct?

Ν

Y

onthe state of the sta

The lights come on when the system telephone is not ringing (between rings).

Up Light: On Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Up Light: On Down Light: On

Y N

Are the lights correct for either point probed?

- Ensure that the telephone is ringing while you are

- Ensure that the telephone is ringing while you are

probing the ring indicator.

probing.

15Feb84 PN 2596047 EC 826487 PEC 826380 MAP 3061-5

K 4

```
FGHJPQ
4444
               1200 I.M. PSN
L M N
5 5 5
                                                                                           MAP 3061-6
               5360 Systems Unit
                PAGE 6 OF 7
     018
                                                                     023
     - Switch probe to MST 2/4, at the PSIN line
                                                                     Bad card:
                                                                     A-A3P2.
     plate.
      Berg connector B01, (Current detect 1)
      and
                                                                  024
      Berg connector A02, (Current detect 2).
                                                                  There is an open in the board wire from
                                                                  A-A3P2M13 to A-A3M4B02.
        Up
              Light: On or flashing
       Down Light: On or flashing
                                                               025
                                                               Bad card:
                                                               A-A3M4.
     Are the lights correct for either point probed?
     Y N
                                                             026
                                                             - Check the transfer relay cable line from
       019
                                                              Berg-B05 to A-A3A4D06.
        - Check for continuity from the PSN line plate
         to the telephone line.
                                                          027
         Sig 1. PSN line plate TB1-8, tel line (white)
                                                          - Check for continuity and check for grounded line
         GN.
                                                           (Current detect 1) from Berg-B01 to A-A3A4B08.
         Sig 2. PSN line plate TB1-9, tel line (red) R.
                                                          - Check for continuity and check for grounded line
                                                           (Current detect 2) from Berg-A02 to A-A3A4D11.
     020
                                                          - There is a PSN line plate problem
     - Check the (Current detect 1) cable line from
                                                          -----
      Berg-B01 to A-A3A4B08
                                                          There is a possible telephone line problem.
      and
     - Check the (Current detect 2) cable line from
                                                       028
      Berg-A02 to A-A3A4D11.
                                                       Is a 3-second answer tone heard?
                                                        YN
  021
  Bad card:
                                                          029
  A-A3M4.
                                                          - Check for continuity and check for grounded line:
022
                                                           From Berg-A06 to A-A3A4B07 (DR)
- Probe the following:
                                                           From Berg-A08 to A-A3A4B03 (DT)
                                                           From Berg-A02 to A-A3A4D11 (C.D.2).
         Light: Off
  Up
  Down Light: On
                                                          Bad card:
                                                          A-A3M4.
 A-A3P2M13 (-DS data terminal ready).
Are the lights correct?
                                                       030
ΥN
                                                       Is the control panel DSR display light On?
                                                                              15Feb84
                                                                                           PN 2596047
                                                                              EC 826487
                                                                                           PEC 826380
                                                       77
RS
P 0
                                                                                           MAP 3061-6
```

```
D R S
3 6 6
              1200 I.M. PSN
              5360 Systems Unit
              PAGE 7 OF 7
     031
     - Probe the following:
       Up Light: Off
       Down Light: On
      A-A3M4B13, (-DS data set ready).
     Are the lights correct?
     ΥN
       032
       Bad card:
       A-A3M4.
     033
     Bad card:
     A-A3P2.
  034
  Go To Map 3054, Entry Point A.
035
- Probe the following:
  Up Light: Off
  Down Light: On
 A-A3M4B13 (-DS data set ready).
Are the lights correct?
Y N
  036
  Bad card:
  A-A3P2.
037
Bad card:
A-A3M4.
```

15Feb84 PN 2596047 EC 826487 PEC 826380 MAP 3061-7

1200 I.M. (PSN) Line 4

5360 Systems Unit

PAGE 1 OF 7

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

001 (Entry Point A)

- Pick up your system telephone.

EXIT POINTS

EXIT THIS MAP		то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
7	034	3054	A
	005	3058	A

MAP DESCRIPTION:

This MAP checks the World Trade Public Switched Network (PSN) 1200 integrated modem connection to the telephone network (line 4).

START CONDITIONS:

The data communications diagnostics were run.

FRUs PARTIALLY TESTED: Card A-A3L4 card A-A3N2 and WTC PSN line plate

Do you hear a dial tone?

ΥN

002

- Use the meter to measure the DC voltage at the B05 berg connector (Transfer relay) on the PSN line plate.

Does the meter read between -2.8 V and -1.0 V?

(N

003 The PSN line plate is bad. There is a possible telephone line problem. Is the 'Transfer relay' line picked?

- For the berg connector location, see Figure 1 in this MAP.

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1200 I.M. PSN 5360 Systems Unit

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004

B 1

- Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A3L4G03.

Is the 'Transfer relay' line picked?





PSN line plate

Does the meter read between -2.8 V and -1.0 V? Y N $\,$

1.4

005

Check the cables for an open (Transfer relay) line.
To perform this check,
Go To Map 3058, Entry Point A.

15Feb84 PN 2596048 EC 826487 PEC 826380 MAP 3062-2

3 C

MAP 3062-3

A C 1 2 1200 I.M. PSN 5360 Systems Unit PAGE 3 OF 7 **Ó06** - Select mode 1. - Press the System Reset key. - Use the meter to measure the DC voltage of the 'Transfer relay' line at A-A3L4G03. Does the meter read between -2.8 V and -1.0 V? ΥŇ 007 - Hang up your telephone. Go to Page 1, Step 001, Entry Point A. 800 - Probe: Up Light: Off Down Light: On A-A3L4B02 (-DS data terminal ready). Are the lights correct? Y N 009 Bad card: A-A3L4. 010 Bad card: A-A3N2. 011 - Hang up your telephone. - Enable the adapter, and activate the DTR. - Press the Attn key (system console) to return to the main menu. - Select the TU Select option. - Select the failing data communications line. - Enter 70 as the last two digits of the test ID. - Select option 1 (execute test, display and stop). Is the control panel DSR display light On? YN 7 4 D E

15Feb84 PN 2596048 EC 826487 PEC 826380 MAP 3062-3

5360 Systems Unit

7

PAGE 4 OF 7

012

Е 3

- Dial system telephone from nearby telephone.

- Wait for at least 3 rings then listen for a 3 second answer tone.

Does the phone stop ringing?

```
Y N
  013
  - Use the meter to measure the DC voltage at the
                                                        Is the 'Transfer relay' line picked?
    B05 Berg connector (Transfer relay) on PSN line
    plate.
  Does the meter read between -2.8 V and -1.0 V?
   Y N
     014
     - Use the meter to measure the DC voltage of
      the 'Transfer relay' line at A-A3L4G03.
     Does the meter read between -2.8 V and -1.0
     V?
     ΥN
       015
        - Probe the following:
          Up Light: Off
          Down Light: On
         A-A3L4B02 (-DS data terminal ready).
        Are the lights correct?
        YN
6 6 6 6 5
F G H J K
```

15Feb84 PN 2596048 EC 826487 PEC 826380 MAP 3062-4

5360 Systems Unit

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016

K 4

 Probe the following: A-A3L4D12 (-DS ring indicator).

The lights come on when the system telephone is not ringing (between rings).

Up Light: On Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Up Light: Off Down Light: On

Are the lights correct?

ΥN

017

 Switch probe to MST 2/4, : A-A3L4G10, (Current detect 1) and A-A3L4G13, (Current detect 2).

The lights come on when the system telephone is not ringing (between rings).

Up Light: On Down Light: Off

The lights come on when the system telephone is ringing (bell sounding).

Up Light: On Down Light: On

Are the lights correct for either point probed?

- Ensure that the telephone is ringing while you are

probing the ring indicator.

- Ensure that the telephone is ringing while you are probing.

15Feb84 PN 2596048 EC 826487 PEC 826380 MAP 3062-5

MAP 3062-5

上 № № 1200 I.M. PSN	Ӻ Ĝ Ӊ Ј Р Q МАР 3062-6
5 5 5 5360 Systems Unit	
PAGE 6 OF 7	
U18	023
nlate	
Berg connector B01, (Current detect 1)	
and	024
Berg connector A02, (Current detect 2).	There is an open in the board wire from A-A3N2M13 to A-A3L4B02.
Up Light: On or flashing	
Down Light: On or flashing	025
	Bad card:
Are the lights correct for either point probad?	A-A3L4.
Y N	
	- Check the transfer relay cable line from
019	Berg-B05 to A-A3A5D06.
- Check for continuity from the PSN line plate	
to the telephone line.	027
Sig 1. PSN line plate TB1-8, tel line (white)	- Check for continuity and check for grounded line
Sig 2. PSN line plate TB1-9 tel line (red) B	- Check for continuity and check for grounded line
	(Current detect 2) from Berg-A02 to A-A3A5D11.
020	There is a PSN line plate problem
- Check the (Current detect 1) cable line from	or
Berg-B01 to A-A3A5B08	There is a possible telephone line problem.
Check the (Current detect 2) cable line from	 028
Berg-A02 to A-A3A5D11.	Is a 3-second answer tone heard?
	ΥN
021	
Bad card:	029
A-A3L4.	- Check for continuity and check for grounded line:
022	From Berg-A06 to A-A3A5B07 (DB)
- Probe the following:	From Berg-A08 to A-A3A5B03 (DT)
	From Berg-A02 to A-A3A5D11 (C.D.2).
Up Light: Off	
Down Light: Un	Bad card: A-A3L4.
A-A3N2M13 (-DS data terminal ready).	
	USU Is the control panel DSP display light On?
i î	
	15Feb84 PN 2596048
	EC 826487 DEC 926290
	7 7 EC 020407 FEC 020300
ΓŲ	к э MAP 3062-6

```
D R S
3 6 6
               1200 I.M. PSN
              5360 Systems Unit
              PAGE 7 OF 7
     031
     - Probe the following:
       Up
             Light: Off
       Down Light: On
      A-A3L4B13 (-DS data set ready).
     Are the lights correct?
     ΥN
       032
       Bad card:
       A-A3L4.
    033
```

```
Bad card:
A-A3N2.
```

```
034
Go To Map 3054, Entry Point A.
```

035

```
- Probe the following:
```

Up Light: Off Down Light: On

A-A3L4B13 (-DS data set ready). Are the lights correct?

ΥN

036 Bad card: A-A3N2.

037

Bad card: A-A3L4.

15Feb84 PN 2596048 EC 826487 PEC 826380 MAP 3062-7

1200 IM Answer Tone MLCA Line 1

5360 Systems Unit

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3050	A	1	001

001

(Entry Point A)

Note: - For aid in continuity checking and isolation of the cable problem, see MAP 3055.

- Press the Line Select key (control panel).

- Using the input keys, select the number '1'

(Note: The above is not needed for SLCA. The default is to display the lights.).

Is the DSR display light on?

Ν γ 002 - Probe the following: Light: On Up Down Light: Off A-A3M2J09 (+Coupler cut through (CCT)). Are the lights correct? ΥN 003 - Measure the voltage on line CCT at the CBS coupler (use SG (signal ground) as a reference). Is the line equal to or between +3 V and +15 **V**? ΥN © Copyright IBM Corp. 1983 2 2 2 2 2 A B C D

MAP DESCRIPTION:

This MAP determines why no answer tone is supplied to incoming calls.

START CONDITIONS:

You have entered this MAP from MAP 3050 and found an error condition.

FRUs PARTIALLY TESTED: Card A-A3M2

```
15Feb84 PN 2596049
EC 826487 PEC 826380
MAP 3063-1
```

D Answer Tone	A B C MAP 3063-2
5360 Systems Unit	
PAGE 2 OF 2	
004	009
- Probe the following: Up Light: On Down Light: Off	 Measure the voltage on the '+Coupler cut through' line again at the A-A3M2J09 modem pin (use A-A3M2J08 (ground) as a reference).
A-A3M2J02 (+Data modem ready).	Is the voltage still equal to or between +3 V and +15 V and approximately equal to earlier measurement?
Y N	Y N
 005 While the power is Off and the terminal is removed from the coupler: Check for an open or a short circuit in the cable from the CBS coupler SG to A-A3A2D08 (signa ground). Bad card: A-A3M2. 	 010 While the power is Off and the terminal is removed from the coupler, check for an open or a short circuit in the cable from the CBS coupler CCT to A-A3A2D02 (+Coupler cut through). 011 Bad card: A-A3M2.
- Measure the voltage on line DA at the CBS couple	r
(use SG as a reference).	012 Bad card:
Is the line equal to or between +3 V and +15 V?	A-A3M2.
YN	
	013
007	While the power is Off and the terminal is removed

from the coupler:

Bad card:

A-A3M2.

```
007
```

- While the power is Off and the terminal is removed from the coupler, check for an open or short circuit in the cable from the CBS coupler DA to A-A3A2D04 (+Data modem ready).

800

Bad card: A-A3M2. There is a CBS coupler problem.

- Check for an open or short circuit in the cable from

- Check for an open or short circuit in the cable from the CBS coupler DR to A-A3A2B07 (Data ring).

the CBS coupler DT to A-A3A2B03 (Data tip).

15Feb84 PN 2596049 EC 826487 PEC 826380 MAP 3063-2

1200 IM Answer Tone Line 2

5360 Systems Unit

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3051	A	1	001

001

(Entry Point A)

Note: - For aid in continuity checking and isolation of the cable problem, see MAP 3056.

- Press the Line Select key (control panel).

- Using the input keys, select the number '2'.

MAP DESCRIPTION:

This MAP determines why no answer tone is supplied to incoming calls.

START CONDITIONS:

You have entered this MAP from MAP 3051 and founc an error condition.

FRUs PARTIALLY TESTED: Card A-A3L2

```
Is the DSR display light on?
ΥN
  002
  - Probe the following:
            Light: On
     Up
     Down Light: Off
    A-A3L2J09 (+Coupler cut through (CCT)).
   Are the lights correct?
     Ν
     003
     - Measure the voltage on line CCT at the CBS
      coupler (use SG (signal ground) as a reference).
     Is the line equal to or between +3 V and +15
     V?
     Y N
                © Copyright IBM Corp. 1983
2 2 2 2 2
A B C D
```

15Feb83 PN 2596050 EC 826487 PEC 826380 MAP 3064-1

MAP 3064-1
A B C 1 1 1 Answer Tone MAP 3064-2 5360 Systems Unit PAGE 2 OF 2 **004** 009 - Measure the voltage on the '+Coupler cut - Probe the following: through' line again at the A-A3L2J09 modem Light: On Up pin (use A-A3L2J08 (ground) as a reference). Down Light: Off Is the voltage still equal to or between +3 V A-A3L2J02 (+Data modem ready). and +15 V and approximately equal to earlier Are the lights correct? measurement? Y N ΥN 005 010 - While the power is Off and the terminal is - While the power is Off and the terminal is removed from the coupler: removed from the coupler, check for an - Check for an open or a short circuit in the cable open or a short circuit in the cable from the from the CBS coupler SG to A-A3A3D08 (signal CBS coupler CCT to A-A3A3D02 (+Coupler cut through). around). Bad card: 011 A-A3L2. Bad card: 006 A-A3L2. - Measure the voltage on line DA at the CBS coupler (use SG as a reference). 012

Is the line equal to or between +3 V and +15 V? N

007

- While the power is Off and the terminal is removed from the coupler, check for an open or short circuit in the cable from the CBS coupler DA to A-A3A3D04 (+Data modem ready).

800

D

1

Bad card:

A-A3L2.

There is a CBS coupler problem.

013

Bad card:

A-A3L2.

While the power is Off and the terminal is removed from the coupler:

- Check for an open or short circuit in the cable from the CBS coupler DT to A-A3A3B03 (Data tip).
- Check for an open or short circuit in the cable from the CBS coupler DR to A-A3A3B07 (Data ring). Bad card:

A-A3L2.

15Feb83 PN 2596050 EC 826487 PEC 826380 MAP 3064-2

1200 IM Answer Tone Line 3

5360 Systems Unit

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3052	Α	1	001

001

(Entry Point A)

Note: - For aid in continuity checking and isolation of the cable problem, see MAP 3057.

- Press the Line Select key (control panel).

- Using the input keys, select the number '3'.

Is the DSR display light on? Y N

002 - Probe the following: Up Light: On Down Light: Off A-A3M4J09 (+Coupler cut through (CCT)). Are the lights correct? ΥN 003 - Measure the voltage on line CCT at the CBS coupler (use SG (signal ground) as a reference). Is the line equal to or between +3 V and +15 V? Y N © Copyright IBM Corp. 1983 2 2 2 2 2 A B C D

MAP 3065-1

MAP DESCRIPTION:

This MAP determines why no answer tone is supplied to incoming calls.

START CONDITIONS:

You have entered this MAP from MAP 3052 and found an error condition.

FRUs PARTIALLY TESTED: Card A-A3M4

A B C 1 1 1 D Answer Tone MAP 3065-2 ĩ 5360 Systems Unit PAGE 2 OF 2 **004 00**9 - Probe the following: - Measure the voltage on the '+Coupler cut through' line again at the A-A3M4J09 modem Light: On Up pin (use A-A3M4J08 (ground) as a reference). Down Light: Off Is the voltage still equal to or between +3 V A-A3M4J02 (+Data modem ready). and +15 V and approximately equal to earlier Are the lights correct? measurement? Y N Y N 005 010 While the power is Off and the terminal is removed - While the power is Off and the terminal is from the coupler: removed from the coupler, check for an open or a short circuit in the cable from the - Check for an open or a short circuit in the cable from the CBS coupler SG to A-A3A4D08 (signal CBS coupler CCT to A-A3A4D02 (+Coupler around). cut through). Bad card: A-A3M4. 011 Bad card: 006 A-A3M4. - Measure the voltage on line DA at the CBS coupler 012 (use SG as a reference). Bad card: A-A3M4. Is the line equal to or between +3 V and +15 V? ΥN 013 007 While the power is Off and the terminal is removed

OU7 - While the power is Off and the terminal is removed from the coupler, check for an open or short circuit in the cable from the CBS coupler DA

to A-A3A4D04 (+Data modem ready).

800

Bad card: A-A3M4. There is a CBS coupler problem. from the coupler:
Check for an open or short circuit in the cable from the CBS coupler DT to A-A3A4B03 (Data tip).

- Check for an open or short circuit in the cable from the CBS coupler DR to A-A3A4B07 (Data ring).

Bad card: A-A3M4.

1200 IM Answer Tone Line 4

5360 Systems Unit

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3053	Α	. 1	001

001

(Entry Point A)

Note: - For aid in continuity checking and isolation of the cable problem, see MAP 3058.

- Press the Line Select key (control panel).

- Using the input keys, select the number '4'.

This MAP determines why no answer tone is supplied to incoming calls.

START CONDITIONS:

MAP DESCRIPTION:

You have entered this MAP from MAP 3053 and found an error condition.

FRUs PARTIALLY TESTED: Card A-A3L4

ls Y	the DSR display light on? N
	002 - Probe the following:
	Up Light: On Down Light: Off
	A-A3L4J09 (+Coupler cut through (CCT)). Are the lights correct? Y N
	003 - Measure the voltage on line CCT at the CBS coupler (use SG (signal ground) as a reference).
	Is the line equal to or between +3 V and +15 V?
2	Y N I I I
Â	ΒĆĎ

PN 2596052 15Feb84 PEC 826380 EC 826487 MAP 3066-1

D	Answer Tone	A B C MAP 3066-2	
-	5360 Systems Unit	1 1	
	PAGE 2 OF 2		
004		009	
- Probe tl	he following: Light: On	 Measure the voltage on the '+Coupler cu through' line again at the A-A3L4J09 moder pin (use A-A3L4J08 (ground) as a reference). 	ut m
Down	Light: Uff		
A-A3L4 Are the li	J02 (+Data modem ready). ights correct?	Is the voltage still equal to or between +3 and +15 V and approximately equal to earlie measurement?	V ər
005 While from th - Chec from grour Bad ca A-A3L 006	the power is Off and the terminal is removed ne coupler: ck for an open or a short circuit in the cable the CBS coupler SG to A-A3A5D08 (signal nd). and: .4.	 010 While the power is Off and the terminal is removed from the coupler, check for an open or a short circuit in the cable from the CBS coupler CCT to A-A3A5D02 (+Couple cut through). 011 Bad card: A-A3L4. 	is n Ie
- Measur	e the voltage on line DA at the CBS coupler		
(use SG	as a reference).	Bad card:	
ls the lin Y N	e equal to or between +3 V and +15 V?	A-A3L4.	

007

- While the power is Off and the terminal is removed from the coupler, check for an open or short circuit in the cable from the CBS coupler DA to A-A3A5D04 (+Data modem ready).

008

Bad card: A-A3L4. There is a CBS coupler problem.

013

While the power is Off and the terminal is removed from the coupler:

- Check for an open or short circuit in the cable from the CBS coupler DT to A-A3A5B03 (Data tip).

- Check for an open or short circuit in the cable from the CBS coupler DR to A-A3A5B07 (Data ring). Bad card:

A-A3L4.

1200 IM No Answer MLCA Line 1

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3050	Α	1	001

Is the control panel DSR display light On?

001

ΥN

(Entry Point A)

MAP DESCRIPTION:

This MAP determines why the system does no answer incoming calls.

START CONDITIONS:

You have entered this MAP from MAP 3050 and foun an error condition.

FRUs PARTIALLY TESTED: A-A3R2, A-A3M2

002 - Probe the following: Up Light: Off Down Light: On A-A3R2M13 (-DS data terminal ready) Are the lights correct? Y N 003 Bad card: A-A3R2. © Copyright IBM Corp. 1983 2 2 A B

A B 1 1 No Answer 5360 Systems Unit PAGE 2 OF 2 **Ò**04 Bad card: A-A3M2. While the power is Off and the terminals are removed: - Check for an open or a short circuit in the cable from the CBS coupler OH to A-A3A2D06 (Off hook). - Check for an open or a short circuit in the cable from the CBS coupler RI to A-A3A2D11 (Ring indicate). 005 - Probe the following: Up Light: On Down Light: Off A-A3M2G03 (+Off hook). Are the lights correct? ΥN 006 - Probe the following:

Up Light: On Down Light: On

A-A3M2G13 (+Ring indicate). Are the lights correct?

YN

. .

007

- Measure the voltage on the RI (+Ring indicate) line at the CBS coupler (use SG (Signal ground) as a reference).

Does the line voltage change when the telephone rings?

ΥN

008 There is a CBS coupler problem. **009** - Check for an open or a short circuit in the cables from the CBS coupler RI to A-A3A2D11 (+Ring indicator).

MAP 3067-2

010 Bad card:

CDE

A-A3M2.

011

- Measure the voltage on the OH (+Off hook) line at the CBS coupler (use SG (signal ground) as a reference).

Is the line equal to or between +3 V and +15 V? Y N

012

- Check for an open or a short circuit in the cables from the CBS coupler OH to A-A3A2D06 (+Off hook).

013

There is a CBS coupler problem.

 15Feb84
 PN 2596053

 EC 826487
 PEC 826380

 MAP 3067-2

CDE

1200 IM No Answer Line 2

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3051	A	1	001

001

(Entry Point A)

MAP DESCRIPTION: This MAP determines why the system does n answer incoming calls.

START CONDITIONS: You have entered this MAP from MAP 3051 and four an error condition.

FRUs PARTIALLY TESTED: Card A-A3Q2, card A-A3L2

Is the control panel DSR display light On? Y $\,N$

002

- Probe the following:

Up Light: Off Down Light: On

A-A3Q2M13 (-DS data terminal ready). Are the lights correct?

YN

2 2 A B **003** Bad card: A-A3Q2.

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A B 1 1 CDE No Answer MAP 3068-2 5360 Systems Unit PAGE 2 OF 2 004 009 Bad card: - Check for an open or a short circuit in the A-A3L2. cables from the CBS coupler RI to A-A3A3D11 (+Ring indicator). While the power if Off and the terminals are 010 removed: - Check for an open or a short circuit in the cable Bad card: from the CBS coupler OH to A-A3A3D06 (Off A-A3L2. hook). - Check for an open or a short circuit in the cable 011 from the CBS coupler RI to A-A3A3D11 (Ring - Measure the voltage on the OH (+Off hook) line at indicate). the CBS coupler (use SG (signal ground) as a reference). 005 - Probe the following: Is the line equal to or between +3 V and +15 V? Y N Up Light: On Down Light: Off 012 - Check for an open or a short circuit in the cables A-A3L2G03 (+Off hook). from the CBS coupler OH to A-A3A3D06 (+Off Are the lights correct? hook). Y N 013 006 There is a CBS coupler problem. - Probe the following: Up Light: On Down Light: On A-A3L2G13 (+Ring indicate). Are the lights correct? Y N 007 - Measure the voltage on the RI (+Ring indicate) line at the CBS coupler (use SG (signal ground) as a reference). Does the line voltage change when the telephone rings? Y N 008 There is a CBS coupler problem. 15Feb84 PN 2596054 EC 826487 PEC 826380 CDE MAP 3068-2

1200 IM No Answer Line 3

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3052	А	1	001

001

(Entry Point A)

MAP DESCRIPTION:

This MAP determines why the system does no answer incoming calls.

START CONDITIONS:

You have entered this MAP from MAP 3052 and found an error condition.

FRUs PARTIALLY TESTED: Card A-A3P2, card A-A3M4

Is the control panel DSR display light On? Y N

002 - Probe the following:

Up Light: Off Down Light: On

A-A3P2M13 (-DS data terminal ready). Are the lights correct? Y N

2 2 A B **003** Bad card: A-A3P2.

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15Feb84 PN 2596055 EC 826487 PEC 826380 MAP 3069-1

MAP 3069-1

A B No Answer

5360 Systems Unit

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004

Bad card: A-A3M4.

While the power is Off and the terminals are removed:

- Check for an open or a short circuit in the cable from the CBS coupler OH to A-A3A4D06 (Off hook).
- Check for an open or a short circuit in the cable from the CBS coupler RI to A-A3A4D11 (Ring indicate).

005

- Probe the following:

Up Light: On Down Light: Off

A-A3M4G03 (+Off hook).

Are the lights correct?

ΥN

006

- Probe the following:

Up Light: On Down Light: On

A-A3M4G13 (+Ring indicate). Are the lights correct?

ΥN

007

- Measure the voltage on the RI (+Ring indicate) line at the CBS coupler (use SG (signal ground) as a reference).

Does the line voltage change when the telephone rings?

ΥN

800

There is a CBS coupler problem.

•

009 - Check for an open or a short circuit in the cables from the CBS coupler RI to A-A3A4D11 (+Ring indicator).

MAP 3069-2

010

CDE

```
Bad card:
A-A3M4.
```

011

- Measure the voltage on the OH (+Off hook) line at the CBS coupler (use SG (signal ground) as a reference).

Is the line equal to or between +3 V and +15 V? Y N

012

- Check for an open or a short circuit in the cables from the CBS coupler OH to A-A3A4D06 (+Off hook).

013

There is a CBS coupler problem.

15Feb84 PN 2596055 EC 826487 PEC 826380 MAP 3069-2

CDE

1200 IM No Answer Line 4

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3053	А	1	001

001

Y N

002

(Entry Point A)

MAP DESCRIPTION: This MAP determines why the system does not answer incoming calls.

START CONDITIONS: You have entered this MAP from MAP 3053 and found an error condition.

FRUs PARTIALLY TESTED: Card A-A3N2, card A-A3L4

- Probe the following:

Is the control panel DSR light On?

Up Light: Off Down Light: On

A-A3N2M13 (-DS data terminal ready). Are the lights correct? Y N

003

2 2 A B Bad card: A-A3N2.

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ENTRT FUINTS	ΕN	ITI	RY	PO	IN	ΤS
--------------	----	-----	----	----	----	----

FROM	 +-	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	+	A	1	001

001 (Entry Point A)

- CHART	T DI	ESCRIPTION -
Chart A	- 4	Data communications adapter
		card to X.21 adapter card.
Chart E	3 -	X.21 adapter card to the end
		of the external cable.
CHART (C -	X.21 DCE cable wrap.
Chart [) -	X.21 cable tower wrap.

MAP DESCRIPTION: The following charts show the X.21 adapter board and cable wiring. Use these charts for continuity checking and as a free-lance tool in trouble shooting trace signals and data flow for the

X.21 adapter SLCA.

START CONDITIONS: The system powered is off.

LOGIC CARDS TESTED: None

Chart E - Diagnostic wrap card P/N 4233787 end 'B'.

*** CONTINUITY CHECK TABLE

- Check for an open or a short circuit as shown in the following charts. Also check for grounded lines.

- If an open or short circuit is detected, use the charts to isolate to the failing FRU.

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	+	+	
6	-DS clear to send	S09	D13
7	+Rate select	P10	B04
8	Transmit clock	S08 	B07
9	-Test Ctrl	M10	B05
10	-DS receive data space	U10 	B10
11	-DS select standby	M05	B03
12	Receive clock	S05 	B08
13	-DS new sync	MO4	B09
14 	-DS carrier detect	S13 	B12

* Data Set Ready and Test Indicate are wired together in the internal cable assembly, so there also should be continuity from A-A1K2 S10 (- DSR) to A-A1A4 D03 (- DSR) to A-A1A4 B06 (- TI) to A-A1K2 P11 (- TI).

MAP 3073-3

X.21 I.M. Interface Chart SLCA 5360 Systems Unit

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		 Boai 	rd te	In- ernal Cable	Ex- ternal Cable
		II V	I V V	l VII v	v I v
Sect	Line name	X C 2 A 1 R D 	* C C A O B N L N E E C T O R	* * * C T C C A O O A B W N B L E N L E R E 	* * T C 15 O O PIN W N CONN E N R
		A-A G2	A-A I A4	llrian gle 1 g	le 1
		⊦+ ⊦+	+ +	╊╼╾╼ <i>┄</i> ╼╪╪╼╵	+
1	Axmit	GO2	B10	19	19 2
2	B xmit	J05	B09	21	21 9
3	A ind	J10	D05		3 5
4	B ind	G04	D12	5	5 12
5	A control	G05	B05	2	2 3

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 6	+++ B control	 J06	++- B02	4			
	+++		++-	++		+	: *
	A receive	609	БІЗ ++-	12 11	۱۷ ,+	4 	
8 	B receive	J13	B12 ++-	25	25 	1:1 	
9	A sig timing	J04	D07	6	6	6	
10 	B sig timing	G13	D11	8	8	13	
11 	A diag clock	G07	D10	20	20	X	<-
12 	B diag clock	G08	D13	14	14	X	<-
13	Signal ground	D08	DO8	7	7	8	

* I/O board cable socket

** Cable tower connector internal cable side

*** Cable tower connector external cable side Note: A/B diag clock lines are wired to the cable tower but not through the external cable.

function.

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_____Chart C

X.21 DCE cable wrap

		Contraction of the local division of the loc	السمارين والالتين والالا المراجع والمراجع				
Note: The followi	ing lines are	jumpe	ered together when the				
X.21 wrap function is activated at the local DCE.							
1	15 pin	conne	ector				
l DTE	from	to	DTE				
A transmit	2	4	A receive				
B transmit	9	11	B receive				
A control	3	5	A indicate				
B control	10	12	B indicate				
*Note	Х	Х	A sig element timing				
*Note	X	Х	B sig element timing				
Note: Inis pair of	signals is pa	issed	directly to the system				
from the DCE	to provide cl	ockir	ng during the wrap				

_____ Chart D _____

X.21 cable tower wrap

Note: The following	lines ar	e jumper	ed together when the						
X.21 wrap plug	is used	at the	cable tower.						
25-pin connector									
I DTE	from	to	DTE						
1									
A transmit	19	12	A receive						
B transmit	21	25	B receive						
A control	2	3	A indicate						
B control	4	5	B indicate						
A diag clock	20	6	A sig element timing						
B diag clock	14	8	B sig element timing						

5360 Systems Unit

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Chart E

Wrap card p/n 4233787 (raw card p/n 4233786) end 'B'. End 'B' of the wrap card is used at the board socket in place of the X.21 card when a board wrap is performed.

- If the wrap card is suspect, use this chart to check out end 'B'.

End 'B'

	From	n	То	
		-		
1	B02		B13	
	B03		D12	
	B04		B08	
1	B05		B07	
1	B09		B12	
1	D02		D13	
	D04		B10	
-				-

5360 Systems Unit

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ENTRY POINTS

FROM	1	ENTER	THIS MA	\P
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	+.	A	1	001

001 (Entry Point A)

CHART DESCRIPTION Chart A - Data communications adapter card to X.21 adapter card.
Chart B - X.21 adapter card to the end of the external cable.
CHART C - X.21 DCE cable wrap.
Chart D - X.21 cable tower wrap.

MAP DESCRIPTION: The following charts show the X.21 adapter board and cable wiring. Use these charts for continuity checking and as a free-lance tool in trouble shooting trace signals and data flow for the X.21 adapter 1.

START CONDITIONS: The system powered is off.

LOGIC CARDS TESTED: None

Chart E - Diagnostic wrap card P/N 4233787 None end 'B'.

*** CONTINUITY CHECK TABLE ***

- Check for an open or a short circuit as shown in the following charts. Also check for grounded lines.

- If an open or short circuit is detected, use the charts to isolate to the failing FRU.

X.21 I.M. Interface Chart MLCA Line 1 5360 Systems Unit

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MAP 3074-2

5360 Systems Unit

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6	-DS clear to send	S09	D13
7	+Rate select	P10	B04
8	Transmit clock	S08	B07
9	-Test Ctrl	M10	B05
10	-DS receive data space	U10	B10
11	-DS select standby	M05 	B03
12	Receive clock	S05 	в08
13	-DS new sync	M04 	B09
14	-DS carrier detect	S13 	B12

* Data Set Ready and Test Indicate are wired together in the internal cable assembly, so there also should be continuity from A-A3R2 S10 (- DSR) to A-A3A2 D03 (- DSR) to A-A3A2 B06 (- TI) to A-A3R2 P11 (- TI).

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i

	Chart B							
and the second sec		l		- 1 e V				
	 Sect 	Line name	++ + + + + X C C C C T C C T C 1 2 A A 0 A 0 0 A 0 0 P 1 2 A A 0 A 0 A 0 0 A 0 0 P 1 R B N B W N B W N B W N C 1 R B N B W N L E N	 5 1 N 0 N N 				
	4	A xmit	G02 B10 19 19	 2				
:	2	B xmit	J05 B09 21 21	9				
	3	Aind	J10 D05 3 3	5				
:	4	Bind	G04 D12 5 5	12				
	5	A control	G05 B05 2 2	3				

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MAP 3074-4

5360 Systems Unit

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6	B control	J06	B02	++	+ 4	10	
7	A receive	G09	B13	12	12	+	
8	B receive	J13	B12	25	25	11	
9	A sig timing	J04	D07	6	6	6	
10	B sig timing	G13	D11	8	8	13	
11	A diag clock	G07	D10	20	20	, X	 <-
12	B diag clock	G08	D13	14	1 14	X	<-
13	Signal ground	D08	D08	7	7	8	1

* I/O board cable socket

** Cable tower connector internal cable side
*** Cable tower connector external cable side Note: A/B diag clock lines are wired to the cable tower but not through the external cable.

MAP 3074-5

MAP 3074-6

5360 Systems Unit

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_____Chart C

X.21 DCE cable wrap

Note: The following lines are jumpered together when the										
X.21 wrap fu	X.21 wrap function is activated at the local DCE.									
l ·	15 pin connector									
I DTE	from	to	DTE							
A transmit	2	4	A receive							
B transmit	9	11	B receive							
A control	3	5	A indicate							
B_control	10	12	B indicate							
Note *	Х	Х	A sig element timing							
*Note	Х	Х	B sig element timing							
			- 0							

Note: This pair of signals is passed directly to the system from the DCE to provide clocking during the wrap function.

_____ Chart D _____

X.21 cable tower wrap

فالمحمد المتحد المتحدين والتقاعين والتقارين والمتحدين والمت			الكالا كريب الشاكر والمحد فقنا بريج والمتحاذ والترج ويحدد أويبيه والمحد والراب المحد المتحد والمحد المحد المحد							
Note: The following	ng lines a	re jump	pered together when the							
X.21 wrap p	X.21 wrap plug is used at the cable tower.									
25-pin connector										
I DTE	from	to	DTE							
1										
A transmit	19	12	A receive							
B transmit	21	25	B receive							
A control	2	3	A indicate							
B control	4	5	B indicate							
A diag clock	20	6	A sig element timing							
B diag clock	14	8	B sig element timing							
			5							

5360 Systems Unit

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_____Chart E _____

Wrap card p/n 4233787 (raw card p/n 4233786) end 'B'. End 'B' of the wrap card is used at the board socket in place of the X.21 card when a board wrap is performed.

- If the wrap card is suspect, use this chart to check out end 'B'.

Fro	m	То	
	-		1
			1
B02		B13	1
B03		D12	
B04		B08	1
B05		B07	
B09		B12	
D02		D13	
D04		B10	
			_

4,

End 'B'

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 MAP 3074-7

MAP 3075-1

X.21 I.M. Interface Chart Line 2

5360 Systems Unit

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001

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	1	Α	1	001

001 (Entry Point A)

- CHART Chart A Chart B	<pre>DESCRIPTION Data communications adapter card to X.21 adapter card X.21 adapter card to the end</pre>	MAP DESCRIPTION: The following charts show the X.21 adapter board and cable wiring. Use these charts for continuity checking and as a free-lance tool in trouble shooting trace signals and data flow for the X.21 adapter 2.
CHART C	of the external cable. - $X = 21$ DCE cable wrap	START CONDITIONS
Chart D	- X.21 cable tower wrap.	The system powered is off.
Chart E	- Diagnostic wrap card P/N 4233787 end 'B'.	LOGIC CARDS TESTED: None
	*** CONTINUITY CHECK TABLE	***

- Check for an open or a short circuit as shown in the following charts. Also check for grounded lines.

- If an open or short circuit is detected, use the charts to isolate to the failing FRU.

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	Chart A				
		 Boa V	ard V		
 Sect 	Line name	 A C D A A R P D T E R 	X C 2 A 1 R 0 1 1 1 1 1 1 1 1 1 		
	 +	Q2 +	L2 +		
 1 	-DS terminal ready	+ M13 	B02		
2	-DS data set ready *	S10	B13		
3	-DS request to send	P06 	D02		
4	-DS ring indicate	S07 	D12		
5	-DS transmit data space	P13 	D04		

5360 Systems Unit

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	+	+	
6	-DS clear to send	S09 	D13
7	+Rate select	P10	B04
8	Transmit clock	S08 	B07
9	-Test Ctrl	M10	B05
10	-DS receive data space	U10 	B10
11	-DS select standby	M05	B03
12	Receive clock	S05	B08
13	-DS new sync	MO4	B09
14	-DS carrier detect	S13 	B12

* Data Set Ready and Test Indicate are wired together in the internal cable assembly, so there also should be continuity from A- S10 (- DSR) to A- D03 (- DSR) to A- B06 (- TI) to A- P11 (- TI). MAP 3075-3

X.21 I.M. Interface Chart Line 2 5360 Systems Unit

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_____ Chart B _____

		 Boai 	rd n ter Ca	n- nal nble	Ex- terr Cat	- nal ple
		v	v v 		v 	V
 Sect 	Line name	 X C 2 A 1 R D 	* * C C C A O A B N B L N L E E E C T R R R T	* T C O O W N E N R I I I I I I I I I I I I I	* * * C T C A O O B W N L E N E R Green Trian	15 PIN CONN
 4		L2	A3 g +-	le	gle	
+ 1	A xmit	-+ GO2	+- B10	19	19	2
2	B xmit	J05	B09	21	21	9
3	A ind	J10	D05	3	3	5
4	B ind	G04	D12	++ 5 ++	5	12

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 MAP 3075-4

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5	A control	G05	B05	2	2	3	
6	B control	J06	B02	4	4	10	
7	A receive	G09	B13	12	12	4	
8	B receive	J13	B12	25	25	11	
9	A sig timing	J04	D07	61	6	6	
10	B sig timing	G13	D11	81	8	13	1
11	A diag clock	G07	D10	20	20	X	 <-
12	B diag clock	G08	D13	14	14	X	- see note <-
13	Signal ground	D08	D08	7	7	8	1

* I/O board cable socket

** Cable tower connector internal cable side
*** Cable tower connector external cable side
Note: A/B diag clock lines are wired to the cable
tower but not through the external cable.

5360 Systems Unit

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_____Chart C

X.21 DCE cable wrap

Note	e: The follow	ing lines are	e jumpe	erec	l together when the
	X.21 wrap f	function is a	nctivat	ed	at the local DCE.
1		15 pir	n conne	ecto	or
	DTE	from	ı to		DTE
			·		
A	transmit	2	4	Α	receive
I B	transmit	9	11	В	receive
	control	3	5	Α	indicate
B	control	10	12	В	indicate
*	Note	Х	Х	Α	sig element timing
*	Note	Х	Х	В	sig element timing
					5
Note:	This pair of	signals is p	assed	dir	ectly to the system
	from the DCE	to provide d	lockir	ngo	luring the wrap
	function.	•		5	5
		Ch			

_____ Chart D _____

X.21 cable tower wrap

Note: The following	lines ar	e jumpe	red together when the
X.21 wrap plug	is used	at the	cable tower.
1	25-pin	connect	or
DTE	from	to	DTE
A transmit	19	12	A receive
B transmit	21	25	B receive
A control	2	3	A indicate
B control	4	5	B indicate
A diag clock	20	6	A sig element timing
B diag clock	14	8	B sig element timing
			2

5360 Systems Unit

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_____ Chart E _____

Wrap card p/n 4233787 (raw card p/n 4233786) end 'B'. End 'B' of the wrap card is used at the board socket in place of the X.21 card when a board wrap is performed.

- If the wrap card is suspect, use this chart to check out end 'B'.

End 'B'

			_
From	n	То	
	-		
B02		B13	
B03		D12	
B04		B08	
B05		B07	
B09		B12	
D02		D13	
D04		B10	1
			_

MAP 3076-1

X.21 I.M. Interface Chart Line 3

5360 Systems Unit

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ENTRY POINTS

. _ _ _ _ . ------FROM | ENTER THIS MAP -----MAP I ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER ------3010 | A 1 001

001 (Entry Point A)

- CHART DESCRIPTION -

MAP DESCRIPTION: The following charts show the X.21 adapter board and cable wiring. Use these charts for continuity checking and as a free-lance Chart A - Data communications adapter tool in trouble shooting trace card to X.21 adapter card. signals and data flow for the Chart B - X.21 adapter card to the end X.21 adapter 3. of the external cable. CHART C - X.21 DCE cable wrap. START CONDITIONS: Chart D - X.21 cable tower wrap. The system powered is off.

1.1.1

LOGIC CARDS TESTED: Chart E - Diagnostic wrap card P/N 4233787 None end 'B'.

> *** *** CONTINUITY CHECK TABLE

- Check for an open or a short circuit as shown in the following charts. Also check for grounded lines.
- If an open or short circuit is detected, use the charts to isolate to the failing FRU.

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X.21 I.M. Interface Chart Line 3 5360 Systems Unit

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MAP 3076-2
5360 Systems Unit

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	+	+4	
6	-DS clear to send	S09 	D13
7	+Rate select	P10	B04
8	Transmit clock	S08 	В07
9	-Test Ctrl	M10	B05
10	-DS receive data space	U10 	B10
11	-DS select standby	M05	B03
12	Receive clock	S05	B08
13	-DS new sync	MO4	B09
14 	-DS carrier detect	S13	B12

* Data Set Ready and Test Indicate are wired together in the internal cable assembly, so there also should be continuity from A- S10 (- DSR) to A- D03 (- DSR) to A- B06 (- TI) to A- P11 (- TI). MAP 3076-3

1.1.1

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 MAP 3076-3

X.21 I.M. Interface Chart Line 3 5360 Systems Unit

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1				11	 Boar V	- te te 	In- ernal Cable V	Ex ter Cal V	- nal ple V
	Sect		Line name		X C 2 A 1 R D	* C C A O B N L N E E C T O R	* * C T C A O O B W N L E N E R E R 	+ * * * C T C A O O B W N L E N L E N E R Green	+ 15 P I N CONN
					M4	A4	rian gle	lfrian gle	
		 A	xmit	++-	G02	B10	19	+	2
	2	В	xmit	++.	J05	B09	21	21	9
	3	A	ind	++. 	J10	D05	3	3	5
	4	B	ind	++.	G04	D12	5	5	12
	5	Α	control		G05	B05	2	2	3

.

_____Chart B _

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 PEC 826380

 MAP 3076-4

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		£+++	
6	B control J06 B02	4 4 10	
7	A receive GO9 B13	12 12 4	
8	Breceive J13 B12	25 25 11	
9	A sig timing J04 D07	6 6 6	
10	B sig timing G13 D11	8 8 13	
11	A diag clock G07 D10	20 20 X	<-
12	B diag clock GO8 D13	14 14 X	<-
13	Signal ground D08 D08	7 7 8	

* I/O board cable socket ** Cable tower connector internal cable side *** Cable tower connector external cable side Note: A/B diag clock lines are wired to the cable tower but not through the external cable.

5360 Systems Unit

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Chart C

X.21 DCE cable wrap

Note: The following	ines are	jumpe	ered together when the	
X.21 wrap funct	ion is ac	tiva	ted at the local DCE.	
	15 pin	conne	ector	
l DTE	from	to	DTE	
A transmit	2	4	A receive	
B transmit	9	11	B receive	
A control	3	5	A indicate	
Bcontrol	10	12	B indicate	
[*] Note	Х	Х	A sig element timing	
*Note	Х	Х	B sig element timing	

Note: This pair of signals is passed directly to the system from the DCE to provide clocking during the wrap function.

_____ Chart D _____

X.21 cable tower wrap

1	Note: The following	a lines a	re ium	pered together when the
i	X.21 wrap pl	ua is use	d at t	he cable tower.
İ	···	25-pin	conne	stor
1	DTE	from	to	DTE
	A transmit	19	12	A receive
	B transmit	21	25	B receive
	A control	2	3	A indicate
1	B control	4	5	B indicate
	A diag clock	20	6	A sig element timing
I	B diag clock	14	8	B sig element timing
1	-			- ,

_____ Chart E _____

MAP 3076-6

5360 Systems Unit

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Wrap card p/n 4233787 (raw card p/n 4233786) end 'B'. End 'B' of the wrap card is used at the board socket in place of the X.21 card when a board wrap is performed.

- If the wrap card is suspect, use this chart to check out end 'B'.

En	d	'B'	
	u	~	

	From	n	То	
		-		
	B02		B13	1
	B03		D12	
1	B04		B08	
l	B05		B07	1
	B09		B12	
l	D02		D13	
	D04		B10	
				-

MAP 3076-7

X.21 I.M. Interface Chart Line 4 MAP 3077-1 5360 Systems Unit PAGE 1 OF 7 ENTRY POINTS FROM | ENTER THIS MAP -------MAP I ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 3010 | A 1 001 001 (Entry Point A) MAP DESCRIPTION: The following charts show the X.21 adapter board and cable wiring. Use these charts for continuity - CHART DESCRIPTION checking and as a free-lance Chart A - Data communications adapter tool in trouble shooting trace card to X.21 adapter card. signals and data flow for the Chart B - X.21 adapter card to the end X.21 adapter 4. of the external cable. CHART C - X.21 DCE cable wrap. START CONDITIONS: Chart D - X.21 cable tower wrap. The system powered is off. LOGIC CARDS TESTED: Chart E - Diagnostic wrap card P/N 4233787 None end 'B'. *** *** CONTINUITY CHECK TABLE - Check for an open or a short circuit as shown in the following charts. Also check for grounded lines. - If an open or short circuit is detected, use the charts to isolate to the failing FRU.

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X.21 I.M. Interface Chart Line 4 5360 Systems Unit

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Chart A Board 1 | A C | X C | Sect | Line name L ARI1R | P D | D | T ΙE l R N2 1 64 --+----+-| -DS terminal | M13 | B02 | 1 | ready --+-----2 -DS data | S10 | B13 | set ready * | | | -DS request | P06 | D02 | 3 l to send -----+---+-----4 | -DS ring | SO7 | D12 | indicate 1 ----------+----+-5 | -DS transmit | P13 | D04 | | data space | _____

5360 Systems Unit

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	+	+	I
6	-DS clear to send	S09 	D13
7	+Rate select	P10	B04
8	Transmit clock	S08 	B07
9	-Test Ctrl	M10	B05
10	-DS receive data space	U10 	B10
11	-DS select standby	M05	B03
12	Receive clock	S05	B08
13	-DS new sync	MO4	B09
14	-DS carrier detect	S13 	B12

* Data Set Ready and Test Indicate are wired together in the internal cable assembly, so there also should be continuity from A- S10 (- DSR) to A- D03 (- DSR) to A- B06 (- TI) to A- P11 (- TI).

X.21 I.M. Interface Chart Line 4 5360 Systems Unit

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 Chart	В	

			1		I	1	I
			Boar 	-d te (ln- ernal Cable 	Ex tern Cal	- nal ple
			v	l v v	i viiv	V	l v
 Sect 	Line name		X C 2 A 1 R D	* C C A O B N L N E E C T 0 R A5	* * * C T C C A O O A B W N B L E N L E R E Green G Green G 	* * T C O O W N E N R reen rian le	 15 P N CONN
	+		+		+++		+
 	A xmit 	 -	G02	B10 	19 +++-	19 	2 +
2	Bxmit		J05	B09	21	21	9
3	Aind		J10	D05	3	3	5
4	Bind		G04	D12	5	5	12
5	A control		G05	B05	2	2	3

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6	B control	J06	B02	4	4	10	
7	A receive	G09	B13	12	12	4	
8	B receive	J13	B12	25	25	11	
9	A sig timing	J04	D07	6	6	6	
10	B sig timing	G13	D11	8	8	13	1
11	A diag clock	G07	D10	20	20	X	 <-
12	B diag clock	G08	D13	14	14	X	<-
13	Signal ground	D08	D08	. 7	7	8	

* I/O board cable socket

** Cable tower connector internal cable side
*** Cable tower connector external cable side Note: A/B diag clock lines are wired to the cable tower but not through the external cable.

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Chart C

X.21 DCE cable wrap

Note: The followi	ng lines are jum	pered together when the
X.21 wrap f	unction is activ	ated at the local DCE.
	15 pin con	nector
DTE	from to	DTE
A transmit	2 4	A receive
B transmit	9 11	B receive
A control	3 5	A indicate
B_control	10 12	B indicate
Note *	ХХ	A sig element timing
[*] Note	ХХ	B sig element timing

Note: This pair of signals is passed directly to the system from the DCE to provide clocking during the wrap function.

Chart D

X.21 cable tower wrap

1	Note: The following	j lines a	re jum	pered together when the			
	X.21 wrap plug is used at the cable tower.						
		25-pin	conne	ctor			
	DTE	from	to	DTE			
1							
1							
	A transmit	19	12	A receive			
	B transmit	21	25	B receive			
	A control	2	3	A indicate			
	B control	4	5	B indicate			
	A diag clock	20	6	A sig element timing			
1	B diag clock	14	8	B sig element timing			
	_						

5360 Systems Unit

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_____Chart E _____

Wrap card p/n 4233787 (raw card p/n 4233786) end 'B'. End 'B' of the wrap card is used at the board socket in place of the X.21 card when a board wrap is performed.

- If the wrap card is suspect, use this chart to check out end 'B'.

	End	'B'		
	From	1	То	-1
		-		
	B02		B13	
	B03		D12	1
	B04		B08	
	B05		B07	
	B09		B12	
	D02		D13	
	D04		B10	
				-

X.21 Online Test

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
3010	А	1	001

EXIT POINTS

EXIT TH	IS MAP	то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
5	011	3008	A
5	011	3009	A

001

(Entry Point A)

- Ensure that the external cable is connected to the external X.21 network adapter.
- Perform CSIPL from disk.
- Select mode 0.
- Enter FF00.
- Press the Load key.
- Wait for SSP sign-on screen.
- Enter SDLCTEST or BSCTEST depending on the online test you want to run.

The local system may be either the primary (requester) or the secondary (responder) but always set up the responder first. The on-line test begins executing as soon as the requester system is set up. See the maintenance manual section 30-410 or 30-415.

- Execute the on-line test.

Does the test run without an error?

Ĭ	N 00 Is Y	2 thi N	is an	X.21 switched network?			
			13 Perfo remot oes t N	rm a manual DCE network loop test to the e DCE. he network loop test run OK?	Note: Notify the remote network test mode.	site before	switching to the
5A	2 B	2 C	2 D	© Copyright IBM Corp. 1983	1	15Feb84 EC 826487	PN 2596061 PEC 826380 MAP 3078-1

MAP DESCRIPTION:

This MAP attempts to establish an on-line test with a remote system.

START CONDITIONS:

A hardware failure is suspected.

FRUs PARTIALLY TESTED:

SLCA - A-A1G2 MLCA Line 1 - A-A3M2 Line 2 - A-A3L2 Line 3 - A-A3M4 Line 4 - A-A3L4

B C D 1 1 1 X.21 Online Test 5360 Systems Unit PAGE 2 OF 5 **004** - Suspect the network ---or---- Suspect either the local or remote DCE. 005 The leased network is OK. - Verify that all diagnostics run without failing on the remote DCE. Do the remote DTE diagnostics run OK? Y N 006 Remote DCE is bad. 007 IF SLCA - Bad card: A-A1G2 MLCA If line 1 - Bad card: A-A3M2 If line 2 - Bad card: A-A3L2 If line 3 - Bad card: A-A3M4 If line $\tilde{4}$ - Bad card: A-A3L4 ---or---- Suspect the local or remote DCE. 800

Is a call progress signal being displayed?

YN

009

- Suspect a problem with the local DCE.

- Verify that the local DCE is powered up and in normal 'Operate' mode.

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010

E 2

- Refer to Chart 1 for a description of the call progress signals.

- Use Chart 2 to determine what action to be taken.

Chart 1 Coding of Call Progress Signals _____ Code | |Group|Code| Description 0 | 00 |Reserved for future use | 01 |Terminal called | 02 |Redirected call | 03 |Connect when free 2 | 20 |No connection | 21 |Number busy | 22 |Selection Signals Procedure error | 23 |Selection signals 1 Itransmission error 14 & 51 41 Access barred | 42 | Changed number | 43 |Not obtainable | 44 |Out of order | 45 |Controlled not ready | 46 |Uncontrolled not ready | 47 |Local DCE power off | 48 |Invalid facility request | 49 |Network fault in local loop | 51 |Call information service | 52 |incompatible user class of service| _____ 6 | 61 |Network congestion 7 | 71 |Longterm network congestion 72 RPOA out of order 8 | 81 |Registration/cancellation confirmed | 82 |Redirection activated | 83 |redirection deactivated

(Step 010 continues)

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(Step 010 continued)

Chart	2

Call Progress Results	Suggested Action
Code Group O 	Permanent type problem. - Notify customer and/or the PTT.
Code Group 2 	 If code 20 or 21, try again but the number of retrys should be con- sistant with your country's regulations. If code 22, verify that the number you entered is correct, then try again. If result is consistant, contact the PTT.
Code Group 4 & 5 	Network facility Problem. - Notify the customer and/or the PTT.
Code Group 6 	- Try again. The number of retrys should be consistant with your country's regulations. - If result is consis- tant. contact the PTT.
Code Group 7	Permanent type network problem.
Code Group 8 	Registration/Cancella- tion/Redirection not

•

A X.21 Online Test 5360 Systems Unit PAGE 5 OF 5 011 A possible program incompatibility problem is

suspected. - Dump and analyze the ERAP data. Error Log MAP

Go To Map 3008, Entry Point A.

If SLCA - Bad card: A-A1G2 MLCA If line 1 - Bad card: A-A3M2 If line 2 - Bad card: A-A3L2 If line 3 - Bad card: A-A3M4 If line 4 - Bad card: A-A3L4 ---or---- Suspect the local or remote DCE.

Intermittent Failure Replacement List Go To Map 3009, Entry Point A.

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ENTRY POINTS

| FROM          | ENTER THIS MAP |                |                |  |  |  |
|---------------|----------------|----------------|----------------|--|--|--|
| MAP<br>NUMBER | ENTRY<br>POINT | PAGE<br>NUMBER | STEP<br>NUMBER |  |  |  |
| 3010          | A              | 1              | 001            |  |  |  |

| Entry | Poi | nt A = Continuity Chart |
|-------|-----|-------------------------|
| Chart | A = | End of cable wrap       |
| Chart | B = | Cable tower wrap        |
| Chart | C = | DCE wrap                |
| Chart | D = | Wrap card p/n 4233787   |

MAP DESCRIPTION: This MAP is a V.35 interface chart. It shows all the interface pins of the logic cards and cables supplying the interface. The chart can be used to trace cable problems and free-lance scoping.

START CONDITIONS: None LOGIC CARDS TESTED: None

- Note the continuity test points as specified at the top of the chart. Continuity can be checked from the output of the V.35 card to the end of the external cable.
- When doing continuity checks, test for open and grounded lines.

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Continuity Check Table

\*\*\*

|                                            |                          |                                                                                                      | l Cor<br>V                                   | ntinuity                             | test po                                                                | oints <br>V                                                                                  |
|--------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------|--------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            | Boa<br>  wir<br>V        | es  <br>V                                                                                            | boa<br>  wir<br>  V                          | ard      <br>es    ca<br>V V         | nt    <br>able   d<br>  V V                                            | ext  <br>cable <br>V                                                                         |
|                                            |                          |                                                                                                      |                                              | *                                    | **                                                                     | ***                                                                                          |
| Line name                                  | AC<br>DA<br>PD<br>T<br>R | V C  <br>3 A  <br>5 R  <br>1 D  <br>1  <br>1  <br>1  <br>1  <br>1  <br>1  <br>1  <br>1  <br>1  <br>1 | V C<br>  3 A  <br>  5 R<br>  D<br> <br> <br> | C S<br>A O<br>B C<br>L K<br>E E<br>T | C T C<br>A O O<br>B W N<br>L E N<br>E R E<br>C<br>T<br>O<br>R<br>Green | E E C  <br>  N X A  <br>  D T B  <br>  E L  <br>  O R E  <br>  O R E  <br>  A  <br>  L  <br> |
| <br> <br>                                  | A-A3<br>  N2<br>         | A-A3  <br>  L4  <br>++                                                                               | A-A3<br>  L4<br>+                            | A-A3<br>A5                           | Trian<br> gle 4<br>+                                                   | <br> <br>+                                                                                   |
| <br>                                       |                          |                                                                                                      |                                              |                                      |                                                                        |                                                                                              |
| Data term ready (DTR)                      | M13                      | D02                                                                                                  | J02                                          | D04                                  | 20                                                                     | H                                                                                            |
| Data set ready (DSR)                       | \$10                     | B13                                                                                                  | J09                                          | D02                                  | 6                                                                      | E                                                                                            |
|                                            |                          |                                                                                                      |                                              | <br>                                 |                                                                        |                                                                                              |
| Request to send (RTS)                      | P06                      | BO2                                                                                                  | G03                                          | D06                                  | 23                                                                     |                                                                                              |
| Clear to send (CTS)                        | S09                      | D13                                                                                                  | G10                                          | B08                                  | 17                                                                     | D                                                                                            |
| Receive line signal<br>  detect (RLSD)<br> | <br>                     | <br>  B12  <br>++                                                                                    | <br>  G12                                    | <br>  D09<br>+                       | <br> <br>  13<br>+                                                     | +                                                                                            |
| <br>                                       | <br>+                    | <br>+4                                                                                               | <br> +                                       | <br>+                                | <br>+                                                                  | <br>+                                                                                        |
| Wrap A                                     | M10                      | B05                                                                                                  | J07                                          | BO4                                  | 11<br>+                                                                | note                                                                                         |
| Xmit clock A                               | S08                      | B07                                                                                                  | J04                                          | D07                                  | 16<br>+                                                                | Y<br>+                                                                                       |

MAP 3080-2

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MAP 3080-2

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| Rcve clock A  | S05 | B08               |                   | J10 | D05        | 22         | V    |
|---------------|-----|-------------------|-------------------|-----|------------|------------|------|
|               |     |                   |                   |     |            |            |      |
| Wrap B        | M10 | B05               |                   | G05 | B05        | 18         | note |
| Xmit clock B  | S08 | B07               |                   | G08 | D13        | 15         | a    |
| Rcve clock B  | S05 | B08               | • •<br>   <br>• • | G04 | D12        | 9          | X    |
|               |     |                   |                   |     |            |            | <br> |
| Xmit data A   | P13 | D04               | ++<br>   <br>+-   | J05 | B09        | 2          | P    |
| Rcve data A   | U10 | B10               |                   | J13 | B12        | 3          | R    |
|               |     | <br> <br>         |                   |     |            |            |      |
| Xmit data B   | P13 | D04               |                   | G02 | B10        | 19         | S    |
| Rcve data B   | U10 | B10               |                   | G09 | B13        | 12         | +    |
|               |     | <b></b><br> <br>• | + -               |     | <br> <br>• | <br> <br>• |      |
| Signal ground | D08 | D08               |                   | D08 | D08        | 7          | B    |

\* I/O board cable socket

\*\* 1/0 connector (cable tower, external cable side, 25-pin connector)

\*\*\* Modem cable connector (34 pin plug)

Note: The wrap A/B signal lines are for diagnostic purposes only and are not wired in the external cable.

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#### Chart A V.35 End of Cable Wrap

| - | Note: The following<br>V.35 wrap plu | line<br>g is | es are jumpe<br>connected t | ered together when the<br>to the end of the |
|---|--------------------------------------|--------------|-----------------------------|---------------------------------------------|
|   | external cabl                        | e.           |                             |                                             |
|   |                                      |              |                             |                                             |
|   | 3                                    | 4 pir        | connector                   |                                             |
|   | F                                    | rom          | То                          |                                             |
|   | Data Terminal Ready                  | н            | Е                           | Data set ready                              |
| ł | Request to send                      | С            | D                           | Clear to send and                           |
| 1 | -                                    |              | F                           | Receive line signal                         |
| l |                                      |              |                             | detect                                      |
| l | Xmit data A                          | Ρ            | R                           | Receive data A                              |
| 1 | Xmit data B                          | S            | Т                           | Receive data B                              |
| l | Xmit clock A                         | Y            | V                           | Receive clock A *                           |
|   | Xmit clock B                         | а            | Х                           | Receive clock B *                           |
|   |                                      |              |                             |                                             |

\* 2 board jumpers needed to supply clocking: A-A3A5B04 to A-A3A5D07, A-A3A5B05 to A-A3A5D13

## Chart B V.35 Cable Tower Wrap

| Note: The following                             | , lines a | re jumpere | d together when the |  |  |  |  |
|-------------------------------------------------|-----------|------------|---------------------|--|--|--|--|
| 25-pin wrap connector is installed at the cable |           |            |                     |  |  |  |  |
| tower.                                          |           |            |                     |  |  |  |  |
|                                                 |           |            |                     |  |  |  |  |
| (                                               | Connector | pin        |                     |  |  |  |  |
| l F                                             | rom       | То         |                     |  |  |  |  |
| Data terminal ready                             | 20        | 6          | Data set ready      |  |  |  |  |
| Request to send                                 | 23        | 17         | Clear to send, and  |  |  |  |  |
|                                                 |           | 13         | Receive line signal |  |  |  |  |
|                                                 |           |            | detect              |  |  |  |  |
| Xmit data A                                     | 2         | 3          | Receive data A      |  |  |  |  |
| Xmit data B                                     | 19        | 12         | Receive data B      |  |  |  |  |
| l Wrap A                                        | 11        | 16         | Xmit clock A, and   |  |  |  |  |
|                                                 |           | 22         | Receive clock A     |  |  |  |  |
| Wrap B                                          | 18        | 15         | Xmit clock B, and   |  |  |  |  |
|                                                 |           | 9          | Receive clock B     |  |  |  |  |
|                                                 |           |            |                     |  |  |  |  |

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# Chart C V.35 DCE Wrap

| Note: The following DCE wrap for at the loca                                                                                                                                                                                                                                                                                                                       | ing lines<br>unctions<br>al DCE.               | are jum<br>(test 1                                          | pered together w<br>and test 2) are                                                                                                   | hen the<br>activat                                                                    | ed                                                                                 |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|--|
| Xmit data A<br>Xmit data B<br>(note 2)<br>Request to send<br>(note 3)                                                                                                                                                                                                                                                                                              | 34-pin<br>From<br>S<br>-<br>-<br>-<br>C<br>-   | connecto<br>To<br>R<br>T<br>Y<br>a<br>V<br>X<br>D<br>E<br>F | r<br>Receive data<br>Receive data<br>Xmit clock A<br>Xmit clock B<br>Receive clock<br>Receive clock<br>Clear to send<br>Data set read | A (note<br>B (note<br>A<br>B<br>y                                                     | <br> <br> <br> <br> <br> <br> <br> <br>                                            |  |  |
| <ul> <li>Note 1: Test 1 wraps the digital data circuitry only. Test 2 wraps through the analog (mod/demod) circuitry of the DCE.</li> <li>Note 2: The DCE provides the clocking for the wrap function.</li> <li>Note 3: Test 1: DSR and RLSD are set to the 'off' state by the DCE.</li> <li>Test 2: DSR and RLSD are set to the 'on' state by the DCE.</li> </ul> |                                                |                                                             |                                                                                                                                       |                                                                                       |                                                                                    |  |  |
| Wrap card p/n 4233787<br>is used at the board so<br>when a board wrap is po<br>- If the wrap card is<br>out end 'B'.                                                                                                                                                                                                                                               | (raw card<br>ocket in<br>erformed.<br>suspect, | d p/n 423<br>place of<br>use this                           | 3786) end 'B'<br>the V.35 card<br>chart to check                                                                                      | -Chart<br>End<br> <br>  B02<br>  B03<br>  B04<br>  B05<br>  B09<br>  D02<br>  D04<br> | D-<br>B'<br>To  <br> <br>B13  <br>D12  <br>B08  <br>B07  <br>B12  <br>D13  <br>B10 |  |  |