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Volume: 04
Title: MI MAPs 8800-8900
Machine Type: 4321/4331
Power Design Level: 4/5
B/M Number 4331-1: 8488467
B/M Number 4331-2: 5683210
B/M Number 4331-11: 4687136
B/M Number 4321: 4687149

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13SEP82 PN 4687022
EC 366582 PEC 366493

CA CHANNEL CHECK LOG MAP

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
RFCA	A	1	001
RFCA	P	2	003
0C00	AA	1	002
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	003	0001	A

001
(Entry Point A)

Make sure that you have followed the START MAP 0000 precisely. Another reference code may be more important than the one you have got first.

Are you led to this MAP by the REFCODE ANALYSIS?
Y N

002
(Entry Point AA)

Select the IBM MAINTENANCE and SERVICE SELECTION PROGRAM.

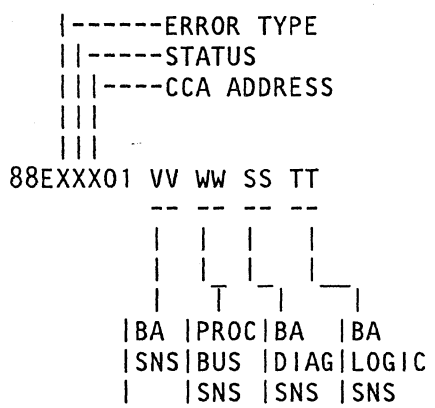
Invoke the REFCODE ANALYSIS.

Key in the reference code from the CA Channel Check LOG.
Go to Page 2, Step 003, Entry Point P.

003
(Entry Point P)

PREREQUISITES: Write down the ref.code and extension

Reference code layout:



If more information is needed about the reference code extension, see Vol. 14, STM FEAT section: CA, (CA Channel Check Log Layout).

Do now the repair as told by the REFCODE ANALYSIS.
After the repair
Go To Map 0001, Entry Point A.

BOARD OR CABLE ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001
88AA	A	1	001
88AC	A	1	001
88AE	A	1	001
88A0	A	1	001
88A2	A	1	001
88A4	A	1	001
88A6	A	1	001
88A8	A	1	001
88B0	A	1	001
88B2	A	1	001
8884	A	1	001
889C	A	1	001
889E	A	1	001
8894	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
7	027	0001	A
8	034	0001	A
7	026	0001	P
8	037	0001	P

001

(Entry Point A)

1. For type of interface of affected line see Configuration Charts (in STM CA Volume 14) starting with page 5010.

2. Use Table A to find the appropriate Signal Flow page in STM CA.

Table A

INTERFACE TYPE	SUPPL. CA page
EIA CCA W/CLK	2150
EIA CCA W/O CLK	2160

(Step 001 continues)

(Step 001 continued)

INT MOD WT SNAA	2200
INT MOD WT LL	2220
INT MOD US SNMA	2240
INT MOD US SNAA	2240
INT MOD US LLSM	2260
INT MOD US LL	2260
INT MOD US LLSB	2280
X.21 XLCA	2640
V35	2320
HSDI	8200
DDS	2420
LOCAL ATT	2520
ACA	2610

Suspected FRUs:
Board 01A-C2 or 01A-B2 (Note1)
Internal cable
External cable
IF Card 01A-C2.. or 01A-B2..(Note1)
1.Power off.
2.Remove the adapter card from the failing line.

Note 1:
For physical locations see the referenced page given in Table A.

Wrap plug?

Y N

3 3
A B

A B
2 2

REF.C.88BBBB81

BOARD OR CABLE

PAGE 3 OF 8

002
Go to Page 4, Step 012, Entry Point CX.

003
Connect plug.

Cable wrap connector present?
Y N

004
Go to Page 4, Step 012, Entry Point CX.

005
(Entry Point BX)

Use an OHM meter and measure all the wrapped signal lines from test points C-OUT TO C-IN.
There should be connection between C-OUT and C-IN.

Line(s) ok?
Y N

006
Measure the failing signal line(s) from test point(s) D-IN TO C-IN.
There should be connection between D-IN and C-IN.

Line(s) ok?
Y N

C D E

C D E 0930 MAP 8880-3

007
Measure the failing signal line(s) from test point(s) D-IN to D-OUT.
There should be connection between D-IN and D-OUT.

Line(s) ok?
Y N

008

Go to Page 5, Step 017, Entry Point DD.

009
Failing FRU:
Board (For physical location see Supplement CA page indicated in Table A, step 001 of this MAP.)

Go to Page 8, Step 033, Entry Point CC.

010
Failing FRU:
Board (For physical location see Supplement CA page indicated in Table A, step 001 of this MAP.)

Go to Page 8, Step 033, Entry Point CC.

011

Go to Page 4, Step 012, Entry Point CX.

012
(Entry Point CX)

Disconnect the external cable from external equipment (CBS or CDT couplers, phone plug etc.)

Use an OHM meter and measure all signal lines from test point(s) 'C' (I/F adapter card tab pins) to the external cable connector.

There should be connection between test point(s) 'C' and cable connector.

All signal lines ok?
Y N

013
Measure failing signal line(s) from test point(s) 'D' (board connector pins) to the external cable connector (at modem end of the cable).

There should be connection between test point(s) 'D' and cable connector.

All signal lines ok?
Y N

014

Go to Page 5, Step 017, Entry Point DD.

015
Failing FRU:
Board (for pysical location see Supplement CA page indicated in Table A, step 001 of this MAP.)

Go to Page 8, Step 033, Entry Point CC.

016

Go to Page 6, Step 020, Entry Point BB.

017
(Entry Point DD)

Disconnect the external cable from the tailgate 01E.

Measure the failing signal line(s) from test point(s) 'D' to tailgate 01E.

There should be connection between test point(s) 'D' and tailgate 01E.

Line(s) ok?
Y N

018
Failing FRU:
Internal cable

Go to Page 8, Step 033, Entry Point CC.

019
Failing FRU:

o Line Plate
(if WT Public Switched Network Feature is installed.
o External cable

Note: Before removing Line Plate and external cable perform Line Plate adjustment. See Vol. 14, STM FEAT, section: CA (Integrated Modem Adapter Interface WT SNAA, Jumper Setting of PSN Feature).

Go to Page 8, Step 033, Entry Point CC.

020
(Entry Point BB)

Disconnect the cable wrap plug (if present).

1. There should be no connection between C-OUT and C-IN.
2. Also measure to see if the lines are connected to ground. Measure each C-OUT and C-IN pin to ground (Note 1).
3. Measure also if you have any connection between a C-OUT to another C-OUT or C-IN.

There should be no connection between the lines in any of these three steps.

Note 1:
For local attachment interface, the signals
Transmit Data RTN
Receive Data RTN
Transmit Clock RTN
Test Clock RTN
should all be connected to ground.
For HSD Interface, the signals 'GND' are connected to ground on the Interface Card.

Any connection?
Y N

021
No board or cable errors found

Connect external equipment.

(Entry Point AX)

Run ILT 21 or 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

022
Same reference code as before?
Y N

023
Follow new reference code.

7 7 7
F G H

024
Was the IF card replaced earlier during this trouble shooting?

Y N

025
Replace IF card of failing line.
Go to Page 6, Step 021, Entry Point AX.

026
Go To Map 0001, Entry Point P.

027
Go To Map 0001, Entry Point A.

028
Disconnect external cable from the tailgate 01E.

Repeat the measurement for the failing signal(s) at test point 'C'.

Signal line(s) ok?
Y N

029
Disconnect the internal cable from the board, repeat the measurement at test point(s) 'C.'

Signal line(s) ok?
Y N

030
Failing FRU:
Board (For physical location see Supplement CA page indicated in Table A, step 001 of this MAP.)

Go to Page 8, Step 033, Entry Point CC.

J K

J K 0930 MAP 8880-7

031
Failing FRU:
Internal cable

Go to Page 8, Step 033, Entry Point CC.

032
Failing FRU:
External cable

Go to Page 8, Step 033, Entry Point CC.

033
(Entry Point CC)

Replace or repair the failing FRU.

Run ILT 21 or 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Any error?
Y N

034
Go To Map 0001, Entry Point A.

035
Same reference code as before?
Y N

036
Follow new reference code.

037
Go To Map 0001, Entry Point P.

ACA I/F CARD WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
5	014	0001	A
5	018	0001	P
5	021	0001	P

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REFERENCE CODE	SUPPL.CA PAGE
88B01081	2600
88B01481	2600
88B01881	2600
88B01C81	2600

Possible failing FRUs:

- ACU card 1, 2; 01A-B2S2, S4
- CA card 1; 01A-B2T2
- Board 01A-B2

The 'additional information' (reference MAP 8886) must be used to determine the failing signal.

(Step 001 continues)

(Step 001 continued)

```
On the screen ----->88B0XX81YYYY
                                ----
Additional information----->YYYY
Digit ----------------------1234
                             ||||
      |--------------------->1|||
      | |--------------------2||
      | | |------------------>3|
      | | |     |------------->4
```

Digit 1, 2, 3 and 4 hold coded information about the signals being wrapped.

Digit 1 + 2 = expected signals
Digit 3 + 4 = received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 + 2 - one byte in binary notation - bit 0 - 7

Write down the value of digit 3 + 4 - one byte in binary notation - bit 0 - 7

Compare the two binary values bit by bit.

DIGIT	HEX VALUE ONE BYTE	BINARY VALUE BITS 0 1 2 3 4 5 6 7
1+2	_ _ _	_ _ _ _ _ _ _ _
3+4	_ _ _	_ _ _ _ _ _ _ _
UNEQUAL BITS->		_ _ _ _ _ _ _ _

An unequal bit position indicates a failing signal.

(Step 001 continues)

(Step 001 continued)
Note:
Digit 1 + 2 = expected signals
Digit 3 + 4 = received signals
Bit on = active signal
Bit off = inactive signal

Bit 0 (not used)

Bit 1
------> ACU Select FL

Bit 2
------> Card Wrap

Bit 3
------> Power Indicator

Bit 4
------> Present Next Digit

Bit 5
------> Data Line Occupied

Bit 6
------> Abandon Call And Retry

Bit 7
------> Distant Station Connected

ACU Select FL. (BIT 1) is an internal signal on the CA card 1, 01A-B2T2.

Is bit position 1 unequal ?

Y N

4
A B

B 0940 MAP 8882-3

002
Start ILT 21, mode LA (scope loop).
For ILT run procedure
see Vol.14, STM FEAT, section: CA
(CA Inline Test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure , use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal probing'.

Note:
If more than one signal is failing , select one as the 'failing signal' and go through the MAP checking only this signal.

(Entry Point SS)

Probe the failing signal at test point A-IN.

Signal ok?
Y N

003
Probe the failing signal at test point B-OUT.

Signal ok?
Y N

4 4 4
C D E

004
Probe the failing signal at test point B-IN.

Signal ok?
Y N

005
Probe the failing signal at test point A-OUT.

Signal ok?
Y N

006
Failing FRU:
CA card 1; 01A-B2T2

Go to Page 5, Step 012, Entry Point CC.

007
Failing FRU:
Board 01A-B2

Go to Page 5, Step 012, Entry Point CC.

008
Failing FRU:
ACU card 1, 2; 01A-B2S2, S4
Go to Page 5, Step 012, Entry Point CC.

009
Failing FRU:
Board 01A-B2

Go to Page 5, Step 012, Entry Point CC.

010
Failing FRU:
CA card 1; 01A-B2T2

Go to Page 5, Step 012, Entry Point CC.

011
Failing FRU:
CA card 1: 01A-B2T2

Go to Page 5, Step 012, Entry Point CC.

012

(Entry Point CC)

Was the 'failing FRU' replaced earlier during this trouble shooting?
Y N

013
Replace or repair the failing FRU.
Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see
Vol.14, STM FEAT,
section: CA
(CA Inline Test)

Any error?
Y N

014
Go To Map 0001, Entry Point A.

015
Same reference code as before?
Y N

016
Follow new reference code.

017
(Entry Point TT)

Is more than one signal failing?
Y N

018
Go To Map 0001, Entry Point P.

F G

F G 0940 MAP 8882-5

019
Are all the failing signals checked?
Y N

020
Select the next failing signal as the 'failing signal'.

Go to Page 3, Step 002, Entry Point SS.

021
Go To Map 0001, Entry Point P.

022

Go to Step 017, Entry Point TT.

ACA PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
6	028	0001	A
6	032	0001	P
6	035	0001	P
4	015	8880	A

001
(Entry Point A)

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REFERENCE **CODE**	SUPPL.CA PAGE
88C01081	2610
88C01481	2610
88C01881	2610
88C01C81	2610

Possible failing FRUs:

- ACU card 1, 2; 01A-B2S2, S4
- CA card 1; 01A-B2T2
- Board 01A-B2
- Cable

The 'additional information' (reference MAP 8886) must be used to determine the failing signal.

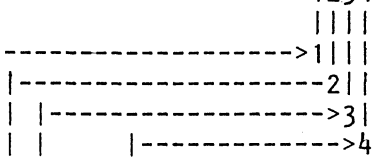
(Step 001 continues)

(Step 001 continued)

On the screen ----->88C0XX81YYYY

Additional information----->YYYY

Digit ----------1234



Digit 1, 2, 3 and 4 hold coded information about the signals being wrapped.

Digit 1 + 2 = expected signals
Digit 3 + 4 = received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 + 2 - one byte in binary notation - bit 0 - 7

Write down the value of digit 3 + 4 - one byte in binary notation - bit 0 - 7

Compare the two binary values bit by bit.

DIGIT	HEX VALUE ONEBYTE	BINARY VALUE BITS 0 1 2 3 4 5 6 7
1+2	1 0	0 0 0 1 0 0 0 0
3+4	1 4	0 0 0 1 0 1 0 0
UNEQUAL BITS->		_ _ _ _ _ 1 _ _

An unequal bit position indicates a failing signal.
(Step 001 continues)

(Step 001 continued)

Note:
Digit 1 + 2 = expected signals
Digit 3 + 4 = received signals
Bit on = active signal
Bit off = inactive signal

Bit 0 (not used)

Bit 1
------> ACU Select FL

Bit 2
------> Card Wrap

Bit 3
------> Power Indicator

Bit 4
------> Present Next Digit

Bit 5
------> Data Line Occupied

Bit 6
------> Abandon Call And Retry

BIT 7
------> Distant Station Connected

ACU Select FL. (bit 1) is an internal signal on the CA card 1; 01A-B2T2.

Is bit position 1 unequal?

Y N

5
A B

B 0950 MAP 8884-3

002

Start ILT 22, mode LA (scope loop).
For ILT run procedure
see Vol. 14, STM FEAT,
section: CA (CA Inline Test).

Prepare the CE probe as follow:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in Supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Note:
If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

Is bit 5 unequal?

Y N

003
(Entry Point BB)

Probe the failing signal at test point A-IN.

Signal ok?

Y N

5 5 4
C D E

004
Probe the failing signal at test point B-OUT.

Signal ok?
Y N

005
Probe the failing signal at test point C-IN.

Signal ok?
Y N

006
Probe the failing signal at test point D-OUT.

Signal ok?
Y N

007
Probe the failing signal at test point D-IN.

Signal ok?
Y N

008
Probe the failing signal at test point C-OUT.

Signal ok?
Y N

5 5 5
F G H J K L

J K L 0950 MAP 8884-4

009
Probe the failing signal at test point B-IN.

Signal ok?
Y N

010
Probe the failing signal at test point A-OUT.

Signal ok?
Y N

011
Failing FRU:
CA card 1; 01A-B2T2

Go to Page 6, Step 026, Entry Point CC.

012
Failing FRU:
Board 01A-B2

Go to Page 6, Step 026, Entry Point CC.

013
Failing FRU:
ACU card 1, 2; 01A-B2S2, S4

Go to Page 6, Step 026, Entry Point CC.

014
Failing FRU:
Board 01A-B2

Go to Page 6, Step 026, Entry Point CC.

015
Failing FRU:
Board 01A-B2, cable or tailgate 01E

Go To Map 8880, Entry Point A.

016
Failing FRU:
Board 01A-B2

Go to Page 6, Step 026, Entry Point CC.

017
Failing FRU:
ACU card 1, 2; 01A-B2S2, S4

Go to Page 6, Step 026, Entry Point CC.

018
Failing FRU:
Board 01A-B2

Go to Page 6, Step 026, Entry Point CC.

019
Failing FRU:
CA card 1; 01A-B2T2

Go to Page 6, Step 026, Entry Point CC.

020
Probe Test Control at test point B-IN.

Down level?
Y N

021

Go to Page 3, Step 003, Entry Point BB.

022
Probe Test Control at test point A-OUT.

Signal ok?
Y N

M N

A M N 0950 MAP 8884-5
3

023
Failing FRU:
CA card 1; 01A-B2T2

Go to Page 6, Step 026, Entry Point CC.

024
Failing FRU:
Board 01A-B2

Go to Page 6, Step 026, Entry Point CC.

025
Failing FRU:
CA card 1; 01A-B2T2

Go to Page 6, Step 026, Entry Point CC.

026

(Entry Point CC)

Was the 'failing FRU' replaced earlier during this trouble shooting?
Y N

027
Replace or repair the failing FRU.
Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure
see Vol. 14, STM FEAT,
section: CA
(CA Inline Test).

Any error?
Y N

028
Go To Map 0001, Entry Point A.

029
Same reference code as before?
Y N

030
Follow new reference code.

031
(Entry Point TT)

Is more than one signal failing?
Y N

032
Go To Map 0001, Entry Point P.

033
Are all the failing signals checked?
Y N

034
Select the next failing signal as the 'failing signal'.

Go to Page 3, Step 003, Entry Point BB.

035
Go To Map 0001, Entry Point P.

036

Go to Step 031, Entry Point TT.

LINK TO CA MAPS

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	001	0001	0

001
(Entry Point A)

Try again to look up the error reference code in the reference code directory 8XXX.

If the reference code doesn't match with anyone listed there invoke your support structure.

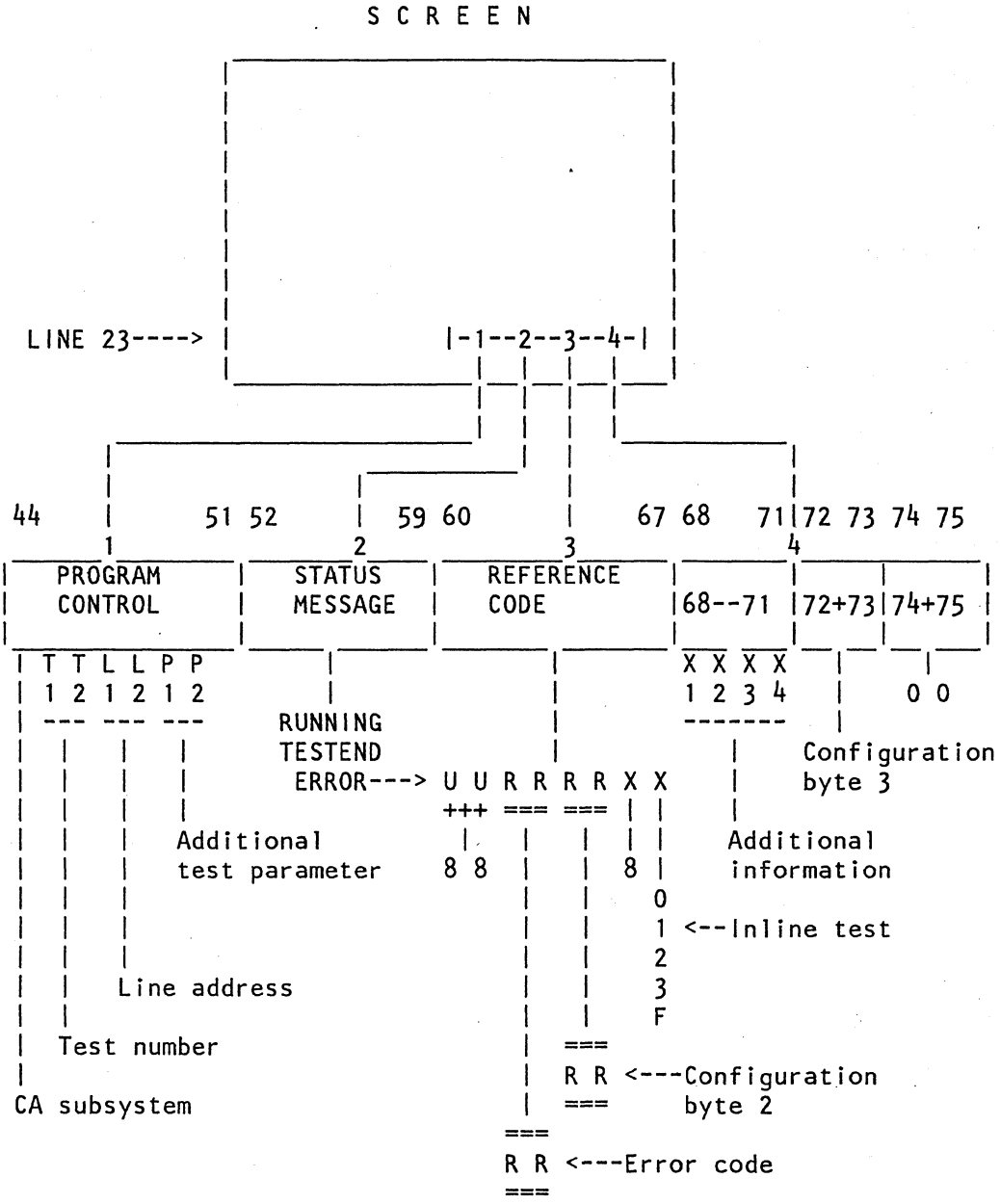
Write down all necessary information, see also the following reference code breakdown.

(Step 001 continues)

LINK TO CA MAPS

PAGE 2 OF 3

(Step 001 continued)



(Step 001 continues)

(Step 001 continued)

Invoke your support structure.

Go To Map 0001, Entry Point 0.

CA-BA TEST MAP

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
RFCA	A	1	001
RFCA	V	3	004
0C00	A	1	001
8XXX	A	1	001
8400	A	1	001
88AA	A	1	001
88AC	A	1	001
88AE	A	1	001
88A0	A	1	001
88A2	A	1	001
88A4	A	1	001
88A6	A	1	001
88A8	A	1	001
88B0	A	1	001
88B6	A	1	001
8884	A	1	001
889A	A	1	001
889C	A	1	001
889E	A	1	001
8894	A	1	001
8896	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	005	0001	A
5	014	0001	A
4	011	0001	0
5	013	0001	0

001
(Entry Point A)

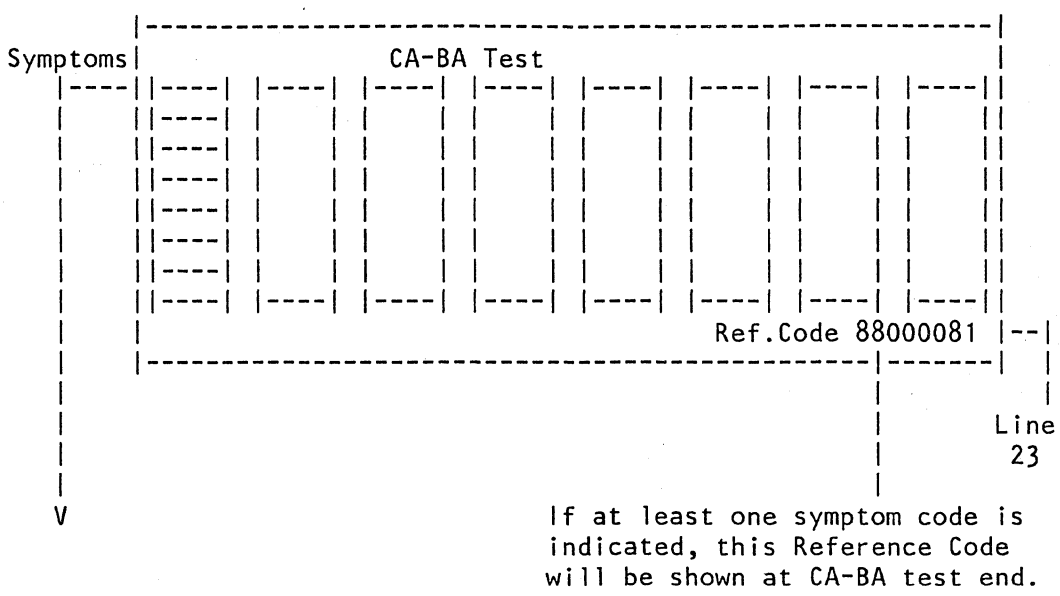
Are you led to this MAP by the REFCODE ANALYSIS?

Y N

2 2
A B

002

CA-BA Test Display (Example)



Select the IBM MAINTENANCE and SERVICE SELECTION PROGRAM.

Invoke the REFCODE ANALYSIS.

Key in the reference code from the CA-BA test and the first displayed symptom code.
Go to Step 003, Entry Point P.

003
(Entry Point P)

Do now the repair as told by the REFCODE ANALYSIS program.

After the repair, do the verification.
Go to Page 3, Step 004, Entry Point V.

004
(Entry Point V)

Verification:

After the repair run the test chaining.

Any error?
Y N

005
Go To Map 0001, Entry Point A.

006
Same symptoms as originally indicated?
Y N

007
The new card may also be defective.
Correct it, then
Go to Step 004, Entry Point V.

008
Are all suspected FRUs replaced as shown by the REFCODE ANALYSIS?

(If, after a card exchange, the test shows the same error symptoms, re install the old card before exchanging the next one.)
Y N

009
Replace the next FRU, then
Go to Step 004, Entry Point V.

010

It is also possible that one or more CCAs with higher line number(s) is/are faulty.

Check if:

- o more than one symptom code is displayed and
- o more than one communication line is installed and
- o byte 2 of the symptom code (line address) contains a value from 30 to 37

Symptom code layout

Byte number	1	2	3	4
Symptom code	XX	30 to 37	XX	XX

(30 to 37 = Line address)

Do the three conditions listed above exist?

Y N

011
Go To Map 0001, Entry Point O.

012

The error might be caused by any other CCA card than that indicated by the first symptom code.

Check especially the CCAs with higher line numbers.

CCA Card 1 ; 01A-C2W2
CCA Card 2 ; 01A-C2U2
CAA Card 3 ; 01A-C2T2
CAA Card 4 ; 01A-C2R2
CAA Card 5 ; 01A-C2Q2
CCA Card 6 ; 01A-C2N2
CCA Card 7 ; 01A-C2M2
CCA Card 8 ; 01A-C2K2

(Step 012 continues)

(Step 012 continued)
Error found?
Y N

013
Go To Map 0001, Entry Point O.

014
Go To Map 0001, Entry Point A.

PRE-BA OR BA ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
RFCA	B	1	001
RFCA	V	1	001
8XXX	A	1	001

001
(Entry Point A)

(Entry Point B)

Reference code 8820XX81 indicates an error in the CA-BA card or in a component logically in front of the CA-BA card.

Replace the suspected FRUs according to the priority that is shown by the REFCODE ANALYSIS.

(Entry Point V)

VERIFICATION:

* Run the offline CA-BA diagnostics.
  Refer to Vol. 14, STM FEAT, section: CA (CA-BA Test) and follow MAP pointed to by this test.

* Also run ILT 21 OR 22, mode S (single run) to verify correct operation.
  For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

  If The tests show still an error, follow the test descriptions for repair, then run the tests again.
* After the repair go to MAP 0001, ENTRY POINT A.

BA-CCA ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
2	007	0001	A

001
(Entry Point A)

(Entry Point B)

Possible failing FRU:

- CCA card of tested line
- CA card 1; 01A-B2T2
- CA bus tag;
  from 01A-B2X4 to 01A-C2ZC
- CA bus data;
  from 01A-B2X5 to 01A-C2ZD
- CCA card of any other line
- Board 01A-B2 or 01A-C2

Visually check that the suspected cards are properly seated.

For physical locations refer to Vol. 14, STM FEAT,
section: CA (Physical Locations).

Run CA-BA test.

For run procedure refer to Vol. 14, STM FEAT,
section: CA
(CA-BA Test).

Any error?
Y N

002
Follow MAPs pointed to by this test.
After repair action, run ILT 21 or 22 to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT,
section: CA (CA Inline Test).

003
Replace the CCA card for line tested.

(Entry Point V)

Run ILT 21 or 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

005
Same reference code as before?
Y N

006
Follow MAPs pointed to by new reference code.

007
Suspected now:
- CA card 1; 01A-B2T2
- CA bus tag;
  from 01A-B2X4 to 01A-C2ZC
- CA bus data;
  from 01A-B2X5 to 01A-C2ZD
- CCA card of any other line
- Board 01A-B2 or 01A-C2

After the repair,
Go To Map 0001, Entry Point A.

CCA BASIC ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	003	0001	A
2	007	0001	A
2	012	0001	A
2	010	0001	0

001
(Entry Point A)

Reference code 8850XX81 indicates that a CCA basic test has failed.

Possible failing FRU is CCA card.

Also, the line procedure board wiring may be wrong.

Visually check the board wiring for the line procedure.
Refer to Vol. 14, STM FEAT,
section: CA (Board 01A-C2 wiring) and to the CA Configuration Chart for the installation.

Any error?

Y N

2 2
A B

B 1

REF.C.8850XX81

CCA BASIC ERROR

PAGE 2 OF 2

002
(Entry Point B)

Replace the CCA card (of failing line); 01A-C2..

Run ILT 21, mode S (single run) to verify correct operation.

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

003
Go To Map 0001, Entry Point A.

004
Same reference code as before?
Y N

005
Follow new reference code.

006
Suspect also:
Cable 01A-B2X4 to 01A-C2ZC
Cable 01A-B2X5 to 01A-C2ZD

Run ILT 21, mode S again.

Any error?
Y N

007
Go To Map 0001, Entry Point A.

008
Same reference code as before?
Y N

009
Follow the new reference code.

C

A C 1

1000 MAP 888E-2

010
Go To Map 0001, Entry Point O.

011
Correct the board wiring for line procedure.
Run ILT 21, mode S (single run) to verify correct operation.

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

012
Go To Map 0001, Entry Point A.

013
Same reference code as before?
Y N

014
Follow new reference code.

015
Go to Step 002, Entry Point B.

CCA CARD WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	003	0001	A
2	010	0001	A
2	006	0001	P

001
(Entry Point A)

Reference code 886XXX81 indicates that a CCA wrap test has failed.

Possible failing FRU: CCA card (of failing line); 01A-C2..

Also the board wiring for the transmission rate may be wrong.

CCA clocking ?
Y N

002
(Entry Point BB)

Replace CCA card (of failing line); 01A-C2..

For physical locations refer to Vol. 14, STM FEAT, section: CA (Physical Locations).

Run ILT 21 or 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

2 2 2
A B C

003
Go To Map 0001, Entry Point A.

004
Same reference code as before?
Y N

005
Follow new reference code.

006
Go To Map 0001, Entry Point P.

007
Check the board wiring for the transmission mode and transmission rate.

Refer to Vol. 14, STM FEAT, section: CA (Board 01A-C2 wiring), and (CA configuration Chart) for the installation.

Any error ?
Y N

008

Go to Page 1, Step 002, Entry Point BB.

009
Correct the board wiring for the transmission rate.

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vo. 14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

010
Go To Map 0001, Entry Point A.

011
Same reference code as before?
Y N

012
Follow new reference code.

013

Go to Page 1, Step 002, Entry Point BB.

SELF TEST PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
6	027	0001	A
7	033	0001	P

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA
88A11081	2180
88A11481	2180
88A11881	2170
88A11C81	2170

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Board 01A-C2
- Cables
- Self test wrap plug

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:
For physical locations see the referenced page given in Table A.

(Step 001 continued)
-IF-card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

The 'additional information' (ref. MAP 8886) must now be used to determine the failing signal.

```
On the screen ----->88A1XX81YYYY
                                ----
Additional information----->YYYY
Digit ----------------------1234
                             1 3
      |-------------------->| |
      |                       |
      |           |---------->|
      |           |
```

Digit 1 and digit 3 hold coded information about the signals being wrapped.

```
Digit 1 = expected signals
Digit 3 = received signals
```

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 in binary notation.

Write down the value of digit 3 in binary notation.

Compare the two binary values bit by bit.

DIGIT	HEX VALUE	BINARY VALUE BIT 0 1 2 3
1	_	_ _ _ _
3	_	_ _ _ _
UNEQUAL BITS ------->		_ _ _ _

(Step 006 continues)

(Step 006 continued)

An unequal bit position indicates a failing signal.

Note:

Digit 1 = expected signals
Digit 3 = received signals
Bit on = active signal
Bit off = inactive signal

Bit 0
------> Data Set Ready

Bit 1
------> Clear To Send

Bit 2
------> Rcv. Line Signal Detect

Bit 3
------> Ring Indicator

Start ILT 24, mode LI (scope loop),
for ILT run procedure see Vol.14, STM FEAT,
section: CA (CA Inline Test).

Prepare the CE-probe as follows:

Technology : multi
Latch: none
Gate REF: GND

Connect the power leads from the CE-probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.
Note:
(Step 006 continues)

(Step 006 continued)
If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

(Entry Point SS)

Probe the failing signal at test point A-IN.

Signal ok?
Y N

007
Probe the failing signal at test point B-OUT.

Signal ok?
Y N

008
Probe the failing signal at test point C-IN.

Signal ok?
Y N

009
Probe the failing signal at test point D-OUT.

Signal ok?
Y N

010
Probe the failing signal at test point D-IN.

Signal ok?
Y N

6 6 6 6 6
A B C D E F

F 1020 MAP 8892-5

011
Probe the failing signal at test point C-OUT.

Signal ok?
Y N

012
Probe the failing signal at test point B-IN.

Signal ok?
Y N

013
Probe the failing signal at test point A-OUT.

Signal ok?
Y N

014
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 025, Entry Point CC.

015
Failing FRU:
Board 01A-C2

Go to Page 6, Step 025, Entry Point CC.

016
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 025, Entry Point CC.

017
Failing FRU:
Board01A-B2

Go to Page 6, Step 025, Entry Point CC.

018
Disconnect the modem and the self test wrap plug. Connect the cable wrap plug.
Run ILT 22, mode S (single run) to verify correct operation. For run procedure refer to Vol.14, STM FEAT section: CA (CA Inline Test).

Test result satisfactory?
Y N

019
Follow new reference code.

020
Failing FRU:
Self test wrap plug.

Go to Step 025, Entry Point CC.

021
Failing FRU:
Board 01A-C2

Go to Step 025, Entry Point CC.

022
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Step 025, Entry Point CC.

023
Failing FRU:
Board 01A-C2

Go to Step 025, Entry Point CC.

024
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Step 025, Entry Point CC.

025

(Entry Point CC)

Was the 'failing FRU' replaced earlier during this trouble shooting?
Y N

026
Replace or repair the failing FRU

(Entry Point XX)

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

027
Go To Map 0001, Entry Point A.

028
Same reference code as before?
Y N

029
Follow new reference code.

030
(Entry Point TT)

Is more than one signal failing?
Y N

031
(Entry Point ZZ)

Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

032
Replace next FRU.
Go to Page 6, Step 026, Entry Point XX.

033
Go To Map 0001, Entry Point P.

034
Are all the failing signals checked?
Y N

035
Select the next failing signal as the 'failing signal'.

Go to Page 5, Step 006, Entry Point SS.

036
Go to Step 031, Entry Point ZZ.

037

Go to Page 6, Step 030, Entry Point TT.

INTERFACE CARD WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	004	0001	A
6	024	0001	A
8	046	0001	P
9	053	0001	P
8	047	8880	A
9	054	8880	A
6	028	8880	A

001

(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL CA	REF.CODE	SUPPL CA
88711081	2120	88719881	2240
88711881	2110	8871A881	2260
88712081	2310	8871B881	2220
88713081	2630	8871C881	2280
88715081	8200		
88718081	2410	8871D881	2240
88719081	2510	8871E881	2200

(Step 001 continues)

(Step 001 continued)

Possible Failing FRUs (Note 1):

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Board 01A-C2

If X.21 XLCA adapter is installed:
-Cables and connectors from
board 01A-C2 to DCE
(Data Communication Equipment)

-DCE

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Step 006, Entry Point BB.

006

(Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used to determine the failing signal.

```
On the screen ----->8871XX81YYYY
                                ----
Additional information----->YYYY
Digit ----------------------1234
                             1 3
      |--------------------->| |
      |                       |
      |           |---------->|
      |           |
```

Digit 1 and digit 3 hold coded information about the signals being wrapped.

Digit 1 = expected signals
Digit 3 = received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 in binary notation.

Write down the value of digit 3 in binary notation.

Compare the two binary values bit by bit.

DIGIT	HEX VALUE	BINARY VALUE BIT 0 1 2 3
1	_	_ _ _ _
3	_	_ _ _ _
UNEQUAL BITS ------->		_ _ _ _

(Step 006 continues)

(Step 006 continued)
An unequal bit position indicates a failing signal.

Note:
Digit 1 = expected signals
Digit 3 = received signals
Bit on = active signal
Bit off = inactive signal

Bit 0
------> Data Set Ready

Bit 1
------> Clear To Send

Bit 2
------> Rcv. Line Signal Detect

Bit 3
------> Ring Indicator

Start ILT 21, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'Signal Checking'.

Note:
If more than one signal is failing, select one as
(Step 006 continues)

(Step 006 continued)
the 'failing signal' and go through the MAP, checking only this signal.

(Entry Point SS)

Probe the failing signal at test point A-IN.

Signal ok?
Y N

007
Probe the failing signal at test point B-OUT.

Signal ok?
Y N

008
Probe the signal 'Test Control' at B-IN.

Signal ok?
Y N

009
Probe 'Test Control' at A-OUT.

Signal ok?
Y N

010
Failing FRU:
CCA card (of failing line) 01A-C2..
Go to Page 7, Step 037, Entry Point CC.

011
Failing FRU:
Board 01A-C2

Go to Page 7, Step 037, Entry Point CC.

7 7
B C D

D 1030 MAP 8894-5

012
Integrated modem with 'Auto Answer'?
Y N

013
Is the failing signal being wrapped on the IF card (of the failing line) 01A-C2..?
Y N

014
(Entry Point WW)

Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 037, Entry Point CC.

015
Probe the failing signal at test point B-IN

Signal ok?
Y N

016
Probe the failing signal at test point A-OUT

Signal ok?
Y N

017
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 037, Entry Point CC.

018
Failing FRU:
Board 01A-C2

Go to Page 7, Step 037, Entry Point CC.

6 6
E F

019
Config byte 2 = X'30' (X.21 XLCA adapter)?
Y N

020
Go to Page 5, Step 014, Entry Point WW.

021
Probe 'Transmit Clock' and 'Receive Clock' at test point B Out

Is any of the two signals pulsing (Both lights on, Up and Down)?
Y N

022
Replace IF card.

Run ILT 21 mode S.

Any error?
Y N

023
Switch DCE to 'test 1' and run ILT 22 mode S.

Any error?
Y N

024
Switch DCE to normal function or reconnect DCE, if disconnected.
Go To Map 0001, Entry Point A.

025
Follow new reference code.

026
Same reference code as before?
Y N

027
Follow new reference code.

028
Probably 'Set A' and/or 'Set B' (clock) missing. Reinstall the old IF card.
Go To Map 8880, Entry Point A.

029
Go to Page 5, Step 014, Entry Point WW.

030
Probe all signals to 'Auto Answer Logic' at test points B-IN.

All signals ok?
Y N

031
Note:
If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

Probe the failing signal at test point A-OUT.

Signal ok?
Y N

032
Failing FRU:
CCA card (of failing line); 01A-C2...

Go to Page 7, Step 037, Entry Point CC.

033
Failing FRU:
Board 01A-C2

Go to Page 7, Step 037, Entry Point CC.

034
Failing FRU:
IF card (of failing line); 01A-C2...

Go to Page 7, Step 037, Entry Point CC.

035
Failing FRU:
Board 01A-C2

Go to Step 037, Entry Point CC.

036
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Step 037, Entry Point CC.

037

(Entry Point CC)

Was the 'failing FRU' replaced earlier during this trouble shooting?
Y N

038
Replace or repair the failing FRU.

(Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

039
Return to calling MAP or normal operation.

040
Same reference code as before?
Y N

041
Follow new reference code.

042
(Entry Point TT)

Is more than one signal failing?
Y N

043
DDS adapter?
Y N

044
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

045
Replace next FRU.

Go to Page 7, Step 038, Entry Point XX.

046
Go To Map 0001, Entry Point P.

047
Failing FRU:
1.Board 01A-C2, cables or tailgate 01E

Failing signals:
Receive Data
Transmit Data
Receive Data RTN
Transmit Data RTN

2.Line Plate (if WT Public Switched Network is installed) or external cable.

Go To Map 8880, Entry Point A.

Note: Before removing Line Plate and external cable perform Line Plate adjustment.
See Vol.14 STM FEAT, section: CA (Integrated Modem Adapter Interface WT SNAA, Jumper Setting of PSN Feature).

048
Are all the failing signals checked?
Y N

049
Select the next failing signal as the 'failing signal'.

Go to Page 5, Step 006, Entry Point SS.

050
DDS adapter?
Y N

051
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

052
Replace next FRU!

Go to Page 7, Step 038, Entry Point XX.

053
Go To Map 0001, Entry Point P.

054
Failing FRU:
1.Board 01A-C2,
cables or tailgate 01E

Failing signals:
Receive Data
Transmit Data
Receive Data RTN
Transmit Data RTN

2.Line Plate
(if WT Pulic Switch Network is installed)
or external cable.

Go To Map 8880, Entry Point A.

Note: Before removing Line Plate and external cable perform Line Plate adjustment.
See Vol.14, STM FEAT, section: CA (Integrated Modem Adapter Interface WT SNAA, Jumper Setting of PSN Feature).

055

Go to Page 7, Step 042, Entry Point TT.

INTERFACE CARD WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	004	0001	A
5	022	0001	A
5	026	0001	A
6	032	0001	A
6	037	0001	P
5	029	8880	A

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88721081	2120	88729881	2240
88721881	2110	8872A881	2260
88722081	2310	8872B881	2220
88723081	2630	8872C881	2280
88725081	8200		
88728081	2410	8872D881	2240
88729081	2510	8872E881	2200

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);

(Step 001 continues)

(Step 001 continued)
01A-C2..
- Board 01A-C2

If X.21 XLCA adapter is installed:
-Cables and connectors from board 01A-C2 to DCE (Data Communication Equipment)
-DCE

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

3A 3B

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

004
Go To Map 0001, Entry Point A.

005

Go to Step 006, Entry Point BB.

006
(Entry Point BB)

Failing signal:

---> Receive data

Start ILT 21, mode LI (scope loop).
For ILT run procedure see Vol.14,STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

007
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

4 4 4
C D E

008
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

009
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

010
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 031, Entry Point CC.

011
Failing FRU:
Board 01A-C2

Go to Page 6, Step 031, Entry Point CC.

012
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 031, Entry Point CC.

013
Failing FRU:
Board 01A-C2

Go to Page 6, Step 031, Entry Point CC.

014
CCA clocking?
Y N

5
F G

015
Probe 'Receive Clock' at test point A-IN.

Signal ok?
Y N

016
Probe 'Receive Clock' at test point B-OUT.

Signal ok?
Y N

017
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 031, Entry Point CC.

018
Failing FRU:
Board 01A-C2

Go to Page 6, Step 031, Entry Point CC.

019
X.21 XLCA adapter?
Y N

020
Failing FRU:
CCA card (of failing line) 01A-C2..
Go to Page 6, Step 031, Entry Point CC.

5
H

021
Replace CCA (of failing line);
01A-C2..

Run ILT 21, mode S (single run) to verify correct operation for ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

022
Switch DCE to normal function or reconnect DCE, if disconnected.
Go To Map 0001, Entry Point A.

023
Reference code 88723081 or 88743081?
Y N

024
Follow new reference code.

025
Replace IF card (of failing line); 01A-C2..

Run ILT 21, mode S (single run) to verify correct operation. For ITL run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

026
Switch DCE to normal function or reconnect DCE, if disconnected.
Go To Map 0001, Entry Point A.

027
Reference code 8872XX81 or 8874XX81?
Y N

028
Follow new reference code.

029
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Set A
Set B
Go To Map 8880, Entry Point A.

030
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 031, Entry Point CC.

031
(Entry Point CC)

Replace or repair failing FRU

(Entry Point XX)

Run ILT 21, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

032
Go To Map 0001, Entry Point A.

033
Reference code 8872XX81 or 8874XX81?
Y N

034
Follow new reference code.

035
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 01 of this MAP.)

Y N

036
Replace next FRU.
Go to Step 031, Entry Point XX.

037
Go To Map 0001, Entry Point P.

INTERFACE CARD WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
7	050	0001	A
7	055	0001	P

001
(Entry Point A)

Go to Vol.14 STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88731081	2120	88739881	2240
88731881	2110	8873A881	2260
88732081	2310	8873B881	2220
88733081	2630	8873C881	2280
88735081	8200		
88738081	2410	8873D881	2240
88739081	2510	8873E881	2200

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Board 01A-C2
- Cables from board to modem

(Step 001 continues)

(Step 001 continued)
- External modem

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

006
(Entry Point BB)

Start ILT 21, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications.
Note the paragraph 'signal checking'.

CCA clocking?
Y N

007
Probe 'Transmit Clock' at test point A-IN.

Signal ok?
Y N

008
Probe 'Transmit Clock' at test point B-OUT.

Signal ok?
Y N

6 6 6
A B C D

D 1050 MAP 8898-3

009
(Entry Point DD)

EIA adapter?
Y N

010
V 35 adapter?
Y N

011
HSDI card?
Y N

012
Failing FRU:
IF card (of failing line); 01A-C2..

Also check whether the jumpers on the IF card are in the right positions.

Go to Page 7, Step 049, Entry Point CC.

013
Go to Step 014, Entry Point V.

014
(Entry Point V)

Probe 'New Sync' at test point B-IN.

Signal ok?
Y N

015
Probe 'New Sync' at test point A-OUT.

Signal ok?
Y N

5 4 4 4
E F G H

016
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

017
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

018
Probe 'Test Control' at test point B-IN.

Signal ok?
Y N

019
Probe 'Test Control' at test point A-OUT.

Signal ok?
Y N

020
Failing FRU:
CCA card (of failing line) 01A-C2..
Go to Page 7, Step 049, Entry Point CC.

021
Failing FRU:
Board 01A-C2
Go to Page 7, Step 049, Entry Point CC.

022
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

023
Probe 'Transmit Clock' at test point C-IN.

Signal ok?
Y N

024
Probe 'Transmit Clock' at test point D-OUT.

Signal ok?
Y N

025
Failing FRU:
1.Cable or external modem
Connect the
cable wrap plug.

2.o Line Plate
(if WT Public Switched
Network is installed).
o External Cable.

Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Note: Before removing Line Plate and external cable perform Line Plate adjustment. See Vol.14, STM FEAT, section: CA (Integrated Modem Adapter Interface WT SNAA, Jumper Setting of PSN Feature).

Any error?
Y N

026
Failing FRU:
External modem

Go to Page 7, Step 049, Entry Point CC.

027
Follow new reference code.

028
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

029
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

030
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

031
Probe 'Receive Clock' at test point A-IN.

Signal ok?
Y N

032
Probe 'Receive Clock' at test point B-OUT.

Signal ok?
Y N

033

Go to Page 3, Step 009, Entry Point DD.

034
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

035

Go to Step 036, Entry Point EE.

036
(Entry Point EE)

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

037
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

038
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

039
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

040
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

041
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

042
Probe 'Test Control'at test point B-IN.

Signal ok?
Y N

043
Probe 'Test Control' at test point A-OUT.

Signal ok?
Y N

044
Failing FRU:
CCA card (of failing line) 01A-C2...
Go to Step 049, Entry Point CC.

045
Failing FRU:
Board 01A-C2

Go to Step 049, Entry Point CC.

046
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Step 049, Entry Point CC.

047
Failing FRU:
Board 01A-C2

Go to Step 049, Entry Point CC.

048
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Step 049, Entry Point CC.

049
(Entry Point CC)

Replace or repair the failing FRU

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

050
Go To Map 0001, Entry Point A.

051
Same reference code as before?
Y N

052
Follow new reference code.

053
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

054
Replace next FRU.
Go to Step 049, Entry Point XX.

055
Go To Map 0001, Entry Point P.

INTERFACE CARD WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
4	010	0001	A
4	014	0001	A
6	032	0001	A
6	037	0001	P
4	017	8880	A

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88741081	2120	88749881	2240
88741881	2110	8874A881	2260
88742081	2310	8874B881	2220
88743081	2630	8874C881	2280
88745081	8200		
88748081	2410	8874D881	2240
88749081	2510	8874E881	2200

Possible Failing FRUs:

- IF card (of failing line);
  01A-C2..
- CCA card (of failing line);

(Step 001 continues)

(Step 001 continued)
01A-C2..
- Board 01A-C2.
If X21 XLCA adapter is installed: -cables from board 01A-C2 to DCE
-DCE.
Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

005

Go to Step 006, Entry Point BB.

006
(Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used.

```
On the screen ----->8874XX81YYYY
                                ----
Additional information----->YYYY
Digit ----------------------1234
                              4
                              |
      |---------------------->|
      |
Digit 4 holds information about
the test result
```

Do the following:

Write down the value of digit 4
in binary notation.

DIGIT	HEX VALUE	BINARY VALUE BIT 0 1 2 3
4	_	_ _ _ _

Is bit 1 or 2 (or both) '1'?
Y N

007
X.21 XLCA adapter?
Y N

008
Failing FRU:
CCA card (of failing line) 01A-C2..
Go to Page 6, Step 031, Entry Point CC.

009
Replace CCA (of failing line);
01A-C2..

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Any error?
Y N

010
Switch DCE to normal function or reconnect DCE, if disconnected.
Go To Map 0001, Entry Point A.

011
Reference code 88743081 or 88723081?
Y N

012
Follow new reference code.

013
Replace IF card (of failing line); 01A-C2..

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Any error?
Y N

014
Switch DCE to normal function or reconnect DCE, if disconnected.
Go To Map 0001, Entry Point A.

015
Reference code 88743081 or 88723081?
Y N

016
Follow new reference code.

D

017
Failing FRU:
Board 01A-C2, cables or tailgate 01E

failing signals:
Set A
Set B
Go To Map 8880, Entry Point A.

018
Start ILT 21, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

019
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

020
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

021
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

022
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 031, Entry Point CC.

023
Failing FRU:
Board 01A-C2

Go to Page 6, Step 031, Entry Point CC.

024
Probe 'Test Control' at test point B-IN.

Signal ok?
Y N

025
Probe 'Test Control' at test point A-OUT.

Signal ok?
Y N

026
Failing FRU:
CCA card (of failing line 01A-C2...
Go to Page 6, Step 031, Entry Point CC.

H J

E 4 F 4 H J

027
Failing FRU:
Board 01A-C2

Go to Page 6, Step 031, Entry Point CC.

028
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 031, Entry Point CC.

029
Failing FRU:
Board 01A-C2

Go to Page 6, Step 031, Entry Point CC.

030
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 031, Entry Point CC.

031
(Entry Point CC)

Replace or repair the failing FRU.

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Any error?
Y N

032
Go To Map 0001, Entry Point A.

033
Same reference code as before?
Y N

034
Follow new reference code.

035
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

036
Replace next FRU.
Go to Step 031, Entry Point XX.

037
Go To Map 0001, Entry Point P.

SELF TEST PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
4	017	0001	A
6	044	0001	A
7	058	0001	A
7	063	0001	P
6	042	8880	A
6	050	8880	A

001
(Entry Point A)

Go to Vol. 14, STM FEAT, section: CA,
page corresponding to the
reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA
88A21081	2180
88A21481	2180
88A21881	2170
88A21C81	2170

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Board 01A-C2
- Cables
- Self test wrap plug

(Step 001 continues)

(Step 001 continued)
Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

006
(Entry Point BB)

Start ILT 24, mode LI (scope loop).

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Failing signal:
------> Receive Data

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

007
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

5 5
A B C

008
EIA adapter?
Y N

009
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

010
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

011
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 057, Entry Point CC.

012
Failing FRU:
Board 01A-C2

Go to Page 7, Step 057, Entry Point CC.

013
Replace IF card (of failing line); 01A-C2..

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

4 4 4
D E F

014
Same reference code as before?
Y N

015
Follow new reference code.

016
Go to Page 6, Step 047, Entry Point E.

017
Go To Map 0001, Entry Point A.

018
Probe 'Receive Data' at test point C-IN.

Signal ok?
Y N

019
Probe 'Receive Data' at test point D-OUT.

Signal ok?
Y N

020
Probe 'Transmit Data' at test point D-IN.

Signal ok?
Y N

021
Probe 'Transmit Data' at test point C-OUT.

Signal ok?
Y N

022
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

023
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

024
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 057, Entry Point CC.

025
Failing FRU:
Board 01A-C2

Go to Page 7, Step 057, Entry Point CC.

026
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 057, Entry Point CC.

027
Failing FRU:
Board 01A-C2

Go to Page 7, Step 057, Entry Point CC.

028
Go to Page 6, Step 047, Entry Point E.

029
Failing FRU:
Board 01A-C2

Go to Page 7, Step 057, Entry Point CC.

030
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 057, Entry Point CC.

031
Failing FRU:
Board 01A-C2

Go to Page 7, Step 057, Entry Point CC.

032
CCA clock?
Y N

033
Probe 'Receive Clock' at test point A-IN.

Signal ok?
Y N

034
Probe 'Receive Clock' at test point B-OUT.

Signal ok?
Y N

035
EIA adapter?
Y N

036
Replace IF card (of failing line); 01A-C2..

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

037
Reference code 88A2XX81 or 88A4XX81?
Y N

038
Follow new reference code.

039
Disconnect the modem and the self test wrap plug.
Connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

040
Reference code = 88822081?
Y N

041
Follow new reference code.

REF.C.88A2XX81

SELF TEST PLUG WRAP

042
Failing FRU:
Board 01A-C2
Cables or tailgate 01E.

Failing signals:
Receive Clock
Receive Clock RTN

Go To Map 8880, Entry Point A.

043
Failing FRU:
Modem or self test wrap plug

Go to Page 7, Step 057, Entry Point CC.

044
Go To Map 0001, Entry Point A.

045
Probe 'Receive Clock' at test point C-IN.

Signal ok?
Y N

046
Probe 'Receive Clock' at test point D-OUT.

Signal ok?
Y N

047
(Entry Point E)

Disconnect the modem and the self test wrap plug.
Connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

048
Reference code = 8882XX81?
Y N

049
Follow new reference code.

050
Failing FRU:
Board 01A-C2, cables or tailgate 01E
Failing signals:

Receive Clock
Transmit Data
Receive Data

Go To Map 8880, Entry Point A.

051
Failing FRU:
Modem or self test wrap plug

Go to Page 7, Step 057, Entry Point CC.

052
Failing FRU:
Board 01A-C2

Go to Page 7, Step 057, Entry Point CC.

053
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Step 057, Entry Point CC.

054
Failing FRU:
Board 01A-C2

Go to Step 057, Entry Point CC.

055
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Step 057, Entry Point CC.

056
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Step 057, Entry Point CC.

057
(Entry Point CC)

Replace or repair the failing FRU.
Reconnect the self test wrap plug and the modem, if disconnected.

(Entry Point XX)

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

058
Go To Map 0001, Entry Point A.

059
Reference code 88A2XX81 or 88A4XX81?
Y N

060
Follow new reference code!

061
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP).

Y N

062
Replace next FRU!
Go to Step 057, Entry Point XX.

063
Go To Map 0001, Entry Point P.

PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
7	036	0001	A
7	043	0001	P
8	050	0001	P
5	015	8880	A
7	044	8880	A
8	051	8880	A

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88811081	2160	88812081	2320
88811481	2160	88813081	2640
88811881	2150	88818081	2320
88811C81	2150	88819081	2520
		88812481	2320

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Internal or external cables or tailgate
- Board 01A-C2

(Step 001 continues)

(Step 001 continued)

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

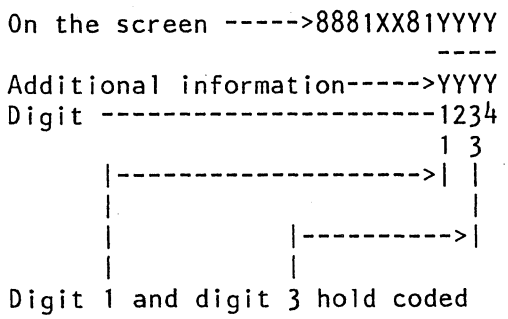
-Check that the DCE is set up adequately.

Any problem detected?
Y N

002
Go to Step 003, Entry Point BB.

003
(Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used to determine the failing signal.



Digit 1 and digit 3 hold coded information about the signals being wrapped.

(Step 003 continues)

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

(Step 003 continued)
Digit 1 = expected signals
Digit 3 = received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 in binary notation.

Write down the value of digit 3 in binary notation.

Compare the two binary values bit by bit.

DIGIT	HEX VALUE	BINARY VALUE BIT 0 1 2 3
1	_	_ _ _ _
3	_	_ _ _ _
UNEQUAL BITS ------->		_ _ _ _

An unequal bit position indicates a failing signal.

Note:
Digit 1 = expected signals
Digit 3 = received signals
Bit on = active signal
Bit off = inactive signal

Bit 0
------> Data Set Ready

Bit 1
------> Clear To Send

Bit 2
------> RCV Line Signal Detect

Bit 3
(Step 003 continues)

(Step 003 continued)
------> Ring Indicator

Start ILT 22, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follow:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in Supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Note:
If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

(Entry Point SS)

Probe the failing signal at test point A-IN.

Signal ok?
Y N

004
Probe the failing signal at test point B-OUT.

Signal ok?
Y N

6 6
A B C

005
Is the failing signal being wrapped on the IF card (of failing line); 01A-C2..?
Y N

006
Is the failing signal being wrapped in the cable wrap plug or in switch of X.21 DCE.

Y N

007
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 034, Entry Point CC.

008
X.21 XLCA adapter?
Y N

009
Probe the failing signal at test point C-IN.

Signal ok?
Y N

010
Probe the failing signal at test point D-OUT.

Signal ok?
Y N

011
Probe the failing signal at test point D-IN.

Signal ok?
Y N

6 5 5 5 5 5
D E F G H J

012
Probe the failing signal at test point C-OUT.

Signal ok?
Y N

013
Go to Step 018, Entry Point DD.

014
Failing FRU:
Board 01A-C2

Go to Page 7, Step 034, Entry Point CC.

015
Failing FRU:
Board 01A-C2, cable or tailgate 01E.
Go To Map 8880, Entry Point A.

016
Failing FRU:
Board 01A-C2

Go to Page 7, Step 034, Entry Point CC.

017
Failing FRU:
IF card (of failing line), 01A-C2..

Go to Page 7, Step 034, Entry Point CC.

018
(Entry Point DD)

Probe the failing signal at test point B-IN.

Signal ok?
Y N

K L

019
Probe the failing signal at test point A-OUT.

Signal ok?
Y N

020
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 034, Entry Point CC.

021
Failing FRU:
Board 01A-C2

Go to Page 7, Step 034, Entry Point CC.

022
EIA adapter or X.21 XLCA adapter?

Y N

023
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 034, Entry Point CC.

024
Is the failing signal 'Rcv. Line Signal Detected'?

Y N

025
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 034, Entry Point CC.

026
Probe 'Test Control' at test point B-IN.

Signal ok?
Y N

027
Probe 'Test Control' at test point A-OUT.

Signal ok?
Y N

028
Failing FRU:
CCA card (of failing line)
Go to Page 7, Step 034, Entry Point CC.

029
Failing FRU:
Board 01A-C2

Go to Page 7, Step 034, Entry Point CC.

030
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 034, Entry Point CC.

031

Go to Page 5, Step 018, Entry Point DD.

032
Failing FRU:
Board 01A-C2

Go to Page 7, Step 034, Entry Point CC.

A 4 1080 MAP 889E-6

033
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 034, Entry Point CC.

034

(Entry Point CC)

Was the 'failing FRU' replaced earlier during this trouble shooting?

Y N

035
Replace or repair the failing FRU.

(Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

036
Reconnect external modem/DCE, if disconnected or switch DCE to normal function.
Go To Map 0001, Entry Point A.

037
Same reference code as before?

Y N

038
Follow new reference code.

039
(Entry Point TT)

Is more than one signal failing?

Y N

040
DDS adapter?

Y N

8
N P Q R

P Q R 1080 MAP 889E-7

041
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP)

Y N

042
Replace next FRU.

Go to Step 035, Entry Point XX.

043
Go To Map 0001, Entry Point P.

044
Failing FRU:
Board 01A-C2, cables or tailgate 01A

Failing signals:
Receive Data
Transmit Data
Receive Data RTN
Transmit Data RTN

Go To Map 8880, Entry Point A.

045
Are all the failing signals checked?

Y N

046
Select the next failing signal as the 'failing signal'.

Go to Page 4, Step 003, Entry Point SS.

047
DDS adapter?

Y N

8 8
S T

048
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

049
Replace next FRU.

Go to Page 7, Step 035, Entry Point XX.

050
Go To Map 0001, Entry Point P.

051
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Receive Data
Transmit Data
Receive Data RTN
Transmit Data RTN

Go To Map 8880, Entry Point A.

052

Go to Page 7, Step 039, Entry Point TT.

PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
4	017	0001	A
6	036	0001	A
6	040	0001	A
6	044	0001	A
7	050	0001	A
7	055	0001	P
4	016	8880	A
5	024	8880	A
6	035	8880	A
7	047	8880	A

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88821081	2160	88822081	2320
88821481	2160	88822481	2320
88821881	2150	88823081	2630
88821C81	2150	88828081	2420
		88829081	2520

Possible Failing FRUs:

- CCA card (of failing line);
 01A-C2..

(Step 001 continues)

(Step 001 continued)
- IF card (of failing line);
  01A-C2..
- Board 01A-C2
- Cables

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 22, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

3
A

005

Go to Step 006, Entry Point BB.

006
(Entry Point BB)

Start ILT 22, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in Supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Failing signal:
------> Receive Data

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

007
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

008
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

009
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

010
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

011
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

012
EIA adapter?
Y N

013
Replace IF card (of failing line); 01A-C2..

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

014
Same reference code as before?
Y N

015
Follow new reference code.

016
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Receive Data
Transmit Data

Go To Map 8880, Entry Point A.

017
Go To Map 0001, Entry Point A.

018
Probe 'Receive Data' at test point C-IN.

Signal ok?
Y N

019
Probe 'Receive Data' at test point D-OUT.

Signal ok?
Y N

020
Probe 'Transmit Data' at test point D-IN.

Signal ok?
Y N

021
Probe 'Transmit Data' at test point C-OUT.

Signal ok?
Y N

022
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

023
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

024
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Receive Data
Transmit Data

Go To Map 8880, Entry Point A.

025
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

026
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

027
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

028
CCA clock?
Y N

029
Probe 'Receive Clock' at test point A-IN.

Signal ok?
Y N

030
Probe 'Receive Clock' at test point B-OUT.

Signal ok?
Y N

031
DDS adapter?
Y N

032
Replace IF card (of failing line); 01A-C2..

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

033
Same reference code as before?
Y N

034
Follow new reference code.

035
Failing FRUs:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Receive Clock
Test Clock

Go To Map 8880, Entry Point A.

036
Go To Map 0001, Entry Point A.

037
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

038
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

039
Replace CCA (of failing line); 01A-C2..

Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

V W

040
Reconnect external modem, if disconnected.
Go To Map 0001, Entry Point A.

041
Reference code 8882XX81 or 8884XX81?
Y N

042
Follow new reference code.

043
Replace IF card (of failing line); 01A-C2.. .

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

044
Reconnect external modem, if disconnected.
Go To Map 0001, Entry Point A.

045
Reference code 8882XX81 or 8884XX81?
Y N

046
Follow new reference code.

047
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Receive Data
Receive Data RTN
Transmit Data
Transmit Data RTN
Receive Clock
Receive Clock RTN
Transmit Clock
Transmit Clock RTN
Transmit A
Transmit B
Receive A
Receive B
Set A
Set B

Go To Map 8880, Entry Point A.

048
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Step 049, Entry Point CC.

049
(Entry Point CC)

Replace or repair the failing FRU.

(Entry Point XX)

RUN ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

050
Reconnect external modem, if disconnected
Go To Map 0001, Entry Point A.

051
Reference code 8882XX81 or 8884XX81?
Y N

052
Follow new reference code.

053
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

054
Replace next FRU!
Go to Step 049, Entry Point XX.

055
Go To Map 0001, Entry Point P.

PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
5	020	0001	A
9	068	0001	A
10	081	0001	A
10	085	0001	A
11	091	0001	A
6	031	0001	A
11	096	0001	P
5	019	8880	A
5	027	8880	A
9	067	8880	A
10	075	8880	A
11	088	8880	A
6	034	8880	A

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88831081	2160	88832081	2320
88831481	2160	88832481	2320
88831881	2150	88833081	2630
88831C81	2150	88838081	2420
		88839081	2520

Possible failing FRUs:
(Step 001 continues)

(Step 001 continued)

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Board 01A-C2
- Cables from board 01A-C2 to wrap plug

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Step 006, Entry Point BB.

006
(Entry Point BB)

Start ILT 22, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads form the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

CCA clocking?
Y N

007
Probe 'Transmit Clock' at test point A-IN.

Signal ok?
Y N

008
Probe 'Transmit Clock' at test point B-OUT.

Signal ok?
Y N

009
DDS adapter?
Y N

010
X.21 XLCA adapter?
Y N

011
Probe 'New Sync' at test point B-IN.

Before probing wait 2 minutes.

See Signal Checking in Vol.14, STM FEAT, section: CA, (Signal Flow and Wrap Test).

Signal ok?
Y N

012
Probe 'New Sync' at test point A-OUT.

Signal ok?
Y N

013
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

014
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Go to Page 11, Step 090, Entry Point CC.

015
EIA adapter?
Y N

016
(Entry Point EE)

Replace IF card (of failing line); 01A-C2..
Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

017
Same reference code as before?
Y N

018
Follow new reference code.

019
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Test Clock
Test Clock RTN
Transmit Clock
Transmit Clock RTN

Go To Map 8880, Entry Point A.

020
Go To Map 0001, Entry Point A.

021
Probe 'Transmit Clock' at test point C-IN.

Signal ok?
Y N

022
Probe 'Transmit Clock' at test point D-OUT.

Signal ok?
Y N

023
(Entry Point FF)

Probe 'New Sync' at test point D-IN.

Signal ok?
Y N

024
Probe 'New Sync' at test point C-OUT.

Signal ok?
Y N

025
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

026
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

027
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
New Sync
Transmit Clock
Receive Clock

Go To Map 8880, Entry Point A.

028
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

029
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

030
(Entry Point YY)

Replace IF card (of failing line)
01A-C2...

Run ILT 22, mode S (single run).

Any error?
Y N

031
Switch DCE to normal function or reconnect DCE, if disconnected.
Go To Map 0001, Entry Point A.

032
Same reference code as before?
Y N

033
Follow new reference code.

034
Probably 'Set A' and/or 'Set B' missing.
Reinstall the old IF card.
Go To Map 8880, Entry Point A.

035
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

036
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

037
Probe 'Receive Clock' at test point A-IN.

Signal ok?
Y N

038
Probe 'Receive Clock' at test point B-OUT.

Signal ok?
Y N

039
DDS adapter?
Y N

040
X.21 XLCA adapter?
Y N

041
Probe 'New Sync' at test point B-IN.

Signal ok?
Y N

042
Probe 'New Sync' at test point A-OUT.

Signal ok?
Y N

043
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

044
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

045
EIA adapter?
Y N

046

Go to Page 5, Step 016, Entry Point EE.

047
Probe 'Receive Clock' at test point C-IN.

Signal ok?
Y N

048
Probe 'Receive Clock' at test point D-OUT.

Signal ok?
Y N

049

Go to Page 5, Step 023, Entry Point FF.

U V

050
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

051
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

052
Go to Page 6, Step 030, Entry Point YY.

053
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

054
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

055

Go to Page 8, Step 057, Entry Point DD.

056

Go to Step 057, Entry Point DD.

057
(Entry Point DD)

Data error

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

058
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

059
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

060
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

061
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

062
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

063
EIA adapter?
Y N

064
Replace IF card (of failing card); 01A-C2..

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test)

Test result satisfactory?
Y N

065
Same reference code as before?
Y N

066
Follow new reference code.

067
Failing FRU:
Board 01A-C2, cables of tailgate 01E

Failing signals:
Receive Data
Receive Data RTN
Transmit Data
Transmit Data RTN
Transmit A
Transmit B
Receive A
Receive B

Go To Map 8880, Entry Point A.

068
Go To Map 0001, Entry Point A.

069
Probe 'Receive Data' at test point C-IN.

Signal ok?
Y N

070
Probe 'Receive Data' at test point D-OUT.

Signal ok?
Y N

071
Probe 'Transmit Data' at test point D-IN.

Signal ok?
Y N

072
Probe 'Transmit Data' at test point C-OUT.

Signal ok?
Y N

073
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

074
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

075
Failing FRU:
Board 01A-C2, cables of tailgate 01E

Failing signal's:
Receive Data
Transmit Data

Go To Map 8880, Entry Point A.

076
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

077
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

078
Failing FRU:
Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

079
CCA clocking?
Y N

080
Replace CCA card (of failing line); 01A-C2..

Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

1 1 A A D

A A E

A F

081
Reconnect external modem, if disconnected.
Go To Map 0001, Entry Point A.

082
Same reference code as before?
Y N

083
Follow new reference code.

084
Replace IF card (of failing line); 01A-C2..

Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

085
Reconnect external modem, if disconnected.
Go To Map 0001, Entry Point A.

086
Same reference code as before?
Y N

087
Follow new reference code.

088
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Receive Data
Receive Data RTN
Transmit Data
Transmit Data RTN
Receive Clock
Receive Clock RTN
Transmit Clock
Transmit Clock RTN
Transmit A
Transmit B
Receive A
Receive B

Go To Map 8880, Entry Point A.

089
Failing FRU:
CCA card (of failing line); 01A-C2..
Go to Step 090, Entry Point CC.

090
(Entry Point CC)

Replace or repair the failing FRU

(Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

091
Reconnect extermal modem, if disconnected
Go To Map 0001, Entry Point A.

092
Same reference code as before?
Y N

093
Follow new reference code.

094
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

095
Replace next FRU.
Go to Step 090, Entry Point XX.

096
Go To Map 0001, Entry Point P.

PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
4	010	0001	A
4	014	0001	A
5	029	0001	A
6	041	0001	A
7	045	0001	A
7	050	0001	A
7	055	0001	P
4	017	8880	A
5	028	8880	A
6	036	8880	A
7	048	8880	A

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88841081	2160	88842081	2320
88841481	2160	88842481	2320
88841881	2150	88843081	2630
88841C81	2150	88848081	2420
		88849081	2520

Possible Failing FRUs:

- CCA card (of failing line);

(Step 001 continues)

(Step 001 continued)
01A-C2..
- IF card (of failing line);
01A-C2..
- Board 01A-C2
- Cables

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 22, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

3
A

005

Go to Step 006, Entry Point BB.

006
(Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used.

```
On the screen ----->8884XX81YYYY
                                ----
Additional information----->YYYY
Digit ----------------------1234
                             4
                             |
      |--------------------->|
      |
Digit 4 holds information about
the test result
```

Do the following:

Write down the value of digit 4 in binary notation

DIGIT	HEX VALUE	BINARY VALUE BIT 0 1 2 3
4	_	_ _ _ _

Is bit 1 or 2 (or both) '1'?
Y N

007
X.21 XLCA adapter?
Y N

008
Failing FRU:
CCA card (of failing line); 01A-C2...
Go to Page 7, Step 049, Entry Point CC.

009
Replace CCA card (of failing line);
01A-C2..

Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

010
Switch DCE to normal function or reconnect DCE, if disconnected.
Go To Map 0001, Entry Point A.

011
Same reference code as before?
Y N

012
Follow new reference conde.

013
Replace IF card (of failing line); 01A-C2..

Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test)

Any error?
Y N

014
Switch DCE to normal function or reconnect DCE, if disconnected.
Go To Map 0001, Entry Point A.

015
Same reference code as before?
Y N

016
Follow new reference code.

D

017
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Set A
Set B
Transmit A
Transmit B
Receive A
Receive B

Go To Map 8880, Entry Point A.

018
Start ILT 22, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

6 5
E F

019
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

020
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

021
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

022
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

023
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

024
EIA adapter?
Y N

6
G H J

H J 1110 MAP 88A4-5

025
Replace IF card (of failing line); 01A-C2..

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

026
Same reference code as before?
Y N

027
Follow new reference code.

028
Failing FRU:
Board 01A-C2, cable or tailgate 01E

Failing signals:
Receive Data
Receive Data RTN

Go To Map 8880, Entry Point A.

029
Go To Map 0001, Entry Point A.

030
Probe 'Receive Data' at test point C-IN.

Signal ok?
Y N

031
Probe 'Receive Data' at test point D-OUT.

Signal ok?
Y N

6 6 6
K L M

032
Probe 'Transmit Data' at test point D-IN.

Signal ok?
Y N

033
Probe 'Transmit Data' at test point C-OUT.

Signal ok?
Y N

034
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC.

035
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

036
Failing FRU:
Board 01A-C2, cable or tailgate 01E

Failing signals:
Receive Data
Receive Data RTN

Go To Map 8880, Entry Point A.

037
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

038
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 049, Entry Point CC

039
Failing FRU:
Board 01A-C2

Go to Page 7, Step 049, Entry Point CC.

040
Replace CCA card (of failing line); 01A-C2

Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

041
Reconnect external modem, if disconnected.
Go To Map 0001, Entry Point A.

042
Same reference code as before?
Y N

043
Follow new reference code.

044
Replace IF card (of failing line); 01A-C2..

Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

7 7
N P

045
Reconnect external modem, if disconnected.
Go To Map 0001, Entry Point A.

046
Same reference code as before?
Y N

047
Follow new reference code.

048
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Receive Data
Receive Data RTN
Transmit Data
Transmit Data RTN
Receive Clock
Receive Clock RTN
Transmit Clock
Transmit Clock RTN

Go To Map 8880, Entry Point A.

049
(Entry Point CC)

Replace or repair the failing FRU.
Reconnect external modem, if disconnected.

(Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

050
Go To Map 0001, Entry Point A.

051
Same reference code as before?
Y N

052
Follow new reference code.

053
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

054
Replace next FRU.
Go to Step 049, Entry Point XX.

055
Go To Map 0001, Entry Point P.

SELF TEST PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
4	018	0001	A
6	052	0001	A
8	069	0001	A
8	074	0001	P
4	016	8880	A
4	024	8880	A

001
(Entry Point A)

Go to Vol.14, STM FEAT, sectio: CA page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA
88A31081	2180
88A31481	2180
88A31881	2170
88A31C81	2170

Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables
- Self test wrap plug

(Step 001 continues)

(Step 001 continued)
Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

006
(Entry Point BB)

Start ILT 24, mode LI (scope loop).
For ITL run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

CCA clock?
Y N

007
Probe 'Transmit Clock' at test point A-IN.

Signal ok?
Y N

008
Probe 'Transmit Clock' at test point B-OUT.

Signal ok?
Y N

5 5 5
A B C D

009
EIA adapter?
Y N

010
(Entry Point EE)

Replace IF card (of failing line); 01A-C2..

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

011
Same reference code as before?
Y N

012
Follow new reference code.

013
Disconnect the modem and the self test wrap plug.
Connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, sectopm: CA (CA Inline Test).

Test result satisfactory?
Y N

014
Reference code 88832081?
Y N

015
Follow new reference code.

4 4 4 4
E F G H

016
Failing FRU:
Board 01A-C2,
cables or tailgate 01E

Failing signals:
Transmit Clock
Receive Clock
Transmit Clock RTN
Receive Clock RTN

Go To Map 8880, Entry Point A.

017
Failing FRU:
Modem or self test wrap plug

Go to Page 8, Step 068, Entry Point CC.

018
Go To Map 0001, Entry Point A.

019
Probe 'Transmit Clock' at test point C-IN.

Signal ok?
Y N

020
Probe 'Transmit Clock' at test point D-OUT.

Signal ok?
Y N

5
J K L

021
(Entry Point FF)

Disconnect the modem and the self test wrap plug.
Connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

022
Reference code 8883XX81?
Y N

023
Follow new reference code.

024
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Transmit Clock
Receive Clock

Go To Map 8880, Entry Point A.

025
Failing FRU:
Modem or self test wrap plug

Go to Page 8, Step 068, Entry Point CC.

026
Failing FRU:
Board 01A-C2

Go to Page 8, Step 068, Entry Point CC.

REF.C.88A3XX81
SELF TEST PLUG WRAP

027
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 8, Step 068, Entry Point CC.

028
Failing FRU:
Board 01A-C2

Go to Page 8, Step 068, Entry Point CC.

029
Probe 'Receive Clock' at test point A-IN.

Signal ok?
Y N

030
Probe 'Receive Clock' at test point B-OUT.

Signal ok?
Y N

031
EIA adapter?
Y N

032

Go to Page 3, Step 010, Entry Point EE.

033
Probe 'Receive Clock' at test point C-IN.

Signal ok?
Y N

M N P Q

034
Probe 'Receive Clock' at test point D-OUT.

Signal ok?
Y N

035

Go to Page 4, Step 021, Entry Point FF.

036
Failing FRU:
Board 01A-C2

Go to Page 8, Step 068, Entry Point CC.

037
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 8, Step 068, Entry Point CC.

038
Failing FRU:
Board 01A-C2

Go to Page 8, Step 068, Entry Point CC.

039

Go to Page 6, Step 041, Entry Point GG.

040

Go to Page 6, Step 041, Entry Point GG.

041
(Entry Point GG)

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

042
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

043
EIA adapter?
Y N

044
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

045
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

8 8
R S T U V W

T U V W 1120 MAP 88A6-6

046
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 8, Step 068, Entry Point CC.

047
Failing FRU:
Board 01A-C2

Go to Page 8, Step 068, Entry Point CC.

048
Replace IF card (of failing line); 01A-C2..

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

049
Same reference code as before?
Y N

050
Follow new reference code.

051
Go to Page 4, Step 021, Entry Point FF.

052
Go To Map 0001, Entry Point A.

053
Probe 'Receive Data' at test point C-IN.

Signal ok?
Y N

8 7
X Y

054
Probe 'Receive Data' at test point D-OUT.

Signal ok?
Y N

055
Probe 'Transmit Data' at test point D-IN.

Signal ok?
Y N

056
Probe 'Transmit Data' at test point C-OUT.

Signal ok?
Y N

057
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

058
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

Z A A A A A
A A B C D E

Z A A A A A
A A B C D E

059
Failing FRU:
CCA card (of failing line);
01A-C2..

Go to Page 8, Step 068, Entry Point CC.

060
Failing FRU:
Board 01A-C2

Go to Page 8, Step 068, Entry Point CC.

061
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 8, Step 068, Entry Point CC.

062
Failing FRU:
Board 01A-C2

Go to Page 8, Step 068, Entry Point CC.

063
Go to Page 4, Step 021, Entry Point FF.

064
Failing FRU:
Board 01A-C2

Go to Page 8, Step 068, Entry Point CC.

065
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Step 068, Entry Point CC.

066
Failing FRU:
Board 01A-C2

Go to Step 068, Entry Point CC.

067
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Step 068, Entry Point CC.

068
(Entry Point CC)

Replace or repair the failing FRU.
Reconnect the self test wrap plug and the modem, if disconnected.

(Entry Point XX)

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

069
Go To Map 0001, Entry Point A.

070
Same reference code as before?
Y N

071
Follow new reference code.

072
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

073
Replace next FRU.
Go to Step 068, Entry Point XX.

074
Go To Map 0001, Entry Point P.

MODEM WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
7	031	0001	A
7	037	0001	P
7	042	0001	P
6	023	8880	A

001
(Entry Point A)

Possible failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Board 01A-C2
- Cables
- Modem

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88911481	2140	88911C81	2130
88912481	2330		

Visually check all hardware components of the failing communication line:

Note 1:
For physical locations see the referenced page given in Table A.

(Step 001 continues)

(Step 001 continued)
-IF-card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used to determine the failing signal.

```
On the screen ----->8891XX81YYYY
                                ----
Additional information----->YYYY
Digit ----------------------1234
                             1 3
      |--------------------->| |
      |                        |
      |           |----------->|
      |           |
      |           |
      |           |
Digit 1 and digit 3 hold coded
```
information about the signals being wrapped.

```
Digit 1 = expected signals
Digit 3 = received signals
```

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 in binary notation.

Write down the value of digit 3 in binary notation.

Compare the two binary values bit by bit.

(Step 006 continues)

(Step 006 continued)

DIGIT	HEX VALUE	BINARY VALUE BIT 0 1 2 3
1	_	_ _ _ _
3	_	_ _ _ _
UNEQUAL BITS ------->		_ _ _ _

An unequal bit position indicates a failing signal.

Note:
Digit 1 = expected signals
Digit 3 = received signals
Bit on = active signal
Bit off = inactive signal

Bit 0
------> Data Set Ready

Bit 1
------> Clear To Send

Bit 2
------> Rcv. Line Signal Detect

Bit 3
------> Ring Indicator

Start ILT 21, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
(Step 006 continues)

(Step 006 continued)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Note:
If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

(Entry Point SS)

Probe the failing signal at test point A-IN.

Signal ok?
Y N

007
Probe the failing signal at test point B-OUT.

Signal ok?
Y N

008
Probe the failing signal at test point C-IN.

Signal ok?
Y N

009
Probe the failing signal at test point D-OUT.

Signal ok?
Y N

6 6 6 6
A B C D E

E 1130 MAP 88A8-5

010
Probe the failing signal at test point D-IN.

Signal ok?
Y N

011
Probe the failing signal at test point C-OUT.

Signal ok?
Y N

012
Probe the failing signal at test point B-IN.

Signal ok?
Y N

013
Probe the failing signal at test point A-OUT.

Signal ok?
Y N

014
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 029, Entry Point CC.

015
Failing FRU:
Board 01A-C2

Go to Page 7, Step 029, Entry Point CC.

6 6 6
F G H

F G H
5 5 5

REF.C.8891XX81

MODEM WRAP ERROR

PAGE 6 OF 8

016
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 029, Entry Point CC.

017
Failing FRU:
Board 01A-C2

Go to Page 7, Step 029, Entry Point CC.

018
Probe 'Test Control' at test point B-IN.

Signal ok?
Y N

019
Probe 'Test Control' at test point A-OUT.

Signal ok?
Y N

020
Failing FRU:
CCA card (of failing line); 01A-C2..
Go to Page 7, Step 029, Entry Point CC.

021
Failing FRU:
Board 01A-C2

Go to Page 7, Step 029, Entry Point CC.

022
Connect the cable wrap plug.
Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

J K

A B C D J K 1130 MAP 88A8-6
5 5 5 5

023
Failing FRU:
Board 01A-C2, cable or tailgate 01E

Go To Map 8880, Entry Point A.

024
Failing FRU:
Modem

Go to Page 7, Step 029, Entry Point CC.

025
Failing FRU:
Board 01A-C2

Go to Page 7, Step 029, Entry Point CC.

026
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 029, Entry Point CC.

027
Failing FRU:
Board 01A-C2

Go to Page 7, Step 029, Entry Point CC.

028
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 029, Entry Point CC.

029

(Entry Point CC)

Was the 'failing FRU' replaced earlier during this trouble-shooting?
Y N

030
Replace or repair the failing FRU.

(Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

031
Go To Map 0001, Entry Point A.

032
Same reference code as before?
Y N

033
Follow new reference code.

034
(Entry Point TT)

Is more than one signal failing?
Y N

8
L M N

M N 1130 MAP 88A8-7

035
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

036
Replace next FRU.

Go to Step 030, Entry Point XX.

037
Go To Map 0001, Entry Point P.

038
Are all the failing signals checked?
Y N

039
Select the next failing signal as the 'failing signal'.

Go to Page 5, Step 006, Entry Point SS.

040
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

041
Replace next FRU.

Go to Step 030, Entry Point XX.

042
Go To Map 0001, Entry Point P.

043

Go to Page 7, Step 034, Entry Point TT.

MODEM WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
5	030	0001	A
6	036	0001	A
6	041	0001	P
4	019	8880	A

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88921481	2140	88921C81	2130
88922481	2330		

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Board 01A-C2
- Cables
- Modem

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:
For physical locations see the referenced page given in Table A.

(Step 001 continued)
-IF-card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

Start ILT 21, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2-D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

007
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

008
Probe 'Receive Data' at test point C-IN.

Signal ok?
Y N

4 4 4
A B C D

009
Probe 'Receive Data' at test point D-OUT.

Signal ok?
Y N

010
Probe 'Transmit Data' at test point D-IN.

Signal ok?
Y N

011
Probe 'Transmit Data' at test point C-OUT.

Signal ok?
Y N

012
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

013
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

4 4 4 4 4 4
E F G H J K

REF.C.8892XX81

MODEM WRAP ERROR

014
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 035, Entry Point CC.

015
Failing FRU:
Board 01A-C2

Go to Page 6, Step 035, Entry Point CC.

016
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 035, Entry Point CC.

017
Failing FRU:
Board 01A-C2

Go to Page 6, Step 035, Entry Point CC.

018
Connect the cable wrap plug.

Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

019
Failing FRU:
Board 01A-C2, cable or tailgate 01E

Failing signal:
Receive Data

Go To Map 8880, Entry Point A.

L

1140 MAP 88AA-4

020
Failing FRU:
Modem

Go to Page 6, Step 035, Entry Point CC.

021
Failing FRU:
Board 01A-C2

Go to Page 6, Step 035, Entry Point CC.

022
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 035, Entry Point CC.

023
Failing FRU:
Board 01A-C2

Go to Page 6, Step 035, Entry Point CC.

024
CCA clocking?
Y N

025
Probe 'Receive Clock' at test point A-IN.

Signal ok?
Y N

026
Probe 'Receive Clock' at test point B-OUT.

Signal ok?
Y N

027
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 035, Entry Point CC.

028
Failing FRU:
Board 01A-C2

Go to Page 6, Step 035, Entry Point CC.

029
Replace CCA card (of failing line); 01A-C2..

Run ILT 21, mode S (single run) go verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

030
Go To Map 0001, Entry Point A.

031
Connect the cable wrap plug.

Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

032
Follow new reference code.

033
Failing FRU:
Modem
Go to Page 6, Step 035, Entry Point CC.

034
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 035, Entry Point CC.

035
Failing FRU:
CCA card (of failing line); 01A-C2..

(Entry Point CC)

Replace or repair the failing FRU.
Reconnect external modem, if disconnected.

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

036
Go To Map 0001, Entry Point A.

037
Reference code 8892XX81 or 8894XX81?
Y N

038
Follow new reference code.

039
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

040
Replace next FRU.
Go to Step 035, Entry Point XX.

041
Go To Map 0001, Entry Point P.

REF.CODE 8893XX81 FIX 0001

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
6	046	0001	A
7	051	0001	A
7	056	0001	P
3	012	8880	A
6	040	8880	A

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88931481	2140	88931C81	2130
88932481	2330		

Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables from board 01A-C2 to modem
- Modem

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:
For physical locations see the referenced page given in Table A.

(Step 001 continued)
-IF- card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

Start ILT 21, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

CCA clocking ?
Y N

007
Probe 'Transmit Clock' at test point A-IN.

Signal ok?
Y N

008
Probe 'Transmit Clock' at test point B-OUT.

Signal ok?
Y N

4 4 4
A B C D

D 1150 MAP 88AC-3

009
Probe 'Transmit Clock' at test point C-IN.

Signal ok?
Y N

010
Probe 'Transmit Clock' at test point D-OUT.

Signal ok?
Y N

011
Connect the cable wrap plug.
Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

012
Failing FRU:
Board 01A-C2, cable or tailgate 01E

Failing signal:
Transmit Clock

Go To Map 8880, Entry Point A.

013
Failing FRU:
Modem

Go to Page 7, Step 050, Entry Point CC.

014
Failing FRU:
Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

4
E

015
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 050, Entry Point CC.

016
Failing FRU:
Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

017
Probe 'Receive Clock' at test point A-IN.

Signal ok?
Y N

018
Probe 'Receive Clock' at test point B-OUT.

Signal ok?
Y N

019
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 050, Entry Point CC.

020
Failing FRU:
Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

021

Go to Page 5, Step 023, Entry Point DD.

022

Go to Page 5, Step 023, Entry Point DD.

023
(Entry Point DD)

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

024
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

025
Probe 'Receive Data' at test point C-IN.

Signal ok?
Y N

026
Probe 'Receive Data' at test point D-OUT.

Signal ok?
Y N

027
Probe 'Transmit Data' at test point D-IN.

Signal ok?
Y N

6 6 6 6 6
F G H J K L

L 1150 MAP 88AC-5

028
Probe 'Transmit Data' at test point C-OUT.

Signal ok?
Y N

029
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

030
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

031
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 050, Entry Point CC.

032
Failing FRU:
Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

033
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 050, Entry Point CC.

034
Failing FRU:
Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

035
Probe 'Test Control' at test point B-IN.

Signal ok?
Y N

036
Probe 'Test Control' at test point A-OUT.

Signal ok?
Y N

037
Failing FRU:
CCA card (of failing line) 01A-C2...
Go to Page 7, Step 050, Entry Point CC.

038
Failing FRU:
Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

039
Connect the cable wrap plug.
Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

040
Failing FRU:
Board 01A-C2, cable or tailgate 01E

Failing signal:
Receive Data

Go To Map 8880, Entry Point A.

041
Failing FRU:
Modem

Go to Page 7, Step 050, Entry Point CC.

042
Failing FRU:
Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

043
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 7, Step 050, Entry Point CC.

044
Failing FRU:
Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

045
Replace CCA (of failing line); 01A-C2..

Run ILT 21, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Any error?
Y N

046
Go To Map 0001, Entry Point A.

047
Connect the cable wrap plug.

Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

048
Follow new reference code.

049
Failing FRU:
Modem
Go to Step 050, Entry Point CC.

050
(Entry Point CC)

Replace or repair the failing FRU.
Reconnect external modem, if disconnected.

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.
For run procedure see Vol.14, STM FEST, section: CA (CA Inline Test).

Any error?
Y N

051
Go To Map 0001, Entry Point A.

052
Same reference code as before?
Y N

053
Follow new reference code.

054
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

055
Replace next FRU.
Go to Step 050, Entry Point XX.

056
Go To Map 0001, Entry Point P.

REF.CODE 8894XX81 FIX 0001

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
6	036	0001	A
6	042	0001	A
6	047	0001	P
5	025	8880	A

001
(Entry Point A)

Go to Vol 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88941481	2140	88941C81	2130
88942481	2330		

Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables from board 01A-C2 to modem
- Modem

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:
For physical locations see the referenced page given in Table A.

(Step 001 continued)
-IF-card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used.

```
On the screen ----->8894XX81YYYY
                                ----
Additional information----->YYYY
Digit ----------------------1234
                              4
                              |
      |---------------------->|
      |
Digit 4 holds information about
the test result.
```

Do the following:

Write down the value of digit 4 in binary notation.

DIGIT	HEX VALUE	BINARY VALUE BIT 0 1 2 3
4	_	_ _ _ _

Is bit 1 or 2 (or both) '1'?
Y N

007
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

A

A 1160 MAP 88AE-3

008
Start ILT 21, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follow:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

009
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

010
Probe 'Receive Data' at test point C-IN.

Signal ok?
Y N

5 5 5 4
B C D E

MODEM WRAP ERROR

REF.C.8894XX81

011
Probe 'Receive Data' at test POINT D-OUT.

Signal ok?
Y N

012
Probe 'Transmit Data' at test point D-IN.

Signal ok?
Y N

013
Probe 'Transmit Data' at test point C-OUT.

Signal ok?
Y N

014
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

015
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

5 5
F G H J K L

016
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

017
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

018
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

019
Probe Test Control at test point B-IN.

Signal ok?
Y N

020
Probe Test Control at test point A-OUT.

Signal ok?
Y N

021
Failing FRU:
CCA card (of failing line) 01A-C2...
Go to Page 6, Step 041, Entry Point CC.

022
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

5
M

023
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

024
Connect the cable wrap plug.

Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

025
Failing FRU:
Board 01A-C2, cable or tailgate 01E

Failing signal:
Receive Data

Go To Map 8880, Entry Point A.

026
Failing FRU:
Modem

Go to Page 6, Step 041, Entry Point CC.

027
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

028
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

029
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

030
CCA clocking?
Y N

031
Probe 'Receive Clock' at test point A-IN.

Signal ok?
Y N

032
Probe 'Receive Clock' at test point B-OUT.

Signal ok?
Y N

033
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

034
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

035
Replace CCA (of failing line); 01A-C2..

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

036
Go To Map 0001, Entry Point A.

037
Connect the cable wrap plug.

Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

038
Follow new reference code.

039
Failing FRU:
Modem
Go to Step 041, Entry Point CC.

040
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Step 041, Entry Point CC.

041
(Entry Point CC)

Replace or repair the failing FRU.
Reconnect external modem if disconnected.

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

042
Go To Map 0001, Entry Point A.

043
Reference code 8894XX81 or 8892XX81?
Y N

044
Follow new reference code.

045
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

046
Replace next FRU.
Go to Step 041, Entry Point XX.

047
Go To Map 0001, Entry Point P.

INTERFACE CARD WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
3	010	0001	A
3	016	0001	A
3	015	0001	P

001

(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88751081	2120	88759881	2240
88751881	2110	8875A881	2260
88752081	2310	8875B881	2220
88753081	2630	8875C881	2280
88755081	8200		
88758081	2410	8875D881	2240
88759081	2510	8875E881	2200

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..

(Step 001 continues)

(Step 001 continued)
- Board 01A-C2

Visually check all hardware components of the failing communication line:

-IF- card 01A-C2.. (Note 1)
Check for proper seating and for corect jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

Replace the IF card (of failing line); 01A-C2..

Run ILT 21, mode S (signel run).
For ILT run procedure see Vol.14 STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?
Y N

007
Same reference code as before?
Y N

008
Follow new reference code.

009
Replace the CCA card (of failing line); 01A-C2..

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

010
Go To Map 0001, Entry Point A.

011
Same reference code as before?
Y N

012
Follow new reference code.

A B

A B 1170 MAP 88AF-3

013
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

014
Replace next FRU.
Go to Step 009, Entry Point XX.

015
Go To Map 0001, Entry Point P.

016
Go To Map 0001, Entry Point A.

PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
3	011	0001	A
3	015	0001	A
4	023	8880	A

001
(Entry Point A)

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88851081	2160	88852081	2320
88851481	2160	88852481	2320
88851881	2150	88853081	2630
88851C81	2150	88858081	2420
		88859081	2520

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Board 01A-C2
- Cables

(Step 001 continues)

(Step 001 continued)
Visually check all hardware components of the failing communication line:

-IF- card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 22, mode S (single run) For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

EIA adapter?
Y N

007
Go to Page 4, Step 023, Entry Point CC.

008
Reference code 88851881?
Y N

009
Reference code 88851081?
Y N

010
Replace the IF card (of failing line);
01A-C2..

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

011
Go To Map 0001, Entry Point A.

012
Same reference code as before?
Y N

013
Follow new reference code.

A B C

A B C 1180 MAP 88B0-3

014
Replace the CCA card (of failing line);
01A-C2..

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

015
Go To Map 0001, Entry Point A.

016
Same reference code as before?
Y N

017
Follow new reference code.

018
Go to Page 4, Step 023, Entry Point CC.

019
Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

020
Go to Page 4, Step 023, Entry Point CC.

021
Follow new reference code.

022
Go to Page 4, Step 023, Entry Point CC.

023
(Entry Point CC)

Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals:
Transmit Data
Receive data
Transmit Data RTN
Receive Data RTN

Go To Map 8880, Entry Point A.

MODEM WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
3	014	0001	A
3	013	0001	P

001
(Entry Point A)

Possible Failing FRUs:

- Board 01A-C2
- Cables
- Modem

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	suppl.CA	REF.CODE	SUPPL.CA
88951481	2140	88951C81	2130
88952481	2330		

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:
For physical locations see the referenced page given in Table A.

MODEM WRAP ERROR

(Step 001 continued)
-IF- card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:
See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

Disconnect the modem and connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

007
Follow new reference code.

008
Failing FRU:
Modem

Replace or repair the failing FRU

Reconnect the modem

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

009
Same reference code as before?
Y N

010
Follow new reference code.

A B

011
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

012
Replace next FRU.
Go to Step 008, Entry Point XX.

013
Go To Map 0001, Entry Point P.

014
Go To Map 0001, Entry Point A.

SELF TEST PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
4	019	0001	A
5	035	0001	A
6	042	0001	A
6	047	0001	P

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the
reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA
88A41081	2180
88A41481	2180
88A41881	2170
88A41C81	2170

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..
- Board 01A-C2
- Cables
- Self test wrap plug

(Step 001 continues)

(Step 001 continued)
Visually check all hardware components of the failing communication line:

-IF- card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used.

```
On the screen ----->88A4XX81YYYY
                                ----
Additional information----->YYYY
Digit ----------------------1234
                              4
                              |
      |---------------------->|
      |
Digit 4 holds information about
the test result.
```

Do the following:

Write down the value of digit 4 in binary notation.

DIGIT	HEX VALUE	BINARY VALUE BIT 0 1 2 3
4	_	_ _ _ _

Is bit 1 or 2 (or both) '1'?
Y N

007
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

A

A 1200 MAP 88B2-3

008
Start ILT 24, mode LI (scope loop).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Prepare the CE probe as follows:

Technology: multi
Latch: none
Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

IMPORTANT
When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Failing signal:
------> Receive Data

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

009
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

010
EIA adapter?
Y N

011
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

012
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

013
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

014
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

015
Replace IF card (of failing line); 01A-C2..

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satistactory?
Y N

016
Reference code 88A4XX81 or 88A2XX81?
Y N

017
Follow new reference code.

F G

D F G 3

018
Go to Page 5, Step 038, Entry Point AA.

019
Go To Map 0001, Entry Point A.

020
Probe 'Receive Data' at test point C-IN.

Signal ok?
Y N

021
Probe 'Receive Data' at test point D-OUT.

Signal ok?
Y N

022
Probe 'Transmit Data' at test point D-IN.

Signal ok?
Y N

023
Probe 'Transmit Data' at test point C-OUT.

Signal ok?
Y N

024
Probe 'Transmit Data' at test point B-IN.

Signal ok?
Y N

5 5 5 5 5 5
H J K L M N

J K L M N
4 4 4 4 4

REF.C.88A4XX81

SELF TEST PLUG WRAP

PAGE 5 OF 6

025
Probe 'Transmit Data' at test point A-OUT.

Signal ok?
Y N

026
Failing FRU:
CCA card (of failing card); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

027
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

028
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

029
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

030
Go to Step 038, Entry Point AA.

031
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

B C H
3 3 4

1200 MAP 88B2-5

032
Failing FRU:
IF card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

033
Failing FRU:
Board 01A-C2

Go to Page 6, Step 041, Entry Point CC.

034
Replace CCA
Run ILT 24, mode S (single run) to verify correct operation. For ILT procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

035
Go To Map 0001, Entry Point A.

036
Reference code 88A4XX81 or 88A2XX81?
Y N

037
Follow new reference code.

038
(Entry Point AA)

Disconnect the modem and the self test wrap plug. Connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satistactory?
Y N

039
Follow new reference code.

040
Failing FRU:
Self test wrap plug.
Go to Step 041, Entry Point CC.

041
(Entry Point CC)

Replace or repair the failing FRU.
Reconnect the self test wrap plug and the modem if disconnected.

(Entry Point XX)

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

042
Go To Map 0001, Entry Point A.

043
Reference code 88A4XX81 or 88A2XX81?
Y N

044
Follow new reference code.

045
Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs step 001 of this MAP.)

Y N

046
Replace next FRU.
Go to Step 041, Entry Point XX.

047
Go To Map 0001, Entry Point P.

SELF TEST PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
3	014	0001	A
3	013	0001	P

001
(Entry Point A)

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL CA
88A51081	2180
88A51481	2180
88A51881	2170
88A51C81	2170

Possible Failing FRUs:

- Board 01A-C2
- Cables
- Self test wrap plug

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:
For physical locations see the referenced page given in Table A.

SELF TEST PLUG WRAP

(Step 001 continued)
-IF-card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is set up
adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:
See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

Disconnect the modem and the self test wrap plug and connect the cable wrap plug.

(Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

007
Follow new reference code.

008
Failing FRU :
Self test wrap plug.
Replace or repair the failing FRU.
Reconnect the self test wrap plug and the modem.

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

009
Same reference code as before?
Y N

010
Follow new reference code.

A B

A B 1210 MAP 88B3-3

011
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

012
Replace next FRU.
Go to Step 006, Entry Point XX.

013
Go To Map 0001, Entry Point P.

014
Go To Map 0001, Entry Point A.

INTERFACE CARD WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	004	0001	A
3	010	0001	A
4	016	0001	A
4	015	0001	P

001

(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88761081	2120	88769881	2240
88761881	2110	8876A881	2260
88762081	2310	8876B881	2220
88763081	2630	8876C881	2280
88765081	8200		
88768081	2410	8876D881	2240
88769081	2510	8876E881	2200

Possible Failing FRUs:

- CCA card (of failing line);
  01A-C2..
- IF card (of failing line);
  01A-C2..

(Step 001 continues)

(Step 001 continued)
- Board 01A-C2

If X.21 XLCA adapter is installed:
-Cables and connectors from board 01A-C2 to DCE (Data Communication Equipment)

-DCE

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1)
Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Note 1:
For physical locations see the referenced page given in Table A.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

3 3
A B

004
Go To Map 0001, Entry Point A.

005

Go to Step 006, Entry Point BB.

006
(Entry Point BB)

Replace the IF card (of failing line); 01A-C2..

Run ILT 21, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

007
Same reference code as before?
Y N

008
Follow new reference code.

009
Replace the CCA card (of failing line); 01A-C2..

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).
Any error?
Y N

010
Go To Map 0001, Entry Point A.

011
Same reference code as before?
Y N

012
Follow new reference code.

013
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

014
Replace next FRU.
Go to Page 3, Step 009, Entry Point XX.

015
Go To Map 0001, Entry Point P.

016
Go To Map 0001, Entry Point A.

PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
3	009	8880	A

001
(Entry Point A)

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below

Table A

REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
88861081	2160	88862081	2320
88861481	2160	88862481	2320
88861881	2150	88863081	2640
88861C81	2150	88868081	2420
		88869081	2520

Possible Failing FRUs:

- If card (of failing line); 01A-C2..
- Board 01A-C2
- Cables

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:
For physical locations see the referenced page given in Table A.

(Step 001 continued)
-IF- card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 22, mode S (single run). For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:
See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

Replace IF card (of failing line)
01A-C2...
Run ILT 22, mode S (single run).
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

007
Same reference code as before?
Y N

008
Follow new reference code.

009
Failing FRU:
Board 01A-C2, cables or tailgate 01E

Go To Map 8880, Entry Point A.

010
Reconnect DCE/ modem, if disconnected, or switch DCE to normal function.

MODEM WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
3	014	0001	A
3	013	0001	P

001
(Entry Point A)

Possible failing FRUs:

- Board 01A-C2
- Cables
- Modem

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	suppl.CA	REF.CODE	SUPPL.CA
88961481	2140	88961C81	2130
88962481	2330		

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:
For physical locations see the referenced page given in Table A.

(Step 001 continued)
-IF- card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

006
(Entry Point BB)

Disconnect the modem and connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

007
Follow new reference code.

008
Failing FRU:
Modem
Replace or repair the failing FRU.

Reconnect the modem.

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

009
Same reference code as before?
Y N

010
Follow new reference code.

A B

A B 1213 MAP 88B7-3

011
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

012
Replace next FRU.
Go to Step 008, Entry Point XX.

013
Go To Map 0001, Entry Point P.

014
Go To Map 0001, Entry Point A.

SELF TEST PLUG WRAP ERROR

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
3	014	0001	A
3	013	0001	P

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

REF.CODE	SUPPL CA
88A61081	2180
88A61481	2180
88A61881	2170
88A61C81	2170

Possible Failing FRUs:

- Board 01A-C2
- Cables
- Self test wrap plug

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:
For physical locations see the referenced page given in Table A.

(Step 001 continued)
-IF-card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1)
Check for proper seating.

-Check that all cables and
connectors from board
01A-C2 to the Data Commu-
nication Equipment (DCE)
are seated properly.

-Check that the DCE is
set up adequately.

Any problem detected?
Y N

002
Go to Page 3, Step 006, Entry Point BB.

003
Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?
Y N

004
Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:
See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

006
(Entry Point BB)

Disconnect the modem and the self test wrap plug and connect the cable wrap plug.

(Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

007
Follow new reference code.

008
Failing FRU:
Self test wrap plug.
Replace or repair the failing FRU.
Reconnect the self test wrap plug and the modem.

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?
Y N

009
Same reference code as before?
Y N

010
Follow new reference code.

A B

A B 1214 MAP 88B8-3

011
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

012
Replace next FRU.
Go to Step 006, Entry Point XX.

013
Go To Map 0001, Entry Point P.

014
Go To Map 0001, Entry Point A.

CA CONFIGURATION MAP

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

001

```
**************************************************
**************************************************
* Caution: Do not press any Keyboard Key or the *
* IML Key during updating the diskette because  *
* information can be destroyed in this case.    *
**************************************************
**************************************************
```

(Entry Point A)

CA Configurator Update

If CA is installed, a CA configuration table has to be updated for each CA line. (See CA documentation, Section CA tools). The necessary information must be obtained from the physical installation planning documents. The data from the configuration table must also be added to a CA form provided in the Supplement to MAPs.

How to display the configuration table:

1. While holding ALTERNATE key, press MODE SELECT key.
2. Enter "D" (CA Tools).
3. Enter "A" (CA Configuration Table Update)
   Refer to Vol.14, STM FEAT, section: CA
   (CA Tools Update Configuration Table).
4. Configuration for first CA line (line 30) will now be displayed.

(Step 001 continues)

CA CONFIGURATION

(Step 001 continued)
Do you want to configure line 30?
Y N

002
(Entry Point D)

While holding ALTERNATE, press PF4 key.
Next CA line is displayed.

Do you want to change this configuration?
Y N

003
Last line installed?
Y N

004
Go to Step 002, Entry Point D.

005
Go to Page 5, Step 011, Entry Point C.

006
Go to Step 007, Entry Point B.

007
(Entry Point B)

Check for correct line address, line control procedure (BSC, SS or SDLC), clocking and adapter type.

Functions of the PF Keys:
PF1 Key - moves the long arrow in the left margin to the option to be changed.
PF2 Key - moves the short arrow in the selected option field to the value to be changed.
PF3 Key - terminates the configuration data display/update without updating the configuration data in the processor or on the control diskette.
PF4 Key - display the configuration data of the next line address.

Is this a S/S (Start/Stop) line?
Y N

3 3
A B

008
Go to Page 4, Step 010, Entry Point H.

009
Go to Page 6, Step 015, Entry Point K.

010
(Entry Point H)

This is a synchronous line.
Select the proper options based on the following descriptions:

Switched Network - Select 'yes' if line is switched (a dial-up phone connection is required).

Perm. Request to Send - Select 'yes' if line is 4-wire leased (non-switched), or if 2-wired duplex modems are used (switched or non-switched), or CPU is the master station in multipoint network.

Wrap Test Selection - Select 'MODEM' if modem has the capability to respond to the Test Control signal.(Check with modem manufacturer.) This option must match the jumper option installed on the EIA card.

Select Standby - This bit can be used if the modem has a switched network backup capability. select 'yes' if the switched network is to be used instead of leased line.

Modem Answer Tone - Select 2100 if CCITT answering frequency is required. This depends on ACU equipment at the remote location.
- Select 2025 if WE202C or WE202D mode. This depends on ACU equipment at the remote location.

New Sync - Select 'yes' only if modem that is attached uses "New Sync". IBM 4972 and 3872/4/5 modems have this feature. For OEM modems, check with manufacturer.

EIB Mode - (EIB = Error Index Byte) usually no. Check with customer's programmer (BSC line control only).

Data Signal Rate Select - This is used to select the speed of a dual speed external modem. This is normally set to high.

(Step 010 continues)

CA CONFIGURATION

(Step 010 continued)

High Speed Operation	- Select 'yes' only if line speed is greater than 9.6 KBPS (V35 or HSDI or high speed DDS or high speed X.21 adapters only). This mode is valid for line 30 only.
Modem Procedure	- Usually 'DTR'. Check with modem manufacturer.
Data Code	- Usually 'EBCDIC'. Check with customer's programmer (BSC line control only).
NRZI	- Usually NRZI is on. Check with customer/ programmer (SDLC line control only).

Are there more CA lines to be configured?
Y N

011
(Entry Point C)

Do you want the changes to be written on the diskette (permanent changes)?

Y N

012
While holding ALTERNATE key, press PF3 key. (exit w/o update).

013
Press ENTER key. A Caution message appears. Press ENTER again. (Config. data will now be updated and written on diskette.)

Note: To activate new configuration perform IML.

014
While holding ALTERNATE key press PF4 key.
Go to Page 2, Step 007, Entry Point B.

015
(Entry Point K)

Start/Stop Line Configuration

Select the proper options based on the following descriptions:

Switched Network - Select 'yes' if line is switched (a dial-up phone connection is required).

Perm. Request to Send - Select 'yes' if line is 4-wire leased (non-switched), or if 2-wire full duplex modems used (switched or non-switched), or if Break Feature used for 274X, or processor is the master station in multipoint network.

Wrap Test Selection - Select 'MODEM' if the modem has the capability to respond to the 'Test Control' signal. (Check with modem manufacturer.) This option must match the jumper option installed on the EIA card.

Select Standby - Used only to select switched network backup (if installed). This is normally "no".

Modem Answer Tone - Select 2100 if CCITT answering frequency is required. This depends on ACU equipment at the remote location.
- Select 2025 if WE202C or WE202D mode. This depends on ACU equipment at the remote location.

Read Interrupt - Specifies that the break command can be used on this line. The remote terminal must have the write interrupt capability and the line must have duplex facility. Check with customer's programmer or remote terminal CE for information.

(Step 015 continues)

(Step 015 continued)

Write Interrupt - Indicates that the attachment can recognize a break signal from the remote terminal. The line must have duplex facility. Check with the customer.

Unit Except Suppress - Usually 'yes'.

Stop Bit(s) - Select one or two stop bits. Check if the remote terminal requires one or two stop bits. This option is only for TTC-2. Two stop bits are normally used only for 110 BPS.

Delay Select (Char.) - If permanent Request To Send is 'yes' select '0', except in case of multipoint where delay select should to be used. If permanent Request To Send is 'no', select '2' or if faster turnaround is wanted, select '1'.

Line Speed (BPS) - Select customer's desired speed. Hardware must be wired according to selected speed. Refer to Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

CR as Line Control Character - If 'yes', then carriage return (CR) is used as control character in addition to the normal control characters causing the 'read' command to end with 'channel end' and 'device end'. This option is only for TTC-2.

- If 'no', normal control characters are used.

Are there more lines to be configured?

Y N

016

Go to Page 5, Step 011, Entry Point C.

017

While holding ALTERNATE key, press PF4 Key.

Go to Page 2, Step 007, Entry Point B.

CA UNIT CHECK LOG MAP

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	A	1	001

001
(Entry Point A)

Go to Vol.14, STM FEAT, section: CA (CA Unit Check Log and Sense Byte Analysis).