Volume Table of Contents

0830 MAP VTOC-1

 Volume:
 03

 Title:
 MI MAPS 8XXX-4B70

 Machine Type:
 4331-2 / 4331-11

 Power Design Level:
 4/5

 B/M Number 4331-2:
 5683353

 B/M Number 4331-11:
 4687135

PAGE	NUMBER	PART NO.
0	830	4687027
0	849	8483815
0	850	5683168
0	860	5683169
0	870	5683171
0	880	5683173
0	881	5683170
0	882	5683172
0	883	5683174
0	884	5683175
0	886	5683176
0	888	5683177
0	890	5683312
0	900	5683463
0	910	5683313

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13SEP82	PN 4687027
EC 366582	PEC 366493
0830	MAP VTOC-1



REF.CODE 8XXXXXX FIX 0003

0850

Ref.Code Directory

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
EA00	A	. 1	001
0000	A	1	001
0020	A	- 1	001
0800	A	1	001

001

(Entry Point A)

REFERENCE CODE DIRECTORY

Reference Code	Title	Goto MAP
80000081	BMPX-1 adapter test	8070
80000181	BMPX 1 Standard Interface test	8080
80100081	BMPX-1 adapter test	8070
80200081	BMPX-2 adapter test	8170
80XXXX01	SCA-log (BMPX 1)	8000
81100081	BMPX-2 adapter test	8170
81000181	BMPX 2 Standard Interface test	8180
81XXXX01	SCA-log (BMPX 2)	8100
82XXXX81 82000181 82XXXX01	HSC test HSC standard interface test HSC log	8270 8280 8200

(Step 001 continues)

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REF.CODE 8XXXXXXX	EC 366390	PEC 366388
4331	0850	MAP 8XXX-1

0850

REF.C.8XXXXXXX

Ref.code directory

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(Step 001 continued)

Reference Code	Title	Goto MAP
88B0XX81 88BBBB81 88C0XX81 88DXXX8F	ACA card wrap error Board and cable errors ACA plug wrap error In line problems	8882 8880 8884 0001,
88EXXX01	CA channel log MAP	Entry Point 0 8800
88FFFF80	CA configuration MAP	88FF
88XXXX81	Link to CA MAPs	8886
89FXXX01	 CA unit check log MAP 	 8900

 10APR81
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 PEC 366388

 0850
 MAP 8XXX-3

REF.CODE 80XXXX01 FIX 0008

SCA LOG (BMPX1)

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
0C00	AA	2	001
0C00	MM	53	056
4902	MM	53	056
8XXX	A	1	001

EXIT POINTS

EXIT TH	IS MAP	Т0	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
55 55 56 59 53 54 55 59 6 9 17 17 62 56 52 17 62	071 080 085 144 055 059 083 142 005 005 005 005 005 165 086 041 005	0000 0000 0000 0001 0001 0001 0001 000	A A A A A A A A A O O O O O O O O O O O
56 56 55	096 090 076	8070 8070 8070 8070	A A A
53 63 56	046 175 093	8070 8080 8080	A A A

001

(Entry Point A)

Make sure that you have traced the START MAP 0000 precisely.

Another reference code may be more important than the one you got first.

(Step 001 continues)

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REF.CODE 80XXXX01	EC 366589	PEC 36
AAA0860	0860	MAP 8



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SCA LOG

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002

B 2

The error is obviously intermittent; most probably caused by any control unit/device attached to this channel or it is caused by the standard interface cabling/connectors.

The following SCA log picture below will be used when tracing this MAP:

1. Take the reference code from BMPX1 log display and look it up in the 'reference code table' which after some questions follows the SCA log picture.

2.Go to the entry point in the MAP as indicated by the reference code table.

3.Fetch additional information from the SCA log display, field A, B or C when told by this MAP.

(Step 002 continues)

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 MAP 8000-3

SCA LOG

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(Step CO2 continued) Is there more than one control unit connected to this channel (BMPX1)? Y N

003 Go to Step 005, Entry Point CC.

004

Display and note all available BMPX1 logs. Note down the device (Control unit) addresses displayed in field C of SCA log display.

Press COPY key, if console printer is available, or use FRIEND command PRINT LOG to get printouts of the logs.

Is it always the same control unit? Y $\,N\,$

i.v

005 (Entry Point CC)

Now look up the reference code of the SCA log BMPX1 in the following list and go to the indicated entry point:

REF. Code

80110101

Interface Control Check Go to Page 53, Step 049, Entry Point U.

Ref. Code

80110201

8 C Channel Control Check Go to Page 36, Step 040, Entry Point 60.

(Step 005 continues)

MAP 8000-5

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 MAP 8000-5



SCA LOG

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(Step 005 continued)

Ref. Code

80115101

Interface Control Check Go to Page 50, Step 040, Entry Point AH.

Ref. Code

80115201

Interface Control Check Go to Page 50, Step 040, Entry Point AJ.

Ref. Code

80216101

Channel Data Check Go to Page 41, Step 040, Entry Point 85.

Ref. Code

80217101

Interface Control Check Go to Page 25, Step 040, Entry Point 16.

Ref. Code

80218101

Channel Data Check Go to Page 26, Step 040, Entry Point 17.

Ref. Code

80219101 Go to Page 51, Step 040, Entry Point R1. (Step 005 continues) 0860

MAP 8000-7

(Step 005 continued)

Ref. Code

80220101 Go to Page 51, Step 040, Entry Point R2.

Ref.Code

80221101 Go to Page 51, Step 040, Entry Point R3.

Ref. Code

80222101

Channel Control Check Go to Page 51, Step 040, Entry Point R4.

Ref. Code

80325101

Interface Control Check Go to Page 23, Step 040, Entry Point 9.

Ref. Code

80325201

Channel Control Check Go to Page 36, Step 040, Entry Point 63.

Ref. Code

80325301

Channel Control Check. Check whether any control unit was switched off, otherwise Go to Page 23, Step 040, Entry Point 10.

(Step 005 continues)

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EC 366589	PEC 366515
0860	MAP 8000-7

SCA LOG

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(Step 005 continued)

Ref. Code

80334101

Interface Control Check Go to Page 26, Step 040, Entry Point 20.

Ref. Code

80335101 Go To Map 0001, Entry Point O.

Ref. Code

80336101

Interface Control Check Go to Page 26, Step 040, Entry Point 21.

Ref. Code

80337101

Channel Control Check Go to Page 41, Step 040, Entry Point 86.

Ref. Code

80337201

Channel Control Check Go to Page 42, Step 040, Entry Point 87.

Ref. Code

80338101

Interface Control Check Go to Page 48, Step 040, Entry Point A9.

(Step 005 continues)

(Step 005 continued)

Ref. Code

80339101

Interface Control Check Go to Page 48, Step 040, Entry Point A9.

Ref. Code

80340101

Interface Control Check Go to Page 33, Step 040, Entry Point 47.

Ref. Code

80340201

Interface Control Check Go to Page 37, Step 040, Entry Point 67.

Ref. Code

80340301

Interface Control Check Go to Page 33, Step 040, Entry Point 48.

Ref. Code

80340401

Interface Control Check Go to Page 37, Step 040, Entry Point 68.

Ref. Code

80340501

Interface Control Check (Step 005 continues)

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EC 366589	PEC 366515
0860	MAP 8000-9

0860

SCA LOG

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(Step 005 continued) Go to Page 42, Step 040, Entry Point 88.

Ref. Code

80653101

Channel Data Check Go to Page 27, Step 040, Entry Point 23.

Ref. Code

80757101

Interface Control Check Go to Page 34, Step 040, Entry Point 52.

Ref. Code

80757201

Channel Control Check Go to Page 38, Step 040, Entry Point 72.

Ref. Code

80760101

Interface Control Check Go to Page 23, Step 040, Entry Point 11.

Ref. Code

80760201

Channel Control Check Go to Page 39, Step 040, Entry Point 73.

(Step 005 continues)

0860

MAP 8000-11

(Step 005 continued)

Ref. Code

80761101

Interface Control Check Go to Page 27, Step 040, Entry Point 24.

Ref. Code

80762101

Interface Control Check Go to Page 27, Step 040, Entry Point 25.

Ref. Code

80763101

Interface Control Check Go to Page 48, Step 040, Entry Point AB.

Ref. Code

80764101

Channel Control Check Go to Page 42, Step 040, Entry Point 89.

Ref. Code

80764201

Channel Control Check Go to Page 43, Step 040, Entry Point 90.

Ref. Code

80765101

Interface Control Check (Step 005 continues)

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0860	MAP 8000-11

SCA LOG

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(Step 005 continued)

Ref. Code

80771101

Interface Control Check Go to Page 28, Step 040, Entry Point 28.

Ref. Code

80771201

Interface Control Check Go to Page 28, Step 040, Entry Point 29.

Ref. Code

80772101

Channel Control Check Go to Page 43, Step 040, Entry Point 93.

Ref. Code

80773101

Interface Control Check Go to Page 50, Step 040, Entry Point AK.

80880101

Interface Control Check Go to Page 52, Step 040, Entry Point QT.

Ref. Code

80881101

Interface Control Check Go to Page 24, Step 040, Entry Point 12. (Step 005 continues) 0860

(Step 005 continued)

Ref. Code

80881201

Channel Control Check Go to Page 39, Step 040, Entry Point 76.

Ref. Code

80883101

Channel Control Check Go to Page 43, Step 040, Entry Point 94.

Ref. Code

80883201

Channel Control Check Go to Page 43, Step 040, Entry Point 95.

Ref. Code

80884101

Interface Control Check Go to Page 29, Step 040, Entry Point 37.

Ref. Code

80885101

Interface Control Check Go to Page 30, Step 040, Entry Point 38.

(Step 005 continues)

 15SEP82
 PN 5683169

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 MAP 8000-13

SCA LOG

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(Step 005 continued)

Ref. Code

80897101

Channel Control Check Go to Page 49, Step 040, Entry Point AF.

Ref. Code

80898101

Channel Control Check Go to Page 44, Step 040, Entry Point 98.

Ref. Code

80899101

Interface Control Check Go to Page 31, Step 040, Entry Point 3B.

Ref. Code

8089A101

Interface Control Check Go to Page 20, Step 040, Entry Point 3.

Ref. Code

8089A201

Channel Control Check Go to Page 39, Step 040, Entry Point 79.

Ref. Code

80AA0101

Channel Data Check (Step 005 continues) 0860

(Step 005 continued) Go to Page 44, Step 040, Entry Point 99.

Ref. Code

80AA1101

Channel Data Check Go to Page 28, Step 040, Entry Point 33.

Ref. Code

80AA2101

Error during data transfer end Go to Page 61, Step 165, Entry Point R.

Ref. Code

80AA3101

Error during data transfer end. OPERATIONAL IN = 0 Go to Page 61, Step 165, Entry Point R.

Ref. Code

80AA4101

Channel Control Check Go to Page 51, Step 040, Entry Point R7.

Ref. Code

80AA5101

Interface Control Check Go to Page 31, Step 040, Entry Point 3C.

(Step 005 continues)

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EC 366589	PEC 366515
0860	MAP 8000-15

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(Step 005 continued)

Ref. Code

80DD8101

Channel Control Check Go to Page 45, Step 040, Entry Point A2.

Ref. Code

80DDA101

Interface Control Check Go to Page 21, Step 040, Entry Point 4.

Ref. Code

80DDA201

Channel Control Check Go to Page 40, Step 040, Entry Point 81.

Ref. Code

80DDB101

Interface Control Check Go to Page 35, Step 040, Entry Point 57.

Ref. Code

80DDB201

Channel Control Check Go to Page 40, Step 040, Entry Point 82.

Ref. Code

80DDC101

Interface Control Check (Step 005 continues) (Step 005 continued) Go to Page 35, Step 040, Entry Point 58.

0860

Ref. Code

80DDC201

Channel Control Check Go to Page 41, Step 040, Entry Point 83.

Ref. Code

80FF0101

Subchannel probably not defined Go to Page 52, Step 041, Entry Point K1.

Ref. Code

80FF1101

Subchannel probably not defined Go to Page 52, Step 041, Entry Point K1.

Ref. Code

80FF2101 Go To Map 0001, Entry Point O.

80FFF101 Go To Map 0001, Entry Point O.

Ref. Code

80XXXX01 Go To Map 0001, Entry Point P.

 15SEP82
 PN 5683169

 EC 366589
 PEC 366515

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 MAP 8000-17



Q	REF.CODE 80XXXX01	W 0860 MAP 8000-19
8	SCA LOG	
	PAGE 19 OF 63	
018 'Rese	erved'	023 (Entry Point 1)
YN		
01	9	See field A of SCA log display.
'Re	eserved'	ADDRESS IN = 1 ?
Y	N	Y N
	020	024
	'Reserved'	Go to Step 027, Entry Point 5Z.
	Y IU	l 025
	021	COMMAND OUT = 1 ?
	'Reserved' Y N	Y N I
		026
	022 'Beserved'	Go to Step 031, Entry Point 5C.
	YN	027
		(Entry Point 5Z)
		STATUS IN = 1 ?
		YN
		028
		Go to Page 20, Step 033, Entry Point 5Y.
		029
		COMMAND OUT = 1 ?
		Y N
		030
		SERVICE OUT = 1 ?
		YN STATES
		031
		(Entry Point 5C)
		Go to Page 53, Step 056, Entry Point M.
		Go to Page 20, Step 033, Entry Point 5Y.
		I 15SEP82 PN 5683169
55 32	5 5 2 2 2 0	2 EC 366589 PEC 366515 0
R S	TUVW generalized strategies in the strategies of the	X 0860 MAP 8000-19

SCA LOG

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(Step 040 continued) (Entry Point 4)

Interface Control Check during CLRIO/HDV/HIO operation:

Check Trap (Tag in check, or time-out, or any overcurrent) while waiting for SELECT IN to drop.

SELECT IN = 1

Sequence code: CLRIO = 0 HDV/HIO = undefined

(Entry Point DO)

Sequence code 0 means: Channel detected error during TIO or Clear I/O. Go to Page 58, Step 123, Entry Point D.

(Entry Point 5)

Channel Control Check during trap reason analysis:

Tag In Trap OPERATIONAL IN = 1 ADDRESS IN = 0 STATUS IN = 1 REQUEST IN may be on or off

Sequence code = 5. Go to Page 19, Step 023, Entry Point J.

(Entry Point 7)

Channel Control Check during trap reason analysis:

Tag In Trap and Polling Trap

OPERATIONAL IN = 0 SELECT IN = 1

Device address = invalid Go to Page 53, Step 056, Entry Point M. (Step 040 continues) (Step 040 continued)

-----(Entry Point 7X)

Channel Control Check during trap reason analysis:

0860

Tag IN Trap

SCA in data transfer mode.

Sequence code = 5 Go to Page 25, Step 040, Entry Point GT.

(Entry Point 7Y)

Interface Control Check during trap reason analysis:

No Any Trap Request (Trap Loop counter exhausted)

REQUEST IN = 0 SERVICE IN = 1 DATA IN = 1

Device address = invalid Go to Page 53, Step 056, Entry Point M.

(Entry Point 7Z)

Interface Control Check during trap reason analysis:

No Any Trap Request (Trap loop counter exhausted)

REQUEST IN = 1 SERVICE IN = 0 DATA IN = 0

Device address = invalid (Step 040 continues)

.

15SEP82	PN 5683169
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0860	MAP 8000-21



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(Step 040 continued) (Entry Point 9)

Interface Control Check during polling sequence:

Check Trap (Tag in check, or time-out, or any over overcurrent), while waiting for ADDRESS IN.

ADDRESS IN = 1, no Bus in Buffer parity check.

Sequence code = 5

(Entry Point H5)

Sequence code = 5 means: Command had been accepted, but data transfer was discontinued. Go to Page 59, Step 147, Entry Point H.

(Entry Point 10)

Channel Control Check during polling sequence. Check Trap (Tag in check, or time-out, or any overcurrent), while waiting for ADDRESS IN.

ADRESS IN = 0 or 'Bus in Buffer' parity check. Device address = invalid. Go to Page 59, Step 147, Entry Point H.

-----(Entry Point 11)

Interface Control Check during command chaining sequence:

Check Trap (Tag in check, or time-out, or any overcurrent), while waiting for ADDRESS IN.

Sequence code = invalid. Go to Page 59, Step 147, Entry Point H.

(Step 040 continues)

 15SEP82
 PN 5683169

 EC 366589
 PEC 366515

 0860
 MAP 8000-23

SCA LOG

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(Step 040 continued) (Entry Point 14)

Interface Control Check during polling sequence

Trap loop counter exhausted.

Device address = invalid Go to Page 53, Step 056, Entry Point M.

(Entry Point 16)

Interface Control Check during ending status handling:

STATUS IN = 1, Ending Status.

'Bus in Buffer' parity check.

Inbound or outbound operation.

Unit Status in 'Bus in Buffer' = invalid.

For sequence code see byte 52, bit 5, 6, 7 of SCA log display.

(Entry Point GT)

See the meaning of the sequence code in the following table, then continue:

Sequence Code

000 = Channel detected error during TIO or Clear 1/0

001 = Command went out, but device status not received

010 = Status received, but no data transferred

011 = At least one byte of data was transferred

100 = Command code in current CCW was either not sent out or was sent but not accepted by the device

101 = Command was accepted, but data transfer is discontinued.

Go to Page 56, Step 097, Entry Point G.

(Step 040 continues)

0860

15SEP82

EC 366589

0860

PN 5683169

PEC 366515

MAP 8000-25

SCA LOG

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(Step 040 continued) (Entry Point 22)

Channel Control Check during command chaining sequence:

CHANNEL END received only.

Tag in Trap while waiting for 'operational in' to fall.

OPERATIONAL IN = 1 ADDRESS IN = 0 STATUS IN = 0 SERVICE IN = 1 DATA IN = 1

SCA is in EC-mode. Go to Page 56, Step 097, Entry Point G.

(Entry Point 23)

Channel Data Check during data chaining:

Inbound operation 'Bus In Data' parity check Go to Page 56, Step 097, Entry Point G.

(Entry Point 24)

Interface Control Check during command chaining:

ADDRESS IN = 0 STATUS IN = 1 (Short CU busy)

Sequence code = invalid. Go to Page 56, Step 097, Entry Point G.

(Step 040 continues)

(Step 040 continued) (Entry Point 25)

Interface Control Check and interface disconnect during command chaining:

ADDRESS IN = 0 SELECT IN = 1 (no Bus Out parity check).

Interface Control Check during command chaining:

Tag in Trap while waiting for STATUS IN.

STATUS IN = 0 ADDRESS IN = 1 COMMAND OUT = 0 (command = dummy TIO)

Sequence code = invalid. Go to Page 56, Step 097, Entry Point G.

(Entry Point 27)

Interface Control Check during command chaining:

Sequence code = invalid

Tag in Trap waiting for 'status in'

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EC 366589	PEC 366515
0860	MAP 8000-27

0860

SCA LOG

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(Step 040 continued) (Entry Point 35)

Interface Control Check during command chaining:

Sequence code = invalid ADDRESS IN = 1

Bus in parity check. Go to Page 53, Step 056, Entry Point M.

(Entry Point 36)

Interface Control Check during command chaining:

Sequence code = invalid. ADDRESS IN = 1

Device address on Bus in is not equal to the device address on Bus Out. Go to Page 56, Step 097, Entry Point G.

(Entry Point 37)

Interface Control Check during initial selection:

Sequence code = 4,

command in current CCW was either not sent out, or it was sent out but not accepted by the device.

ADDRESS IN = 1 Bus in parity check. Go to Page 53, Step 056, Entry Point M.

(Step 040 continues)

0860

15SEP82PN 5683169EC 366589PEC 3665150860MAP 8000-29

SCA LOG

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(Step 040 continued) (Entry Point 3B)

Interface Control Check during initial selection sequence:

SELECT IN = 1, CU busy. Waiting for 'selection in' to drop. 1 msec timeout loop exhausted.

Sequence code = 7 (invalid) Go to Page 56, Step 097, Entry Point G.

(Entry Point 3C)

Interface Control Check during data transfer termination

SERVICE IN or DATA IN = 1 Waiting for 'service in' or 'data in' to drop. 1 msec timeout loop exhausted.

Sequence code = 7 (invalid) Go to Page 56, Step 097, Entry Point G.

(Entry Point 40)

Interface Control Check during CLRIO/HDV/HIO operation:

Device address = invalid.

Sequence code: CLRIO = 0 HDV/HIO = undefined

Sequence code 0 means: Channel detected error.

ADDRESS IN = 1

Device address on Bus In is not equal the device address on Bus Out. Go to Page 52, Step 042, Entry Point P.

(Step 040 continues)

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 PEC 366515

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 MAP 8000-31

SCA LOG

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(Step 040 continued) (Entry Point 46)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in'.

STATUS IN = 0 or Bus in Buffer parity check. Go to Page 57, Step 098, Entry Point B.

(Entry Point 47)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in' or 'service in'/ 'data in'.

STATUS IN = 0 SERVICE IN = 0 DATA IN = 0

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 48)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in' or 'service in' and

'data in'.

STATUS IN = 0 SERVICE IN = 1 DATA IN = 1

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT. (Step 040 continues) (Step 040 continued)

(Entry Point 49)

Interface Control Check during polling sequence:

0860

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in' or 'service in' / 'data in'.

STATUS IN = 1, SERVICE IN = 0DATA IN = 0.

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 50)

Interface Control Check during polling sequence:

STATUS IN = 1, SERVICE IN = 1, DATA IN = 1

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 51)

Interface Control Check during command chaining:

Only 'channel end' received. Command chaining indicated.

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'operational' in to fall.

See sequence code in byte 52, bit 5, 6, 7 of SCA log display and look it up in the sequence code table,

Go to Page 32, Step 040, Entry Point BT.

(Step 040 continues)

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EC 366589	PEC 366515
0860	MAP 8000-33

SCA LOG

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(Step 040 continued) (Entry Point 56)

Interface Control Check during initial selection:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in' to drop.

STATUS IN = 1 (short control unit busy).

Sequence code = 4, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 57)

Interface Control Check during CLRIO/HDV/HIO operation:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'operational in' to drop.

Sequence code: CLRIO = 0, HDV/HIO = undefined. Go to Page 32, Step 040, Entry Point BT.

(Entry Point 58)

Interface Control Check during CLRIO/HDV/HIO:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'operational in' drop.

Sequence code: CLRIO = 0, HDV/HIO = undefined. Go to Page 32, Step 040, Entry Point BT.

(Step 040 continues)

0860

 155EP82
 PN 5683169

 EC 3665589
 PEC 366515

 0860
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SCA LOG

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(Step 040 continued) (Entry Point 65)

Channel Control Check during polling sequence:

UNIT STATUS from 'Bus in Buffer', see byte 67 of SCA log display.

Check Trap while waiting for STATUS IN.

STATUS IN = 1 No 'Bus in Buffer' parity check.

Sequence code = 5. Go to Page 36, Step 040, Entry Point C5.

(Entry Point 66)

Channel Control Check during polling sequence:

UNIT STATUS = 00.

Check Trap while waiting for STATUS IN.

STATUS IN = 0, or 'Bus in Buffer' parity check.

Sequence code = 5, Go to Page 36, Step 040, Entry Point C5.

(Entry Point 67)

Interface Control Check during polling sequence:

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 0 SERVICE IN/DATA IN = 0

Sequence code = 5 Go to Page 36, Step 040, Entry Point C5.

(Step 040 continues)

(Step 040 continued) (Entry Point 68)

Interface Control Check during polling sequence:

0860

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 0 SERVICE IN/DATA IN = 1

Sequence code = 5, Go to Page 36, Step 040, Entry Point C5. ------

(Entry Point 69)

Interface Control Check during polling sequence:

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 1, SERVICE IN/DATA IN = 0.

UNIT STATUS from 'Bus in Buffer' see byte 67 of SCA log display.

Interface Control Check during polling sequence:

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 1, SERVICE IN/DATA IN = 1.

UNIT STATUS from 'Bus in Buffer' see byte 67 of SCA log display.

Sequence code = 5, (Step 040 continues)

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EC 366589	PEC 366515
0860	MAP 8000-37

SCA LOG

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(Step 040 continued) (Entry Point 73)

Channel Control Check during command chaining sequence:

Check Trap while waiting for ADDRESS IN.

Sequence code = invalid Go to Page 62, Step 166, Entry Point C.

(Entry Point 74)

Interface Control Check during command chaining sequence:

Check Trap while waiting for STATUS IN

Sequence code = invalid Go to Page 62, Step 166, Entry Point C.

(Entry Point 75)

Channel Control Check during command chaining sequence:

Check Trap while waiting for STATUS IN

Command = dummy TIO.

Sequence code = invalid. Go to Page 62, Step 166, Entry Point C.

(Entry Point 76)

Channel Control Check during initial selection sequence:

Check Trap waiting for response to ADDRESS OUT

Sequence code = 4, Go to Page 36, Step 040, Entry Point C4.

(Step 040 continues)

(Step 040 continued) (Entry Point 77)

Channel Control Check during initial selection sequence:

Check Trap while waiting for STATUS IN.

Sequence code = 1,

(Entry Point C1)

Sequence code 1 means:

Command went out but device status not received.

Go to Page 62, Step 166, Entry Point C.

(Entry Point 78)

Channel Control Check during initial selection sequence:

Check Trap waiting for STATUS IN to drop.

STATUS IN = 1 (short control unit busy).

UNIT STATUS from 'Bus in Buffer' see byte 67 of SCA log display.

Sequence code = 4, Go to Page 36, Step 040, Entry Point C4.

(Entry Point 79)

Channel Control Check during initial selection sequence:

Check Trap while waiting for SELECT IN to drop.

SELECT IN = 1.

Sequence code = 4, Go to Page 36, Step 040, Entry Point C4.

(Step 040 continues)

15SEP82	PN 5683169
EC 366589	PEC 366515
0860	MAP 8000-39

SCA LOG

PAGE 41 OF 63

(Step 040 continued) (Entry Point 83)

Channel Control Check during CLRIO/HDV/HIO operation:

Unexpected Trap while waiting for OPERATIONAL IN to drop.

Sequence code: CLR10 = 0 HDV/H10 = undefined Go to Page 40, Step 040, Entry Point C0.

(Entry Point 85)

Channel Data Check during terminal status handling:

Outbound operation. STATUS IN = 1 (terminal status) 'Bus Out Buffer' data parity check. Go to Page 52, Step 043, Entry Point F.

(Entry Point 86)

Channel Control Check during polling sequence:

BUS OUT parity check on COMMAND OUT

STATUS IN = 1

No Bus in Buffer parity Check.

Sequence code = 5

(Entry Point FT)

for meaning of sequence code see the following table, then continue.

Sequence Code

000 = Channel detected error during TIO or Clear I/O 001 = Command went out, but device status not received 010 = Status received, but not data transferred 011 = At least one byte of data was transferred (Step 040 continues)

0860

MAP 8000-41

 15SEP82
 PN 5683169

 EC 366589
 PEC 366515

 0860
 MAP 8000-41

SCA LOG

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(Step 040 continued) (Entry Point 90)

Channel Control Check during command chaining:

ADDRESS IN = 1 BUS OUT parity check on ADDRESS OUT.

Device address = invalid. Sequence code = invalid, Go to Page 52, Step 043, Entry Point F.

(Entry Point 91)

Channel Control Check during command chaining:

BUS OUT parity check on COMMAND OUT.

Sequence code = invalid. Go to Page 52, Step 043, Entry Point F.

(Entry Point 92)

Channel Control Check during command chaining:

BUS OUT parity check on COMMAND OUT.

Sequence code = invalid. Go to Page 52, Step 043, Entry Point F.

(Entry Point 93)

Channel Control Check during command chaining:

SELECT IN = 1 BUS OUT parity check on ADDRESS OUT.

Sequence code = invalid. Go to Page 52, Step 043, Entry Point F.

(Step 040 continues)

(Step 040 continued) (Entry Point 94)

Channel Control Check during initial selection:

ADDRESS IN =1 BUS OUT parity check on ADDRESS OUT.

0860

Sequence code = 4, Go to Page 41, Step 040, Entry Point FT.

(Entry Point 95)

Channel Control Check during initial selection:

ADDRESS IN = 1 BUS OUT parity check on ADDRESS OUT.

Device address = invalid.

Sequence code = 4, Go to Page 41, Step 040, Entry Point FT.

(Entry Point 96)

Channel Control Check during initial selection:

STATUS IN =1 BUS OUT parity check on COMMAND OUT.

Sequence code = 1, Go to Page 41, Step 040, Entry Point FT.

(Entry Point 97)

Channel Control Check during initial selection:

STATUS IN = 1 (short CU busy), ADDRESS IN = 0

BUS OUT parity check on ADDRESS OUT.

Device address = invalid.

 15SEP82
 PN 5683169

 EC 366589
 PEC 366515

 0860
 MAP 8000-43

SCA LOG

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(Step 040 continued) (Entry Point A1)

Channel Control Check during CLRIO/HDV/HIO operation:

ADDRESS IN = 1 BUS OUT parity check on ADDRESS OUT.

Device address = invalid.

Sequence code: CLRIO = 0, HDV/HIO = undefined. For meaning of sequence code Go to Page 41, Step 040, Entry Point FT.

(Entry Point A2)

Channel Control Check during CLRIO/HDV/HIO operation:

SELECT IN = 1, BUS OUT parity check on ADDRESS OUT.

Sequence code: CLRIO = 0, HDV/HIO = undefined. For meaning of sequence code Go to Page 41, Step 040, Entry Point FT.

(Entry Point A3)

Interface Control Check during polling sequence:

SERVICE IN = 1 HALT 1 Flag off, no SERVICE IN expected.

 15SEP82
 PN 5683169

 EC 366589
 PEC 366515

 0860
 MAP 8000-45

0860

SCA LOG

PAGE 47 OF 63

(Step 040 continued)

(Entry Point A7)

Interface Control Check during CLRIO/HDV/HIO operation:

All Traps are not down after interface disconnect.

Tag in Trap, unexpected Trap condition.

OPERATIONAL IN/ SERVICE IN/ DATA IN = 1

Sequence code: CLRIO = 0, HDV/HIO = undefined. For meaning of sequence code

Go to Step 040, Entry Point PT.

(Entry Point A8)

Interface Control Check during CLRIO/HDV/HIO operation:

All Traps are not down after interface disconnect.

Tag in Trap, unexpected Trap condition.

SERVICE IN / DATA IN = 0

Sequence code: CLRIO = 0 HDV/HIO = undefined.

(Entry Point PT)

For meaning of sequence code use the following table then continue.

Sequence Code

000 = Channel detected error during TIO or Clear I/O 001 = Command went out, but device status not received 010 = Status received, but no data transferred 011 = At least one byte of data was transferred (Step 040 continues)

EC 366589	PEC 366515
0860	MAP 8000-47

REF.CODE 80XXXX01 SCA LOG

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(Step 040 continued) (Entry Point AD)

Channel Control Check during command chaining:

Tag in Trap, waiting for STATUS IN.

STATUS IN = 0 ADDRESS IN = 0, or COMMAND OUT = 1

Sequence code = invalid. Go to Page 53, Step 048, Entry Point T.

(Entry Point AE)

Channel Control Check during initial selection:

Tag in Trap, waiting for STATUS IN.

STATUS IN = 0 ADDRESS IN = 0

Sequence code = 1, command went out, but device status not received.

Go to Page 53, Step 048, Entry Point T.

(Entry Point AF)

Channel Control Check during initial selection:

Tag in Trap, unexpected Trap condition while waiting for control unit response to ADDRESS OUT.

ADDRESS IN = 0STATUS IN = 0SELECT IN = 0.

Sequence code = 4,

command code in current CCW was either not sent out or it was sent out but not accepted by the device.

Go to Page 53, Step 048, Entry Point T.

(Step 040 continues)

15SEP82 PN 5683169 EC 366589 PEC 366515 0860 MAP 8000-49

SCA LOG

PAGE 51 OF 63

(Step 040 continued)

(Entry Point R1)

Error during terminal status handling.

STATUS IN = 1 (ending status) COMMAND OUT raised by BSM interface card. Go to Page 61, Step 165, Entry Point R. (Entry Point R2)

Error during terminal status handling.

STATUS IN = 1 (terminal status)

Paging overrun detected by BSM interface dard.

Go to Page 61, Step 165, Entry Point R.

(Entry Point R3)

Error during terminal status handling.

STATUS IN = IN (ending status)

Paging overrun detected by BSM interface card.

Go to Page 61, Step 165, Entry Point R.

(Entry Point R4)

Channel Control Check during ending status handling:

STATUS IN = 1 (ending status) UNIT STATUS = 0 Go to Page 56, Step 097, Entry Point G.

(Entry Point R5)

Interface Control Check during polling sequence:

STATUS IN = 1 (ending status) UNIT STATUS = 0 Go to Page 56, Step 097, Entry Point G. (Step 040 continues)

(Step 040 continued)

(Entry Point R6)

Interface Control Check during initial selection:

0860

Timeout while waiting for response to ADDRESS OUT. ADDRESS IN = 0SELECT IN = 0 STATUS IN = 0 Sequence code = 4Go to Page 25, Step 040, Entry Point GT. ____

(Entry Point R7)

Channel Control Check during data transfer end:

STATUS IN = 1 (ending status handling) Go to Page 61, Step 165, Entry Point R.

(Entry Point QE)

Interface Control Check during polling sequence:

Check Trap, waiting for 'status in' or 'service in'/'data in'. (Tag in check, or timeout, or any overcurrent)

STATUS IN = 0 SERVICE IN = 0 DATA IN = 0

See byte 67 of SCA log display: ADDRESS IN belongs to the device which started poll. Sequence code = 5: Command was accepted, but data transfer is disconnected.

When following this MAP consider the device which sent ADDRESS IN. Go to Page 53, Step 056, Entry Point M.

(Step 040 continues)

15SEP82	PN 5683169
EC 366589	PEC 366515
0860	MAP 8000-51

P 1	R Y	REF.CODE 80XXXX01	N :	ΖA	A	0860	MAP 8000-53
8	ġ Ź	SCA LOG	8		1		
Ì		PAGE 53 OF 63					
		45			05	51	
	l: b Y	s the symptom the same as noted efore? ′N			Is Y	it reference code	≥ 80110301?
		046				Beference code {	30110501
		The new EBU may also be defective or				This reference co	ode can also come
		more than one FRU is defective in the				up.if a 3411 is at	tached and its
		adapter.				mechanical scew	is far out of
		Go To Map 8070, Entry Point A.				adjustment.	
						If the adjustment	in alriabt
		enlace the next FBU according to the				Go to Page 20 5	Sten N40
		iven priority			1	Entry Point 2	лер 040,
		to Page 52, Step 043, Entry Point FE.				2	
					05	i3	
	048				G	o to Page 20. Ste	n 040. Entry Point 1.
1	(Ent	try Point T)					, ,, ,
				0	54		
	Sus	pect:		G	do to	o Page 32, Step ()40, Entry Point 44.
	BMI	PX1 card 2; 01A-B2C2	ĺ				-
	Go	to Page 55, Step 077, Entry Point W.	()55			
			(Con	tact	the customer.	
04	9						
(E	ntry	Point U)	-	The	cus	tomer should corr	ect the problem
				and	con	tinue his job.	
W	ARN	ING:					
Re	efere	nce code 80110101 or 80110301 or		Goʻ	To l	Vlap 0001, Entry	Point A.
80	110	501 may also come up if a read	ļ				
со	mma	and is given to a tape unit with a blank	056	5			
tap	oe m	ounted. This will cause a time-out after	(En	try	Poi	nt M)	
45	SEC	and an interface control check. This					
fac	ct is	indicated in the BMPX1 log by the time	(En	try	Poi	nt Q)	
ou	t bit,	message 'TIMEOUT ADR: XXX' in line	_				
23	duri	ng login and in the log display.	Sus	spec	cted	:	
ХΣ	(X= (device address.	Inte	ermi	itten	it error mainly in th	he standard

Check this first!

ъ

Is there a blank tape mounted? Y N 050 Is it reference code 80110101? Y N A A Z A B

(Entry Point MM)

Check standard interface cables/connectors; check whether all cable connectors fit properly, (Step 056 continues)

interface included the interface adapter parts of

all connected control units of this channel. See also field A of SCA log display and note down

the error condition of the tag signals for

possible later use in case of support.

15SEP82	PN 5683169
EC 366589	PEC 366515
0860	MAP 8000-53

A A K L REF.CODE 80XXXX01 0860 MAP 8000-55 SCA LOG PAGE 55 OF 63 076 (Entry Point ZW) Second error may be in adapter. Suspect now the tag drivers and receivers in Go To Map 8070, Entry Point A. the control unit(s). If possible swap with the bus drivers and receivers. Run the application 077 which showed the error. (Entry Point W) Does the error come up again? Run the application which caused the error. Does the error come up again? ΥN 078 Go to Page 54, Step 059, Entry Point Z. 079 Same error symptoms as before? Y N 080 Go To Map 0000, Entry Point A. 081 Suspect now the terminator card; if 4321 or 4331-1: 01A-B2X2. if 4331-2 or 4331-11: 01A-B2YL/YM (IC-bus 1) Run IC-bus test and BMPX1 adapter test. Any reference code? YN 082 074 Go to Step 077, Entry Point W. Try again the application which caused the error. The new card may also be defective. Does the error come up again? YN Run BMPX1 adapter test. Sucessful? 083 Go To Map 0001, Entry Point A. YN 15SEP82 PN 5683169 56 A N M N EC 366589 PEC 366515 А 0860 MAP 8000-55

ΥN

069 Go to Page 54, Step 059, Entry Point Z.

070

AH54

068

Same error symptom as before? ΥN

071 (Entry Point Y)

Go To Map 0000, Entry Point A.

072

Have you already been told to replace BMPX1 card 2; 01A-B2C2 during this call?

ΥN

073 Replace now the BMPX1 card 2; 01A-B2C2 Run BMPX1 adapter test.

Any error? ΥN

075

56

A K Â

Correct it.



A A A X 5 8 8 B B A B REF.CODE 80XXXX01 G 0860 MAP 8000-59 SCA LOG PAGE 59 OF 63 131 141 Go to Page 53, Step 056, Entry Point M. Try again the application which caused the error. 132 Go to Page 52, Step 042, Entry Point P. Does the error come up again? Y N Time-out for signal to drop? 142 Go To Map 0001, Entry Point A. 134 143 Time-out for signal to raise. Same error symptoms as before? ΥN Are there more than one time-out logs? Y N 144 Go To Map 0000, Entry Point A. 135 Go to Page 56, Step 097, Entry Point G. 145 Go to Page 53, Step 056, Entry Point Q. 136 Are all from the same control unit/device? 146 Go to appropriate MAP. See field C of the SCA log display. 147 YN (Entry Point H) 137 See the adapter checks displayed in field B of Go to Page 61, Step 165, Entry Point R. the SCA log display: | MAP Column 2: 138 Go to Page 56, Step 097, Entry Point G. Additional SCA log informat Go to Page 53, Step 056, Entry Point M. |Tme|Tag|Ov.|Sns|Bus|Dsc|Op.| |Out|Chk|Cur|Bus|Par|In |In | |Chk|Chk|Chk| (Entry Point E) 2 | 3 | 4 | 5 | 6 | 7. 1 T T Suspect: BMPX1 card 2; 01A-B2C2 Run IC-bus test and BMPX1 adapter test. Time-out? ΥN Any reference code?

ΒB ΆΒ

ΥN

139

140

Н

1 8

133

ΥN

ÖÖ BB CD

PN 5683169 PEC 366515 MAP 8000-59

15SEP82

EC 366589

1 E F		0860	MAP 8000-
8 6 6 SCA LOG			
PAGE 61 OF 63			
			· ·
160 Go to Step 165 Entry Point R			
Go to Step 105, Entry Point R.			
161 Go to Page 56, Step 097, Entry Point G.			
162 (Entry Point S)			· .
			алан (т. 1997) Сайта (т. 1997)
See the adapter checks shown in field B of the SCA log display:		•	
MAP Column 2:			
Additional SCA las information			an An an an Anna
	ι.		1
Tme Tag Ov. Sns Bus Dsc Op.			•
Out Chk Cur Bus Par In In		•	4
	` .		
			- <u>-</u>
Bus (IN) Parity Check?			
YN			
163			
Go to Page 53, Step 056, Entry Point Q.			
Go to Page 53, Step 056, Entry Point Q.			1. 1. 1.
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M.			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M.			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R)			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R)			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: PU card 5 : 010-P162		×	
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: .PU card 5 ; 01A-B1G2 .IC-Bus cable 3 ; 01A-B1B4(C) to 01A-B2YD			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: .PU card 5 ; 01A-B1G2 .IC-Bus cable 3 ; 01A-B1B4(C) to 01A-B2YD uspected FRUs if 4331-2 or 4331-11			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: .PU card 5 ; 01A-B1G2 .IC-Bus cable 3 ; 01A-B1B4(C) to 01A-B2YD uspected FRUs if 4331-2 or 4331-11 .PU card 7 ; 01A-B1J2			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: .PU card 5 ; 01A-B1G2 .IC-Bus cable 3 ; 01A-B1B4(C) to 01A-B2YD uspected FRUs if 4331-2 or 4331-11 .PU card 7 ; 01A-B1J2 IC-Bus cable 13; 01A-B1B4(B) to 01A-B2YC			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: .PU card 5 ; 01A-B1G2 .IC-Bus cable 3 ; 01A-B1B4(C) to 01A-B2YD uspected FRUs if 4331-2 or 4331-11 .PU card 7 ; 01A-B1J2 IC-Bus cable 13; 01A-B1B4(B) to 01A-B2YC un the test chain. If a reference code comes			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: .PU card 5 ; 01A-B1G2 .IC-Bus cable 3 ; 01A-B1B4(C) to 01A-B2YD uspected FRUs if 4331-2 or 4331-11 .PU card 7 ; 01A-B1J2 .IC-Bus cable 13; 01A-B1B4(B) to 01A-B2YC un the test chain. If a reference code comes o, go to appropriate MAP, or suspect the new			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: .PU card 5 ; 01A-B1G2 .IC-Bus cable 3 ; 01A-B1B4(C) to 01A-B2YD uspected FRUs if 4331-2 or 4331-11 .PU card 7 ; 01A-B1J2 .IC-Bus cable 13; 01A-B1B4(B) to 01A-B2YC un the test chain. If a reference code comes p, go to appropriate MAP, or suspect the new RU also being defective. Run the application Step 165 continues)			
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: .PU card 5 ; 01A-B1G2 .IC-Bus cable 3 ; 01A-B1B4(C) to 01A-B2YD uspected FRUs if 4331-2 or 4331-11 .PU card 7 ; 01A-B1J2 .IC-Bus cable 13; 01A-B1B4(B) to 01A-B2YC un the test chain. If a reference code comes p, go to appropriate MAP, or suspect the new RU also being defective. Run the application Step 165 continues)		15SEP82	PN 568316
Go to Page 53, Step 056, Entry Point Q. 164 Go to Page 53, Step 056, Entry Point M. 65 Entry Point R) uspected FRUs if 4321 or 4331-1: .PU card 5 ; 01A-B1G2 .IC-Bus cable 3 ; 01A-B1B4(C) to 01A-B2YD uspected FRUs if 4331-2 or 4331-11 .PU card 7 ; 01A-B1J2 .IC-Bus cable 13; 01A-B1B4(B) to 01A-B2YC un the test chain. If a reference code comes p, go to appropriate MAP, or suspect the new RU also being defective. Run the application Step 165 continues)		15SEP82 EC 366589	PN 5683169 PEC 366519

SCA LOG

A B B 2 G H 6 6 2 2

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(Step 168 continued)

01A-B2C3,	D3
01A-B2C4,	D4
01A-B2C5,	D5

Any reference code when testing after a FRU replacement? Y N

169 Go to Page 55, Step 077, Entry Point W.

170 Is the symptom the same as noted before? Y N

171

The new FRU may also be defective or more than one FRU is defective in the adapter.

Go To Map 8070, Entry Point A.

172

Replace the next FRU according to the given priority. Go to Page 62, Step 168, Entry Point CX.

173

Suspect BMPX1 card 2 ; 01A-B2C2 Go to Page 53, Step 056, Entry Point M.

174

(Entry Point CA)

Suspect:

BMPX1 card 2; 01A-B2C2 Go to Page 55, Step 077, Entry Point W.

175

Go To Map 8080, Entry Point A.

 15SEP82
 PN 5683169

 EC 366589
 PEC 366515

 0860
 MAP 8000-63

0870

BMPX-1 ADAPT TEST

PAGE 1 OF 2

ENTRY POINTS

EXIT POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
RFCA	A	1	001
RFCA	P	2	003
0000	A	1	001
8xxx	A	1	001
8000	A	1	001

IS MAP	то				
STEP NUMBER	MAP NUMBER	ENTRY POINT			
009 005 007	0000 0001 0001	K 0 0			
	IS MAP STEP NUMBER 009 005 007	IS MAP TO STEP MAP NUMBER NUMBER 009 0000 005 0001 007 0001			

001

(Entry Point A)

BMPX-1 Adapter Test MAP.

Are you led to this MAP by the REFCODE ANALYSIS?

ΥN

2 A

002

Select the IBM MAINTENANCE AND SERVICE PROGRAM SELECTION.

Invoke the REFCODE ANALYSIS.

Key in the reference code and the first symptom code from the BMPX-1 Adapter test.

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

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REF.CODE 80-0/1-00081 AAA0870

13SEP82	Ρ
EC 366582	Р
0870	N

PN 5683171 PEC 366493 MAP 8070-1
REF.CODE 80000181 FIX 0003

0880 MAP 8080-1

BMPX-1 STANDARD INTERFACE TEST

PAGE 1 OF 9

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0C00 8xxx	A	1	001
8000	A	1	001

EXIT TH	IS MAP	то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
9	019	0001	A
9	021	0001	0 ·

EXIT POINTS

001

(Entry Point A)

*******	***
******************	* * *
** Warning.	**
** errors may come up, if the interface cable	**
** is too near any power cable!	**
******************	* * *
******************************	***

IMPORTANT HINTS:

 Before testing the Standard Interface be sure that the BMPX-1 operates properly by running the BMPX-1 adapter test. This test should have run errorfree before testing the Standard Interface.

For handling of the Standard Interface Test see Supplement to MAPs, Section 4.

(Step 001 continues)

© Copyright IBM Corp. 1982	04DEC81	PN 5683173
REF.CODE 80000181	EC 366515	PEC 366493
AAA0880	0880	MAP 8080-1

PAGE 3 OF 9

(Step 001	continued)
	0100 0003

Continue and	
0100 0003	TOR NOT ZERO
0100 0004	BIB NOT ZERO
0100 0005	TIR NOT ZERO
0100 0006	BOB BIT P ERROR
0100 0008	BOB NOT BIT O
0100 0009	BOB NOT BIT 1
0100 000B	BOB NOT BIT 2
0100 000C	BOB NOT BIT 3
0100 000D	BOB NOT BIT 4
0100 000E	BOB NOT BIT 5
0100 000F	BOB NOT BIT 6
0100 0010	BOB NOT BIT 7
0200 0002	BOB NOT ZERO
0200 0003	TOR NOT ZERO
0200 0004	BIB NOT ZERO
0200 0005	TIR NOT ZERO
0200 0006	NOT ADDRESS OUT
0200 0008	NOT COMMAND OUT
0200 000A	NOT SERVICE OUT
0200 000C	NOT DATA OUT
0200 000E	NOT SUPPRESS OUT
0200 0010	NOT OPERATION OUT
0200 0012	NOT HOLD OUT
0200 0014	NOT CONDITION SUP OUT
0300 0002	BOB NOT ZERO
0300 0003	TOR NOT ZERO
0300 0004	BIB NOT ZERO
0300 0005	TIR NOT ZERO
0300 0006	BOB NOT BIT P
0300 0007	BIB NOT BIT P
0300 000F	METERING NOT IN OFF

6. Any other Symptom Code is displayed:

1. 19 B. A.

1.2

The following procedure explains how to identify a failing FRU in the Standard Interface area: Take a note of the first symptoms shown on screen (at the most three symptoms per test run).

Α.	SYMPTOM	CODES	0100XXXX	-	ERROR	PERTAINS	TO	BUS	INTERFACE
Β.	SYMPTOM	CODES	0200XXXX	-	ERROR	PERTAINS	TO	TAG	INTERFACE
C.	SYMPTOM	CODES	030001XX	-	ERROR	PERTAINS	TO	BUS	INTERFACE
D.	SYMPTOM	CODES	030002XX	-	ERROR	PERTAINS	то	TAG	INTERFACE
(Step	001 contin	ues)	-						

04DEC81	PN 5683173		
EC 366515	PEC 366493		
0000	MAD 0000-2		

MAP 8080-3

REF.CODE 80000181

MAP 8080-5

BMPX-1 ST.INT.TEST

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004

Inspect the interface connector contacts of the just eliminated cable for the proper positioning and/or datmage

(Entry Point T)

Probe the defective line using the CE-meter and with the AID of the following table.

TABLE 1: INTERFACE WRAP CONNECTIONS

SYMTOM CODE: XXOOYYZZ ł ZZ! Error cause: (The affected line(s) you see 1 in the following table for XX/YY.) L --1 02| TESTED LINE HAS OPEN CIRCUIT Suspect bad connection or broken L wire in one or both of the | interface cable connectors. Open the interface connectors covers 1 and make the necessary repairs. t 03| TESTED LINE IS SHORTED TO GROUND Suspect short of shield to line in one or both of the interface cable connector. Open the interface coannector covers and I. make the necessary repairs. 04| TESTED LINE IS SHORTED TO OTHER LINE Suspect short of one line to another one or both of the interface cable connectors. Open I the interface connector covers | and make the necessary repairs.

(Step 004 continues)

04DEC81	PN 5683173		
EC 366515	PEC 366493		
0880	MAP 8080-5		

BMPX-1 ST.INT.TEST

PAGE 7 OF 9

(Step 004 continued) check for any loose or broken wire or damaged pin! Go to Page 9, Step 018, Entry Point C.

005

Ą

Is the whole standard interface cable checked out from the last control unit back to the BMPX-1 interface connector?

YN

006

Go to Page 1, Step 001, Entry Point A.

007

Be sure that all connections of the interface connectors are properly seated and not damaged.

Make the necessary repairs if required.

Run BMPX-1 standard interface cable test again!

Same error symptoms?

YN

008

Error was caused by bad contacts in the BMPX-1 interface connectors of this interface. Go to Page 9, Step 018, Entry Point C.

. X.,

0880

04DEC81	PN 5683173
EC 366515	PEC 366493
0880	MAP 8080-7

REF.CODE 80000181

BMPX-1 ST.INT.TEST

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013

D 8

Remove card in 01A-B2B2 and reinstall the old card. The error is not caused by this card.

Replace BMPX card 2, 01A-B2C2.

Run the BMPX-1 standard interface cable test again!

Same error symptoms?

YN

014 Error was caused by bad BMPX-1 card 2, 01A-B2C2. Go to Step 018, Entry Point C.

015

Remove card in 01A-B2C2 and reinstall the old card. The error was not caused by this card.

Replace the 2 flatcables in case of a bus malfunction from:

01A-B2B2(W)to bus interface connector 01A-B2B2(X)to bus interface connector

in case of a tag malfunction from: 01A-B2B2(Y)to tag interface connector 01A-B2B2(Z)to tag interface connector

run BMPX-1 standard interface cable test again!

Same error symptoms?

YN

F

016

Error was caused by bad flat cables. Go to Step 018, Entry Point C.

MAP 8080-9

017

Ε

Remove just installed flat cables. Reinstall old ones.

The error was not caused by flat cables. Repaice board 01A-B2.

0880

Run BMPX-1 standard interface cable test again!

Same error symptoms? Y N

018 (Entry Point C)

Replug all removed system parts like cables and control units and plug the wrap connectors to the last control unit.

Run test again to make sure that the standard interface is in good order.

Any error symptoms? Y N

019

Replace the wrap connectors with the standard interface bus/tag terminators. Go To Map 0001, Entry Point A.

020

If errors occur again, it is most probable that during replugging a new error was installed such as bad or mispositioned contacts. Go to Page 1, Step 001, Entry Point A.

021

Make a note of all symptoms and activities you have performed. Go To Map 0001, Entry Point O.

04DEC81	PN 5683173
EC 366515	PEC 366493
0880	MAP 8080-9

REF.CODE 81XXXX01 FIX 0002 SCA LOG (BMPX 2)

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ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0000	AA	1	001
0000	MM	53	056
4902	MM	53	056
8xxx	A	1	001

EXIT POINTS

S. 7. 19

EXIT THIS MAP		то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
55	071	0000	A
55	080	0000	Α
55	085	0000	Α
59	144	0000	Α
53	055	0001	Α
54	059	0001	Α
55	083	0001	Α
59	142	0001	Α
6	005	0001	0
9 '	005	0001	0
17	005	0001	0
17	005	0001	0
60	165	0001	0
55	086	0001	0
52	041	0001	0
17	005	0001	Ρ
62	171	8170	Α
56	096	8170	Α
56	090	8170	Α
55	076	8170	Α
53	046	8170	Α
62	175	8180	Α
56	093	8180	Α

001

(Entry Point A)

Make sure that you have traced the START MAP 0000 precisely.

Another reference code may be more important than the one you got first.

(Entry Point AA)

Important hint: ------

(Step 001 continues)

REF.CODE 81XXXX01 EC 366390	PEC 366388

SCA LOG (BMPX 2)

PAGE 3 OF 62

(Step 002 continued) The following SCA log picture below will be used when tracing this MAP:

1. Take the reference code from BMPX2 log display and look it up in the 'reference code table' which after some questions follows the SCA log picture.

2.Go to the entry point in the MAP as indicated by the reference code table.

3. Fetch additional information from the SCA log display, field A, B or C when told by this MAP.

(Step 002 continues)

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 10APR81
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 0881
 MAP 8100-3

0881

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(Step 002 continued) Is there more than one control unit connected to this channel (BMPX2)?

003 Go to Step 005, Entry Point CC.

004

N Y

Display and note all available BMPX2 logs. Note down the device (Control unit) addresses displayed in field C of SCA log display.

Is it always the same control unit? Y N

005 (Entry Point CC)

Now look up the reference code of the SCA log BMPX2 in the following list and go to the indicated entry point:

REF. Code

81110101

Interface Control Check Go to Page 53, Step 049, Entry Point U.

Ref. Code

81110201

Channel Control Check Go to Page 36, Step 040, Entry Point 60.

Ref. Code

81110301

8 B

Interface Control Check Go to Page 53, Step 049, Entry Point U.

(Step 005 continues)

0881

1-2-1-5 St.

MAP 8100-5

Press COPY key, if console printer is available, or use FRIEND command PRINT LOG to get printouts of the logs.

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EC 366390	PEC 366388
0831	MAP 8100-5

SCA LOG (BMPX 2)

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(Step 005 continued)

Ref. Code

81115201

Interface Control Check Go to Page 50, Step 040, Entry Point AJ.

Ref. Code

81216101

Channel Data Check Go to Page 41, Step 040, Entry Point 85.

Ref. Code

81217101

Interface Control Check Go to Page 25, Step 040, Entry Point 16.

Ref. Code

81218101

Channel Data Check Go to Page 28, Step 040, Entry Point 17.

Ref. Code

81219101 Go to Page 51, Step 040, Entry Point R1.

Ref. Code

81220101 Go to Page 51, Step 040, Entry Point R2.

(Step 005 continues)

0881

MAP 8100-7

(Step 005 continued)

Ref.Code

81221101 Go to Page 51, Step 040, Entry Point R3.

Ref. Code

81222101

Channel Control Check Go to Pago 51, Step 040, Entry Point R4.

Ref. Code

81325101

Interface Control Check Go to Page 23, Step 040, Entry Point 9.

Ref. Code

81325201

Channel Control Check Go to Page 36, Step 040, Entry Point 63.

Ref. Code

81325301

Channel Control Check. Check whether any control unit was switched off, otherwise Go to Page 23, Step 040, Entry Point 10.

(Step 005 continues)

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0881	MAP 8100-7

REF.C.81XXXX01 SCA LOG (BMPX 2) PAGE 9 OF 62

(Step 005 continued)

Ref. Code

81334101

Interface Control Check Go to Page 26, Step 040, Entry Point 20.

Ref. Code

81335101 Go To Map 0001, Entry Point O.

Ref. Code

81336101

Interface Control Check Go to Page 26, Step 040, Entry Point 21.

Ref. Code

81337101

Channel Control Check Go to Page 41, Step 040, Entry Point 86.

Ref. Code

81337201

Channel Control Check Go to Page 42, Step 040, Entry Point 87.

Ref. Code

81338101

Interface Control Check Go to Page 48, Step 040, Entry Point A9.

(Step 005 continues)

0881

MAP 8100-9

(Step 005 continued)

Ref. Code

81339101

Interface Control Check Go to Pago 48, Step 040, Entry Point A9.

Ref. Code

81340101

Interface Control Check Go to Page 33, Step 040, Entry Point 47.

Ref. Code

81340201

Interface Control Check Go to Pago 37, Step 040, Entry Point 67.

Ref. Code

81340301

Interface Control Check Go to Page 33, Stop 040, Entry Point 48.

Ref. Code

81340401

Interface Control Check Go to Page 37, Step 040, Entry Point 68.

Ref. Code

81340501

Interface Control Check (Step 005 continues)

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0881	MAP 8100-9

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(Step 005 continued) Go to Page 42, Step 040, Entry Point 88.

Ref. Code

81653101

Channel Data Check Go to Page 27, Step 040, Entry Point 23.

Ref. Code

81757101

Interface Control Check Go to Page 34, Step 040, Entry Point 52.

Ref. Code

81757201

Channel Control Check Go to Page 38, Step 040, Entry Point 72.

Ref. Code

81760101

Interface Control Check Go to Page 23, Step 040, Entry Point 11.

Ref. Code

81760201

Channel Control Check Go to Page 39, Step 040, Entry Point 73.

(Step 005 continues)

0881

MAP 8100-11

(Step 005 continued)

Ref. Code

81761101

Interface Control Check Go to Page 27, Step 040, Entry Point 24.

Ref. Code

81762101

Interface Control Check Go to Page 27, Step 040, Entry Point 25.

Ref. Code

81763101

Interface Control Check Go to Page 48, Step 040, Entry Point AB.

Ref. Code

81764101

Channel Control Check Go to Page 42, Step 040, Entry Point 89.

Ref. Code

81764201

Channel Control Check Go to Page 43, Step 040, Entry Point 90.

Ref. Code

81765101

Interface Control Check (Step 005 continues)

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(Step 005 continued)

Ref. Code

81771101

Interface Control Check Go to Pago 28, Step 040, Entry Point 28.

Ref. Code

81771201

Interface Control Check Go to Page 28, Step 040, Entry Point 29.

Ref. Code

81772101

Channel Control Check Go to Page 43, Step 040, Entry Point 93.

Ref. Code

81773101

Interface Control Check Go to Page 50, Step 040, Entry Point AK.

81880101

Interface Control Check Go to Page 52, Step 040, Entry Point QT.

Ref. Code

81881101

Interface Control Check Go to Page 24, Step 040, Entry Point 12. (Step 005 continues) MAP 8100-13

(Step 005 continued)

Ref. Code

81881201

Channel Control Check Go to Page 39, Step 040, Entry Point 76.

Ref. Code

81883101

Channel Control Check Go to Page 43, Step 040, Entry Point 94.

Ref. Code

81883201

Channel Control Check Go to Page 43, Step 040, Entry Point 95.

Ref. Code

81884101

Interface Control Check Go to Page 29, Step 040, Entry Point 37.

Ref. Code

81885101

Interface Control Check Go to Page 30, Step 040, Entry Point 38.

(Step 005 continues)

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EC 366390	PEC 366388
0881	MAP 8100-13

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(Step 005 continued)

Ref. Code

81897101

Channel Control Check Go to Page 49, Step 040, Entry Point AF.

Ref. Code

81898101

Channel Control Check Go to Page 44, Step 040, Entry Point 98.

Ref. Code

81899101

Interface Control Check Go to Page 31, Step 040, Entry Point 38.

Ref. Code

8189A101

Interface Control Check Go to Page 20, Step 040, Entry Point 3.

Ref. Code

\$189A201

Channel Control Check Go to Page 39, Step 040, Entry Point 79.

Ref. Code

81AA0101

Channel Data Check (Step 005 continues) (Step 005 continued) Go to Page 44, Step 040, Entry Point 99.

Ref. Code

81AA1101

Channel Data Check Go to Page 28, Step 040, Entry Point 33.

Ref. Code

81AA2101

Error during data transfer end Go to Page 60, Step 165, Entry Point R.

Ref. Code

81AA3101

Error during data transfer end. OPERATIONAL IN = 0 Go to Page 60, Stop 165, Entry Point R.

Ref. Code

81AA4101

Channel Control Check Go to Page 51, Step 040, Entry Point R7.

Ref. Code

81AA5101

Interface Control Check Go to Page 31, Step 040, Entry Point 3C.

(Step 005 continues)

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MAP 8100-15

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(Step 005 continued)

Ref. Code

81DD8101

Channel Control Check Go to Page 45, Step 040, Entry Point A2.

Ref. Code

81DDA101

Interface Control Check Go to Page 21, Step 040, Entry Point 4.

Ref. Code

81DDA201

Channel Control Check Go to Pago 40, Step 040, Entry Point 61.

Ref. Code

81DDB101

Interface Control Check Go to Page 35, Step 040, Entry Point 57.

Ref. Code

81DD8201

Channel Control Check Go to Page 40, Step 040, Entry Point 82.

Ref. Code

81DDC101

Interface Control Check (Step 005 continues) 0881

MAP 8100-17

(Step 005 continued) Go to Page 35, Step 040, Entry Point 58.

Ref. Code

81DDC201

Channel Control Check Go to Page 41, Step 040, Entry Point 83.

Ref. Code

81FF0101

Subchannel probably not defined Go to Page 52, Step 041, Entry Point K1.

Ref. Code

81FF1101

Subchannel probably not defined Go to Page 52, Step 041, Entry Point K1.

Ref. Code

81FF2101 Go To Map 0001, Entry Point O.

81FFF101 Go To Map 0001, Entry Point O.

Ref. Code

81XXXX01 Go To Map 0001, Entry Point P.

Go to Page 5, Step 005, Entry Point CC.

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 MAP 8100-17



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CALL ON CONCLUSION OF

SCA LOG (BMPX 2)

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(Step 040 continued) (Entry Point 4)

Interface Control Check during CLRIO/HDV/HIO operation:

Check Trap (Tag in check, or time-out, or any overcurrent) while waiting for SELECT IN to drop.

SELECT IN = 1

Sequence code: CLRIO = 0 HDV/HIO = undefined

(Entry Point DO)

Sequence code 0 means: Channel detected error during TIO or Clear I/O. Go to Page 58, Step 123, Entry Point D.

(Entry Point 5)

Channel Control Check during trap reason analysis:

Tag In Trap OPERATIONAL IN = 1 ADDRESS IN = 0 STATUS IN = 1 REQUEST IN may be on or off

Sequence code = 5. Go to Page 19, Step 023, Entry Point J.

(Entry Point 7)

Channel Control Check during trap reason analysis:

Tag In Trap and Polling Trap

OPERATIONAL IN = O SELECT IN = 1

Device address = invalid Go to Page 53, Step 056, Entry Point M. (Step 040 continues) 0881

MAP 8100-21

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(Step 040 continued)

(Entry Point 7X)

Channel Control Check during trap reason analysis:

Tag IN Trap

OPERATIONALIN=0REQUESTIN=0SERVICEINorADDRESSIN=

SCA in data transfer mode.

Sequence code = 5 Go to Pago 25, Step 040, Entry Point GT.

(Entry Point 7Y)

Interface Control Check during trap reason analysis:

No Any Trap Request (Trap Loop counter exhausted)

Device address = invalid Go to Page 53, Step 056, Entry Point M.

(Entry Point 7Z)

Interface Control Check during trap reason analysis:

No Any Trap Request (Trap loop counter exhausted)

Device address = invalid (Step 040 continues)

0881	MAP 8100-21
EC 366390	PEC 366388
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(Step 040 continued) (Entry Point 9)

Interface Control Check during polling sequence:

Check Trap (Tag in check, or time-out, or any over overcurrent), while waiting for ADDRESS IN.

ADDRESS IN = 1, no Bus in Buffer parity check.

Sequence code = 5

(Entry Point H5)

Sequence code = 5 means: Command had been accepted, but data transfer was discontinued. Go to Page 59, Step 147, Entry Point H.

(Entry Point 10)

Channel Control Check during polling sequence. Check Trap (Tag in check, or time-out, or any overcurrent), while waiting for ADDRESS IN.

ADRESS IN = 0 or 'Bus in Buffer' parity check. Device address = invalid. Go to Page 59, Step 147, Entry Point H.

(Entry Point 11)

Interface Control Check during command chaining sequence:

Check Trap (Tag in check, or time-out, or any overcurrent), while waiting for ADDRESS IN.

Sequence code = invalid. Go to Page 59, Step 147, Entry Point H.

(Step 040 continues)

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 MAP 8100-23

MAP 8100-23

SCA LOG (BMPX 2)

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(Step 040 continued) (Entry Point 14)

Interface Control Check during polling sequence

Trap loop counter exhausted.

REQUEST IN = 0 SERVICE IN = 1 DATA IN = 1

Device address = invalid Go to Page 53, Stop 056, Entry Point M.

(Entry Point 16)

Interface Control Check during ending status handling:

STATUS IN = 1, Ending Status.

'Bus in Buffer' parity check.

Inbound or outbound operation.

Unit Status in 'Bus in Buffer' = invalid.

For sequence code see byte 52, bit 5, 6, 7 of SCA log display.

(Entry Point GT)

See the meaning of the sequence code in the following table, then continue:

Sequence Code

000 = Channel detected error during TIO or Clear 1/0
001 = Command went out, but device status not received
010 = Status received, but no data transferred
011 = At least one byte of data was transferred
100 = Command code in current CCW was either not sent out or was sent but not accepted by the device
101 = Command was accepted, but data transfer is discontinued.

Go to Page 58, Step 097, Entry Point G.

(Step 040 continues)

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 MAP 8100-25

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MAP 8100-25

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(Step 040 continued) (Entry Point 22)

Channel Control Check during command chaining sequence:

CHANNEL END received only.

Tag in Trap while waiting for 'operational in' to fall.

OPERATIONAL IN = 1 ADDRESS IN = 0 STATUS IN = 0 SERVICE IN = 1 DATA IN = 1

SCA is in EC-mode. Go to Page 56, Stop 097, Entry Point G.

(Entry Point 23)

Channel Data Check during data chaining:

Inbound operation 'Bus In Data' parity check Go to Page 56, Step 097, Entry Point G.

(Entry Point 24)

Interface Control Check during command chaining:

ADDRESS IN = 0 STATUS IN = 1 (Short CU busy)

Sequence code = invalid. Go to Page 58, Step 097, Entry Point G.

(Step 040 continues)

0881

MAP 8100-27

(Step 040 continued) (Entry Point 25)

Interface Control Check and interface disconnect during command chaining:

ADDRESS IN = 0 SELECT IN = 1 (no Bus Out parity check).

Sequence code = invalid. Go to Pago 56, Step 097, Entry Point G.

(Entry Point 26)

Interface Control Check during command chaining:

Tag in Trap while waiting for STATUS IN.

STATUS IN = 0 ADDRESS IN = 1 COMMAND OUT = 0 (command = dummy TIO)

Sequence code = invalid. Go to Page 59, Step 097, Entry Point G.

(Entry Point 27)

Interface Control Check during command chaining:

Sequence code = invalid

Tag in Trap waiting for 'status in'

STATUS IN = 0 ADDRESS IN = 1 COMMAND OUT = 0 Go to Page 56, Stop 097, Entry Point G.

(Step 040 continues)

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EC 366390	PEC 366388
0881	MAP 8100-27

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MAP 8100-29

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(Step 040 continued) (Entry Point 35)

N. TRANSPORTANCES

Interface Control Check during command chaining:

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Sequence code = invalid ADDRESS IN = 1

Bus in parity check. Go to Page 53, Step 056, Entry Point M.

(Entry Point 36)

Interface Control Check during command chaining:

Sequence code = invalid. ADDRESS IN = 1

Device address on Bus in is not equal to the device address on Bus Out. Go to Page 58, Step 097, Entry Point G.

(Entry Point 37)

Interface Control Check during initial selection:

Sequence code = 4, command in current CCW was either not sent out, or it was sent out but not accepted by the device.

ADDRESS IN = 1 Bus in parity check. Go to Page 53, Step 056, Entry Point M.

(Step 040 continues)

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 0881
 MAP 8100-29

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(Step 040 continued) (Entry Point 3B)

Interface Control Check during initial selection sequence:

SELECT IN = 1, CU busy. Waiting for 'selection in' to drop. 1 msec timeout loop exhausted.

Sequence code = 7 (invalid) Go to Page 56, Step 097, Entry Point G.

(Entry Point 3C)

Interface Control Check during data transfer termination

SERVICE IN or DATA IN = 1 Waiting for 'service in' or 'data in' to drop. 1 msec timeout loop exhausted.

Sequence code = 7 (invalid) Go to Pago 56, Step 097, Entry Point G.

(Entry Point 40)

Interface Control Check during CLRIO/HDV/HIO operation:

Device address = invalid.

Sequence code: CLRIO = 0 HDV/HIO = undefined

Sequence code 0 means: Channel detected error.

ADDRESS IN = 1

Device address on Bus In is not equal the device address on Bus Out. Go to Page 52, Stop 0-22, Entry Point P.

(Step 040 continues)

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EC 366390	PEC 366388
0881	MAP 8100-31

SCA LOG (BMPX 2)

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(Step 040 continued) (Entry Point 46)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in'.

STATUS IN = 0 or Bus in Buffer parity check. Go to Page 58, Step 098, Entry Point B.

(Entry Point 47)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in' or 'service in'/ 'data in'.

STATUS IN = 0 SERVICE IN = 0 DATA IN = 0

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 48)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent),

while waiting for 'status in' or 'service in' and 'data in'.

STATUS IN = 0 SERVICE IN = 1 DATA IN = 1

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT. (Step 040 continues)

0881

MAP 8100-33

(Step 040 continued)

(Entry Point 49)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in' or 'service in' / 'data in'.

STATUS IN = 1, SERVICE IN = 0 DATA IN = 0.

Sequence code = 5, Go to Page 32, Stop 040, Entry Point BT.

(Entry Point 50)

Interface Control Check during polling sequence:

STATUS IN = 1, SERVICE IN = 1, DATA IN = 1

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 51)

Interface Control Check during command chaining:

Only 'channel end' received. Command chaining indicated.

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'operational' in to fall.

See sequence code in byte 52, bit 5, 6, 7 of SCA log display and look it up in the sequence code table,

Go to Page 32, Step 040, Entry Point BT.

(Step 040 continues)

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EC 366390	PEC 366388
0881	MAP 8100-33

SCA LOG (BMPX 2)

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(Step 040 continued) (Entry Point 58)

Interface Control Check during initial selection:

Check Trap (tag in check, or time-out, or any overcurrent), while Waiting for 'status in' to drop.

STATUS IN = 1 (short control unit busy).

Sequence code = 4, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 57)

Interface Control Check during CLRIO/HDV/HIO operation:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'operational in' to drop.

Sequence code: CLRIO = 0, HDV/HIO = undefined. Go to Page 32, Stop 040, Entry Point BT.

(Entry Point 58)

Interface Control Check during CLRIO/HDV/HIO:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'operational in' drop.

Sequence code: CLRIO = 0, HDV/HIO = undefined. Go to Page 32, Stop 040, Entry Point BT.

(Step 040 continues)

MAP 8100-35

0881

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 PN 5683170

 EC 366390
 PEC 366388

 0881
 MAP 810D-35

SCA LOG (BMPX 2)

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(Step 040 continued) (Entry Point 65)

Channel Control Check during polling sequence:

UNIT STATUS from 'Bus in Buffer', see byte 67 of SCA log display.

Check Trap while waiting for STATUS IN

STATUS IN = 1 No 'Bus in Buffer' parity check.

Sequence code = 5. Go'to Page 35, Stop 040, Entry Point C5.

(Entry Point 63)

Channel Control Check during polling sequence:

UNIT STATUS = 00.

Check Trap while waiting for STATUS IN.

STATUS IN = 0, or 'Bus in Buffer' parity check.

Sequence code = 5, Go to Page 36, Stop 040, Entry Point C5.

(Entry Point 67)

Interface Control Check during polling sequence:

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 0 SERVICE IN/DATA IN = 0

Sequence code = 5 Go to Pago 38, Stop 040, Entry Point C5.

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(Step 040 continues)

(Step 040 continued) (Entry Point 69)

Interface Control Check during polling sequence:

0881

MAP 8100-37

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 0 SERVICE IN/DATA IN = 1

Sequence code = 5, Ge to Pago 38, Step 040, Entry Point C5.

(Entry Point 69)

Interface Control Check during polling sequence:

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 1, SERVICE IN/DATA IN = 0.

UNIT STATUS from 'Bus in Buffer' see byte 67 of SCA log display.

Sequence code = 5, Go to Page 36, Stop 040, Entry Point C5.

(Entry Point 70)

Interface Control Check during polling sequence:

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 1, SERVICE IN/DATA IN = 1.

UNIT STATUS from 'Bus in Buffer' see byte 67 of SCA leg display.

Sequence code = 5, (Step 040 continues)

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EC 366390	PEC 366388	
0881	MAP 8100-37	

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(Step 040 continued) (Entry Point 73)

Channel Control Check during command chaining sequence:

Check Trap while waiting for ADDRESS IN.

Sequence code = invalid Go to Page 61, Step 166, Entry Point C.

(Entry Point 74)

Interface Control Check during command chaining sequence:

Check Trap while waiting for STATUS IN

Sequence code = invalid Go to Page 61, Step 166, Entry Point C.

(Entry Point 75)

Channel Control Check during command chaining sequence:

Check Trap while waiting for STATUS IN

Command = dummy TIO.

Sequence code = invalid. Go to Page 61, Step 168, Entry Point C.

(Entry Point 76)

Channel Control Check during initial selection sequence:

Check Trap waiting for response to ADDRESS OUT

Sequence code = 4, Go to Page 36, Step 040, Entry Point C4.

(Step 040 continues)

0881

(Step 040 continued) (Entry Point 77)

Channel Control Check during initial selection sequence:

Check Trap while waiting for STATUS IN.

Sequence code = 1,

(Entry Point C1)

Sequence code 1 means:

Command went out but device status not received.

Go to Page 61, Step 166, Entry Point C.

(Entry Point 78)

Channel Control Check during initial selection sequence:

Check Trap waiting for STATUS IN to drop.

STATUS IN = 1 (short control unit busy).

UNIT STATUS from 'Bus in Buffer' see byte 67 of SCA log display.

Sequence code = 4, Go to Page 36, Step 040, Entry Point C4. ------(Entry Point 79)

Channel Control Check during initial selection sequence:

Check Trap while waiting for SELECT IN to drop.

SELECT IN = 1.

Sequence code = 4, Go to Page 36, Step 040, Entry Point C4.

(Step 040 continues)

10APR81	PN 5683170
EC 366390	PEC 366388
0881	MAP 8100-39

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(Step 040 continued) (Entry Point 83)

Channel Control Check during CLRIO/HDV/HIO operation:

Unexpected Trap while weiting for OPERATIONAL IN to drop.

Sequence code: CLR10 = 0 HDV/H10 = undefined Go to Pago 40, Stop 040, Entry Point C0.

(Entry Point 85)

Channel Data Check during terminal status handling:

Outbound operation. STATUS IN = 1 (terminal status) 'Bus Out Buffer' data parity check. Go to Pago 52, Stap 843, Entry Point F.

(Entry Point 86)

Channel Control Check during polling sequence:

BUS OUT parity check on COMMAND OUT

STATUS IN = 1

No Bus in Buffer parity Check.

Sequence code = 5

(Entry Point FT)

for meaning of sequence code see the following table, then continue.

Sequence Code

000 = Channel detected error during T10 or Clear I/0 001 = Command went out, but device status not received 010 = Status received, but not data transferred 011 = At least one byte of data was transferred (Step 040 continues)

 10APR81
 PN 5683170

 EC 366390
 PEC 366388

 0881
 MAP 8100-41

MAP 8100-41

SCA LOG (BMPX 2)

PAGE 43 OF 62

(Step 040 continued) (Entry Point 90)

Channel Control Check during command chaining:

ADDRESS IN = 1 BUS OUT parity check on ADDRESS OUT.

Device address = invalid. Sequence code = invalid, Go to Page 52, Step 043, Entry Point F.

(Entry Point 91)

Channel Control Check during command chaining:

BUS OUT parity check on COMMAND OUT.

Sequence code = invalid. Go to Page 52, Step 043, Entry Point F.

(Entry Point 92)

Channel Control Check during command chaining:

BUS OUT parity check on COMMAND OUT.

Sequence code = invalid. Go to Page 52, Stop 043, Entry Point F.

(Entry Point 93)

Channel Control Check during command chaining:

SELECT IN = 1 BUS OUT parity chack on ADDRESS OUT.

Sequence code = invalid. Go to Page 52, Step 043, Entry Point F.

(Step 040 continues)

0881

MAP 8100-43

(Step 040 continued) (Entry Point 94)

Channel Control Check during initial selection:

ADDRESS IN =1 BUS OUT parity check on ADDRESS OUT.

Channel Control Check during initial selection:

ADDRESS IN = 1 BUS OUT parity check on ADDRESS OUT.

Device address = invalid.

Sequence code = 4, Go to Page 41, Step 040, Entry Point FT.

(Entry Point 96)

Channel Control Check during initial selection:

STATUS IN =1 BUS OUT parity check on COMMAND OUT.

Sequence code = 1, Go to Pago 41, Step 040, Entry Point FT.

(Entry Point 97)

Channel Control Check during initial selection:

STATUS IN = 1 (short CU busy), ADDRESS IN = 0

BUS OUT parity check on ADDRESS OUT.

Device address = invalid.

Sequence code = 4, Go to Page 41, Step 040, Entry Point FT.

(Step 040 continues)

10APR81	PN 5683170
EC 366390	PEC 366388
0881	MAP 8100-43

SCA LOG (BMPX 2)

PAGE 45 OF 62

(Step 040 continued) (Entry Point A1)

Channel Control Check during CLRIO/HDV/HIO operation:

ADDRESS IN = 1 BUS OUT parity check on ADDRESS OUT.

Device address = invalid.

Sequence code: CLRI0 = 0, HDV/HI0 = undefined. For meaning of sequence code Go to Page 41, Step 040, Entry Point FT.

(Entry Point A2)

Channel Control Check during CLRIO/HDV/HIO operation:

SELECT IN = 1, BUS OUT parity check on ADDRESS OUT.

Sequence code: CLRIO = 0, HDV/HIO = undefined. For meaning of sequence code Go to Pago 41, Step 040, Entry Point FT.

(Entry Point A3)

Interface Control Check during polling sequence:

SERVICE IN = 1 HALT 1 Flag off, no SERVICE IN expected.

Sequence code = 5, Go to Page 47, Step 040, Entry Point PT.

(Step 040 continues)

 10APR81
 PN 5683170

 EC 366390
 PEC 366388

 0881
 MAP 8100-45

0881

MAP 8100-45

(Step 040 continued)

(Entry Point A7)

Interface Control Check during CLRIO/HDV/HIO operation:

All Traps are not down after interface disconnect.

Tag in Trap, unexpected Trap condition.

OPERATIONAL IN/ SERVICE IN/ DATA IN = 1

Sequence code: CLRIO = 0, HDV/HIO = undefined. For meaning of sequence code Go to Step 040, Entry Point PT.

(Entry Point A8)

Interface Control Check during CLRIO/HDV/HIO operation:

All Traps are not down after interface disconnect.

Tag in Trap, unexpected Trap condition.

SERVICE IN / DATA IN = 0

Sequence code: CLRIO = 0 HDV/HIO = undefined.

(Entry Point PT)

For meaning of sequence code use the following table then continue.

Sequence Code

000 = Channel detected error during TIO or Clear I/O 001 = Command went out, but device status not received 010 = Status received, but no data transferred 011 = At least one byte of data was transferred (Step 040 continues)

10APR81	PN 5683170
EC 366390	PEC 366388
0881	MAP 8100-47

0881

MAP 8100-49

PAGE 49 OF 62

(Step 040 continued) (Entry Point AD)

Channel Control Check during command chaining:

Tag in Trap, waiting for STATUS IN.

STATUS IN = 0 ADDRESS IN = 0, or COMMAND OUT = 1

Sequence code = invalid. Go to Page 53, Step 048, Entry Point T.

(Entry Point AE)

Channel Control Check during initial selection:

Tag in Trap, waiting for STATUS IN.

STATUS IN = 0 ADDRESS IN = 0

Sequence code = 1, command went out, but device status not received.

Go to Page 53, Step 048, Entry Point T.

(Entry Point AF)

Channel Control Check during initial selection:

Tag in Trap, unexpected Trap condition while waiting for control unit response to ADDRESS OUT.

ADDRESS IN = 0 STATUS IN = 0 SELECT IN = 0.

Sequence code = 4, command code in current CCW was either not sent out or it was sent out but not accepted by the device.

Go to Page 53, Step 048, Entry Point T.

(Step 040 continues)

 10APR81
 PN 5683170

 EC 366390
 PEC 366388

 0881
 MAP 8100-49

PAGE 51 OF 62

(Step 040 continued) (Entry Point R1)

Error during terminal status handling.

STATUS IN = 1 (ending status) COMMAND OUT raised by BSM interface card. Go to Page 60, Step 165, Entry Point R.

(Entry Point R2)

Error during terminal status handling.

STATUS IN = 1 (terminal status)

Paging overrun detected by BSM interface card.

Go to Page 60, Step 165, Entry Point R.

(Entry Point R3)

Error during terminal status handling.

STATUS IN = IN (ending status)

Paging overrun detected by BSM interface card.

Go to Page 60, Step 165, Entry Point R.

(Entry Point R4)

Channel Control Check during ending status handling:

STATUS IN = 1 (anding status) UNIT STATUS = 0 Go to Page 53, Step 097, Entry Point G.

(Entry Point R5)

Interface Control Check during polling sequence:

STATUS IN = 1 (ending status) UNIT STATUS = 0 Go to Page 58, Step 097, Entry Point G.

(Step 040 continues)

0881

(Step 040 continued) (Entry Point R6)

Interface Control Check during initial selection:

Timeout while waiting for response to ADDRESS OUT. ADDRESS IN = 0 SELECT IN = 0 STATUS IN = 0 Sequence code = 4 Go to Page 25, Step 040, Entry Point GT.

(Entry Point R7)

Channel Control Check during data transfer end:

STATUS IN = 1 (ending status handling) Go to Page 60, Step 165, Entry Point R.

(Entry Point QE)

Interface Control Check during polling sequence:

Check Trap, waiting for 'status in' or 'service in'/'data in'. (Tag in check, or timeout, or any overcurrent)

STATUS IN = 0 SERVICE IN = 0 DATA IN = 0

See byte 67 of SCA log display: ADDRESS IN belongs to the device which started poll. Sequence code = 5: Command was accepted, but data transfer is disconnected.

When following this MAP consider the device which sent ADDRESS IN. Go to Page 53, Step 056, Entry Point M.

(Step 040 continues)

10APR81	PN 5683170
EC 366390	PEC 366388
0881	MAP 8100-51

PAGE 53 OF 62

045 Is the symptom the same as noted before?

048

ΥN

N Q X 1 I 5 8 9 2

> The new FRU may also be defective or more than one FRU is defective in the adapter. Go To Map 3170, Entry Point A.

047

Replace the next FRU according to the given priority. Go to Page 52, Step 043, Entry Point FF.

048 (Entry Point T)

Suspect: BMPX2 card 2; 01A-B2M2 Go to Page 55, Step 077, Entry Point W.

049

ΥZ

(Entry Point U)

WARNING:

Reference code 81110101 or 81110301 or 81110501 may also come up if a read command is given to a tape unit with a blank tape mounted. This will cause a time-out after 45 SEC and an interface control check. This fact is indicated in the BMPX2 log by the time out bit,

message 'TIMEOUT ADDRESS: XXX' in line 23 during login and in the log display. XXX = device address. Check this first!

Is there a blank tape mounted? Y N 050 Is it reference code 81110101? Y N I N 051 Is it reference code 81110301?

0881

MAP 8100-53

052 Reference code 81110501. Go to Page 20, Step 040, Entry Point 2.

053 Go to Pago 20, Step 040, Entry Point 1.

AN

054 Go to Paga 32, Step 040, Entry Point 44.

055

MYZA

Contact the customer.

The customer should correct the problem and continue his job.

Go To Map 0001, Entry Point A.

056 (Entry Point M)

(Entry Point Q)

Suspected:

Intermittent error mainly in the standard interface included the interface adapter parts of all connected control units of this channel. See also field A of SCA log display and note down the error condition of the tag signals for possible later use in case of support.

(Entry Point MM)

Check standard interface cables/connectors; check whether all cable connectors fit properly, included the flat cables from 01A-B2L2 to tailgate 01D.

Look for broken loose or bent contact pins in the connectors.

(Step 056 continues)

10APR81	PN 5683170
EC 366390	PEC 366388
0881	MAP 8100-53

PAGE 55 OF 62

070 Same error symptom as bafore? Y N

071 (Entry Point Y)

Go To Map COOO, Entry Point A.

072

A G

4

Have you already been told to replace BMPX2 card 2 ; 01A-B2M2 during this call?

ΥŅ

073 Replace now the BMPX2 card 2; 01A-B2M2 Run BMPX2 adapter test.

Any error? Y N

074 Go to Step 077, Entry Point W.

075 The new card may also be defective. Corract it.

Run BMPX2 sdapter test. Sucessful? Y N

076 Second error may be in adapter.

Go To Map 8170, Entry Point A.

077 (Entry Point W)

N

A A H J

Run the application which caused the error.

Does the error come up again?

0881

078 Go to Page 54, Step 059, Entry Point Z.

079

AK

A

Same error symptoms as before? Y N

080 Go To Map 0000, Entry Point A.

081 Suspect now the terminator card;

01A-B2YL.

Run IC-bus test and BMPX2 adapter test.

Any reference code? Y N

> 082 Try again the application which caused the error.

Does the error come up again? $\gamma_{-}N$

083 Go To Map 0001, Entry Point A.

084

Same error symptoms as before? Y N

085 Go To Map 0000, Entry Point A.

086

Suspect now the board 01A-B2. Before you replace a board invoke your support structure. Thereforo write down all error symptoms for possible later use and Go To Map 0001, Entry Point O.

087

Go to appropriate MAP.

10APR81	PN 5683170
EC 366390	PEC 366388
0881	MAP 8100-55

A N 556 MAP 8100-57 REF.C.81XXXX01 A A R S 0881 A 1 56 SCA LOG (BMPX 2) PAGE 57 OF 62 102 114 **Disconnect In?** See device address shown in field C of the SCA log display. ΥN Are all logs from the same control 103 unit/device? Go to Page 53, Step 056, Entry Point M. ΥN 115 104 Go to Pago 52, Step 042, Entry Point P. Go to Pago 60, Stop 165, Entry Point R. 105 116 Go to Page 56, Step 097, Entry Point G. Go to Page 53, Step 056, Entry Point M. 117 106 Go to Page 52, Step 042, Entry Point P. Are there more than one overcurrent logs? ΥN 118 107 Are there more than one time-out logs? V N Go to Pago ES, Step 097, Entry Point G. 119 108 Go to Pago 56, Step 097, Entry Point G. Are all from the same control unit/device? YN 120 109 See device address shown in field C of the SCA Go to Page 53, Step 056, Entry Point Q. log display. 110 Are all logs from the same control Go to Page 58, Step 097, Entry Point G. unit/device? Ν γ 111 Disconnect In? 121 N Go to Page 60, Step 165, Entry Point R. 112 122 Go to Page 58, Step 097, Entry Point G. Are there more than one tag in check logs? YN 113 Go to Page 58, Step 097, Entry Point G. 10APR81

and the second second

A A R S
 10APR81
 PN 5683170

 EC 366390
 PEC 366388

 0881
 MAP 8100-57



145 166 Go to appropriate MAP. 147 (Entry Point H)

F 1 8

the SCA log display:

| MAP Column 2: Additional SCA log informat |Tme|Tag|Ov.|Sns|Bus|Dsc|Op.| |Out|Chk|Cur|Bus|Par|In |In | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1

Time-out?





REF.C.81XXXX01 SCA LOG (BMPX 2) PAGE 61 OF 62

166 (Entry Point C)

с 1 8

No tag in check, nor time-out, nor any overcurrent.

See the adapter checks shown in field B of the SCA log display.

MAI	P Co	lumr	2:				1
Add	itio	na I	SCA	log	info	ormat	l
 Tme	 Tao	10v.	. Sn	s Bus	slDsc	10p.	
Out	Chk	Cur	Bu	slPa	lin	lln	ļ
 1	2	1 3	4		6	17	1
 =====	 ====						

Sense Bus Check?

Y N 167 Bus Parity Check? Y N

> 168 (Entry Point CB)

Suspect the following FRUs:

Replace one FRU at a time and run the BMPX2 adapter test as well as the application which caused the error.

(Entry Point CX)

1.ACC card 4; 01A-B2N2 2.BMPX2 card 2; 01A-B2M2

3.Crossovers W/ X/ Y/ Z; 01A-B2M2, N2 01A-B2M3, N3 01A-B2M4, N4 01A-B2M5, N5

(Step 168 continues)

ł

10APR81	PN 5683170
EC 366390	PEC 366388
0881	MAP 8100-61

0881
REF.CODE 81-1/2-00081 FIX 0001

0882

BMPX-2 ADAPT TEST

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
RFCA RFCA OCOO 8XXX 8100	A P A A	1 2 1 1	001 003 001 001

EXIT I	POINT	S	
EXIT	THIS	MAP	то

PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	009	0001	K
2	005	0001	0
2	007	0001	0

001

ΥN

2 2 A B

(Entry Point A)

BMPX-2 Adapter Test MAP.

*	*;	:*	*:	¥ %	**	**	**	**	**	***	***	***	****	***	***	****	*****	***
×	* ;	:*	*:	<u>k</u>	:*	**	**	**	**	***	***	***	****	***	***	*****	*****	***
¥	*	М	a	r r	h i	nr												**
*	*	F	r	rc	or.	າງ ເ	ma	v	co	me	ur	h.if	the	in	ter	face	cable	**
*	*	i	5	1		0	ne	, ar	a	nv	n	wer	cab	101		1000	00010	**
×	Υż	**	*:	**	:*	**	**	**	**	**;	***	****	****	***	***	****	*****	***
*	**	**	*:	řž	:*	**	**	**	**	***	***	***	****	***	***	****	*****	***

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REF.CODE 81-1/2-000081

ADA0882

Are you led to this MAP by the REFCODE ANALYSIS?

13SEP82	PN 5683172
EC 366582	PEC 366493
0882	MAP 8170-1



REF.CODE 81000181 FIX 0000

BMPX-2 STANDARD INTERFACE TEST

PAGE 1 OF 9

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
0C00	A	1	001
8xxx	A	1	001
8100	A	1	001

EXIT	POINTS	
------	--------	--

EXIT TH	IS MAP	то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
8	019	0001	A
9	021	0001	O

001

(Entry Point A)

***************************************	****
***************************************	****
** Varning:	**
** Errors may come up, if the interface cable	**
** is too near any power cable!	**
******************	****
*****	****

IMPORTANT HINTS:

- Before testing the Standard Interface be sure that the BMPX-2 operates properly by running the BMPX-2 adapter test. This test should run errorfree before testing the Standard . Interface.
- 2. Error display is as follows:

For handling of the Standard Interface Test see Supplement to MAPs, section 4.

(Step 001 continues)

1.94 c.	and the	····· 08	88 3	MAP ⁻ 8180-1	
Ref.Code 81000181		E	C 366493	PEC 366388	•
© Copyright IBM Co:	p. 1981	20	60CT81	PN 5683174	

0883

MAP 8180-3

BMPX-2 Stand.Interf.

PAGE 3 OF 9

(Step 001 continued)

 \bigcirc

0100	000E	BOB	NOT BIT 5
0100	000F	BOB	NOT BIT 6
0100	0010	BOB	NOT BIT 7
0200	0002	BOB	NOT ZERO
0200	0003	TOR	NOT ZERO
0200	0004	BIB	NOT ZERO
0200	0005	TIR	NOT ZERO
0200	0006	NOT	ADDRESS OUT
0200	8000	NOT	COMMAND OUT
0200	000A	NOT	SERVICE OUT
0200	0000	NOT	DATA OUT
0200	000E	NOT	SUPPRESS OUT
0200	0010	NOT	OPERATION OUT
0200	0012	NOT	HOLD OUT
0200	0014	NOT	CONDITION SUP OUT
0300	0002	B08	NOT ZERO
0300	0003	TOR	NOT ZERO
0300	0004	BIB	NOT ZERO
0300	0005	TIR	NOT ZERO
0300	0006	80B	NOT BIT P
0300	0007	8 I B	NOT BIT P
0300	000F	METE	RING NOT IN OFF

6. Any other Symptom Code is displayed:

The following procedure explains how to identify a failing FRU in the Standard Interface area: Take a note of the first symptoms shown on screen (at the most three symptoms per test run).

A. SYMPTOM CODES 0100XXXX - ERROR PERTAINS TO BUS INTERFACE B. SYMPTOM CODES 0200XXXX - ERROR PERTAINS TO TAG INTERFACE C. SYMPTOM CODES 030001XX - ERROR PERTAINS TO BUS INTERFACE D. SYMPTOM CODES 030002XX - ERROR PERTAINS TO TAG INTERFACE

Remove that interface cable, bus or tag, which was identified by the symptom code from the last control unit and plug the respective wrap connector to the cable interface connector, thus eliminating this control unit as the error cause. Run BMPX-2 standard interface cable test again!

Same error symptoms?

ΥŅ

4 4 A B
 260CT81
 PN 5683174

 EC 366493
 PEC 366388

 0883
 MAP 8180-3



0883

1

1

BMPX-2 Stand.Interf.

PAGE 5 OF 9

SYMTOM CODE: XX00YYZZ 4 (Step 004 continues)
ZZ = ZZ Error cause, the affected line(s) you see in the following table for XX/YY
02 TESTED LINE HAS OPEN CIRCUIT Suspect bad connection or broken wire in one or both of the interface cable connectors. Open the interface connectors covers and make the necessary repairs.
03 TESTED LINE IS SHORTED TO GROUND Suspect short of shield to line in one or both of the interface cable connector. Open the interface connector covers and make the necessary repairs.
04 TESTED LINE IS SHORTED TO OTHER LINE 04 TESTED LINE IS SHORTED TO OTHER LINE 1 Suspect short of one line to 1 another one or both of the 1 interface cable connectors. Open 1 the interface connector covers 1 and make the necessary repairs.
BUS OUT Connector BUS IN Connector
I I XX IYY I NAME I PIN I PIN I NAME
01 IFF IBUS OUT BIT P I B03 I G03 I BUS IN BIT P 01 I80 IBUS OUT BIT 0 I D04 I J04 I BUS IN BIT 0 01 I40 IBUS OUT BIT 1 I B05 I G05 I BUS IN BIT 1 01 I20 IBUS OUT BIT 1 I B05 I G05 I BUS IN BIT 1 01 I20 IBUS OUT BIT 2 I D06 I J06 I BUS IN BIT 2 01 I20 IBUS OUT BIT 3 I B08 I G08 I BUS IN BIT 3 I B09 I J09 I BUS IN BIT 4 I I D09 I J09 I BUS
03 10 MARK OUT D13 J13 MARK IN
(Step 004 continues)

260CT81 PN 5683174-EC 366493---- PEC 366388 0883 MAP 8180-5

BMPX-2 Stand.Interf.

PAGE 7 OF 9

007

D 6

Besure that all connections of the interface connectors are properly seated and not damaged.

Make the necessary repairs if required.

Run BMPX-2 standard interface cable test again!

Same error symptoms?

YN

008

Error was caused by bad contacts in the BMPX-2 interface connectors of this interface.

Go to Page 8, Step 018, Entry Point C.

009

Check the "wrap" connectors to be sure that they are ok, check for any loose or broken wire or damaged pin! Check that the flat cables which connect the

driver card top connectors with the BMPX-2 interface connectors are properly seated.

```
Flatcable bus out 01A-B2L2(W)to bus interface conne. 01D-C2(BD) 2-13
Flatcable bus in 01A-B2L2(X)to bus interface conne. 01D-C2(GJ) 2-13
Flatcable tag 1 01A-B2L2(Y)to tag interface conne. 01D-D2(BD) 2-13
Flatcable tag 2 01A-B2L2(Z)to tag interface conne. 01D-D2(GJ) 2-13
Remove and replug suspected flat cables to
remove possible contamination deposits on
contact surfaces.
```

Run BMPX-2 standard interface cable test again!

Same error symptoms?

YN

010

8 E The error was caused by bad contact in the flatcable area of the BMPX-2. Go to Page 8, Step 018, Entry Point C.

 260CT81
 PN 5683174

 EC 366493
 PEC 366388

 0883
 MAP 8180-7

MAP 8180-7



0

REF.C.81000181 BMPX-2 Stand.Interi.

F 8

PAGE 9 OF 9

021 Make a note of all symptoms and activities you have performed. Go To Map 0001, Entry Point 0.

0883

260CT81

EC 366493

0883

PN 5683174

PEC 366388

MAP 8180-9

. .

MAP 8180-9

÷

REF.CODE 82XXXX01 FIX 0000

HSC-Log

PAGE 1 OF 4

ENTRY POINTS

EXIT POINTS

0884

FROM ENTER THIS MAP)	EXIT THIS MAP		то			
MAP	ENTRY	PAGE	STEP	PAGE	STEP	MAP	ENTRY	
NUMBER	POINT	NUHBER	NUMBER	NUMBER	NUMBER	NUMBER	POINT	
RFCA	A	1	001	2	003	0001	A	
RFCA	B	3	004	4	006	0001	A	
0C00	AA	2	002	ц	008	0001	A	
0C00	MM	4	007	З	005	0001	0	
8XXX	A	1	001	Ц	009	8280	A	

C01

(Entry Point A)

******	:*
*******	c sh
** CAUTION.	**
** errors may come up, if the 1/0 interface cables *	(* -
** are routed too close to any power cable.	r fr
***************************************	: *
*******	**

Make sure that you 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?

2 2 A B

YN

© Copyright IBM Corp. 1981	10APR81	PN 5683175
REF.CODE 82XXXX01	EC 366390	PEC 366284
4331-2	0884	MAP 8200-1

REF.C.82XXXX01

HSC-Log

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004

(Entry Point B)

Reference Code	Recommended Action:	Go to MAP ENTRY POINT A
82002101	See reference code EA300501	EA00
82004101	See reference code EA300901	EAOO
82011901	See reference code EA302401	EA00
82012101	See reference code EA302501	EA00
82012901	See reference code EA302601	EA00
82013101	See reference code EA302701	EA00
82013901	See reference code EA302801	I EAOO I
82014101	See reference code EA302901	EA00
82020901	See reference code EA304201	EA00
82021901	See reference code EA304401	EA00
82022101	See reference code EA304501	EA00
82027901	See reference code EA305001	EA00

Reference cede found?

ΥŅ

4 C C05 Go To Map CC01, Entry Point O.

10APR81	PN 5683175
EC 366390	PEC 366284
0884	MAP 8200-3

0884

REF.CODE 82XXXX81 FIX 0002

HSC TEST MAP

PAGE 1 OF 7

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0C00 8XXX	A	1	001

EVIT	nni	alte
F # I I	P(11	

EXIT THIS MAP		то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
5 6 3 6 7 2 2	031 044 019 047 049 008 012	0001 0001 0001 0001 0001 3370 3370	A 0 0 0 A A
7	054	3370	A
2	005	4B70	A
4	027	8280	A

001

(Entry Point A)

(Entry Point Y)

Be sure that you did IML with the DIAG diskette before you selected and started the HSC test.

Make also sure that there isn't any wrap connector left in the system.

(Step 001 continues)

© Copyright IBM Corp. 1982 REF.CODE 82XXXX81 ADA0886

13SEP82	PN 5683176
EC 366582	PEC 366493
0886	MAP 8270-1

HSC TEST MAP REF.C.82XXXX81

PAGE 3 OF 7

```
018
```

H 2

Reference code 82060X817 Y N

019

Run HSC test again.

If you still get the same reference code, invoke your support structure especially for a reference code search.

Go To Map 0001, Entry Point O.

020

Reference code 82060181?

ΥN

021 Reference code 820602817 Y N

022 Reference code 82060381.

Replace the following FRUs: HSC card 3; 01A-B2R2 Term. card; 01A-B2X2 HSC card 2; 01A-B2Q2 Then Go to Page 6, Step 042, Entry Point Z.

```
023
```

(Entry Point C)

Replace the following FRUs in the sequence shown: 1.HSC card; 01A-B2Q2. 2.HSC card; 01A-B2R2. 3.HSC card; 01A-B2P2.

Go to Page 6, Step 042, Entry Point Z.

13SEP82	PN 5683176		
EC 366582	PEC 366493		
0886	MAP 8270-3		

j

```
0886
```

HSC TEST MAP REF.C.82XXXX81

PAGE 5 OF 7

```
028
```

E F 2 2

The XX-field of the ref.code shows the erroneous TAG IN line(s):

Ref.Code 8204XX81 1 Tag In Lines: ۷ -----------Bit O = Address In Bit 1 = Status In Bit 2 = Service In Bit 3 = Data In Bit 4 = Disconnect InBit 5 = Operational In Bit 6 = Select In xor Operational In Bit 7 = Request In

Go to Page 4, Step 025, Entry Point EE.

```
029
```

(Entry Point P)

Have you already performed 'system reset'?

```
YN
```

030 Perform 'system reset'. Run HSC-test again.

Error again? Y N

111

031 Go To Map 0001, Entry Point A.

032

Go to Page 2, Step 001, Entry Point AA.

```
033
(Entry Point N)
```

Y N

66 KL

Reference code 82038081?

13SEP82	PN 5683176
EC 366582	PEC 366493
0886	MAP 8270-5

C D P Q HSC TEST MAP 2 2 6 6

0886

MAP 8270-7

REF.C.82XXXX81 PAGE 7 OF 7

048

Run SBA test.

Any error? Y N

> 049 Go To Map 0001, Entry Point O.

050

Go to appropriate MAP, respectively use the REFCODE ANALYSIS.

051

Go to appropriate MAP.

052

Run IC-bus test.

Any error?

YN

053

Go to Page 3, Step 023, Entry Point C.

054

Go To Map 3370, Entry Point A.

055

Go to Page 6, Step 046, Entry Point Q.

 13SEP82
 PN 5683176

 EC 366582
 PEC 366493

 0886
 MAP 8270-7

REF.CODE 82000181 FIX 0000

0888

MAP 8280-1

HSC STANDARD INTERFACE TEST

PAGE 1 OF 10

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
0C00	A	1	001
8xxx	A	1	001
8200	A	1	001

EXIT THIS MAP		то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
10	034	0001	A
10	033	0001	Α
10	025	0001	Α
10	027	0001	А
10	028	0001	Α
10	030	0001	Ρ
10	036	0001	0
10	037	3370	Α

001

(Entry Point A)

***************************************	***
******	***
** Warning.	**
** errors may come up, if the interface cable is	**
** too near any power cable!	**
***************************************	***
**********	***

IMPORTANT HINTS:

Before testing the Standard Interface be sure that the HSC operates properly by running the HSC adapter test. This test should run errorfree before testing the Standard Interface.

BE sure that all control units connected to the HSC interface are powered down.

Error display is as follows:

For handling of the Standard Interface Test see Supplement of MAPs, Section 4. (Step 001 continues)

© Copyright IBM Corp. 1981	23JAN81	PN 5683177
Ref.Code 82000181	EC 366388	PEC 366284
4331-2	0888	MAP 8280-1

HSC Stand.Interf.Test

PAGE 3 OF 10

(Step 001 continued)

YN

002 Are any of the following symptoms displayed? 0100FF02 02000B02 Y N 003 Are the following symptoms displayed: 01FFFFFF Bus Interface 02FFFFFF Tag Interface.

(N

004 Compare the displayed symptoms with the ones listed here:

> 0100 FFFF PROBLEM WITH BUS DATA BIT P (short to ground or any other line) 0100 90FF PROBLEM WITH MARKIN?OUT LINE (short to ground or any other line)

Are either of the two symptoms displayed on screen? Y N

- -

1 1

ÓÓÓÓ A B C D 005 Compare the displayed symptoms

with the ones listed here:

01000002 BOB NOT ZERO RESET PHASE 0100003 **BIB NOT ZERO RESET PHASE** TIR NOT ZERO RESET PHASE 01000004 01000005 TOR NOT ZERO RESET PHASE 01000006 BOB BIT P ERROR 01000007 BOB NOT ALL BITS ON 01000006 BOB BIT P ERROR 01000008 BOB NOT BITO 0100800E BOB BIT P ON ERROR 0100800F BIB BIT P ON ERROR (Step 005 continues)

> 23JAN81 PN 5683177 EC 366388 PEC 366284 0888 MAP 8280-3

0888

MAP 8280-5

HSC Stand.Interf.Test

PAGE 5 OF 10

(Step 006 continued) Same error symptoms?

YN

007

The interface malfunction was caused by the control unit which was eliminated out of the interface loop.

Fetch the respective control unit maintenance documentation . Identify the failing signal and its connection positions on the control unit interface connectors by using the symptom code and table 1.

Go to Step 009, Entry Point T.

008

Remove the interface cable which was identified by the symptom code, from the next control unit (if more than one control units are attached to this interface) or the HSC respectively, thus eliminating this cable as the error cause.

Plug the respective plug connector to the interface connector of the control unit or the HSC.

Run the HSC standard interface cable test again!

Same error symptoms?

Y N

009

Inspect the interface connector contacts of the just eliminated cable for the proper positioning and/or damage.

(Entry Point T)

Probe the defective line using the CE-meter and with aid of the following table.

(Step 009 continues)

Note: Always inspect interface connector contacts positioning and/or damage.

 23JAN81
 PN 5683177

 EC 366388
 PEC 366284

 0888
 MAP 8280-5

F 5

0888

HSC Stand.Interf.Test

PAGE 7 OF 10

(Step 009 01 01	continued) BUS OUT BIT 7	B12	G12	BUS IN BIT 7
01 06	MARK OUT	D13	J13	MARK IN
	TAG OUT CON	 N.	TAG	IN CONN.
XX YY	NAME	PIN	PIN	I NAME
02 80 02 40 02 20 02 10 02 08 02 04 02 06 02 02 02 0A 02 01	ADDRESS OUT COMMAND OUT SERVICE OUT DATA OUT SUPPRESS OUT OPERATION OUT OPERATION OUT HOLD/SELC.OUT HOLD/SELC.OUT	B10 D11 D13 G10 G12 J13 J13 D09 D09 B12	B05 D04 D06 G08 J11 B03 B03 B08 B08 J06	ADDRESS IN STATUS IN SERVICE IN DATA IN DISCONNECT IN OPERATION.IN MARK IN with SELECT IN +) SELECT IN DISCONNECT IN with SELECT IN +) REQUEST IN
02 0B	IMETERING OUT	J04 	G05 	METERING IN

+) These 'IN' signals are turned on in combination with YY= 04/02

Repair the defective line.

Make sure that the "wrap" connectors are ok,

check for any loose or broken wire or damaged pin!

Go to Page 9, Step 023, Entry Point C.

010

Is the whole standard interface cable checked out from the last control unit back to the HSC interface connector?

ΥN

011

Go to Page 1, Step 001, Entry Point A.

 23JAN81
 PN 5683177

 EC 366388
 PEC 366284

 0888
 MAP 8280-7

8 G

HSC Stand.Interf.Test

PAGE 9 OF 10

018 (Entry Point K)

H 8

Replace HSC card 1, 01A-B2P2.

Run HSC standard interface cable test again!

Same error symptoms? Y N

017 Error was caused by bad HSC card 1,01A-B2P2. Go to Step 023, Entry Point C.

018

Remove card in 01A-B2P2 and reinstall the old card. The error is not caused by this card.

Replace HSC card 2, 01A-B2O2.

Run the HSC standard interface cable test again!

Same error symptoms?

Y N 019

Error was caused by bad HSC card 2, 01A-B2Q2. Go to Step 023, Entry Point C.

. 020

Remove card in 01A-B2Q2 and reinstall the old card. The error was not caused by this card.

Replace the 2 flatcables in case of a bus malfunction from: 01A-B2P2(W)TO BUS SERPENT CONNECTOR 01A-B2W3(X)TO BUS SERPENT CONNECTOR

In case of a tag malfunction from: 01A-B2W4(Y)TO TAG INTERFACE CONNECTOR 01A-B2W5(Z)TO TAG SERPENT CONNECTOR

(Step 020 continues)

0888

MAP 8280-9

(Step 020 continued) Run HSC standard interface cable test again!

Same error symptoms? Y N

021

Error was caused by bad flat cables. Go to Step 023, Entry Point C.

022

Remove just installed flat cables. Reinstall old ones. The error was not caused by flat cables. Replace board 01A-B2.

Run HSC standard interface cable test again!

Same error symptoms? Y N

> 023 (Entry Point C)

Replug all removed system parts like cables and control units and plug the wrap connectors to the last contol units.

Run test again to make sure that the standard interface is in good order.

Any error symptoms? Y N

024

Replace the wrap connectors with the standard interface BUS/TAG terminators.

Run test again to make sure that the standard interface including the terminators is in good order.

Symptom XXFFFFFF indicated? Y N

1		
I.	23JAN81	PN 5683177
1	EC 366388	PEC 366284
M	0888	MAP 8280-9

a constant

1

REF.CODE 84XXXX01 FIX 0009

SCA LOG (MPX)

PAGE 1 OF 64

ENTRY POINTS

EXIT POINTS	T POINTS	IN	O	P	T	XI	E
-------------	----------	----	---	---	---	----	---

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
0C00	AA	2	001
0C00	MM	54	056
4902	MM	54	056
8XXX	A	1	001

EXIT TH	IS MAP	то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
56 56 57 60 55 56 60 55 60 6 9 17 17 63 57 53 17 64 57 57	071 080 085 144 059 083 142 005 005 005 005 005 165 086 041 005 171 096 090	0000 0000 0000 0001 0001 0001 0001 000	A A A A A A A O O O O O O O O O O O O A
56	076	8470	A
54	046	8470	A
64	175	8480	A
57	093	8480	A

0890

001

 $\overline{}$

(Entry Point A)

Make sure that you have traced the START MAP precisely.

Another reference code may be more important than the one you got first.

(Step 001 continues)

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 15SEP82

 REF.CODE 84XXXX01
 EC 366589

 AAA0890
 0890

 SEP82
 PN 5683312

 366589
 PEC 366515

 90
 MAP 8400-1

SCA LOG

PAGE 3 OF 64

002

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B 2

The error is obviously intermittent; most probably caused by any control unit/device attached to this channel or it is caused by the standard interface cabling/connectors.

The following SCA log picture below will be used when tracing this MAP:

1. Take the reference code from MPX log display and look it up in the 'reference code table' which after some questions followes the SCA log picture.

2.Go to the entry point in the MAP as indicated by the reference code table.

3.Fetch additional information from the SCA log display, field A, B or C when told by this MAP.

SCA Log (MPX) Display (Example) (Step 002 continues)

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-3

MA

0890

MAP 8400-3

PAGE 5 OF 64

(Step 002 continued)

Is there more than one control unit connected to this channel (MPX)? Y $\,N$

003

Go to Step 005, Entry Point CC.

004

Display and note all available MPX logs. Note down the device (Control unit) addresses displayed in field C of SCA log display.

Is it always the same control unit? Y $\,N$

005 (Entry Point CC)

Now look up the reference code of the SCA log MPX in the following list and go to the indicated entry point:

REF. Code

84110101

Interface Control Check Go to Page 54, Step 049, Entry Point U.

Ref. Code

84110201

Channel Control Check Go to Page 36, Step 040, Entry Point 60.

Ref. Code

84110301

8 C Interface Control Check Go to Page 54, Step 049, Entry Point U. (Step 005 continues) Press COPY key, if console printer is available, or use FRIEND command PRINT LOG to get printouts of the logs.

15SEP82 PN 5683312 EC 366589 PEC 366515 0890 MAP 8400-5

0890

MAP 8400-5

SCA LOG

PAGE 7 OF 64

(Step 005 continued)

Ref. Code

84115201

Interface Control Check Go to Page 50, Step 040, Entry Point AJ.

Ref. Code

84216101

Channel Data Check Go to Page 41, Step 040, Entry Point 85.

Ref. Code

84217101

Interface Control Check Go to Page 25, Step 040, Entry Point 16.

Ref. Code

84218101

Channel Data Check Go to Page 26, Step 040, Entry Point 17.

Ref. Code

84219101 Go to Page 51, Step 040, Entry Point R1.

Ref. Code

0890

MAP 8400-7

(Step 005 continued)

Ref.Code

84221101 Go to Page 51, Step 040, Entry Point R3.

Ref. Code

84222101

Channel Control Check Go to Page 51, Step 040, Entry Point R4.

Ref. Code

84325101

Interface Control Check Go to Page 23, Step 040, Entry Point 9.

Ref. Code

84325201

Channel Control Check Go to Page 36, Step 040, Entry Point 63.

Ref. Code

84325301

Channel Control Check. Check whether any control unit was switched off, otherwise Go to Page 23, Step 040, Entry Point 10.

Ref. Code

84325401

Channel Control Check (Step 005 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-7

PAGE 9 OF 64

(Step 005 continued) Go to Page 26, Step 040, Entry Point 20.

Ref. Code

84335101 Go To Map 0001, Entry Point O.

Ref. Code

84336101

Interface Control Check Go to Page 26, Step 040, Entry Point 21.

Ref. Code

84337101

Channel Control Check Go to Page 41, Step 040, Entry Point 86.

Ref. Code

84337201

Channel Control Check Go to Page 42, Step 040, Entry Point 87.

Ref. Code

84338101

Interface Control Check Go to Page 48, Step 040, Entry Point A9.

Ref. Code

84339101

Interface Control Check (Step 005 continues) 0890

MAP 8400-9

(Step 005 continued) Go to Page 48, Step 040, Entry Point A9.

Ref. Code

84340101

Interface Control Check Go to Page 33, Step 040, Entry Point 47.

Ref. Code

84340201

Interface Control Check Go to Page 37, Step 040, Entry Point 67.

Ref. Code

84340301

Interface Control Check Go to Page 33, Step 040, Entry Point 48.

Ref. Code

84340401

Interface Control Check Go to Page 37, Step 040, Entry Point 68.

Ref. Code

84340501

Interface Control Check Go to Page 33, Step 040, Entry Point 49.

(Step 005 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-9

PAGE 11 OF 64

(Step 005 continued) Go to Page 42, Step 040, Entry Point 88.

Ref. Code

84653101

Channel Data Check Go to Page 27, Step 040, Entry Point 23.

Ref. Code

84757101

Interface Control Check Go to Page 34, Step 040, Entry Point 52.

Ref. Code

84757201

8

Channel Control Check Go to Page 38, Step 040, Entry Point 72.

Ref. Code

84760101

Interface Control Check Go to Page 23, Step 040, Entry Point 11.

Ref. Code

84760201

Channel Control Check Go to Page 39, Step 040, Entry Point 73. ------

(Step 005 continues)

(Step 005 continued)

Ref. Code

84761101

Interface Control Check Go to Page 27, Step 040, Entry Point 24.

Ref. Code

84762101

Interface Control Check Go to Page 27, Step 040, Entry Point 25.

Ref. Code

84763101

Interface Control Check Go to Page 48, Step 040, Entry Point AB.

Ref. Code

84764101

Channel Control Check Go to Page 42, Step 040, Entry Point 89.

Ref. Code

84764201

Channel Control Check Go to Page 43, Step 040, Entry Point 90.

Ref. Code

84765101

Interface Control Check (Step 005 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-11

MAP 8400-11

SCA LOG

PAGE 13 OF 64

(Step 005 continued)

Ref. Code

84771101

Interface Control Check Go to Page 28, Step 040, Entry Point 28.

Ref. Code

84771201

Interface Control Check Go to Page 28, Step 040, Entry Point 29.

Ref. Code

84772101

Channel Control Check Go to Page 43, Step 040, Entry Point 93.

Ref. Code

84773101

Interface Control Check Go to Page 50, Step 040, Entry Point AK.

84880101

Interface Control Check Go to Page 52, Step 040, Entry Point QT.

Ref. Code

84881101

Interface Control Check Go to Page 24, Step 040, Entry Point 12. (Step 005 continues) (Step 005 continued)

Ref. Code

84881201

Channel Control Check Go to Page 39, Step 040, Entry Point 76.

Ref. Code

84883101

Channel Control Check Go to Page 43, Step 040, Entry Point 94.

Ref. Code

84883201

Channel Control Check Go to Page 43, Step 040, Entry Point 95.

Ref. Code

84884101

Interface Control Check Go to Page 29, Step 040, Entry Point 37.

Ref. Code

84885101

Interface Control Check Go to Page 30, Step 040, Entry Point 38.

(Step 005 continues)



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PAGE 15 OF 64

(Step 005 continued)

Ref. Code

84897101

Channel Control Check Go to Page 49, Step 040, Entry Point AF.

Ref. Code

84898101

Channel Control Check Go to Page 44, Step 040, Entry Point 98.

Ref. Code

84899101

ъ

Interface Control Check Go to Page 31, Step 040, Entry Point 3B.

Ref. Code

8489A101

Interface Control Check Go to Page 20, Step 040, Entry Point 3.

Ref. Code

8489A201

Channel Control Check Go to Page 39, Step 040, Entry Point 79.

Ref. Code

84AA0101

Channel Data Check (Step 005 continues) (Step 005 continued) Go to Page 44, Step 040, Entry Point 99.

Ref. Code

84AA1101

Channel Data Check Go to Page 28, Step 040, Entry Point 33.

Ref. Code

84AA2101

Error during data transfer end Go to Page 62, Step 165, Entry Point R.

Ref. Code

84AA3101

Error during data transfer end. OPERATIONAL IN = 0 Go to Page 62, Step 165, Entry Point R.

Ref. Code

84AA4101

Channel Control Check Go to Page 51, Step 040, Entry Point R7.

Ref. Code

84AA5101

Interface Control Check Go to Page 31, Step 040, Entry Point 3C.

(Step 005 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-15

SCA LOG

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(Step 005 continued)

Ref. Code

84DD8101

Channel Control Check Go to Page 45, Step 040, Entry Point A2.

Ref. Code

84DDA101

Interface Control Check Go to Page 21, Step 040, Entry Point 4.

Ref. Code

84DDA201

Channel Control Check Go to Page 40, Step 040, Entry Point 81.

Ref. Code

84DDB101

Interface Control Check Go to Page 35, Step 040, Entry Point 57.

Ref. Code

84DDB201

Channel Control Check Go to Page 40, Step 040, Entry Point 82.

Ref. Code

84DDC101

Interface Control Check (Step 005 continues) (Step 005 continued) Go to Page 35, Step 040, Entry Point 58.

0890

Ref. Code

84DDC201

Channel Control Check Go to Page 41, Step 040, Entry Point 83.

Ref. Code

84FF0101

Subchannel probably not defined Go to Page 53, Step 041, Entry Point K1.

Ref. Code

84FF1101

Subchannel probably not defined Go to Page 53, Step 041, Entry Point K1.

Ref. Code

84FF2101 Go To Map 0001, Entry Point O.

84FFF101 Go To Map 0001, Entry Point O.

Ref. Code

84XXXX01 Go To Map 0001, Entry Point P.

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-17

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Q	REF.CODE 84XXXX01	W 0890 MAP 8400-19
8	SCA LOG	
	PAGE 19 OF 64	
l 018 'Reserved'		 023 (Entry Point J)
Y N		See field A of SCA log display.
019 'Reserved' Y N		ADDRESS IN = 1 ? Y N
020 'Reserved' Y N	,	024 Go to Step 027, Entry Point 5Z.
021 'Reserv	eď	025 COMMAND OUT = 1 ? Y N
022 7 Res	erved'	026 Go to Step 031, Entry Point 5C.
		027 (Entry Point 5Z)
		STATUS IN = 1 ? Y N
		028 Go to Page 20, Step 033, Entry Point 5Y.
		029 COMMAND OUT = 1 ? Y N
		030 SERVICE OUT = 1 ? Y N
		031 (Entry Point 5C)
		Go to Page 54, Step 056, Entry Point M.
		032 Go to Page 20, Step 033, Entry Point 5Y.
		15SEP82 PN 5683312
5 5 5 5 2		2 EC 366589 PEC 366515
KSIUVW		x 0890 MAP 8400-19

SCA LOG

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(Step 040 continued) (Entry Point 4)

Interface Control Check during CLRIO/HDV/HIO operation:

Check Trap (Tag in check, or time-out, or any overcurrent) while waiting for SELECT IN to drop.

SELECT IN = 1

Sequence code: CLRIO = 0 HDV/HIO = undefined

(Entry Point DO)

Sequence code 0 means: Channel detected error during TIO or Clear I/O. Go to Page 59, Step 123, Entry Point D.

(Entry Point 5)

Channel Control Check during trap reason analysis:

Tag In Trap OPERATIONAL IN = 1 ADDRESS IN = 0 STATUS IN = 1 REQUEST IN may be on or off

Sequence code = 5. Go to Page 19, Step 023, Entry Point J.

(Entry Point 7)

Channel Control Check during trap reason analysis:

Tag In Trap and Polling Trap

Device address = invalid Go to Page 54, Step 056, Entry Point M. (Step 040 continues) (Step 040 continued)

(Entry Point 7X)

Channel Control Check during trap reason analysis:

0890

Tag IN Trap

SCA in data transfer mode.

Sequence code = 5 Go to Page 25, Step 040, Entry Point GT.

(Entry Point 7Y)

Interface Control Check during trap reason analysis:

No Any Trap Request (Trap Loop counter exhausted)

REQUEST IN = 0 SERVICE IN = 1 DATA IN = 1

Device address = invalid Go to Page 54, Step 056, Entry Point M.

-----(Entry Point 7Z)

Interface Control Check during trap reason analysis:

No Any Trap Request (Trap loop counter exhausted)

REQUEST IN = 1 SERVICE IN = 0 DATA IN = 0

Device address = invalid (Step 040 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-21



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REF.CODE 84XXXX01

SCA LOG

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(Step 040 continued) (Entry Point 9)

Interface Control Check during polling sequence:

Check Trap (Tag in check, or time-out, or any over overcurrent), while waiting for ADDRESS IN.

ADDRESS IN = 1, no Bus in Buffer parity check.

Sequence code = 5

(Entry Point H5)

Sequence code = 5 means: Command had been accepted, but data transfer was discontinued. Go to Page 60, Step 147, Entry Point H.

-----(Entry Point 10)

Channel Control Check during polling sequence. Check Trap (Tag in check, or time-out, or any overcurrent), while waiting for ADDRESS IN.

ADRESS IN = 0 or 'Bus in Buffer' parity check. Device address = invalid. Go to Page 60, Step 147, Entry Point H.

(Entry Point 11)

Interface Control Check during command chaining sequence:

Check Trap (Tag in check, or time-out, or any overcurrent), while waiting for ADDRESS IN.

Sequence code = invalid. Go to Page 60, Step 147, Entry Point H.

(Step 040 continues)

0890

MAP 8400-23

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-23

PAGE 25 OF 64

(Step 040 continued) (Entry Point 14)

Interface Control Check during polling sequence

Trap loop counter exhausted.

Device address = invalid Go to Page 54, Step 056, Entry Point M.

(Entry Point 16)

Interface Control Check during ending status handling:

STATUS IN = 1, Ending Status.

'Bus in Buffer' parity check.

Inbound or outbound operation.

Unit Status in 'Bus in Buffer' = invalid.

For sequence code see byte 52, bit 5, 6, 7 of SCA log display.

(Entry Point GT)

See the meaning of the sequence code in the following table, then continue:

Sequence Code

000 = Channel detected error during TIO or Clear I/0 001 = Command went out, but device status not received 010 = Status received, but no data transferred 011 = At least one byte of data was transferred 100 = Command code in current CCW was either not sent out or was sent but not accepted by the device 101 = Command was accepted, but data transfer is discontinued.

Go to Page 57, Step 097, Entry Point G.

(Step 040 continues)

15SEP82 PN 5683312

EC 366589 PEC 366515

0890 MAP 8400-25

0890



PAGE 27 OF 64

(Step 040 continued) (Entry Point 22)

Channel Control Check during command chaining sequence:

CHANNEL END received only.

Tag in Trap while waiting for 'operational in' to fall.

OPERATIONAL IN = 1 ADDRESS IN = 0 STATUS IN = 0 SERVICE IN = 1 DATA IN = 1

SCA is in EC-mode. Go to Page 57, Step 097, Entry Point G.

(Entry Point 23)

Channel Data Check during data chaining:

Inbound operation 'Bus In Data' parity check Go to Page 57, Step 097, Entry Point G.

(Entry Point 24)

Interface Control Check during command chaining:

ADDRESS IN = 0 STATUS IN = 1 (Short CU busy)

Sequence code = invalid. Go to Page 57, Step 097, Entry Point G.

(Step 040 continues)

0890

MAP 8400-27

(Step 040 continued) (Entry Point 25)

Interface Control Check and interface disconnect during command chaining:

ADDRESS IN = 0 SELECT IN = 1 (no Bus Out parity check).

Sequence code = invalid. Go to Page 57, Step 097, Entry Point G.

(Entry Point 26)

Interface Control Check during command chaining:

Tag in Trap while waiting for STATUS IN.

STATUS IN = 0 ADDRESS IN = 1 COMMAND OUT = 0 (command = dummy TIO)

Sequence code = invalid. Go to Page 57, Step 097, Entry Point G.

(Entry Point 27)

Interface Control Check during command chaining:

Sequence code = invalid

Tag in Trap waiting for 'status in'

STATUS IN = 0 ADDRESS IN = 1 COMMAND OUT = 0 Go to Page 57, Step 097, Entry Point G.

(Step 040 continues)

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-27

PAGE 29 OF 64

(Step 040 continued) (Entry Point 35)

Interface Control Check during command chaining:

Sequence code = invalid ADDRESS IN = 1

Bus in parity check. Go to Page 54, Step 056, Entry Point M.

(Entry Point 36)

Interface Control Check during command chaining:

Sequence code = invalid. ADDRESS IN = 1

Device address on Bus in is not equal to the device address on Bus Out. Go to Page 57, Step 097, Entry Point G.

(Entry Point 37)

Interface Control Check during initial selection:

Sequence code = 4,

command in current CCW was either not sent out, or it was sent out but not accepted by the device.

ADDRESS IN = 1 Bus in parity check.

Go to Page 54, Step 056, Entry Point M.

(Step 040 continues)

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MAP 8400-29

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-29

SCA LOG

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(Step 040 continued) (Entry Point 3B)

Interface Control Check during initial selection sequence:

SELECT IN = 1, CU busy. Waiting for 'selection in' to drop. 1 msec timeout loop exhausted.

Sequence code = 7 (invalid) Go to Page 57, Step 097, Entry Point G.

(Entry Point 3C)

Interface Control Check during data transfer termination

SERVICE IN or

DATA IN = 1 Waiting for 'service in' or 'data in' to drop. 1 msec timeout loop exhausted.

Sequence code = 7 (invalid) Go to Page 57, Step 097, Entry Point G.

(Entry Point 40)

Interface Control Check during CLRIO/HDV/HIO operation:

Device address = invalid.

Sequence code: CLRIO = 0 HDV/HIO = undefined

Sequence code 0 means: Channel detected error.

ADDRESS IN = 1

Device address on Bus In is not equal the device address on Bus Out. Go to Page 53, Step 042, Entry Point P.

(Step 040 continues)

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-31

0890

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(Step 040 continued) (Entry Point 46)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in'.

STATUS IN = 0 or Bus in Buffer parity check. Go to Page 58, Step 098, Entry Point B.

(Entry Point 47)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in' or 'service in' / 'data in'.

STATUS IN = 0 SERVICE IN = 0 DATA IN = 0

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 48)

Interface Control Check during polling sequence:

Check Trap (tag in check, or time-out, or any overcurrent),

while waiting for 'status in' or 'service in' and 'data in'.

STATUS IN = 0 SERVICE IN = 1 DATA IN = 1

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT. (Step 040 continues) (Step 040 continued)

-----(Entry Point 49)

Interface Control Check during polling sequence:

0890

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in' or 'service in' / 'data in'.

STATUS IN = 1, SERVICE IN = 0 DATA IN = 0.

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 50)

Interface Control Check during polling sequence:

STATUS IN = 1, SERVICE IN = 1, DATA IN = 1

Sequence code = 5, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 51)

Interface Control Check during command chaining:

Only 'channel end' received. Command chaining indicated.

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'operational' in to fall.

See sequence code in byte 52, bit 5, 6, 7 of SCA log display and look it up in the sequence code table,

Go to Page 32, Step 040, Entry Point BT.

(Step 040 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-33

SCA LOG

PAGE 35 OF 64

(Step 040 continued) (Entry Point 56)

Interface Control Check during initial selection:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'status in' to drop.

STATUS IN = 1 (short control unit busy).

Sequence code = 4, Go to Page 32, Step 040, Entry Point BT.

(Entry Point 57)

Interface Control Check during CLRIO/HDV/HIO operation:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'operational in' to drop.

Sequence code: CLRIO = 0, HDV/HIO = undefined. Go to Page 32, Step 040, Entry Point BT.

(Entry Point 58)

Interface Control Check during CLRIO/HDV/HIO:

Check Trap (tag in check, or time-out, or any overcurrent), while waiting for 'operational in' drop.

Sequence code: CLRIO = 0, HDV/HIO = undefined. Go to Page 32, Step 040, Entry Point BT.

(Step 040 continues)

MAP 8400-35

0890

SCA LOG

PAGE 37 OF 64

(Step 040 continued) (Entry Point 65)

Channel Control Check during polling sequence:

UNIT STATUS from 'Bus in Buffer', see byte 67 of SCA log display.

Check Trap while waiting for STATUS IN.

STATUS IN = 1 No 'Bus in Buffer' parity check.

Sequence code = 5. Go to Page 36, Step 040, Entry Point C5.

(Entry Point 66)

Channel Control Check during polling sequence:

UNIT STATUS = 00.

Check Trap while waiting for STATUS IN.

STATUS IN = 0, or 'Bus in Buffer' parity check.

Sequence code = 5, Go to Page 36, Step 040, Entry Point C5.

(Entry Point 67)

Interface Control Check during polling sequence:

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 0 SERVICE IN/DATA IN = 0

Sequence code = 5 Go to Page 36, Step 040, Entry Point C5.

(Step 040 continues)

(Step 040 continued) (Entry Point 68)

Interface Control Check during polling sequence:

0890

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 0 SERVICE IN/DATA IN = 1

Sequence code = 5, Go to Page 36, Step 040, Entry Point C5.

(Entry Point 69)

Interface Control Check during polling sequence:

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 1, SERVICE IN/DATA IN = 0.

UNIT STATUS from 'Bus in Buffer' see byte 67 of SCA log display.

Sequence code = 5, Go to Page 36, Step 040, Entry Point C5.

(Entry Point 70)

Interface Control Check during polling sequence:

Check Trap while waiting for STATUS IN or SERVICE IN/DATA IN.

STATUS IN = 1, SERVICE IN/DATA IN = 1.

UNIT STATUS from 'Bus in Buffer' see byte 67 of SCA log display.

Sequence code = 5, (Step 040 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-37



MAP 8400-37
SCA LOG

PAGE 39 OF 64

(Step 040 continued) (Entry Point 73)

Channel Control Check during command chaining sequence:

Check Trap while waiting for ADDRESS IN.

Sequence code = invalid Go to Page 63, Step 166, Entry Point C. -----

(Entry Point 74)

Interface Control Check during command chaining sequence:

Check Trap while waiting for STATUS IN

Sequence code = invalid Go to Page 63, Step 166, Entry Point C.

(Entry Point 75)

Channel Control Check during command chaining sequence:

Check Trap while waiting for STATUS IN

Command = dummy TIO.

Sequence code = invalid. Go to Page 63, Step 166, Entry Point C. ------

(Entry Point 76)

Channel Control Check during initial selection sequence:

Check Trap waiting for response to ADDRESS OUT

Sequence code = 4, Go to Page 36, Step 040, Entry Point C4.

(Step 040 continues)

(Step 040 continued) (Entry Point 77)

Channel Control Check during initial selection sequence:

Check Trap while waiting for STATUS IN.

0890

Sequence code = 1,

(Entry Point C1)

Sequence code 1 means:

Command went out but device status not received. Go to Page 63, Step 166, Entry Point C.

(Entry Point 78)

Channel Control Check during initial selection sequence:

Check Trap waiting for STATUS IN to drop.

STATUS IN = 1 (short control unit busy).

UNIT STATUS from 'Bus in Buffer' see byte 67 of SCA log display.

Sequence code = 4, Go to Page 36, Step 040, Entry Point C4.

(Entry Point 79)

Channel Control Check during initial selection sequence:

Check Trap while waiting for SELECT IN to drop.

SELECT IN = 1.

Sequence code = 4, Go to Page 36, Step 040, Entry Point C4. ------

(Step 040 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-39

SCA LOG

PAGE 41 OF 64

(Step 040 continued) (Entry Point 83)

Channel Control Check during CLRIO/HDV/HIO operation:

Unexpected Trap while waiting for OPERATIONAL IN to drop.

Sequence code: CLRIO = 0 HDV/HIO = undefined Go to Page 40, Step 040, Entry Point C0.

(Entry Point 85)

Channel Data Check during terminal status handling:

Outbound operation. STATUS IN = 1 (terminal status) 'Bus Out Buffer' data parity check. Go to Page 53, Step 043, Entry Point F.

(Entry Point 86)

Channel Control Check during polling sequence:

BUS OUT parity check on COMMAND OUT

STATUS IN = 1

No Bus in Buffer parity Check.

Sequence code = 5

(Entry Point FT)

for meaning of sequence code see the following table, then continue.

Sequence Code

· _ _

 \langle

000 = Channel detected error during TIO or Clear I/O 001 = Command went out, but device status not received 010 = Status received, but not data transferred 011 = At least one byte of data was transferred (Step 040 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-41

SCA LOG

PAGE 43 OF 64

(Step 040 continued) (Entry Point 90)

Channel Control Check during command chaining:

ADDRESS IN = 1 BUS OUT parity check on ADDRESS OUT.

Device address = invalid. Sequence code = invalid, Go to Page 53, Step 043, Entry Point F.

_____ (Entry Point 91)

Channel Control Check during command chaining:

BUS OUT parity check on COMMAND OUT.

Sequence code = invalid. Go to Page 53, Step 043, Entry Point F.

-----(Entry Point 92)

Channel Control Check during command chaining:

BUS OUT parity check on COMMAND OUT.

Sequence code = invalid. Go to Page 53, Step 043, Entry Point F.

(Entry Point 93)

Channel Control Check during command chaining:

SELECT IN = 1 BUS OUT parity check on ADDRESS OUT.

Sequence code = invalid. Go to Page 53, Step 043, Entry Point F.

(Step 040 continues)

(Step 040 continued) (Entry Point 94)

Channel Control Check during initial selection:

ADDRESS IN =1 BUS OUT parity check on ADDRESS OUT.

0890

Sequence code = 4, Go to Page 41, Step 040, Entry Point FT. (Entry Point 95)

Channel Control Check during initial selection:

ADDRESS IN = 1 BUS OUT parity check on ADDRESS OUT.

Device address = invalid.

Sequence code = 4, Go to Page 41, Step 040, Entry Point FT. *****************

(Entry Point 96)

Channel Control Check during initial selection:

STATUS IN =1 BUS OUT parity check on COMMAND OUT.

Sequence code = 1, Go to Page 41, Step 040, Entry Point FT. ------

(Entry Point 97)

Channel Control Check during initial selection:

STATUS IN = 1 (short CU busy), ADDRESS IN = 0

BUS OUT parity check on ADDRESS OUT.

Device address = invalid.

Sequence code = 4, Go to Page 41, Step 040, Entry Point FT. (Step 040 continues)

15SEP82 PN 5683312 EC 366589 PEC 366515 0890 MAP 8400-43

SCA LOG

PAGE 45 OF 64

(Step 040 continued) (Entry Point A1)

Channel Control Check during CLRIO/HDV/HIO operation:

ADDRESS IN = 1 BUS OUT parity check on ADDRESS OUT.

Device address = invalid.

Sequence code: CLRIO = 0, HDV/HIO = undefined. For meaning of sequence code Go to Page 41, Step 040, Entry Point FT.

(Entry Point A2)

Channel Control Check during CLRIO/HDV/HIO operation:

SELECT IN = 1, BUS OUT parity check on ADDRESS OUT.

Sequence code: CLRIO = 0, HDV/HIO = undefined. For meaning of sequence code Go to Page 41, Step 040, Entry Point FT.

(Entry Point A3)

Interface Control Check during polling sequence:

SERVICE IN = 1 HALT 1 Flag off, no SERVICE IN expected.

Sequence code = 5, Go to Page 47, Step 040, Entry Point PT.

(Step 040 continues)

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-45

0890

SCA LOG

PAGE 47 OF 64

(Step 040 continued)

-----(Entry Point A7)

Interface Control Check during CLRIO/HDV/HIO operation:

All Traps are not down after interface disconnect.

Tag in Trap, unexpected Trap condition.

OPERATIONAL IN/ SERVICE IN/ DATA IN = 1

Sequence code: CLRIO = 0, HDV/HIO = undefined. For meaning of sequence code Go to Step 040, Entry Point PT.

(Entry Point A8)

Interface Control Check during CLRIO/HDV/HIO operation:

All Traps are not down after interface disconnect.

Tag in Trap, unexpected Trap condition.

SERVICE IN / DATA IN = 0

Sequence code: CLRIO = 0 HDV/HIO = undefined.

(Entry Point PT)

For meaning of sequence code use the following table then continue.

Sequence Code

000 = Channel detected error during TIO or Clear I/O 001 = Command went out, but device status not received 010 = Status received, but no data transferred 011 = At least one byte of data was transferred (Step 040 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-47

0890

SCA LOG

PAGE 49 OF 64

(Step 040 continued) (Entry Point AD)

Channel Control Check during command chaining:

Tag in Trap, waiting for STATUS IN.

STATUS IN = 0 ADDRESS IN = 0, or COMMAND OUT = 1

Sequence code = invalid. Go to Page 54, Step 048, Entry Point T.

(Entry Point AE)

Channel Control Check during initial selection:

Tag in Trap, waiting for STATUS IN.

STATUS IN = 0 ADDRESS IN = 0

Sequence code = 1, command went out, but device status not received. Go to Page 54, Step 048, Entry Point T.

(Entry Point AF)

~

Channel Control Check during initial selection:

Tag in Trap, unexpected Trap condition while waiting for control unit response to ADDRESS OUT.

ADDRESS IN = 0 STATUS IN = 0 SELECT IN = 0.

Sequence code = 4, command code in current CCW was either not sent out or it was sent out but not accepted by the device.

Go to Page 54, Step 048, Entry Point T.

(Step 040 continues)

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-49

SCA LOG

PAGE 51 OF 64

(Step 040 continued) (Entry Point R1)

Error during terminal status handling.

STATUS IN = 1 (ending status) COMMAND OUT raised by BSM interface card. Go to Page 62, Step 165, Entry Point R.

(Entry Point R2)

Error during terminal status handling.

STATUS IN = 1 (terminal status)

Paging overrun detected by BSM interface card.

Go to Page 62, Step 165, Entry Point R.

(Entry Point R3)

Error during terminal status handling.

STATUS IN = IN (ending status)

Paging overrun detected by BSM interface card.

Go to Page 62, Step 165, Entry Point R.

(Entry Point R4)

Channel Control Check during ending status handling:

STATUS IN = 1 (ending status) UNIT STATUS = 0 Go to Page 57, Step 097, Entry Point G.

(Entry Point R5)

Interface Control Check during polling sequence:

STATUS IN = 1 (ending status) UNIT STATUS = 0 Go to Page 57, Step 097, Entry Point G.

(Step 040 continues)

(Step 040 continued) (Entry Point R6)

Interface Control Check during initial selection:

0890

Timeout while waiting for response to ADDRESS OUT. ADDRESS IN = 0 SELECT IN = 0 STATUS IN = 0 Sequence code = 4 Go to Page 25, Step 040, Entry Point GT.

(Entry Point R7)

Channel Control Check during data transfer end:

STATUS IN = 1 (ending status handling) Go to Page 62, Step 165, Entry Point R.

(Entry Point QE)

Interface Control Check during polling sequence:

Check Trap, waiting for 'status in' or 'service in'/'data in'. (Tag in check, or timeout, or any overcurrent)

STATUS IN = 0 SERVICE IN = 0 DATA IN = 0

See byte 67 of SCA log display: ADDRESS IN belongs to the device which started poll. Sequence code = 5: Command was accepted, but data transfer is disconnected.

When following this MAP consider the device which sent ADDRESS IN. Go to Page 54, Step 056, Entry Point M.

(Step 040 continues)

15SEP82	PN 5683312
EC 366589	PEC 366515
0890	MAP 8400-51

SCA LOG

PAGE 53 OF 64

(Step 041 continued) (Entry Point K1)

Check the system configuration and correct it if necessary. If this does not solve the problem

Go To Map 0001, Entry Point O.

042

(Entry Point P)

Problem detected and controlled by control unit. Use device address shown in field C of the SCA log display. Analyse the TAG IN and TAG OUT and the BUS IN and BUS OUT signals obtained from field A of the SCA log display and try to find out the failing signal(s). Go to documentation of addressed control unit/drive(s). If the problem connot be found

Go to Page 54, Step 056, Entry Point M.

043

(Entry Point F)

Suspect the following FRUs: Replace one FRU at a time and run the MPX adapter test.

(Entry Point FF)

1.MPX card 2;01A-B2U2 2.ACC card 1;01A-B2V2 3.Crossovers W/X/Y/Z; 01A-B2U2, V2 01A-B2U3, V3 01A-B2T4, V4 01A-B2T5, V5

Any reference code when running MPX adapter test after a FRU replacement?

ΥN

54 Y

~

044 Go to Page 56, Step 077, Entry Point W. .

0890

MAP 8400-53

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-53

SCA LOG

PAGE 55 OF 64

(Step 056 continued) Look for broken loose or bent contact pins in the connectors.

A pushed back pin of a signal shield will cause intermittent interface control checks.

Repair or replace, if needed.

Run MPX adapter test.

Any error?

ΥN

057 (Entry Point MA)

For further verification run and loop the MPX standard interface test and apply stress to the connectors by hitting them with your hand.

Any error? ΥN

> 058 Run the application which showed the error.

Does the error come up again? YN

059 (Entry Point Z)

Go To Map 0001, Entry Point A.

060

Same error symptom as before? YN.

061

Go to Page 56, Step 071, Entry Point Y.

A E

062

Have you already been told to replace the

MPX card 1: 01A-B2W2 during this call? YN

0890

063

Now replace the tag drivers and receivers of the MPX adapter: MPX card 1; 01A-B2W2

(Entry Point XY)

Run MPX adapter test and BMPX standard interface test.

Any error?

ΥN

064 (Entry Point MB)

Run the application which showed the error.

Does the error come up again? Y N

065 Go to Step 059, Entry Point Z.

066 Same error symptom as before? ΥN

067

Go to Page 56, Step 071, Entry Point Y.

15SEP82 EC 366589

57AG 56

Ă

57AF

PN 5683312 PEC 366515 MAP 8400-55

5 7 A D 57AC AE

0890

A	AF	AA	А	A REF.CODE 84XXXX01	M A
5	5	5 5	5	5 SCA LOG	8 5
ן ו	1	11	1	PAGE 57 OF 64	
				084 Same error symptoms as before? Y N	094 (Entry Po Disconne
				085 Go To Map 0000, Entry Point A.	Run MPX the error
				1 086 Suspect now the board 01A-B2. Before you replace a board invoke your support structure. Therefore write down all error symptoms for possible later use and Go To Map 0001, Entry Point O.	Any erro Y N 095 Go to 096 Go To M
			 08	37	 097
			Go	o to appropriate MAP.	(Entry Poin
		 08 G	38 o ti	o Page 56, Step 077, Entry Point W.	Suspect firs MPX card 1 BMPX card
		The I	nev	v card may also be defective,	field C of SC
		corre Run stand	ect MP dare	it. X adapter test and the BMPX d interface test.	documentati unit/drive(s) If the proble Go to Page
		Suco	es	sful?	-
		OS G	ЭО эсо о Т	nd error may be in the adapter. o Map 8470, Entry Point A.	
		091			
		G0 t	0 P	age 55, Step 064, Entry Point MB.	
	09	2			
1	Go	o to F	'ag	e 56, Step 068, Entry Point ZW.	

093

Go To Map 8480, Entry Point A.

0890

MAP 8400-57

oint AM)

ect interface cables.

adapter test again to see whether is inside or outside the adapter.

r?

Page 55, Step 057, Entry Point MA.

ap 8470, Entry Point A.

tG)

t

; 01A-B2W2 (you may swap with 01A-B2B2) then suspect control the address of which is shown in CA log display. Proceed with the ion of the addressed control

em cannot be found, 54, Step 056, Entry Point M.

> 15SEP82 PN 5683312 EC 366589 PEC 366515 0890 MAP 8400-57

К

8

MAP 8400-59

PAGE 59 OF 64

114

YN

A A W P 588

See device address shown in field C of the SCA log display.

SCA LOG

REF.CODE 84XXXX01

Are all logs from the same control unit/device?

115 Go to Page 62, Step 165, Entry Point R.

116 Go to Page 57, Step 097, Entry Point G.

117 Go to Page 53, Step 042, Entry Point P.

118

Are there more than one time-out logs? ΥN

119

Go to Page 57, Step 097, Entry Point G.

120

See device address shown in field C of the SCA log display.

Are all logs from the same control unit/device? ΥN

121

Go to Page 62, Step 165, Entry Point R.

122

Go to Page 57, Step 097, Entry Point G.

123 (Entry Point D)

See the adapter checks shown in field B of the SCA log display:

0890

MAP Column 2: Additional SCA log informat Tme|Tag|Ov.|Sns|Bus|Dsc|Op.| |Out|Chk|Cur|Bus|Par|In |In | |Chk|Chk|Chk| 2 | 3 | 4 | 5 | 6 1 7 ł

Time-out? YN 124 Tag In Check? YN

> 125 Overcurrent? ΥN

> > 126 Go to Page 54, Step 056, Entry Point M.

127 Go to Page 54, Step 056, Entry Point Q.

128 **Disconnect In?** ΥN

> 129 Go to Page 54, Step 056, Entry Point M.

130 **Operational In?**

ΥN

6 6 0 0 A A Y Z 6 0 A X

15SEP82 PN 5683312 EC 366589 PEC 366515

0890

B B C D 6 6 0 0 **REF.CODE 84XXXX01** SCA LOG PAGE 61 OF 64 148 Tag In Check? ΥN 149 **Overcurrent?** ΥN 150 Go to Page 54, Step 056, Entry Point M. 151 Go to Page 54, Step 056, Entry Point M. 152 **Disconnect IN?** ΥN 153 Go to Page 54, Step 056, Entry Point M. 154 **Operational IN?** YN 155 Go to Page 54, Step 056, Entry Point M. 156

Go to Page 53, Step 042, Entry Point P.

157

Are there more than one time-out logs?

YN

158 Go to Page 57, Step 097, Entry Point G.

15**9**

ΥN

See field C of the SCA log control unit/device.

Are all time-out logs from the same divice?

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-61

0890

SCA LOG

PAGE 63 OF 64

(Step 165 continued) not solved, Go To Map 0001, Entry Point O.

166 (Entry Point C)

D

8

No tag in check, nor time-out, nor any overcurrent.

See the adapter checks shown in field B of the SCA log display.

Sense Bus Check?

ΥN

44 BB GH

167 Bus Parity Check? Y N

> 168 (Entry Point CB)

Suspect the following FRUs:

Replace one FRU at a time and run the MPX adapter test as well as the application which caused the error.

(Entry Point CX)

1.ACC card 1; 01A-B2V2 2.MPX card 2; 01A-B2U2

3.Crossovers W/X/Y/Z ; 01A-B2U2, V2 01A-B2U3, V3 (Step 168 continues)

 15SEP82
 PN 5683312

 EC 366589
 PEC 366515

 0890
 MAP 8400-63

0890

REF.CODE 84-0/1-00081 FIX 0007

MPX ADAPTER TEST

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
RFCA RFCA 0C00 8XXX 8400	A P A A	1 2 1 1 1	001 003 001 001 001

EXIT POI	NTS		
EXIT TH	IS MAP	ТО	-
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
2	009	0001	K
2	005	0001	0
2	007	0001	0

001

(Entry Point A)

MPX Adapter Test MAP

Are you led to this MAP by the REFCODE ANALYSIS?

ΥN

002

Select the IBM MAINTENANCE AND SERVICE PROGRAM SELECTION.

Invoke the REFCODE ANALYSIS.

Key in the reference code and the first symptom code from the MPX Adapter test. Go to Page 2, Step 003, Entry Point P.

> © Copyright IBM Corp. 1982 REF.CODE 84-0/1-00081 AAA0900

13SEP82	PN 5683463
EC 366582	PEC 366493
0900	MAP 8470-

Ā

0910

MPX STANDARD INTERFACE TEST PAGE 1 OF 11

ENTRY POINTS

FROM	ENTER	THIS MAP	1	EXIT THIS
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER	PAGE S NUMBER N
0000	A	1	001	10
8xxx 8400	A	1	001 001	10

EXIT POINTS

EXIT THIS MAP		то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
10	022	0001	A
10	024	0001	0

001

(Entry Point A)

***************************************	****
******	****
** Caution:	**
** Errors may occur if the interface cable	**
** is too near power cable!	**
***************************************	****
*************	****

Important hints:

Before testing the standard interface, be sure that the MPX operates properly by running the MPX adapter test. This test should have run error free before testing the STANDARD INTERFACE.

For handling of the Standard Interface Test, see Supplement to MAPs, section 4: Diagnostic Run Procedures (MPX/BMPX Standard Interface Test).

(Step 001 continues)

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Ref.Code 84000181

0910	MAP 8480-1
EC 366493	PEC 366388
26OCT81	PN 5683313

MPX

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002

В 2

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<

Are the following symptoms displayed: 01FFFFFF Bus Interface 02FFFFFF Tag Interface

ΥN

003

Compare the displayed symptoms with the ones listed here:

0100	0002	BOB NOT ZERO
0100	0003	TOR NOT ZERO
0100	0004	BIB NOT ZERO
0100	0005	TIR NOT ZERO
0100	0006	BOB BIT P ERROR
0100	0008	BOB NOT BIT O
0100	0009	BOB NOT BIT 1
0100	000B	BOB NOT BIT 2
0100	0000	BOB NOT BIT 3
0100	000D	BOB NOT BIT 4
0100	000E	BOB NOT BIT 5
0100	000F	BOB NOT BIT 6
0100	0010	BOB NOT BIT 7
0200	0002	BOB NOT ZERO
0200	0003	TOR NOT ZERO
0200	0004	BIB NOT ZERO
0200	0005	TIR NOT ZERO
0200	0006	NOT ADDRESS OUT
0200	0008	NOT COMMAND OUT
0200	000A	NOT SERVICE OUT
0200	0000	NOT DATA OUT
0200	000E	NOT SUPPRESS OUT
0200	0010	NOT OPERATION OUT
0200	0012	NOT HOLD OUT
0200	0014	NOT CONDITION SUP OUT
0300	0002	BOB NOT ZERO
0300	0003	TOR NOT ZERO
0300	0004	BIB NOT ZERO
0300	0005	TIR NOT ZERO
0300	0006	BOB NOT BIT P
0300	0007	BIB NOT BIT P
0300	000F	METERING NOT IN OFF

(Step 003 continues)

i C

260CT81	PN 5683313
EC 366493	PEC 366388
0910	MAP 8480-3

REF.C.84000181 MPX

PAGE 5 OF 11

006

ΥN

E 4

Remove the interface cable, which was identified by the symptom code, from the next control unit (if more than one control unit is attached to this interface) or the MPX respectively, thus eliminating this cable as the error cause.

Plug the respective plug connector to the interface connector of the control unit or the MPX.

Run the MPX standard interface cable test again!

Same error symptoms?

0910	MAP 8480-5
EC 366493	PEC 366388
260CT81	PN 5683313

8 6 F G MPX

PAGE 7 OF 11

(Step 007 continued)

		BUS OUT CON	NECT	ORS	BUS IN	CONNECTORS
XX	YY	I NAME		PIN	PIN	NAME
01 01 01	FF 80 40	BUS OUT BIT BUS OUT BIT BUS OUT BIT	P 0 1	B03 D04 B05	G03 J04 G05	BUS IN BIT P BUS IN BIT O BUS IN BIT 1
01 01 01 01 01 01 01	20 10 08 04 02 01	BUSOUTBITBUSOUTBITBUSOUTBITBUSOUTBITBUSOUTBITBUSOUTBITBUSOUTBIT	2 3 4 5 6 7	D06 B08 D09 B10 D11 B12	G08 G08 J09 G10 J11 G12	BUS IN BIT 2 BUS IN BIT 3 BUS IN BIT 4 BUS IN BIT 5 BUS IN BIT 6 BUS IN BIT 7
 03	10	MARK OUT		D13	J13	MARK IN

TAG OUT CONNECTORS | TAG IN CONNECTORS

XX	IYY	NAME		PIN	 _	PIN	NAME	
02	80	ADDRESS OUT		B10	-	B05	ADDRESS IN	
02	20	SERVICE OUT		D13		D04 D06	SERVICE IN	
02 02	10	DATA OUT SUPPRESS OUT		G10 G12		G08 J11	DATA IN DISCONNECT IN	
02	04	OPERATION.OUT	į	J13	ĺ	B03	OPERATION.IN	
02	106	OPERATION.OUT	1	JIS		803	SELECT IN +)	
02	02	HOLD/SELC. OUT		D09		B08	SELECT IN	
02			1	009		500	with SELECT IN	+)
02	01	COND,SUPR.OUT	 	B12	 	J06	IREQUEST IN	
03	20	METERING OUT		J04		G05	METERING IN	
			1				1	

+) These $^{\prime}IN^{\prime}$ signals are turned on in a combination with YY= 04/02

Repair the defective line.

(Step 007 continues)

Suspect bad connection or broken wire in one or both of the interface cable connectors. Open the interface connector covers and make the (Step 007 continues)

260CT81	PN 5683313
EC 366493	PEC 366388
0910	MAP 8480-7

REF.C.84000181

MPX

PAGE 9 OF 11

012

H 8

Check the 'wrap' connectors to be sure that they are correct. Check for any loose or broken wire or damaged pin!

Check that the flat cables which connect the driver card top connectors with the MPX interface connectors are properly seated.

FLATCABLE BUS OUT 01A-B2W2(W) TO BUS SERPENT CONN. 01D-D3(BD) 2-13 FLATCABLE BUS IN 01A-B2W3(X) TO BUS SERPENT CONN. 01D-D3(GJ) 2-13 FLATCABLE TAG 1 01A-B2W4(Y) TO TAG SERPENT CONN. 01D-E3(BD) 2-13 FLATCABLE TAG 2 01A-B2W5(Z) TO TAG SERPENT CONN. 01D-E3(GJ) 2-13 Remove and replug suspected flat cables to remove possible contamination deposits on

contact surfaces.

Run MPX standard interface cable test again!

Same error symptoms?

ΥN

013

The error was caused by bad contact in the flat cable area of the MPX.

Go to Page 10, Step 021, Entry Point C.

014

(Entry Point K)

Replace MPX card 1, 01A-B2W2.

Run MPX standard interface cable test again!

Same error symptoms?

ΥN

0

015

Error was caused by bad MPX card 1, 01A-B2W2. Go to Page 10, Step 021, Entry Point C.

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MPX

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026

A C 2 3

> These symptom codes indicate that either one ore both of the interfaces are not properly terminated; check and reseat the terminators.

027

The error was caused by the IC-bus. Run IC-bus test.

 260CT81
 PN 5683313

 EC 366493
 PEC 366388

 0910
 MAP 8480-11