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0.0 BSCASL TEST SEQUENCE:

FOR A COMPLETE TEST OF THE DEVICE LOAD AND EXECUTE THE FOLLOWING MAP(S) IN THE SEQUENCE LISTED:

MAP F000 (ALL AUTO MAPS WILL EXECUTE.)
MAP F003 (OTHER MAPS WILL BE LOADED BY F003 AS NECESSARY.

FOR DETAILS ON ALL MAPS AND EXERCISERS SEE PARAGRAPHS 3.X.

FOR ANY 'CHECK' CONDITION (MCK, PCK, PWR/THERM) GO TO MAP 3871, ENTRY POINT A.

IF THESE MAPS SAY TO CHANGE THE ATTACHMENT CARD AND THE SYSTEM STILL FAILS AFTER REPLACEMENT OF THE CARD, ANOTHER ATTACHMENT MAY BE CAUSING THE FAILURE. MAP 0070 IS A CHANNEL ISOLATE PROCEDURE FOR THIS TYPE OF PROBLEM.

1.0 GENERAL INFORMATION:

1.1 MINIMUM CONFIGURATION

THE SERIES/1 MAINTENANCE MATERIAL NEEDS A MINIMUM SYSTEM CONFIGURATION OF: SERIES/1 PROCESSING UNIT, 16K STORAGE, A DISKETTE DRIVE AND A PROGRAMMER CONSOLE.

1.2 LOADING PROCEDURES

ALL MDI MAPS, DIAGNOSTICS, UTILITIES AND EXERCISERS ARE ON ONE OF THE DIAGNOSTIC DISKETTES.
SEE THE DISKETTE LABEL.

USE STANDARD DCP LOADING PROCEDURES:
WHEN THE CONSOLE FUNCTION IS ASSIGNED TO A KEYBOARD CONSOLE DEVICE PRESS 'C' (TO LOAD AND WAIT FOR OPTION SELECTION) OR 'B' (FOR LOAD AND GO) FOLLOWED BY THE FOUR CHARACTER MAP / PROGRAM I.D. (SEE THE DIAGNOSTIC SERVICE GUIDE 07.00.00).
TO LOAD WITH THE PROGRAMMER CONSOLE SEE 4.1 THIS DOCUMENT.

1.3 MESSAGE FORMAT

IF AN ALTERNATE CONSOLE IS ASSIGNED, MAP MESSAGES ARE FORMATTED AS FOLLOWS:

***** I3CXX MAP=YYYY STEP=ZZZZ *****

I3CXX WILL IDENTIFY THE HALT AS A MDI/MAP HALT

YYYY=MAP #
ZZZZ=MAP STEP #

IF MAP=3CXX THE HALT IS THE RESULT OF A MDI SUPERVISOR DECISION INSTEAD OF A MAP DECISION (SEE MDI HALT LIST FOLLOWING).

MDI HALT LIST

MAP= DESCRIPTION/ACTION
3C01 ENTER ADDRESS OF DEVICE TO BE TESTED (2 CHARACTERS, THAT IS, FOR ADDRESS 01 ENTER F01)
3C05 ENTER 'FROM' STEP (4 CHARACTERS, THAT IS, FOR STEP 001 ENTER F0001)
3C06 ENTER 'TO' STEP (4 CHARACTERS, THAT IS, FOR STEP 099 ENTER F0099)
3C08 DEVICE ADDRESS NOT VALID.
3C0E DEVICE OR MAP NOT FOUND

MESSAGES THAT ARE NOT DISPLAYED IN THIS FORMAT ARE DCP MESSAGES.
FOR MORE INFORMATION ABOUT ANY DCP HALT OR MDI SUPERVISOR HALT (MAP=3CXX), SEE THE DIAGNOSTIC SERVICE GUIDE, 06.00.00, COMMON HALT LIST.

WHEN THE PROGRAMMER CONSOLE IS THE ACTIVE CONSOLE, HALTS ARE IDENTIFIED AS FOLLOWS:
'WAIT' LAMP ON.
DATA LAMPS=MAP# OR MDI/DCP HALT CODE.
LEVEL 3 REGISTERS WILL CONTAIN:
R0= MAP STEP #.
R1= DEVICE ADDRESS AND TYPE CODE (AATT).
R3= POINTER TO ADDITIONAL DATA (SEE DIAGNOSTIC SERVICE GUIDE 05.03.C0, 05.04.00)

SEE DIAGNOSTIC SERVICE GUIDE 07.01.00.

1.4 COMMENTS

THE DISKETTE MUST BE CORRECTLY CONFIGURED BEFORE THE MAPS / PROGRAMS WILL EXECUTE CORRECTLY. SEE 5.1 THIS DOCUMENT AND DIAGNOSTIC SERVICE GUIDE 08.00.00

A 'SYSTEM LEVEL' FAILURE MAY APPEAR TO BE A DEVICE FAILURE. ALWAYS USE SYSTEM ENTRY MAP (MAP 0020) FOR BEST RESULTS.

FOR ANY 'CHECK' CONDITION (MCK, PCK, PWR/THERM) GO TO MAP 3871, ENTRY POINT A.

IF THESE MAPS SAY TO CHANGE THE ATTACHMENT CARD AND THE SYSTEM STILL FAILS AFTER REPLACEMENT OF THE CARD, ANOTHER ATTACHMENT MAY BE CAUSING THE FAILURE. MAP 0070 IS A CHANNEL ISOLATE PROCEDURE FOR THIS TYPE OF PROBLEM.

USE THE IBM GENERAL LOGIC PROBE, P/N453212, AND THE CE METER UNLESS THE MAP SPECIFIES AN OSCILLOSCOPE, OR A DIFFERENT METER.

2.0 SPECIAL TOOLS & ADDITIONAL DOCUMENTS:

2.1 SPECIAL TOOLS;

ONE OR MORE OF THE FOLLOWING (AS DESCRIBED BY THE CONFIGURATION).
EIA WRAP CONNECTOR P/N2704136.
WRAP CABLE P/N2722052.
V35 MODEM WRAP CONNECTOR P/N1633812.
WE303 MODEM WRAP CONNECTOR P/N 1633810.

2.2 ADDITIONAL DOCUMENTS:

DIAGNOSTIC SERVICE GUIDE.
PROCESSING UNIT THEORY DIAGRAMS MANUAL.
PROCESSING UNIT MAINTENANCE INFORMATION MANUAL/COMMUNICATIONS THEORY DIAGRAMS MANUAL.
SERIES 1 LOGICS, MLD VOLUME 01.
SERIES 1 INSTALLATION INSTRUCTIONS.

3.0 PURPOSE:

THE F0XX MAPS WILL VERIFY CORRECT OPERATION OR FIND AND ISOLATE FAILING FIELD REPLACEMENT UNIT'S IN THE BSCA SINGLE LINE FEATURE.

3.1 'AUTO' MODE MAPS:

THE DEVICE ENTRY MAP (MAP # XX00) IS THE FIRST 'AUTO' MODE MAP (SEE THE DIAGNOSTIC SERVICE GUIDE 05.00.00). IF A COMPLETE AUTO TEST NEEDS ADDITIONAL MAPS, MDI WILL AUTOMATICALLY LOAD AND EXECUTE THEM IN THE CORRECT SEQUENCE.

MAP F000: (DEVICE ENTRY MAP) AUTOMATIC TEST PERFORMS BASIC TESTS AND CALLS MAP F003 ON AN ERROR CONDITION OR MAP F001 IF ACCEPTABLE.

MAP F001: SECOND AUTOMATIC TEST, CALLS MAP F003 ON AN ERROR OR MAP F002 IF ACCEPTABLE.

MAP F002: LAST OF THE AUTOMATIC TESTS, CALLS MAP F003 IF AN ERROR IS FOUND.
NOTE:
AUTOMATIC TESTS DO NOT EXECUTE TRANSMIT OR RECEIVE TYPE INSTRUCTIONS. IF THE BI-SYNC ADAPTER IS SUSPECTED OF HAVING ERRORS, RUN THE F003 MANUAL MAP.

3.2 'MANUAL' MODE MAPS:

THE FOLLOWING 'MANUAL' MODE MAPS PERFORM ADDITIONAL TESTS AND/OR ISOLATE FAILURES FOUND BY THE 'AUTO' MAPS:

MAP F003: MANUAL MAP, CALLS MANUAL MAP F005 FOR HIGH SPEED OR F008 TO CONTINUE MEDIUM SPEED.
FOR INDICATOR PANEL PROBLEMS, MAPF007 IS CALLED

MAP F008: RING INDICATOR AND HALF RATE TEST. MEDIUM SPEED ONLY

MANUAL MAPS EXECUTE DIAGNOSTIC, 1 AND 2 COMMANDS AND TEST THE COMMUNICATIONS INDICATOR PANEL SWITCHES AND LAMPS. THE WRAP TESTS THE EIA INTERFACE. INTERFACE LINES TO THE MODEM THAT ARE NOT TESTED ARE TRANSMIT AND RECEIVE CLOCK

3.3 'PAPER ONLY' MAPS:

MAP F071: REMOTE IPL MAP, PAPER ONLY MAP. USED TO FIND PROBLEMS IN THE REMOTE IPL SEQUENCE. NOT CALLED BY ANY OTHER MAP.

3.4 'FAILURE ONLY' MAPS:

THE FOLLOWING MAPS ASSUME A FAILURE. USE THEM ONLY WHEN INSTRUCTED TO DO SO BY ANOTHER MAP.

MAP F005: HIGH SPEED MANUAL MAP, CALLS MANUAL MAP F007 THIS MAP NEEDS MAP F003 AS A PREREQUISITE.
ALWAYS LOAD MAP F003. IT WILL LOAD F005 IF HIGH SPEED.
MAP F007: COMMUNICATIONS INDICATOR PANEL MAP.

3.5 DIAGNOSTICS, UTILITIES, EXERCISERS, OFFLINE TESTS:
THE FOLLOWING PROGRAMS ARE ON DISKETTE P/N 1635001:

PROGRAM F0E5 'BSCA DOWN LINE TEST'.
SEE MAP F0E5 FOR OPERATING PROCEDURES.

PROGRAM 3CEF 'OPERATOR SELF TEST'.
SEE SECTION 7.0 FOR OPERATING INSTRUCTIONS.

4.0 PROGRAMMER'S COMMENTS:

THIS MAP WILL DISPLAY 'EXPECTED/RECEIVED' DATA WHEN AN ALTERNATE CONSOLE IS ASSIGNED. (SEE DIAGNOSTIC SERVICE GUIDE 05.03.00).

MAPS F000 THROUGH F002 WILL EXECUTE AUTOMATICALLY A FAILURE WILL CAUSE THE PROGRAM TO CALL THE MAP NEEDED IF THE SYSTEM IS NOT IN AUTOMATIC MODE.
IF NO FAILURE OCCURS AND A BI-SYNC ADAPTER PROBLEM IS STILL SUSPECTED, MAP F003 SHOULD BE EXECUTED FOR FARTHER TESTING

THE BI-SYNC ADAPTER MAPS DO NOT TEST A RECEIVE OR TRANSMIT OPERATION IN THE AUTOMATIC MAPS (F000 THROUGH F002)
THEREFORE MAP F003 SHOULD BE EXECUTED TO ENSURE THAT THE BI-SYNC ADAPTER IS OPERATIONAL. WITH THE EXECUTION OF THE WRAP FUNCTION TRANSMIT AND RECEIVE OPERATIONS ARE EXECUTED, THE RATE SELECT IS TESTED AND THE EIA INTERFACE CABLE IS TESTED.

4.1 LOADING WITH THE PROGRAMMER CONSOLE.

TO EXECUTE THE MAPS WITH THE PROGRAMMER CONSOLE ENTER DATA AS FOLLOWS:
WHERE:
(B)=DATA BUFFER,
(I)=CONSOLE INTERRUPT.

MAP	CONSOLE ENTRY
F000	(B),B,(I),(B),F,0,0,0,(I),(I)
F001	(B),B,(I),(B),F,0,0,1,(I),(I)
F002	(B),B,(I),(B),F,0,0,2,(I),(I)
F003	(B),B,(I),(B),F,0,0,3,(I),(I)
F004	(B),B,(I),(B),F,0,0,4,(I),(I)
F005	(B),B,(I),(B),F,0,0,5,(I),(I)
F007	(B),B,(I),(B),F,0,0,7,(I),(I)
F008	(B),B,(I),(B),F,0,0,8,(I),(I)

5.0 SERVICE INFORMATION:

5.1 CONFIGURATION INFORMATION:
SEE DIAGNOSTIC SERVICE GUIDE 08.01.04.

5.2 GENERAL SERVICE INFORMATION.

B. COMMUNICATIONS INDICATOR PANEL CONNECTOR PINS.

COMMUNICATIONS INDICATOR CONN

A12	LAMP DRIVER 1	B12	LAMP DRIVER 0
A11	LAMP DRIVER 3	B11	LAMP DRIVER 2
A10	LAMP DRIVER 5	B12	LAMP DRIVER 4
A09	LAMP DRIVER 7	B09	LAMP DRIVER 6
A08	NOT USED	B08	NOT USED
A07	SW FUNCTION 8	B07	SW FUNCTION 16
A06	SW FUNCTION 2	B06	SW FUNCTION 4
A05	SW LINE SEL 4	B05	SW FUNCTION 1
A04	SW LINE SEL 1	B04	SW LINE SEL 2
A03	+ 5VDC	B03	NOT USED
A02	NOT USED	B02	KEY
A01	GROUND	B01	GROUND

C. DISPLAY INDICATOR CONSOLE MAINTENANCE SWITCHES:

SWITCH POSITION:	INDICATOR MEANING:
00001000	0-3 SUBROUTINE POINTER 4-7 BITS 12 THROUGH 15 OF DCB CONTROL WORD
01111000	0= DATA TERMINAL READY 1= DATA SET READY 2= REQUEST TO SEND 3= CLEAR TO SEND 4= RING INDICATOR 5= HALF RATE SELECT 6= XMIT MODE 7= NOT USED
10000000	0= DATA TERMINAL READY 1= DATA SET READY 2= REQUEST TO SEND 3= CLEAR TO SEND 4= XMIT DATA 5= RECEIVE DATA 6= XMIT MODE 7= RECEIVE MODE
11100000	0-7 LAMP TEST ALL LAMPS ON
11111000	RESET DATA TERMINAL READY

6.0 DEVICE UTILITIES:

NONE

7.0 DEVICE EXERCISERS (ON DISKETTE P/N 1635001):

PROGRAM F0E5 'BSCA DOWN LINE TEST'.
SEE MAP F0E5 FOR OPERATING PROCEDURES.

7.1 PROGRAM 3CEF 'OPERATOR SELF TEST'.

7.1.1 PURPOSE

THIS PROGRAM IS PLANNED TO BE USED BY THE SYSTEM OPERATOR BEFORE DIALING THE SERVICE ORGANIZATION WITH A PROBLEM IN A COMMUNICATION ADAPTER. THE PROGRAM WILL EXECUTE A DEVICE RESET, A PREPARE, A DIAGNOSTIC ONE AND A DIAGNOSTIC TWO COMMAND. ITS MAIN FUNCTION IS TO PERFORM THE WRAP TEST ON THE ADAPTER.

7.1.2 NEEDS

7.1.2.1 PROGRAM

THIS PROGRAM WILL RUN WITH THE DIAGNOSTIC CONTROL PROGRAM (DCP) AND WILL OPERATE IN THE MANUAL MODE ONLY.

7.1.2.2 EQUIPMENT

EIA CABLE P/N 1632208 WITH WRAP CONNECTOR P/N 2704136 OR

CABLE EXTENSION P/N 1632919, OR

V.35 CABLE P/N 1632206 WITH WRAP CONNECTOR P/N 1633812 OR

WE 303 CABLE P/N 1632210 WITH WRAP CONNECTOR P/N 1633810.

7.1.3 OPERATING PROCEDURES

BEFORE STARTING THE PROGRAM PUT THE WRAP CONNECTOR ON THE MODEM CABLE OF THE ADAPTER TO BE TESTED OR PLACE THE SWITCH ON THE CABLE EXTENSION P/N 1632919, IF ONE IS INSTALLED, IN THE TEST POSITION.
AFTER STARTING THE PROGRAM (3CEF), ENTER THE DEVICE ADDRESS AND LOOP COUNT.
NOTE: IF THE CONSOLE FUNCTION IS ASSIGNED TO THE PROGRAMMER CONSOLE, REFERENCE DIAGNOSTIC SERVICE GUIDE 07.01.00 FOR COMMAND/RESPONSE PROCEDURES.

USE DCP COMMAND 'B' FOR LOAD AND GO. USE DCP COMMAND 'F' TO ENTER THE OPTIONS.

EXAMPLE:

ALTERNATE CONSOLE	PROGRAMMER CONSOLE
B3CEF	(B),B,(I),(B),3,C,E,F,(I),(I)

THIS ACTION WILL CAUSE THE PROGRAM TO LOAD AND START WITHOUT OPTIONS. HALT 3CE1 WILL BE DISPLAYED (SEE 7.1.4.1 BELOW.)

7.1.4 PROGRAM MESSAGES AND ENTRIES

7.1.4.1 THE FIRST PROGRAM MESSAGE WILL BE
ENTER DEVICE ADDRESS AND LOOP OPTION.

'DA/LC' (HALT 3CE1)

DA=DEVICE ADDRESS IN HEXADECIMAL
LC=LOOP COUNT IN HEXADECIMAL

USE DCP COMMAND 'F' TO ENTER ONE (1) HEXADECIMAL WORD.

EXAMPLE

IF DEVICE ADDRESS IS HEXADECIMAL '18' AND THE TEST IS TO LOOP FIVE TIMES, THEN
THIS ENTRY WOULD BE 'F1805'. PROGRAMMER CONSOLE ENTRY
--(B),1,F,(I),(B),1,8,0,5,(I),(I).

7.1.4.2 THE NEXT MESSAGE COULD BE ANY OF THREE MESSAGES:

HALT 3CE2

DEVICE ADDRESS ERROR,

ENTER DEVICE ADDRESS AND LOOP COUNT.

'DA/LC' (HALT 3CE2)

DA=DEVICE ADDRESS IN HEXADECIMAL
LC=LOOP COUNT IN HEXADECIMAL

USE DCP COMMAND 'F' TO ENTER ONE (1) HEXADECIMAL WORD.

EXAMPLE

IF DEVICE ADDRESS IS HEXADECIMAL '18' AND THE TEST IS TO LOOP ONE TIME, THEN
THIS ENTRY WOULD BE 'F1801'. PROGRAMMER CONSOLE ENTRY
--(B),1,F,(I),(B),1,8,0,1,(I),(I).

HALT 3CE3

THE TEST WAS ACCEPTABLE.

THERE IS NO FARTHER ACTION NECESSARY.

HALT 3CE4

THE TEST FAILED, CALL THE SERVICE ORGANIZATION

THERE IS NO FARTHER ACTION NECESSARY.

8.0 DIAGNOSTICS:
NONE

9.0 OFFLINE TESTS:
NONE