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0.0 ACCAML TEST SEQUENCE:

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

MAP E900 (ENTRY MAP). IF NO ERROR IS FOUND ALL AUTO MAPS WILL EXECUTE.

MAP E910 (WRAP MAP). EXECUTE E910 AGAINST ALL LINES.

(E911 AND E912 WILL EXECUTE WHEN E910 IS LOADED.)

NOTE: THE AUTO DIAGNOSTICS REQUIRE THAT THE MODEMS BE POWERED ON OR AN EIA ERROR WILL BE DETECTED. ABSENCE OF A MODEM REQUIRES THAT THE CONFIGURATION DEFINE THE ADAPTER LINES AS BEING SWITCHED LINE WHERE A MODEM IS MISSING. ALL MANUAL DIAGNOSTICS REQUIRE A CABLE AND WRAP CONNECTOR TO EXECUTE OR FALSE ERRORS WILL BE REPORTED.

FOR DETAILS ON ALL E9XX MAPS AND EXERCISERS SEE PARAGRAPHS 3.X.

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

IF THESE MAPS SAY TO CHANGE THE CONTROLLER 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 PROCESSOR, 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 IDENTIFIES 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 05.03.00, 05.04.00)

SEE DIAGNOSTIC SERVICE GUIDE 07.01.00.

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MAP E900-2

1.4 COMMENTS

THE DISKETTE MUST BE CORRECTLY CONFIGURATED 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,POWER/THERMAL) GO TO MAP 3871, ENTRY POINT A.

IF THESE MAPS SAY TO CHANGE THE CONTROLLER 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:
DIRECT CONNECT WRAP CONNECTOR P/N1633811.
EIA WRAP CONNECTOR P/N2704136.

2.2 ADDITIONAL DOCUMENTS:
DIAGNOSTIC SERVICE GUIDE.
PROCESSOR THEORY DIAGRAMS MANUAL/COMMUNICATIONS THEORY DIAGRAMS MANUAL.
PROCESSOR MAINTENANCE INFORMATION MANUAL.
SERIES 1 LOGICS, MLD VOLUME 01.
SERIES 1 INSTALLATION INSTRUCTIONS.

3.0 PURPOSE:

THE E9XX MAPS WILL VERIFY CORRECT OPERATION OR FIND AND ISOLATE FAILING FRU'S IN THE ACCA MULTI-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 E900: (DEVICE ENTRY MAP) AUTOMATIC TEST PERFORMS BASIC TESTS AND CALLS MAP E940 FOR ENGINEERING CHANGE CONTROL STORE LOAD THEN UPON SUCCESSFUL COMPLETION WILL GO TO MAP E901. AN ERROR WILL CALL MAPS E913, E915 OR E920 DEPENDING ON THE ERROR.

MAP E901: AUTOMATIC TEST PERFORMS BASIC TESTS THEN UPON SUCCESSFUL COMPLETION WILL GO TO MAP E902.

MAP E902: AUTOMATIC TEST PERFORMS BASIC TESTS THEN UPON SUCCESSFUL COMPLETION WILL GO TO MAP E903. AN ERROR WILL CALL MAPS E913, E915 OR E920 DEPENDING ON THE ERROR.

MAP E903. AN ERROR WILL CALL MAPS E913, E915 OR E920 DEPENDING ON THE ERROR.

MAP E940: ENGINEERING CHANGE CONTROL STORE LOAD MAP. THIS MAP CAN BE CALLED BY THE USER TO LOAD ENGINEERING CHANGES WITHOUT EXECUTION OF A DIAGNOSTIC PROGRAM.

NOTE:

AUTOMATIC TESTS DO NOT EXECUTE ALL RECEIVE TYPE INSTRUCTIONS. IF THE ACCA START STOP ADAPTER IS SUSPECTED OF HAVING ERRORS, RUN THE E910 MANUAL MAP. ALL MANUAL MAPS RUN ON A SINGLE DEVICE ADDRESS. AUTOMATIC TESTS MAY DISPLAY MESSAGES ON A SWITCHED LINE AND CONTINUE. THIS IS TO INFORM THE USER THAT THE ERROR DID OCCUR AND SINCE IT IS SWITCHED LINE THE PROGRAM WILL 'ASSUME' THAT THE DATA SET IS ON HOOK.

NOTE ALSO:

THE AUTO MAPS (E900, E901, E902, E903) LOAD ONCE AGAINST THE CONTROLLER BASE ADDRESS, THEN TEST THE CONTROLLER AND/OR ALL OF THE ACTIVE LINES. ASSUME A CONTROLLER CARD AND ONE 4-LINE CARD WITH LINES, 0, 1, AND 2 ACTIVE (USED BY THE CUSTOMER---REFERENCE DIAGNOSTIC SERVICE GUIDE 08.01.04, BUILDING A CONFIG RECORD, ACCAML).

YOU ISSUE 'BE900' (ENTRY MAP).
THE ALTERNATE CONSOLE DISPLAY WOULD APPEAR AS FOLLOWS:

```
.....IE900 LOADED D.A.=80 (BASE ADDR)
.....IE940 LOADED D.A.=80
.....IE900 LOADED D.A.=80
.....IE901 LOADED D.A.=80
.....IE902 LOADED D.A.=80
.....IE903 LOADED D.A.=80
```

EVEN THOUGH THE MAPS WERE ONLY LOADED ONCE, THEY TESTED THE LOGIC OF THE CONTROLLER AND LINE ADAPTERS 0, 1, AND 2 (BASE ADDR, BASE ADDR+1, AND BASE ADDR +2).

3.2 'MANUAL' MODE MAPS:

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

NOTE: THESE MAPS ALL REQUEST A DEVICE ADDRESS AND THEN EXECUTE AGAINST ONLY THE ONE LINE AT THAT ADDRESS.

MAP E910: MANUAL MAP, CALLS MANUAL MAPS E911 AND E912 AUTOMATICALLY. MANUAL MAPS EXECUTE DIAGNOSTIC 1 AND 2 COMMANDS, TEST THE COMMUNICATIONS INDICATOR PANEL SWITCHES AND LAMPS ON A SINGLE DEVICE ADDRESS. THE EIA INTERFACE IS TESTED WITH THE DIAGNOSTIC CMD FOR SET AND RESET CONDITIONS.

MAP E911: MANUAL MAP, CALLS MANUAL MAP E912. THIS MAP REQUIRES MAP E910 AS A PRE-REQUISITE. LOAD MAP E910. IT WILL LOAD E911 WHEN NECESSARY.

MAP E912: FINAL MANUAL MAP. MISCELLANEOUS TESTS.

3.3 'PAPER ONLY' MAPS:
NONE.

3.4 'FAILURE ONLY' MAPS:

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

MAP E913: EIA OR DIRECT CONNECT CABLE MAP. CALLED ONLY WHEN AN ERROR HAS OCCURED.

MAP E914: COMMUNICATIONS INDICATOR PANEL MAP.

MAP E915: CALLED ONLY WHEN FAILURES HAVE OCCURRED ON MORE THAN 4 ADDRESSES. CALLS MAP E922 ON AN ERROR.

MAP E920: FIRST MULTI-LINE CONTROLLER ONLY MAP. CALLED ONLY WHEN FAILURES HAVE OCCURED.

MAP E921: LAST MULTI-LINE CONTROLLER ONLY MAP. CALLED ONLY WHEN FAILURES HAVE OCCURED.

MAP E922: CALLED ONLY BY MAP E915. CALLED ONLY WHEN FAILURES HAVE OCCURED.

MAP E923: CALLED ONLY BY MAP E922. CALLED ONLY WHEN FAILURES HAVE OCCURED.

MAP E941: ENGINEERING CHANGE CONTROL STORE ERROR LOAD MAP. CALLED BY MAP E940 ONLY ON AN ERROR.

MAPS E910 THRU E914 ARE SINGLE LINE ORIENTED MAPS. MAPS E915, E920, E921, E922 AND E923 ARE ORIENTED TOWARD ISOLATING THE FAILURE TO ONE OF 4 LINE ADAPTER CARDS, THE CROSSOVER CABLE OR THE MULTI-LINE CONTROLLER.

3.5 DIAGNOSTICS, UTILITIES, EXERCISERS, OFF-LINE TESTS:

THE FOLLOWING PROGRAMS ARE ON DISKETTE P/N 1635001:

PROGRAM E8E5 'ACCA DOWN-LINE TEST'.
SEE MAP E8E5 FOR OPERATING PROCEDURES.

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

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MAP E900-4

4.0 PROGRAMMER'S COMMENTS:

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

IF THESE MAPS CALL THE ADAPTER CARD AND THE ADAPTER STILL FAILS, REPLACE THE CONTROLLER CARD/CROSSCONNECT CABLE.

WHEN A FAILURE IS DETECTED BY THE AUTO SEQUENCE GO TO MANUAL MODE AND BEGIN THE ENTRY MAP(E900). MDI WILL AUTOMATICALLY LOAD THE APPROPRIATE MANUAL MAP(S).

WHEN A MAP QUESTION OR FIX IS DISPLAYED R1(LVL.3) WILL CONTAIN THE FAILING ADDRESS (AAXX):

(B),3,(I),(I)---SET DCP TO MANUAL MODE.
 (B),B,(I),E,9,0,0,(I),(I)---LOAD AND GO MAP E900.

NOTE: THE AUTO DIAGNOSTICS REQUIRE THAT THE MODEMS BE POWERED ON OR AN EIA ERROR WILL BE DETECTED. ABSENCE OF A MODEM REQUIRES THAT THE CONFIGURATION DEFINE THE ADAPTER LINES AS BEING SWITCHED LINE WHERE A MODEM IS MISSING. ALL MANUAL DIAGNOSTICS REQUIRE A CABLE AND WRAP CONNECTOR TO EXECUTE OR FALSE ERRORS WILL BE REPORTED.

IF NO FAILURE OCCURS AND A START STOP ADAPTER PROBLEM IS STILL SUSPECTED THEN MAP E910 SHOULD BE LOADED IN THE MANUAL MODE FOR FURTHER TESTS. THE E910, E911 AND E912 MAPS WILL ONLY EXECUTE ONE DEVICE ADDRESS AT A TIME DUE TO THE REQUIREMENT OF A WRAP CONNECTOR.

THE START STOP ADAPTER MAPS DO NOT TEST ALL RECEIVE OR TRANSMIT OPERATIONS IN THE AUTOMATIC MAPS (E900 THRU E903) THEREFORE MAP E910 SHOULD BE EXECUTED TO ENSURE THAT THE START STOP ADAPTER IS OPERATIONAL. WITH THE EXECUTION OF THE WRAP FUNCTION TRANSMIT AND RECEIVE OPERATIONS ARE EXECUTED, BIT RATE TIME IS MEASURED AND THE EIA INTERFACE AND MODEM/DIRECT CONNECT 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
E900	(B),B,(I),(B),E,9,0,0,(I),(I)
E901	LOAD E900
E902	LOAD E900
E903	LOADE900
E910	(B),B,(I),(B),E,9,1,0,(I),(I)
E911	LOAD E910
E912	LOAD E910
E913	(B),B,(I),(B),E,9,1,3,(I),(I)
E914	(B),B,(I),(B),E,9,1,4,(I),(I)
E915	(B),B,(I),(B),E,9,1,5,(I),(I)
E920	(B),B,(I),(B),E,9,2,0,(I),(I)
E921	LOAD E920
E922	(B),B,(I),(B),E,9,2,2,(I),(I)
E923	LOAD E922
E940	(B),B,(I),(B),E,9,4,0,(I),(I)

5.0 SERVICE INFORMATION:
5.1 CONFIGURATION INFORMATION:

SEE DIAGNOSTIC SERVICE GUIDE 08.01.04.

ALL EIA INTERFACE LINES SHOULD BE SEQUENTIALLY CONFIGURED AND CONNECTED ON THE ADAPTER CARDS. ANY DEVICE THAT IS NOT CONNECTED MUST BE INCLUDED IN THE CONFIGURATION WORDS WITH DEVICE BYTE CONTAINING A HEX 1F. THIS FLAG WILL INFORM THE PROGRAM THAT THE DEVICE ADDRESS IS NOT IN USE. REFER TO PARAGRAPH C FOR A TYPICAL CONFIGURATION.

- A. MULTI-LINE CONTROLLER CARD- THE JUMPERS REQUIRED ON THE CONTROLLER CARD ARE PROVIDED FOR THE DEVICE ADDRESS AND TO OBTAIN THE ID OF THE TYPE OF DEVICE BEING CONTROLLED AS WELL AS THE NUMBER OF LINES ON THE DEVICE ADAPTER. CARE MUST BE EXERCISED IN THE JUMPERS VERSUS THE DATA PROVIDED IN THE CONFIGURATION BYTES AS ERRORS WILL OCCUR PRINTED IF THE DATA OBTAINED FROM THE HARDWARE DOES NOT AGREE WITH THE CONFIGURATION ENTERED. REFER TO THIS DOCUMENT SECTION 7.0 FOR THE LOCATION OF THE CONTROLLER CARD JUMPERS.
- B. FOUR LINE ADAPTER CARD- THE JUMPERS REQUIRED ON THE ADAPTER CARD ARE TO DETERMINE THE FOUR DEVICES BIT RATES (HIGH SPEED/ LOW SPEED JUMPER) AND THE TYPE OF INTERFACE TO THE EXTERNAL WORLD BEING USED (EIA). MOST CONFUSION OCCURS IN THE EIA CONFIGURATION SO A BRIEF DEFINITION OF THE USES OF THE JUMPERS IS BEING PROVIDED. REFER TO SECTION 7.0 FOR THE JUMPER LOCATIONS.

- (1) CARRIER DETECT JUMPER- THIS JUMPER WILL BE INSTALLED WHEN THE USER WANTS THE HARDWARE TO LOOK FOR THE CARRIER SIGNAL DURING A RECEIVE OPERATION. IF THE CARRIER IS 'LOST' DURING THE RECEIVE AN ERROR INTERRUPT WILL OCCUR.
- (2) DATA TERMINAL READY JUMPER- THIS JUMPER SHOULD NEVER BE INSTALLED WHEN THE USER HAS A SWITCHED LINE TP MODEM (DIAL-UP). THE JUMPER INSTALLED WILL ALWAYS HOLD THE DATA TERMINAL SIGNAL UP TO THE DATA SET THEREFORE THE DIAL UP DATA SET WILL ALWAYS REMAIN CONNECTED TO THE ADAPTER ONCE THE CONNECTION IS ESTABLISHED. BY THIS IMPLICATION THIS JUMPER SHOULD BE USED ON A LEASED LINE DATA SET AND ON A DIRECT CONNECT LINE.
- (3) REQUEST TO SEND JUMPER- THIS JUMPER SHOULD NOT BE INSTALLED WHEN THE USER HAS A HALF DUPLEX TP MODEM. THE JUMPER INSTALLED WILL ALWAYS HOLD THE REQUEST TO SEND SIGNAL UP TO THE MODEM. THEREFORE THE REQUEST TO SEND JUMPER SHOULD BE USED ON FULL DUPLEX MODEMS (DATA SETS).

C. TYPICAL MULTI-LINE CONFIGURATION EXAMPLES.

EXAMPLE FOR A FOUR LINE ADAPTER, LINE 2 IS DISABLED DUE TO AN ERROR IN THE ADAPTER.

- (1) 08E9 4060 0200 0046 8002 0000 0000 220E ACCA ML
DEV ADD= 08 # LINES/ID= 4 SWITCHED LINE BIT RATE= 135 BAUD CARR DETECT JMPR
PTTC CODE
- (2) 09E9 401F 0000 0000 0000 0000 0000 220E ACCA ML
DEV ADD= 09 /1F IN WORD 2 SPECS THIS LINE NOT USED
- (3) 0AE9 400C 0200 0046 00C1 0000 0000 220E ACCA ML
DEV ADD= 08 # LINES/ID= 4 FULL DUPLEX LEASED LINE BIT RATE= 135 BAUD DATA
TERMINAL READY JUMPER REQUEST TO SEND JUMPER CORRESPONDENCE CODE
- (4) 0BE9 2004 0200 000F 4082 0000 0000 220E ACCA ML
DEV ADD= 0B #ACTIVE LINES= 3 LEASED LINE BIT RATE= 600 BAUD CARRIER DETECT
JUMPER DATA TERMINAL READY JUMPER PTTC CODE

5.2 :GENERAL SERVICE INFORMATION:
A. EIA INTERFACE CONNECTOR PINS.

MULTI-LINE ADAPTER CARD CONNECTORS A1 THRU A4 EIA INTERFACE

A08	GROUND	B08	N/C
A07	CARRIER DETECT	B07	RING
A06	N/C	B06	N/C
A05	N/C	B05	N/C
A04	TRANSMIT DATA	B04	RECEIVE DATA
A03	REQUEST TO SEND	B03	CLEAR TO SEND
A02	RATE SELECT	B02	BLANK KEY
A01	DATA TERM RDY	B01	DATA SET READY

B. COMMUNICATIONS INDICATOR PANEL CONNECTOR PINS.

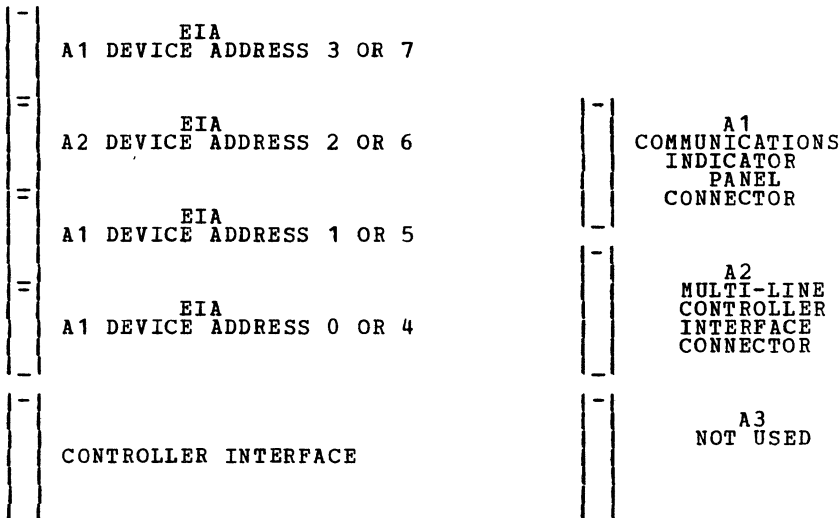


A12	LAMP DRIVER 1	B12	LAMP DRIVER 0
A11	LAMP DRIVER 3	B11	LAMP DRIVER 2
A10	LAMP DRIVER 5	B12	LAMP DRIVER 4
A09	LAMP DRIVER 7	B09	LAMP DRIVER 6
A08	NOT USED	B08	NOT USED
A07	SW FUNCTION 8	B07	SW FUNCTION 16
A06	SW FUNCTION 2	B06	SW FUNCTION 4
A05	SW LINE SEL 4	B05	SW FUNCTION 1
A04	SW LINE SEL 1	B04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

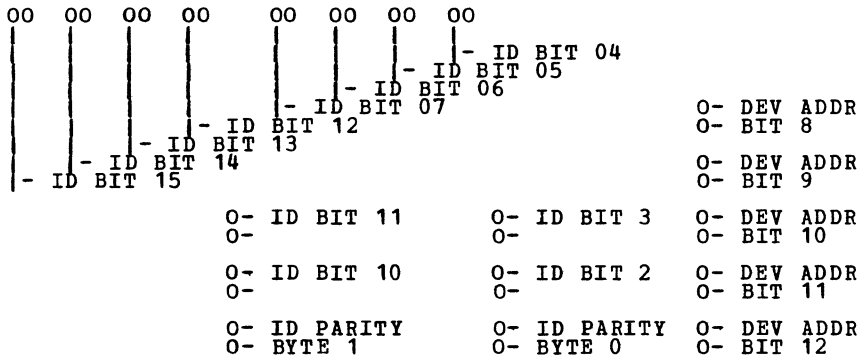
DEVICE ADAPTER AND CONTROLLER CARD CONNECTOR LOCATIONS

DEVICE ADAPTER
 CARD CONNECTORS

MULTI-LINE CONTROLLER
 CARD CONNECTORS



CONTROLLER CARD ID AND DEVICE ADDRESS JUMPER POINTS



START STOP CONTROLLER JUMPER EXAMPLES

- 8 LINES ID JUMPERS= 2, 12, 13 AND 14
- 6 LINES ID JUMPERS= 2, 6, 7, 12, 13 AND 14
- 4 LINES ID JUMPERS= 2, 6, P0, 12, 13 AND 14
- 2 LINES ID JUMPERS= 2, 7, P0, 12, 13 AND 14

START STOP ADAPTER CARD JUMPER LAYOUT

CROSSCONNECT		DEVICE 0	DEVICE 1	DEVICE 2	DEVICE 3
LOW SPEED	HIGH SPEED				
0	0				
0	0				
CARR	DTR	RTS			
0	0	0	DEVICE 0 OR 4		
0	0	0	DEVICE 1 OR 5		
0	0	0	DEVICE 2 OR 6		
0	0	0	DEVICE 3 OR 7		
0	0	0			
0	0	0			

C. START STOP DCB LAYOUT.

START STOP DEVICE CONTROL BLOCK

7	DATA ADDRESS
6	BYTE COUNT
5	CHAIN ADDRESS
4	LINE CONTROL CHARACTER
3	LINE CONTROL CHARACTERS/TIMER 2
2	LINE CONTROL CHARACTERS/TIMER 1
1	BIT RATE CONSTANT/EOA
0	CONTROL WORD

D. LINE CONTROL CHARACTERS.

CONTROL WORD BITS:

10	11	12	13	14	15	
0	0	0	0	0	0	TRANSMIT
0	0	0	0	0	1	TRANSMIT END
0	0	0	0	1	0	TRANSMIT ALLOW BREAK
0	0	0	0	1	1	TRANSMIT END ALLOW BREAK
0	0	0	1	0	0	RECEIVE
0	0	0	1	0	1	RECEIVE WITH TIMEOUT
1	0	0	1	0	0	RECEIVE RESPONSE
1	0	0	1	0	1	RECEIVE RESPONSE WITH TIMEOUT
0	0	0	1	1	0	RING ENABLE
0	0	0	1	1	1	RING ENABLE WITH TIMEOUT
0	0	1	0	0	0	DTR ENABLE
0	0	1	0	0	1	DTR ENABLE WITH TIMEOUT
0	0	1	0	1	0	DTR ENABLE WITH TONE
0	0	1	0	1	1	DTR ENABLE WITH TONE & TIMEOUT
0	0	1	1	0	0	DTR DISABLE
0	X	1	1	0	1	SET CONTROL OR DIAGNOSTIC
0	0	1	1	1	0	PROGRAM DELAY
0	0	1	1	1	1	RESET

F. ISB AND STATUS WORDS FOR START STOP.

INTERRUPT STATUS BYTE CONTENTS FOR START STOP ADAPTERS

0	FETCH CYCLE STEAL STATUS
1	DELAYED COMMAND REJECT
2	INCORRECT LENGTH RECORD
3	DCB SPECIFICATION CHECK
4	STORAGE CHECK
5	INVALID STORAGE ADDRESS
6	PROTECTION CHECK
7	INTERFACE DATA CHECK

STATUS WORD CONTENTS FOR START STOP ADAPTERS

WORD ZERO
0 THRU 15: MAIN STORAGE ADDRESS OF LAST ATTEMPTED CYCLE STEAL TRANSFER.

WORD ONE

0	OVERRUN: RCV OR XMT BUFFER NOT SERVICED WITHIN 1 CHARACTER TIME.
1	TIMEOUT
2	LRC ERROR: BCC DOES NOT COMPARE
3	NO COD CHARACTER, IN RCV MODE, NO CHAIN BIT & BYTE CNT=0
4	EOB RECOGNIZED IN TRANSMIT & BYTE COUNT NOT ZERO
5	VRC ERROR: HEX 00 WILL BE PLACED IN STORAGE
6	BREAK: A BREAK CONDITION WAS DETECTED DURING XMIT.
7	STOP BIT ERROR: MISSING STOP BIT IN RCVD CHARACTER
8	DIAGNOSTIC ERROR
9	MODEM INTERFACE ERROR
10	RESERVED
11	TRANSMIT BOT FLAG, DISREGARD FOR STATUS ERRORS
12 THRU 15	RESERVED

WORD TWO

0	DATA TERMINAL READY
1	DATA SET READY
2	REQUEST TO SEND
3	CLEAR TO SEND
4	RING INDICATOR
5	RECEIVE MODE
6	TRANSMIT MODE
7	RESERVED NOT USED
8 THRU 15	RESIDUAL LRC (GENERALLY ZERO)

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MAP E900-9

G. DISPLAY INDICATOR CONSOLE MAINTENANCE SWITCHES:

SWITCH POSITION	LAMP SIGNIFICANCE
00000XXX	HIGH ORDER BYTE OF DCB WORD 0
00001XXX	SUBROUTINE FLAG 0-3 BITS 12-15 DCB WORD 0
00010XXX	BIT RATE CONSTANT
00011XXX	LINE CONTROL CHARACTER 1 (COD/EOA)
00100XXX	LINE CONTROL CHARACTER 2 (COD/EOB)
00101XXX	LINE CONTROL CHARACTER 3 (COD/COD1)
00110XXX	LINE CONTROL CHARACTER 4 (COD/COD2)
00111XXX	LINE CONTROL CHARACTER 5 (COD/COD3)
01000XXX	LINE CONTROL CHARACTER 6 (COD/UPSHIFT)
01001XXX	LINE CONTROL CHARACTER 7 (COD/DOWNSHIFT)
01010XXX	BITS 0 THRU 7 OF THE CHAIN ADDRESS
01011XXX	BITS 8 THRU 15 OF THE CHAIN ADDRESS
01100XXX	BITS 0 THRU 7 BYTE COUNT
01101XXX	BITS 8 THRU 15 BYTE COUNT
01110XXX	BITS 0 THRU 7 DATA ADDRESS
01111XXX	BITS 8 THRU 15 DATA ADDRESS
10000XXX	BITS 0 THRU 7 TIMER 2
10001XXX	BITS 8 THRU 15 TIMER 2
10010XXX	BITS 0 THRU 7 TIMER 1
10011XXX	BITS 8 THRU 15 TIMER 1
10100XXX	0 DCB FETCH FLAG 1 LINE CONTROL DECODE BIT 4 2 LINE CONTROL DECODE BIT 2 3 LINE CONTROL DECODE BIT 1 4 NOT USED 5 BYTE MODE 6 CARRY CONDITION CODE 7 OVERFLOW CONDITION CODE
10101XXX	0 UPPER CASE/LOWER CASE 1 LAST CHAR TRANSMIT/ FIRST CHAR RECEIVE 2 EOB 3 CASE INSERT XMIT/ ODD-EVEN RECEIVE 4 6.6 MSEC OSCILLATOR 5 TIMER 1 CARRY 6 TIMER 2 CARRY 7 EOA TRANSMITTED OR RECEIVED
10110XXX	0 OVERRUN 1 TIMEOUT 2 LRC ERROR 3 DCB REJECT 4 EOB AND COUNT NOT ZERO 5 VRC ERROR 6 BREAK DETECTED IN TRANSMIT 7 STOP BIT ERROR
10111XXX	0 THRU 3 BITS 8 THRU 11 OF CONTROL WORD 4 RESERVED 5 MODEM ERROR 6 RESERVED 7 RESERVED

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MAP E900-10

11000XXX 0 THRU 7 LRC
11001XXX 0 DTR
1 DSR
2 RTS
3 CTS
4 RING
5 TRANSMIT LINE (SPACE)
6 RECEIVE LINE (SPACE)
7 CARRIER DETECT
11010XXX 0 XMIT/RCV DATA REQUEST
1 RCV MODE
2 RCV LINE (SPACE)
3 VALID START BIT DETECTED
4 8 BIT DATA INTERCHANGE CODE
5 TRANSMIT MODE
6 OVERRUN ERROR
7 ZERO
11011XXX 0 THRU 7 TRANSMIT/ RECEIVE BUFFER
11100XXX 0 THRU 7 LAMP TEST, LAMPS SHOULD BE FLASHING
11101XXX 0 THRU 7 INTERRUPT STATUS BYTE
11110XXX 0 THRU 7 PREVENT ZERO INSERTION ON A VRC ERROR
11111XXX 0 RESET DTR TO THE ADAPTER
1 DTR
1 DSR
2 RTS
3 CTS
4 RING
5 XMIT LINE
6 RCV LINE
7 CARRIER DETECT

6.0 DEVICE UTILITIES:

NONE

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

PROGRAM E8E5 'ACCA DOWN-LINE TEST'.
SEE MAP E8E5 FOR OPERATING PROCEDURES.

7.1 PROGRAM 3CEF 'OPERATOR SELF-TEST'.
7.1.1 PURPOSE

THIS PROGRAM IS INTENDED TO BE USED BY THE SYSTEM OPERATOR BEFORE CALLING THE SERVICE ORGANIZATION WHEN A PROBLEM ARISES IN A COMMUNICATIONS 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 REQUIREMENTS

7.1.2.1 PROGRAM

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

7.1.2.2 EQUIPMENT

EIA WRAP CONNECTOR P/N 2704136 OR CABLE EXTENSION P/N 1632919.
OR DIRECT CONNECT WRAP CONNECTOR P/N 1633811 FOR DIRECT CONNECT
CABLE P/N 1632211.

7.1.3 OPERATING PROCEDURES

BEFORE BEGINNING THE PROGRAM PUT THE WRAP CONNECTOR P/N 2704136 ON THE MODEM END OF THE EIA CABLE P/N 1632208, OR WRAP CONNECTOR P/N 1633811 FOR DIRECT CONNECT CABLE P/N 1632211 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 BEGINNING 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), 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 COUNT.

'DA/LC' (HALT 3CE1)

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

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

EXAMPLE

IF DEVICE ADDRESS IS HEXADECIMAL '18' AND THE TEST IS TO BE LOOPED 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,

REENTER DEVICE ADDRESS AND LOOP COUNT.

'DA/LC' (HALT 3CE2)

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

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

EXAMPLE

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

HALT 3CE3

THE TEST WAS SUCCESSFULL.

THERE IS NO FURTHER ACTION NECESSARY.

HALT 3CE4

THE TEST FAILED, CALL THE SERVICE ORGANIZATION.

THERE IS NO FURTHER ACTION NECESSARY.

8.0 DIAGNOSTICS:
 NONE

9.0 OFF-LINE TESTS:
 NONE

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MAP E900-12