

AMARS  
NO. 1A AUTOMATIC MESSAGE ACCOUNTING RECORDING CENTER  
SECOND SUPPLEMENTARY DATA SET CONTROL AND CONNECTION CABINET INSTALLATION  
(J1P040C CABINET)

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1. GENERAL INFORMATION

1.1 The supplementary DSCC cabinet contains a DC power supply, a data set interface and auxiliary function unit, and a data set connection unit, and isolation control units. The cabinet provides data set control, data set interface and isolation control. Connections to the CPU's are made by cables per the Cable Plan, ED-5P285.

1.2 The tests per Section 204A and 204B should be completed before beginning this section.

2. RECORDS AND REQUIREMENTS

2.1 The E.S.S. Trouble Record from (SD-4-1391) should be used to record all troubles which are encountered when running the tests in this Handbook Section.

3. TEST EQUIPMENT

3.1 1 ITE-5356 Digital Voltmeter (or equivalent).

4. INSTALLATION OF THE CABINET

4.1 Supplementary Data Set Control and Connection cabinet should be positioned in accordance with floor plan data requirements (824-100-105).

4.2 The two Lorain power supplies (or equivalent) should have been installed and tested. One LORAIN will power one tape cabinet, one processor cabinet, one disk cabinet, one memory cabinet, two asynchronous channel cabinets, and supplies power to the Supplementary DSCC power transfer unit.

4.3 The data sets associated with the No. 1A AMARC are housed in their own separate cabinet. The 202T data sets are housed by 40B1 mountings. The 202S data sets and the 801C automatic dialing units are housed in a 40A2 mounting. The 829A data auxiliary data sets are housed by 46A1 data mountings. These are installed and maintained by the telephone company.

5. CABLING

NOTE: In connecting the ED-5P284-30 cables to the male connector on a DEC or WECO circuit board, the triangle "▷" on the cables (female) connector should be inserted to mate with the "A" designation on the circuit board. In connecting the cables to male connectors on frame units, the triangle "▷" on both connectors should mate. When connecting to the isolation backplane, the triangle "▷" should always be on the bottom.

5.1 Remove power by turning the ON/OFF switch on both programmer's console to OFF position.

5.2 Verify that the following intraframe cables ED-5P284-30 are connected properly.

DESIG	GROUP	STAMPED	CONNECTED TO	STAMPED	CONNECTED TO
CA28-0	13	J2-1	2-1 on CC unit	J1-16A	P1 of JW175, 03-16 in DSIAFO
CA28-1	13	J6-1	6-1 on CC unit	J1-11A	P1 of JW175, 03-11 in DSIAF1
CA24-0	13	J10-21	10-21 on CBO unit	J1-20B	P1 of JW440, 03-20 in DSIAFO
CA24A-0	12	J14-21	14-21 of CBO unit	J1-20A	P1-20A on DSC unit
CA24-1	15	J18-21	18-21 of CB1 unit	J1-07B	P1 of JW440, 03-07 in DSIAF1
CA24A-1	15	J22-21	22-21 of CB1 unit	J1-07A	P1-07A on DSC unit
CA21-0	13	J10-47	10-47 of CBO unit	J1-19B	P1 of JW440, 03-19 in DSIAFO
CA21A-0	15	J14-47	14-47 of CBO unit	J1-19A	P1-19A on DSC unit
CA21-1	15	J18-47	18-47 of CB1 unit	J1-08B	P1 of JW440, 03-08 in DISAF1
CA21A-1	12	J22-47	22-47 of CB1 unit	J1-08A	P1-08A on DSC unit
CA26-0	13	J10-17	10-17 of CBO unit	J1-22B	P1 of JW172, 03-22 in DSIAFO
CA26A-0	12	J14-17	14-17 of CBO unit	J1-22A	P1-22A on DSC unit
CA26-1	15	J18-17	18-17 of CB1 unit	J1-05B	P1 of JW172, 03-05 in DSIAF1
CA26A-1	15	J22-17	22-17 of CB1 unit	J1-05A	P1-05A on DSC unit
CA23-0	13	J10-43	10-43 of CBO unit	J1-21B	P1 of JW172, 03-21 in DSIAFO
CA23A-0	15	J14-43	14-43 of CBO unit	J1-21A	P1-21A on DSC unit
CA23-1	15	J18-43	18-43 of CB1 unit	J1-06B	P1 of JW172, 03-06 in DSIAF1
CA23A-1	12	J22-43	22-43 of CB1 unit	J1-06A	P1-06A on DSC unit
CA22-0	13	J10-45	10-45 of CBO unit	J2-22B	P2 of JW172, 03-22 in DSIAFO
CA22A-0	15	J14-45	14-45 of CBO unit	J2-22A	P2-22A on DSC unit
CA22-1	15	J18-45	18-45 of CB1 unit	J2-05B	P2 of JW172, 03-05 in DSIAFO
CA22A-1	12	J22-45	22-45 of CB1 unit	J2-05A	P2-05A on DSC unit
CA25-0	13	J10-19	10-19 of CBO unit	J2-21B	P2 of JW172, 03-21 in DSIAFO
CA25A-0	12	J14-19	14-19 of CBO unit	J2-21A	P2-21A on DSC unit

## 5.2 (cont'd)

DESIG	GROUP	STAMPED	CONNECTED TO	STAMPED	CONNECTED TO
CA25-1	15	J18-19	18-19 of CB1 unit	J2-06B	P2 of JW172, 03-06 in DSIAF1
CA25A-1	15	J22-19	22-19 of CB1 unit	J2-06A	P2-06A on DSC unit
CA20-0	14	J6-3	6-3 of CC unit	J1-14B	P1 of JW443, 03-14 in DSIAFO
CA20-1	14	J2-3	2-3 of CC unit	J1-13B	P1 of JW443, 03-13 in DSIAF1
CA8A-0	13	J14-5	14-5 on CBO unit	J11A-0	P11A-0 on DSIAF unit
CA8A-1	13	J22-5	22-5 on CB1 unit	J11A-1	P11A-1 on DSIAF unit
CA9A-0	13	J14-9	14-9 on CBO unit	J12A-0	P12A-0 on DSIAF unit
CA9A-1	13	J22-9	22-9 on CB1 unit	J12A-1	P12A-1 on DSIAF unit
CA10A-0	20	J14-13	14-13 on CBO unit	J5A-0	P5A-0 on DISAF unit
CA10A-1	21	J22-13	22-13 on CB1 unit	J5A-1	P5A-1 on DSC unit
CA11A-0	20	J14-29	14-29 on CBO unit	J6A-0	P6A-0 on DSC unit
CA11A-1	21	J22-29	22-29 on CB1 unit	J6A-1	P6A-1 on DSC unit
CA12A-0	20	J14-39	14-39 on CBO unit	J7A-0	P7A-0 on DSC unit
CA12A-1	21	J22-39	22-39 on CB1 unit	J7A-1	P7A-1 on DSC unit
CA13A-0	21	J14-63	14-63 on CBO unit	J8A-0	P8A-0 on DSC unit
CA13A-1	21	J22-63	22-63 on CB1 unit	J8A-1	P8A-1 on DSC unit
CA16A-0	12	J14-55	14-55 on CBO unit	J3A	P3A on DSC unit
CA16A-1	12	J22-55	22-55 on CB1 unit	J3C	P3C on DSC unit
CA17A-0	12	J14-53	14-53 on CBO unit	J4A	P4A on DSC unit
CA17A-1	12	J22-53	22-53 on CB1 unit	J4C	P4C on DSC unit
CA61	22	J6-27-Q1	6-27-Q1 on CC unit	J18-03-Q4	18-03-Q4 on CB1 unit
CA62	23	J6-27-Q3	6-27-Q3 on CC unit	J10-03-Q4	10-03-Q4 on CBO unit

NOTE: P1 and P2 connectors are BERG connectors mounted on circuit packs in given locations.

NOTE: Alarm circuit is J1P040BA unit, DSIAF is J1P040BB unit, DS Conn Circuit is J1P040BC unit.

- 5.3 Verify that the following cabling has been properly connected between the Data Set Connection Circuit and the data set mountings. These cords are M25 cords.

## CONNECTIONS

DESIG	DS. CONN. CKT	TO	CHL#
CC20-0	P1-0	5th 202S Data Set	100
CC21-0	P2-0	61st 202T Data Set	101
CC22-0	P3-0	62nd 202T Data Set	102
CC23-0	P4-0	63rd 202T Data Set	103
CC24-0	P5-0	64th 202T Data Set	104
CC25-0	P6-0	65th 202T Data Set	105
CC26-0	P7-0	66th 202T Data Set	106
CC27-0	P8-0	67th 202T Data Set	107
CC28-0	P9-0	68th 202T Data Set	110
CC29-0	P10-0	69th 202T Data Set	111
CC30-0	P11-0	70th 202T Data Set	112
CC31-0	P12-0	71th 202T Data Set	113
CC32-0	P13-0	72nd 202T Data Set	114
CC33-0	P14-0	73rd 202T Data Set	115
CC34-0	P15-0	74th 202T Data Set	116
CC35-0	P16-0	75th 202T Data Set	117
CC36-0	P17-0	5th 801C ACU	100
CC20-1	P1-1	6th 202S Data Set	120
CC21-1	P2-1	76th 202T Data Set	121
CC22-1	P3-1	77th 202T Data Set	122
CC23-1	P4-1	78th 202T Data Set	123
CC24-1	P5-1	79th 202T Data Set	124
CC25-1	P6-1	80th 202T Data Set	125
CC26-1	P7-1	81st 202T Data Set	126
CC27-1	P8-1	82nd 202T Data Set	127
CC28-1	P9-1	83rd 202T Data Set	130
CC29-1	P10-1	84th 202T Data Set	131
CC30-1	P11-1	85th 202T Data Set	132
CC31-1	P12-1	86th 202T Data Set	133
CC32-1	P13-1	87th 202T Data Set	134
CC33-1	P14-1	88th 202T Data Set	135
CC34-1	P15-1	89th 202T Data Set	136
CC35-1	P16-1	90th 202T Data Set	137
CC36-1	P17-1	6th 801C ACU	120

- 5.4 Connect the following interframe cables (ED-5P284-30, GRP3) between Data Set Conn Ckt. and Processor 0's Asynchronous Channel Cabinet. (See Cabling NOTE under Paragraph 5)

DESIG	STAMPED	CONNECTED TO	STAMPED	CONNECTED TO
CA50-0	J10-13	10-13 CBO unit	J5B	DZ11B10 (MUX10) in J1P040L Cabinet (CPO)
CA51-0	J10-29	10-29 on CBO unit	J6B	DZ11B11 (MUX11)
CA52-0	J10-39	10-39 on CBO unit	J7B	DZ11B12 (MUX12)
CA53-0	J10-63	10-63 on CBO unit	J8B	DZ11B13 (MUX13)

- 5.5 Connect the following interframe cables (ED-5P284-30, GRP3) between Data Set Conn Ckt. and Processor 1's Asynchronous Channel Cabinet. (See Cabling NOTE under Paragraph 5)

DESIG	STAMPED	CONNECTED TO	STAMPED	CONNECTED TO
CA50-1	J18-13	18-13 on CB1 unit	J5B	DZ11B10 (MUX10) in J1P040L Cabinet (CP1)
CA51-1	J18-29	18-29 on CB1 unit	J6B	DZ11B11 (MUX11) in J1P040L Cabinet (CP1)
CA52-1	J18-39	18-39 on CB1 unit	J7B	DZ11B12 (MUX12) in J1P040L Cabinet (CP1)
CA53-1	J18-63	18-63 on CB1 unit	J8B	DZ11B13 (MUX13) in J1P040L Cabinet (CP1)

- 5.6 Connect the following interframe cables (ED-5P284-30, GRP 4) between DS Control and Connection Cabinet and Processor 0's Asynchronous Channel Cabinet: (See Cabling NOTE under Paragraph 5)

DESIG	STAMPED	CONNECTED TO	STAMPED	CONNECTED TO
CA58-0	J14-1	14-1 on CBO unit	J11B	P1 of DR11C(2) in J1P040L Cabinet (CPO)
CA59-0	J14-3	14-3 on CBO unit	J12B	P2 of DR11C(2) in J1P040L Cabinet (CPO)
CA56-0	J10-55	10-55 on CBO unit	J3B	P1 of DN11DA-4 in CPO
CA57-0	J10-53	10-53 on CBO unit	J4B	P1 of DN11DA-5 in CPO

- 5.7 Connect the following interframe cables (ED-5P284-30, GRP 4) between DS Control and Connection Cabinet and Processor 1's Asynchronous Channel Cabinet: (See Cabling NOTE under Paragraph 5)

DESIG	STAMPED	CONNECTED TO	STAMPED	CONNECTED TO
CA58-1	J22-1	22-1 on CB1 unit	J11B	P1 of DR11C(2) in J1P040L Cabinet (CP1)
CA59-1	J22-3	22-3 on CB1 unit	J12B	P2 of DR11C(2) in J1P040L Cabinet (CP1)
CA56-1	J18-55	18-55 on CB1 unit	J3D	P1 of DN11DA-4 in CP1
CA57-1	J18-53	18-53 on CB1 unit	J4D	P1 of DN11DA-5 in CP1

5.8 Add cable CA29 connector stamped J6-19 to 6-19 on CC Unit of C1 Cabinet. The connectors associated with the B and CO Cabinets should have been installed in Sections 204A and 204B.

5.9 Restore power by turning the ON/OFF switch on both processor's console to ON position.

## 6. FUSE AND POWER

### 6.1 Power Transfer Unit

6.11 Power for the Data Set Control and Connection Cabinet is supplied by the Power Transfer Unit. The Power Transfer Unit obtains power from a single-phase receptacle at the power distribution circuit. J0 and J1 receptacles on the unit receive plugs from power strip within cabinet. Do not connect power to the Power Transfer Unit until specified in the following paragraphs.

6.12 Remove all plugs from outlets on both sides of the Supplementary Data Set Control and Connection Cabinet.

6.13 Disengage all circuit packs in the DSIAF unit (J1P040BB), the Data Set Connection Unit (J1P040BC), and the Isolation Units (J1P040CBO, CB1, and CC units).

6.14 Connect power cord P0 to the receptacle for the Supplementary Data Set Control and Connection Cabinet associated with CPU0. Verify that 115VAC is obtained at all outlets on both sides of the Data Set Control and Connection Cabinet.

6.15 Remove power cord P0 from receptacle.

6.16 Connect power cord P1 to the receptacle for the Supplementary Data Set Control and Connection Cabinet associated with CPU1. Verify that 115VAC is obtained at all outlets on both sides of the Data Set Control and Connection Cabinet.

6.17 Restore power cord P0 to the receptacle for the Data Set Control and Connection Cabinet.

### 6.2 Fan Plugs

6.21 Connect fan plugs into outlet 9 on both sides of DSCC Cabinet.

### 6.3 DSIAF Power

6.31 Verify that the fuse in the DSIAF-0 and DSIAF-1 power supply (HEWLETT PACKARD 62000S-D59) are in place.

6.32 Connect the plug of the power supply for DSIAF-0 to outlet 8, CPU0 side.

6.33 Connect the plug of the power supply for DSIAF-1 to outlet 8, CPU1 side.

6.34 Connect the +28V power supply plug to outlet 1 on CPU1 side.

6.35 Use the Digital Voltmeter to adjust the  $\pm 12V$  and +5V outputs of the DSIAF-0 and DSIAF-1 AC to DC power supply (H.P. #62000S-D59) as accurately as possible (at least no greater than  $\pm 1\%$ ). Verify these voltages at the terminals given in Fig. 6.3. Refer to SD-5P006-01, FS-1 if required. Do NOT use frame ground in making the measurements. Use the isolated ground bus (or the ground on terminal 104 of locations 03-20 or 30-07).

6.36 Verify +28V $\pm 1V$  is obtained by measuring between the +28V and REF terminal blocks on the CC unit.

6.37 Turn the two power switches on the Hewlett Packard Power Supply for the DSIAF circuits to the OFF position. Remove the +28V power supply plug from outlet 1. Insert all circuit packs in each DSIAF unit (J1P040BB) and the Data Set Connection Circuit unit (J1P040BC) and Isolation Units J1P040CBO, CB1 and CC units). Restore power using the two switches in the Hewlett Packard supply and reinsert +28V supply plug.

- 6.4 Data Sets and Equipment should be powered from both outlets on Data Set Control and Connection Cabinet.

TERMINAL ON DSIAF UNIT (J1P040BB)

VOLT	RANGE	UNIT	LOCATION	TERMINAL
+5	+4.95 to +5.05	DSIAFO	03-20	101
+5	+4.95 to +5.05	DSIAF1	03-07	101
-12	-11.85 to -12.15	DSIAFO	03-20	106
-12	-11.85 to -12.15	DSIAF1	03-07	106
+12	+11.85 to +12.15	DSIAFO	03-20	102
+12	+11.85 to +12.15	DSIAF1	03-07	102

NOTE: Output voltages must be adjusted as accurately as physically possible to +5V and  $\pm 12V$ . There is a potentiometer on the panel that can be used for adjustments.

FIGURE 6.3

7. ISOLATION CONTROL

- 7.1 Verify that the ENABLE LED's on the Isolation Display Panel for both circuits are illuminated. Verify that the POWER FAIL LED is extinguished.
- 7.2 Isolation Control - CPU0
  - 7.21 Push the DEC key on Isolation Display Panel under CIRCUIT 0 down and press the EXECUTE key.
  - 7.22 Push the DSIAF key under CIRCUIT 0 down and press the EXECUTE key. Verify that the NORMAL LED under CIRCUIT 0 is illuminated; all TN37 circuit packs in all CBO units have green LED's illuminated and the green DECO and DSIAFO LED's on all TN38 circuit packs are illuminated.
  - 7.23 Push the DEC key under CIRCUIT 0 up and press the EXECUTE key. The red LED above the DEC key should light; the red DECO LED on all TN38 packs should light; and all the red ISO LED's on TN37 packs in all CBO units should light.
  - 7.24 Repeat Paragraph 7.21. Verify that the red LED above the DEC key extinguishes; the red DECO LED on all TN38 packs extinguish and the green LED's illuminate; and the red ISO LED's on TN37 packs in all CBO units extinguish and the green LED's illuminate.
  - 7.25 Push the DSIAF key under CIRCUIT 0 up and press the EXECUTE key. The red LED above the DSIAF key should light; all red ISO LED's in all CBO units except TN37 in position 07 should light; and red DSIAFO and DECO LED's on all TN38 packs light.
  - 7.26 Push the DSIAF key under CIRCUIT 0 down and press the EXECUTE key. The red LED above the DSIAF key should extinguish; the red DSIAFO and DECO LED's on all TN38 packs should extinguish and the green LED's illuminate; and all red LED's on TN37 in all CBO units should be extinguished and all green LED's on TN37 should be illuminated.
- 7.3 Isolation Control - CPU1
  - 7.31 Push the DEC key on Isolation Display Panel under CIRCUIT 1 down and press the EXECUTE key.

- 7.32 Push the DSIAF key under CIRCUIT 1 down and press the EXECUTE key. Verify that the NORMAL LED under CIRCUIT 1 is illuminated; all TN37 circuit packs in all CB1 units have green LED's illuminated; and the green DEC1 and DSIAF1 LED's on all TN38 circuit packs are illuminated.
- 7.33 Push the DEC key under CIRCUIT 1 up and press the EXECUTE key. The red LED above the DEC key should light; the red DEC1 LED's on all TN38 packs should light; and all the red ISO LED's on TN37 packs in all CB1 units should light.
- 7.34 Repeat Paragraph 7.31. Verify that the red LED above the DEC key extinguishes; the red DEC1 LED on all TN38 packs extinguish and the green LED's illuminate; and the red ISO LED's on TN37 packs in all CB1 units extinguish and the green LED's illuminate.
- 7.35 Push the DSIAF key under CIRCUIT 1 up and press the EXECUTE key. The red LED above the DSIAF key should light; all red ISO LED's in all CB1 units except TN37 in position 07 should light; and red DSIAF1 and DEC1 LED's on all TN38 packs light.
- 7.36 Push the DSIAF key under CIRCUIT 1 down and press the EXECUTE key. The red LED above the DSIAF key should extinguish; the red DSIAF1 and DEC1 on all TN38 packs should extinguish and the green LED's illuminate; and all red LED's on TN37 in all CB1 units should be extinguished and all green LED's on TN37 should be illuminated.
- 7.4 Power Fail
- 7.41 Remove fuse from SN1 board in C1 Cabinet. Verify that the POWER FAIL LED on Isolation Display Panel illuminates.
- 7.42 Restore fuse into SN1 board. Verify that the POWER FAIL LED on Isolation Display Panel extinguishes and the green LED on SN1 pack illuminates.

No changes indicated due to extensive revision.

Manager, Product Engineering  
Control Center

Reason for Reissue:  
Add Paragraph 7 and incorporate design changes.