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AMARS
NO. 1A AUTOMATIC MESSAGE ACCOUNTING RECORDING CENTER
FIRST 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, 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 should be completed before beginning this section. This section should be completed before proceeding to Section 204C.

2. RECORDS AND REQUIREMENTS

- 2.1 The E.S.S. Trouble Record form (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, one asynchronous channel cabinet, 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 DSIAF1
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 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 DSIAF1
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 DSC 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: 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.

CONNECTION

DESIG	DS. CONN. CKT	TO	CHL #
CC20-0	P1-0	3rd 202S Data Set	040
CC21-0	P2-0	31st 202T Data Set	041
CC22-0	P3-0	32nd 202T Data Set	042
CC23-0	P4-0	33rd 202T Data Set	043
CC24-0	P5-0	34th 202T Data Set	044
CC25-0	P6-0	35th 202T Data Set	045
CC26-0	P7-0	36th 202T Data Set	046
CC27-0	P8-0	37th 202T Data Set	047
CC28-0	P9-0	38th 202T Data Set	050
CC29-0	P10-0	39th 202T Data Set	051
CC30-0	P11-0	40th 202T Data Set	052
CC31-0	P12-0	41st 202T Data Set	053
CC32-0	P13-0	42nd 202T Data Set	054
CC33-0	P14-0	43rd 202T Data Set	055
CC34-0	P15-0	44th 202T Data Set	056
CC35-0	P16-0	45th 202T Data Set	057
CC36-0	P17-0	3rd 801C ACU	040
CC20-1	P1-1	4th 202S Data Set	060
CC21-1	P2-1	46th 202T Data Set	061
CC22-1	P3-1	47th 202T Data Set	062
CC23-1	P4-1	48th 202T Data Set	063
CC24-1	P5-1	49th 202T Data Set	064
CC25-1	P6-1	50th 202T Data Set	065
CC26-1	P7-1	51st 202T Data Set	066
CC27-1	P8-1	52nd 202T Data Set	067
CC28-1	P9-1	53rd 202T Data Set	070
CC29-1	P10-1	54th 202T Data Set	071
CC30-1	P11-1	55th 202T Data Set	072
CC31-1	P12-1	56th 202T Data Set	073
CC32-1	P13-1	57th 202T Data Set	074
CC33-1	P14-1	58th 202T Data Set	075
CC34-1	P15-1	59th 202T Data Set	076
CC35-1	P16-1	60th 202T Data Set	077
CC36-1	P17-1	4th 801C ACU	060

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

DESIG	STAMPED	CONNECTED TO	STAMPED	CONNECTED TO
CA40-0	J10-13	10-13 on CBO unit	J5B	DZ11B04 (MUX04) in J1P040L Cabinet (CPO)
CA41-0	J10-29	10-29 on CBO unit	J6B	DZ11B05 (MUX05)
CA42-0	J10-39	10-39 on CBO unit	J7B	DZ11B06 (MUX06)
CA43-0	J10-63	10-63 on CBO unit	J8B	DZ11B07 (MUX07)

- 5.5 Connect the following interframe cables (ED-5P284-30, GRP 3) between Supplementary Data Set Conn Ckt and Processor 1's Asynchronous Channel Cabinet: (See Cabling NOTE under Paragraph 5)

DESIG	STAMPED	CONNECTED TO	STAMPED	CONNECTED TO
CA40-1	J18-13	18-13 on CB1 unit	J5B	DZ11B04 (MUX04) in J1P040L Cabinet (CP1)
CA41-1	J18-29	18-29 on CB1 unit	J6B	DZ11B05 (MUX05) in J1P040L Cabinet (CP1)
CA42-1	J18-39	18-39 on CB1 unit	J7B	DZ11B06 (MUX06) in J1P040L Cabinet (CP1)
CA43-1	J18-63	18-63 on CB1 unit	J8B	DZ11B07 (MUX07) in J1P040L Cabinet (CP1)

- 5.6 Connect the following interframe cables (ED-5P284-30, GRP 4) between Supplementary 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
CA48-0	J14-1	J14-1 on CBO unit	J11B	P1 of DR11C(1) in J1P040L Cabinet (CPO)
CA49-0	J14-3	J14-3 on CBO unit	J12B	P2 of DR11C(1) in J1P040L Cabinet (CPO)
CA46-0	J10-55	10-55 on CBO unit	J3B	P1 of DN11DA-2 in CPO
CA47-0	J10-53	10-53 on CBO unit	J4B	P1 of DN11DA-3 in CPO

- 5.7 Connect the following interframe cables (ED-5P284-30, GRP4) between Supplementary 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
CA48-1	J22-1	22-1 on CB1 unit	J11B	P1 of DR11C(1) on J1P040L Cabinet (CP1)
CA49-1	J22-3	22-3 on CB1 unit	J12B	P2 of DR11C(1) in J1P040L Cabinet (CP1)
CA46-1	J18-55	18-55 on CB1 unit	J3D	P1 of DN11DA-2 in CP1
CA47-1	J18-53	18-53 on CB1 unit	J4D	P1 on DN11DA-3 in CP1

5.8 Add cable CA29 connector stamped J6-19 to 6-19 on CC Unit of CO Cabinet. The connector associated with the B Cabinet should have been installed in Section 204A. Do not connect to the C1 Cabinet at this time.

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 Supplementary 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. JO and all 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 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 Supplementary DSCC Cabinet.

6.3 DISAF 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 DISAF-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), the Data Set Connection Circuit unit (J1P040BC), and the Isolation units (J1P040CB, CB1, and CC units). Restore power using the two switches in the Hewlett Packard Supply and reinsert +28V plug into outlet 1.

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

6.5 Control Console (J1P040E) for CPU1 should be powered from outlet 4 on Supplementary Data Set Control and Connection Cabinet.

6.6 Connect power for the 230A repeater for CPU1 to outlet 3 on Supplementary DSCC.

TERMINAL ON DISAF 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 the 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 CBO units in B and CO Cabinets have green LED's illuminated and the green DECO and DSIAFO LED's on TN38 circuit packs in B and CO Cabinets 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 TN38 packs should light; and all the red ISO LED's on TN37 packs in B and CO Cabinets 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 TN38 packs in B and CO Cabinets extinguish and the green LED's illuminate; and the red ISO LED's on TN37 packs in CBO units in B and CO Cabinets 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 CBO units of B and CO Cabinets except TN37 in position 07 should light; and red DSIAFO and DECO LED's on 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 TN38 packs in B and CO Cabinets should extinguish and the green LED's illuminate; and all red LED's on TN37 in 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 CB1 units of B and CO Cabinets have green LED's illuminated; and the green DEC1 and DSIAF1 LED's on 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 TN38 packs of B and CO Cabinets should light; and all the red ISO LED's on TN37 packs in 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 TN38 packs extinguish and the green LED's illuminate; and the red ISO LED's on TN37 packs in 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 CB1 units of B and CO Cabinets except TN37 in position 07 should light; and red DSIAF1 and DEC1 LED's on 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 LED's on TN38 packs in B and CO Cabinets should extinguish and the green LED's illuminate; and all red LED's on TN37 in 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 CO 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
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Reason for Reissue:
Add Paragraph 7 and incorporate design changes.