

AMARS  
NO. 1A AUTOMATIC MESSAGE ACCOUNTING RECORDING CENTER  
DATA FORMAT CONVERTER CABINET(S) INSTALLATION  
(J1P040W-1)  
INITIAL TESTS

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| 1. <u>GENERAL INFORMATION</u>   | 2. <u>RECORDS AND REQUIREMENTS</u>   |
| 1.1 Perform the tests in this handbook section for the J1P040W-1, List 1 cabinet and the J1P040W-1, List 2 cabinet, if provided.  | 2.1 The Test Trouble Record forms (SD-97-1313 and SD-97-1315) should be used to record all troubles which are encountered when running the tests in this handbook section.   |
| 1.2 The tests in this handbook section are initial tests and can be used to install the J1P040W-1 cabinet(s) for either new installations or growth installations. Final testing of the J1P040W-1 cabinet(s) will be made in a diagnostic handbook section. | 3. <u>TEST EQUIPMENT</u>   |
| 1.3 Up to two Data Format Converter Cabinets, J1P040W-1, can be provided with Generic 4, or later, No. 1A AMARC systems. Each Data Format Converter Cabinet contains two data format converter units, two fuse units, and four power converter units.       | 3.1 One ITE-5632 digital multimeter (or equivalent).   |
| 1.4 Refer to ED5P285 for cable dress information.   | 3.2 SPP-832 Spare Packs Package  |
| 1.5 Refer to SD-5P024-01 for connector and backplane pin number conversions.  | 4. <u>INSTALLATION OF THE CABINET(S)</u>   |
| 1.6 The uninterruptable power supply receptacles for the J1P040W-1 cabinet(s) should have been installed and tested.  | 4.1 The Data Format Converter Cabinet(s) should be positioned in accordance with floor plan data requirements (FPD 824-100-105-1).   |
| 1.7 The 131 type power supplies cannot be removed or inserted into its position without first operating its ON/OFF switch, on the front of the power supply, to the OFF position.   | 4.2 The uninterruptable power supplies (UPS) should have been installed and tested. Each UPS provides power to one complete side of the AMARC. Verify that the outlet voltage at both receptacles for the Data Format Converter Cabinet(s) are 120 VAC. Measure the voltage between the phase and neutral leads. |
|   | 5. <u>FUSE AND POWER</u>   |
|   | 5.1 <u>Preliminary</u>   |
|   | 5.1.1 Remove all plugs from all AC Power Strip outlets of the J1P040W-1 cabinet(s) except for 'PWR CORD 0' and 'PWR CORD 1' if connected.  |

- 5.12 Turn all switches in the Fuse and Switch Units to the OFF position.
- 5.13 Disengage all circuit packs in the Data Format Converter Units.
- 5.14 Disengage all plug-in 131 type power converters in the 5V Converter Units and 12V Converter Units. (Refer to Paragraph 1.7)
- 5.15 Remove all fuses in the J1P040W-1 cabinet except for the fuses in the -48V power converter units.
- 5.16 Verify that both power switches for the -48V power converter units are in the OFF position.
- 5.17 Using the ITE-5356 multimeter, verify the absence of power or ground conditions on the terminal strip punchings listed in TABLE 1 and TABLE 2. Also, do the same check on punching 10 of terminal strips TB2 and TB3.

5.2 AC Power Tests

- 5.21 Verify that the 'PWR CORD 0' is connected to receptacle 1 on the 'AC POWER STRIP 0' and verify that 'PWR CORD 1' is connected to receptacle 1 on the 'AC POWER STRIP 1'.
- 5.22 Connect the other end of 'PWR CORD 0' to the receptacle for the Data Format Converter Cabinet associated with CPU0. Verify that the pilot lamp at the top of the 'AC POWER STRIP 0' is illuminated. If the pilot lamp is not illuminated, depress the circuit breaker button at the top of the power strip. Verify that 120V AC is obtained at all power outlets on the power strip.
- 5.23 Repeat Paragraph 5.22 for 'PWR CORD 1' with its associated CPU1 receptacle and AC power strip.

5.3 48V Power Tests

- 5.301 Connect the 'PS0 48V' power cord into receptacle 2 of the 'AC POWER STRIP 0'. Connect the 'PS1 48V' power cord into receptacle 2 on the 'AC POWER CORD 1'.
- 5.302 Operate the power switch on the 48V power supply associated with the CPU0 side, only, to the ON position. Verify the absence of -48 volts at the punchings listed in TABLE 1 and TABLE 2. Also, verify the absence of -48

volts at punching 10 of terminal strips TB2 and TB3. Turn the power OFF on the 48 volt power supply.

- 5.303 Repeat Paragraph 5.32 for the 48V power supply associated with CPU1.
- 5.304 Insert the 20 amp fuse at the 20A0 fuse position. Repeat the steps in Paragraph 5.302.
- 5.305 Insert the 20 amp fuse at the 20A1 fuse position. Repeat the steps in Paragraph 5.303.
- 5.306 Turn on the 48 volt power supply associated with CPU0. Insert an operated fuse in the PFO fuse holder. Verify that -48 volts is obtained at terminal strip TB2 punching 10. Remove the operated fuse and verify that the voltage at TB2 punching 10 goes to 0 volts. Repeat the above procedure, one at a time, for fuse locations A0, B0, C0, D0, E0, F0, G0, and H0.
- 5.307 Turn on the 48 volt power supply associated with CPU1. Insert an operated fuse in the PF1 fuse holder. Verify that -48 volts is obtained at terminal strip TB3 punching 10. Remove the operated fuse and verify that the voltage at TB3 punching 10 goes to 0 volts. Repeat the above procedure, one at a time, for fuse locations A1, B1, C1, D1, E1, F1, G1, and H1.
- 5.308 Insert the appropriate nonoperated fuse into PFO and PF1.
- 5.309 Refer to TABLE 2. Insert each fuse, one at a time, and verify -48 volts at its associated terminal strip and punching.
- 5.310 Verify that 0 volts is present at punching 10 of terminal strips TB2 and TB3.

TABLE 1

TERMINAL STRIP	PUNCHING	VOLTAGE
FUZE AND SWITCH UNIT 0		
TSB	1	+ 5V
TSB	4	+12V
TSB	8	-12V
FUZE AND SWITCH UNIT 1		
TSB	1	+ 5V
TSB	4	+12V
TSB	8	-12V

TABLE 2

FUSE	TERMINAL STRIP	PUNCHING
A0	TB2	1
B0	TB2	2
C0	TB2	3
D0	TB2	4
E0	TB2	5
F0	TB2	6
G0	TB2	7
H0	TB2	8
A1	TB3	1
B1	TB3	2
C1	TB3	3
D1	TB3	4
E1	TB3	5
F1	TB3	6
G1	TB3	7
H1	TB3	8

5.4 131 Type Power Converter Tests

5.41 Preliminary - Engage all the +5V, +12V, and -12V 131 type power converter units (refer to Paragraph 1.7). Do NOT turn on any of the 131 type power converter units.

5.42 General Procedures

5.421 A particular voltage bus will be monitored. One power converter will be turned ON and the proper voltage must be verified. The power converter will be shut OFF and the voltage bus will be checked for zero volts. The above procedure will be repeated for each remaining power converter unit.

NOTE: The ALM LED on the power converter should not be illuminated when the power converter is operating.

5.43 +5 Volt Power Tests

5.431 Using the general procedure in Para. 5.421, monitor the +5VA voltage bus and test the OACONV, OBCONV, OCCONV, IACONV, IBCONV, and ICCONV power converter units.

5.432 Using the general procedure in Para. 5.421, monitor the +5VB voltage bus and test the ODCONV, OECONV, OFCONV, IDCONV, IECONV, and IFCONV power converter units.

5.44 +12 Volt Power Tests

5.441 Using the general procedure in Para. 5.421, monitor the +12V voltage bus and test the OGCONV and IGCONV power converter units.

5.45 -12 Volt Power Tests

5.451 Using the general procedure in Para. 5.421, monitor the -12V voltage bus and test the OHCONV and IHCONV power converter units.

5.46 Turn power ON to all the 131 type power converter units. Verify that +5 volts is obtained on the +5VA and +5VB voltage busses. Verify that +12 volts is obtained on the +12V voltage bus. Verify that -12 volts is obtained on the -12V voltage bus.

5.5 Alarm Interface Circuit Test

5.51 Engage the TN684 (AIC) circuit pack at location 06-138. Insert its associated +12V, -12V, and +5V fuses in the Fuse and Switch Unit. Operate its associated power switch on the Fuse and Switch Unit. No alarm LED's should be illuminated on the TN684 circuit pack.

5.52 Turn power OFF to the -48 volt power supply associated with CPU0. Observe that the LVAL LED on the TN684 circuit board illuminates. Restore power to the -48 volt power supply. The LVAL LED on the TN684 circuit board should extinguish.

5.53 Insert an operated fuse into the PFO fuse holder. Verify that the -48 FAL LED on the TN684 circuit pack illuminates. Restore the non-operated fuse to the PFO fuse holder. Verify that the -48 FAL LED on the TN684 circuit pack extinguishes.

5.54 Repeat the procedure in Paragraphs 5.52 and 5.53 for the -48 volt power supply and PF1 fuse associated with CPU1.

5.6 Fuse and Switch Unit Tests

5.61 -12 volt Fuse Test Procedure

5.611 Insert an operated fuse into the -12V fuse holder in the Fuse and Switch Unit associated with APC0. Observe that the -12FAL LED on the TN684 circuit pack illuminates. Remove the operated fuse from the -12V fuse holder under test. Observe that the -12FAL LED on the TN684 circuit pack is extinguished.

5.612 Repeat the procedure in Paragraph 5.611 until all associated DUC and APC positions have been tested.

5.62 +12 volt Fuse Test Procedure

5.621 Use the same procedure as listed in Paragraph 5.61 except use the +12 volt fuse holders and observe the operation of the +12FAL LED on the TN684 circuit pack.

5.63 +5 volt Alarm Indication Test

5.631 **CAUTION** - These following tests must be conducted without any fuses in the +5 volt fuse holders associated with the APC and DUC circuit packs. Only the +5 volt fuse holder associated with the AIC circuit pack has a fuse inserted. Verify that all fuses have been removed from all the +5 volt fuse holders associated with the DUC and APC circuit packs.

5.632 Using a one wire test cord, carefully, ground a +5 volt bug on the backplane for an APC or DUC position.

NOTE: Do NOT do this procedure for the AIC position.

5.633 Operate the switch on the Fuse and Switch Unit associated with the APC or DUC position under test.

5.634 Observe that the LED on the Fuse and Switch Unit associated with the APC or DUC position under test is illuminated. Also verify that the +5FAL LED on the TN684 circuit pack is illuminated.

5.635 Restore the switch on the Fuse and Switch Unit associated with the APC or DUC position under test to the OFF position.

5.636 Remove the ground condition placed on the +5 volt bug in Paragraph 5.632; then repeat the procedures in Paragraphs 5.632 through 5.636 until all DUC and APC positions have been tested.

5.64 Final Fuse and Switch Unit Procedure

5.641 Verify that all ground conditions from the previous tests have been removed.

5.642 Verify that all the switches, except for the switch associated with the AIC, on the Fuse and Switch unit are in the OFF position.

5.643 Install all the +5V, +12V, and -12V fuses in the Frame and Switch Unit.

6. CABLING

6.1 Add the WTW-1214 E-Z code markers to the M25A cords as shown in Fig. AB of ED-5P285-13.

6.2 Using the M25A cables, just labeled, proceed as follows:

6.21 Correct cable CB253 and CB254 (if provided) at the appropriate location in the J1P040W-1 cabinet(s) as indicated on the label. Route, but do not connect, the other end of these cables to the J1P040D cabinet.

6.22 Connect the remainder of the M25A cables at the appropriate locations in the J1P040W-1 cabinet(s) as indicated on the labels. Temporarily route the other end of these cables to the area of the J1P040V-1, List 1 cabinet for testing purposes in a later Handbook Section (with no connections made).

Manager, Product Engineering  
Control Center

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