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

CONTENTS

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1. GENERAL INFORMATION

1.1 This handbook section is to be used on initial installations or growth installations to perform final diagnostic tests on the Data Format Converter Cabinet(s) (J1P040W-1). The initial tests of the J1P040W-1 cabinet(s) in Handbook 59, Section 204J, must have been completed prior to start of this handbook section. In addition, for new installations, Handbook 59, Section 205B, must have been completed prior to the start of this handbook section.

1.2 Refer to ED5P285 for cable dress information.

1.3 Refer to SD-5P024-01 for connector and backplane pin number conversions.

1.4 For growth installations, this procedure should be done during low traffic periods since simplex operation is required.

1.5 For growth installations, the TELCo should arrange to have their craft personnel available for performing the WECo diagnostic tests and various system operations during this handbook section procedure.

1.6 For growth installations, if troubles are encountered on the active system while performing this procedure, immediately stop any further testing and execute the steps in Paragraph 4.5 of this handbook section and return the system to TELCo for normal system restoral procedures.

1.7 When reconnecting the DZ11 (ED-5P284-31) cable, used for testing, to the isolation backplane, the triangle on the connector should be on the bottom.

1.8 Diagnostic Information

1.81 The 'CAPS LOCK' key should not be depressed on System Console 1 when running diagnostics. After the diagnostics have been completed, the 'CAPS LOCK' key on system console 1 should be depressed.

1.82 All TTY input and output will be done using System Console 1 during diagnostic testing.

1.83 During diagnostics, all TTY inputs are terminated with a carriage return.

2. RECORDS AND REQUIREMENTS

2.1 The test trouble record forms (SD-97-1313 and SD-97-1315) should be used to record all troubles which may be encountered when running the tests in this handbook section.

3. TEST EQUIPMENT

3.1 One ITE-5237B (or equivalent) oscilloscope.

3.2 W.E.Co. Diagnostics on disk (TELCo provided for growth systems). (On new systems, should still be installed from a previous handbook section.)

3.3 SPP-832 Spare Packs Package.

3.4 ITE-8900 Data Set, Flexport and ACU Interface loop-around cables.

3.5 ITE-XXXX APC and DUC loop-around equipment.

NOTE: The ITE-XXXX equipment is being supplied by the Columbus AMARC PECC.

4. DIAGNOSTIC TESTS

4.1 Preliminary set-up for APC tests

4.11 If this is a growth system, request the TELCo to remove one side of the system, isolate it and boot the W.E.Co. diagnostics from disk.

4.12 If this is a new installation, the W.E.Co. diagnostic disk should still be installed from Handbook 59, Section 205B. If not, install and boot up the W.E.Co. diagnostics from disk on an isolated OOS CPU.

4.13 At the J1P040V-1, List 1 cabinet, disconnect the following cable: If CPU0 is OOS, disconnect cable CB70-0 at OASYN 06-017. If CPU1 is OOS, disconnect cable CB70-1 at OASYN 10-033.

4.14 Connect the cable CB70-0 or CB70-1, just disconnected, into the connector labeled DZ11-APC on the loop-around cable obtained from the ITE-8900. This cable will remain connected until all APC positions have been tested.

4.2 APC Tests

4.21 Remove the APC0 (TN682) circuit pack, if equipped, in the J1P040W-1 cabinet under test. Insert the APC Test Circuit pack into that position. (The test circuit pack is contained in the ITE-XXXX.)

4.22 NOTE: All M25A type cables from the J1P040W-1 cabinet(s) were temporarily routed to the J1P040V-1, List 1 cabinet in Handbook 59, Section 204J, for testing purposes. Refer to ED-5P285-13. At the J1P040V-1, List 1 cabinet, connect the M25A type cable, associated with the APC position under test coming from the J1P040W-1 cabinet, into the connector labeled APC-TST on the loop-around cable from ITE-XXXX. (Example for APC0: For new installations, use cable CB100. For upgraded systems with sequential or distributed DZ11 assignments, use cable CB101.)

4.23 Refer to J1P040WG-1 and J1P040WH-1. At the J1P040W-1 cabinet, connect the connector labeled DS-APC, from the ITE-XXXX, to the connector going to the data set associated with the APC under test.

Example: For APC0, use connector DS-APC0.

4.24 Select the "async.dsif" diagnostic to be run in the "q" mode for multiplexor 00 only. Also, select the "d" and "p" options.

Example: async.dsif -dp oo oo

NOTE: On growth systems, request the TELCo to execute the diagnostic program.

4.25 Examine the printout. If the diagnostic program fails, refer to the DZ11 manual and appropriate SD documentation and re-execute the diagnostic program.

4.26 Disconnect the M25A type cable from the APC-TST connector on the loop-around cable from the ITE-XXXX at the J1P040V-1, List 1 cabinet (refer to Paragraph 4.22). Disconnect the connector labeled DS-APC, from the ITE-XXXX, at the J1P040W-1 cabinet (refer to Paragraph 4.23).

4.27 APC on-board circuit pack diagnostics

4.271 Set the option switches on the APC (TN682) circuit pack (removed in Paragraph 4.21) as listed in TABLE 1.

TABLE 1

APC SWITCH PACK SETTINGS	
SWITCH	VALUE AND FUNCTION
8	=0 Not Used
7	=0 Not Used
6	=0 4800 Asynchronous/2400 Synchronous Baud =1 9600 Asynchronous/4800 Synchronous Baud
5	=0 Use as Primary =1 Use with Dialup
4	=0 Not Used
3	=0 Not Used
2	=0 Not Used
1	=0 or 1 To Maintain Odd Parity with above Switch Settings
NOTE: A "0" means rocker down by the numbers. A Switeh in the "0" position indicates a "Closed" state.	

4.272 After setting the option switches, record the option switch setting on the rear of the designation strip, if provided.

NOTE: The synchronous BAUD rate is recorded.

4.273 Remove the APC Test Circuit Pack and insert the APC (TN682) circuit pack into that position.

4.274 Operate the switch on the Fuse and Switch Unit position associated with the APC (TN682) circuit pack. Wait 10 seconds. Verify that the PWR ON LED on the APC (TN682) circuit pack illuminates.

NOTE: The FAULT LED will illuminate immediately after depressing the LT/DIAG button. The FAULT LED will remain illuminated for several seconds before extinguishing and before the illumination of the DE-A and DE-B LED's.

4.275 Depress and release the LT/DIAG button on the front of the APC (TN682) circuit pack. Verify that the DIAG0 LED illuminates on the APC. Verify that the DIAG1 LED is extinguished on the APC. Disregard the other LED's on the APC.

NOTE: If the DIAG0, DIAG1 and DIAG2 LED's are all illuminated and blinking, repeat this step.

4.276 Depress and release the LT/DIAG button on the front of the APC (TN682) circuit pack, again, to extinguish the DIAG0 LED.

NOTE: PROG TMOUT LED will illuminate in a few seconds and then extinguish.

4.28 Repeat the steps in Paragraph 4.2 for the next higher sequential APC position using the associated cables and connectors. Repeat for both J1P040W-1 cabinets, if equipped.

NOTE: Each APC position must be tested with the APC Test Circuit Pack and associated cables and connectors. Some APC positions may not contain an APC (TN682) circuit pack; therefore, there is no need for performing the paragraphs to remove, set option switches, run on-board diagnostics or replace the circuit pack.

4.3 Preliminary set-up for DUC tests

4.31 Disconnect the cable CB70-0 or CB70-1 from the loop-around cable connector labeled DZ11-APC located in the area of the J1P040V-1, List 1 cabinet.

4.32 Connect the cable CB70-0 or CB70-1, just disconnected, into the connector labeled DZ11-DUC on the loop-around cable obtained from the ITE-8900. This cable will remain connected until all DUC positions have been tested.

4.4 DUC Tests

4.41 Remove the lowest numbered DUC (TN683) circuit pack in the J1P040W-1 cabinet under test and insert the DUC Test Circuit pack into that position. (The test circuit pack is contained in the ITE-XXXX.)

4.42 NOTE: All M25A type cables from the J1P040W-1 cabinet(s) were temporarily routed to the J1P040V-1, List 1 cabinet in Handbook 59, Section 204J, for testing purposes.

Refer to ED-5P285-13. At the J1P040V-1, List 1 cabinet, connect the M25A type cable, associated with the DUC position under test coming from the J1P040W-1 cabinet, into the connector labeled DUC-TST on the loop-around cable from the ITE-8900.

Example for DUC0: For new installations, use cable CB229. For upgraded systems with sequential or distributed DZ11 assignments, use cable CB230.

4.43 Refer to J1P040WG-1. Use the cable from the ITE-8900 with connectors labeled DS-DUC-A and DS-DUC-B for this test. At the J1P040W-1 cabinet, connect the cable labeled DS-DUC-A and DS-DUC-B to the connectors going to the data sets associated with the DUC position under test.

Example: For DUC0, connect the cable end labeled DS-DUC-A to the connector labeled DS-DUC 0A and connect the cable end labeled DS-DUC-B to the connector labeled DS-DUC 0B.

4.44 Select the "async.dsif" diagnostic to be run in the "q" mode for multiplexor 00 only. Also select the "d" and "p" options.

Example: async.dsif -dp oo oo

NOTE: On growth systems, request the TELCo to execute the diagnostic program.

4.45 Examine the printout. If the diagnostic program fails, refer to the DZ11 manual and appropriate SD documentation and re-execute the diagnostic program.

4.46 Disconnect the M25A type cable from the DUC-TST connector on the loop-around cable from the ITE-8900 (refer to Paragraph 4.41). Disconnect the cable labeled with DS-DUC-A and DS-DUC-B from the ITE-8900, at the J1P040W-1 cabinet (refer to Paragraph 4.43).

4.47 DUC on-board circuit pack diagnostic

4.471 Remove the DUC Test Circuit Pack and insert the DUC (TN683) circuit pack into that position.

4.472 Operate the switch on the Fuse and Switch Unit position associated with the DUC (TN683). Wait 10 seconds. Verify that the PWR ON LED on the DUC (TN683) circuit pack illuminates.

4.473 Depress and release the LT/DIAG button on the front of the DUC (TN683) circuit pack. The DE-A and DE-B LED's should illuminate on the circuit pack for about 5 seconds. After this period of time, verify that the DE-A, DE-B and DN11-SE LED's are all extinguished.

NOTE: The FAULT LED will flash momentarily.

4.48 Repeat the steps in Paragraph 4.4 for the next higher sequential DUC position using the associated cables and connectors. Repeat for both J1P040W-1 cabinets, if equipped.

NOTE: Each DUC position must be tested with the DUC Test Circuit Pack and associated cables and connectors. Some DUC positions may not contain a DUC (TN683) circuit pack; therefore, there is no need for performing the paragraphs to remove, run on-board diagnostics or replace the circuit pack.

4.5 Final Diagnostic Tests

4.51 Disconnect the cable CB70-0 or CB70-1 from the loop-around cable connector labeled DZ11-APC located in the area of the J1P040V-1, List 1 cabinet.

4.52 At the J1P040V-1, List 1 cabinet connect the following cable: If CPU0 is OOS, connect cable CB70-0 to OASYN 06-017. If CPU1 is OOS, connect cable CB70-1 to OASYN 10-033. The triangle indicator on the connector should be on the bottom as it plugs in.

4.53 Select the "async.dsif" diagnostic to be run in the "q" mode for multiplexor 00 only. Also select the "d" and "p" options.

Example: async.dsif -dp oo oo

NOTE: On growth systems, request the TELCo to execute the diagnostic program.

4.54 Verify that the diagnostic program passes. If it fails check the reconnection of cable CB70-0 or CB70-1. The triangle indicator on the connector should be on the bottom as it plugs in.

5. CABLE CONNECTIONS TO J1P040D-1 AND J1P040V-1

5.1 Data Channel Connections to J1P040V-1

5.11 Refer to TELCo provided information giving the AMARC channel assignments for synchronous channels. Connect assigned synchronous channel (APC) cables to the J1P040V-1 list 1 and (if provided) list 2 cabinet consistent with ED5P285-13. Unassigned synchronous channel cables should be left unconnected at the J1P040V cabinet(s).

5.2 Dial back-up cable connections to J1P040D-1 and J1P040V-1

5.21 Again referring to TELCo provided channel assignment information and consistent with ED5P285-13 connect ACU (DUC) cables for synchronous channel dial-backup to the J1P040D-1 and (if provided) J1P040V-1 list 2 cabinets. Unassigned DUC cables should remain unconnected at either the J1P040D-1 or J1P040V-1 list 2 cabinets.

5.3 Alarm Interface Cable Connection

5.31 Connect cable labeled "CB253 CONT 16-072" to location 16-072 in the J1P040D-1 cabinet.

5.32 Connect cable labeled "CB254 CONT 16-064" to location 16-064 in the J1P040D-1 cabinet if this cable is provided.

5.4 Alarm Tests

5.41 If this is a new installation, load the test program as indicated in Handbook 59 Section 204H Paragraph 5. Set the switch register on one of the CPU's to octal 20 and on the other CPU to octal 40. Retire any alarms.

NOTE 1: Do not do the above procedure for growth installations.

NOTE 2: The test program may still be loaded from previous testing.

5.42 Insert an operated fuse into either the +12v or -12v fuse holder associated with one of the APC positions in the J1P040W-1, List 1 cabinet.

5.43 An "Auxiliary Major" alarm should be indicated on the Main Alarm Control and Display Panel.

5.44 Remove the operated fuse and retire the alarm at the Main Alarm Control and Display Panel.

5.45 Repeat the procedures in Paragraph 5.42 through Paragraph 5.44 using the J1P040W-1, List 2 cabinet, if provided.

Arrowed lines indicate new or changed information.

Manager, Product Engineering
Control Center

Reason for Reissue:
To include UIS information.