

AMARS  
NO. 1A AUTOMATIC MESSAGE ACCOUNTING AND RECORDING CENTER  
(NO. 1A AMARC)  
GENERIC 2 TO GENERIC 3 RETROFIT PROCEDURE  
(GENERIC 3 DIAGNOSTIC TESTING AND VALIDATION)

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| 1. <u>GENERAL INFORMATION</u>   | 1.03 | The new DEC peripheral equipment associated with the Generic 3 configuration must be installed and tested by DEC or maintenance personnel prior to the start of this handbook section. The new peripheral equipment consists of the following designations:<br>1 DZ11B-TTY, 0 DZ11B-TTY, 0 DR11C-SA, 1 DR11C-SA, DR11C-TTY and all new optional DN11-DA's, if any.   |
| 1.01 The procedures in Handbook 59, Sections 214A and 214B must be completed prior to starting the tests in this handbook section.  |      |  |
| 1.02 This procedure will perform the following:   |      |  |
| 1.021 Diagnostics will be run on both sides of the Generic 3 (Phase III) equipment.   |      | NOTE: The device addresses, vector addresses and BR levels are listed in Handbook 59, Section 203A, Table A, and SD-5P006-01.  |
| 1.022 One of the processors will be running ACTIVE in a No. 1A AMARC Phase II (Generic 2) configuration while the other processor will be running utilizing its corresponding equipment in the new Generic 3 equipment. | 1.04 | Should troubles be encountered on the Generic 2 side while performing the procedures in this handbook section and a request has been made by the Telco to return the Generic 3 side to a Generic 2 configuration, immediately stop any further testing. If trouble occurs before Paragraph 9, execute the steps in Paragraph 9. If trouble occurs after Paragraph 9, proceed to Handbook 59, Section 214D. |
| 1.023 A program patch(s) will be inserted on the Generic 3 side such that dual comparison tapes can be written for the RAO.   |      |  |
| NOTE: Write the dual tapes during non-busy periods to avoid possible Generic 2/Generic 3 synchronization problems.  |      |  |

- 1.05 This handbook section was written for a fully equipped No. 1A AMARC Phase II (Generic 2). If not fully equipped, this handbook section must be modified accordingly.
- 1.06 Cabling
- 1.061 In connecting a cable to the male connector on a DEC circuit board, the triangle on the cable (female) connector should be inserted to mate with the "A" designation on the circuit board.
- 1.062 In connecting a cable to the male connector on the transition panel, the triangle on the cable (female) connector should be inserted to mate with the triangle designation stamped on the panel.
- 1.063 When connecting cables to the backplane, the triangle should always be on the bottom.
- 1.064 When connecting cables to the ACU interface test connectors of the ITE-8900, the triangles should mate.
- 1.07 Tapes will be removed from the No. 1A AMARC system during the testing in this section. These tapes may contain BILLING DATA. Turn these tapes over to the Telco or label, remove the 'write enable ring' and store in the appropriate storage location.
- 1.08 At the conclusion of this handbook section, the system will be writing dual comparison tapes. One tape will be generated on the Generic 2 side and the other tape will be generated on the Generic 3 side. After sufficient data has been collected (determined by the Telco) the Telco will request Western Electric to restore the system to a duplex Generic 2 configuration while the RAO examines the tapes. Handbook 59, Section 214D will be used to return to a duplex Generic 2 configuration.
- 1.09 Paragraph 1 through and including paragraph 3.11 in PA-5P355-01 should be performed by the TELCO prior to the start of the tests in Handbook 59, Section 214C. At the end of paragraph 3.11 in the PA, the tape should be removed and saved for later use during the testing in Handbook 59, Section 214C.
- 1.10 Incorrect responses to the following tests, when the generic program is executing, can be examined by referring to Input and Output Manuals (IM/OH) for the appropriate generic program issue.
- 1.11 System grounding straps should be provided per Note 112 SD-5P006-01, Issue 8A or later (LDI SD-5P006-01, 4J).
- 1.12 Read and be familiar with this entire procedure before attempting the tests in this Handbook section also, have on hand Handbook 59, Section 214D.
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 executing the tests in this Handbook Section.
3. TEST EQUIPMENT
- 3.1 One ITE-5632 digital multimeter (or equivalent).
- 3.2 One AMARC Phase 2 to Phase 3 conversion kit, TH-405-000 (transition kit).
- 3.3 One ITE-8900 Data Set, Flexport and ACU interface loop-around cable kit.
- 3.4 One ITE-5237B Oscilloscope (or equivalent)
- 3.5 SPP-832 Spare Parts Package for Phase III/Generic 3
- 3.6 Manuals and Documents
- 3.61 Input and Output manuals, IM/OH, for the associated Generic 2 and Generic 3 program issues.
- 3.62 The PK document (load map) for the associated Generic 3 program issue.
- 3.63 PA-5P355-01
- 3.7 One ITE-9169B Test Cord (clip lead)
- 3.8 Magnetic Tapes and Disk Packs
- 3.81 Clean IBM standard label tape(s) (1600BPI, labels written in EBCDIC code) for use in recording Generic 3 ANA data. Also, clean blank magnetic tapes (1600BPI) required for Generic 2 ANA data. All ANA tapes are to be obtained from the TELCO. Several of these tapes will be required. Tapes will be required for recording billing data and also for the writing of the dual comparison tapes.

- 3.82 One preliminary MPD tape produced by the procedure PCS-5P355-02, part 1.
- 3.83 One Generic 3 Program Tape (TP-5P355-01)
- 3.84 One DIAGNOSTIC PROGRAM Tape (TP-5P355-02).
- 3.85 One SACOPY PROGRAM Tape (TP-5P355-03).
- 3.86 One SACOPY AMA DATA Tape (TP-5P355-04).
- 3.87 One DEC formatted RPO6 disk pack for Generic 3, AMA data, if different than the Generic 2 AMA disk pack. (Determined by the TELCO)
- 4. GENERIC 3 DIAGNOSTIC SET-UP ON CPUO SIDE
  - 4.1 Initial Status
    - 4.11 Request the Telco craft personnel to:
      - 4.111 Inhibit the functional teletype feature, if enabled.
      - 4.112 Configure the system such that CPU1 is ACTIVE and CPUO is OOS, if not already in that configuration.
      - 4.113 Remove the AMA billing tape from CPUO, if not already removed.  
  
NOTE: May contain billing data.
      - 4.114 Remove the PTP on CPUO, if not already removed.
      - 4.115 Depress the HALT key on CPUO.
      - 4.116 DEC isolate CPUO using the B cabinet isolation panel.

- 4.117 Remove the PTP on CPU1, if not already removed.
- 4.118 Turn power off to CPUO.
- 4.119 Input the following on TTY-1 to monitor each of the five trouble conditions, 1 through 5:  
  
INPUT: MON TBL X!  
where X = 1 through 5
- 4.2 CPUO Phase III Diagnostic Console Connections
  - 4.21 Disconnect the M6AS cable labeled "to J9 connector 230A CPUO" from connector "A" on the SH11 in the J1P040D cabinet OPWR/FLT unit location 02-090. Into this "A" connector on the SH11 circuit pack, connect cable CB23.  
  
NOTE: Cable CB23 was disconnected from the "A" connector on the SH11 circuit pack in the J1P040D cabinet OPWR/FLT unit location 02-098 in Handbook 59, Section 214A.
  - 4.22 Disconnect the BC05C-50 cable from the M25A cable, labeled "to J7 connector 230A CPUO," that is located in the area of the J1P040D cabinet ALM unit. Connect this BC05C-50 cable to the J1P040D cabinet ALM unit location 02-016.
- 4.3 Cable connections within the DEC equipment
  - 4.31 This procedure should be performed by DEC or maintenance personnel.
  - 4.32 Connect the cables listed in Table 1 to the associated DEC peripheral equipment in CPUO.

TABLE 1

| DESIG. | GROUP | CONNECTED TO      | STAMPED                |
|--------|-------|-------------------|------------------------|
| CB30-X | 52    | DR11C-TTY CONN. 2 | CPUX DR11C-TTY CONN. 2 |
| CB31-X | 52    | DR11C-TTY CONN. 1 | CPUX DR11C-TTY CONN. 1 |
| CB35-X | 52    | ODR11C-SA CONN. 2 | CPUX ODR11C-SA CONN. 2 |
| CB36-X | 52    | ODR11C-SA CONN. 1 | CPUX ODR11C-SA CONN. 1 |
| CB37-X | 52    | IDR11C-SA CONN. 2 | CPUX IDR11C-SA CONN. 2 |
| CB38-X | 52    | IDR11C-SA CONN. 1 | CPUX IDR11C-SA CONN. 1 |
| CB60-X | 68    | ODZ11B-TTY        | CPUX ODZ11B-TTY        |
| CB61-X | 68    | IDZ11B-TTY        | CPUX IDZ11B-TTY        |

where X = CPU # under test

NOTE: These cables were run to the general area of the DEC peripheral equipment in Handbook 59, Section 214B.

#### 4.4 Transition Panel Connections for CPUO

##### 4.41 J1P040K cabinet CPUO

4.411 Disconnect the Generic 2 Phase II cables from the back side of the panel as listed in Table 2.

TABLE 2

| Cable Designation | Panel Connector Desig. |
|-------------------|------------------------|
| CA30-X            | CA30-X J5B 00DZ11B     |
| CA31-X            | CA31-X J6B 01DZ11B     |
| CA32-X            | CA32-X J7B 02DZ11B     |
| CA33-X            | CA33-X J8B 03DZ11B     |
| CA36-X            | CA36-X J3B 00DN11DA    |
| CA37-X            | CA37-X J4B 01DN11DA    |
| CA46-X            | CA46-X J3D 02DN11DA    |
| CA47-X            | CA47-X J4D 03DN11DA    |

where X = CPU # under test

4.412 Connect the Generic 3 Phase III cables to the back side of the panel as listed in Table 3.

TABLE 3

| Cable Designation   | Panel Connector Desig. |
|---------------------|------------------------|
| CB70-X CPUX 00DZ11B | CA30-X J5B 00DZ11B     |
| CB71-X CPUX 01DZ11B | CA31-X J6B 01DZ11B     |
| CP72-X CPUX 02DZ11B | CA32-X J7B 02DZ11B     |
| CP73-X CPUX 03DZ11B | CA33-X J8B 03DZ11B     |

where X = CPU # under test

##### 4.42 J1P040L Cabinet CPUO

4.421 Disconnect the Generic 2 Phase II cables from the back side of the panel as listed in Table 4.

TABLE 4

| Cable Designation | Panel Connector Desig. |
|-------------------|------------------------|
| CA40-X            | CA40-X J5B 04DZ11B     |
| CA41-X            | CA41-X J6B 05DZ11B     |
| CA42-X            | CA42-X J7B 06DZ11B     |
| CA43-X            | CA43-X J8B 07DZ11B     |
| CA56-X            | CA56-X J3D 04DN11DA    |
| CA57-X            | CA57-X J4D 05DN11DA    |
| CA50-X            | CA50-X J5B 10DZ11B     |
| CA51-X            | CA51-X J6B 11DZ11B     |
| CA52-X            | CA52-X J7B 12DZ11B     |
| CA53-X            | CA53-X J8B 13DZ11B     |

where X = CPU # under test

4.422 Connect the Generic 3 Phase III cables to the back side of the panel as listed in Table 5.

TABLE 5

| Cable Designation   | Panel Connector Desig. |
|---------------------|------------------------|
| CB74-X CPUX 04DZ11B | CA40-X J5B 04DZ11B     |
| CB75-X CPUX 05DZ11B | CA41-X J6B 05DZ11B     |
| CB76-X CPUX 06DZ11B | CA42-X J7B 06DZ11B     |
| CB77-X CPUX 07DZ11B | CA43-X J8B 07DZ11B     |
| CB78-X CPUX 10DZ11B | CA50-X J5B 10DZ11B     |
| CB79-X CPUX 11DZ11B | CA51-X J6B 11DZ11B     |
| CB80-X CPUX 12DZ11B | CA52-X J7B 12DZ11B     |
| CB81-X CPUX 13DZ11B | CA53-X J8B 13DZ11B     |

where X = CPU # under test

#### 4.5 Remove DR11 Shorting Plugs for CPUO

4.51 Disconnect the DR11 shorting plugs from the CONT unit locations 20-021 and 20-027 and return them to the transition kit.

4.52 Connect cable end of CB36-0 labeled "CONT 20-021" to the CONT unit location 20-021. This cable was routed to the area in HB 59, Section 214B.

4.53 Connect cable end of CB38-0 labeled "CONT 20-027" to the CONT unit location 20-027. This cable was routed to the area in HB 59, Section 214B.

#### 4.6 Restore Power and Isolate

4.61 Verify that CPUO has its 'HALT' key depressed.

4.62 Restore power to CPUO.

4.63 At the Main Alarm Control and Display Panel, place CPUO into the PROCESSOR ISOLATE state.

4.64 At the Main Alarm Control and Display Panel, verify that CPU1 side is not in any type of isolation state. There should be no red LED's illuminated above the isolation switch for CPU1 side. The CPU1 side should not be in the ISOLATION OVERRIDE state.

#### 5. RPO6 DISK PACK SET-UP FOR DIAGNOSTICS ON CPUO SIDE

5.1 Mount the RPO6 Disk Pack for Diagnostics on CPUO

5.11 If the disk pack that is mounted in the RPO6 disk drive on CPUO is the one to be used for diagnostics, proceed to Paragraph 5.2.

- 5.12 Remove the RPO6 disk pack from the disk drive on CPU0.
- 5.121 Depress the START/STOP switch on the disk drive to the STOP position.
- 5.122 When the 'DOOR LOCKED' lamp extinguishes, slide the door open.
- 5.123 Place the top portion of the disk pack cover over and onto the disk.
- 5.124 Turn the handle on the disk pack cover counter clockwise until clicking sounds can be heard.
- 5.125 Lift the disk pack straight up and out of the disk drive.
- 5.126 Install the bottom cover onto the disk pack and store the disk pack.
- NOTE: This disk pack will be reinstalled in the drive later in this Handbook section.
- 5.13 Mount the RPO6 disk pack for diagnostic use onto the disk drive on CPU0.
- 5.131 Remove the bottom portion of the disk pack cover.
- 5.132 Place the disk pack with the top portion of the disk pack cover into the disk drive.
- 5.133 Turn the handle on the disk pack cover clockwise until it stops. Do not over-tighten.
- 5.134 Lift the disk pack cover straight up and out of the disk drive.
- 5.135 Close the door securely on the disk drive.
- 5.2 Perform a lamp test at the disk drive
- 5.21 Depress the lamp test button located under the front display panel.
- 5.22 Observe that all disk drive lamps are lighted.
- 5.3 Disk Drive Control Functions
- 5.31 Depress the 'CONTROL A' switch to the 'CONTROL A' position. Observe that the 'CONTROL A' lamp is lighted.
- 5.32 Place the 'WRITE PROTECT' switch to the NON-WRITE PROTECT mode.
- 5.33 Ensure that lap plug 0 is installed in the disk drive on CPU0.
- 5.4 Start the Disk Drive on CPU0
- 5.41 Depress the START/STOP switch on the disk drive to the START position.
- 5.42 Observe that the START indicator and the DOOR LOCKED indicator are lighted and the disk pack starts to rotate.
- NOTE: The disk drive will not start if the door is not closed securely and the DOOR LOCKED lamp is not lighted.
- 5.5 Tape to Disk Transfer Program and Data
- 5.51 Mounting the SACOPY Program Tape (TP-5P355-03)
- 5.511 In order to protect the information stored on the tape, remove the plastic "write enable" ring on the spool. Depress the "Reset" key on tape unit 0.
- 5.512 Place the SACOPY program tape on the uppermost mount in tape unit 0 by:
1. Pulling the handle out on the mount;
  2. Placing the spool on the mount; and,
  3. Pushing the handle back in place.
- Verify tape is securely held. If not securely held, repeat mounting.
- 5.513 Unwinding sufficient slack, thread the tape through the guides and rollers, as indicated on the printed diagram on the tape drive unit, and onto the empty "take up" reel on the lower mount. Wind the tape around the take up reel only twice. Leave slack in tape after completing the threading.
- 5.514 After closing the tape unit door, depress the "LOAD" key. The tape should then wind forward (onto the take up reel) and then stop. "LOAD" lamp should come on. Repeat Paragraphs 5.512 through 5.514 if the above does not occur. Do not proceed unless the "LOAD" lamp is lit.
- 5.515 Depress the "ON LINE" key on tape unit 0. Do not continue unless the only two lights that are lit are ON LINE and LOAD.
- 5.52 Loading the SACOPY Program Tape
- 5.521 Set console switches on CU-0 to 17773030. Then depress LOAD ADDR key.

- 5.522 Set the SWR keys to zero - all down.
- 5.523 Place the ENABLE/HALT key to ENABLE.
- 5.524 Depress the START key. The magnetic tape should move forward and the message:

CORE MEMORY SIZE IS XXXK WORDS

is typed on the processor terminal. The tape then continues to move forward for a few seconds then rewinds.

NOTE: XXXK is the core memory size.

- 5.525 The following message will be printed on the processor terminal:

STAND ALONE COPY/VERIFY PROGRAM MODE:  
COPY, VRFY, OR VCOPY?

- 5.526 Remove the SACOPY program tape by depressing the 'RESET' key then the 'REWIND' key and then remove the tape from the tape drive.

- 5.53 Loading the DIAGNOSTIC PROGRAM Tape (TP-5P355-02)

- 5.531 Mount the DIAGNOSTIC PROGRAM tape onto tape unit 0 in the same manner as Paragraph 5.51.

- 5.532 At the TTY associated with CPU0:

TYPE: VCOPY (CR)  
RESPONSE: VERIFIED COPY  
FROM:  
TYPE: TMØ (CR)  
RESPONSE: TO:  
TYPE: HPØ (CR)

NOTE: (CR) means the carriage return key.

- 5.533 The DIAGNOSTIC PROGRAM tape will begin to be read. When the tape has completed being read, the tape will rewind. The tape will then be read a second time and will rewind. Total time for this complete process will be about 50 minutes. The following will be typed on the terminal during the process.

NO. OF BLOCKS: XXX  
NO BAD SECTORS ON HPØ  
VERIFY  
NO. OF BLOCKS: XXX  
NO BAD SECTORS ON HPØ  
NEXT COPY/VERIFY  
MODE: COPY, VRFY, OR VCOPY?

where: XXX = some numerical value.

- 5.534 Halt CU-0 by placing the HALT/ENABLE key to the HALT position.
- 5.535 Remove the DIAGNOSTIC PROGRAM tape from the tape drive by depressing the 'RESET' key then the 'REWIND' key and then remove the tape from the tape drive.

## 6. GENERIC 3 DIAGNOSTICS ON CPU0 SIDE

### 6.1 General

- 6.11 Paragraph 7 entitled 'General Procedure for Generic 3 Diagnostics' will be executed for testing the CPU0 side. When executing this procedure always use the TTY associated with CPU0 for inputting diagnostic information.

- 6.12 All inputs to the diagnostic programs must be entered in small letters, unless otherwise stated. Therefore, release the CAPS LOCK key on the TTY associated with CPU0.

NOTE: When the Generic program is executing, later in this handbook section, the CAPS LOCK key must be depressed.

### 6.2 Procedure

- 6.21 Proceed to execute the steps in Paragraph 7 using the TTY associated with CPU0.

## 7. GENERAL PROCEDURE FOR GENERIC 3 DIAGNOSTICS

### 7.1 General Description of Diagnostic

- 7.11 Once the diagnostics have been booted from disk, the operating system will instruct the user on the proper operation of each diagnostic test.

- 7.12 The operating system will first instruct the user to input the system configuration information, e.g. multiplexor numbers. Once this information has been entered, it will be stored on disk such that these parameters need not be entered a second time. These parameters may be changed by the user, if necessary.

- 7.13 The operating system will provide instructions to the user if improper inputs are entered.

- 7.14 The diagnostic programs require that the 'WRITE PROTECT' switch on the disk drive be in the NON-WRITE PROTECT position.

- 7.15 NOTE: Bit 4 may fail in the tests 'cntl.normal' and 'cntl.emergency'. This does not indicate a hardware trouble.
- 7.2 Boot the Diagnostics
- 7.21 Set the console switches on the CPU under test to 17773000. Then depress the LOAD ADDR key.
- 7.22 Set the SWR keys to zero, all down.
- 7.23 Place the ENABLE/HALT key to enable.
- 7.24 Depress the START key. A response will be typed on the System Console; a group of numbers followed by a '\$'.
- 7.25 Input the following in capital letters:
- INPUT: DBO (Return key)  
RESPONSE: hpboot:hpboot  
hpboot2:
- NOTE: All other inputs will be made in small letters.
- 7.26 INPUT: mmttest (Return key)
- A response should be received indicating that the memory management test passed.
- INPUT: unix.diag (Return key)
- A response will be printed indicating that the No. 1A AMARC diagnostics have been selected.
- 7.27 Input the following for the run level request:
- INPUT: 7 (Return key)  
RESPONSE: INIT:SINGLE USER MODE  
PASSWORD:
- 7.28 Input the following for the password request. (The characters will not be echoed back on this input.)
- INPUT: amarc (Return key)  
RESPONSE: #
- 7.29 Input the following to select the diagnostics.
- INPUT: diagnostics (Return key)
- A response will be printed indicating that the diagnostics were requested with a list of all available diagnostic programs. The operating system will enter into a conversational mode of operation. All necessary run information will be printed on the TTY.
- 7.3 Configure the System
- 7.31 System configuration information need only be entered once, since the information is stored on disk after it is entered. Therefore, Paragraph 7.31 through Paragraph 7.36 need not be repeated when running diagnostics on the CPU1 side.
- 7.32 Input the following:
- INPUT: examples
- A response will be printed of examples for testing in the 'q' mode of operation. Save this printout for reference as an aid in testing.
- 7.33 Select the 'init' mode of operation per the instructions printed on the TTY.
- 7.34 Select all available diagnostic programs.
- 7.35 Enter all appropriate data as requested by the operating system for your particular AMARC installation: e.g., the number of multiplexors may vary between different AMARC installations.
- NOTE: Select the "p" option when requested. Do not select the "l" option.
- 7.36 A message will be printed:
- "Do you want to execute the diagnostics program(s) you selected now?"
- To start the execution of the diagnostics, input a "y" for yes then proceed to Paragraph 7.42.
- 7.4 STANDARD DIAGNOSTICS
- 7.41 To start the execution of all available diagnostics enter the "e" mode of operation by typing in an "e" on the system console.
- 7.42 The diagnostic programs will now be executing. Follow all instructions that are printed on the TTY. Examine the test result printouts. Verify that the actual data is equal to the expected data, where applicable continue with the following procedure if you pass or fail any diagnostic test.
- 7.43 Input 'n' for no to the following messages typed on the TTY:
- "Do you want to execute the same diagnostic again?" and,
- "Do you want to select any other diagnostic program?"

- 7.44 Do not input "stop" as a response to the following message:
- RESPONSE: "If you want to terminate the diagnostics type stop."
- 7.45 If any of the diagnostic tests failed, reexecute the failing diagnostic in the "q" mode of operation and select the appropriate options. For information on the "q" mode of operation, refer to the printout obtained in Paragraph 7.32 or type in "examples".
- 7.5 LAMP AND ALARM TESTS
- 7.51 General
- 7.511 The "display.panel" test contained within the "alarm.control" diagnostic will be used to check for proper visual and/or audible alarm functions on the Auxiliary Alarm and Display Panel, TASC interface, Room alarms and Building alarms. This diagnostic test will also be used to test the alarm cut-off features. This diagnostic test will be executed as many times as necessary to complete the tests in this section.
- NOTE: The Main Alarm Control and Display panel was tested in Paragraph 7.42.
- 7.512 It is the responsibility of the Telco to provide cabling and equipment for the TASC Interface, Room and Building alarms. If the Telco has provided these facilities, responses at these facilities must be verified. If the Telco has not provided these facilities, contact closures must be verified, during testing, at the associated terminals listed in Tables 6 through 8.
- 7.513 It is the responsibility of the Telco to provide cabling to the Auxiliary Alarm and Display Panel (if provided).
- 7.514 Audible and visual alarms will be activated during tests in this section. The minor audible is a self-retiring three second continuous burst of sound. The major audible has a regular pattern of a single burst of sound followed by a quiet period. The critical audible has a regular pattern of two bursts of sound followed by a silent period.
- 7.6 Auxiliary Display Panel Tests (if provided)
- 7.61 The side under test should be in the INTERFACE ISOLATE state. Depress the TEST LAMP & AUDIBLE button on the Auxiliary Alarm and Display Panel (if provided). All LED's should illuminate and the critical audible should sound at the panel. All 'FAULT' lamps on all circuit packs with 'FAULT' lamps should also illuminate.
- 7.62 Start the execution of the "display.panel" test contained within the "alarm.control" diagnostic using the "q" mode of operation. Perform this test using the Auxiliary Alarm and Display Panel (if provided). Follow all instructions as printed on the TTY.
- 7.7 Room and Building Alarm Tests
- 7.71 General
- 7.711 If Room and Building Alarm facilities have been provided, verify the proper operation of these alarms during the tests.
- 7.712 If Room and Building Alarm facilities have not been provided, verify the appropriate contact closures, as listed in Table 6, during the tests.
- 7.72 Procedure
- 7.721 Execute the "display.panel" test using the "q" mode of operation as many times as is necessary until all contact closures or Room and Building alarms have been tested.
- NOTE: If verifying contact closures, use the step by step option for the diagnostic (i.e. display.panel -X). (Be sure to use a capital 'X'.)
- 7.8 TASC Interface Tests
- 7.81 General
- 7.811 Before starting the test, all alarm cut-off's should be activated. (i.e., The amber LED's above the alarm cutoff buttons should be illuminated.) Operate the appropriate alarm cut-off button, if necessary, to obtain this state.

7.812 All LED and alarm indications, as seen on the Main Alarm Control and Display Panel, are sent to TASC. Contact closures must be verified, as listed in Table 7, during the tests, if the TASC interface facilities are not provided. If the TASC interface facilities are provided, proper system status and alarm conditions must be verified at the TASC Interface facility.

7.813 The alarm cut-off functions will be tested during the tests from the TASC interface facility, if provided. If the TASC interface facility has not been provided, the alarm cut-off functions will be tested using the ITE-9169B test cord (clip lead) as listed in Table 8.

NOTE: Only momentary contact, using the ITE-9169B, is needed to either activate or deactivate the alarm cut-off function.

#### 7.82 Procedure

7.821 Execute the "display.panel" test using the 'q' mode of operation as many times as is necessary until all contact closures or TASC features have been tested.

NOTE: If verifying contact closures, use the step by step option for the diagnostic (i.e. display.panel -X). (Be sure to use a capital 'X'.)

#### 7.9 Loop-Around Tests

##### 7.91 ACU Interface Loop-Around Tests Preliminary

7.911 The DN11 cables for the side under test must be connected to the Western Cabinet for this test. The other end of the DN11 cable will temporarily be run to the J1P040V-1, List 1 Cabinet. Connect and route cables as listed in Table 9 if testing from CPU0. Connect and route cables as listed in Table 10 if testing from CPU1.

7.912 All the loop-around tests must be executed with the CPU, presently being used for testing, in the 'ISOLATION OVERRIDE' state. Place the processor that is to run diagnostics into the 'ISOLATION OVERRIDE' state from the Main Alarm Control and Display Panel. Verify that all TN102 circuit packs in

the Western Cabinets associated with the processor to run diagnostics are indicating an Active State (i.e. green LED's illuminated).

7.913 The "async.dsif" diagnostic will be used to perform the ACU Interface Loop-Around tests. This diagnostic will be run in the 'q' mode of operation specifying only multiplexor 00.

7.914 The ACU Interface Loop-Around cables from the ITE-8900 package consists of three items.

(a) The first item has three connectors, one 50 pin connector and two 40 pin connectors. If testing from CPU0, the cable end designated as CB70-0, OASYN, 06-017 will be plugged into the 50 pin connector. If testing from CPU1, the cable end designated as CB70-1, OASYN, 10-033 will be plugged into the 50 pin connector. The cable plugged into the 50 pin connector will remain in place until all ACU interface loop-around tests have been completed from one processor. The cables to be plugged into the 40 pin connectors are listed in Table 11 and are dependent on the test number. Connect the appropriate cable into the 50 pin connector.

NOTE: The cable ends to be plugged into the 40 pin connectors were temporarily routed to the J1P040V-1 List 1 Cabinet in Paragraph 7.91.

(b) The other two items consist of EIA connectors wired internally to produce a loop-around. The designation on these connectors are "ACU (2N-2)" and "ACU (2N-1)". These connectors are plugged into the appropriate M25A cable for the ACU at the Data Set cabinet as listed in Table 11, dependent on the test number.

##### 7.92 Execution of ACU Interface Loop-Around Test

7.921 Refer to Table 11. Connect the appropriate cables into the 40 pin connectors on the ACU interface loop-around for the test number to be executed. Connect the ACU (2N-2) and ACU (2N-1) connectors to the appropriate cables for the test number to be executed.

NOTE: Start with Test Number 1.

7.922 Select the "async.dsif" diagnostic to be run in the 'q' mode for multiplexor 00 only. Also select the 'd' and 'p' options (e.g. async.dsif -dp 00 00).

7.923 This test requires that the processor, presently used for testing, be in the ISOLATION OVERRIDE state. A message will be printed indicating that the processor must be in the isolation state. Respond to this message by indicating that the processor is in the isolation state, even though the processor is in the ISOLATION OVERRIDE state.

7.924 The diagnostic program will now execute. Examine the printout. Continue with the following procedure if you pass or fail the diagnostic test.

7.925 If the diagnostic failed, refer to the DZ11 manual for detailed trouble analysis and reexecute the diagnostic program for the same test number starting at Paragraph 7.922. If the diagnostic passed, reexecute the diagnostic program for the next test number starting at Paragraph 7.921 until all tests have passed.

#### 7.93 End of ACU Loop-Around Test

7.931 Remove the two DN11 40 pin connectors from the ACU interface loop-around. Remove the ACU (2N-2) and ACU (2N-1) connectors. These connectors were left in place from the last test.

7.932 Remove CB70-0 or CB70-1 from the ACU interface loop-around. If testing was being done from CPU0, connect CB70-0 to OASYN Location 06-017 in the J1P040V-1, List 1 cabinet. If testing was being done from CPU1, connect CB70-1 to OASYN Location 10-033 in the J1P040V-1, List 1 cabinet.

7.933 Verify proper reconnection of CB70-0 or CB70-1 cable.

7.934 Place the processor running diagnostics into the 'PROCESSOR ISOLATE' state from the Main Alarm Control and Display Panel.

NOTE: Release from the Isolation Override state, first.

7.935 Reexecute the "async.dsif" diagnostic program for multiplexor 00 in the same manner as Paragraph 7.922.

7.936 Restore the processor running diagnostics to the ISOLATION OVERRIDE state from the Main Alarm Control and Display Panel in the same manner as Paragraph 7.912 (including verification of TN102 status).

#### 7.94 Data Set Loop-Around Tests

7.941 General - The data set loop-around tests will utilize the data set loop-around cables contained in the ITE-8900 package.

NOTE: The LED in each connector should illuminate as the connector is inserted.

The "async.dsif" diagnostic program will be executed with all associated cabinets in the ISOLATION OVERRIDE state. One multiplexor will be tested at a time.

7.942 Install the data set loop-around cables contained in the ITE-8900 package as listed in Table 12 for the first multiplexor to the M25A cable for the channel at the Data Set Cabinet.

7.943 Select the "async.dsif" diagnostic program to be executed in 'q' mode on the first multiplexor (use options 'd' and 'p' (e.g., async.dsif -dp 00 00)).

7.944 At the start of the diagnostic program, the following message may be printed:

"Is the PROCESSOR ISOLATE light (red LED) on?"

Disregard the printout.

7.945 Verify that the processor is in the ISOLATION OVERRIDE state. Reply by inputting a 'y'.

7.946 If the multiplexor tests fail, refer to the detailed printouts and the DZ11 manuals. Also refer to the SD for cable and circuit pack information.

7.947 After the multiplexor tests pass, remove the ITE-8900 cables.

7.948 Refer to Table 12. Reconnect the ITE-8900 cables for the next multiplexor to be tested. Reexecute the "async.dsif" diagnostics for the associated multiplexor. Repeat this procedure until all multiplexors have been tested (e.g., if testing multiplexor 01, input:  
async.dsif -dp 01 01).

7.95 Flexport Loop-Around Tests

- 7.951 General - The Flexport loop-around tests will utilize the Flexport loop-around cables contained in the ITE-8900 package.

NOTE 1: The clip lead on the Flexport loop-around cables needs to be connected to the +12V bug.

NOTE 2: The LED in each connector should illuminate as the connector is inserted.

The "flexport" diagnostic program will be executed with all associated cabinets in the ISOLATION OVERRIDE state. Flexports 0-7 will be tested first, followed by Flexports 10-17.

- 7.952 Disconnect cables CB21 and CB22 from equipment Locations 02-016 and 14-016, respectively, in the V0 cabinet.

- 7.953 Connect the Flexport loop-around cables for Flexports 0-7 (refer to Table 13).

- 7.954 Select the "flexport" diagnostic to test Flexports 0-7 in the 'q' mode of operation selecting 'd' and 'p' options (e.g., flexport -dp 00 00).

NOTE 1: At the start of the diagnostic programs, disregard any printout indicating that the processor must be in the "PROCESSOR ISOLATE" state.

NOTE 2: Verify that the processor is in the ISOLATION OVERRIDE state. Reply by inputting a "y".

NOTE 3: If any diagnostic program fails, refer to the detailed printout and the DZ11 and DR11 manuals. Also refer to the SD for cable and circuit pack information. Then reexecute this paragraph again.

- 7.955 After the diagnostic tests pass, remove the Flexport loop-around cables and reconnect Cables CB21 and CB22 to equipment Locations 02-016 and 14-016, respectively, in the V0 cabinet. Then, connect the Flexport loop-around cables for Flexports 10-17 (refer to Table 13).

- 7.956 Select the "flexport" diagnostic to test Flexports 10-17 in the 'q' mode of operation selecting the 'd' and 'p' options (e.g., flexport -dp 01 01).

NOTE 1: Disregard any printout indicating that the processor must be in the "PROCESSOR ISOLATE" state.

NOTE 2: Verify that the processor is in the ISOLATION OVERRIDE state. Reply by inputting a "y", if necessary.

NOTE 3: If any diagnostic program fails, refer to the detailed printout and the DZ11 and DR11 manuals. Also refer to the SD for cable and circuit pack information. Then, reexecute this paragraph.

- 7.957 After the diagnostic tests pass, remove the Flexport loop-around cables. Also input the following messages:

```
mon
stop
sync
```

- 7.958 Place the processor that is running diagnostics into the PROCESSOR ISOLATION state using the Main Alarm Control and Display Panel.

Halt the processor that is running diagnostics by placing its HALT/ENABLE key to HALT, then depress the START key. Do not release the HALT key.

- 7.959 Restore the CAPS LOCK key on the TTY that was used for testing.

8. ROUTE DN11 CABLES FOR CPU08.1 General

- 8.11 Route the DN11 cables for the system just tested to the area of the equipment listed in Table 14. Cables that are going to the panels should be routed up the left side of the cabinet as viewed from the rear. Do not connect any DN11 cables to either of the panels.

- 8.12 Request DEC or maintenance personnel to install all DN11 cables for CPU0 that were not routed to the panels. The peripheral designation is stamped on the cable designation strips.

- 8.13 Disengage the TN102 circuit packs associated with CPU0 only, as listed under 'TN102 Under Test' and 'LOC. if CPU0' as listed in Table 11. Leave these TN102 circuit packs disengaged until instructed to reengage.

## 9. RESTORE CPUO TO GENERIC 2 CONFIGURATION

### 9.1 General

9.11 The tests in this paragraph are only executed when running tests on the CPUO side.

### 9.2 Restore Panel Cables for Generic 2

9.21 Disconnect the Generic 3 cables from the transition panels on CPUO J1P040K and J1P046 Cabinets as listed in Tables 3 and 5, respectively.

9.22 Connect the Generic 2 cables to the transition panels on CPUO J1P040K and J1P040L cabinets as listed in Tables 2 and 4, respectively.

### 9.3 Restore TTYO for Generic 2

9.31 Disconnect the DEC cable part # BC05C-50 from the ALM unit location 02-016. Reconnect this cable into the M25A cable labeled 'to J7 connector 230A CPUO' that was disconnected in paragraph 4.22.

9.32 Disconnect cable CB23 from the "A" connector on the SH11 circuit pack in the OPHR/FLT unit location 02-090.

9.33 Reconnect the M6AS cable labeled "to J9 connector 230A CPUO" to the "A" connector on the SH11 circuit pack in the OPHR/FLT unit location 02-090.

### 9.4 Restore CPUO AMA DISK

9.41 Remove the RPO6 disk pack for diagnostics from the CPUO RPO6 drive using the same method as in Paragraph 5.12.

9.42 Reinstall the RPO6 AMA disk pack for CPUO using the same method as in Paragraphs 5.13 through 5.33.

### 9.5 Restore CPUO

9.51 Release the HALT key on CPUO.

9.52 Using the Phase II 'B' cabinet, place CPUO into the NORMAL state (non-isolated).

9.53 Request the Telco craft personnel to restore CPUO to standby. The procedure is as follows:

- A) UPD MEM PRG on TTY1.
- B) TEST DET 3 on TTYO.
- C) UPD MEM NPD on TTY1.
- D) TEST DET 4 on TTYO.
- E) TEST DET 6 on TTYO and TTY1. Also, the CRC values should match on both sides.
- F) Mount a clean AMA TAPE on CPUO.
- G) INIT SYS on TTYO.
- H) RST TAPE on TTYO.

9.54 Request the Telco craft personnel to switch systems making CPUO Active and CPU1 Standby.

## 10. GENERIC 3 DIAGNOSTIC SET-UP ON CPU1 SIDE

### 10.1 Initial Status

10.11 Request the Telco craft personnel to:

10.111 Inhibit the functional teletype feature if enabled.

10.112 Configure the system such that CPUO is ACTIVE and CPU1 is OOS.

10.113 Remove the AMA billing tape from CPU1. Note: Contains billing data.

10.114 Remove the PTP on CPU1, if not already removed.

10.115 Depress the HALT key on CPU1.

10.116 DEC isolate CPU1 using the B cabinet isolation panel.

10.117 Remove the PTP on CPUO, if not already removed.

10.118 Turn power off to CPU1.

### 10.2 CPU1 Ø3 Diagnostic Console Connections

10.21 Disconnect the M6AS cable labeled "to J9 connector 230A CPU1" from connector "A" on the SH11 circuit pack in the OPHR/FLT unit location 02-098. Into this "A" connector on the SH11 circuit pack, connect cable CB23.

10.22 Disconnect the BC05C-50 cable from the M25A cable, labeled "to J7 connector 230A CPU1," that is located in the area of the J1P040D cabinet ALM unit. Connect this BC05C-50 cable to the J1P040D cabinet ALM unit location 02-080.

10.3 Transition Panel Connections for CPU1

## 10.31 JIP040K cabinet CPU1

10.311 Disconnect the Generic 2 Phase II cables from the back side of the panel as listed in Table 2.

10.312 Connect the Generic 3 Phase III cables to the back side of the panel as listed in Table 3.

## 10.32 JIP040L Cabinet CPU1

10.321 Disconnect the Generic 2 Phase II cables from the back side of the panel as listed in Table 4.

10.322 Connect the Generic 3 Phase III cables to the back side of the panel as listed in Table 5.

10.4 DR11C Cable Connections CPU1

10.41 Disconnect the DR11 shorting plugs from the CONT unit locations 20-089 and 20-095 and return them to the transition kit.

10.42 Connect cable end of CB36-1 labeled "CONT 20-089" to the CONT unit location 20-089. This cable end was routed to the area of the CONT unit location 20-089 in HB 59, Section 214B.

10.43 Connect cable end of CB38-1 labeled "CONT 20-095" to the CONT unit location 20-095. This cable end was routed to the area of the CONT unit location 20-095 in HB 59, Section 214B.

## 10.5 Restore Power and Isolate

10.51 Verify that CPU1 has its 'HALT' key depressed.

10.52 Restore power to CPU1

10.53 At the Main Alarm Control and Display Panel, place CPU1 into the PROCESSOR ISOLATE state.

10.54 At the Main Alarm Control and Display Panel, verify that CPU0 side is not in any type of isolation state. There should be no red LED's illuminated above the isolation switch for CPU0 side. The CPU0 side should not be in the ISOLATION OVERRIDE state.

11. RPO6 DISK PACK SET-UP FOR DIAGNOSTICS ON CPU1 SIDE

11.1 Remove the RPO6 disk pack from CPU1. Install the RPO6 disk pack for Generic 3 Diagnostics in the RPO6 drive on CPU1. Perform a lamp test on the drive. Start the disk drive on CPU1. Refer to Paragraphs 5.1 through 5.3, if necessary.

NOTE: The SACOPY program tape and SACOPY DIAGNOSTIC data tape need not be reentered for the disk.

12. GENERIC 3 DIAGNOSTICS ON CPU1 SIDE12.1 General

12.11 Paragraph 7 entitled 'General Procedure for Generic 3 Diagnostics' will be executed for testing the CPU1 side. When executing this Procedure always use the TTY associated with CPU1, for inputting diagnostic information.

12.12 All inputs to the diagnostic programs must be entered in small letters, unless otherwise stated. Therefore, release the CAPS LOCK key on the TTY associated with CPU1.

NOTE: When the Generic program is executing, later in this handbook section, the CAPS LOCK key must be depressed.

12.2 Procedure

12.21 Proceed to execute the steps in Paragraph 7 using the TTY associated with CPU1.

13. ROUTE DN11 CABLES FOR CPU1

13.1 Route the DN11 cables for CPU1 to the area of the equipment listed in Table 14. Cables that are going to the panels should be routed up the left side of the cabinet as viewed from the rear. Do not connect any DN11 cables to either of the panels.

13.2 Request DEC or maintenance personnel to install all DN11 cables for CPU1 that were not routed to the panels. The peripheral designation is stamped on the cable designation strip.

13.3 Reengage all TN102 circuit packs disengaged in Paragraph 8.13.

14. DISK INITIALIZATION AND LOADING THE GENERIC 3 PROGRAM
- 14.1 Remove and store the RPO6 Diagnostic disk pack from the RPO6 disk drive on side 1. Install the RPO6 disk pack for Generic 3 AMA data into the RPO6 disk drive (see IMPORTANT NOTE below). Perform a lamp test on the drive. Start the disk drive on CPU1. Refer to Paragraphs 5.1 through 5.3, if necessary.
- IMPORTANT NOTE: The disk pack used for Generic 3 AMA data may be a different one than the disk pack used for Generic 2 AMA data. This is a decision for the Telco. Be sure to have the proper disk pack installed before proceeding. Do NOT use a disk pack that contains Generic 2 AMA billing data; the data must be removed first, else, it will be lost and/or cause Generic 3 problems.
- 14.2 Mount and load the SACOPY PROGRAM TAPE (TP-5P355-03) onto CPU1. Refer to Paragraphs 5.51 through 5.526, if necessary.
- 14.3 Loading the SACOPY AMA DATA TAPE
- 14.31 Mount the SACOPY AMA DATA TAPE (TP-5P355-04) onto CPU1. Refer to Paragraph 5.51, if necessary.
- 14.32 AT TTY1:
- ```

TYPE:      VCOPY (CR)
RESPONSE:  VERIFIED COPY
           FROM:
TYPE:      TMØ (CR)
RESPONSE:  TO:
TYPE:      HP12 (CR)

```
- NOTE: (CR) means the carriage return key.
- 14.33 The SACOPY DATA tape will begin to be read. The tape may take several minutes to be read. When the tape has completed being read, the tape will rewind. The tape will then be read a second time and will rewind. The following will be typed on the terminal during the process
- ```

NO. OF BLOCKS: XXX
NO BAD SECTORS ON HP12
VERIFY
NO. OF BLOCKS: XXX
NO BAD SECTORS ON HP12
NEXT COPY/VERIFY
MODE: COPY, VRFY, OR VCOPY?

```
- where XXX = some numerical value.
- 14.34 Halt CU-1 by placing the HALT/ENABLE key to the HALT position.
- 14.35 Remove the SACOPY DATA tape from the tape drive by depressing the 'RESET' key then the 'REWIND' key and then remove the tape from the tape drive.
- 14.4 Final Generic 3 NPD Conversion
- 14.41 Active System Console Connection
- 14.411 General - Set up for an active system console. This arrangement will be required to perform the operations in the last part of PA-5P355-01. Leave this active system console arrangement connected after completing PA-5P355-01.
- 14.412 Disconnect cable CB23 from the "A" connector on the SH11 circuit pack in the OPWR/FLT unit location 02-098. Connect cable CB21 into this same "A" connector on the SH11 circuit pack.
- 14.42 Request the TELCO to perform the remaining steps in PA-5P355-01 starting at paragraph 3.13 in the PA.
- NOTE 1: The cable connections specified in paragraph 3.12 of the PA have already been completed in the handbook section.
- NOTE 2: The tape previously created in paragraph 3.11 of the PA must first be mounted on the tape drive.
- 14.5 Loading the Generic 3 Program (TP-5P355-01)
- 14.51 Place or verify that CPU1 is in the NORMAL state from the Main Alarm Control and Display Panel.
- 14.52 The Generic 3 program has to be reloaded since the generic program that was loaded in PA-5P355-01 now contains overwrites. Mount and load the Generic 3 program into CPU1. Refer to paragraphs 5.51 through 5.524, if necessary.
- 14.53 Place or verify that CPU1 is in the NORMAL state from the Main Alarm Control and Display Panel.
- 14.54 Mount and load the Generic Program into CPU1. Refer to Paragraph 5.51 through 5.524, if necessary.
- 14.55 An Initialization message should be printed on the TTY1. CPU1 will also indicate an ACTIVE state.

- 14.56 Verify that the program was loaded properly by inputting the following on TTY1:

INPUT: TEST DET 3!  
A response indicating that the test passed should be received.

14.57 Overwrites

- 14.571 Input all overwrites that will allow dual tapes to be written. This information is contained in PA-5P355-02.

- 14.572 The procedure in the PA should also request an initialization from address 1000. If not, HALT CPU1, load address 1000, release the HALT key and depress the START key. An initialization message should be obtained.

- 14.573 The procedure in the PA should also request that TEST DET 3 be executed to verify that the overwrites have been entered properly. If not, input the following:

INPUT: TEST DET 3!

A response indicating that the test passed should be obtained.

- 14.58 Remove the PTP on both sides by inputting the following on both TTY's:

RMV PTP!

- 14.59 Set the date and time on CPU1 accurately. The input format for setting the date and time is as follows:

SET CLK DATE mmddy,TIME hhmss!

Check the Input Manual, if necessary.

14.6 Zero the Disk

- 14.61 On TTY1:

TYPE: RMV DISK!  
RESPONSE: PF  
M tt yz REPT DISK RMV OK

- 14.62 Obtain the virtual octal address of the mnemonic "CHKZERO" from the load map. On TTY-1:

TYPE: IN MEM D 0 XXXXXX 10!  
RESPONSE: PF  
M tt yz ADDRESS OLD NEW  
XXXXXXXX 000000 000010

NOTE: XXXXXX is the virtual address of CHKZERO.

- 14.63 Start the disk zeroing and check program.

TYPE: RST DISK CHK!  
RESPONSE: PF  
M tt yz REPT DISK CHK IP bbbbbb cccccc

NOTE 1: bbbbbb and cccccc are data fields.

NOTE 2: The above response will occur at the start of the disk check and approximately every 3 minutes thereafter.

- 14.64 When all of the following messages have been printed on TTY-1, the disk zeroing and check procedure has been completed.

M tt yz REPT DISK CHK CMPOK 000000 000000  
M tt yz REPT DISK CHK READONE 000000 000000  
M tt yz REPT DISK CHK FILEOK 000000 000000  
M tt yz REPT DISK CHK CMPOK 000001 000000  
M tt yz REPT DISK CHK READONE 000001 000000  
M tt yz REPT DISK CHK FILEOK 000001 000000  
M tt yz REPT TAPDSK INITIALIZATION IP  
M tt yz REPT TAPDSK BILLING DATA NOT ON DISK

NOTE 1: The disk zeroing and check program will run for approximately 1 hour before all the above messages have been printed.

NOTE 2: The above messages may be interrupted by the normal hourly print-out. For details of the hourly print-out see the OP CLK message in the output manual.

15. LOAD GENERIC 3 NPD DATA

15.1 General

- 15.11 The NPD data is contained on a magnetic tape. PA-5P355-01 was used to create the NPD tape.

15.2 Procedure

- 15.21 Mount the NPD tape obtained from the PA-5P355-01 paragraph 3.18, onto CPU1. Refer to Paragraph 5.51, if necessary.

- 15.22 On TTY-1:

INPUT: RST TAPE NPR UCL!

A response indicating that the NPD tape was restored should be obtained.

## 15.23 On TTY-1:

INPUT: IN RCTBL TAPE!

The NPD tape will be read into CPU1 and when completed an appropriate message will be printed.

## 15.24 Verify that the NPD tape was loaded correctly by inputting on TTY1:

INPUT: TEST DET 4!

A response indicating that the test passed should be obtained.

16. CONNECT DATA SET MODEM CABLES16.1 General

16.11 The data facilities personnel are to connect the Data Set modem cables to the 'Y' connectors at the data set cabinet. (See procedure below).

16.2 Procedure

16.21 Turn off the +12 volt supplies in the J1P040V cabinets associated with the CPU 1 side. Turn off the +5 and +12 volt supplies in the J1P040D and J1P040V cabinets associated with the CPU 0 side and leave turned off until the "Y" cable connection for the Generic 3 side is disconnected in a later handbook section.

NOTE: This produces an alarm at the Main Alarm Control and Display Panel.

16.22 Request that the data facilities personnel connect all appropriate dedicated data channel modem cables at the 'Y' connectors in the data set cabinet.

16.23 Restore the +12 volt supplies in the J1P040V cabinets associated with CPU1, only.

17. WRITE DUAL TAPES17.1 IMPORTANT NOTICES

17.11 Dual tapes should only be written during non-busy periods to avoid possible Gen2/Gen3 synchronization problems.

17.12 Should troubles be encountered on the Generic 2 side while the dual tapes are being written and a request has been made by the Telco to return to a duplex Generic 2 configuration, IMMEDIATELY proceed to Handbook 59, Section 214D.

17.2 Procedure

17.21 Mount a clean IBM standard label AMA tape on CPU1 with a WRITE ring. Refer to Paragraph 5.51, if necessary.

## 17.22 On TTY1:

INPUT: INIT SYS CHL!

17.23 Prevent any channel from attempting to go to dial-up by inputting the following on TTY-1:

INPUT: INH VM ALL CHL!

17.24 Verify the correct date and time by inputting on TTY-1:

INPUT: OP CLK!

NOTE: Set the time and date correctly, if necessary.

## 17.25 On TTY1:

INPUT: RST TAPE UCL!

NOTE: This may result in a restoral error. Continue with the procedure if it does.

17.26 Verify that the NORMAL LED for CPU1 on the Main Alarm Control and Display Panel is illuminated.

17.27 At the Main Alarm Control and Display Panel, attempt to place CPU1 first into the PROCESSOR ISOLATE state then the INTERFACE ISOLATE state. No change in state of any of the circuit packs in the "D" or "V" cabinets associated with CPU1 should occur.

NOTE: Especially take note of the TN216 circuit pack.

17.28 Request that the craft personnel restore all channels on which validation is to be performed using TTY1. The procedure is to input on TTY1 the following for each channel to be restored:

INPUT: RST CHL XXX!

where XXX = channel #

17.29 Inform the Telco of the following.

17.291 At this point, the validation will continue in this mode of operation.

17.292 If any problems on a data channel cause the working mode program on the ACTIVE Generic 2 machine to switch a channel to backup, the validation on that channel is suspended until that channel can be restored to service on the primary. Channels that do go to dial-up on the Generic 2 machine shall be removed on the Generic 3 machine until they can be restored to the primary.

17.293 Sometime during the validation run the tape on the Generic 3 side should be changed while the disk is restored and available for backup. This is done using the normal procedures for changing tapes on an ACTIVE processor with a disk available. Label the first tape "TEST TAPE NO. 1" and the second "TEST TAPE NO. 2". When the first tape is removed, AMA data will be recorded on disk. When the second tape is restored, the data recorded on disk will be recovered from disk automatically.

Manager, Product Engineering  
Control Center

Reason for Reissue:  
To include UIS information.

TABLE 6

| ALARM  | ROOM ALARM CONTACT CLOSURE |                      | BUILDING ALARM CONTACT CLOSURE |                      |
|--------|----------------------------|----------------------|--------------------------------|----------------------|
|        | PIN DESIG.                 | ALM CONN. 02-072 PIN | PIN DESIG.                     | ALM CONN. 02-136 PIN |
| CRT    | RCRT                       | 25                   | BCRT                           | 25                   |
| AUD.   | RCRTR                      | 24                   | BCRTR                          | 24                   |
| CRT    | RCRTV                      | 19                   | BCRTV                          | 19                   |
| VISUAL | RCRTVR                     | 18                   | BCRTVR                         | 18                   |
| IIJ    | RMJ                        | 23                   | BMJ                            | 23                   |
| AUD.   | RMJR                       | 22                   | BMJR                           | 22                   |
| IIJ    | RMJV                       | 17                   | BMJV                           | 17                   |
| VISUAL | RMJVR                      | 16                   | BMJVR                          | 16                   |
| MIN    | RMIN                       | 21                   | BMIN                           | 21                   |
| AUD.   | RMNR                       | 20                   | BMNR                           | 20                   |
| MIN    | RMINV                      | 15                   | BMNV                           | 15                   |
| VISUAL | RMNVR                      | 14                   | BMNVR                          | 14                   |

**NOTE:** Refer to SD-5P013-01, CAD 39 and 40, if necessary.

TABLE 7

CONTACT CLOSURES TO TASC INTERFACE

| VISUAL  |                                  |             |
|---|----------------------------------|-------------|
| ALARM   | CHECK FOR CONTINUITY IN ALM UNIT |             |
|   | From Location                    | To Location |
| Critical  | 16-088-19                        | 16-088-18   |
| Proc. 0 Maj.  | 16-048-25                        | 16-048-24   |
| Proc. 1 Maj.  | 16-048-23                        | 16-048-22   |
| Proc. 0 Mn.   | 16-056-25                        | 16-056-24   |
| Proc. 1 Mn.   | 16-056-23                        | 16-056-22   |
| Int. Cab. Maj.  | 16-048-19                        | 16-048-18   |
| Int. Cab. Mn.   | 16-056-19                        | 16-056-18   |
| Sen/DL Maj.   | 16-048-21                        | 16-048-20   |
| Sen/DL Mn.  | 16-056-21                        | 16-056-20   |
| Aux. Maj.   | 16-088-21                        | 16-088-20   |
| Aux. Mn.  | 16-088-23                        | 16-088-22   |
| Active Proc. 0  | 16-048-8                         | 16-048-7    |
| Active Proc. 1  | 16-088-8                         | 16-088-7    |
| Sby Proc. 0   | 16-048-6                         | 16-048-5    |
| Sby Proc. 1   | 16-088-6                         | 16-088-5    |
| OOS Proc. 0   | 16-048-4                         | 16-048-3    |
| OOS Proc. 1   | 16-088-4                         | 16-088-3    |
| Prog. T.O. Proc. 0  | 16-048-2                         | 16-048-1    |
| Prog. T.O. Proc. 1  | 16-088-2                         | 16-088-1    |
| AMA on TP Proc. 0   | 16-056-8                         | 16-056-7    |
| AMA on TP Proc. 1   | 16-080-8                         | 16-080-7    |
| AMA on DSK Proc. 0  | 16-056-6                         | 16-056-5    |
| AMA on DSK Proc. 1  | 16-080-6                         | 16-080-5    |
| Normal Proc. 0  | 16-048-12                        | 16-048-11   |
| Normal Proc. 1  | 16-088-12                        | 16-088-11   |
| Proc. Iso. Proc. 0  | 16-048-10                        | 16-048-9    |
| Proc. Iso. Proc. 1  | 16-088-10                        | 16-088-9    |
| Int. Iso. Proc. 0   | 16-056-12                        | 16-056-11   |
| Int. Iso. Proc. 1   | 16-080-12                        | 16-080-11   |
| Iso. OVRD Proc. 0   | 16-056-10                        | 16-056-9    |
| Iso. OVRD Proc. 1   | 16-080-10                        | 16-080-9    |
| Cut-off Aud.  | 16-080-17                        | 16-080-16   |
| Cut-off Building  | 16-080-15                        | 16-080-14   |
| Cut-off Remote  | 16-088-15                        | 16-088-14   |
| -----<br>ADDITIONAL ALARMS (See Note 1)<br>-----                                |                                  |             |
| System Maj.   | 16-080-19                        | 16-080-18   |
| System Mn.  | 16-080-21                        | 16-080-20   |
| -----   |                                  |             |
| NOTE 1: The System Maj./Mn. contact closure should occur on any Maj./Mn. alarm. |                                  |             |

TABLE 8

## TASC RETIRE/CUT-OFF ALARMS

| FUNCTION         | ATTACH CLIP LEAD IN ALM UNIT |           |
|------------------|------------------------------|-----------|
|                  | From                         | To        |
| Retire Alarms    | 16-048-17                    | 16-048-16 |
| Cut-off Audible  | 16-048-15                    | 16-048-14 |
| Cut-off Building | 16-056-17                    | 16-056-16 |
| Cut-off Remote   | 16-056-15                    | 16-056-14 |

TABLE 9

| DESIG. | GROUP | STAMPED     | CONNECTED FROM |      | CONNECTED TO | STAMPED       |
|--------|-------|-------------|----------------|------|--------------|---------------|
|        |       |             | LOC .          | UNIT |              |               |
| CB40-0 | 51    | OACU 06-017 | 06-017         | OACU | NOTE 1       | CPUO 00DN11DA |
| CB41-0 | 51    | OACU 10-017 | 10-017         | OACU | NOTE 1       | CPUO 01DN11DA |
| CB42-0 | 51    | OACU 06-049 | 06-049         | OACU | NOTE 1       | CPUO 02DN11DA |
| CB43-0 | 51    | OACU 10-049 | 10-049         | OACU | NOTE 1       | CPUO 03DN11DA |
| CB44-0 | 52    | OACU 06-085 | 06-085         | OACU | NOTE 1       | CPUO 04DN11DA |
| CB45-0 | 52    | OACU 10-085 | 10-085         | OACU | NOTE 1       | CPUO 05DN11DA |
| CB46-0 | 52    | OACU 06-117 | 06-117         | OACU | NOTE 1       | CPUO 06DN11DA |
| CB47-0 | 52    | OACU 10-117 | 10-117         | OACU | NOTE 1       | CPUO 07DN11DA |
| CB48-0 | 73    | IACU 06-017 | 06-017         | IACU | NOTE 1       | CPUO 10DN11DA |
| CB49-0 | 73    | IACU 10-017 | 10-017         | IACU | NOTE 1       | CPUO 11DN11DA |
| CB50-0 | 73    | IACU 06-049 | 06-049         | IACU | NOTE 1       | CPUO 12DN11DA |
| CB51-0 | 73    | IACU 10-049 | 10-049         | IACU | NOTE 1       | CPUO 13DN11DA |
| CB52-0 | 73    | IACU 06-085 | 06-085         | IACU | NOTE 1       | CPUO 14DN11DA |
| CB53-0 | 73    | IACU 10-085 | 10-085         | IACU | NOTE 1       | CPUO 15DN11DA |
| CB54-0 | 73    | IACU 06-117 | 06-117         | IACU | NOTE 1       | CPUO 16DN11DA |
| CB55-0 | 73    | IACU 10-117 | 10-117         | IACU | NOTE 1       | CPUO 17DN11DA |

Note 1: Do not connect this end of the cable to the DN11. Instead, temporarily run this cable to the J1P040V-1, List 1 cabinet and leave unconnected.

TABLE 10

| DESIG. | GROUP | STAMPED     | CONNECTED FROM |      | CONNECTED TO | STAMPED       |
|--------|-------|-------------|----------------|------|--------------|---------------|
|        |       |             | LOC .          | UNIT |              |               |
| CB40-1 | 53    | OACU 06-033 | 06-033         | OACU | NOTE 1       | CPU1 00DN11DA |
| CB41-1 | 53    | OACU 10-033 | 10-033         | OACU | NOTE 1       | CPU1 01DN11DA |
| CB42-1 | 53    | OACU 06-065 | 06-065         | OACU | NOTE 1       | CPU1 02DN11DA |
| CB43-1 | 53    | OACU 10-065 | 10-065         | OACU | NOTE 1       | CPU1 03DN11DA |
| CB44-1 | 53    | OACU 06-101 | 06-101         | OACU | NOTE 1       | CPU1 04DN11DA |
| CB45-1 | 53    | OACU 10-101 | 10-101         | OACU | NOTE 1       | CPU1 05DN11DA |
| CB46-1 | 53    | OACU 06-133 | 06-133         | OACU | NOTE 1       | CPU1 06DN11DA |
| CB47-1 | 53    | OACU 10-133 | 10-133         | OACU | NOTE 1       | CPU1 07DN11DA |
| CB48-1 | 72    | IACU 06-033 | 06-033         | IACU | NOTE 1       | CPU1 10DN11DA |
| CB49-1 | 72    | IACU 10-033 | 10-033         | IACU | NOTE 1       | CPU1 11DN11DA |
| CB50-1 | 72    | IACU 06-065 | 06-065         | IACU | NOTE 1       | CPU1 12DN11DA |
| CB51-1 | 72    | IACU 10-065 | 10-065         | IACU | NOTE 1       | CPU1 13DN11DA |
| CB52-1 | 72    | IACU 06-101 | 06-101         | IACU | NOTE 1       | CPU1 14DN11DA |
| CB53-1 | 72    | IACU 10-101 | 10-101         | IACU | NOTE 1       | CPU1 15DN11DA |
| CB54-1 | 72    | IACU 06-133 | 06-133         | IACU | NOTE 1       | CPU1 16DN11DA |
| CB55-1 | 72    | IACU 10-133 | 10-133         | IACU | NOTE 1       | CPU1 17DN11DA |

Note 1: Do not connect this end of the cable to the DN11. Instead, temporarily run this cable to the J1P040V-1, List 1 cabinet and leave unconnected.

TABLE 11  
ACU INTERFACE LOOP-AROUND

| TEST NO.<br>(N)<br>(OCTAL) | CABLE DESIG. TO BE PLUGGED INTO ITE ACU INTERFACE LOOP-AROUND |        | ITE ACU INTERFACE LOOP-AROUND PLUG.<br>PLUG INTO M25A CABLE FOR ACU: |            | TN102 UNDER TEST |         |         |
|----------------------------|---|--------|--|------------|------------------|---------|---------|
|                            | (SEE NOTE 1)  |        | ACU (2N-2)   | ACU (2N-1) | UNIT             | LOC.    | LOC.    |
|                            | CONN.1  | CONN.2 |  |            |                  | if CPU0 | if CPU1 |
| 1                          | CB40-X  | CB41-X | ACU0   | ACU1       | OACU             | 08-022  | 08-038  |
| 2                          | CB42-X  | CB43-X | ACU2   | ACU3       | OACU             | 08-054  | 08-070  |
| 3                          | CB44-X  | CB45-X | ACU4   | ACU5       | OACU             | 08-010  | 08-106  |
| 4                          | CB46-X  | CB47-X | ACU6   | ACU7       | OACU             | 08-122  | 08-138  |
| 5                          | CB48-X  | CB49-X | ACU10  | ACU11      | 1ACU             | 08-022  | 08-038  |
| 6                          | CB50-X  | CB51-X | ACU12  | ACU13      | 1ACU             | 08-054  | 08-070  |
| 7                          | CB52-X  | CB53-X | ACU14  | ACU15      | 1ACU             | 08-010  | 08-106  |
| 10                         | CB54-X  | CB55-X | ACU16  | ACU17      | 1ACU             | 08-122  | 08-138  |

NOTE 1: The X represents a '0' or '1' depending on which CPU is being used for testing.  
Example: Use CB40-0 and CB41-0 if doing Test No. 1 using CPU0.

TABLE 12  
DATA SET LOOP-AROUND  
ITE-8900 CABLE CONNECTIONS

| FOR<br>MUX<br># | CONNECTOR END MARKED                     |        |        |        |        |        |        |        |
|-----------------|--|--------|--------|--------|--------|--------|--------|--------|
|                 | CHL--0                                   | CHL--1 | CHL--2 | CHL--3 | CHL--4 | CHL--5 | CHL--6 | CHL--7 |
|                 | CONNECT TO M25A CABLE FOR CHANNEL NUMBER |        |        |        |        |        |        |        |
| 00              | 000                                      | 001    | 002    | 003    | 004    | 005    | 006    | 007    |
| 01              | 010                                      | 011    | 012    | 013    | 014    | 015    | 016    | 017    |
| 02              | 020                                      | 021    | 022    | 023    | 024    | 025    | 026    | 027    |
| 03              | 030                                      | 031    | 032    | 033    | 034    | 035    | 036    | 037    |
| 04              | 040                                      | 041    | 042    | 043    | 044    | 045    | 046    | 047    |
| 05              | 050                                      | 051    | 052    | 053    | 054    | 055    | 056    | 057    |
| 06              | 060                                      | 061    | 062    | 063    | 064    | 065    | 066    | 067    |
| 07              | 070                                      | 071    | 072    | 073    | 074    | 075    | 076    | 077    |
| 10              | 100                                      | 101    | 102    | 103    | 104    | 105    | 106    | 107    |
| 11              | 110                                      | 111    | 112    | 113    | 114    | 115    | 116    | 117    |
| 12              | 120                                      | 121    | 122    | 123    | 124    | 125    | 126    | 127    |
| 13              | 130                                      | 131    | 132    | 133    | 134    | 135    | 136    | 137    |

TABLE 13  
 FLEXPOR T LOOP-AROUND  
 ITE-8900 CABLE CONNECTIONS

| CONNECTOR<br>END MARKED | CONNECT TO EQUIPMENT LOCATION IN V0 CABINET |                      |
|-------------------------|---|----------------------|
|                         | FOR FLEXPOR TS 0-7                          | FOR FLEXPOR TS 10-17 |
| TTY-0                   | 02-016                                      | 02-048               |
| TTY-1                   | 14-016                                      | 14-048               |
| TTY-2                   | 02-024                                      | 02-056               |
| TTY-3                   | 14-024                                      | 14-056               |
| TTY-4                   | 02-032                                      | 02-064               |
| TTY-5                   | 14-032                                      | 14-064               |
| TTY-6                   | 02-040                                      | 02-072               |
| TTY-7                   | 14-040                                      | 14-072               |

NOTE: Connect the clip lead associated with the cables to the +12V bug on the back of the V0 cabinet.

TABLE 14

| DESIG.               | GROUP | STAMPED     | ROUTE TO AREA OF |
|----------------------|-------|-------------|------------------|
| If testing from CPU0 |       |             |                  |
| CB40-0               | 51    | CPU0 00DN11 | K cabinet panel  |
| CB41-0               | 51    | CPU0 01DN11 | K cabinet panel  |
| CB42-0               | 51    | CPU0 02DN11 | K cabinet panel  |
| CB43-0               | 51    | CPU0 03DN11 | K cabinet panel  |
| CB44-0               | 52    | CPU0 04DN11 | L cabinet panel  |
| CB45-0               | 52    | CPU0 05DN11 | L cabinet panel  |
| CB46-0               | 52    | CPU0 06DN11 | DEC PERIPHERAL   |
| CB47-0               | 52    | CPU0 07DN11 | DEC PERIPHERAL   |
| CB48-0               | 73    | CPU0 10DN11 | DEC PERIPHERAL   |
| CB49-0               | 73    | CPU0 11DN11 | DEC PERIPHERAL   |
| CB50-0               | 73    | CPU0 12DN11 | DEC PERIPHERAL   |
| CB51-0               | 73    | CPU0 13DN11 | DEC PERIPHERAL   |
| CB52-0               | 73    | CPU0 14DN11 | DEC PERIPHERAL   |
| CB53-0               | 73    | CPU0 15DN11 | DEC PERIPHERAL   |
| CB54-0               | 73    | CPU0 16DN11 | DEC PERIPHERAL   |
| CB55-0               | 73    | CPU0 17DN11 | DEC PERIPHERAL   |
| If testing from CPU1 |       |             |                  |
| CB40-1               | 53    | CPU1 00DN11 | K cabinet panel  |
| CB41-1               | 53    | CPU1 01DN11 | K cabinet panel  |
| CB42-1               | 53    | CPU1 02DN11 | K cabinet panel  |
| CB43-1               | 53    | CPU1 03DN11 | K cabinet panel  |
| CB44-1               | 53    | CPU1 04DN11 | L cabinet panel  |
| CB45-1               | 53    | CPU1 05DN11 | L cabinet panel  |
| CB46-1               | 53    | CPU1 06DN11 | DEC PERIPHERAL   |
| CB47-1               | 53    | CPU1 07DN11 | DEC PERIPHERAL   |
| CB48-1               | 72    | CPU1 10DN11 | DEC PERIPHERAL   |
| CB49-1               | 72    | CPU1 11DN11 | DEC PERIPHERAL   |
| CB50-1               | 72    | CPU1 12DN11 | DEC PERIPHERAL   |
| CB51-1               | 72    | CPU1 13DN11 | DEC PERIPHERAL   |
| CB52-1               | 72    | CPU1 14DN11 | DEC PERIPHERAL   |
| CB53-1               | 72    | CPU1 15DN11 | DEC PERIPHERAL   |
| CB54-1               | 72    | CPU1 16DN11 | DEC PERIPHERAL   |
| CB55-1               | 72    | CPU1 17DN11 | DEC PERIPHERAL   |