

AMARS  
NO. 1A AUTOMATIC MESSAGE ACCOUNTING RECORDING CENTER  
DISK INITIALIZATION AND LOADING OF THE GENERIC PROGRAM  
STANDARD PROCEDURE  
(INITIAL INSTALLATIONS ONLY)

CONTENTS

- |                                               |                                                          |
|-----------------------------------------------|----------------------------------------------------------|
| 1. GENERAL INFORMATION                        | 9. ENTER NPD TEST DATA INTO CU-1                         |
| 2. RECORDS AND REQUIREMENTS                   | 10. CONFIGURATION HARDWARE TESTS                         |
| 3. EQUIPMENT REQUIRED                         | 11. MOUNTING THE ACCOUNTING TAPE ON CU-1                 |
| 4. MOUNTING THE RPO6-PX ERROR FREE DISK PACKS | 12. CONFIGURATION HARDWARE TESTS<br>(CPUO ACT, CPU1 SBY) |
| 5. TAPE TO DISK TRANSFER PROGRAM AND DATA     | 13. UPDATE NPD TEST DATA INTO CU-0                       |
| 6. LOADING THE GENERIC PROGRAM INTO CU-0      | 14. CONFIGURATION HARDWARE TESTS<br>(CPUO ACT, CPU1 OOS) |
| 7. MOUNTING THE ACCOUNTING TAPE ON CU-0       | 15. ZEROING THE DISKS                                    |
| 8. LOADING THE GENERIC PROGRAM INTO CU-1      | 16. CONCLUSION                                           |

- 
- |                                                                                                                                                                                                                                                 |                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. <u>GENERAL INFORMATION</u>                                                                                                                                                                                                                   | 2. <u>RECORDS AND REQUIREMENTS</u>                                                                                                                                         |
| 1.1 The purpose of this section is to provide a procedure for the RPO6 disk initialization and the loading of the AMARC Generic Program.                                                                                                        | 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 RPO6-PX Error Free Disk Packs must have been previously formatted. This should have been done by the supplier representative. Refer to Handbook 59, Section 203A.                                                                       | 3. <u>EQUIPMENT REQUIRED</u>                                                                                                                                               |
| 1.3 Incorrect responses to the following tests once the Generic Program has been loaded can be examined by referring to the Input and Output manuals (IM/OM).                                                                                   | 3.1 No. 1A AMARC Generic program on 9 track, 1600 bit-per-inch magnetic tape (TP-5P355-01).                                                                                |
| 1.4 System Console 1 will be used for all TTY input and output except during the time the generic program is loaded. If the generic program is loaded, the ACTIVE system uses System Console 0 and the NON-ACTIVE system uses System Console 1. | 3.2 Two clean IBM standard label tapes (1600 BPI, labels written in EBCDIC code) for use with Generic 3 (obtained from the TELCO).                                         |
| 1.5 The tests in this section are intended for new No. 1A AMARC Installations, only. Do <u>not</u> run the tests in this section on Growth Systems.                                                                                             | 3.3 Magnetic tape TP-5P355-03, tape to disk transfer program (SACOPY).                                                                                                     |
|                                                                                                                                                                                                                                                 | 3.4 Magnetic tape TP-5P355-04, tape to disk transfer program data (SACOPY DATA).                                                                                           |
|                                                                                                                                                                                                                                                 | 3.5 Input Manual and Output Manual, IM/OM, for the associated generic program issue.                                                                                       |
|                                                                                                                                                                                                                                                 | 3.6 Load map of the associated generic program issue.                                                                                                                      |

#### 4. MOUNT THE RP06-PX ERROR FREE DISK PACKS

NOTE: If the RP06-PX error free disk pack is not provided, proceed to Paragraph 4.2

4.1 The RP06-P disk pack on both disk drives must be removed from the disk drive and replaced with the RP06-PX error free disk pack.

4.11 Remove the RP06-P disk pack from the disk drive.

4.111 Depress the START/STOP switch on the disk drive to the STOP position.

4.112 When the 'DOOR LOCKED' lamp extinguishes, slide the door open.

4.113 Place the top portion of the disk pack cover over and onto the disk.

4.114 Turn the handle on the disk pack cover counter clockwise until clicking sounds can be heard.

4.115 Lift the disk pack straight up and out of the disk drive.

4.116 Install the bottom cover onto the disk pack and store the disk pack.

4.12 Mount the RP06-PX error free disk pack onto the disk drive.

4.121 Remove the bottom portion of the disk pack cover.

4.122 Place the disk pack with the top portion of the disk pack cover into the disk drive.

4.123 Turn the handle on the disk pack cover clockwise until it stops. Do not overtighten.

4.124 Lift the disk pack cover straight up and out of the disk drive.

4.125 Close the door securely on the disk drive.

#### 4.2 Perform a lamp test at the disk drive.

4.21 Depress the lamp test button located under the front display panel.

4.22 Observe that all disk drive lamps are lighted.

4.3 Depress the 'CONTROL A' switch to the 'CONTROL A' position. Observe that the 'CONTROL A' lamp is lighted.

4.4 Place the 'WRITE PROTECT' switch to the NON-WRITE PROTECT mode.

#### 4.5 Start the Disk Drive.

4.51 Depress the START/STOP switch on the disk drive to the START position.

4.52 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. TAPE TO DISK TRANSFER PROGRAM AND DATA

##### 5.1 Mounting the SACOPY Program Tape

5.11 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.

5.12 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.

5.13 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.

5.14 After closing the tape unit door, depress the "LOAD" key. The tape should then wind forward (on to the take up reel) and then stop. "LOAD" lamp should come on. Repeat Paragraphs 5.12 through 5.14 if the above does not occur. Do not proceed unless the "LOAD" lamp is illuminated.

5.15 Depress the "ON LINE" key on tape unit 0. Do not continue unless the only two lights that are illuminated are ON LINE and LOAD.

5.2 Loading the SACOPY Program Tape

5.21 At the processor not under test, verify that the HALT/ENABLE key is in the HALT position, then depress and release the START key.

5.22 Set console switches on CU-0 to 17773030. Then depress LOAD ADDR key.

5.23 Set the SWR keys to zero - all down.

5.24 Place the ENABLE/HALT key to ENABLE.

5.25 Depress the START key. The magnetic tape should move forward and the message:

CORE MEMORY SIZE IS XXXX WORDS

is typed on System Console 1. The tape then continues to move forward for a few seconds then rewinds.

NOTE: XXXX is the core memory size.

5.26 The following message will be printed:

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

5.27 Remove the SACOPY Program tape by depressing the 'RESET' key then the 'REWIND' key and then remove the tape from the tape drive.

5.3 Loading the SACOPY DATA Tape

5.31 Mount the SACOPY DATA tape onto tape unit 0 in the same manner as Paragraph 5.1.

5.32 At System Console 1:

TYPE: VCOPY (CR)  
RESPONSE: VERIFIED COPY  
FROM:

TYPE: TMØ (CR)  
RESPONSE: TO:  
TYPE: HP12 (CR)

NOTE: (CR) means the carriage return key.

5.33 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.

5.34 Halt CU-0 by placing the HALT/ENABLE key to the HALT position.

5.35 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.

5.4 Repeat Paragraphs 4 through 5.3 for CU-1 and its associated tape and disk drives.

6. LOADING THE GENERIC PROGRAM INTO CU-0

6.1 Mount the generic program tape onto tape unit 0 in the same manner as Paragraph 5.1.

6.2 Load the Generic program in the same manner as Paragraph 5.21 through 5.24.

6.3 In addition to the CORE MEMORY SIZE printout, the following message will be printed on System Console 0:

\*\*tt yz INIT SYS z ACTIVE 000003 000000 000000  
yz (nine fields of eight zeros)  
yz (nine fields of eight zeros)

Where: tt = time, minutes after the hour  
y = processor state (A, S or O)  
z = processor I.D. (0 or 1)

NOTE 1: Additional messages will be printed associated with the tape disk back-up, alarm panel status, etc.

NOTE 2: During the initial loading of the generic program, the time and date are automatically initialized to 01/01/00, 00:00:00.0. References to time and date used in this section will be with respect to the time of the initial loading of the generic program.

6.4 Remove the Generic Program Tape.

6.41 Depress the 'RESET' key then the 'REWIND' key on the tape drive. The tape will rewind off of the takeup reel.

6.42 The following message will be printed on System Console 0:

```
**tt yz RMV TAPE AMA (seven data field group-
                ings)
```

6.43 Remove the generic program tape from the tape drive and store it in the provided plastic case.

## 7. MOUNTING THE ACCOUNTING TAPE ON CU-0

7.1 Mount a clean IBM standard label AMA magnetic tape on the CU-0 tape drive. The tape must be equipped with plastic "write enable" ring. Certification can be verified by the "1600 BPI" label on the spool. Use the same procedure as Paragraphs 5.12 through 5.15.

NOTE: The 'WRITE ENABLE' lamp will also be lighted.

7.2 Restore tape by typing on System Console 0

```
RST TAPE AMA UCL!
RESPONSE: PF
           M tt yz RST TAPE AMA
           (seven data fields)
```

NOTE 1: Additional messages will be printed associated with the tape disk back-up, alarm panel status, etc.

NOTE 2: The 'LOAD' lamp will extinguish as the tape moves forward of the load point.

## 8. LOADING THE GENERIC PROGRAM INTO CU-1

8.1 On CU-1, with the HALT/ENABLE key in the HALT position, depress and release the START key.

8.2 Release the HALT key on CU-1.

8.3 On System Console 0:

```
TYPE: UPD MEM PRG!
RESPONSE: PF
```

8.4 When the generic program has been loaded into CU-1, the following will occur:

On System Console 0:  
M 55 yz UPD MEM PRG COMPLETE

On System Console 1, the same output messages as were printed on System Console 0 when the generic program was loaded from tape into CU-0 (except will indicate OOS). Refer to paragraph 6.3, if necessary.

## 9. ENTER NPD TEST DATA INTO CU-1

9.1 On System Console 1:

```
TYPE: RC ID XXXXXX!
```

where: XXXXXX = six BCD digits which uniquely identify this No. 1A AMARC (obtained from the TELCO). If the identification is not known, use any 6 BCD digits.

```
RESPONSE: OK
```

9.2 On System Console 1:

```
TYPE: INIT SYS!
RESPONSE:
           M tt yz INIT SYS 1 OOS...
```

NOTE: Other messages associated with the system status and alarms may be printed on both system consoles.

## 10. Configuration Hardware Tests

### 10.1 General

10.11 Disregard the alarms generated when disengaging TN102 circuit packs for testing purposes. Retire the alarms as necessary.

10.12 Do not remove power when disengaging and reengaging TN102 circuit packs in this paragraph section.

10.13 Except where indicated, the general procedure for this paragraph section is as follows. The green NORMAL LEDs on the Main Alarm Control and Display Panel should normally be illuminated. After disengaging the indicated TN102 circuit pack, the green NORMAL LED associated with the TN102's processor side should extinguish on the Main Alarm Control and Display Panel. Reengage the TN102 circuit pack and the associated green NORMAL LED should illuminate on the Main Alarm Control and Display Panel.

## 10.2 CPU0 Active and CPU1 OOS Tests

10.21 Do the general procedure using the TN102 at TTY-08-054 associated with CPU0.

10.22 Do the general procedure using the TN102 at TTY-08-070 associated with CPU1.

10.23 Do the general procedure using the TN102 at location 08-122 in the 1ASYN unit associated with CPU0 (Note: Use the same location in the OASYN unit if the 1ASYN unit is not equipped).

10.24 Do the general procedure using the TN102 at location 08-138 in the 1ASYN unit associated with CPU1 (Note: Use the same location in the OASYN unit if the 1ASYN unit is not equipped).

10.25 Do the general procedure using the TN102 at location 08-122 in the 2ASYN unit associated with CPU0 (Note: Use the same location in the 1ACU unit if the 2ASYN unit is not equipped).

10.26 Do the general procedure using the TN102 at location 08-138 in the 2ASYN unit associated with CPU1 (Note: Use the same location in the 1ACU unit if the 2ASYN unit is not equipped).

10.27 Place CPU1 into the PROCESSOR ISOLATE state. On the Main Alarm Control and Display, the red isolate LED above the Processor Isolate switch should illuminate and the green NORMAL LED for CPU1 should extinguish.

10.28 Disengage the TN102 circuit pack at TTY-08-070. The red isolate LED above the Processor Isolate switch should extinguish. Reengage the TN102 circuit pack and the red isolate LED above the Processor Isolate switch should illuminate.

10.29 Release CPU1 from the PROCESSOR ISOLATE state.

## 11. MOUNTING THE ACCOUNTING TAPE ON CU-1

11.1 Mount a clean IBM standard label AMA magnetic tape on the CU-1 tape drive. The tape must be equipped with a "write enable" ring.

11.2 Restore tape by inputting the following on System Console 1:

```
INPUT: RST TAPE!
RESPONSE PF
        M tt yz REPT TAPE AMA TAPE
        RESTORED
```

Additional responses on both System Consoles:

```
M tt yz UPD MEM TRN COMPLETE
M tt yz RST SYS 1 STANDBY
```

NOTE 1: System status and alarm messages will be printed on both System Consoles.

NOTE 2: If the above responses are not obtained, repeat paragraph 11.2 using the RST TAPE UCL command.

## 12. CONFIGURATION Hardware TESTS (CPU0 ACT, CPU1 SBY)

12.1 Repeat the procedures listed in Paragraph 10.24 and Paragraph 10.26.

12.2 Switch system by inputting the following on System Console 0:

```
INPUT: SW SYS!
RESPONSE: M tt yz SW SYS 000001
```

NOTE: System status and alarm messages will be printed on both system consoles.

12.3 Repeat the procedures listed in Paragraphs 10.23 through and including Paragraph 10.26.

## 13. UPDATE NPD TEST DATA INTO CU-0

13.1 Remove CU-0 to out-of-service by inputting the following on System Console 1:

```
INPUT: RMV SYS!
RESPONSE: M tt yz RMV SYS 0 OOS 000001
```

NOTE: System status and alarm messages will be printed on both system consoles.

13.2 Update the NPD test data into CU-0 by inputting the following on System Console 0:

```
INPUT: UPD MEM NPD!
RESPONSE: M tt yz UPD MEM NPD COMPLETE
```

- 13.3 Input the following on System Console 1:

INPUT: INIT SYS!  
RESPONSE: M tt yz INIT SYS 0 OOS...

NOTE: System status and alarm messages may be printed on both system consoles.

14. CONFIGURATION HARDWARE TESTS (CPU1 ACT, CPU) OOS)

- 14.1 Repeat the procedures listed in Paragraph 10.23 and Paragraph 10.25

- 14.2 Place CPU0 into the PROCESSOR ISOLATE state. On the Main Alarm Control and Display Panel, the red isolate LED above the Processor Isolate switch should illuminate and the green NORMAL LED for CPU0 should extinguish.

- 14.3 Disengage the TN102 circuit at TTY-08-054. The red isolate LED above the Processor Isolate switch should extinguish. Reengage the TN102 circuit pack and the red isolate LED above the Processor Isolate switch should illuminate.

- 14.4 Release CPU0 from the PROCESSOR ISOLATE state.

- 14.5 Restore CU-0 to Standby by inputting the following on System Console 1:

INPUT: RST SYS!  
RESPONSE: M tt yz UPD MEM TRN COMPLETE  
M tt yz RST SYS 0 STANDBY

NOTE: System status and alarm message will be printed on both system consoles.

15. ZEROING THE DISKS

15.1 General

- 15.11 Both disks will be zeroed. The disk on CU-1 will start to be zeroed, first. While the disk on CU-1 is being zeroed, the disk on CU-0 will start to be zeroed. Use System Console 0 for inputting messages when zeroing the disk on CU-1. Use System Console 1 for inputting messages when zeroing the disk on CU-0. The approximate time required to zero a disk is one hour.

15.2 Procedure

- 15.21 Input the following using the appropriate System Console:

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

- 15.22 Obtain the virtual octal address of the mnemonic "\_\_CHKZERO" from the load map. On the appropriate System Console:

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.

- 15.23 Start the disk zeroing and check program. On the appropriate System Console:

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.

- 15.24 When all of the following messages have been printed, the disk zeroing and check procedures have been completed on the system disk associated with the particular system console. While waiting for these messages to be printed on system console 0, start the disk zeroing and check procedures on CU-0, using the same procedure starting at paragraph 15.21 using System Console 1.

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

## 15.24 (Cont'd)

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 printout. For details of the hourly printout see the OP CLK message in the output manual.

16. CONCLUSION

16.1 Switch systems by inputting the following on System Console 0:

INPUT: SW SYS!

RESPONSE: M tt yz SW SYS 000001

NOTE: System status and alarm messages will be printed on both system consoles.

Manager, Product Engineering  
Control Center

## Reason for Reissue

To add configuration hardware tests to check cables and paths through TN102 circuit packs.