Chapter 9

Test Mode

TEST MODE

INTRODUCTION

The control unit's Test mode lets you test devices attached to the control unit and perform other test-related functions. The Test mode Main menu looks like this:

```
Main Menu                                                    1174 Test Mode

  Test        Description

    1         Terminal Test
    2         Display/Update Configuration Menu
    3         Display Device Status
    4         Event Logs Menu
    5         Broadcast message to Status Line
    6         Extended Attributes Demo
    7         Response Time Monitor Menu
    A         Operator Initiated ALERT
    D         Online Diagnostics Menu
    L         Display/Update Local Format Storage
    P         Display/Update Buffered Prints
    T         Token Ring Menu
    W         Window Configuration
    V         Vital Data


  Select Test:                          Depress Enter
```

Figure 9-1. Test Mode Main Menu

You must execute Test mode from the terminal to be tested. During Test mode processing, this terminal is taken offline, but the control unit and attached devices not being tested continue normal operation.

To enter Test mode, simultaneously press the Alt and Test keys of the terminal to be tested. The Test message appears on the operator status row and the Test mode Main menu shown in Figure 9-1 appears.

To exit any test, press the terminal's PF3 key. To return to the Main menu, press the PF1 key or the Clear key. Simultaneously pressing the Alt and Test keys ends Test mode testing.

All Test mode tests are menu-driven. To select any test, enter the number of the test you wish to execute and press the Enter key. Some tests have additional menu panels that show additional test selections available within a particular testing group.

You can initiate tests by direct pathing from the Main menu.

1. First enter the Main menu test number followed by a slash (/).

2. Then enter the Submenu test number followed by a comma to delimit required parameters, if any.

For example, to display IML state 501 errors only, enter "4/4,0501" with the Main menu displayed. The pathing selects the Event Logs menu (Test 4), then selects the Event Code test (Event Logs Menu Test 4) for error code 0501.

TEST MODE PASSWORDS

Access to some of the test mode items is controlled by requiring the entry of the supervisory password that was established during configuration of your 1174 Control Unit.

Attempting to enter Tests 2/2, 5, D, and L will bring up a panel asking for the entry of a password. At this point you should enter the supervisory password at the cursor and press the Enter key. If the incorrect password is entered, you will be returned to the previous menu. If no supervisory password was established during configuration, press the Enter key when asked for the password.

TEST 1 – TERMINAL TEST

This test panel has three sections (see Figure 9-2).

The first (Port Number) displays the designated port number of the attached terminal and is for information only.

The second (middle section) is the selector light pen/character entry test area.

The third (lower section) displays the configuration attributes of the attached terminal and is for information only. If the configuration attributes of another attached terminal are desired, this test should be entered by selecting Test mode test 1, followed by a comma, and then followed by the port number of the desired terminal. For example, if you wish to see the configuration attributes of the terminal on port 27, select Test mode test 1,27.

Each character test field allows up to eight characters to be entered. The cursor can be moved with the Tab, Return, and cursor movement control keys. The Return key moves the cursor to the start of an unprotected field. The Tab key moves the cursor to the beginning section of an unprotected field. The cursor control keys move the cursor to any location, one position at a time.

To end the Terminal test, press the PF3 key.

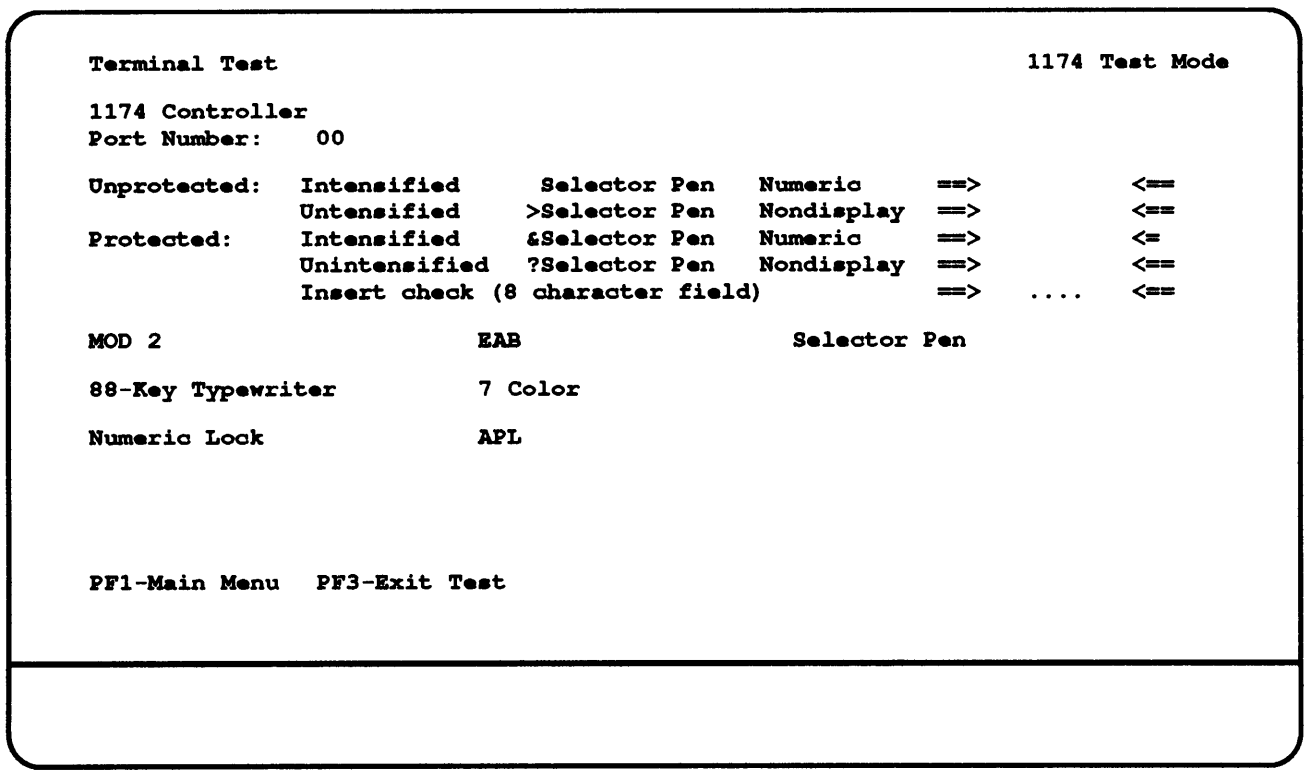

Figure 9-2. Terminal Test

This test contains two selections: the Character Entry test and the Selector Pen test.

CHARACTER ENTRY TEST

With the Terminal Test panel selected, follow these steps for the Character Entry test:

1. Press the Tab key twice.

   The cursor moves to the Unprotected Intensified Numeric Character Test field.

2. Press any alphabetic and/or numeric keys.

   Only the numeric keys pressed will be displayed. If you press more than eight numeric keys, X8X> is displayed on the status row. Press the Reset key.

3. Press the Tab key twice.

   The cursor moves to the Unprotected Unintensified Nondisplay Character Test field.

4. Press any alphabetic and/or numeric keys.

   The cursor moves and no characters are displayed.

5. Press the Tab key once. The cursor moves to the Insert Check Character Test field.

6. Press the Character Insert (â) key.

   /\ is displayed on the status row.

7. Press any alphabetic and/or numeric keys.

   The characters pressed are inserted into the field leading the four period (....) characters. If you enter more than four characters, X8X> is displayed on the status row.

8. Press the Reset key. X8X> and /\ are erased.

9. Using the cursor movement control keys, place the cursor in the Protected Intensified Numeric Character Test field. Press any numeric keys.

   The cursor does not move and no characters are displayed.

10. Using the cursor movement control keys, place the cursor in the Protected Unintensified Nondisplay Character Test field. Press any alphabetic and/or numeric keys.

    The cursor does not move and no characters are displayed.

SELECTOR PEN TEST

The Selector Pen test may be performed with an attached selector pen or, if one is not installed, simulated with the keyboard. With the Terminal Test panel selected, follow these steps for the Selector Pen test:

Selector Pen Attachment

1. Touch the pen on >SELECTOR PEN in the Unprotected Unintensified field area.

The indicator > changes to ? and will toggle with each touch of the pen.

2. Touch the pen on ?SELECTOR PEN in the Protected Unintensified field area.

   The indicator ? changes to > and will toggle with each touch of the pen.

Keyboard Simulation

1. Press the Return key twice.

   The cursor moves to the beginning of the Unprotected Unintensified Selector Pen field.

2. Press the Cursr Sel key.

   The indicator > changes to ? and will toggle with each depression of the Cursr Sel key.

3. Using the cursor movement control keys, place the cursor into the Protected Unintensified Selector Pen field. Press the Cursr Sel key.

   The indicator ? changes to > and will toggle with each depression of the Cursr Sel key.

TEST 2 – DISPLAY/UPDATE CONFIGURATION MENU

This test is largely for information only. Only the Printer Authorization Matrix (PAM) can be changed with this test. This test displays the controller configuration panels with current parameters.

If you change the PAM with the "Update Printer Authorization Matrix (PAM)" test, you cannot see the changes with the "Display Configuration Panels" test. To see the changes, use the "Update Printer Authorization Matrix" test.

DISPLAY CONFIGURATION PANELS

To view the next configuration panel, press the PA2 key. To view a previous panel, press the PA1 key.

For information about the configuration panels see the Installation and Configuration manual.

UPDATE PRINTER AUTHORIZATION MATRIX (PAM)

Selecting this item from the menu will cause the display of a password request panel. Enter the supervisory password, press the Enter key to display the Printer Authorization Matrix (PAM), and then enter any desired changes. Any changes made at this time are saved as part of the control unit's configuration.

For information about the Printer Authorization Matrix, see the Installation and Configuration manual.

```
Display/Update Configuration Menu                          1174 Test Mode

  Test        Description

    1         Display Configuration Panels
    2         Update Printer Authorization Matrix (PAM)

   Select Test:                        Depress Enter

PF1-Main Menu   PF3-Prev Menu
```

Figure 9-3. Display/Update Configuration Menu

TEST 3 – DISPLAY DEVICE STATUS

This test is for information only. The display presents the most current status of each device attached to the controller and gives the slot number of the control unit MCC board that supports the devices. Use the legend at the lower portion of the display to determine the status of each device.

Figure 9-4 shows the Display Device Status panel.

The information on this panel is not normally updated while the panel is displayed. Press the Enter key to update the panel.

Each panel displays up to 32 devices. The PA1 and PA2 keys display additional panels if your control unit has more than 32 devices attached.

To view the next panel, press the PA2 key. To view a previous panel, press the PA1 key.

```
Display Device Status                                          1174 Test Mode

MCC SLOT 13

PORT NUMBER              01234567  89012345  67890123  45678901
ATTACHED BY (a,m,d)      d.......  ........  ........  ........
POR STATUS (1,0,-)       1.......  ........  ........  ........
DEVICE TYPE (v,p,i)      v.......  ........  ........  ........
COAX ERRORS (x10)        ........  ........  ........  ........
FILE TRANSFER (e=on)     e.......  ........  ........  ........
LOCAL PRINT (L)          ........  ........  ........  ........
STATUS LU A              T.......  ........  ........  ........
          B              ........  ........  ........  ........
          C              ........  ........  xxxxxxxx  xxxxxxxx
          D              ........  ........  xxxxxxxx  xxxxxxxx
          E              xxxxxxxx  xxxxxxxx  xxxxxxxx  xxxxxxxx

a = coax dev adptr  1 = powered on      v = video display   S = session/select
m = multiplexer     0 = powered off     p = printer         B = bracket
d = direct to MCC   - = inoperative     i = DFC device      T = TEST MODE
e = enabled         * = more than 90    x = unconfigured    L = local print

PF1-Main Menu   PF3-Exit Test
```

Figure 9-4. Display Device Status

TEST 4 – EVENT LOGS MENU

The control unit records most errors and failures in the error log. You can display these logged error events from the Event Logs menu shown in Figure 9-5.

You can choose one of seven subtest selections from the Event Logs menu.

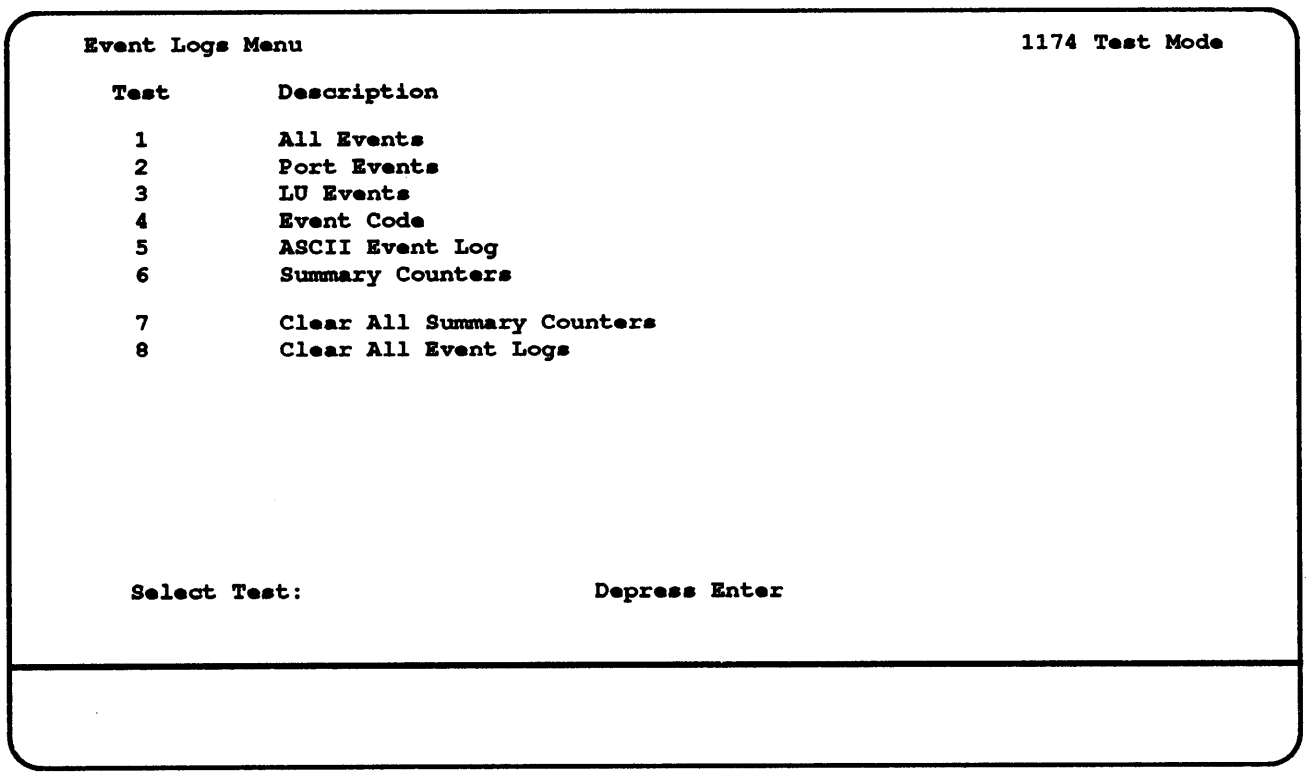

Figure 9-5. Event Logs Menu

SELECTION 1 – ALL EVENTS

This selection displays all logged errors.

The error event is displayed with the date and time the error occurred, followed by the four-digit error code with qualifier. The slot number where the error was detected, port number, LU number, and communications channel affected are displayed. Any extended data which may be pertinent to the event and a brief description of the error are also displayed (see Figure 9-6).

```
All Events                                                    1174 Test Mode

Date  Time  Code QA SL PN LU CH Extended Data     Description

05/16 09:41 0501-01 02        A                  DSR not present
05/16 09:41 0505-01 02        A                  SNRM required (SDLC NDM)
05/16 09:41 0174-02 13                           1174 IML (bypass BATs)
05/13 14:39 0174-06 13                           1174 IML for CONFIG
05/10 10:28 0501-01 02        A                  DSR not present
05/10 10:28 0505-01 02        A                  SNRM required (SDLC NDM)
05/10 10:28 0174-02 13                           1174 IML (bypass BATs)
05/02 14:32 0174-06 13                           1174 IML for CONFIG
05/02 14:26 0501-01 02        A                  DSR not present
05/02 14:26 0505-01 02        A                  SNRM required (SDLC NDM)
05/02 14:26 0174-02 13                           1174 IML (bypass BATs)

SC=Status Code  QA=Qualifier  SL=Slot
PN=Port Number  LU=Logical Unit   CH=Channel


PF1-Main Menu   PF3-Exit Test                PA2=Forw
```

Figure 9-6. All Events Display

SELECTION 2 – PORT EVENTS

This test selection displays all logged error events for a specific port. Unless you request otherwise, the port events displayed are the events for the control unit port to which the display used for the test is connected.

If you wish to see port events for a different port, do this:

- With the Event Logs menu displayed, enter the digit 2 followed by a comma. (Commas are the parameter delimiters.)
- Enter the number of the port whose events you wish to see and press Enter.

Port events are shown on a panel like that in Figure 9-6. The port number appears in the upper left corner of the panel.

SELECTION 3 – LU EVENTS

This selection displays all logged error events for a specific LU.

Unless you specify otherwise, the control unit shows LU events for the terminal being used for the test. If you want to see LU events for a different terminal, do this:

- With the Event Logs menu displayed, enter the digit 3 followed by a comma. (Commas are the parameter delimiters.)
- Enter the number of the LU whose errors you wish to see, and press Enter.

The panel shown in Figure 9-6 appears. The LU is shown in the upper left corner of the panel.

SELECTION 4 – EVENT CODES

You can use this selection to display all logged error events for a specific error code.

You must enter an error code parameter:

- With the Event Logs menu displayed, enter the digit 3 followed by a comma.
- Enter the four-digit error code whose events you wish to see, and press Enter.

The panel displays as shown in Figure 9-6 with Event Code xxxx in the upper left corner of the screen.

SELECTION 5 – SUMMARY COUNTERS

This selection displays a summary table of all error events which affected the attached terminal. Figure 9-7 shows the summary table.

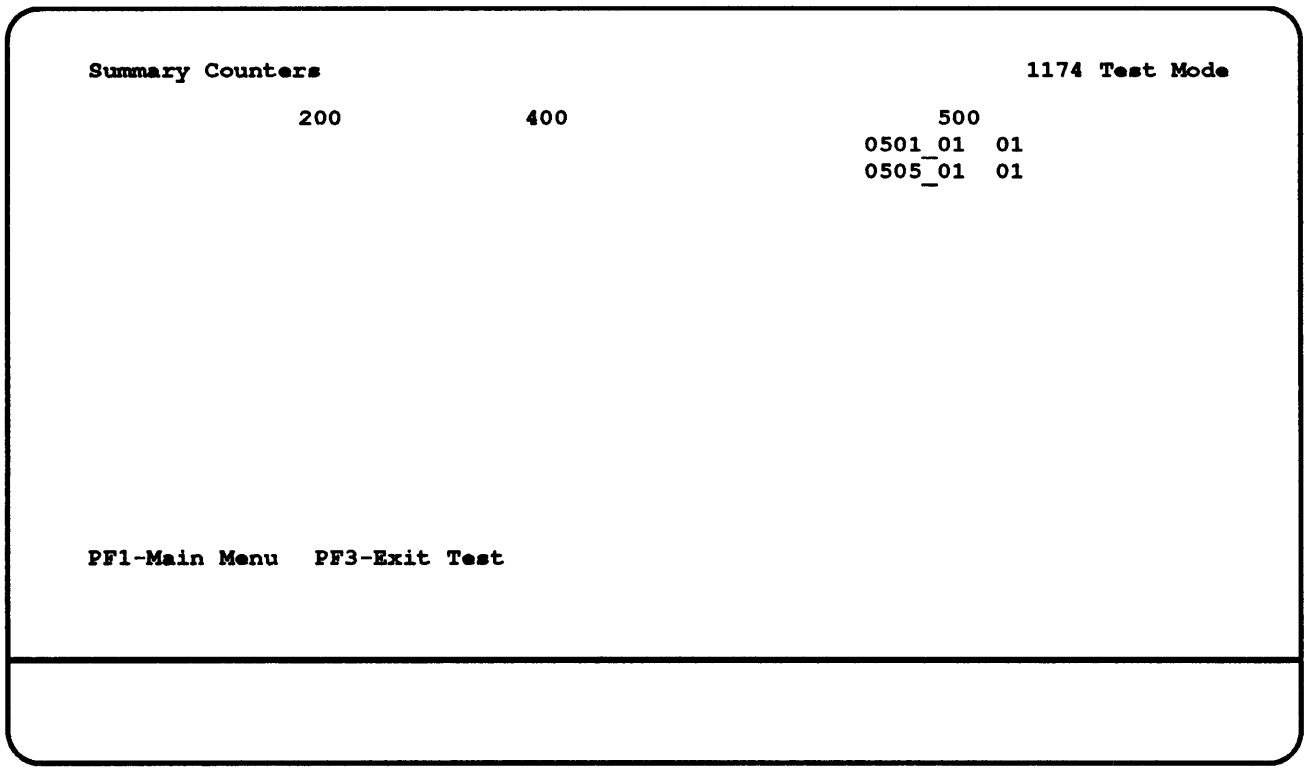

Figure 9-7. Summary Counter

SELECTION 6 – CLEAR ALL SUMMARY COUNTERS

Selection 6 erases the summary counters.

SELECTION 7 – CLEAR ALL EVENT LOGS

Selection 7 erases the event logs.

TEST 5 – BROADCAST MESSAGE TO STATUS LINE

This test enables you to send a message to the status line of another display terminal or to all other display terminals attached to the controller. The supervisory password is required.

To use this test, follow these steps:

1. Display the Test mode Main menu.
2. Enter the digit 5.
3. Press Enter.
4. Enter the supervisory password.

The message panel is displayed (see Figure 9-8).

To send a message to a specific port, follow these steps:

1. Press the Return key.

   This moves the cursor under the asterisk in the Port Number field.

2. Enter the decimal number of the port to receive the message.
3. Press the Return key.

   This moves the cursor to the beginning of the Message Entry field.

4. Type the message to be sent (up to 67 characters).
5. Press the Enter key to send the message.

To send a message to all ports, follow these steps. The cursor should be at the beginning of the message entry area.

1. Type the message to be sent (up to 67 characters).
2. Press the Enter key to send the message.

The message will be posted to the targeted device(s) provided that they are operating display terminals. A confirmation notation is then displayed, listing which port(s) received the message.

To clear a received message from the status line, press the Reset key.

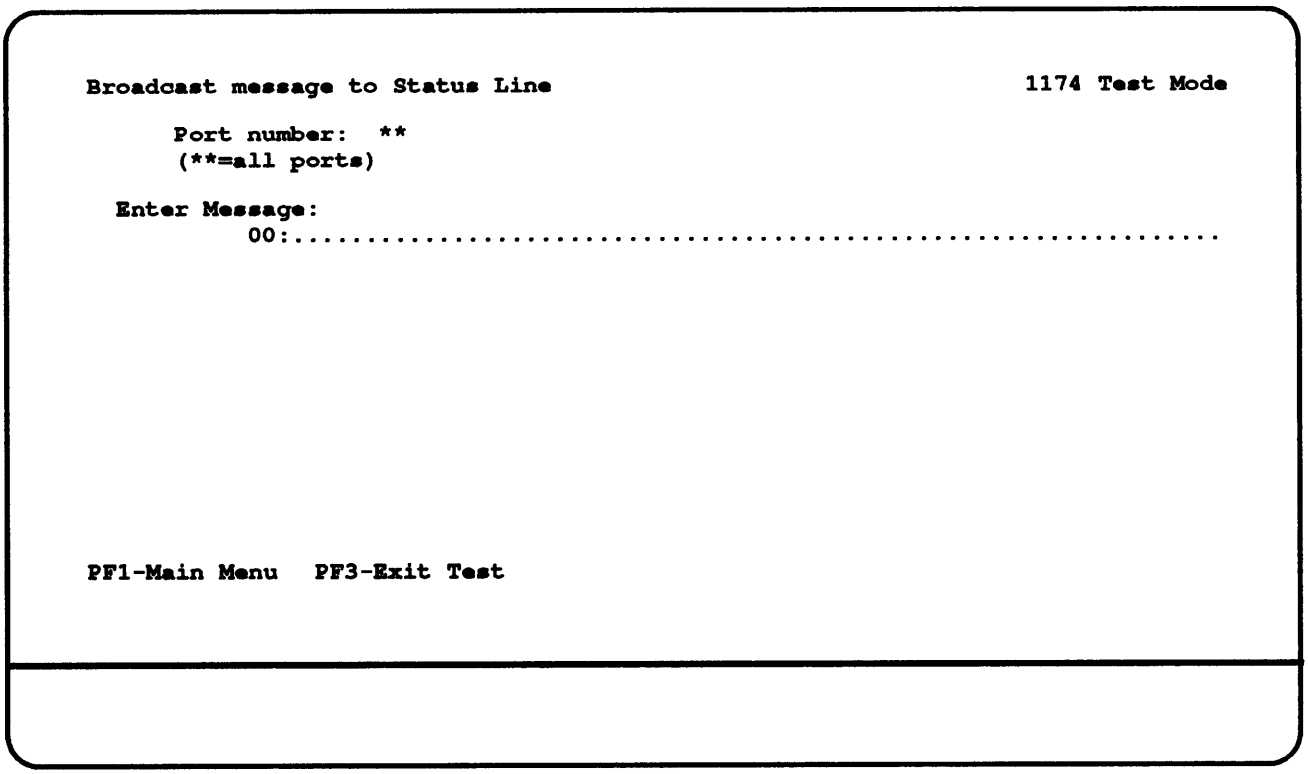

Figure 9-8. Broadcast Message

TEST 6 – EXTENDED ATTRIBUTES DEMO

This test demonstrates the proper functioning of a terminal equipped for extended functions (APL/Text, seven-color, extended attributes). Each line of the test will demonstrate the function that is described, if that function is working properly. For example, Blink will be blinking.

A monochrome display will show this panel in monochrome form. A color display without extended functions will display turquoise, pink, and yellow as blue, red, and white, respectively. A printer will print the panel of this test.

Figure 9-9 shows an extended attributes demonstration panel.

```
Extended Attributes Demo Panel                                  1174 Test Mode

BLUE......NORMAL    BLUE......BLINK    BLUE......REVERSE    BLUE......UNDERLINE
BLUE......NORMAL    BLUE......BLINK    BLUE......REVERSE    BLUE......UNDERLINE
BLUE......NORMAL    BLUE......BLINK    BLUE......REVERSE    BLUE......UNDERLINE
RED.......NORMAL    RED.......BLINK    RED.......REVERSE    RED.......UNDERLINE
RED.......NORMAL    RED.......BLINK    RED.......REVERSE    RED.......UNDERLINE
RED.......NORMAL    RED.......BLINK    RED.......REVERSE    RED.......UNDERLINE
GREEN.....NORMAL    GREEN.....BLINK    GREEN.....REVERSE    GREEN.....UNDERLINE
GREEN.....NORMAL    GREEN.....BLINK    GREEN.....REVERSE    GREEN.....UNDERLINE
GREEN.....NORMAL    GREEN.....BLINK    GREEN.....REVERSE    GREEN.....UNDERLINE
WHITE.....NORMAL    WHITE.....BLINK    WHITE.....REVERSE    WHITE.....UNDERLINE
WHITE.....NORMAL    WHITE.....BLINK    WHITE.....REVERSE    WHITE.....UNDERLINE
WHITE.....NORMAL    WHITE.....BLINK    WHITE.....REVERSE    WHITE.....UNDERLINE
TURQUOISE.NORMAL    TURQUOISE.BLINK    TURQUOISE.REVERSE    TURQUOISE.UNDERLINE
TURQUOISE.NORMAL    TURQUOISE.BLINK    TURQUOISE.REVERSE    TURQUOISE.UNDERLINE
TURQUOISE.NORMAL    TURQUOISE.BLINK    TURQUOISE.REVERSE    TURQUOISE.UNDERLINE
PINK......NORMAL    PINK......BLINK    PINK......REVERSE    PINK......UNDERLINE
PINK......NORMAL    PINK......BLINK    PINK......REVERSE    PINK......UNDERLINE
PINK......NORMAL    PINK......BLINK    PINK......REVERSE    PINK......UNDERLINE
YELLOW....NORMAL    YELLOW....BLINK    YELLOW....REVERSE    YELLOW....UNDERLINE
YELLOW....NORMAL    YELLOW....BLINK    YELLOW....REVERSE    YELLOW....UNDERLINE
YELLOW....NORMAL    YELLOW....BLINK    YELLOW....REVERSE    YELLOW....UNDERLINE
PF1-Main Menu    PF3-Exit Test
```

Figure 9-9. Extended Attributes Demo Panel

TEST 7 – RESPONSE TIME MONITOR MENU

The menu displayed for this test gives you two selections, displaying the Response Time Monitor (RTM) logs and erasing the RTM logs.

You may select which host's RTM logs you wish to display or clear by adding a comma and then the letter for the host after the rest of the test selection. For example, to select test 7 from the main Test mode menu and to display the RTM logs for host B, you would enter 7/1,b. To display the RTM logs for host B from the RTM Menu submenu, you would enter 1,b. If no host is selected, the default host will be the host that controls the current foreground session.

Figure 9-10 shows the RTM menu. Figure 9-11 presents the RTM log.

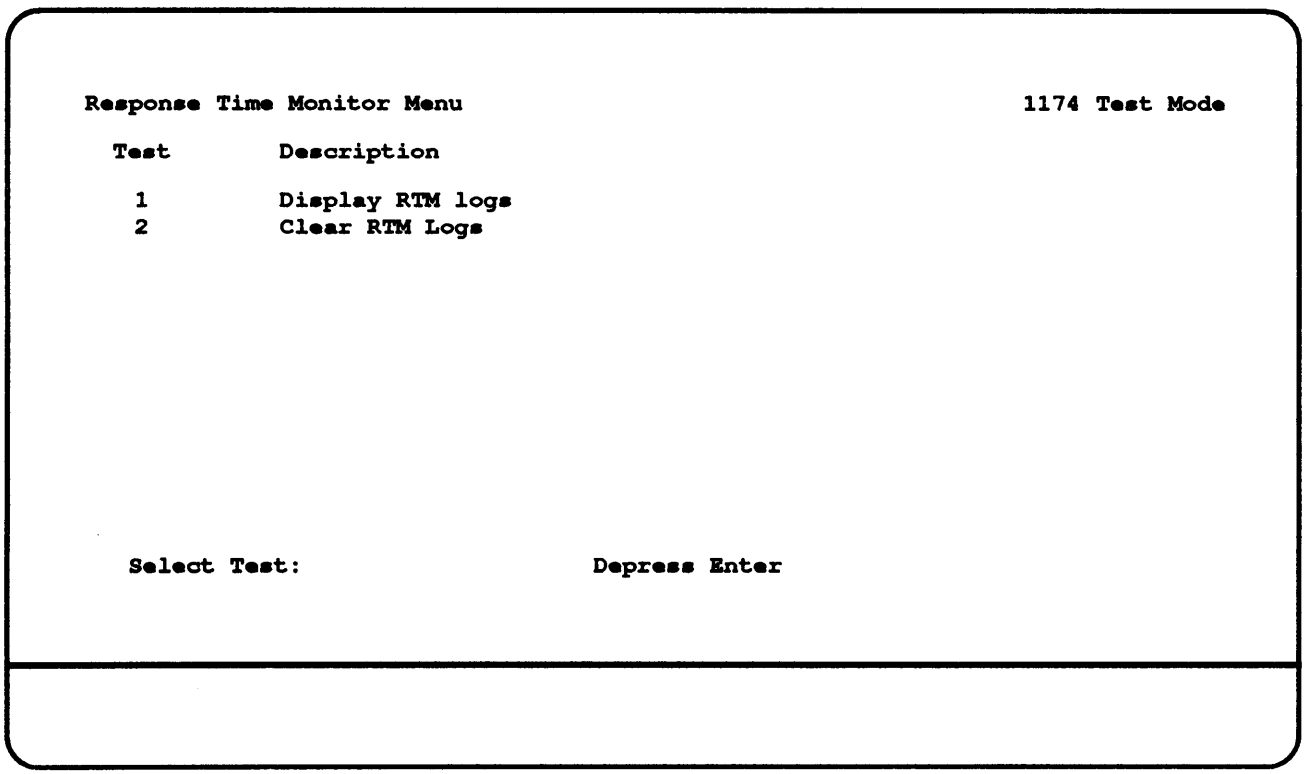

Figure 9-10. Response Time Monitor (RTM) Menu

```
Display RTM logs                                                    1174 Test Mode

                                          HOST A

 LU     DEF  CTR#1  BDY#1  CTR#2   BDY#2  CTR#3  BDY#3  CTR#4  BDY#4          OV

002      1      9   0.5   10.304   1.0      215   5.0     20   1:00.0          6
003p     1      0   0.5        0   1.0        0   5.0      0   1:00.0          0
004 ?    1    640   0.5        0   1.0        0   5.0      0   1:00.0     13.574
005     *2    214   0.5      510   1.0       56   5.0      0   1:00.0          2
006i    1*     29   1.0       11   2.0    3.480   5.0      4     10.0          1
007_     1      0   0.5        0   1.0        0   5.0      0   1:00.0          0
008_    *3*     1   1.0       51   2.0        4   3.0      0      4.0         44
009      1  1.251   0.5      980   1.0      232   5.0      0   1:00.0      1.277
010_     1      0   1.0        0   2.0        0   5.0      0     10.0          0
011_     1      0   1.0        0   2.0        0   5.0      0     10.0          0
012_     1      0   1.0        0   2.0        0   5.0      0     10.0          0
013_     1      0   1.0        0   2.0        0   5.0      0     10.0          0
014_     1      0   1.0        0   2.0        0   5.0      0     10.0          0
015_     1      0   1.0        0   2.0        0   5.0      0     10.0          0
016_     1      0   1.0        0   2.0        0   5.0      0     10.0          0
017_     1      0   1.0        0   2.0        0   5.0      0     10.0          0

PF1-Main Menu      PF3-Prev Menu                PF8-Forw
```

Figure 9-11. RTM Log

The column headings of the RTM log are described in Figure 9-12. The heading at the center shows the host currently being displayed.

Heading	Meaning
LU	The logical unit (LU) whose response time is being monitored. The following descriptive suffixes may follow the LU number: p – Boundary described is a printer (no counts are recorded) i – Distributed function terminal _ – Device never powered on ? – RTM disabled by the host for this device
DEF	Response time definition 1 – Time to first character on screen 2 – Time to keyboard usable by operator 3 – Time to change direction/end bracket 4 – Parameter set by the host A * preceding the DEF indicates that the definition has been changed by the host. A * following the DEF indicates that the boundary values have been changed by the host.
CTR#1	First counter (response time is equal to or greater than 0 and equal to or less than boundary #1 value)
BDY#1	First boundary in minutes and seconds
CTR#2	Second counter (response time is greater than boundary #1 value and equal to or less than boundary #2 value)
BDY#2	Second boundary
CTR#3	Third counter (response time is greater than boundary #2 value and equal to or less than boundary #3 value)
BDY#3	Third boundary
CTR#4	Fourth counter (response time is greater than boundary #3 value and equal to or less than boundary #4 value)
BDY#4	Fourth boundary
OV	Overflow (responses exceeding the value of boundary #4)

Figure 9-12. RTM Log Column Headings

TEST A – OPERATOR-INITIATED ALERT

This selection allows you to send a message to the host. When you choose this test, the display appears as shown in Figure 9-13.

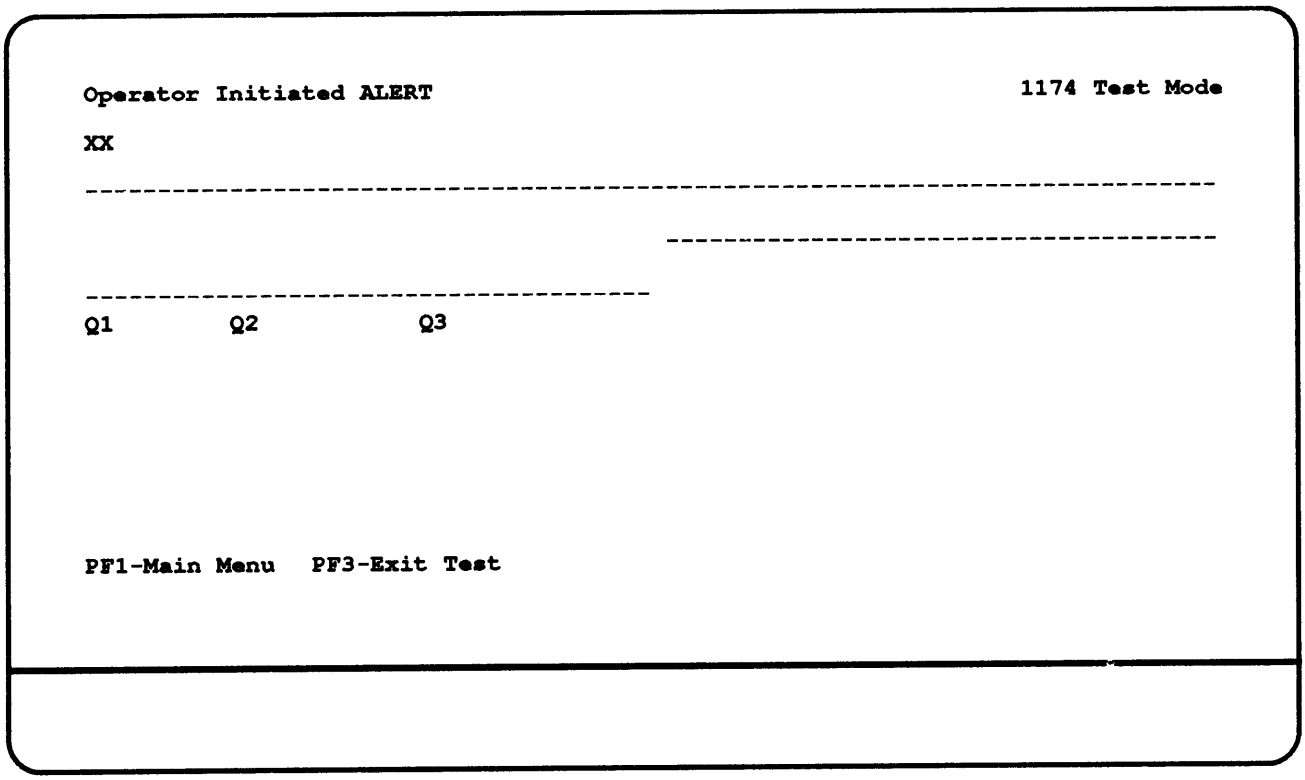

Figure 9-13. Alert Message Display

There are three areas for input:

The *first* input area (XX) requires entry of two digits, from 01 to 20. These digits are a user action code that corresponds to user-defined panels at the host CPU. You can obtain these user action codes from the system programmer for the host.

Once you enter the user action code, the subsequent alert message is mapped into the specified panel at the host CPU.

The *second* input area is a field of up to 120 characters in which you can enter the alert message to be transmitted to the host CPU. You can use in this field only characters from the base character set. You cannot use characters such as APL characters or those with extended attributes.

The *third* input area has three eight-character qualifier fields (Q1, Q2, and Q3). The qualifiers could consist of a telephone number, port number, problem code, or other customer-determined item.

To transmit an alert message, enter the appropriate messages and user action code, then press the Enter key. If the alert message is accepted, the display screen blanks, and Test mode testing may continue.

Only one alert message can be pending at the host CPU at a given time. If a second alert message is attempted while an alert message is pending, the screen does not blank, input is inhibited, and the keyboard must be unlocked by using the Reset key.

TEST D – ONLINE DIAGNOSTICS MENU

The items under the Online Diagnostics menu (see Figure 9-14) are designed to be helpful during some problem situations. To select an item, enter the number of the item after "Select Test:" and then press Enter. The supervisory password is needed to enter this menu.

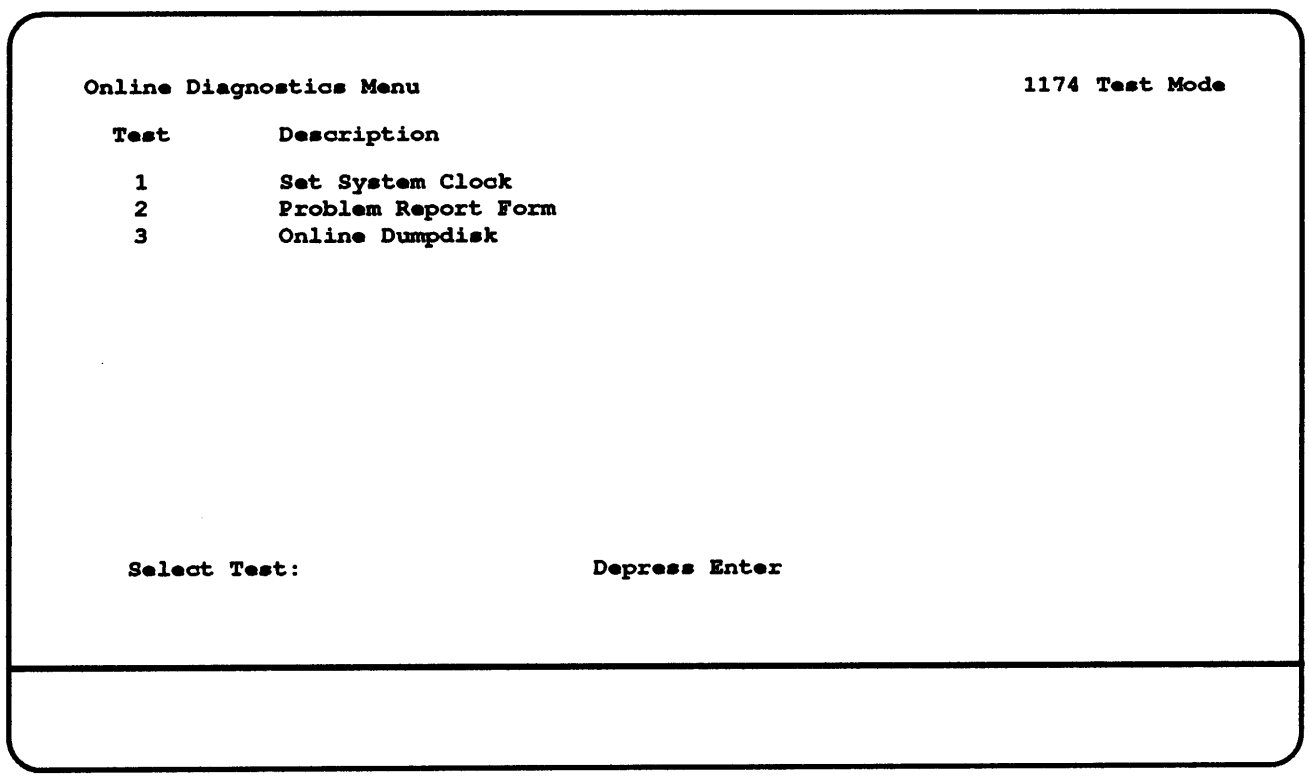

Figure 9-14. Online Diagnostics Menu

SET SYSTEM CLOCK

Selecting this item allows you to enter the date and time for the system clock in the control unit. It is important that the system clock be set accurately since the date and time are recorded when files are written and stored in error logs when errors occur. The corrected time will be displayed on the Operator Panel the next time the control unit is IMLed. Figure 9-15 shows the panel that is displayed after Set System Clock has been selected. To make changes, enter the desired time in hours (HH), minutes (MM), seconds (SS), month (MM), day (DD), and year (YY), and then press Enter.

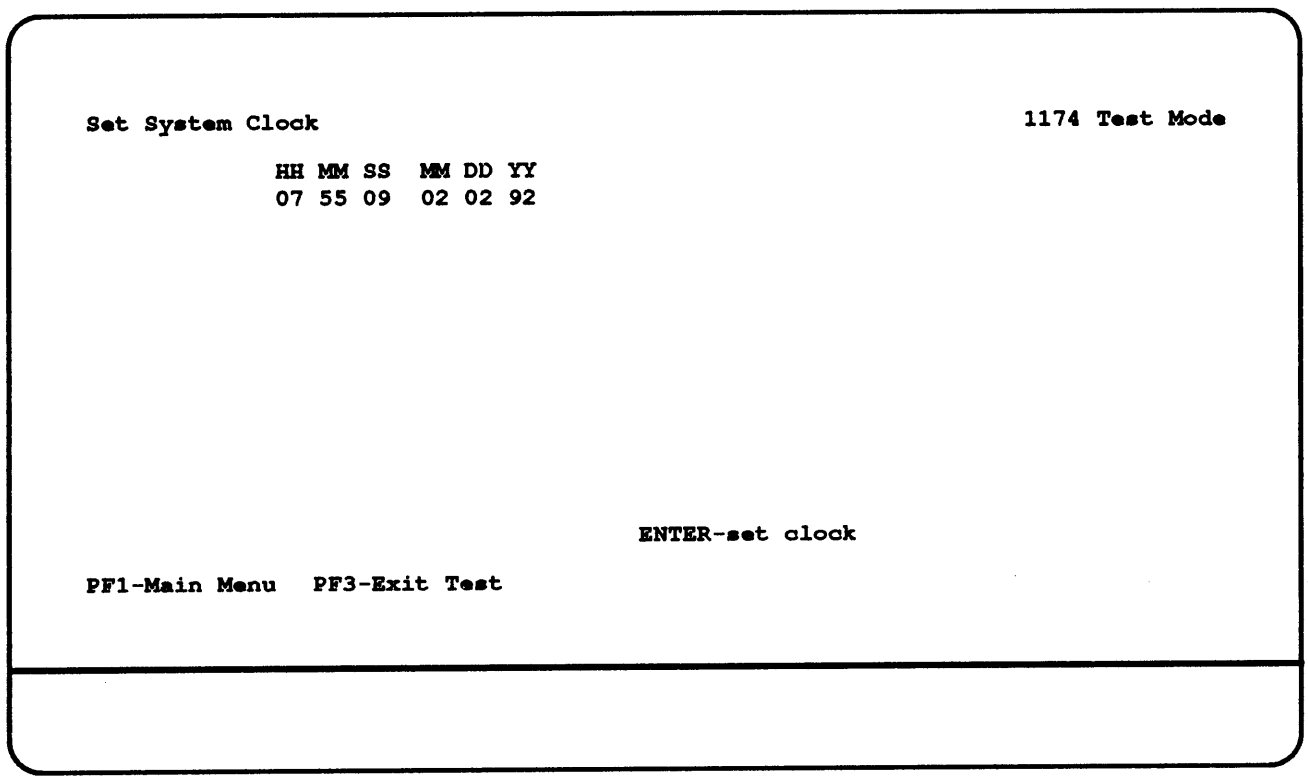

Figure 9-15. Set System Clock Panel

PROBLEM REPORT FORM

The Problem Report Form panel (Figures 9-16 and 9-17) is a place to give a detailed accounting of any problems with the control unit. Because the information entered on this panel is saved onto the system disk, it would be helpful to complete this form after a minidump or an online dump and before replacing the system disk with the backup system disk (or the dump disk with the system disk).

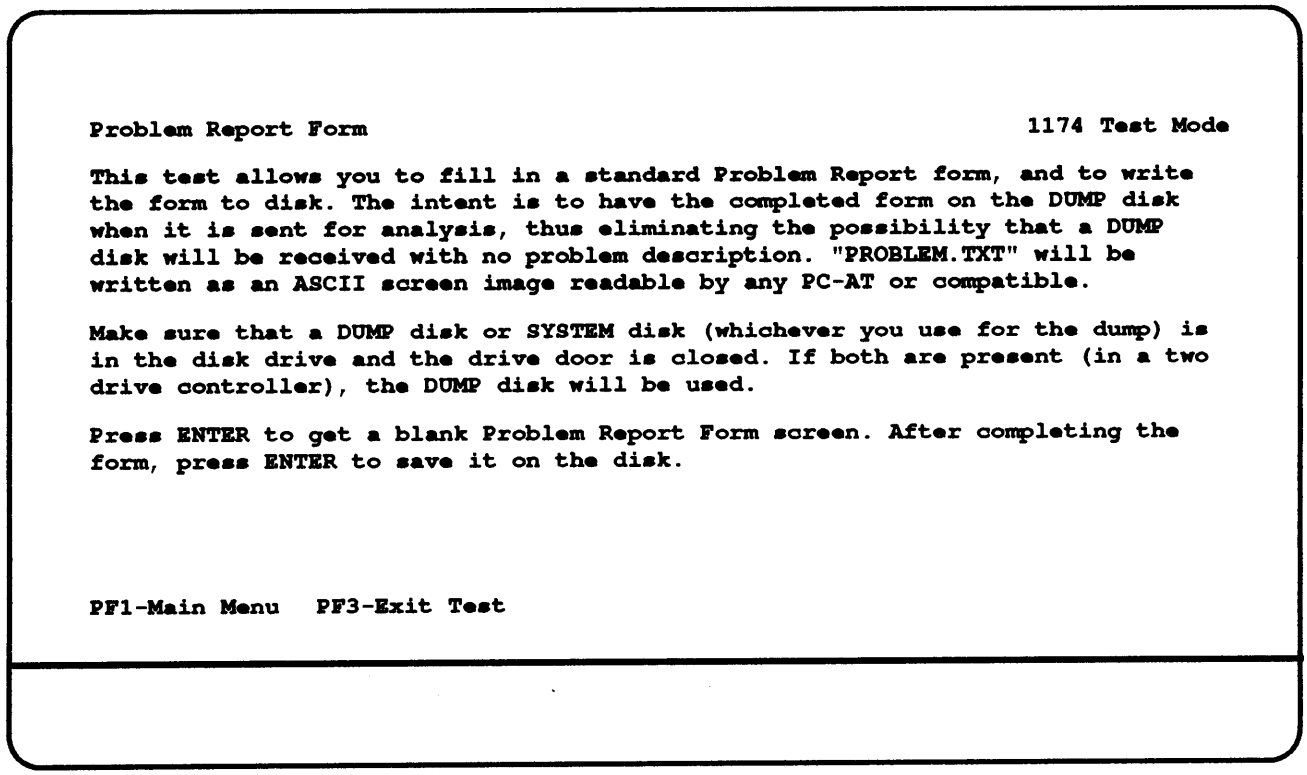

Figure 9-16. Problem Report Form Instructions Panel

```
Problem Report Form                                          1174 Test Mode

Customer Name ..............................    Controller: 1174 1R   S/N 0
Location       ..............................    Software Level: 3.0   I/L 43
Host Computer / NCP ........................    F.E. Name .....................
Access Method (eg VTAM, TCAM, BTAM) .......
Host Operating System / Release Level ......................................

Problem Description:  (Please type over this field then ERASE EOF.............
Include specific operator action that causes the problem, event, or front
panel message and whether the problem affects the controller, all attached
devices, or just a single device.)

Recovery Required:    (Please type over this field then ERASE EOF.............
For example, IML the controller, POR the device, restart host line.)

Other Circumstances: (Please type over this field then ERASE EOF.............
For example, similar operations that work correctly, other vendor's equipment
that work correctly, similar or related problems. Also include other relevant
information, such as if the problem does not always occur the same way, etc.

PF1-Main Menu   PF3-Exit Test
```

Figure 9-17. Problem Report Form

ONLINE DUMP DISK

An online dump is a way of saving control unit information to a disk for troubleshooting purposes. In the case of serious problems, the control unit may automatically save this information to the system disk by performing a minidump. Sometimes it may be necessary to save more information than can be put onto the system disk, and it becomes necessary to save this more extensive information to the dump disk.

NOTE: This procedure should only be performed at the recommendation of your service representative and with the approval of your system manager.

To accomplish the online dump:

- Insert a dump disk.
- Enter a 3 at "Select Test:" on the Online Diagnostics menu.
- Press the Enter key and wait for the "DUMP COMPLETE" message to appear on the Operator Panel. (This may take a few minutes.)
- While not required, it would now be appropriate to fill out the problem report form by entering a 2 at "Select Test:," pressing the Enter key, and following the instructions displayed. This procedure will save your description of the problem onto the disk with the controller dump information.
- Remove the dump disk and replace it with the system disk.

TEST L – DISPLAY/UPDATE LOCAL FORMAT STORAGE

Use this test to display formats stored in Local Format Storage (LSF) memory and, optionally, to delete selected formats. You must use a supervisory password to enter this test.

After you enter the supervisory password, a host selection panel is displayed. Enter the letter of the host for which you want to display the formats and press the Enter key.

If you enter an invalid host letter, an error message is displayed and you must press the PF3 key to return to the Main Test menu.

If you enter a valid host letter, the Display/Update Local Format Storage panel is displayed (Figure 9-18).

```
Display/Update Local Format Storage                          1174 Test Mode

                        Formats Loaded for Host A

                                                    Operator
Group Name          Format Name          Size       Selectable        Delete ?

this is group 01    this is format01     0002H        NO                N
                    this is format02     0002H    YES - local 02        N
                    this is format03     0002H    YES - local 03        N
this is group 02    this is format01     0002H    YES - local 04        N
this is group 03    this is format01     0002H    YES - local 01        N
                    this is format02     0002H        NO                N
                    this is format03     0002H    YES - local 05        N




PF1-Main Menu   PF3-Prev Menu
```

Figure 9-18. Display/Update Local Format Storage Panel

The following table describes the fields on the Display/Update Local Format Storage panel:

Group Name	The group name of the format.
Format Name	The name of the format.
Size	The length of the data within the format.
Operator Selectable	The local name, if any, of the format.

If you want to delete a format, enter **Y** to the right of the format under the "Delete ?" column and press the Enter key.

TEST P – DISPLAY/UPDATE BUFFERED PRINTS

This panel displays information about the print jobs queued in the control unit.

For the most part, the information displayed cannot be changed. The exception to this is the column labeled DELETE?. Using the cursor control keys to position the cursor over an N and then entering a Y will cause the queued print jobs listed to the left of the Y to be deleted after the Enter key is pressed. More than one N may be changed to a Y before pressing the Enter key.

If this panel is called up on a display attached to port 0, all of the print jobs queued will be displayed. If called up on any other display, only queued print jobs associated with that particular display will be shown.

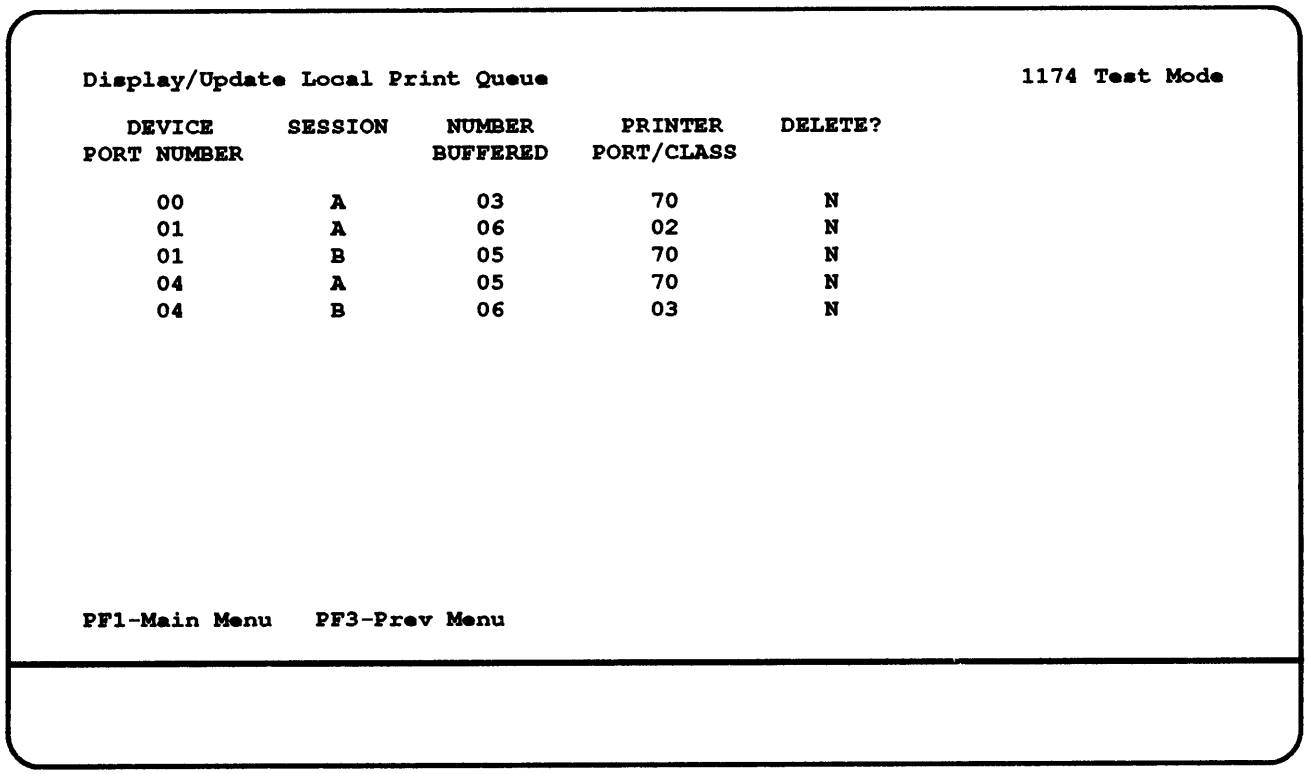

Figure 9-19. Print Menu

TEST T – TOKEN-RING MENU

This test provides information about Token-Ring circuits attached to the 1174 and allows the resetting of some of this information.

Test selection can be performed by entering the test number, followed by a comma, and then entering the circuit number or letter. If the input is invalid or a circuit selected is not configured, the error message "Invalid input, Token-Ring Circuit not found" is displayed.

```
Token Ring Menu                                              1174 Test Mode

  Test        Description

    1         Circuit Status Summary
    2         Reset All Circuit Statistics
    3         Reset Circuit Statistics for n
    4         Adapter Error Log
    5         Reset Adapter Error log



PF1-Main Menu   PF3-Prev Menu
```

Figure 9-20. Token-Ring Menu

SELECTION 1 – CIRCUIT STATUS SUMMARY

Displays information on the status of Token-Ring circuit.

Field	Description
Circuit	Token-Ring circuit number or Host letter.
Station Type	1174 station type, HOST or GATEWAY.
Line	Host link attachment (Gateway only).
PU Address	Address by which the host recognizes the control unit (Gateway only).
TR Line	Token-Ring line number recognized by the 1174.
TR Address SAP	Address of 1174 on Token Ring.
Station State	Interpretation of primary state code: 80 - Closed 40 - Disconnected 20 - Disconnecting 10 - Opening 08 - Resetting 04 - Frame Reject Sent 02 - Frame Reject Received 01 - Opened
Remote TR Addr RSAP	Token-Ring address of circuit type. Host: Gateway node address which is the host interface. Gateway: address of the downstream node.
T1 expirations	Number of times reply timer expired. Incremented each time a required acknowledgment is not received from a remote link station.
Link Primary State	Codes for Station State field (see above).

Field	Description
Link Secondary State	80 - Checkpointing 40 - Local Busy (user set) 20 - Local Busy (buffer set) 10 - Remote Busy 08 - Rejection 04 - Clearing 02 - Window Algorithm Running 01 - Reserved
V(s) V(r)	Send and receive state variables.

```
Circuit Status Summary                                          1174 Test Mode

Circuit    Station Type     Line     PU Address     TR Line      TR Address      SAP
    C          HOST                                   03       400020000000     04
           Station State                                        Remote TR Addr   RSAP
           OPENED                                               400010000000     04
Info frames transmitted                          4D0A
Info frames received                             4D9A
Info frames received with error                    00
T1 expirations when not sending data             0000
Last LLC control byte received                     00
Last LLC control byte transmitted                  1E
Link Primary State                                 01
Link Secondary State                               00
V(s)                                               0A
V(r)                                               09
Last NR received                                   09
Length of LAN header                               0E


PF1-Main Menu   PF3-Prev Menu  PF7-Back  PF8-Forw
```

Figure 9-21. Circuit Status Summary (Token Ring)

SELECTION 2 – RESET ALL CIRCUIT STATISTICS

Resets all statistics for all circuits. Reset message is displayed on line 24 of the display.

SELECTION 3 – RESET CIRCUIT STATISTICS FOR N

Resets all statistics for selected circuit n. Reset message is displayed on line 24 of the display.

SELECTION 4 – ADAPTER ERROR LOG

Displays Token-Ring errors for selected line and shows in which slot the particular board is located.

Field	Description
Line Errors	Count of errors that may occur. Some errors are a frame is repeated, the Error Detected Indicator (EDI) in the incoming frame is zero, or a Frame Check Sequence (FCS) error exists.
Burst Errors	Count of the times the adapter detects the absence of transitions on the line for a selected period of time.
ARI/FCI Errors	Address Recognized Indicator/Frame Copied Indicator. Count of the times the adapter received a frame it had previously transmitted but the ARI or FCI is zero, indicating frame not recognized or copied by the destination.
Lost Frame Errors	Count of the times an adapter fails to receive the end of frame it previously transmitted.
Receive Congestion Errors	Count of the times an adapter recognizes a frame with its address but insufficient buffer space prevents reception of the frame.
Frame Copied Errors	Count of the times an adapter recognizes a frame with its address but the ARI bit has already been turned on. This may indicate a duplicate ring address.

Field	Description
Token Error	Counter in the Active Monitor station. Incremented only when: • A priority token has the Monitor Count bit set to one. Indicates the token is not being received. • A frame has the Monitor Count bit equal to one. Indicates the token is not being received. • No token or frame is received within a 10-ms window. • Code violation exists in the Starting Delimiter/token sequence.
DMA Bus Error	Occurrences of DMA bus errors.
DMA Parity Errors	Occurrences of DMA parity errors.

```
Adapter Error Log                                          1174 Test Mode

                          Line  01
                          Slot  07

Line Errors                0
Burst Errors               0
ARI/FCI Errors             0
Lost Frame Errors          0
Receive Congestion Errors  65535
Frame Copied Errors        0
Token Error                0
DMA Bus Errors             0
DMA Parity Errors          0



PF1-Main Menu   PF3-Prev Menu
```

Figure 9-22. Adapter Error Log (Token Ring)

SELECTION 5 – RESET ADAPTER ERROR LOG

Resets all statistics for selected adapter, if more than one Token-Ring line exists. Input template is 5,ln where ln is Token-Ring line number. Reset message is displayed on line 24 of the display.

TEST W – WINDOW CONFIGURATION

The Window Configuration option under Test mode allows the naming of windows, the naming of user profiles, the establishing of system profiles, the naming of system profiles, and the selecting of a system profile (see Figure 9-23). More detailed information on windows may be found in the Installation and Configuration manual.

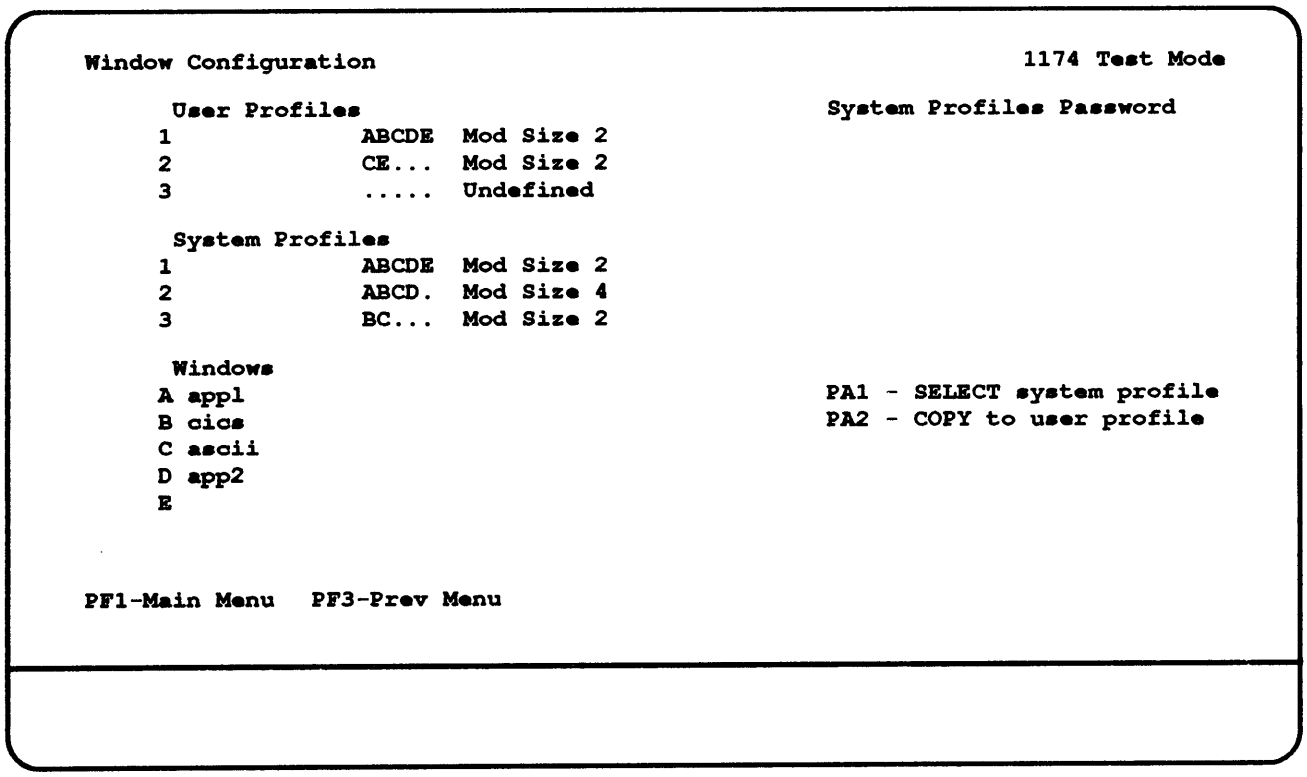

Figure 9-23. Window Configuration Panel

NAMING WINDOWS AND USER PROFILES

If you wish to give names to the windows or user profiles being used, tab to the desired window (or user profile), enter the desired name, and press the Enter key. Names can be up to eight characters (including spaces) in length.

DEFINING A SYSTEM PROFILE

If you wish to establish your user profiles as system profiles, the following procedure should be used:

- Tab to the System Profiles Password column and enter the password that was set up during your control unit configuration procedure.
- Press the Enter key.

NAMING A SYSTEM PROFILE

If you wish to change the name of an existing system profile, the following procedure should be used:

- Select the system profile by tabbing to the desired system profile and pressing the PA1 key.
- Establish that system profile as one of your user profiles by tabbing to the desired user profile position and pressing the PA2 key.
- Enter the desired name (up to eight characters in length) and then establish the newly named user profile as a system profile by tabbing to the System Profiles Password column and entering the appropriate password.

SELECTING A SYSTEM PROFILE FOR USE

To select a system profile for use, the following procedure should be used:

- Tab to the system profile desired. If the system profile you are trying to select calls for a mod size that is inappropriate for the device you are using, you will not be able to select that system profile.
- Press the PA1 key.
- Tab to the position in the User profiles column where you wish to enter the system profile as one of your user profiles.
- Press the PA2 key and then exit Test mode.

TEST V – VITAL DATA

The Vital Data panel in Test mode (see Figure 9-24) is used to display information about your control unit. The information displayed cannot be changed, but may prove useful when describing your particular control unit to others, such as service representatives.

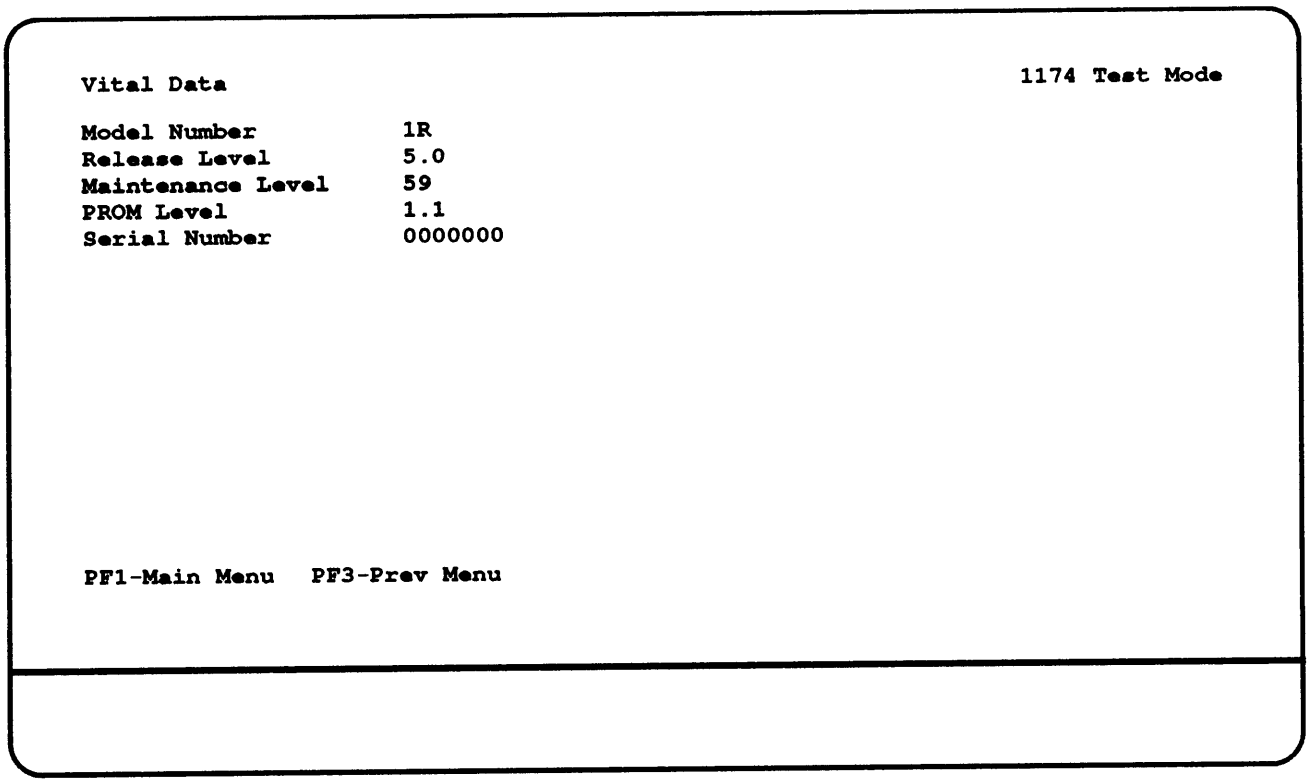

Figure 9-24. Vital Data Panel

Chapter 10

Offline Utilities

OFFLINE UTILITIES

INTRODUCTION

The offline utilities available on the 1174 allow for functions such as setting the date and time, creating a dump diskette, or initiating a dump disk routine (some of these routines may also be available through Test mode). This chapter explains how to enter and use the various utility functions.

It is very important to keep in mind that the use of these utilities requires that the control unit be taken offline and cannot communicate with its attached terminals. These utilities may also affect how the control unit operates after it is brought back online, so it is important to notify your system manager before attempting any of the utilities described in this chapter.

ENTERING UTILITIES MODE

Entry into the Utilities mode begins by pressing the IML key. When the Operator Panel displays IML 500, press the Diag key on the Operator Panel and the display should change to DIAG MODE = M, with the cursor flashing at the M. Enter a 5 on the Operator Panel keypad at the cursor and then press the Enter key. The Operator Panel display should now change to R:UU. Enter a 1 at the R and then enter the number of the desired utility at UU. Pressing Enter should now execute the utility.

If an invalid utility entry is made, UTILITY NOT FOUND is displayed. Pressing any key, except the IML key, will return you to the R:UU display.

When you wish to exit the Utilities mode, press the IML key.

UTILITY LIST

Utilities that are either reserved or not implemented are not listed here.

Utility	Description
01	Set Feature Key to Zero
03	Read Feature Key
05	Read Serial Number
06	Create Diagnostic Command File
07	Delete Diagnostic Command File
08	Set Date
09	Read Date
10	Set Time
11	Read Time
12	Read Slot Population Table Block
13	Display Diagnostic Results Block (DRB)
16	Read SCI Ports, 0-7
18	Keypad Test
19	Operator Panel LCD Display Test
20	Dump Disk
21	Boot I/O Processor Boards
22	Boot General Purpose Processor Boards
27	Toggle Operator Panel LCD Viewing Angle
28	Print Slot Population Table Through the Serial Port
33	Read PROM Release and Revision Level
34	Enable Configuration from any Port
35	Disable Configuration from any Port35

UTILITY DESCRIPTIONS

UTILITY 01 – SET FEATURE KEY TO ZERO

This utility permits clearing the feature key to all zeros.

If you accidentally enter this utility, press the Diag key to exit this utility without making any changes to the feature key.

The following describes the execution of the Set Feature Key to Zero utility.

1. Enter 01 in the UU field of the utility template (R:UU) and press the Enter key.
2. The feature key template, FKEY FFFFFF, is then displayed. FFFFFF is the current value of the six-digit feature key.
3. To exit the utility without clearing the feature key, press the Diag key.
4. To clear the feature key to zero, press the Clr key.
5. The feature key template should change to Fkey 000000.
6. Press any key (except the IML key) to return to the utility template (R:UU).

UTILITY 03 – READ FEATURE KEY

This utility displays the current value of the six-digit feature key code. This is a read only utility. The value of the feature key code cannot be changed using this utility.

The following describes the execution of the Read Feature Key utility. (Pressing any key except the IML key exits the utility and R:UU is displayed.)

1. Enter 03 in the UU field of the utility template (R:UU) and press the Enter key.
2. The feature key template, FKEY FFFFFF, is then displayed. FFFFFF is the current value of the six-digit feature key.
3. Press any key (except the IML key) to return to the utility template (R:UU).

UTILITY 05 – READ SERIAL NUMBER

This utility displays the current value of the serial number. This is a read only utility. The value of the serial number cannot be changed using this utility.

The following describes the execution of the Read Serial Number utility. (Pressing any key except the IML key exits the utility and R:UU is displayed.)

1. Enter 05 in the UU field of the utility template (R:UU) and press the Enter key.

2. The serial number template, SN NNNNNNNN, is then displayed. NNNNNNNN is the current value of the serial number.

3. Press any key (except the IML key) to return to the utility template (R:UU).

UTILITY 06 – CREATE DIAGNOSTIC COMMAND FILE

This utility provides for the creation of a command file that automatically initiates and executes desired 1174 diagnostic tests and utilities. The command file is automatically executed at IML or POR.

UTILITY 07 – DELETE DIAGNOSTIC COMMAND FILE

The diagnostic command file created by utility 06 may be deleted from the diskette using this utility. When deleted, the 1174 IMLs in the normal manner.

UTILITY 08 – SET DATE

The month, day, and year contained in the real time clock may be modified with this utility. The real time clock stores the values in nonvolatile memory.

The following describes the execution of utility 08.

1. Enter 08 in the UU field of the utility template (R:UU) and press the Enter key.

2. The date template, DATE MM:DD:YY, is then displayed.

3. Use the Operator Panel keypad to edit the date. Each field requires two digits to be entered. Press the Enter key to save the changed value and advance to the next field.

   The Adv key advances the cursor (moves one place to the right) without changing the current value of a digit within the current field only. The Clear key moves the cursor to the previous digit (backspaces) within the current field only.

Pressing the Diag key (before pressing the Enter key at the end of the YY field) aborts execution of the utility without altering the current date. Editing is terminated and the utility initiation template (R:UU) is displayed.

4. Pressing the Enter key, at the end of the YY field, terminates the editing mode and writes the new date to nonvolatile memory.

   The utility initiation template (R:UU) is then displayed.

UTILITY 09 – READ DATE

The month, day, and year contained in the real time clock are displayed with this utility.

The following describes the execution of utility 09.

1. Enter 09 in the UU field of the utility template (R:UU) and press the Enter key.

2. The date template, DATE MM:DD:YY, is then displayed.

3. Press any key (except the IML key) to return to the utility template (R:UU).

UTILITY 10 – SET TIME

The time contained in the real time clock may be modified with this utility. The real time clock stores the values in nonvolatile memory.

The following describes the execution of utility 10.

1. Enter 10 in the UU field of the utility template (R:UU) and press the Enter key.

2. The time template, TIME HH:MM:SS, is then displayed.

3. Use the Operator Panel keypad to edit the time. Each field requires two digits to be entered. Press the Enter key to save the changed value and advance to the next field.

   The Adv key advances the cursor (moves one place to the right) without changing the current value of a digit within the current field only. The Clear key moves the cursor to the previous digit (backspaces) within the current field only.

   Pressing the Diag key (before pressing the Enter key at the end of the SS field) aborts execution of the utility without altering the current time. Editing is terminated and the utility initiation template (R:UU) is displayed.

4. Pressing the Enter key, at the end of the YY field, terminates the editing mode and writes the new time to nonvolatile memory.

   The utility initiation template (R:UU) is then displayed.

UTILITY 11 – READ TIME

The month, day, and year contained in the real time clock are displayed with this utility.

The following describes the execution of utility 11.

1. Enter 11 in the UU field of the utility template (R:UU) and press the Enter key.

2. The time template, TIME HH:MM:SS, is then displayed.

3. Press any key (except the IML key) to return to the utility template (R:UU).

UTILITY 12 – READ SLOT POPULATION TABLE BLOCK

This utility displays the contents of a selected slot population table block (such as board ID, bounds, local memory, dual port memory, or feature masks). The slot population table is a data structure that details the characteristics of each board residing in the control unit. The table is organized by ascending slot ID number into blocks of 40 bytes with one block per slot.

The following describes the execution of utility 12.

1. Enter 12 in the UU field of the utility template (R:UU) and press the Enter key.

   The slot entry template, SLOT Jxx, is displayed. The input field xx represents the physical slot number of a given board to be viewed.

2. Use the Operator Panel to enter the physical slot number. Valid entries are 01 through 18.

3. Press the Enter key.

   The board ID entry template, BRD ID xxxx, is displayed. The field xxxx corresponds to the board ID.

4. Each time the Adv key is pressed, the next field is displayed. Pressing the Clear key displays a previous field.

   The following is a list of the fields and corresponding labels. All fields may not be displayed; only those fields valid for a particular board are displayed.

BRD ID xxxx	Board ID
SLT ID xxxx	Logical slot ID
LM BOT nnnnnnnn	Local memory bottom address
LM BAS nnnnnnnn	Local memory base (first allocatable) address
LM CUR nnnnnnnn	Next allocatable local memory address
LM END nnnnnnnn	Last allocatable local memory address
LM TOP nnnnnnnn	Physical top local memory address
SIZE xxxx	(not used)
RESERVED	Unused words of slot population table block
BOUNDS xxxx	Value loaded into board's bound register
DP SIZ nnnn	Size in kilobytes of dual port memory
DP BOT nnnnnnnn	Dual port memory block bottom address
DP BAS nnnnnnnn	Dual port memory first allocatable address
DP CUR nnnnnnnn	Dual port memory next allocatable address
DP END nnnnnnnn	Dual port memory last allocatable address
DP TOP nnnnnnnn	Dual port memory block top address
CFG M1 xxxxxxxx	First long word loader mask
CFG M2 xxxxxxxx	Second long word loader mask

5. Press the Diag key to exit and return to the utility template (R:UU).

UTILITY 13 – DISPLAY DIAGNOSTIC RESULTS BLOCK (DRB)

The DRBs are used to initiate, monitor, and report the results of the control unit diagnostic operations.

The following describes the execution of utility 13.

1. Enter 13 in the UU field of the utility template (R:UU) and press the Enter key.

   The LCD displays SRC Jxx, where xx corresponds to the slot number of the board that is the source of the interprocessor communications.

2. Use the Operator Panel to enter the physical slot number.
3. Press the Enter key.

   The LCD displays DEST Jxx, where xx is the board destination slot number for interprocessor communications.

4. Use the Operator Panel to enter the physical slot number.
5. Press the Enter key.

   The LCD displays COMMND: xx, where xx is the current value of the DRB command byte.

6. Each time the Adv key is pressed, the next field is displayed. Pressing the Clear key displays a previous field.

   The following is a list of the fields and corresponding labels. All fields may not be displayed; only those fields valid for a particular board are displayed.

COMMND: xx	Current value of the DRB command byte
PRC ST xx	Processor state byte
STATUS xx	DRB protocol status byte
MODE xx	Diagnostic mode value (M parameter)
X PARM xx	Hardware selection option (X parameter)
Y PARM xx	Control option (Y parameter)
SSL ID xx	Source slot parameter
DSL ID xx	Destination slot parameter
T PARM xx	Test type parameter

N PARM xx	Test number parameter
COUNT xx	Looped execution iteration count
WILD xx	Wild card parameter
FL ADDR nnnnnnnn	Address where test file is loaded
DRBW08 xxxx	DRB word 8
DRBW09 xxxx	DRB word 9
DRBW10 xxxx	DRB word A
DRBW11 xxxx	DRB word B
DRBW12 xxxx	DRB word C
DRBW13 xxxx	DRB word D
DRBW14 xxxx	DRB word E
DRBW15 xxxx	DRB word F

7. Press the Diag key to exit and return to the utility template (R:UU).

UTILITY 16 – READ SCI PORTS 0-7

This utility permits the reading of the contents of SCI ports 0 through 7. SCI is a hardware subsystem found on: all boards that plug into slots J01-J18 of the 1174-10R and the main board of the 1174-60R and most of the 1174-60R plug-in boards. Of the information available through the SCI ports, the most useful diagnostic information available for each board is:

Five-bit board ID and three-bit revision level (port 2).

Status of the board's programmable diagnostic LEDs (low nibble of port 1).

Read odd interrupt register (port 4).

Read even interrupt register (port 5).

The following describes the execution of this utility.

1. Enter 16 in the UU field of the utility template (R:UU) and press the Enter key.

2. RD SCI PORTS JXX should now be displayed.

3. At XX, enter the slot number for the board whose SCI port is to be read (actual slot number for an 1174-10R and logical slot number for an 1174-60R) by entering the number on the Operator Panel keypad and then pressing the Enter key.

   If a mistake is made entering the number from the keypad, the Adv key will move the cursor to the right and the Clear key will move the cursor to the left and the number may be reentered before pressing the Enter key.

4. If a valid slot number was entered, SCI PORT N = YY will be displayed, where N is the SCI port number (initially 0 for the first template displayed) and YY is a two-digit hexadecimal number representing the current value of port N.

   If an invalid slot number is entered, INVALID SLOT will be displayed. Press the Diag key to return to the utility template (R:UU) and reenter the utility if desired.

   If an empty slot number is entered, NO BOARD IN SLOT will be displayed. Press the Diag key to return to the utility template (R:UU) and reenter the utility if desired.

5. To display the contents of the other SCI ports, press the Adv or Clear key until the desired SCI port is displayed.

6. Press the Diag key to return to the utility template (R:UU).

UTILITY 18 – KEYPAD TEST

Except for the IML key, the Keypad test checks the operation of all Operator Panel keypad keys and discrete keys. Pressing the IML key at any time during the test reinitializes (PORs) the control unit.

The following describes the execution of utility 18.

1. Enter 18 in the UU field of the utility template (R:UU) and press the Enter key.

   The LCD displays Keypad Test.

2. Except for the IML key, the legend of any key pressed is displayed on the LCD.

   After all keys are pressed at least once, pressing any key exits the utility and the utility template (R:UU) is displayed.

UTILITY 19 – OPERATOR PANEL LCD DISPLAY TEST

This utility checks all 640 dots on the LCD display. The display is formatted as 16 characters. Each character is a 5 x 7 matrix of dots. Additionally, a single row of five dots is available for an underline. Any LCD that does not turn on should be considered a hardware failure.

Enter 19 in the UU field of the utility template (R:UU) and press the Enter key to initiate this utility. Press any key (except the IML key) to exit the utility and display the utility template (R:UU).

UTILITY 20 – DUMP DISK

The dump disk utility writes vital data areas to a floppy diskette for use in failure analysis. The quantity of data written is dependent upon the type of diskette installed. Messages are displayed for the type of dump performed.

If a diskette labeled as a dump diskette is installed in one of the disk drives, a full dump is performed. If a system diskette is installed, a mini dump is performed. If a utility diskette is installed, no dump is performed.

Entering 20 in the UU field of the utility template (R:UU) and pressing the Enter key initiates the utility.

If a system diskette is installed, the LCD display shows DOING MINI DUMP and the diskette drive LED of the drive containing the system diskette is turned on.

If a dump diskette is installed, the LCD display shows DOING FULL DUMP and the diskette drive LED of the drive containing the dump diskette is turned on.

When the dump operation is complete, DUMP COMPLETE is displayed.

If the utility cannot find a system or dump diskette in either drive, NO DISK TO DUMP is displayed. If an error occurs during the dump, DUMP ERROR: xx is displayed (where xx is a dump error code).

Press any key (except the IML key) to exit the utility and display the utility template (R:UU).

UTILITY 21 – BOOT I/O PROCESSOR BOARDS

This utility boots all I/O processor (IOP) boards installed in the control unit. Board types in this category are 80188-based, dual port memory boards such as the AIC, MCC, and SCC boards. The execution of this utility is a prerequisite for running any offline extended diagnostic tests on any of the IOP processor boards. Booting removes reset from the board and loads its resident diagnostic manager software.

When initiated, the utility searches the slot population table, starting with logical slot 0 (J02), and boots each IOP board found.

To initiate the utility, enter 21 in the UU field of the utility template (R:UU) and press the Enter key. The following are indications of test execution.

1. The disk drive LED turns on, indicating that the diagnostic manager file is being loaded.

2. The board reset LED (red) is turned off for each IOP board installed.

3. The least significant programmable diagnostic LED blinks on each installed IOP, indicating successful boot operation and polling of its SC/GPP receive DRB for a new command.

   Steps 2 and 3 occur on each board separately, in left-to-right order across the card cage.

When the boot is complete, the utility is automatically terminated and the standard diagnostic utility initiation template (R:UU) is displayed.

UTILITY 22 – BOOT GENERAL PURPOSE PROCESSOR BOARDS

Utility 22 allows the operator to boot all of the general purpose processor boards (GPPs) installed in the control unit. GPPs are distinguishable from other boards by their 68010 microprocessor, lack of dual port RAM, and specialized I/O peripherals. Since GPPs have no on-board boot PROMs, they must be loaded by an external processor (the SC/GPP).

The user should note that execution of this utility is a prerequisite for running any offline extended diagnostic tests on any GPP board. Booting removes reset from the board and loads its resident diagnostic manager software.

When initiated, this utility executes on all GPPs found in the control unit that are occupying valid slots. The utility searches the slot population table starting with logical slot 0 (J02) and proceeds to the left (in the card cage), booting each GPP found.

Since GPPs have no dual port RAM that they can locally access, the resident diagnostic manager must be loaded into common memory. However, before the common memory can be used, it too must be initialized. Therefore, this utility:

- Initializes common memory.

- Loads the GPP resident diagnostic manager into common memory.

- Enables the GPP MAP bit in SCI.

- Boots the GPP by removing its reset via SCI.

The SCI MAP bit is instrumental in this process because it forces the base of common memory to appear to the GPP microprocessor as address $000000. For a 68010 microprocessor, removal of reset forces an access to address $000000, which must contain the initial stack pointer. Without the MAP bit, the 68010 would look at its true address $000000 in local memory instead of being forced to the base of common memory.

To initiate the utility, enter 22 in the UU field of the utility template (R:UU) and press the Enter key. The following are indications of test execution.

1. The disk drive LED turns on, indicating that the diagnostic manager file is being loaded.

2. The board reset LED (red) is turned off for each GPP board installed.

3. The least significant programmable diagnostic LED blinks on each installed IOP, indicating successful boot operation and polling of its SC/GPP receive DRB for a new command.

   Steps 2 and 3 occur on each board separately, in left-to-right order across the card cage.

When the boot is complete, the utility is automatically terminated and the standard diagnostic utility initiation template (R:UU) is displayed.

UTILITY 27 – TOGGLE OPERATOR PANEL LCD VIEWING ANGLE

This utility allows the operator to toggle the viewing angle of the Operator Panel LCD display. The 1174 hardware provides a single-bit output port which allows selection of two viewing angles: one which approximates a 6 o'clock position and one which approximates a 12 o'clock position. Each execution of this utility toggles this bit, switching the LCD display between the two viewing angles.

To initiate the utility, enter 27 in the UU field of the utility template (R:UU) and press the Enter key.

Observe that the Operator Panel LCD display viewing angle changes.

When the viewing angle has changed, the utility is automatically terminated and the standard diagnostic utility initiation template (R:UU) is displayed.

UTILITY 28 – PRINT SLOT POPULATION TABLE THROUGH THE SERIAL PORT

Utility 28 allows the operator to generate a hard copy of the slot population table through a printer attached to the SC/GPP serial port. The slot population table is a data structure that identifies the physical resources, such as boards and drives, installed in the control unit and information about the amount of memory on each board.

Entering 28 in the UU field of the utility template (R:UU) and pressing the Enter key initiates the utility. After the information has been printed, the utility will be terminated and the standard diagnostic utility template (R:UU) will appear on the Operator Panel display.

UTILITY 33 – READ PROM RELEASE AND REVISION LEVEL

This utility permits the display of the release and revision level of the 1174-10R SC/GPP PROMs or the 1174-60R main board PROMs. It should be noted that, even with the same release and revision levels, 1174-10R PROMs and 117460R PROMs do not contain the same information and may not be interchanged.

The following describes the execution of this utility.

1. Enter 33 in the UU field of the utility template (R:UU) and press the Enter key.

2. PROM LEVEL=XX.YY should now be displayed, where XX is the release level of the controller's PROMs and YY is their revision level.

3. Press any key (except the IML key) to return to the utility template (R:UU).

UTILITY 34 – ENABLE CONFIGURATION FROM ANY PORT

Utility 34 allows the configuration of the controller from any port. Once this utility has been enabled, it remains enabled through subsequent IMLs and configurations. The only way to disable it is to use Utility 35, "Disable Configuration from any Port."

To enable configuration from any port, follow these steps:

1. Enter 34 in the UU field of the utility template (R:UU) and press the Enter key.

2. CFG ANY PORT ON is displayed.

3. Press any key (except the IML key) to return to the utility template (R-UU).

UTILITY 35 – DISABLE CONFIGURATION FROM ANY PORT

This utility is the only way to disable Utility 34, "Enable Configuration from any Port."

Follow these steps to disable configuration from any port:

1. Enter 35 in the UU field of the utility template (R:UU) and press the Enter key.
2. CFG ANY PORT OFF is displayed.
3. Press any key (except the IML key) to return to the utility template (R-UU).

Appendix A

Offline Dump Disk

OFFLINE DUMP DISK

INTRODUCTION

The offline dump disk is a means for recording information about the functioning of the control unit for the purpose of troubleshooting problems. This will usually be done at the request of your service representative and with the approval of your system manager.

In the case of serious problems, the control unit may automatically save this information to the system disk by performing a minidump. Sometimes it may be necessary to save more information than can be put onto the system disk, and it becomes necessary to save this more extensive information to the dump disk.

Depending on the type of problem you are having, you may be able to record your own description of the problem on the dump disk. If possible, follow the Problem Report Form procedure that follows; otherwise, go on to the Dump Disk instructions.

NOTE: This procedure requires that the control unit be taken offline. Proceed with the offline dump only with the approval of your system manager.

OFFLINE DUMP PROCEDURES

PROBLEM REPORT FORM

The problem report form allows a description of a problem to be recorded along with a recording of the control unit's activity (a "dump") to help in the troubleshooting of a problem.

The existing problem may prevent this procedure from being performed and you should then proceed to the Dump Disk procedure.

To record a problem report on the dump disk, do the following:

- Remove the system disk from the control unit and insert the dump disk.
- On a display station attached to the control unit, press the Alt and Test keys at the same time to enter Test mode.
- On the Test Mode menu, enter "D/2" and then press the Enter key.
- Follow the displayed instructions to record your problem information. Press Enter when finished.

- Follow the displayed instructions to record your problem information. Press Enter when finished.

DUMP DISK PROCEDURE

The following procedure will cause an offline dump of information to the dump disk:

NOTE: This procedure requires that the control unit be taken offline. Proceed with the offline dump only with the approval of your system manager.

- If not already done, remove the system disk from the control unit and insert the dump disk.
- On the control unit Operator Panel, press the Alt key and then the 1 key. After a few seconds, the message "DOING FULL DUMP" should be displayed on the Operator Panel display.
- Wait until the control unit Operator Panel displays "DUMP COMPLETE."
- If the problem with your control unit will allow, bring the system back up by replacing the dump disk with your system disk and then pressing the IML key on the control unit Operator Panel.

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