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## Bridge Program Loading Instructions

After you have completed the preparations listed in the previous section, you can load and use the Bridge Program.

**If you want to load the Bridge Program using a DOS command,** go to “Instructions to Load the Bridge Program Using a DOS Command” on page 4-3.

**If you want to use automatic loading,** go to “Automatic Loading Instructions” on page 4-5.

# Instructions to Load the Bridge Program Using a DOS Command

To load the Bridge Program after you have DOS operating in your computer:

- 1 If you have just run the Ring Diagnostic or a program other than the Bridge Program in the bridge computer, reload DOS in the bridge computer by turning the computer power off for at least 15 seconds and then back on.
- 2 Use DOS commands to verify that the date and time stored in the computer are correct if your bridge computer has a clock/calendar with battery backup feature. When DOS is started, the computer takes the date and time displayed from that standard feature. If the date and time are not correct or if your computer does not have the feature, use DOS commands to set the date and time before proceeding. The Bridge Program will stamp the entries in the Error Log file (ECCLOG.DAT) with the date and time as logging occurs.
- 3 Before you load the Bridge Program, make sure that either:
  - Your Bridge Program Working Diskette is in the bridge computer's default drive (including the ECCPARMS.BIN configuration file if you have changed any parameter values), or
  - The Bridge Program has been installed on the bridge computer's fixed disk (including the ECCPARMS.BIN configuration file if you have changed any parameter values), and the directory containing the Bridge Program files is set as the default directory.
- 4 Load the Bridge Program by typing:

## **BRIDGE**

at the DOS prompt and pressing the **Enter** key.

The Bridge Program should now begin loading and initializing.

- 5 Go to "Bridge Initialization" on page 4-6 to continue.

## Instructions to Load the Bridge Program Using a Batch File

To load the Bridge Program using a batch file:

- 1 Use a text editor to create a batch file on the working disk or diskette. The name of the file ends with the extension **BAT**.  
For more information about creating an AUTOEXEC.BAT file, see your DOS manuals.
- 2 Type the command **ECCMAIN** in the file.
- 3 To load the Bridge Program, type the name of the batch file at the DOS prompt and press the **Enter** key.
- 4 The Bridge Program should now begin loading and initializing.  
Go to "Bridge Initialization" on page 4-6 to continue.

# Automatic Loading Instructions

Be sure your computer is ready for use as a bridge as explained in Chapter 3. The AUTOEXEC.BAT file containing the Bridge Program load command must be on the working disk or diskette.

**Note:** To find out if your computer will automatically power back on after a loss of electrical service voltage, refer to the documentation for your computer. Even a brief loss of electrical power, for example, might require some computers to be switched off and back on to start again.

To load the Bridge Program automatically:

1. Turn the computer power on. **(If the bridge computer power is already on, turn the power off for at least 15 seconds and then back on.)**

The Bridge Program will automatically load after DOS is loaded in the computer.

2. The Bridge Program should now begin initializing.

Go to "Bridge Initialization" on page 4-6 to continue.

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## Bridge Initialization

As you are loading the Bridge Program, a Copyright panel appears on the monitor screen.

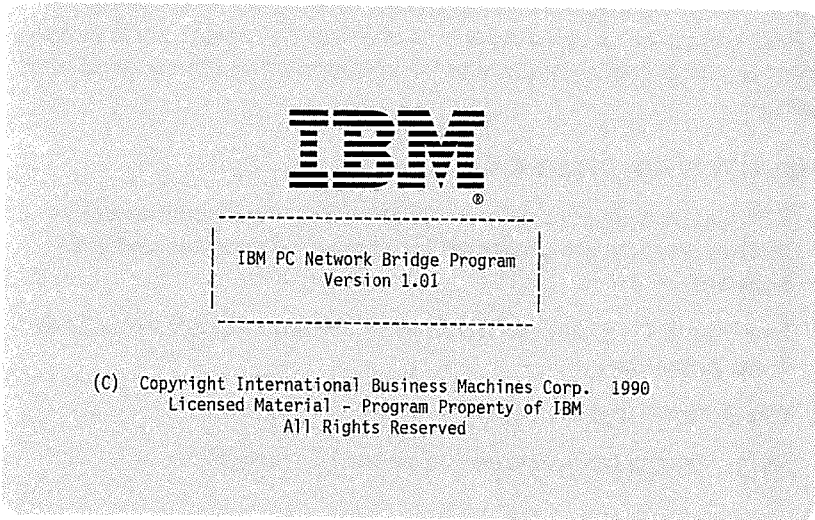


Figure 4-1. The Copyright Panel

After a few seconds the Initialization panel replaces the Copyright panel.

# The Initialization Panel

```
ECCPIT10          IBM PC NETWORK BRIDGE PROGRAM
                  Initialization                      11:43:25
-----
Bridge initialization is in progress, please wait.      ECCBR001I
Using parameters in ECCPARMS.BIN file.                 ECCBR025I
Bridge Program level is 1.0.                            ECCBR026I
Network adapter 0 is open, address is 10005A000567.    ECCBR028I
Network adapter 1 is open, address is 10005A0005DE.    ECCBR028I
Bridge test has been started, please wait.             ECCBR170I
Bridge test completed successfully.                    ECCBR174I
Bridge 1 initialization is complete.                   ECCBR029I
Press any key to view function menu.                   ECCBR045I
```

LAN Segment 001 Status = Normal

LAN Segment 002 Status = Normal

Figure 4-2. The Initialization Panel

This panel displays messages indicating the progress of the loading and initialization. Appendix A describes all of these messages.

**Note:** The initialization procedure can take up to 3 minutes to complete. When both network adapters have opened, the LAN Segment Status area at the bottom of the panel dynamically displays the current LAN segment status.

When the “Bridge initialization complete” and “Press any key to view function menu” messages are displayed, the Bridge Program is operating and communication can occur across the bridge.

**Warning:** Once the Bridge Program is operating, do not stop it by turning off the computer power or by pressing the **Ctrl-Alt-Del** key sequence. Unpredictable results will occur on the network if that is done. Use the **Shutdown** function on the Main Menu panel to end Bridge Program operation in an orderly way.

By pressing any key, you can display the Main Menu panel, which allows you to select a supporting function. See "The Main Menu Panel" on page 4-19. The Initialization panel will not be displayed again after the first time the Main Menu panel is displayed. However, the Configuration Data panel, available from the Main Menu panel, also displays the configuration parameter values and the Bridge Program level as displayed on the Initialization panel.

If you do not want to use the functions available from the Main Menu panel, you can leave the Initialization panel displayed until you need to perform a function, such as Shutdown.

If the initialization does not progress as it should, a message will indicate the problem. Find the message in Appendix A and follow the actions recommended in the message description.

## Retry Initialization

Retry initialization applies to **only** the IBM Token-Ring Network.

If the Bridge Program detects a beaconing condition on one or both of the rings due to a problem on the network, the Bridge Program will try to open the adapters until both adapters have been opened successfully, or until the bridge operator intervenes by pressing the **F3 (Exit)** key. A beaconing condition indicates that the ring is inoperative.

For example, a beaconing condition is caused by a broken cable somewhere in the network. The Bridge Program will retry initialization until the cable is fixed and is able to open its adapter successfully.

**Note:** In case an adapter in the bridge computer has been set to the wrong data rate, the Bridge Program will not be able to initialize until you change the data rate of the adapter to match the data rate of the ring.

While attempting to initialize, the Bridge Program performs the following actions:

1. When the Bridge Program first tries to open the adapter and determines that the ring is beaconing, a message is displayed notifying the bridge operator that the ring has beaconed during initialization and that it will continue trying to open the adapter.

2. The Bridge Program continues trying to open the adapter once per minute until both adapters open successfully in the bridge computer. The bridge operator can stop this process by pressing the **F3 (Exit)** key. After pressing the **F3 (Exit)** key, it can take up to 1 minute for the Bridge Program to return to the DOS prompt.
3. The Bridge Program sends an alert to the IBM LAN Manager Version 2.0 as notification of the beaconing condition on the ring. The IBM LAN Manager will forward the alert to NetView\* if a link with NetView has been established.
4. If the Bridge Program does not receive an acknowledgment from the IBM LAN Manager Version 2.0 within 1 minute, the Bridge Program continues sending an alert every minute until it has sent four alerts.  
  
If the Bridge Program does receive an acknowledgment from the IBM LAN Manager Version 2.0, the Bridge Program will not send out any more alerts.
5. After the fourth alert is sent without receiving an acknowledgment, the Bridge Program waits 10 minutes and repeats the procedure again (steps 3—5) if the beaconing condition has not been corrected.

The IBM LAN Manager Version 2.0 logs each alert in its alert log, and passes the alert to NetView if a link with NetView has been established. Each alert contains the fault domain for problem determination. See the *IBM LAN Manager User's Guide* Version 2.0 or the *NetView Resource Alerts Reference* for more information about these alerts.



# Operating the Bridge Program

The remainder of Chapter 4 describes the format of the Bridge Program panels and the use of the Bridge Program functions.

## Panel Areas

All panels displayed by the Bridge Program following the Copyright panel use specific areas of the screen for similar information.

Presented below is a diagram of a panel showing the placement of the panel elements.

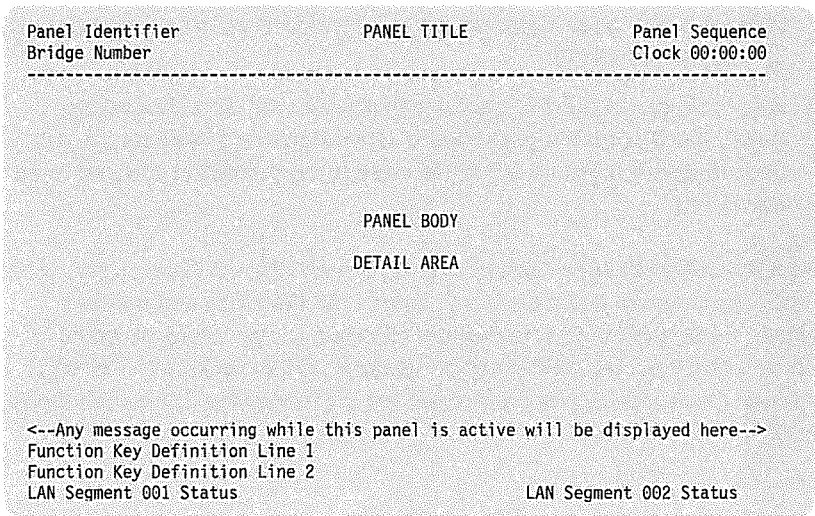


Figure 4-3. Placement of Panel Elements

## Panel Identifier and Bridge Number

An identification number appears in the upper left of the panel for each panel displayed by the Bridge Program. All panels except the Initialization panel display the bridge number just below the panel identification number.

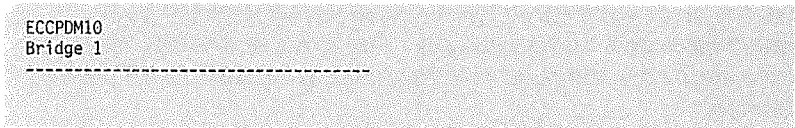


Figure 4-4. The Panel Identifier and Bridge Number

## Panel Sequence and Clock

Some panels are part of a series. On those panels, the sequential number and the total number of panels in the series appear in the upper-right area of the panel.

A dynamically updated 24-hour clock also appears in the upper-right area of the panel. After the Initialization panel replaces the Copyright panel, the clock appears on the Initialization panel when both adapters have opened successfully. The clock represents the time maintained by the computer clock feature. It appears on all panels thereafter.

**Note:** During peak traffic periods, such as when large files are crossing the bridge or many users are sending data over the same bridge at the same time, the clock may lose time. You can correct the clock by doing the following:

1. Stop Bridge Program operation.
2. At the DOS prompt, type the DOS command **TIME**.

You will then see what the current time is and you will be asked to enter the new time.

3. Type in the correct time as hours (hh), minutes (mm), and seconds (ss) (hh:mm:ss).

If you need more information about using DOS commands, see your DOS manuals.

4. Load the Bridge Program again.

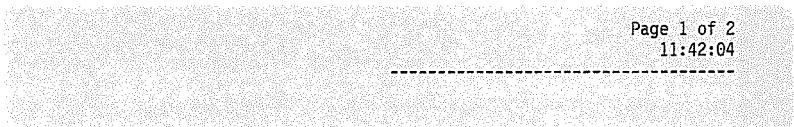


Figure 4-5. A Panel with Two Pages

## Lower Panel Areas

At the bottom of each panel are three areas:

- The LAN Segment Status area
- The function key displays
- The message area.

### LAN Segment Status Area

After the adapters have been opened and the Bridge Program has gained access to each LAN segment, the status of each LAN segment appears on the bottom line of the panel. The status of the LAN segment to which adapter 0 (the primary adapter) is connected appears on the left in the LAN Segment Status area. The status of the LAN segment to which adapter 1 (the alternate adapter) is connected appears on the right in the LAN Segment Status area. See Appendix A for a description, and suggested actions where applicable, for the five IBM Token-Ring Network and four IBM PC Network status conditions that you may see here.

The five IBM Token-Ring Network status conditions are:

- **Normal**
- **Soft Error**
- **Beaconing**
- **Adapter Closed**
- **Wire Fault.**

The four IBM PC Network status conditions are:

- **Normal**
- **Continuous Carrier**
- **No Carrier**
- **Adapter Closed.**

Help panels, displayed by pressing **F1 (Help)**, provide descriptions of these conditions.

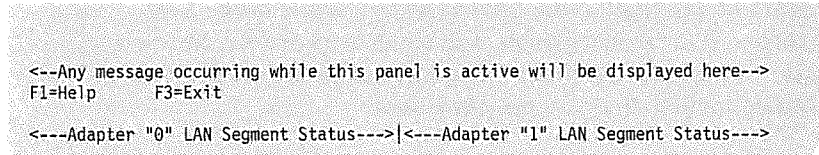
### Function Key Displays

The area just above the LAN Segment Status line indicates the function keys that are active for the panel.

## Message Area

For all panels except the Initialization and Shutdown panels, the line above the function key indicators displays any messages that occur while the panel is being displayed. When there is no message to display, the area is blank. If a message is displayed in this area and another message occurs, the first message is erased and replaced. A message displayed in this area is also erased when any key except the **Shift-PrtSc** sequence is pressed.

The Initialization and Shutdown panels use the entire screen area for messages. See Appendix A for a description, and suggested actions where applicable, for any messages that may appear in the message area.



```
<--Any message occurring while this panel is active will be displayed here-->
F1=Help      F3=Exit

<---Adapter "0" LAN Segment Status--->|<---Adapter "1" LAN Segment Status--->
```

Figure 4-6. The Message, Functions, and LAN Segment Status Areas

## The Detail Area

For all panels except the Initialization and Shutdown panels, the remaining lines in the middle of the panel display descriptive information and operator entries when applicable.

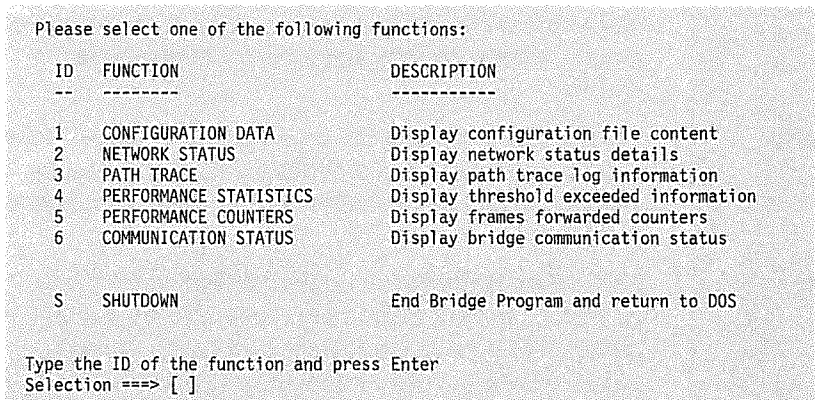



Figure 4-7. The Detail Area

# Key Use

Use the keys described here when operating the Bridge Program. No other keys are active. If you press any other key, a beep will sound.

Key	Function
PgDn	Press <b>PgDn</b> to display the next panel (page) if the current panel is one of a series. If there are no more panels, a beep sounds and an error message is displayed.
PgUp	Press <b>PgUp</b> to display the previous panel (page) if the current panel is one of a series. If there are no previous panels, a beep sounds and an error message is displayed.
F1	If <b>F1 = Help</b> is displayed on the current panel, press <b>F1</b> to display help information related to the current panel. If <b>F1 = Help</b> is not displayed on the current panel, a beep sounds and no action results when the key is pressed.
F3	If <b>F3 = Exit</b> is displayed on the current panel, press <b>F3</b> to return to the panel that was displayed when the current panel or sequence of panels was selected. If <b>F3 = Exit</b> is not displayed on the current panel, a beep sounds and no action results when the key is pressed.
F5	<p>If <b>F5 = Refresh</b> is displayed on the current panel, press <b>F5</b> to update the panel with the most current information available.</p> <p>The third panel of the Configuration Program allows <b>F5 = Redisplay</b> to be pressed to clear the link password fields if an error is made in typing the entries.</p> <p>If <b>F5 = Refresh</b> or <b>F5 = Redisplay</b> is not displayed on the current panel, a beep sounds and no action results when the key is pressed.</p>
F7	If <b>F7 = Bridge Test</b> is displayed on the current panel, press <b>F7</b> to start the Bridge Test. See "The Bridge Test" on page 4-20. If <b>F7 = Bridge Test</b> is not displayed on the current panel, a beep sounds and no action results when the key is pressed.

<b>F9</b>	If <b>F9 = Reset</b> is displayed on the current panel, press <b>F9</b> to reset the bridge performance counters to zero, clear the Path Trace Log, or clear the Network Status Details panels. See “The Performance Counters Panel” on page 4-30, “The Path Trace Panel” on page 4-28, and “The Network Status Details Panels” on page 4-25. If <b>F9 = Reset</b> is not displayed on the current panel, a beep sounds and no action results when the key is pressed.
	Press the <b>Enter</b> key after typing in a character to select a function on the Main Menu panel.
<b>Shift-PrtSc</b>	Press the <b>Shift-PrtSc</b> key sequence to invoke the Print Screen function available with DOS. The information displayed is sent to your printer. If there is no printer attached to the computer or the printer is not ready, no action results when the key sequence is pressed.
<b>Ctrl-NumLock</b>	<b>Do not use the Ctrl-NumLock key sequence.</b> It will place the computer in a <i>Pause</i> state and cause unpredictable results. No further bridge processing will occur. Pressing any key will stop the pause, and the bridge will resume normal processing.
<b>Ctrl-Alt-Del</b>	<b>Do not use the Ctrl-Alt-Del key sequence while the Bridge Program is operating unless all other options have been exhausted.</b> This key sequence will start the computer again. This will cause the Bridge Program to stop processing immediately and will bring about unpredictable results.



# Help Panels

You can access help panels by pressing the **F1 (Help)** key from any panel that indicates help is available. The Help panel information describes the terms and values shown on the panel displayed when help was requested. Figure 4-8 shows an example of a Help panel.

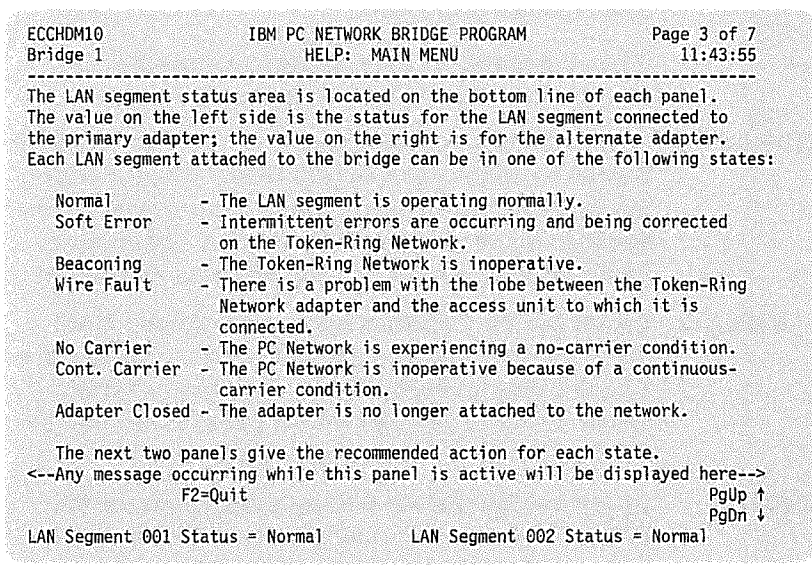


Figure 4-8. A Help Panel

Specific Help panels are available from each of the Function panels and from the Main Menu panel. The Help panels explain the information displayed on those panels and indicate how to use a panel or function.

## The Main Menu Panel

You can display this panel by pressing any key at the Initialization panel, or by pressing the **F3 (Exit)** key at any of the function panels.

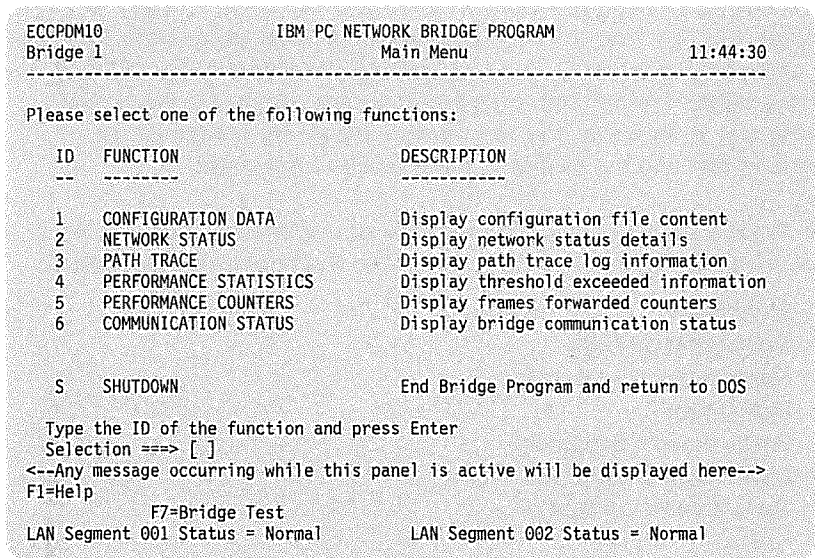


Figure 4-9. The Main Menu Panel

To use one of the functions, type in the applicable number from 1 through 6 or **S** for Shutdown and press the **Enter** key. If you perform any of the following actions, an error message will be displayed or a beep will sound:

- Press an invalid function key or a cursor movement key
- Press **Enter** without having typed in a number from 1 through 6 or **S** for Shutdown
- Press **Enter** after having typed in an alphabetic or numeric value other than 1 through 6 or **S** for Shutdown.

You can press the **F1 (Help)** key to display Help information describing the available functions.

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## The Bridge Test

The bridge test function is available from several of the function panels and from the Main Menu.

By pressing **F7 (Bridge Test)** you initiate a test to verify that the Bridge Program can communicate from one LAN segment to the other by using both adapters. The test consists of transmitting frames from each adapter through the bridge to the other adapter in the bridge computer. In this way, the test verifies a path from each LAN segment through the bridge to the opposite LAN segment.

The Bridge Test initiates automatically during the Bridge Program's initialization process. It is also available from the following panels:

- Main Menu
- Configuration Data
- Network Status Details
- Path Trace
- Performance Statistics
- Performance Counters
- Communication Status.

A message appears to indicate successful completion of the Bridge Test. If an error should occur, messages will indicate the detected failure. Refer to Appendix A for cause and action information.

---

## The Function Panels

The function panels provide detailed information to a network administrator, planner, or person performing network problem determination.

Type a selection number on the Main Menu and press the **Enter** key to display a function panel. Each of the fields or terms used on the function panels is explained on associated Help panels available by pressing the **F1 (Help)** key while viewing the panel.

Some fields are displayed only for use by service suppliers in the event of a problem that you are unable to resolve (beacon error type, for example). If the explanations of the fields and the actions in message explanations in Appendix A do not indicate that you need the information for network management or problem resolution, just record the information and have it ready to provide to the service supplier.

# The Configuration Data Panels

Type **1** and press the **Enter** key on the Main Menu to display the Configuration Data panels.

These panels display the configuration parameters currently being used by the Bridge Program. You can use these parameters to verify that the configuration file has been correctly prepared or to isolate network problems.

The largest frame size is displayed on one of the Configuration Data panels. The type of adapters installed in the bridge computer affects the largest frame size that the Bridge Program can support. For application programs sending frames across a bridge, adjust the application to send a maximum frame size less than or equal to the largest frame size that the bridge can process. See Table 4-1 on page 4-23 for the largest frame size in bytes depending on the type of adapters in the bridge computer.

Table 4-1. Largest Frame Sizes in Bytes

Alternate Adapter	Primary Adapter	
	PC Network/A adapters	Token-Ring Network Adapter/A at 4 Mbps
PC Network/A adapters	2052	2052
Token-Ring Network Adapter/A at 4 Mbps	2052	2052
Token-Ring Network 16/4 Adapter/A at 4 Mbps	2052	2052
Token-Ring Network 16/4 Adapter/A at 16 Mbps	2052	2052

Alternate Adapter	Primary Adapter	
	Token-Ring Network 16/4 Adapter/A at 4 Mbps	Token-Ring Network 16/4 Adapter/A at 16 Mbps
PC Network/A adapters	2052	2052
Token-Ring Network Adapter/A at 4 Mbps	2052	2052
Token-Ring Network 16/4 Adapter/A at 4 Mbps	4472	4472
Token-Ring Network 16/4 Adapter/A at 16 Mbps	4472	8144

You **cannot** alter the parameters from this panel. You can alter the configurable parameters in these two ways:

- Using the Configuration Program to change the configuration file as described in Chapter 2, and then restarting the Bridge Program.
- Using the IBM LAN Manager Version 2.0 through a controlling link with the bridge to change the configuration parameters.

The **F5 (Refresh)** function updates the Configuration Data panels to show the Bridge Program's configuration parameters that have been changed by the IBM LAN Manager Version 2.0.

The bridge may automatically change the following parameters during initialization due to an error condition:

- Frame forwarding active
- Parameter server
- Configuration report server
- Automatic single-route broadcast.

When you press **F5 (Refresh)**, if the Bridge Program changed configuration parameter values due to an error condition, the fields are marked by an asterisk (\*).

To display the second and third Configuration Data panels, press the **PgDn** key. You can return to the first or second Configuration Data panel by pressing the **PgUp** key. You can return to the Main Menu panel by pressing the **F3 (Exit)** key.

## The Network Status Details Panels

Type **2** and press the **Enter** key at the Main Menu to display the first of these two panels.

The information available on these panels is useful for network problem determination. Separate panels display information about each LAN segment; use the **PgDn** and **PgUp** keys to view the LAN segment status for each part of the network.

The following panel displays information about the most recent no-carrier and continuous-carrier conditions for a PC network segment connected to the bridge.

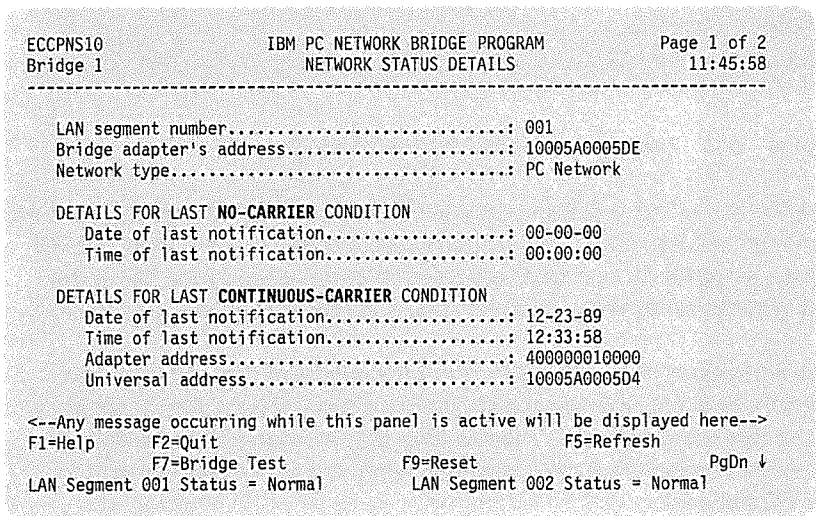


Figure 4-10. The Network Status Details Panel (Page 1)

The following panel displays information about the most recent soft error and beaconing conditions for a token-ring network segment connected to the bridge.



-----  
LAN segment number.....: 002  
Bridge adapter's address.....: 10005A000567  
Network type.....: Token-Ring  
Current NAUN address.....: 10005A001BEF

FAULT DOMAIN DETAILS FOR LAST **SOFT ERROR** CONDITION

Date of last notification.....: 12-23-89  
Time of last notification.....: 12:28:48  
First adapter's address.....: 40005A0004D4  
Error Count.....: 0F  
Second adapter's address.....: 40005A0002AB  
Error Count.....: 0F

FAULT DOMAIN DETAILS FOR LAST **BEACONING** CONDITION

Date beacon occurred.....: 00-00-00  
Time beacon occurred.....: 00:00:00  
NAUN adapter's address.....: 000000000000  
Beaconing adapter's address.....: 000000000000  
Error type.....: 0000

<--Any message occurring while this panel is active will be displayed here-->

F1=Help F2=Quit

F5=Refresh

PgUp ↑

F7=Bridge Test

F9=Reset

LAN Segment 001 Status = Normal

LAN Segment 002 Status = Normal

Figure 4-11. The Network Status Details Panel (Page 2)

The Network Status Details panels shown here illustrate what the first panel would look like if the primary adapter were connected to a PC network segment, and what the second panel would look like if the alternate adapter were connected to a token-ring network segment.

The first panel displayed is for the LAN segment connected to the primary adapter; the second panel is for the LAN segment connected to the alternate adapter. Please note that the correct panel will appear corresponding to whether it is for the token-ring network or the PC network.

If the bridge connects two token-ring network segments, then the first Network Status Details panel will appear for the segment attached to the primary adapter. Press the **PgDn** key and the second Network Status Details panel will appear for the other segment that is attached to the alternate adapter. Both panels will be similar to the panel shown in Figure 4-11.

If the bridge connects two PC network segments, then the first Network Status Details panel will appear for the segment attached to the primary adapter. Press the **PgDn** key and the second Network