

RS/6000 7043-150 System Firmware Update

Applies to : IBM RS/6000 7043-150, 7046-B50

This document describes the installation of Licensed Machine Code, which is sometimes referred to generically as microcode or firmware.

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1.0 Systems Affected

This update provides new System firmware (FW) for RS/6000 7043-150 and 7046-B50 systems **only**. Do **not** use on any other systems.

The firmware level contained in this update is:

- **System FW: TCP05287**

The typical time to install this firmware is 0.7 hours. The firmware does not become active when installed and requires a system reboot to become active. The reboot time will vary depending on the system and the amount of features installed. This estimate is for an average system.

2.0 Firmware Description and Revision History

[Table 2.1 lists the levels and descriptions for System firmware.](#)

Table 2.1: System Firmware Update Descriptions and History	
TCP05287	<ul style="list-style-type: none">• Added support for the FAT-16 file system.• Added support for ARP (address request protocol).• On the IBM10/100 Mbps Ethernet PCI adapter (FC 2698), the default network settings were changed to auto,auto.• Fixed a problem on the 7046-B50 system that prevented the system serial number from being reprogrammed after the riser card was replaced.
TCP04195	<ul style="list-style-type: none">• Added support for AIX 5.3.• Corrected problem with auto negotiation at 10/100 speeds for 10/100/1000 Base-T Ethernet PCI Adapter (FC 2975).• GUI SMS menus replaced with text based menus.• Enhancements to SMS network adapter menus to resolve various configuration issues and ping test failures.• Added support to provide response to APR requests for Hot Standby Router Protocol (HSRP) or other network processes that generate ARP requests during NIM operations.
TCP04020	<ul style="list-style-type: none">• Resolves ethernet adapter link errors reported in AIX error log during boot on systems equipped with IBM 4-Port 10/100 Ethernet Adapter (FC 4951), IBM Universal 4-Port 10/100 Ethernet Adapter (FC 4961) or integrated adapters based on these adapter types.• Enhancements to prevent potential ping and NIM boot failures on SP and Cluster attached servers.
TCP03126	<ul style="list-style-type: none">• Parameter change to limit bootlist entries set via AIX to 5.• Corrected boot failure with 'Default Catch' message displayed on console when booting from tape media containing large boot image.• Corrected 'Default Catch' message displayed on console after SMS 'Change SCSI ID' utility screen is accessed.
TCP02289	<ul style="list-style-type: none">• Corrected Auto configuration, ping and NIM failures on Ethernet adapters attached to a switch or router with Spanning Tree Algorithm

	<p>enabled.</p> <ul style="list-style-type: none"> • Corrected potential cause for hang at checkpoint E1FD during boot. • Corrected boot failure with SMS Open Firmware prompt displayed when bootlist is set via AIX and more than 5 devices are specified. • Corrected missing devices in SMS boot list when boot list set via AIX. • Corrected error 20EE000B: unable to find boot record after restore or NIM install on 36GB or larger disks.
TCP02119	<ul style="list-style-type: none"> • Corrected for inability to return to SMS menus after performing an SMS Pping using a Token Ring adapter. • Correction for SMS ping failures when system is not connected to a network, or when Media Type (10 Base T, 100 Base TX, or Auto) is set incorrectly (doesn't match setting at ethernet switch or hub). SMS ping routine changed to remove requirement of setting Gateway IP Address to 0.0.0.0 when pinging machines on the same subnet (machines that can be pinged without sending packets through the gateway). • Corrected for problems booting from a hardfile attached to a PCI Dual Channel Ultra3 SCSI Adapter, Type 4-Y, feature Code 6203.
TCP02007	<ul style="list-style-type: none"> • Added support for IBM 10/100 Mbps Ethernet PCI Adapter II, Type A-F, Feature Code 4962. • Changes SMS ping routine: If Server IP Address is set to 0.0.0.0, only ping Gateway IP Address. If Server IP Address is not set to 0.0.0.0, ping Server IP Address. • Corrected for default catch, error 20A80005, caused by a network disruption during NIM install, or boot. • Correction for boot failures that could occur if system receives a non-NIM packet(ex. ARP packets) during a NIM boot/install.
TCP01176	<ul style="list-style-type: none"> • Added support for IBM PCI Dual Channel Ultra3 SCSI Adapter, Type 4-Y, Feature Code 6203. • Added support for IBM Cryptographic Accelerator Adapter, Type 6-J, Feature Code 4960. • Corrected for NIM boot/install failures through IBM 10/100/1000 Base-T Ethernet PCI Adapter, Type A-A, Feature Code 2975, when Media Type is set to Auto. • Corrected for incorrect AIX location code when using the Power GXT135P Adapter, Type 1-X , Feature Code 2848, in a secondary PCI slot(slots 1, 4, or 5).
TCP00265	<ul style="list-style-type: none"> • Added enhancements for user security. • Miscellaneous GUI enhancements for SMS.

	<ul style="list-style-type: none"> • Miscellaneous serviceability corrections.
TCP00059	<ul style="list-style-type: none"> • Added support for 7043-150 250MHz model. • Configuration menu now supports greater than 200 devices. • Corrected GXT120P adapter problem with GUI version of SMS.
TCP00032	<ul style="list-style-type: none"> • Added support for IBM 4 Port 10/100 Ethernet Adapter. • Corrected several SMS menu problems. • Corrected E1DC hang when Spaceball is attached. • Corrected NVRAM corruption problem.
TCP99256	<ul style="list-style-type: none"> • Added RTAS flash support for Fujitsu Flash ROM.
TCP99210	<ul style="list-style-type: none"> • Corrected CPU bus noise/clocking problem and added enhanced error detection.
TCP99187	<ul style="list-style-type: none"> • Added support for RS/6000 7046-B50. • Correction for SCSI timeout window too short. • Added support for National PC97307 Super I/O chip. • Miscellaneous enhancements.
TCP99113	<ul style="list-style-type: none"> • Corrected security/password functions. • Corrected hang at E1DC resulting from booting between AIX 4.3.2 and 4.3.1 and vice-versa. • Corrected problem that resulted in error message 25A80999. • Miscellaneous enhancements.
TCP99006	<ul style="list-style-type: none"> • Added support for Fujitsu and AMD 90 nsec Flash ROM. • Added enhancements for manufacturing debug. • Corrected security/password functions.
TCP98277	<ul style="list-style-type: none"> • Original (GA) level.

3.0 Cautions and Important Notes

ATTENTION: The firmware levels contained in this package **MUST** be installed before installing AIX 5.3.

Don't be alarmed at the length of this document! For any given download/unpacking/update environment, the process is short. This document describes processes for several environments. One should be suitable for your needs, and these instructions guide you through just the environment you choose.

Firmware Update Installation Is Not Concurrent

Installation of the firmware will cause an unconditional reboot of the system. Therefore, all user operations should be gracefully terminated before firmware updates are to be applied.

Avoid Potential Firmware Update Corruption

Some firmware corruptions are recoverable in the field, and a recovery attempt will usually succeed. If the recovery attempt fails, replace the card containing the corrupted firmware module. Here are some tips to help avoid the need for such recoveries.

Never power off the system during the firmware update process!

The update will be incomplete and **will** fail. Depending on where in the update process the power was lost, a recovery attempt will often succeed. One recovery attempt is worthwhile.

Replacement Parts May Require Updating

When a system planar is replaced, the System firmware on the new system planar must be checked to ensure it is at the latest level. If it is not, update to the latest level. [Table 3.1](#) lists the released levels.

Table 3.1: System Firmware Levels, File Sizes and Checksums			
<i>Distribution Date</i>	<i>Filename</i>	<i>Size</i>	<i>Checksum</i>
December 2005	TCP05287.img	1048576	25767
August 2004	TCP04195.img	1048576	36134
February 2004	TCP04020.img	1048576	29237
September 2003	TCP03126.img	1048576	47017
December 2002	TCP02289.img	1048576	16096
June 2002	TCP02119.img	1048576	05577
February 2002	TCP02007.img	1048576	48638

July 2001	TCP01176.img	1048576	52420
October 2000	TCP00265.img	1048576	27981
May 2000	TCP00059.img	1048576	21281
February 2000	TCP00032.img	1048576	13723
September 1999	TCP99256.img	1048576	23245
September 1999	TCP99210.img	1048576	20659
August 1999	TCP99187.img	1048756	27900
May 1999	TCP99113.img	1048576	20962
January 1999	TCP99006.img	1048576	26259
Original (GA)	TCP98277.img	1048576	02199

AIX Instructions are CASE SENSITIVE

In the instructions that follow are specific AIX and DOS commands. AIX commands are CASE (lower and upper) SENSITIVE, and ***must*** be entered exactly as shown, including the filenames. DOS commands are not case sensitive, and may be entered without regard to the cases shown.

How to Determine the Firmware Release Date

Level identifiers for the System FW use the 5-digit Julian date code method in terms of day number in a year (such as 05287 for TCP05287 level --287th day of 2005 or October 14, 2005).

4.0 How to Determine Currently Installed Firmware Level

DO NOT rely on the part number or firmware level marking/label on the EPROM/FLASH module because the content of the module may have been updated to a different level. To be safe, always check the firmware level electronically.

Two methods for reading the firmware levels are described below.

- If the operating system is running, you will use the AIX command-line method. Continue to [paragraph 4.1](#).
- If the operating system is not running, you will use the SMS Utilities method. Skip to [paragraph 4.2](#).

4.1 Using AIX to Read Currently Installed Firmware Levels

To check the System Firmware level

Enter:

```
lscfg -vp | grep -p openprom
```

This command will produce a system configuration report containing a section **similar** to the following.

```
Name: openprom
Model: IBM, TCP03126          <== System FW level
Node: openprom
Physical Location: P1
```

The Model line lists the level of the currently installed System Firmware. If the right-most five characters (date) of the firmware level are earlier than 05287 you should consider installing the update.

If you find the firmware must be updated, proceed to [Section 5.0](#). If no update is needed, installation is complete.

4.2 Using SMS Utilities to Read Currently Installed Firmware Levels

The System Management Services (SMS) Utilities may be accessed in two ways.

- If using an ASCII terminal, [continue to paragraph 4.2.1](#).
- If using a graphics console, [skip to paragraph 4.2.2](#).

Instructions for these two methods are slightly different, so be sure to choose the correct instructions for your environment.

4.2.1 If Using an ASCII Terminal

Power on or shutdown and restart the system. At checkpoint E1F1 on the operator panel, watch the terminal for the time to press the "1" key. An indicator appears on the terminal as each system component is self-tested. When the word "keyboard" appears, quickly press the "1" key. The SMS menu will be displayed after startup testing has completed.

The current System FW level can be found in the top left hand corner of the display. You will see something **similar** to:

```
RS/6000 Firmware
Version TCP03126
```

The Version line lists the level of the currently installed System Firmware. If the right-most five characters (date) of the firmware level are earlier than 05287 you should consider installing the update.

When you have read the current FW level, exit SMS as directed on the menu screens.

If you find the firmware must be updated, proceed to [Section 5.0](#). If no update is needed, installation is complete.

4.2.2 If Using a Graphics Console

Power on or shutdown and restart the system. At checkpoint E1F1 on the operator panel, in the bottom right hand corner of the display, you will see copyright notices and the last line will say something *similar* to:

Firmware Version TCP03126

The Version line lists the level of the currently installed System Firmware. If the right most five characters (date) of the firmware level are earlier than 05287 you should consider installing the update.

When you have read the current FW level, exit SMS as directed on the menu screens.

If you find the firmware must be updated, proceed to [Section 5.0](#). If no update is needed, installation is complete.

5.0 Downloading and Unpacking the Firmware Update Package

Instructions for downloading and unpacking the firmware update package follow.

5.1 Internet Package

The System Firmware, in AIX and DOS formats, is located at the web site

<http://techsupport.services.ibm.com/server/mdownload2/download.html>

Follow the instructions on this web page. You must read and agree to the license agreement to the firmware packages.

In the table for System Microcode, scroll down to the entry for 7043-150 and 7046-B50.

The download choices at that entry are:

- Description (Instructions document)
- AIX format (For downloading to an AIX system)
- DOS format (For downloading to a Windows workstation)

You will want a copy of the description (instructions document) and one of the update choices. You may transfer files to the target system in one of several ways.

- By downloading files directly to the target system.
- By downloading files to an intermediate AIX system and then using either ftp or diskettes for transferring the target system.
- By downloading files to a Windows workstation from which you will use diskettes for transferring to the target system.

Detailed download/unpacking instructions follow for each of the downloading preferences.

- If using an AIX system for downloading, continue to [paragraph 5.1.1](#).
- If using a Windows workstation for downloading, skip to [paragraph 5.1.2](#).

5.1.1 Downloading the AIX Format File

Use this method to download to an AIX system.

Note: In the instructions that follow are specific AIX commands.

AIX commands are CASE (lower and upper) SENSITIVE, and **must** be entered exactly as shown, including the filenames.

- a) Provide a directory on an AIX system to receive the AIX format file.

Enter:

```
mkdir /tmp/fwupdate
```

Note: If the directory /tmp/fwupdate already exists,

make sure it is empty before proceeding.

- b) Transfer the AIX format file to the /tmp/fwupdate directory (using "Save as ...").
You'll see that the filename is 7043150I.BIN.
- c) Unpack file by executing the instructions below.

Enter the commands:

```
cd /tmp/fwupdate  
chmod +x 7043150I.BIN  
./7043150I.BIN
```

[Don't overlook the periods (.) in the above command.]

These files will be added to /tmp/fwupdate.

```
TCP05287.img  
ReadMe.TXT
```

If you used the above procedure to transfer the AIX format file directly to the target system, proceed to [Section 6.0, Updating the Firmware](#).

Otherwise, on the intermediate AIX system, choose one of the following methods for transferring files to the target system.

- To transfer files to the target system via the ftp method, continue to [paragraph 5.1.1.1](#).
- To transfer files to the target system via the diskettes method, skip to [paragraph 5.1.1.2](#).

5.1.1.1 The FTP Transfer Method

This method presumes you have ftp access to the system to be updated.

On the intermediate AIX system,

Enter the commands:

```
ftp {name of target system}  
{Login with a valid userid and password}  
  
bin  
lcd /tmp/fwupdate  
mkdir /tmp/fwupdate  
cd /tmp/fwupdate
```

```
put TCP05287.img  
quit
```

Proceed to [Section 6.0 Updating the Firmware](#).

5.1.1.2 The Diskette Transfer Method

This method can be used for cases in which electronic connections between the intermediate AIX system and the target system are inconvenient.

- If the target system can boot AIX, then continue to [paragraph 5.1.1.2.1](#).
- If the target system cannot boot AIX, then skip to [paragraph 5.1.1.2.2](#).

5.1.1.2.1 Diskette for AIX Command-Line Update Method

A 2MB (HD) new or freshly formatted diskette is required.

With the diskette loaded in the drive,

Enter the commands:

```
cd /tmp/fwupdate  
ls TCP05287.img | backup -i -v -f/dev/rfd0
```

This will produce an AIX backup diskette. Label this diskette

"AIX Backup: System (TCP05287) FW for IBM 7043-150 and 7046-B50"

Proceed to [Section 6.0 Updating the Firmware](#).

5.1.1.2.2 Diskettes for SMS Utilities Update Method

Note: The following procedure requires the **doswrite** command, which is included in bos.dosutil (an installation option of AIX). If this is not loaded on the machine, see your system administrator.

This method is recommended **only** for systems that will not boot AIX.

If you must use SMS (i.e. the system will not boot AIX), proceed as follows.

A 2MB (HD) new or freshly formatted DOS diskette (or use the AIX **dosformat** command) is required.

With the diskette loaded in the drive,

Enter the commands:

```
cd /tmp/fwupdate  
doswrite TCP05287.img TCP05287.img
```

Label the resulting diskette,

"Image: System (TCP05287) FW for IBM 7043-150 and 7046-B50".

Proceed to [Section 6.0 Updating the Firmware](#).

5.1.2 Downloading the DOS Format File

Use this method to download to a Windows workstation.

- a) Prepare a directory for receiving the DOS format file.
This directory can be in any partition with 3MB available space.
Executing in such a partition, called [path] in these instructions
(ex. c:\download),

Enter:

```
md [path]\fwupdate
```

Note: If the directory [path]\fwupdate already exists,
make sure it is empty before proceeding.

- b) Transfer the DOS format file to the [path]\fwupdate directory (using "Save as ...").
You'll see the filename is 7043150I.EXE.
- c) Unpack the file by executing the instructions below.

Enter the commands:

```
cd [path]\fwupdate  
7043150I
```

These files will be added to the fwupdate subdirectory:

```
150SYS_B.exe  
TCP05287.img  
readme.txt
```

- If the target system can boot AIX, continue to [paragraph 5.1.2.1](#).
- If the target system cannot boot AIX, skip to [paragraph 5.1.2.2](#).

5.1.2.1 Diskette for AIX Command-Line Update Method [Recommended]

A 2MB (HD) new or freshly formatted DOS diskette is required.

With the diskette loaded in the drive,

Enter the commands:

```
cd [path]\fwupdate  
150SYS_B
```

Label the resulting diskette,

"AIX Backup: System (TCP05287) FW for IBM 7043-150 and 7046-B50"

Note: Any diskette labeled: 'AIX Backup: . . . ' is in a format that can be used
directly with a computer running AIX as its operating system. This
diskette cannot be read using PC tools or command line operations.

Proceed to [Section 6.0 Updating the Firmware](#).

5.1.2.2 Diskettes for SMS Utilities Update Method

If you must use SMS (i.e. the system cannot boot AIX), proceed as follows.

A 2MB (HD) new or freshly formatted DOS diskette is required.

With the diskette loaded in the drive,

Enter the commands:

```
cd [path]\fwupdate  
copy TCP05287.img a:
```

Label the resulting diskette,

"Image: System (TCP05287) FW for IBM 7043-150 and 7046-B50"

Proceed to [Section 6.0 Updating the Firmware](#).

5.2 CORE Package

System firmware is provided in the package under pSeries-RS/6000-Microcode-System/Service. Look for 7043-150 & 7046-B50.

You will want to read the update description and the latest installation instructions.

When you launch the firmware update selection in CORE, follow the instructions on the screen to access the instructions and make diskettes.

Note: Any diskette labeled: 'AIX Backup:' is in a format that can be used directly with a computer running AIX as its operating system. This diskette, once made on the MoST platform, cannot be read using normal platform tools or command line operations.

After reading the instructions and making the diskettes from CORE, proceed to [Section 6.0 Updating the Firmware](#).

5.3 Downloading from the Microcode Update Files and Discovery Tool CD

Follow the instructions that come with the Microcode Update Files and Discovery Tool CD.

The firmware file, TCP05287.img, you download from the CD is in the /tmp/fwupate directory.

If you are installing the code manually:

Enter:

```
mkdir /tmp/fwupdate
```

Note: If the directory /tmp/fwupdate already exists,
make sure it is empty before proceeding.

Copy the TCP05287.img file to the /tmp/fwupate directory. Proceed to [Section 6.0 Updating the Firmware](#).

5.4 Remote Installation of Firmware

To install firmware on a remote system, login to the remote system as root. Copy (in binary format) the firmware file, TCP05287.img, to the /tmp/fwupdate directory on the remote system.

Proceed to [Section 6.0 Updating the Firmware](#).

6.0 Updating the Firmware

This section describes methods for installing the new firmware.

WARNING:

Do not power off the target system at any time before the update process completes.

Note: Checksums can be used to verify files have not been corrupted or altered during transmission.

At the AIX command line, enter:

sum TCP05287.img

This command will produce the following output:

25767 1024 TCP05287.img

The checksum is -----> 25767

Two update methods are described below.

- If using the AIX command-line method (recommended), continue to [paragraph 6.1](#).
- If using the SMS utilities method (the target system cannot boot AIX), skip to [paragraph 6.2](#).

6.1 Using the AIX Command-Line Method [Recommended]

You must have root authority on the target server to update its firmware. Because the update process will cause an automatic AIX reboot, be sure the system is not running any user applications.

This method allows updating either from files already loaded into the target system or from diskettes.

- If the files are loaded in the target system, continue to [paragraph 6.1.1](#).
- If the files are on AIX backup diskettes, skip to [paragraph 6.1.2](#).

Note: In the instructions that follow are specific AIX commands.

AIX commands are CASE (lower and upper) SENSITIVE, and **must** be entered exactly as shown, including the filenames.

6.1.1 Updating with Files Already Loaded in the Target System

With the files located in the /tmp/fwupdate subdirectory, apply the system firmware update.

Enter the commands:

```
cd /usr/lpp/diagnostics/bin
./update_flash -f /tmp/fwupdate/TCP05287.img
```

[Don't overlook the periods (.) in the above command.]

You will be asked for confirmation to proceed with the firmware update and the required reboot. If you confirm, the system will apply the new firmware, reboot and return to the AIX prompt. This may take one to ten minutes, depending on the configuration of the target system.

The firmware update is complete. You will want to verify the update as described in [paragraph 6.3](#).

6.1.2 Updating from AIX Backup Diskettes

Put the AIX backup diskette in the drive of the target system,

Enter the commands:

```
mkdir /tmp/fwupdate
```

Note: If the directory /tmp/fwupdate already exists,
make sure it is empty before proceeding.

```
cd /tmp/fwupdate
restore {follow the instructions from the prompt}
cd /usr/lpp/diagnostics/bin
./update_flash -f /tmp/fwupdate/TCP05287.img
```

[Don't overlook the periods (.) in the above command.]

You will be asked for confirmation to proceed with the firmware update and the required reboot. If you confirm, the system will apply the new firmware, reboot and return to the AIX prompt. This may take one to ten minutes, depending on the configuration of the target system.

The firmware update is complete. You will want to verify this update as shown in [paragraph 6.3](#).

Don't forget to retrieve and file any firmware update diskette that may still be in the system's diskette drive. A good time to do this is after the reboot has completed.

6.2 Using the SMS Utilities Method

The System Management Services (SMS) Utilities may be accessed in two ways.

- If using an ASCII terminal, continue to [paragraph 6.2.1](#).
- If using a graphics console, skip to [paragraph 6.2.2](#).

Instructions for these two methods are slightly different, so be sure to choose the correct instructions for your environment.

6.2.1 If Using an ASCII Terminal

- a. Power on or shutdown and restart the system.

b. At checkpoint E1F1 on the operator panel, watch the terminal for the time to press the "1" key.

An indicator appears on the terminal as each system component is self-tested. When the word

"keyboard" appears, quickly press the "1" key. The SMS menu will appear when the startup tests have completed.

c. Into the drive, insert diskette labeled,

"Image: System (TCP05287) FW for IBM 7043-150 and 7046-B50"

d. Choose 3 for Utilities.

e. Choose 6 for Update System Firmware. (the system asks for confirmation)

f. Choose TCP05287.img

g. Follow on-screen update steps as they are presented, until you see the message that begins, "System firmware updated..."

- If the system firmware level is TCP01176 or later, press <Enter> to reboot the system.
- If the system firmware level is earlier than TCP01176, the system will automatically reboot.

Don't forget to retrieve and file any firmware update diskette that may still be in the system's diskette drive. A good time to do this is after the reboot has completed.

The firmware update is complete. You will want to verify this update as shown in [paragraph 6.3](#).

6.2.2 If Using a Graphics Console

Note: A change was made to the GUI menus in TCP04195. This resulted in a change to the key pressed in step b. If your current firmware level is TCP04195 or later, use the "1" key. For current firmware earlier than TCP04195, use the "F1" key.

a. Power on or shutdown and restart the system.

b. At checkpoint E1F1 on the operator panel, watch the console for the time to press the "F1" key or the "1" key. An indicator appears on the console as each system component is self-tested. When the keyboard icon appears, quickly press the "F1" key or "1" key. The SMS menu will appear when the startup tests have completed.

c. Use arrow keys to move to Utilities. <Enter>

d. Use arrow keys to move to Update. <Enter>

e. Insert diskette labeled "Image: System (TCP05287) FW for IBM 7043-150 and 7046-B50" in the drive.

f. Use arrow keys to move to Yes if the image display is correct. <Enter>

g. Follow on-screen update steps as they are presented.

The flash update should complete in about one minute.

Following a successful firmware update, the system will automatically reboot.

Don't forget to retrieve and file any firmware update diskette that may still be in the system's diskette drive. A good time to do this is after the reboot has completed.

The firmware update is complete. You will want to verify this update as shown in [paragraph 6.3](#).

6.3 Verifying the Update

To verify the firmware update was successful, use the following AIX command after the automatic reboot.

To check the System Firmware level

Enter:

```
lscfg -vp | grep -p openprom
```

This command will produce a system configuration report containing sections *similar* to the following.

```
Name: openprom
Model: IBM, TCP05287          <== System FW level
Node: openprom
Physical Location: P1
```

The right-most five characters (date) of the FW level should match the level you just installed, namely, 05287.

6.4 Archiving the Update Files

In the event it becomes necessary to restore the system to a certain firmware level, it is suggested you identify and archive the materials for each update you install.

If the download process produced diskettes, label and store them in a safe place.

If the download process produced only files, archive and identify the file for convenient retrieval.

7.0 Machine Records

None at this time.

End of Installation Instructions