



FIRMWARE UPGRADE

SUPERSTACK® II REMOTE ACCESS SYSTEM 1500

RELEASE 2.0

This document details the firmware upgrade procedures for the SuperStack II Remote Access System (RAS) 1500 Base Unit, the RAS 1500 Port Expansion Unit (PEM), and the Primary rate Access Unit (PAU). It includes the following sections:

- Is a Base Unit Firmware Upgrade Necessary?
- Is a Memory Upgrade Necessary?
- Before You Begin the Firmware Upgrade
- Backing up the 1.0 or 1.5 Configuration File
- Upgrading the Firmware on the RAS 1500 Base Unit Base Unit
- Upgrading the Firmware on the RAS 1500 Port Expansion Unit
- Upgrading the Firmware on the Primary Rate Access Unit
- Future Firmware Upgrades

Is a Base Unit Firmware Upgrade Necessary?

A firmware upgrade is necessary before you add a PEM or a PAU to an existing RAS 1500 Base Unit. To determine if a firmware upgrade is necessary, perform the following:

- 1** Connect a null modem cable from the serial port of your computer to the console port on the RAS 1500 Base Unit.
- 2** Turn off any other applications, for example, "EasySync," using your PC COM port.
- 3** Access the RAS 1500 command line interface (CLI) through a terminal program (HyperTerminal, in this example) that supports the Zmodem transfer protocol. Set the connection to 38,400 bps, 8 data bits, no parity, 1 stop bit, and hardware flow control.

- 4 Find the System Version installed on the RAS 1500 Base Unit, using the following CLI command:

```
ras1500> show system
```
- 5 Locate the System Release number on the front of the CD.
- 6 If the System Release number on the CD is more recent than the System Version on the RAS 1500, upgrade the firmware on the RAS 1500, using the procedures detailed below. If the versions are the same or the RAS 1500 System Version is more recent, do not upgrade the firmware on the RAS 1500. You do not need to perform the remaining procedure in this upgrade.



If you need to perform the upgrade procedure, keep the console cable connected and continue with the HyperTerminal session.

Is a Memory Upgrade Necessary?

A memory upgrade is necessary if either of the following conditions is met:

- The RAS 1500 Base Unit System Release version is 1.0. This is determined using the **show system** CLI command.
- If the RAS 1500 Base Unit System Version is 1.5, enter the **show memory** CLI command. If the total system memory resources is more than 12,228 Kb (12 MB), the extra memory was already added. A memory upgrade is not required.

Before You Begin the Firmware Upgrade

The RAS 1500 will usually save all existing configurations and transfer them to the new code after the upgrade. However, as a precaution you may want to back up the RAS 1500 Base Unit configuration files. If you do not want to backup the configuration files, proceed to Upgrading the Firmware on the RAS 1500 Base Unit.

Backing up the 1.0 or 1.5 Configuration File

Ensure that the Transcend Remote Access Manager (TRAM) is available on the network, then start TRAM by following these steps:

- 1 From the Windows 95 or Windows NT 4.0 desktop, click **start**.
- 2 Click **Programs**.
- 3 Click **Transcend Remote Access Manager**, then **Transcend Remote Access Manager**. TRAM starts.

By default, the configuration files are located on the TRAM workstation in directory `Tram\data\ftp\CFG`. Configuration files have a user-defined name and an extension, which varies by the type of device. For example, a configuration file saved on 5/27/99 could be `RM052799.dmf`.

Backup the configuration file of a RAS 1500 Base Unit:

- 1** In TRAM, in the Device Tree, double-click the device from which you want to backup the configuration file. A window containing a graphical representation of the device appears.
- 2** Click on the router slice.
- 3** Right-click, then click **Configure**, then **Backup Configuration**. The Configuration Save-Settings dialog box appears.
- 4** To change the name or location of the backup file, perform the following:
 - a** Click the **File Name** cell.
 - b** Double-click the **down-arrow** icon in the **File Name** cell. The *Save As* dialog box appears.
 - c** Select the location and enter the name of the backup file.
 - d** Click **save**. The *Save As* dialog box closes. The location and file name you specified appears in the **File Name** column of the Configuration Save-Settings dialog box.
- 5** Click **start**. The backup starts. The **File Name** column changes to the **status** column.
- 6** When the "Configuration saved successfully" message appears in the **status** column, click **close**. The dialog box closes.
- 7** Close TRAM.

Upgrading the Firmware on the RAS 1500 Base Unit

Use the following steps to upgrade the RAS 1500 firmware.



Read this entire procedure before upgrading firmware on the RAS 1500 Base Unit. Some of the commands and file downloads are time-dependent and you have only a few seconds to enter a command before the RAS 1500 automatically reboots.

- 1 Make sure all STACKNET cables are disconnected from the RAS 1500 Base Unit.



CAUTION: *Take every precaution that the following download is not interrupted. Do not power off the unit; do not remove the console cable; do not power off the console computer. If the download of `rasboot.dmf` is interrupted, the unit might have to be returned to 3Com for service.*

- 2 Go to the HyperTerminal window from the previous procedure and reboot the RAS 1500.

```
ras1500> reboot <Enter>
```

- 3 A warning message appears. Type `y`, then press **Enter** to confirm the reboot procedure. The reboot procedure starts.



You have five seconds to enter the command in Step 4 when the "SDL2 is ready" message appears. If a mistake is made or the command is not entered within the allotted time, the RAS 1500 reboots and you must wait until the "SDL2 is ready" message reappears.

- 4 After the diagnostics run and the "SDL2 is ready" message appears, *within five seconds* type `AT{z}` and press **Enter**. A "Begin download now" message appears.



If power to RAS 1500 Base Unit is removed during any of the following software download steps, this software download procedure must be restarted from Step 4.

You have approximately five minutes to perform Steps 5 through 10.

- 5 From the HyperTerminal pull down `Transfer` menu, select `Send File`. The `Send File` dialog box appears.
- 6 Click **Browse**. The `Select File to Send` dialog box appears.
- 7 Insert the RAS 1500 Resource CD into the CD drive of your computer.

- 8 Browse the CD and locate the **rasboot.dmf** file:
<your CD drive letter>:\RAS1500Software\rasboot.dmf
- 9 Select the **rasboot.dmf file**, then click **open**. The **Send File** dialog box reappears.
- 10 Click **send**. The download process starts. A progress indicator appears.
- 11 When the file has successfully downloaded, the RAS 1500 Base Unit reboots.



When the "SDL2 is ready" message appears, you have five seconds to enter the command in Step 12. If a mistake is made or the command is not entered within the allotted time, the RAS 1500 reboots and you must wait until the "SDL2 is ready" message reappears.

- 12 After diagnostics run and the "SDL2 is ready" message appears, *within five seconds* type **AT{P}** and press **Enter**.
- 13 A warning message appears. Type **y**, then press **Enter** to continue.
- 14 After the "Unit prepared for upgrade" message appears, *within five seconds* type **AT{Z}** and press **Enter**.
- 15 From the HyperTerminal pull down **Transfer** menu, select **Send File**. The **Send File** dialog box appears.
- 16 Click **Browse**. The **Select File to Send** dialog box appears.
- 17 Browse the CD and locate the **ras1500.dmf** file:
<your CD drive letter>:\RAS1500Software\ras1500.dmf
- 18 Select the **ras1500.dmf** file, then click **open**. The **Send File** dialog box reappears.
- 19 Click **send**. The download process starts. This process could take up to 15 minutes. A progress indicator appears. When the download process is complete, the boot process finishes and automatically reboots with the new firmware.
- 20 Enter **save all** at the CLI prompt (**RAS 1500>**) to save the configuration file in Release 2.0 format.
- 21 Enter **show system** at the CLI prompt. The System Version should be 2.0.x.

Upgrading the Firmware on the RAS 1500 Port Expansion Unit

Use the following steps to upgrade the firmware on the RAS 1500 PEM:

- 1 RAS 1500 PEM should be installed with the AC power cord connected. Connect the STACKNET cable between the RAS 1500 Base Unit and the RAS 1500 PEM.



If you are upgrading two RAS 1500 PEMs, you can connect both of them to the RAS 1500 Base Unit at the same time.

- 2 Reboot the RAS 1500 Base Unit.

If the RAS 1500 Base Unit determines it is necessary to upgrade the RAS 1500 PEM firmware, the RAS 1500 PEM automatically begins downloading the firmware from the RAS 1500 Base Unit. During the download, the status light on the RAS 1500 PEM is amber and repeats a three-blink sequence.



As with all downloads, take every precaution to prevent disruption of the process. For example, do not remove power or cables.

When the transfer is complete, the unit reboots and the status light blinks green.

If the RAS 1500 Base Unit determines it is not necessary to upgrade the RAS 1500 PEM firmware, the unit continues the boot sequence, and the status light blinks green.

Upgrading the Firmware on the Primary Rate Access Unit

This section describes how to check the firmware version and install firmware on the Primary rate Access Unit (PAU).

Is a PAU Firmware Upgrade Necessary?

To check to see if a firmware upgrade is necessary, perform the following:

- 1 Connect a null modem cable from the serial port of your computer to the console port on the RAS 1500 Base Unit.
- 2 Access the RAS 1500 CLI through a terminal program (HyperTerminal, in this example) that supports the Zmodem transfer protocol. Set the connection to 38,400 bps, 8 data bits, no parity, 1 stop bit, and hardware flow control.
- 3 Find the System Version installed on the RAS 1500 PAU. Use the following CLI command:

```
ras1500> show pau
```

- 4 Find the System Release number on the front of the CD.
- 5 If the System Release number on the CD is more recent than the Software Version on the PAU, upgrade the firmware on the PAU, using the procedures detailed below. If the versions are the same or the PAU Software Version is more recent, do not upgrade the firmware on the PAU. You do not need to perform the remaining procedure in this upgrade.



Do not confuse the Software version number with the HDM Software Version number.



If you need to perform the upgrade procedure, keep the console cable connected and continue with the HyperTerminal session.

PAU Firmware Upgrade

This procedure requires a Trivial File Transfer Protocol (TFTP) server. 3Com provides a TFTP server on the Release 2.0 Resource CD. As a prerequisite to performing this upgrade, you must have installed a TFTP server.

To install the TFTP server, place the Resource CD in the CD ROM drive. Select **3Com 3CDaemon** from the **Install Software** section from the SuperStack II Remote Access System 1500 splash screen. After the installation is complete, continue with this procedure.



Operational code on the PAU must be up and running. A TFTP server must be available via a network-attached PC to the RAS 1500 Base Unit. For PCs running Windows, a TFTP server is installed as part of 3C Daemon software installation.

- 1 Unplug the PRI cable from the PAU.
- 2 Insert the RAS 1500 Resource CD into the CD drive of your computer.
- 3 Reboot the PAU by disconnecting and reconnecting the ac power cord. After the PAU reboots, a "PAU is Operational" message is displayed on the RAS 1500 console. Note that during the reboot process no operational status is displayed on the console.
- 4 Copy the `paudiag.dmf` and `pau_e1.dmf` or `pau_t1.dmf` files to the hard drive in the directory created by the name RAS 1500 software.
- 5 Open the TFTP server software and click the **setup** icon. Select the **TFTP Configuration** tab and set the upload/download directory to the file location (*drive letter:\RAS1500Software*). Click **OK**.
- 6 Switch back to the console terminal screen and load the `pau_diag` file with the following case-sensitive command at the CLI prompt:

```
RAS1500> download pau_image paudiag.dmf from server  
<tftp_server IP address> command sdl_start
```
- 7 When prompted, confirm the download by typing **y** to download the file.
- 8 Wait for the "Start of TFTP Transfer to PAU" message to appear. Continue to wait as the new code is compacted and written to flash. Do not interrupt this process; wait until you see the "PAU is operational!" message.
- 9 Load the proper PAU file for either E1 or T1 (`pau_e1.dmf` or `pau_t1.dmf`) with the command shown below. If the incorrect filename is entered, the file will not load.

```
RAS1500> download pau_image pau_x1.dmf from server  
<tftp_server IP address> command sdl_start
```
- 10 When prompted, confirm the download by typing **y** to download the file.
- 11 Wait for the "Start of TFTP Transfer to PAU" message to appear. Continue to wait as the new code is compacted and written to flash. Do not interrupt this process; wait until you see the "PAU is operational!" message.



Status messages are displayed on the console during the file download and reboot. As with all downloads, take every precaution to prevent

disruption of the process. For example, do not remove power cables or reboot the unit. Wait until the "PAU is operational!" message is displayed on the console.



You can open the TFTP server screen and confirm that the files were successfully loaded.

After a successful download, the PAU automatically reboots.

- 12** Reconnect the PRI cable that was disconnected in Step 1.

Future Firmware Upgrades

The RAS 1500 Base Unit and RAS 1500 PEM operate best with the latest firmware. You can obtain the latest firmware on the 3Com Web site.

To determine if you need an upgrade:

- 1** Determine the version of the firmware on the RAS 1500. Use the following CLI commands:

```
ras1500> show system (for Base and PEMs)
```

```
ras1500> show pau (for RAS 1500s configured with a PAU)
```
- 2** Determine the version of the firmware on the 3Com Web site (<http://www.3com.com/ras1500>).
- 3** If the firmware on the RAS 1500 is older than the firmware on the Web site, download the firmware and associated release information from the Web site to your location.
- 4** Follow the upgrade procedure.

