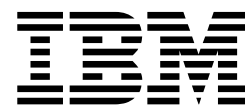


Installation Instructions
Update IBM 3580 Ultrium Tape Drive Firmware



3580FirmwareUpdateInstructions Version 1.0 04 SEP 03

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Update IBM 3580 Tape Drive Firmware

Document 3580FirmwareUpdateInstructions Version 1.0

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Status:	Field Use
Note: This Install Instruction must be used only on the 3580 L11/H11L13/H13/L23/H23.	

Version 1.0				
04 SEP 03				

Before Installation (Section 1 through 8)

1.0 Machines/Models Affected

This Install Instruction updates firmware on the following IBM 3580 model L11/H11L13/H13/L23/H23 device:

- LTO Ultrium 1 and Ultrium 2 Tape Drive

2.0 Prerequisite/Concurrent/Companion

Visit <http://www.ibm.com/storage/lto> and do the following:

1. Sign up on the LTO subscription page (if not already)
 - a. In the left hand column click on **Technical Support**.
 - b. Under the Technical support column click on **Tape Storage**.
 - c. In the left hand column click on **LTO Subscriptions**.
 - d. Sign up by entering a valid email address. Select all LTO products or select just the one that pertains to you.
2. While at the website, look under the **Technical Support** section to download the latest level of drive firmware to a temp directory.

To determine the version of drive code using the 3580 display:

1. Turn the 3580 power switch to on (if already on, power the device off and then back on).
2. Observe the display during the power-on-self-test.
3. The drive firmware level will display for approximately 5 seconds.
4. Write down the firmware version of the drive for use later in this procedure.

Table 1. Firmware levels

Device	Currently Installed Firmware Levels	Latest Firmware Level on Web
LTO Ultrium 1 Tape Drive SCSI		
LTO Ultrium 2 Tape Drive SCSI		

3.0 Bills of Material to be Installed

None

4.0 Preparation

- Read and understand the purpose and details of this installation instruction.

5.0 Program Updates

None

6.0 Purpose and Description

Note: IBM recommends that you visit the LTO web site at <http://www.ibm.com/storage/lto> periodically to ensure your machines are always at the latest available version, and that you download the latest version and install it on your machine if they are not.

7.0 Installation Time

Total time for the drive firmware update will be approximately 1 hour.

8.0 Special Tools and Materials Required

None

Installation (Sections 9, 10, 11 and 12)

9.0 Safety

None

10.0 Details of Installation

10.1 Determine the Drive Firmware Version

If you have not already done so, determine the version of drive code using the 3580 display, **diag Menu** and then select option 1 **dsp FW**. Write down the firmware version of the drives for use later in this procedure.

Note: To access the **diag Menu** options, press and hold down the **NEXT** operator panel button and then press and hold the **MODE** button for 5 seconds.

- If any drive has a firmware version lower than the level recorded in Table 1 on page 2, then you should install the new drive firmware. See <http://www.ibm.com/storage/lto> to obtain the latest firmware Go to “10.2 Update Drive Firmware.”
- If the drive firmware in all drives is already at the level recorded in Table 1 on page 2 or higher the drive firmware has already been updated. Go to “11.0 Test Procedures” on page 8.

Note: In most cases the host server provides alternate methods of determining the Inquiry information - including the code version - of attached SCSI devices. These methods (such as TapeUtil or NTUtil) may be used if you are familiar with them, but they are not covered in these instructions.

10.2 Update Drive Firmware

Attention: When updating drive firmware, do not power-off the 3580 Bridge Box for at least 5 minutes after the update is complete or the drives may become unusable.

Review the following methods of updating drive firmware to determine which method you should use:

- To update drive firmware using SCSI, go to “10.2.1 Update Drive Firmware using SCSI.”
- To update drive firmware using an FMR tape, go to “10.2.2 Update Drive Firmware using an FMR tape” on page 6.

Note: The FMR tape method is only used when the Bridge Box is attached to an iSeries (AS/400) host server.

10.2.1 Update Drive Firmware using SCSI:

Use the following information to assist you in downloading drive firmware from your server (host system) over the SCSI bus using the device drivers and utilities supplied by IBM.

For more detailed information about using the IBM device drivers and utilities (NTUTIL or TAPEUTIL), refer to the *IBM Ultrium Device Drivers Installation and User's Guide* (GA32-0430) that was shipped with the drive. For the latest version of the User's Guide, visit the web at <http://www.ibm.com/storage/lto>.

- If the drive is connected to a Windows server, go to “10.4.2.1 Update the drive firmware over the SCSI bus using NTUTIL (Windows).”
- If the drive is connected to a Unix server, go to “10.4.2.2 Update the tape drive firmware over the SCSI bus using TAPEUTIL (Unix)” on page 6.

Note: Unix includes AIX, Sun Solaris, HP-UX, Linux, etc.

10.4.2.1 Update the drive firmware over the SCSI bus using NTUTIL (Windows):

The following procedure describes how to update the drive firmware using NTUTIL.

- ___ 1. If you have not already done so, install the IBM Ultrium Device Driver.
- ___ 2. If you are using a software application that utilizes a different device driver, you will need to stop that device driver and then start the IBM Ultrium NT Device Driver. To start or stop a device driver perform the following steps:
 - Windows NT:
 - ___ a. Click on the Windows START button.
 - ___ b. Select Settings, then click on Control Panel.
 - ___ c. Double-click on Devices.
 - ___ d. Scroll down to the device driver you want to start/stop.
 - ___ e. Click on the device driver to highlight it.
 - ___ f. Click on the Stop or Start button.
 - Note:** If you are using a software application that utilizes a different device driver, you should set the IBM Ultrium Device Driver to Manual mode. To do this click on the device driver to highlight it, then click on the Startup button, select Manual, and click on OK.
 - Windows 2000:
 - ___ a. Click on the Windows START button.
 - ___ b. Select Settings, then click on Control Panel.
 - ___ c. Double-click on Administrative Tools.
 - ___ d. Double-click on Computer Management.
 - ___ e. Click on Device Manager.
 - ___ f. Scroll down to the device driver you want to start/stop.
 - ___ g. Click on the device driver to highlight it.
 - ___ h. Click on the Stop or Start button.
 - Note:** If you are using a software application that utilizes a different device driver, you should set the IBM Ultrium Device Driver to Manual mode. To do this click on the device driver to highlight it, then click on the Startup button, select Manual, and click on OK.
- ___ 3. Open a Command Prompt and change the prompt to the temporary directory where you downloaded the firmware file. As an example, if the firmware file is in C:\TEMP then type **CD \TEMP** and press Enter.
- ___ 4. Type **NTUTIL** and press Enter.
- ___ 5. Type **1** and press Enter to select Manual Test.
- ___ 6. Type **88** and press Enter to select List registered devices.
- ___ 7. Write down the tape and Bridge Box paths for use later in this procedure.
- ___ 8. Type **1** and press Enter to set device special file.
- ___ 9. Type the name of a tape path displayed in the previous step and press Enter. Then type the name of the Bridge Box path displayed in the previous step and press Enter.
- ___ 10. Type **20** and press Enter to open both the drive and media changer. When prompted to select a Mode, type **1** and press Enter to select Read/Write mode.
- ___ 11. Type **49** and press Enter to issue an Inquiry to verify that you have established a connection to the Bridge Box.
- ___ 12. At the NTUtil Command Prompt, type **82** to update microcode.
- ___ 13. Follow the instructions to select the device you want to update.
- ___ 14. When prompted to enter the FMR name, type the file name of the drive firmware file **without the .ro extension** and press Enter.

Note: Updating the drive firmware using NTUtil takes about 10 minutes. When the firmware update process has been completed the Bridge Box will reset itself and go through a normal power on process.

- ___ 15. Close the NTUTIL session.
- ___ 16. Verify that the firmware update completed successfully by checking the drive firmware version as described in “10.1 Determine the Drive Firmware Version” on page 4.
 - If the drive firmware version is the level recorded in Table 1 on page 2, the firmware update completed successfully.

Note: Some backup application software packages will not reflect the firmware change until the registry is refreshed by rebooting the server.

- If the drive firmware version is still lower than the level recorded in Table 1 on page 2, the firmware update failed. Retry the firmware update. If the error continues, contact your IBM Service representative.

10.4.2.2 Update the tape drive firmware over the SCSI bus using TAPEUTIL (Unix):

The following procedure describes how to update the drive firmware in the 3580 Tape Bridge Box over the SCSI bus using TAPEUTIL.

Note: Refer to the *IBM Ultrium Device Drivers Installation and User's Guide* (GA32-0430) for instructions on usage of the TAPEUTIL utility for the particular Operating System that the device is attached to. This document is also available on the IBM website, <http://www.ibm.com/storage/ltc>. The instructions below are given as an example and refer to the AIX Operating System.

- ___ 1. Change the current directory to the temporary directory where the drive firmware file is located.

Note: Make note of the exact filename of the firmware that is to be used (case sensitive).

- ___ 2. Ensure that the drive is **Available** (not just defined) to the A-Tape device driver by listing the devices. Use the command **lsdev -Cc tape**.
- ___ 3. Open a TAPEUTIL session.
- ___ 4. Select option 4 - tape drive service aids.
- ___ 5. Select microcode load.
- ___ 6. Select the tape drive device you want to upgrade.
- ___ 7. Enter the exact filename you noted in step 1.
- ___ 8. Press F7 Commit.

Note: Updating the tape drive firmware using TapeUtil takes about 5 minutes. When the firmware update process has been completed the tape drive will reset itself and go through a normal power on process.

- ___ 9. Close the TAPEUTIL session.
- ___ 10. Verify that the tape drive firmware update completed successfully by checking the tape drive firmware version as described in “10.1 Determine the Drive Firmware Version” on page 4.
 - If the drive firmware version is the level recorded in Table 1 on page 2, the firmware update completed successfully.

Note: Some backup application software packages will not reflect the firmware change until the registry is refreshed by rebooting the server.

- If the drive firmware version is still lower than the level recorded in Table 1 on page 2, the firmware update failed. Retry the firmware update. If the error continues, contact your IBM Service representative.

10.2.2 Update Drive Firmware using an FMR tape:

Note: If using the FMR process order the FMR tape separately.

- ___ 1. Do not load it into the tape drive at this time, but have it ready to load later in this procedure.
- ___ 2. Make sure that the host application is not using the Bridge Box or tape drive.
- ___ 3. Make sure that no tape cartridges are in the drives.
- ___ 4. Make sure that the following message appears on the message display (you may need to turn the power off, then on again for the message to appear):

Ultrium Tape Drive
Drive Empty

- ___ 5. Within two seconds, press the unload button 3 times. The status light becomes solid amber and the following message displays (indicating that the tape drive is in maintenance mode):

Maint Mode:Select
Exit Maint Mode

Note: If a cartridge is in the tape drive, it will eject the first time that you press the unload button and the drive will not be placed in maintenance mode. To continue placing the drive in maintenance mode, perform the preceding step.

- ___ 6. Press the unload button once per second until **2** appears in the single-character display and the following message displays. (If you cycle past the desired code, press the unload button once per second until the code redisplay.)

Maint Mode:Select
Update Drive FW

- ___ 7. Press and hold the unload button for 3 or more seconds, then release it to select the function. Immediately after the following message displays, insert the FMR tape cartridge (or the tape drive exits maintenance mode).

Update Drive FW
Load Drv FMR Tape

- ___ 8. After you insert the FMR tape cartridge, the flashing C in the single-character display changes to 2 and the following message displays:

Update Drive FW
Tape Loading ==>

Followed by:

Update Drive FW
Reading ==>

- ___ 9. The tape drive loads the updated firmware from the FMR tape into its erasable programmable read-only memory (EPROM) area.
- ___ 10. If the update completes successfully, the tape drive rewinds and unloads the FMR tape, resets itself, and is ready to use the new firmware. The following message displays:

Update Drive FW
Completed!

Followed by:

Cartridge Unloading
In Progress

- ___ 11. The 3580 Ultrium 2 Tape Drive automatically reboots. Ignore the messages that appear on line 2 of the message display (such as **Load Drv FMR Tape**) and wait until the reboot is finished. The following message displays:

Ultrium Tape Drive
Drive Empty

- ___ 12. Verify that the firmware update completed successfully by checking the drive firmware version as described in “10.1 Determine the Drive Firmware Version” on page 4.
- If the drive firmware version is the level recorded in Table 1 on page 2, the firmware update completed successfully.
- Note:** Some backup application software packages will not reflect the firmware change until the registry is refreshed by rebooting the server.
- If the drive firmware version is still lower than the level recorded in Table 1 on page 2, the firmware update failed. Retry the firmware update. If the error continues, contact your IBM Service representative.

11.0 Test Procedures

None

12.0 Field Updating

None

After Installation (Sections 13 through 15)

13.0 Publications Update

None

14.0 Parts Disposition

None

15.0 Machine Records

None