

Transport Module and MSAM

Software Upgrade Instructions

These instructions explain how to load base unit, boot, and BERT (MSAM and Transport Module) software upgrades onto your test instrument. Topics covered include the following:

- [“6000A requirements” on page 1](#)
- [“8000 requirements” on page 2](#)
- [“USB requirements” on page 2](#)
- [“PIM requirements” on page 2](#)
- [“Step 1: Verifying the boot software revision on the 8000 base unit” on page 3](#)
- [“Step 2: Creating an upgrade stick” on page 4](#)
- [“Step 3: Upgrading the software” on page 7](#)
- [“Troubleshooting” on page 9](#)
- [“Related information” on page 10](#)
- [“Technical assistance” on page 10](#)

6000A requirements

If you are using an upgrade stick provided by JDSU, the following items are required when upgrading an MSAM connected to a 6000A base unit:

- The USB upgrade stick (labeled **SW, 6000A BERT, VX.X COMBO**).
- An MSAM connected to a T-BERD / MTS 6000A base unit.

Upgrading old versions of BERT software

If you are upgrading to BERT software v11.0 from a version of BERT software that is lower than v8.0, you will need to first perform an intermediate version upgrade. Please contact JDSU's Technical Assistance Center for additional information.

8000 requirements

If you are using an upgrade stick provided by JDSU, the following items are required when upgrading a Transport Module:

- The USB upgrade stick (labeled **SW, 8000 BERT, VX.X COMBO**).
- A Transport Module connected to a T-BERD/MTS 8000 base unit running boot software revision 1.16 or higher.

The following items are required when upgrading an MSAM (or MSAMs) connected to an 8000 base unit via a C8200 Dual Module Carrier (DMC):

- The USB upgrade stick (labeled **SW, 8000 BERT, VX.X COMBO**).
- A DMC-compatible MSAM.
- A C8200 Dual Module Carrier (DMC).
- A T-BERD / MTS 8000 base unit running boot software revision 1.16 or higher.

All three hardware components must be assembled before upgrading the MSAM (or MSAMs). Before inserting an MSAM into a DMC, verify that the MSAM is labeled as **DMC-compatible**, and that the DMC is identified as a model **C8200 DMC**. For details, refer to the assembly instructions that shipped with your instrument.

If the MSAM is not DMC-compatible, you must return it to JDSU for a factory upgrade before using it with a DMC. The new, DMC-compatible MSAMs can be used with any T-BERD / MTS 6000A base unit or C8200 DMC.

NOTE:

Software release 11.x is recommended for V3 Transport Module hardware. All V3 Transport Modules will have a serial number starting with "V3-".

USB requirements

If you are creating your own upgrade stick by downloading the software from a JDSU ftp site, or from www.jdsu.com, the following items are required:

- The T-BERD/MTS 8000 or T-BERD / MTS 6000A base unit that your Transport Module or MSAM is connected to.
- A USB memory stick with at least 512 MB storage capacity. The USB stick *must be formatted in one of the USB slots provided on the base unit*.
- A laptop or computer with a USB slot, running the Windows[®] Millennium Edition (Me), Windows 2000, or Windows XP operating system.

PIM requirements

Before inserting new physical interface modules (PIMs) into an MSAM, contact Customer Care to verify that your instrument is running a software release that supports the PIMs. If it is not running a supporting software release, be certain to upgrade the instrument before inserting the PIMs.

Step 1: Verifying the boot software revision on the 8000 base unit

If you are upgrading software for a Transport Module, or for MSAMs connected to the 8000 base unit via an intermediary DMC, you must verify that the base unit is running boot software revision 1.16 or higher.

To verify that the base unit is running boot software revision 1.16 or higher

- 1 Turn the T-BERD/MTS 8000 ON.
- 2 Press the **System** button on the front panel to display the T-BERD / MTS 8000 System Screen screen on the user interface. [Figure 1](#) illustrates the screen with a single connected Transport Module.

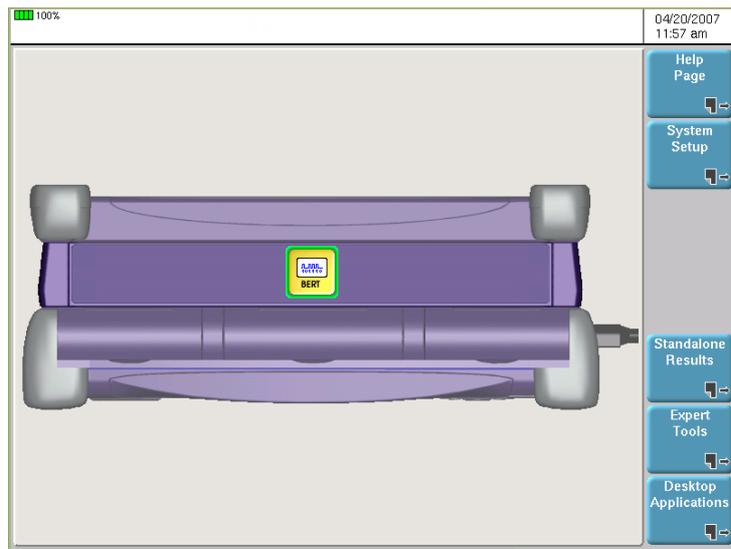


Figure 1 T-BERD / MTS 8000 System Screen

- 3 Press the **Help Page** soft key to verify the boot software version in the upper left corner of the display. [Figure 2](#) illustrates the Help Page for a unit running boot version 2.20; your unit may be running different software versions.

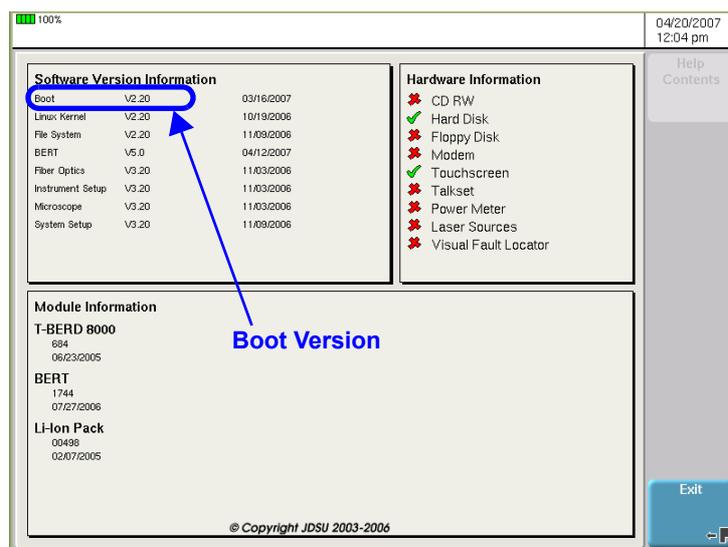


Figure 2 Help Page for a unit running boot version 2.20

The boot version is verified.

- If the version is below 1.16, please contact your local sales engineer or Technical Assistance representative for assistance.
- If the version is 1.16 or above, and you are downloading the software upgrade to create your own upgrade stick, proceed to “[Step 2: Creating an upgrade stick](#)”.
- If the version is 1.16 or above, and you are using a JDSU provided upgrade stick, proceed to “[Step 3: Upgrading the software](#)” on page 7.

Step 2: Creating an upgrade stick

If you are using an upgrade stick provided by JDSU, you can skip this step and immediately proceed to “[Step 3: Upgrading the software](#)” on page 7.

If you are using your own USB memory stick to perform the upgrade (rather than an upgrade stick provided by JDSU), you must do the following:

- Download the *upgrade zip file* from the jdsu.com web site to your laptop or computer.
- Format your USB memory stick in one of the USB slots provided on the base unit.
- Extract the *upgrade zip file* from your laptop or computer directly to the formatted USB memory stick.

Downloading the upgrade zip file

The upgrade zip file contains the latest versions of the Base, Boot, and Transport Module (BERT) software.

To download the upgrade zip file

- 1 From your laptop or computer, go to the Software Version Updates page of the Customer Service section of www.jdsu.com.
- 2 Scroll through the list of upgrades, and then select the Transport Module or MSAM software upgrade.
- 3 Select the BERT-X.X-COMBO.exe executable, where “X.X” represents the latest version of the Transport Module or MSAM software.

The software is downloaded.

Format your USB memory stick

After downloading the upgrade zip file to your laptop or computer, you must format the USB memory stick using one of the USB slots provided on the base unit. Use a USB memory stick with at least 512 MB storage capacity.

**IMPORTANT:**

Do not use a U3 USB drive to upgrade your unit.

To format a USB memory stick

- 1 Insert the USB memory stick into one of the USB slots on your base unit (see [Figure 3](#) and [Figure 4](#)), and then listen for an audible beep (indicating that the base unit recognized the USB memory stick).

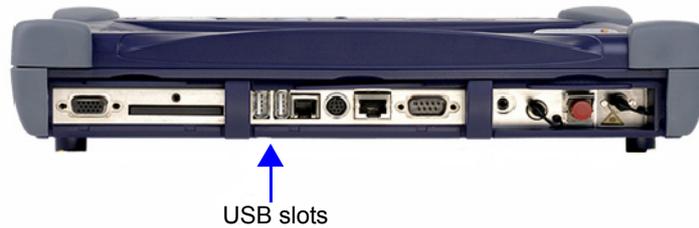


Figure 3 T-BERD /MTS 8000 USB slots

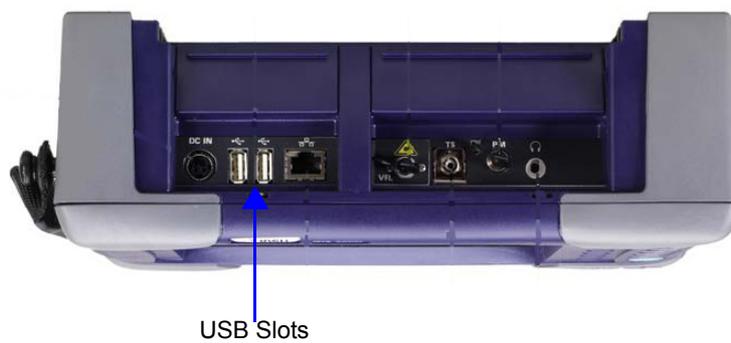


Figure 4 T-BERD /MTS 6000A USB slots

If you do not hear a beep, refer to [“Troubleshooting” on page 9](#) for assistance.

- 2 Press the **SYSTEM** key on the front panel of your unit, and then do the following:
 - a Select the **Expert Tools** soft key:



- b Select the **Media Utilities** soft key:



- c Select the **Usbflash Format** soft key:



- d When prompted to do so, select **Confirm**.

The unit formats the USB memory stick.

Extract the upgrade zip file to your USB memory stick

After you format your USB memory stick using a USB slot on your base unit, you are ready to extract the upgrade zip file **directly to the USB memory stick**.

To extract the upgrade zip file to your USB memory stick

- 1 Insert the **formatted** USB memory stick into a USB slot on your laptop or computer.
- 2 On your laptop or computer, navigate to the **BERT-X.X-COMBO.exe** file (where “X.X” represents the latest version of the Transport Module or MSAM software), and then launch the executable.

The WinZip Self-Extractor dialog box appears as illustrated at the top of [Figure 5](#).

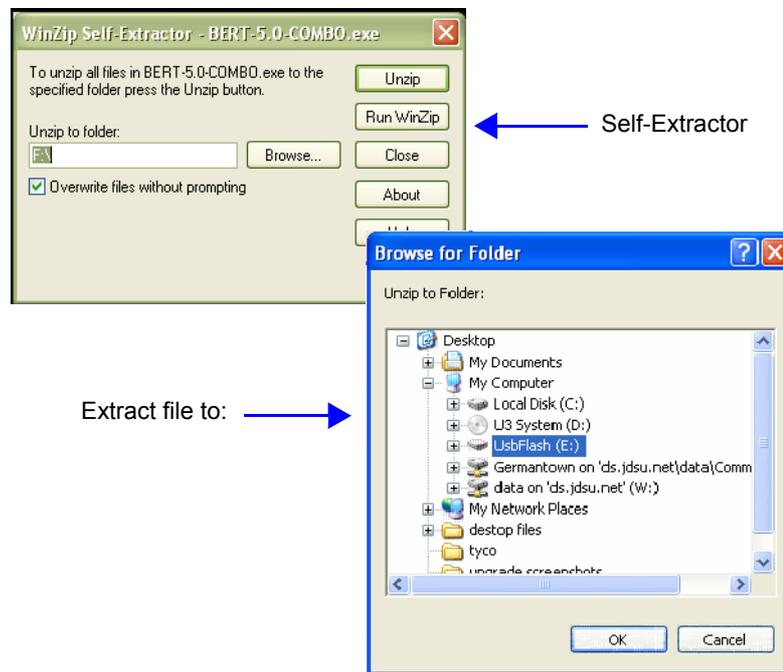


Figure 5 WinZip dialog boxes

- 3 When prompted to specify where the extracted files should be stored, select the drive assigned to the USB port, and then extract the files. [Figure 5](#) illustrates drive letter E: for the USB port; however, a different drive letter may be assigned to the USB port on your computer or laptop.

IMPORTANT:

Do not simply cut and paste or copy and paste the files to the USB memory stick; *they must be extracted to the USB memory stick* using the WinZip utility provided in the executable.

After the files are extracted without errors, the USB memory stick can be used to upgrade your unit. Proceed to [“Step 3: Upgrading the software”](#) on page 7.

Step 3: Upgrading the software

If you haven't already done so, before upgrading the software, review the ["6000A requirements" on page 1](#) or ["8000 requirements" on page 2](#) as appropriate for your particular hardware configuration.

When multiple Transport Modules or MSAMs are connected to a 8000 base unit, you can upgrade them simultaneously. You do not need to upgrade them one-by-one.

To load the base unit, boot, and Transport Module or MSAM (BERT) software upgrade:

- 1 Verify that the Transport Module or MSAM is OFF by ensuring that the corresponding BERT icon (or icons) on the System Screen are grey (see [Figure 1 on page 3](#)).
- 2 Unplug your unit from AC power, and then turn the power OFF.
- 3 After the unit has powered down completely, turn the unit back ON.
- 4 Wait for the unit to power up completely, and then plug the unit into AC power for the remainder of the upgrade process.
- 5 Press the **System** button on the front panel to display the System screen on the user interface (see [Figure 1 on page 3](#)).
- 6 Insert the USB upgrade stick with the **"SW, 8000 BERT, VX.X COMBO"** or **"SW, 6000A BERT, VX.X COMBO"** label, or the upgrade stick that you created into one of the base unit's USB slots, and then wait until you hear an audible beep. If you do not hear a beep, remove the USB memory stick, and then insert it into the port again. If you still don't hear a beep, refer to ["Troubleshooting" on page 9](#) for assistance.
- 7 Press the **Expert Tools** soft key on the right side of the user interface.



- 8 Press the **Software Upgrade** soft key.



- 9 Press the **Upgrade from USB** soft key.



- 10 When prompted to proceed with the upgrade, select **Confirm**.

The Software Upgrade Version screen appears. Figure 6 illustrates the layout of the Software Upgrade Version screen; it does not represent the actual software versions loaded on your unit and on the upgrade stick.

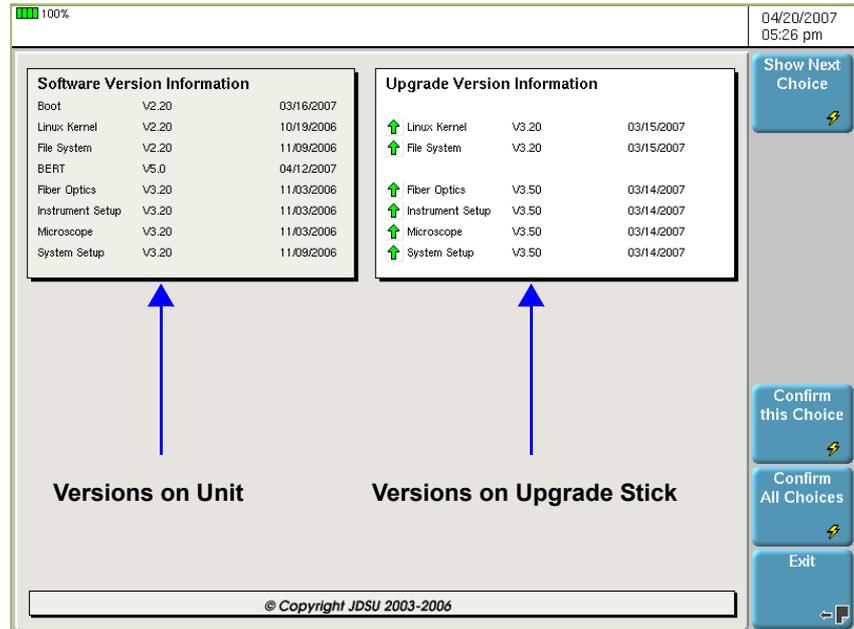


Figure 6 Software Upgrade Version screen

The following items appear on the screen:

- The current boot, Linux Kernel, File System, and other base software versions loaded on the unit.
- The versions of the Linux Kernel, File System, and other base software available on the USB upgrade stick. A green arrow next to a version indicates it is more recent than the version loaded on the unit; a red arrow indicates it is older than the version loaded on the unit. An equal sign indicates that the versions on the unit and on the upgrade stick are the same.
- The **Show Next Choice** soft key allows you to navigate through the available base, boot, and Transport Module or MSAM (BERT) software upgrades provided on the stick.
- The **Confirm This Choice** soft key that allows you to load the currently displayed upgrade from the stick.
- The **Confirm All Choices** soft key that allows you to load all of the software upgrades available on the stick. *This soft key only appears if the base, boot, and Transport Module or MSAM (BERT) software versions on the stick are all equal to or higher than the version that is currently loaded on your unit.*

11 Do one of the following:

- If the **Confirm All Choices** soft key appears, and you want to upgrade the base, boot, and Transport Module software, select **Confirm All Choices** to upgrade all three.
- If the **Confirm All Choices** soft key is not available, use the **Show Next Choice** and **Show Previous Choice** soft keys to navigate through and display the upgrade you want to load, and then select **Confirm This Choice** to load the displayed software upgrade.

After you select the **Confirm All Choices** or **Confirm This Choice** soft key, the following occurs:

- A series of messages appears guiding you through the first part of the upgrade process. **When prompted to remove the USB flash, do not do so.** On occasion, some memory sticks take a long time to initialize, and as a result, the software upgrade times out and fails. If the upgrade fails, refer to [“Troubleshooting” on page 9](#) for assistance.
If you do mistakenly remove the USB flash, re-insert it when prompted to do so. In most cases the upgrade will proceed as expected.
- Follow the remaining instructions as prompted.
- If you are upgrading using an 8000 base unit, the unit reboots. Do not press the **ON** button on the front panel when prompted to do so; the unit will not automatically go into stand-by-mode as suggested by the prompt; it will immediately begin loading the upgrade.
- The unit upgrades the software from the USB stick, and displays a series of progress messages. The upgrade may take up to 30 minutes.
- After the upgrade is complete, the unit automatically reboots.

12 Do the following to verify that the software versions were upgraded as expected:

- a** Press the **System** button on the front panel to display the System Screen on the user interface (see [Figure 1 on page 3](#)).
- b** Press the **Help Page** soft key, and then verify the versions for the Base, Boot, and Transport Module or MSAM (BERT) software (see [Figure 2 on page 3](#)).

Remove the USB memory stick from the slot.

13 Press the **Exit** soft key to return to the System Screen, and then launch the Transport Module or MSAM.

The first time you launch the Transport Module or MSAM after upgrading the software (or whenever you connect a Transport Module or MSAM to a base unit), the unit must synchronize the software on the Transport Module or MSAM with the software versions loaded on your base unit. Therefore, the launch will take longer than you are accustomed to (roughly 15 to 20 minutes).

This will not be the case for subsequent launches. You can track the progress of the load by observing the JDSU BERT MODULES STARTUP screen.

The software is upgraded.

Troubleshooting

This section explains how to identify and correct problems encountered when upgrading your unit.

Unit does not recognize USB memory stick

If your unit does not beep after you insert a USB memory stick, try doing the following:

- Press the **ON/OFF** button to turn OFF the unit, and then unplug the unit when prompted to do so. After the unit powers down completely, reconnect the power adapter, and then turn the unit back ON. Re-insert the USB stick; rebooting the unit usually resolves the problem.
- Remove the USB memory stick, and then insert it into the USB slot again.
- Insert the stick in the other USB slot.

I removed, then reinserted my USB upgrade stick as prompted, but the upgrade failed

On occasion, some memory sticks take a long time to initialize, and as a result, the software upgrade times out and fails. *This does not occur when upgrading using a JDSU upgrade stick.*

If your upgrade fails, try doing the following:

- Press the **ON/OFF** button to turn OFF the unit, and then unplug the unit when prompted to do so. After the unit powers down completely, reconnect the power adapter, and then turn the unit back ON. Re-insert the USB stick, and proceed with the upgrade. The upgrade should proceed as expected.

The BERT upgrade failed

On rare occasions, when loading all of the software upgrades provided on an upgrade stick (by selecting the **Confirm All Choices** soft key), the BERT upgrade fails. If this happens, try doing the following:

- Remove the USB memory stick from the USB slot, and then re-insert it.
- Launch the upgrade (see “[Step 3: Upgrading the software](#)” on page 7), and when presented with the Software Version screen, navigate to the BERT software version information using the **Show Next Choice** soft key.
- When the MSAM software version information appears, select **Confirm this Choice**. *Do not select Confirm All Choices.*

Proceed with the upgrade, and then verify that the BERT software was upgraded (see [step 12 on page 9](#)).

Related information

Use this document in conjunction with the *Getting Started* and *Testing Manual* that shipped with your instrument.

Technical assistance

For the latest TAC information, go to www.jdsu.com or contact your local sales office for assistance. Contact information for regional sales headquarters is listed on the back cover of your user manual.



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