Updating the Microcode

Overview. The microcode is low-level software that resides in flash memory on the System 3 processor devices. The microcode contains the DSP instructions for the RPvdsEx processing components. Updating the microcode enables you to take advantage of improvements and corrections to the functionality of your System 3 devices and software.

When should the microcode be updated?
When new hardware is added to the system and any time a new version of RPvdsEx is installed on the host PC, the microcode should be updated on all processors in the system.

How is the microcode updated?
Users must update the microcode using the zBUSmon utility. This program is copied to the host PC during TDT Drivers installation.

For more information on the microcode and related system utilities, see the System 3 Manual.

Updating the Microcode - Step-By-Step. Before you begin ensure your TDT system is connected and turned on, then run the zBUSmon utility.

To run zBUSmon:
Double-click the icon on your Desktop or click the **Start/Programs** menu, click **TDT Sys3** and click **zBUSmon**.

To quickly update all devices in the system:

1. In the zBUSmon window, click the **Update All Devices** button.

2. A time warning will be displayed. Click **Yes** to continue.

3. The System3 Device Programmer window is opened and programming automatically begins. Devices are programmed sequentially. A bar at the bottom of the window indicates progress for each device as it is updated.

4. **RX DEVICES ONLY:** If the automatic update process detects an RX device, a message will be displayed. Press and hold the **Mode** button on the front panel of the RX device and then click **Retry**. Release the Mode button when the front panel of the RX device displays Firmware: BLANK or Firmware: Burning. If there are multiple RX processors in the system, they will be programmed in the order in which they are connected in the system. The order corresponds to the device index numbers in the zBUSmon system diagram.

5. The dialog will close when programming has completed.
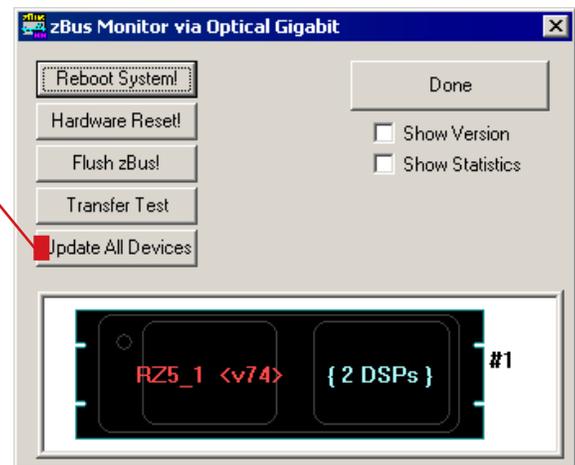
Microcode for the RP2, RP2.1, RA16, RV8, RM1, and RM2 is currently limited to **v80**. In these cases you can disregard the microcode mismatch indicator [red lettering].

To automatically update a single device:

1. **FOR ALL DEVICES EXCEPT RX-SERIES PROCESSORS:** right-click the device in the system diagram, then click **Update {device name}** on the shortcut menu. If a time warning is displayed, after reading the message click **Yes** to continue.

   FOR RX-SERIES PROCESSORS ONLY: press and hold the Mode button on the front panel of the device, right-click the device in the system diagram, then click **Update {device name}** on the shortcut menu. When Firmware: BLANK or Firmware: Burning is displayed on the front panel of the device, release the **Mode** button.

2. The System3 Device Programmer window is opened and programming automatically begins. A bar at the bottom of the window indicates progress.

   The dialog will close when programming has completed.
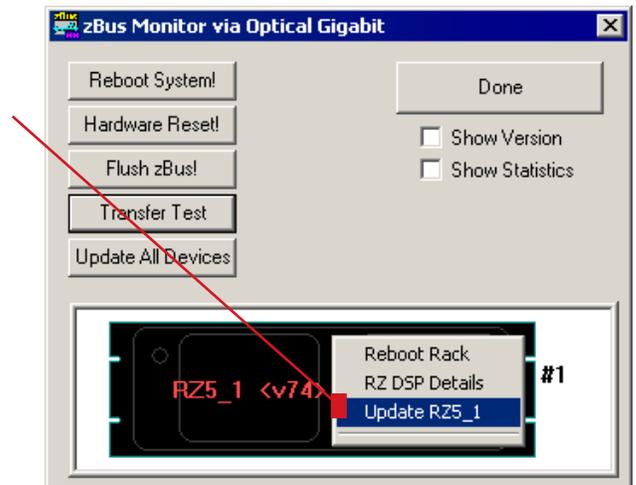
To manually program a device:

1. In the zBUSmon utility window, hold down the **Shift** key and right-click the device in the system diagram.

2. Click **Program {device name}** on the shortcut menu. The System3 Device Programmer window is opened. In this window you can choose the desired microcode file. Next to uCode File, click the **Browse** button. The default location for .dxe files is opened and you can select the desired file for the selected device or browse to an alternate location. The available files should include:

File	Device
RP2.dxe	RP2 Real-Time Processor (v80)
RP21.dxe	RP2.1 Enhanced Real-Time Processor (v80)
RA16.dxe	RA16BA Medusa Base Station (v80)
RV8.dxe	RV8 Barracuda Processor (v80)
RMX.dxe	RM1/RM2 Mobile Processors (v80)
RXn.dxe	RX5 Pentusa Base Station
	RX6 MultiFunction Processor
	RX7 Micro Stimulator Base Station
	RX8 Multi I/O Processor
RZn.dxe	Z-Series Processors
RQn.dxe	Z-series Processors with Quad Core DSPs

3. Once you have selected the desired file, click **Open**. The Open window is closed and the selected file appears in the uCode File box.

4. **FOR ALL DEVICES EXCEPT RX-SERIES PROCESSORS:** click **Program Device!**.

   FOR RX-SERIES PROCESSORS ONLY: press and hold the **Mode** button on the front panel of the device then click **Program Device!**. When Firmware: BLANK or Firmware: Burning is displayed on the front panel of the device, release the **Mode** button.

5. Programming begins and the progress bar displays the estimated time to complete the task.

6. When the Device Programmed message is displayed, click **OK**.