

## Updating frequencies and firmware in Trimble Trimmark 3 radio modems

This Technical Tip provides instructions for updating the frequencies in Trimble Trimmark 3 radio modems. The third page of this Technical Tip also provides instructions for installing new firmware in the Trimmark 3 radio modems.

If you are updating frequencies, you will receive (either from your Trimble dealer or directly from Trimble) two files for each radio modem to be updated. One file is a frequency file and the other file is an information file. Store these files (as well as these instructions if you find them useful) in a folder where you will be able to find them in the future.

The filename (the part of the name before the dot) of both files provided for a specific Trimmark 3 radio modem is the serial number of that radio modem.

The frequency file will have the extension SET. The frequency file contains serial-number-specific frequency-update information for the radio modem to be updated. This file will be installed using WinFlash and cannot be read by the user.

The information file is a text file with the extension TXT. The information file contains a list of the frequencies that will be installed in the radio modem and other related details. Any text editor can be used to read this file.

The procedure to install the frequency file in a Trimmark 3 radio modem is as follows:

1. First, the version of WinFlash that delivers Trimmark 3 firmware must be installed on your computer.

You can determine if your WinFlash “toolbox” has the necessary information by starting WinFlash and seeing if the device type “TRIMMARK 3 Transceiver” is available. If it is, you can skip to Step 3 below. If not, you need to install WinFlash as described in Step 2.

2. If you do not have WinFlash on your computer or if your WinFlash collection does not include the “TRIMMARK 3 Transceiver” device, you can either install the WinFlash on the CD that comes with the Trimmark 3 radio modems or download from the Trimble Web site the WinFlash that installs the current version of Trimmark 3 firmware.

As of this writing, the latest version of Trimmark 3 firmware is Version 1.30. You should use that version if you are broadcasting GLONASS data.

If you are not using GLONASS-capable receivers AND IF your Trimmark 3 is currently running a firmware version numbered 1.0X or 1.1X, Inland GPS recommends you use Version 1.11 firmware in your Trimmark 3. If your Trimmark 3 has Ver 1.2X or 1.3X firmware, attempting to install older firmware may cause serious problems.

Both aforementioned firmware versions are available for download from the Trimble web site as this was written. Several years ago there was a Version 1.12 that caused serious malfunctions so it was quickly withdrawn. We recommend you do not install Version 1.12 firmware in your Trimmark 3 radio modem.

To download the required WinFlash, point your Web browser to [http://www.trimble.com/trimmark3\\_ts.asp?Nav=Collection-3677](http://www.trimble.com/trimmark3_ts.asp?Nav=Collection-3677)

Click on the link that reads **TRIMMARK3 WinFLASH with 1.30 Firmware**

to download the installation file named WinFLASH\_TM3\_with\_130.exe

or

click on the link that reads **TRIMMARK3 WinFLASH v106 with 1.11 Firmware**

to download the installation file named TRIMMARK3\_WinFLASHv106with111Firmware.exe

Store the downloaded installation file someplace where you can find it. View the downloaded installation file in Windows Explorer, double-click its icon, and the installation process will start. If you do not have any WinFlash installations on your computer, this operation will provide the first one and start your WinFlash toolbox. If you have previously installed a different version of WinFlash, this installation will add to your WinFlash tools and possibly update the WinFlash program itself.

(If you have a recent Inland GPS Survey Rental CD, the WinFlash Version 1.11 download is included in the Survey\Trimmark 3\WinFlash\Ver 1.11 folder.)

3. Connect the Trimmark 3 radio modem to the serial port of your computer and a power supply. A powered download cable (or an OSM IV if you have the Trimble 4700 receivers) will work fine, or you can use a non-powered download cable in conjunction with the power source that powers the Trimmark 3 radio modem during normal operation. Make certain the display of the Trimmark 3 is turned on. If you are using a powered download cable or OSM IV (no power connected to the main power-input receptacle on the Trimmark 3) you will see a warning on the Trimmark 3 display that states “ERROR: No External Battery.” This means there is no power supply connected for the Trimmark 3 to use for actual broadcast transmission. You will still be able to perform functions such as updating firmware and frequencies without actually connecting a battery to the main power-input receptacle on the Trimmark 3.
4. Start WinFlash by clicking the Start button, then Programs | WinFlash | WinFlash unless you have customized the shortcuts to other locations. WinFlash will start. Make certain the top line of the program window says WinFlash v. 1.05 (or higher). You will be in the WinFlash - Device Configuration screen. Select the serial port you will use to connect to the Trimmark 3 radio modem, then highlight “TRIMMARK 3 Transceiver (v1.06)” (or something reasonably similar) as the Device type, then click the Next button.
5. The WinFlash – Operation Selection screen will now be visible. In the Operations window, highlight “Load Frequency Update”, then press the Next button. You will then go to the Frequency file path screen where you will be prompted for the frequency file to be installed in the radio modem. Use the Browse button to get to the folder where you stored that file, then highlight the correct frequency file, and finally click the Open button. Click Next and you will be at the WinFlash - Settings Review screen. Verify the information presented there, and if all is well click the Finish button. The settings contained in the frequency file will be sent to the Trimmark 3.
6. After the reprogramming is completed, click the Menu key and you will be back at the WinFlash - Operation Selection screen. Highlight “Configure TRIMMARK 3”, click Next to advance to the WinFlash - Settings Review screen, then press Finish and the TRIMMARK 3 Configuration screen will soon appear. Review the settings and make changes as required and appropriate, paying particular attention to the following items:

**Channel Sharing:** FCC regulations prohibit operation of the Trimmark 3 radio modem with Channel Sharing set to Off. Make certain it is set to Avoid Weak Signals (recommended) or Avoid Strong Signals.

**Enable Station ID:** FCC regulations require the Enable Station ID box to be checked and the user’s FCC call sign (or other suitable identification) entered in the call sign field. If you are waiting for your FCC license and associated call sign (or do not have an FCC license for whatever other irresponsible reason), enter the letters WT followed by your seven-digit telephone number. This identification information is broadcast in Morse code every 15 minutes during operation of the Trimmark 3 radio modem. If data broadcasts cause interference for another user licensed to use the same frequency it is much better for the users to resolve the problem by themselves without involving the FCC. Broadcasting your call sign (or telephone number) will allow someone to contact you about an interference problem so it can be corrected as quickly and efficiently as possible.

Federal agencies are not subject to FCC regulation so they do not need to broadcast a call sign.

You may also want to set the Wireless Settings at this time, or you can do that later using the Survey Controller.

7. Click the Radio Info button to see a configuration sheet for your Trimmark 3 radio modem. We recommend you either print this information or save to file for future reference. It could be very useful for troubleshooting should the need arise. Close the Radio Configuration window.

8. Click the Set button to send the settings shown on the TRIMMARK 3 Configuration window to the Trimmark 3 radio modem. When that operation is finished, click Exit to exit WinFlash. Disconnect the data and power connections and the Trimmark 3 radio modem is ready to go.

**Updating Trimmark 3 Firmware:** If your Trimmark 3 radio modem has a firmware version older than Version 1.11 we recommend you install Version 1.11 at this time. **WE RECOMMEND YOU DO NOT INSTALL VERSION 1.12.** If you have downloaded and installed the WinFlash package that installs the desired firmware version as described beginning at [Step 2](#) above, you have what you need to update the firmware.

If your Trimmark 3 radio modem has a firmware version of 1.2X, we recommend you install Version 1.30 firmware at this time.

To install new firmware in the Trimmark 3 radio modems, simply connect the Trimmark 3 radio modem to your computer as described in [Step 3](#) above. Start WinFlash by clicking the Start button, then Programs | WinFlash | WinFlash unless you have customized the shortcuts to other locations. Select the serial port on your computer that will be used to communicate with the Trimmark 3. In the WinFlash - Device Configuration screen select “TRIMMARK 3 Transceiver (v1.06)” as the Device Type, and click Next. The WinFlash - Operation Selection screen will appear, so in the Operations window highlight “Upgrade radio firmware” and click Next. The Select Firmware screen will appear, in the Available Firmware window highlight the desired firmware version. The WinFlash - Settings Review screen appears, review what is going to happen, then click the Finish button to start the update process.