

Updating Firmware Instructions

Updating your Data Meters' firmware is an easy process which requires running a program that will load the new firmware into the meter. You will need the following;

A 9 pin NULL MODEM cable or adapter that, minimally, supports the following wiring:

Pins, 2-3, 3-2, 7-8, 8-7, 5-5

An open serial port or USB to Serial adapter (FTDI chipset with latest drivers works the most reliably).

A computer running Microsoft Windows (any version).

Download and save the FirmWare Update ZIP file from the <https://Serialtools.tv/support/> web site page.

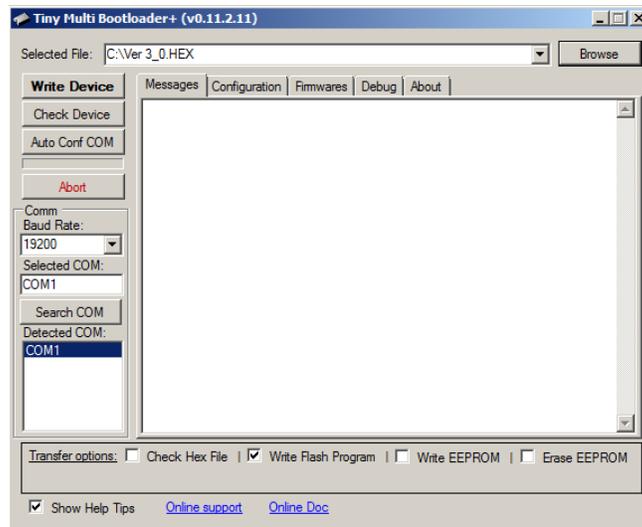
Double click on the downloaded ZIP file and select "Extract All Files".

Navigate to the folder that contains the extracted files.

Run the "TinyMultiBootloaderPlusInstaller.exe" to install the software you will need for the update.

Next, run the Tiny Mult Bootloader+ program.

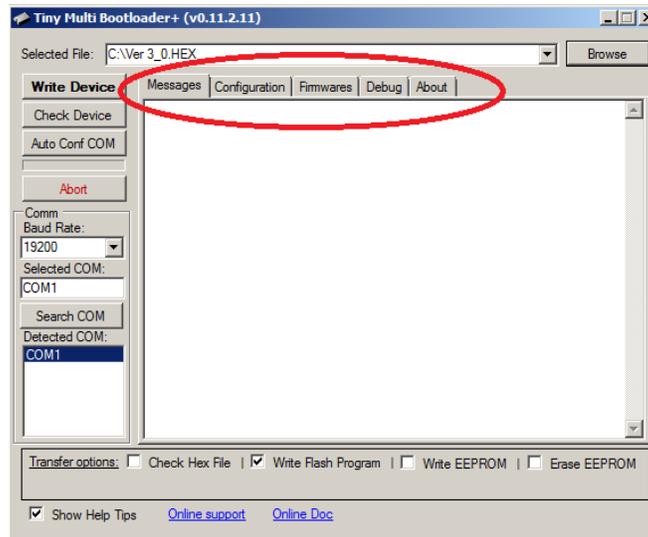
You should see this screen;



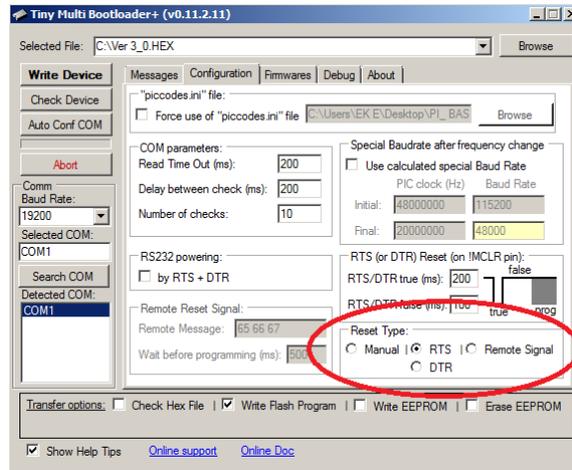
Before proceeding, there are a few things to select or to verify they are selected.

First, note these tabs circled in red;

Click on the Configuration tab.



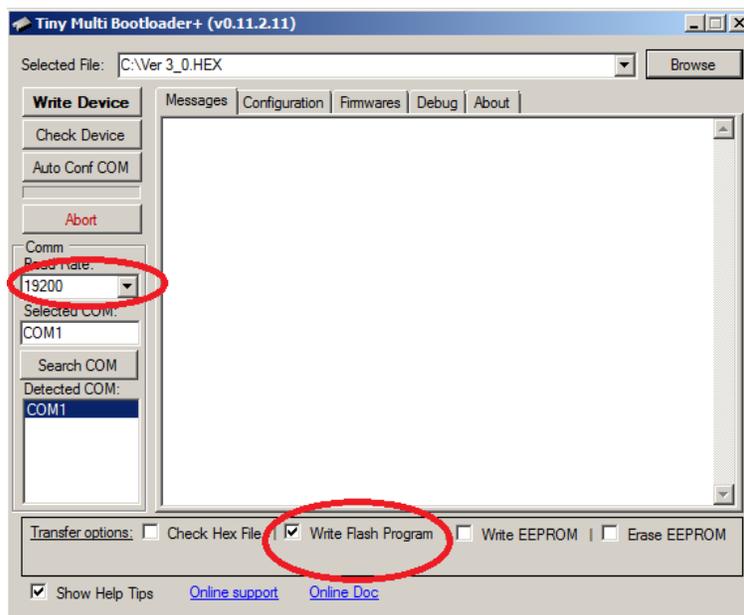
The configuration window looks like this;



Make sure that "Reset Type:" has "RTS" selected. This sets the correct "handshaking" pin for the update.

Click on the "Messages" tab to go back.

Checking the Baud Rate and the Write Flash Program settings;

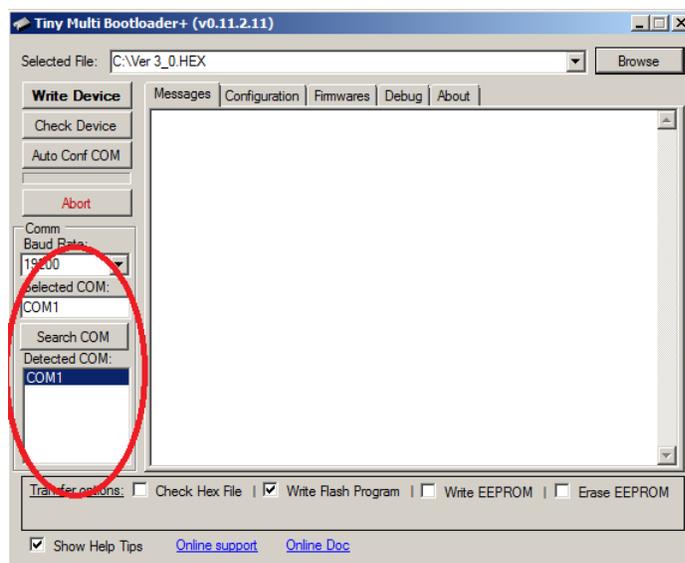


Verify that Baud Rate has 19200 selected. If it is different, use the drop down arrow to select 19200. Examine the bottom line of the page and verify “Write Flash Program” is checked.

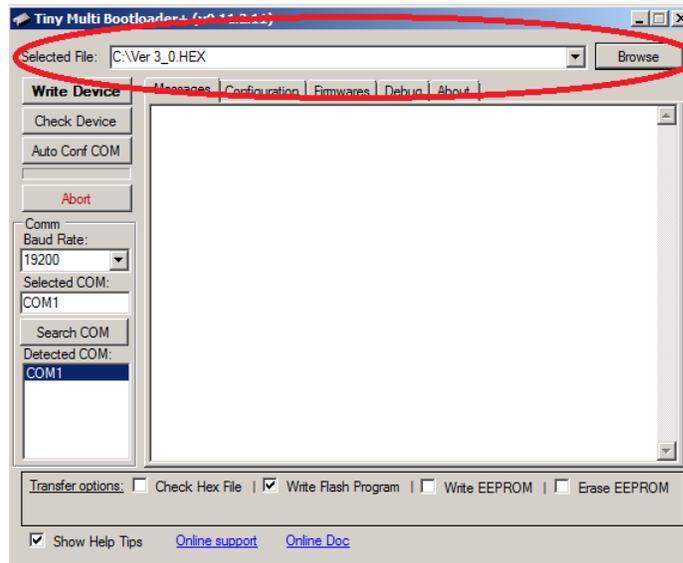
Next, Select the serial com port of your serial adapter;

If your serial adapter driver is properly loaded into windows it will show up in “Detected Com:”

If the detected COM window is blank, click on the “Search Com” button. If your serial port is properly working in Windows the detected “COM:” will show what com port windows has been assigned to your serial adapter. Double click on your “COM” number and it should now appear in the “Selected COM” window, if it isn’t there already. If the “Detected COM:” window is still blank after clicking on “Search COM” then there is a problem with your serial adapter and windows. Try updating the driver, or consulting the manufacturer of your adapter.



Selecting the firmware update file:



Click on the Browse button and navigate to the firmware update file that you extracted earlier and select it. The file will have a .HEX extension.

The file name should now appear in the “Selected File” window.

The software is now configured and ready.

Connect a 9 pin NULL Modem adapter/cable between the meter and your RS232 adapter. Your NULL modem adapter/cable must have the following pins crossed over;

2 – 3 Rx – Tx

3 – 2 Tx – Rx

7 – 8 RTS – CTS

8 – 7 CTS – RTS

5 – 5 Dgnd - Dgnd

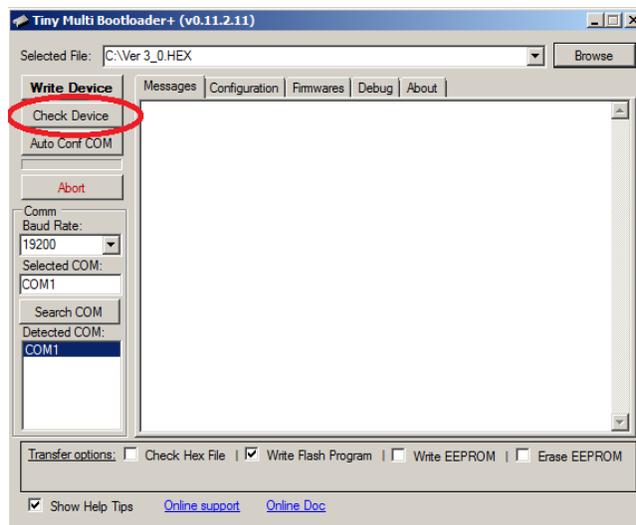
Please note that if your cable is missing any of these crossed over pin connections the update will fail.

Preparing your meter for the update;

To prepare the meter for a firmware upgrade you must remove the meter from the rubber boot and open the battery door. There is a small square opening where the thumb tab of the battery door fits into. There are 2 small dip switches which need to be switched on, (Up and away from the battery). Using a pin or a straightened paperclip *gently* nudge the two switches to “ON”. (NOTE; these switches will need to be returned to “OFF” when the upgrade is completed.) One dip switch will force the meter to power on, the other dip switch will enable the serial handshake needed for the update.

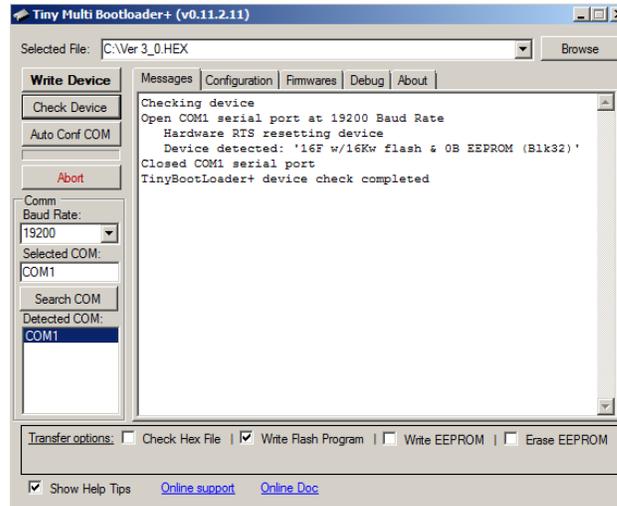


Time to Check Communication to the Meter;



Click on “Check Device”.

If the selected serial port is working and your NULL Modem adapter/cable is good then you should see this in the messages window;

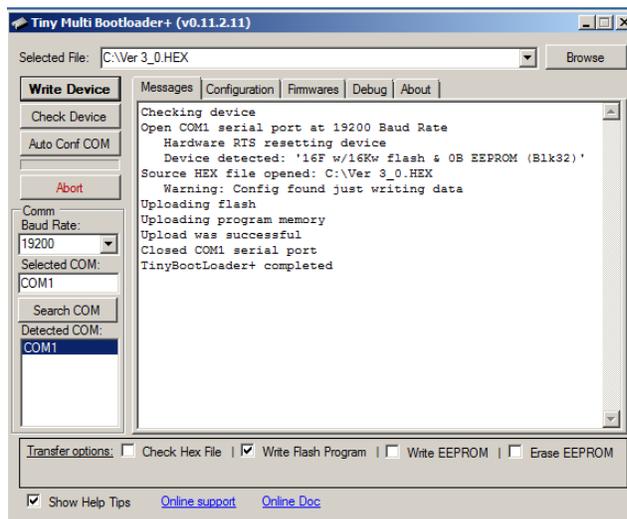


If there is an error, check your cables, check your Null adapter, check that your serial adapter drivers are properly loaded into windows, and check that the serial port/adapter you are using is selected in “Selected COM”.

You are ready to perform the update:

Click “Write Device”. A progress bar located just under the “Auto Conf COM” button will show the progress of the update.

Wait for the Messages window to signal “Upload was successful” and “Completed”.



If the progress bar stops in the middle or the message window and signals a problem, just re-click “Write Device” to start the process again.

VERY IMPORTANT STEP

DO NOT FORGET

Return the 2 dip switches back to off (Down, closest to battery), to return meter to normal operation.

You have completed the update process. If you look at the top of the screen, of the meter, the version number should match the version number of the .HEX file you just loaded.

If you need help or have a question with any of the steps described in this document please email me at:

support@serialtools.tv

Thank You,

Ed Kizer

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