

## Updating the firmware of an iEFIS Extender



This update provides the following additional functionality to the Extender:

Ability to connect to an iEFIS CAN bus (using the CAN 1 port on the Extender). This provides iEFIS systems with an additional 8 analog/digital inputs and 4 outputs.

Ability to accept future firmware updates via the RS232 port when connected to an iEFIS Lite RS232 port 2 (i.e. when using the Extender as "ibox" replacement in a "Lite" system).

You need the following items:

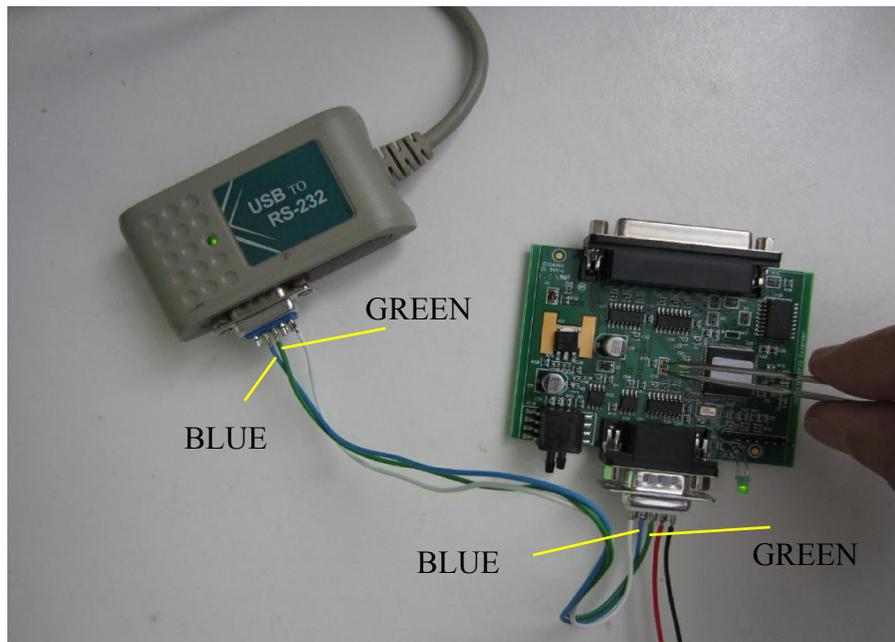
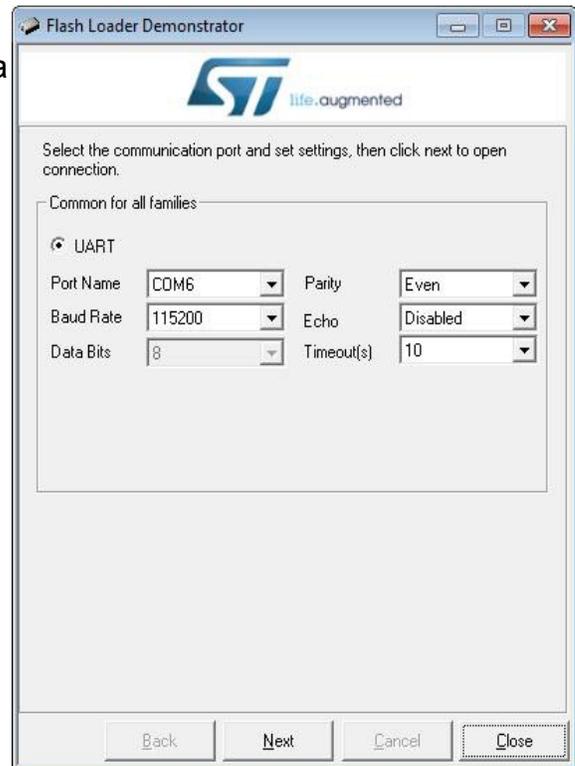
- 1) The iEFIS Extender module PCB. Remove the PCB from the housing by removing two screws.
- 2) Small tweezers. You need this to short a link.
- 3) Programming cable. You will be constructing this cable.
- 4) USB to RS232 "dongle" for PC (not needed if your PC has a RS232 port).
- 5) Windows PC with RS232 or USB port.
- 6) Flash Loader Demo application from ST Microsystems (download from internet).

Download Flash Loader Demo application from ST Microsystems. As of writing this text the direct link to the download page is: <http://www.st.com/web/en/catalog/tools/PF257525#>

The version number of this application is 2.8. Please note that earlier versions may not work as the processor used is a fairly recent model that is not known to older versions.

Install the application and run it.

Select the COM port you will be using. In this case a USB dongle was used under Windows 7 and the dongle installed itself as COM6. The other parameters are the default and must be used.



Construct a programming cable as per above image connect as shown. The red and black wires connect to a regulated 12V DC power source. You can also use a 12V battery. Do not use a car battery charger as these often do not provide a proper DC source.

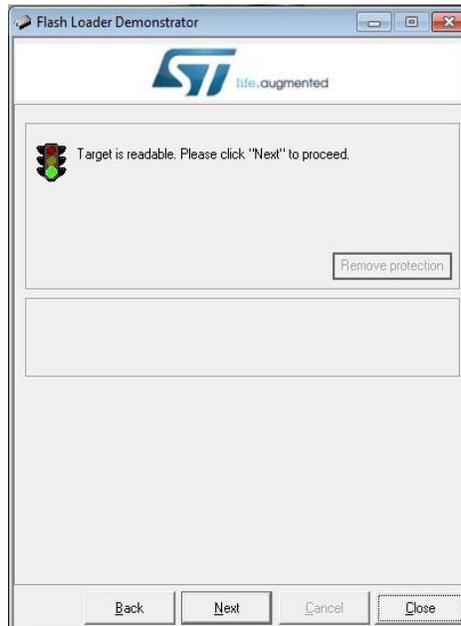
You will need a minimum of 6V DC if you don't have a 12V source handy.

You need a male and a female DB-9 connector. Ensure that you connect exactly as shown above, don't swap the blue and green wires (those are the RX and TX lines).

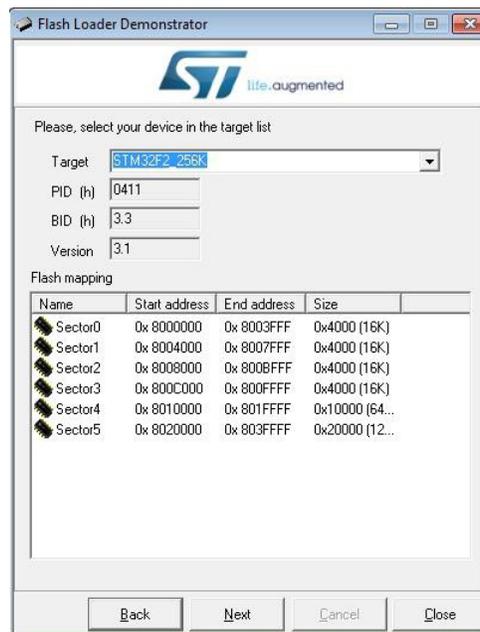
Short the two exposed gold pads using tweezers as shown with the power OFF. Keep the pads shorted and then switch power ON. Wait two seconds or longer and then you can remove the tweezers. The LED will now be off and not flash. That confirms that the board is now ready for programming.

On the Flash loader demonstrator click “Next”.

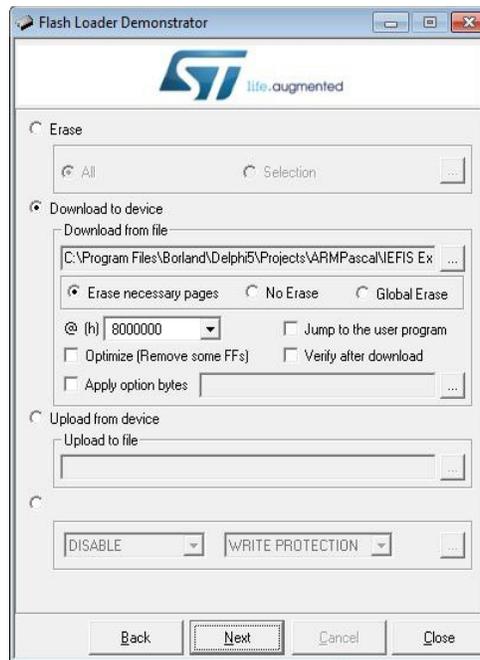
The flash loader will now try and attempt to “talk” to the board. If all is well it will go to the next page, if not it will tell you so. Check your wiring, COM port number and try again.



If you get this screen after pressing “Next” - good. Ready to go... Press “Next” again.



You will get a screen asking you to select a target. Select STM32F2\_256K and then press “Next”...



Now you should get this screen. Select the file “STM.BIN” that you downloaded for the Extender from the MGL Website (during the file selection dialog you need to change the file type from s19 to BIN).

You should get a screen similar to above, just with your path to the file shown instead of mine.

Press “Next” once more...



After a short programming session you should get the above screen. Congratulations, you are done...

After cycling the power on the Extender the new firmware will run – the LED should be flashing.