



TEKWORX

interfaceIT™ Encrypted Firmware Loader

Rev 1.30



Proprietary Statement

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General Information

This documentation describes the process of upgrading firmware on any of the interfacelT Ethernet™ Enabled products. From time to time TEKWorx Limited will release updated Firmware for their devices, which could include bug fixes, enhancement, or new features. When these updates are released you can optionally upgrade your controller with the provided file. The following steps will guide you thru using the Firmware Upgrade utility to perform an upgrade to the firmware running on the device.

Prerequisites

For the encrypted firmware loader to see the board, you will need to ensure that you are on the same network segment as the loader uses UDP broadcast. Most home wireless networks will not pass these types of packets between the wireless and the wired network.

Process

1) Load the application

Launch the firmware loading application “*interfaceIT Encrypted Firmware Loader.exe*”

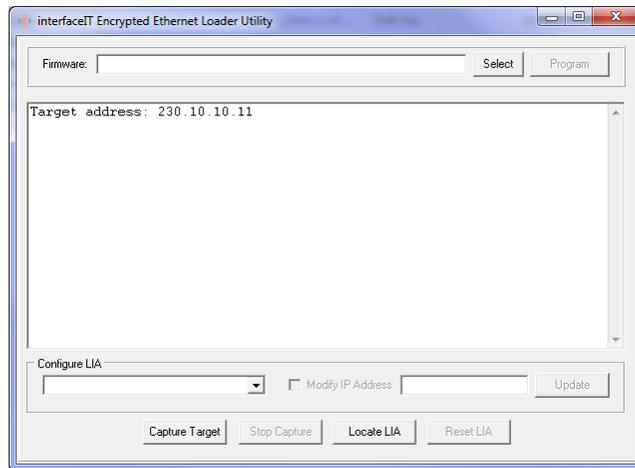


Figure 1 - Loader Launched

2) Capture Target

Click on the capture target button (lower left) to setup the application to be able to receive the message when the board boots and put it into the firmware upgrade mode.

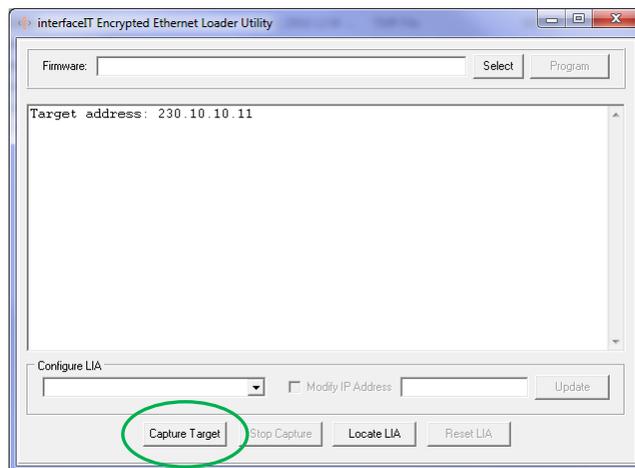


Figure 2 - Capture Target

3) Power Cycle Device

Now that the firmware loader is ready, you will need to cycle the power on the interfacelT Ethernet™ enabled board. During boot the device will attempt to contact the Ethernet Loader utility, at which time if you have Anti-Virus or Firewall's enabled you may be prompted to allow access. If the device does not capture, you may need to disable your firewall or check your connections (see troubleshooting section).

4) Device Detected

Once the interfacelT Ethernet™ enabled device has been detected and placed into Firmware Upgrade mode, you will see a series of messages with data from the device. If this is your first (or only) device you should see a LIA ID of 4200. Once in this stage you are ready to select the new firmware file by pressing the “Select” button

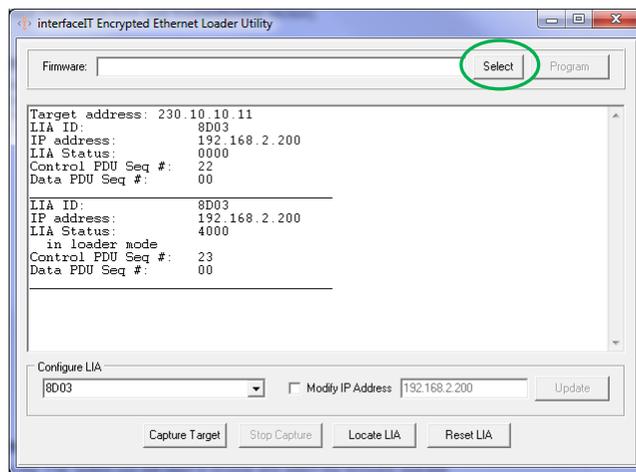


Figure 3 - Device Detected

5) Select Firmware Upgrade File

After clicking the “Select” button you will need to browse and select the firmware upgrade file downloaded from TEKWorx Limited for your specific device. Be sure to select the correct file for the board you are working with. If you pick the wrong firmware for the board model, it will not load.

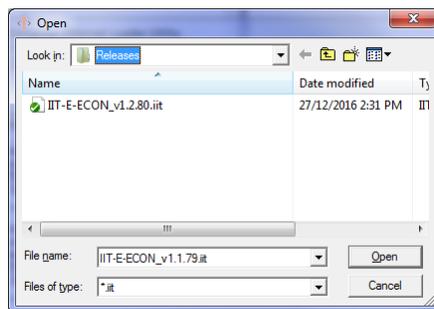


Figure 4 - Select Firmware File

6) Program Update

Once you have selected Firmware Update file, press the “Program” button to start the programming.

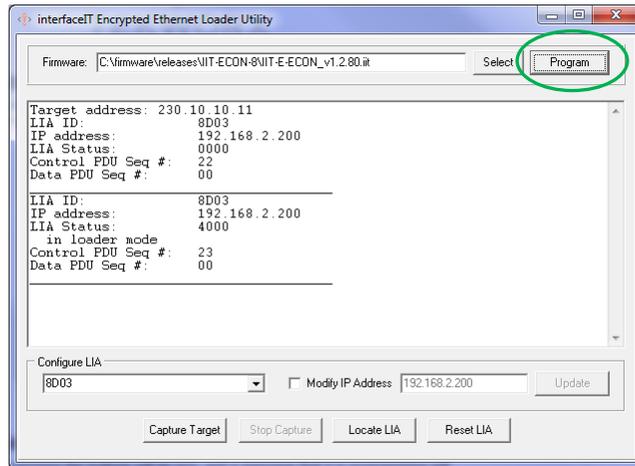


Figure 5 – Program

7) Programming

During programming the buttons will go gray and a message that it is programming will show up on the screen. The screen will not show anything else during the programming, however if you look at the activity light on the interfaceIT Ethernet™ enabled board (top right LED on the Ethernet connector) it will be blinking rapidly during the programming. All newer version so the board have a onboard LED for status that will be long flashing during the programming (if you can see the LED).

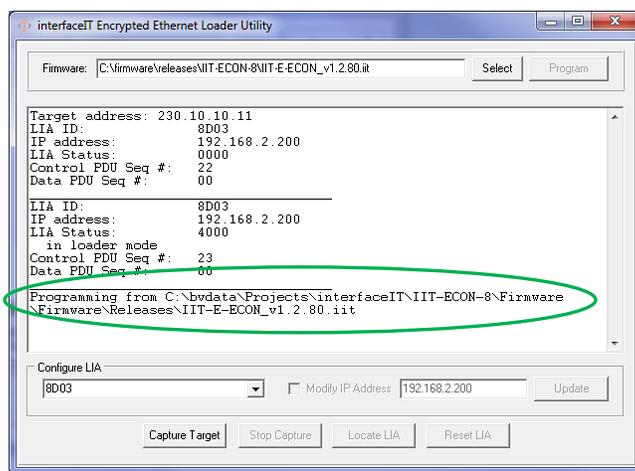


Figure 6 – Programming

8) Programming Complete

Once the programming is complete the buttons will be enabled again and you will see a “Programming Complete” message on the screen. At this point you have completed the update successfully.

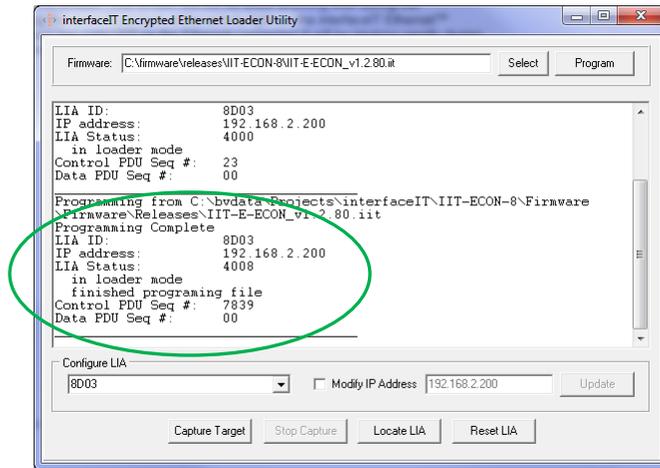


Figure 7 - Programming Complete

9) Reset the board

Since you have upgraded the firmware in the controller board and that it is still in a Firmware Upgrade mode, you will need to power cycle the board. You can do this one of two ways:

1. Press the “Reset LIA” button and the software will send the command to reboot the device
2. You can physically remove power from the board for a few seconds (recommend 5 seconds to allow for power to drain from all circuits); and then power the board back up.

10) Close App

Now that the programming is complete you can simply close the Firmware Loader.



Verify Firmware Version

You can verify the firmware version by connecting to the board with a web browser using the default hostname. Simply enter that into your browser and it should take you to the web interface of the board. Once there you can click on the “*Device Info*” tab and view the firmware version. Optionally you can use the discovery utility to see the board and launch a browser to connect to it.

Device Information	
Board Name:	IIT-E-SPEK1
Serial Number:	D8803927038F
Board Type:	IIT-E-SPEK1
IP Address:	xxx.xxx.xxx.xxx
Board Firmware:	v1.2.80
Build Date:	Dec 27 2016
Stack Version:	v5.42
interfacelT Port:	xxxxx
Current Connections:	0

Figure 8 - Device Info



Troubleshooting

- Board does not boot into bootloader mode.
 - When the board boots it checks for a bootloader packet on the network sent from the interfacelT Encrypted Firmware Loader software. If the board does not receive this it will continue to boot normally.
 - Make sure that your computer and the board are on the same wired network as most wireless network routers do not pass the discovery packets from wireless to wired networks.
 - Disable your firewall on your computer to ensure Windows is not blocking the packets.