

UPGRADING BT900 FIRMWARE

Application Note

v1.1

INTRODUCTION

The goals of this document include the following:

- To explain the method of upgrading the firmware on a BT900 module.

Note: This method applies to upgrades versions of 9.1.2.0 or later.

OVERVIEW

Note: You can upgrade the firmware of the BT900 module over its serial port if the BLE stack has not changed.

To upgrade the module, you must use Laird's development board or your own equivalent implementation to provide an RS-232 connection to the module's serial port.

Using Laird's development board, connect a mini USB connector to CON4 and follow the [Upgrading the Firmware](#) procedure.

To upgrade a loose module, the following connections are required.

Note: The BT900UartFwUpgrade utility uses RTS/CTS flow control. If these signals are not connected there is no guarantee the upgrade will be successful.

Remote Signal	BT900 Signal	Pin Number
Tx	Rx	44
Rx	Tx	45
CTS	RTS	46
RTS	CTS	1
3.3V	VCC	5
3.3V	BT_VREG_IN_HV	31
3.3V	BT_VDD_IO	43
Gnd	Gnd	6,23,29,30,33

For further information on connections to the BT900 module, please refer to **the Hardware Integration Guide, Conn_HIG_BT900_V1.0**, which is available from the Laird website.

Checking Firmware Version

To check the firmware version, attach the module to a serial port on your PC and run UWTerminal. Once the module is running, type **AT I 3** to display the firmware version ([Figure 1](#)).

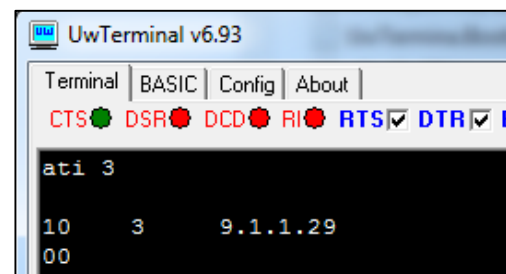


Figure 1: AT I 3 command returning the firmware version number

Updating the Bootloader

If your firmware version is 9.1.1.29 or later, the module already has the correct bootloader installed. You may skip this step and go directly to [Upgrading the Firmware](#).

If you have a version of firmware earlier than 9.1.1.29 please contact Laird support.

Upgrading the Firmware

Note: Firmware upgrades for versions equal to or greater than 9.1.1.29 are made using the BT900UartFwUpgrade.exe utility.

To upgrade the firmware, follow these steps:

1. Extract the following files (located in the Firmware directory of the firmware upgrade .zip file) to a directory on your PC:
 - BT900UartFwUpgrade.exe (The firmware upgrade utility)
 - XXXX.uwf (The firmware image)
2. Run the firmware upgrade process from that directory.
3. Attach the module to your PC's serial port using the USB cable if using Laird's development kit or as appropriate if using your own board.
4. Start BT900UartFwUpgrade.exe to display the launch window ([Figure 2](#)).

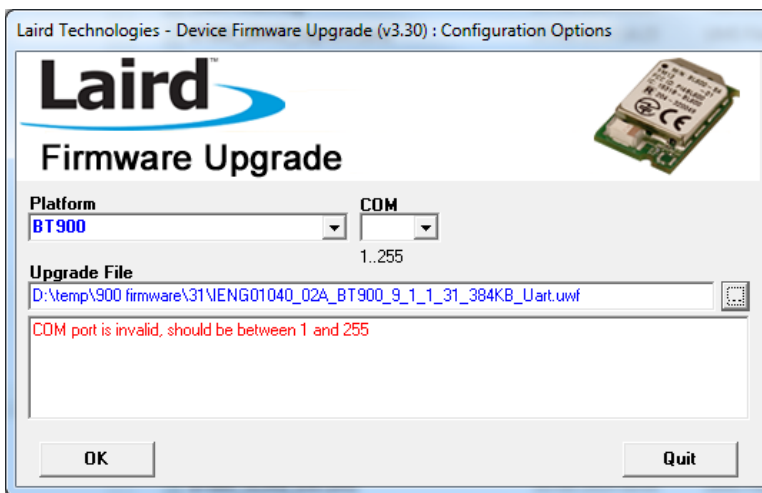


Figure 2: BT900UartFwUpgrade launch screen

5. Ensure that the selected platform is **BT900**.
6. If the **COM** field is empty, select the applicable COM port number from the drop-down menu.
7. If the Upgrade File field is empty, click ... to select the applicable **xxx.uwf** file.

When the settings are correct, the message field below Upgrade File disappears.

8. Click **OK**.

The following screen confirms the firmware version ([Figure 3](#)).

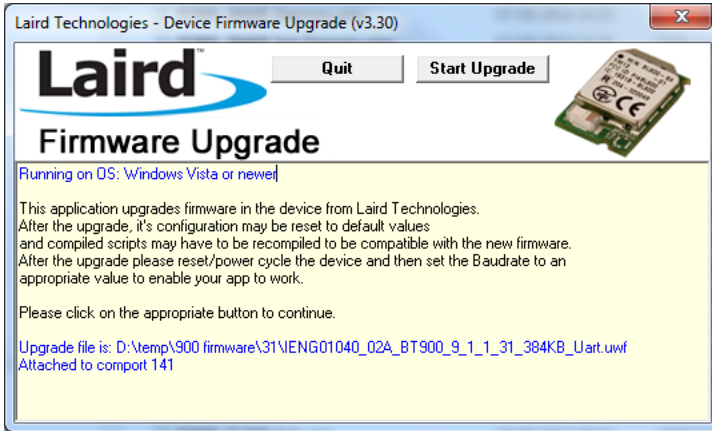


Figure 3: Screen confirming firmware version

9. If the firmware version is correct, click **Start Upgrade**.

The download process starts, with the screen showing the progress and describing the status (Figure 4).

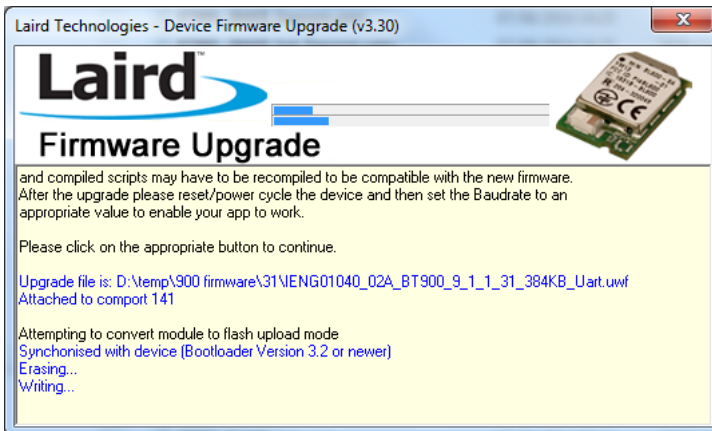


Figure 4: Firmware upgrade in progress

When the upgrade is complete, the screen indicates completion and requests that you power cycle the module (Figure 5).

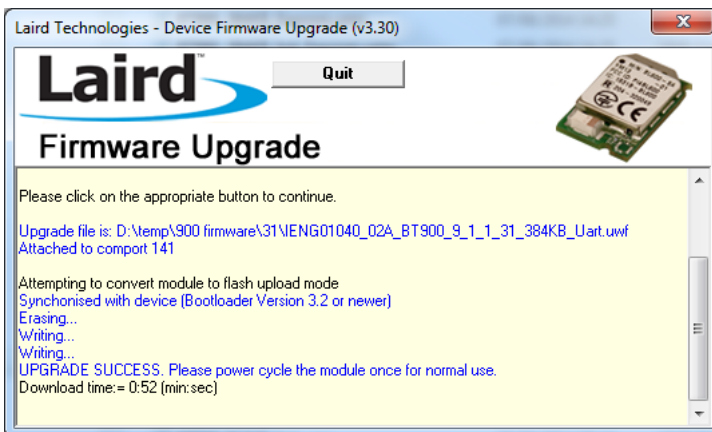


Figure 5: Upgrade complete, requesting power cycle

10. Cycle power to the module.

Upgrading BT900 Firmware

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11. Click **Quit**.

The module is upgraded and ready for operation. Confirm the upgrade by running UWTerminal and checking the version using AT I 3 (Figure 6). The value that is returned should be contained in the filename. If this is not the case please contact Laird support.

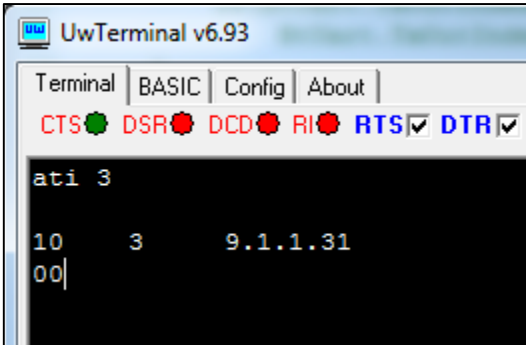


Figure 6: Confirming the new firmware with AT I 3 in UWTerminal

FURTHER INFORMATION

Further information relating to firmware and the use of UWTerminal is available from the Laird Support Site: https://laird-ews-support.desk.com/?b_id=5609

REVISION HISTORY

Revision	Date	Description	Approved By
1.0	26 Nov 2014	Initial Release	Jonathan Kaye
1.1	22 Jan 2015	Updated links. Added Revision History	Sue White