

5 Bootloader

All RFD x series modems have a bootloader that manages the loading of firmware to the modem. This can be entered by:

- The AT&UPDATE command from within the firmware command mode.

Note that each bootloader and AT command alike need to be followed by an enter press or other method of sending a newline delimiter (\n).

Or

- By using a conductor such as a pin or straightened paperclip to connect the number 9 pad, located between pin 16 and the radio frequency shield of the modem, to a ground pin or the metal of the shield while powering up the modem, by for instance sliding the jumper into place on pins 4 and 6.

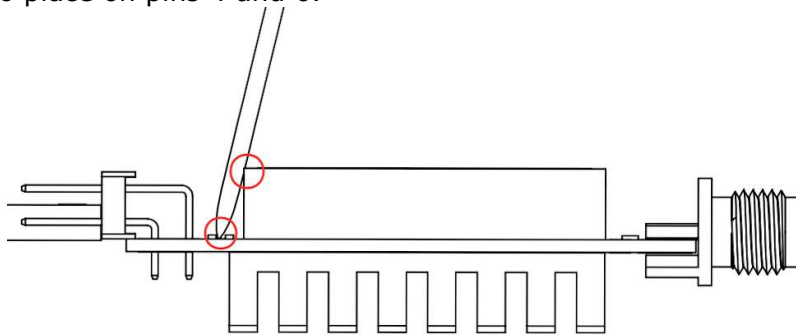


Figure 7: Pin making contact with pad 9 and RF shield to force bootloader mode

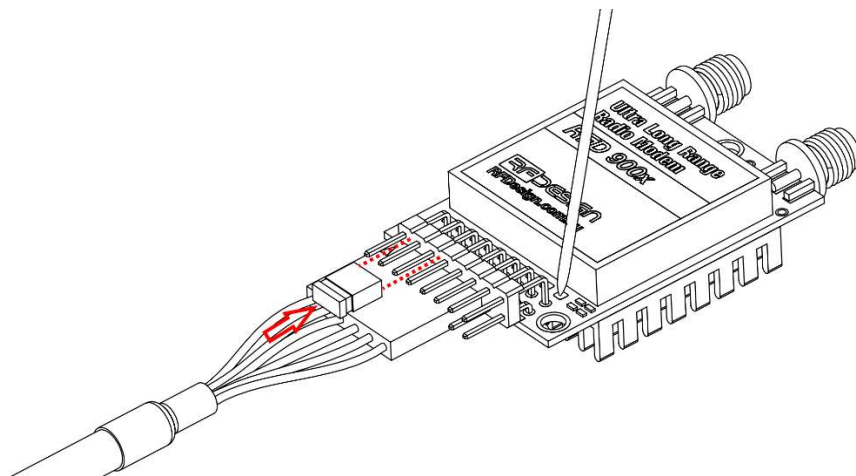


Figure 8: Pin connecting pad 9 and shield while powering up modem by adding jumper to pin 4 and 6

The modem signals that it is in bootloader mode by a solid red LED.

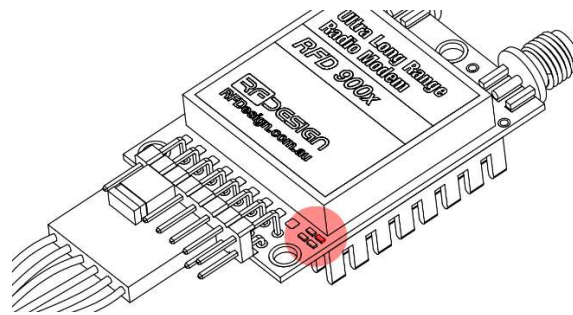


Figure 9: Solid red LED indicating modem in bootloader mode

When entering bootloader mode the serial port will print a string with the modem model, bootloader version and ChipID.

```
RFD900xSub:2:MainV1.12.03 ChipID: E8E07EFFFECBFE9
```

Figure 10: Example bootloader mode serial string

The serial port will be configured to the following defaults.

- 57600 Baud
- No parity bit
- 8 Data bits
- 1 Stop bit
- RTS/CTS flow control OFF

The bootloader has commands for performing basic functions. These commands are typed and followed by pressing the enter key or other method of sending newline delimiter (\n). The modem will reply with an 'OK' to indicate the command has been accepted. The bootloader commands are as follows:

BAUDHI This command switches the baud rate of the bootloader to 1200000.

Note this command is not available for some older modems that have an earlier version of the bootloader.

BAUDLO This command switches the baud rate of the bootloader to 57600.

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BOOTNEW This command reboots the modem to the loaded firmware.

UPLOAD This command tells the modem to expect XMODEM formatted firmware data to install on the modem. The modem will reply with 'Ready' and begin to periodically print 'C' as it waits for data. It will timeout if no data is received within about a minute.

```
UPLOAD
Ready
CCCCC█
```

Figure 11: Example of UPLOAD command execution