

MOBI Boot Loader

Instruction Manual

Part Number: IM-MOBI BL, Rev. 1 3/08
E.M Westplate



COPORATE HEADQUARTERS

5 Harris Court, Building L, Monterey, CA 93940
PH: (831) 373-0200 (800) 866-0200 FX: (831) 373-4402
www.sierrainstruments.com

EUROPE HEADQUARTERS

Bijlmansweid 2, 1934RE Egmond aan den Hoef, The Netherlands
PH: +31 72 5071400 FX: +31 72 5071401

ASIA HEADQUARTERS

Room 618, Tomson Centre, Bldg. A
188 Zhang Yang Road
Pu Dong New District, Shanghai, P.R. China
PH: +8621 5879 8521/22 FX: /8621 5879 8586

Table of contents

Table of contents.....2
Introduction.....3
Getting started.....3
 Load Firmware.....4
 Setup Firmware.....6
 Quit.....7
Trouble shooting.....7

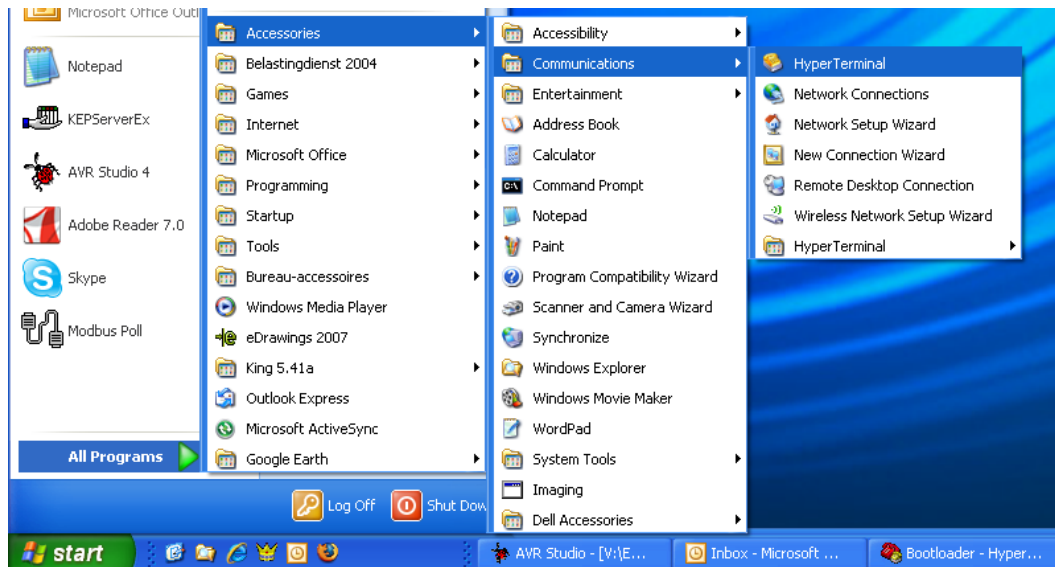
Introduction

This document describes how the boot loader is used currently found on the new Mobi generation. The boot loader makes it possible to set up applications and download firmware using a simple terminal program and a serial connection.

Getting started

In order to set up Mobi, a PC is needed which is equipped with an RS485 interface or an external converter connected to the RS232 port.

Connect the RS485 interface of Mobi to the RS485 interface of the PC. On the PC start a simple terminal program like HyperTerminal.



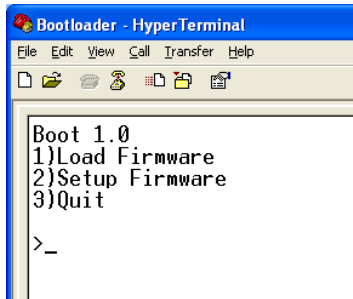
Start HyperTerminal from windows and select the com port to which the RS485 interface is connected. Use the following settings:

Baud rate:	9600
Number of bits:	8
Parity:	N
Stop bits:	1

The boot loader will only be active during the first 2 seconds after a power-up or reset. During power-up (or reset) the green LED will blink twice before executing the application. To enter the boot loader, follow the next steps:

1. Power up the unit
2. In HyperTerminal press the enter key within 2 seconds of power up (any other key will terminate the boot loader and will start the application)

When the boot loader is activated successfully the green LED will stay on. The following menu will be presented on the screen:

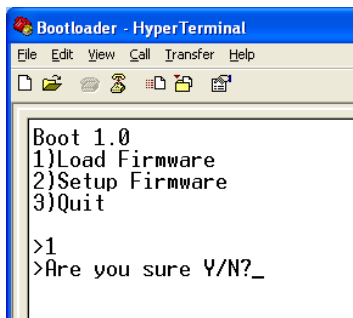


```
Bootloader - HyperTerminal
File Edit View Call Transfer Help
Boot 1.0
1)Load Firmware
2)Setup Firmware
3)Quit
>_
```

The version of the boot loader is shown and three options. By pressing the “1”, “2” or “3” key an option is selected.

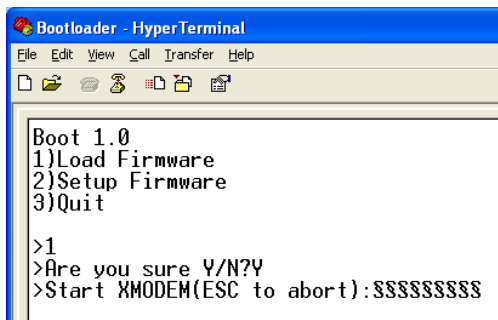
Load Firmware

This option is used to download firmware to the unit. When pressing the “1” key the following screen will be presented:



```
Bootloader - HyperTerminal
File Edit View Call Transfer Help
Boot 1.0
1)Load Firmware
2)Setup Firmware
3)Quit
>1
>Are you sure Y/N?_
```

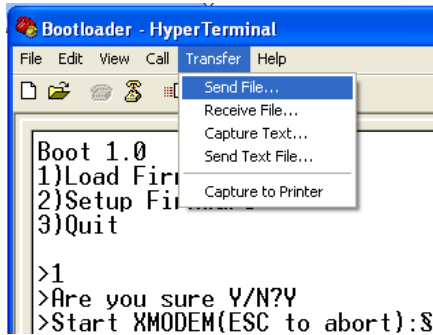
A question is presented asking to continue. Press the “Y” or “y” key to continue. Press “N” or “n” to abort. When continuing the following screen will be presented:



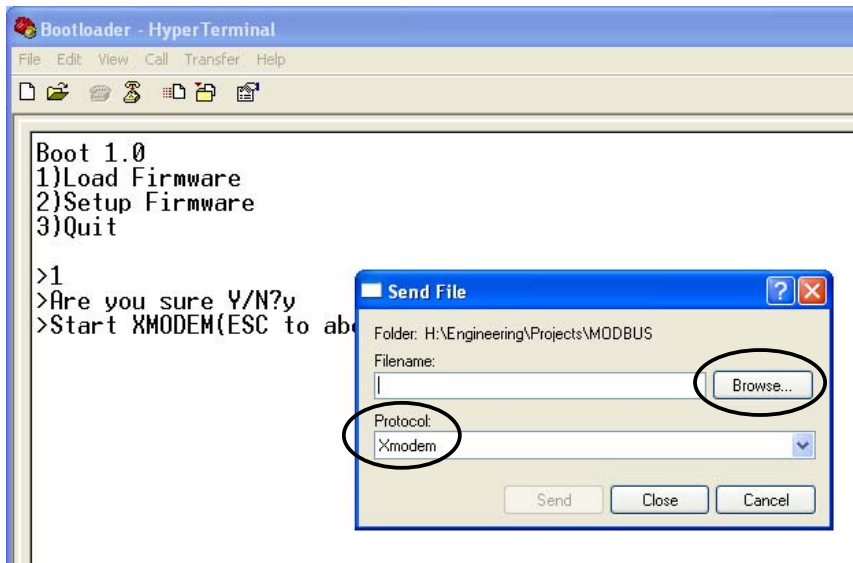
```
Bootloader - HyperTerminal
File Edit View Call Transfer Help
Boot 1.0
1)Load Firmware
2)Setup Firmware
3)Quit
>1
>Are you sure Y/N?Y
>Start XMODEM(ESC to abort):$$$$$$$$$
```

The screen will start to fill up with the “\$” character indicating that the XMODEM transfer can be started. Press the “ESC” key to abort.

From the “Transfer” menu select “Send file”



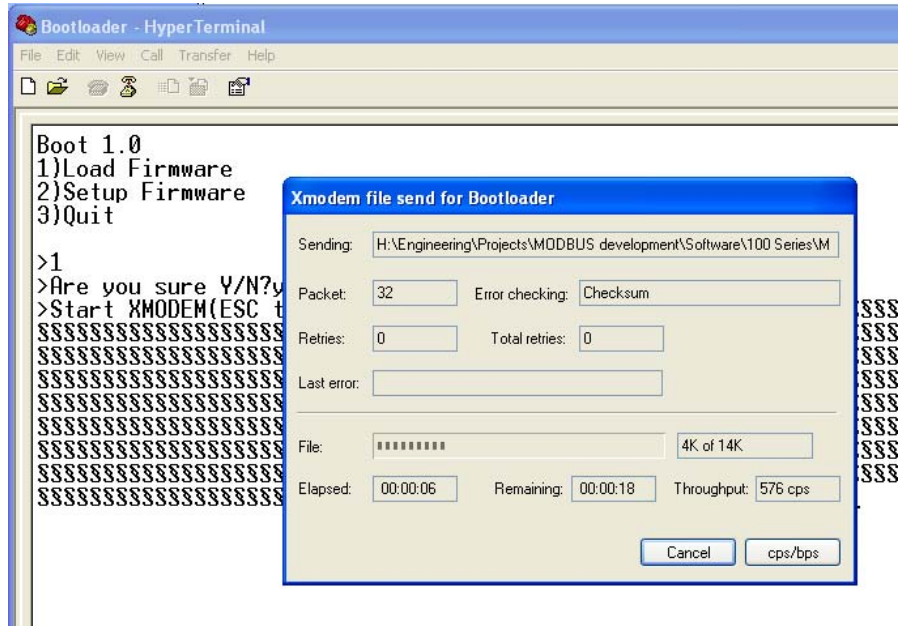
A new screen will be presented asking for the file to be transferred:



Use the “Browse” button to select the file to download. Only files with the “.hex” extension can be downloaded to the unit. Also make sure that the “Xmodem” protocol is selected. When the file is selected, press the “Send” button. The transfer screen pops up and the file download status can be monitored. During the download the green LED will be off will the red LED will be on.

If the download needs to be cancelled then simple press the “Cancel” button and then press the “Esc” key to return to the boot menu.

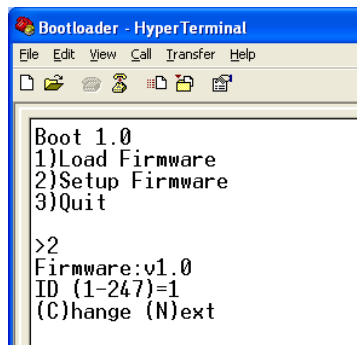
Note: Once the download has started it isn't possible to stop it. Doing so will result in losing the current application.



When the download is finished the start-up screen will be shown again presenting three options.

Setup Firmware

This option is used to set up the firmware in the unit. When pressing the “2” key the following screen will be presented:



The version of the firmware will be shown followed by the first option which can be set. It will show the current selected value as well which values can be entered.

In this above example, the ID code of the unit can be set between 1-247 and the current setting is 1.

Pressing the “C” or “c” key will prompt for a new value. Enter a new value and press the “Enter” key. The new value will be stored and the next option will be presented (if available). Data which can be entered must match the type presented. So in the above example only numbers can be entered. Characters will be ignored. Also the size of the entry will be limited depending on the maximum size allowed.

When all options have been viewed the default boot menu will be presented again. The options presented will depend on the firmware.

Hint: While entering a new value the “Backspace” key can be used to erase entered values

Note: It is advised to only enter values which are shown between the brackets. Other values may be entered but could result in the unit not functioning correctly.

Quit

This option will quit the boot loader and will start the application.

Trouble shooting

Problem	Solution
During the firmware transfer the download has halted and nothing is happening anymore (or an error message appears)	Reset the unit and try again. Make sure that only .hex files intended for the unit are selected
When trying to enter data the length is limited. No more data is accepted	For each option the data type and length are predefined. When data isn't accepted anymore then the maximum is reached. Also it's not possible to enter characters when numbers are expected (and vice-versa)
The characters on the screen are all messed up	Check the communication settings. They should be 9600,8,N,1
The unit doesn't enter the boot loader although the enter key is pressed within 2 seconds after start-up	Try swapping the “A” & “B” lines of the RS485 connection and try again