

How to de-brick your GPH “Wiz” console (you hope ;-))

Please note that this procedure has only been tested on a “Wiz” that had been bricked by the fact that the 1.1.0 firmware bootloader **doesn't check for the existence of the firmware recovery files on SD card, and erases the bootloader in NAND!!**.

The “Wiz” is recoverable over a serial connection, due to the fact that the manufacturers of the included “Pollux” chipset included the functionality of being able to boot from UART (universal, asynchronous receiver/transmitter).

Firstly, you either need:

- 1/ A breakout board
- 2/ A standard “Wiz” USB cable, and suitable soldering skills
- 3/ A file named “MES_DNW_V2.5.exe” (yes, Windows I am afraid!) - included
- 4/ Files named:

“UART.nbo”, “NAND.nbo” & “polluxb” (the “polluxb” that is included, was taken from firmware 1.1.0). You also need to make sure you download the 1.1.0 firmware archive from gp2x.de, format a known working SD card in FAT16 filesystem (*NOT* SDHC – they don't work in bootloader mode!) and extract the six files listed below, to the ROOT of the FAT16 formatted SD card (note, use a 1Gb or 2Gb SD card to be safe)

Files that **MUST** be on the ROOT of your SD card, are:

“polluxb”
“ulmage”
“ulmageUP”
“update.gz”
“vfat.img”
“wiz_ubifs.img”

MD5 sums of the files above (1.1.0 firmware):

```
5cfd4536eb642be1cf196d0d0f5b196d polluxb
bdbe54dff05a916bd04da4f82d7a97f ulmage
8e744d64849f7dacd4d9f15510bc1077 ulmageUP
2f9d7c4da96250de9c394cf090b20b66 update.gz
9594f11278d4d9aadb524d35d56504bd vfat.img
fe6c178820873fc598831461c1a07bbc wiz_ubifs.img
```

To check these MD5 sums in Linux, open a terminal window, cd to the extracted directory before copying them to the ROOT of your SD card, and do:

```
$ md5sum * (dollar sign is your terminal prompt – DO NOT TYPE IT!)
```

Once checked, copy the six files to the ROOT of your SD card, and insert it into the “Wiz” slot.
Next, make sure you either have a serial cable, or a breakout board to hand. The serial cable can easily be made by using these pinouts – ONLY need to use the pins highlighted in green/red:

4,5 - Power Out +3,7V

6-Power_EN

7-CFG Shadow

8-CFG Bootmode 1 -----{1k resistor between this and ground} (if using BOB switch CFG Bootmode 1 to LOW)

9-CFG Bootmode 0 -----{1k resistor between this and ground} (if using BOB switch CFG Bootmode 0 to LOW)

if using BOB, set all other switches to OPEN – thanks to [sbock](#)

12,19 – Ground -----> Ground (to ground on PC serial interface port)

13 – RXD -----> Serial data IN (connect to TXD on PC serial interface port)

14 – TXD -----> Serial data OUT (connect to RXD on PC serial interface port)

10 - USB - Data (Slave)

15 - USB + Data (Slave)

16 - USB Power +5V (Slave Input)

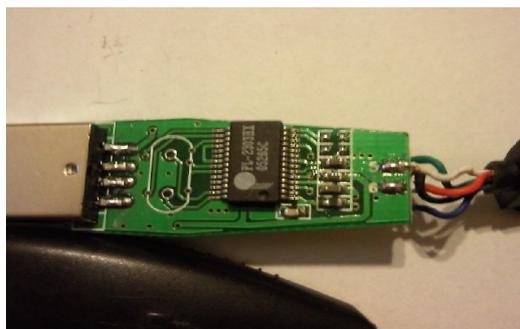
17 - USB + Data (Host)

18 - USB - Data (Host)

21,22 - Power In +5V (Loading)

Warning!!: Do NOT connect the output from the “Wiz” DIRECTLY to a physical 9 pin or 25 pin PC com port on the motherboard – you WILL blow something up, probably the “Wiz”. You need either a USB-to-serial adapter (preferred) or a breakout board (in which case you won't need any of the above pinouts).

I used an old, generic “DKU-5” cable for a Nokia phone, to connect to my PC, which contains a “Prolific PL-2303” USB to serial chip, you I would advise you to buy a USB to 9-pin serial dongle – a lot less hassle, and only about £4. Make sure you install the relevant drivers for your USB to serial dongle/cable BEFORE anything else, and make a note of the COM port it is allocated – you'll need it soon {find that in device manager}.

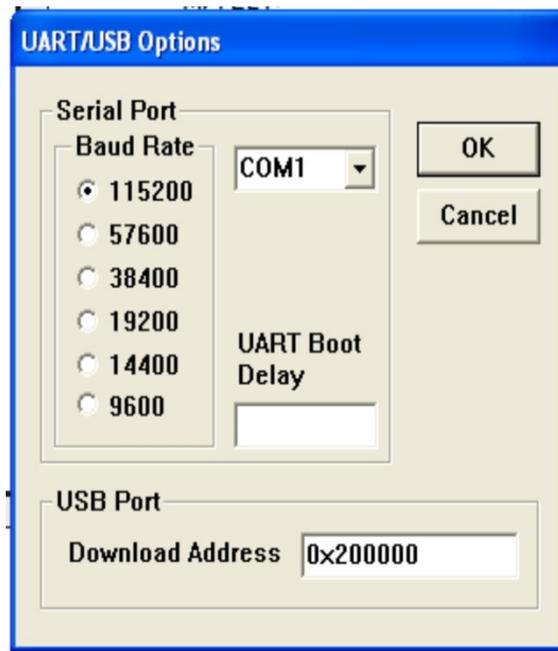


If you look at the console, screen UPWARD, with the connector facing you, pin 1 is far RIGHT, and pin 24 is far LEFT:



Next, you need to run the software named “MES_DNW_V2.5.exe” which was included in this pack. Once it is running, goto: “Configuration >> Options” and set the COM port speed to 115200, and the COM port number to that which you found in Windows device manager, when you installed the USB to serial dongle driver (I hope you did that?! :-P).

IGNORE THE OTHER OPTIONS IN THE BOX!!



Checklist:

1/ You have got ALL the six firmware version 1.1.0 files MD5SUM checked, and copied to the ROOT of a freshly FAT16 formatted SD card, and the card is IN THE “Wiz”?

2/ You have the COM port number/speed configuration set correctly?

3/ You have made up your serial cable, MAKING SURE YOU PULL PINS 8 & 9 TO GROUND, VIA TWO 1Kohm RESISTORS?

OR, IF YOU USE A BREAKOUT BOARD:

3/ You have your breakout board connected to your PC serial/USB port, and have **CFG Bootmode 1** and **CFG Bootmode 1** set to “LOW”, and the breakout board connected to the cable which connects it to the console?

4/ You have “NAND.nbo” and “UART.nbo” & “polluxb” (from the 1.1.0 firmware) files easily

accessible?

Let's unbrick this thing

1/ Make sure "Wiz" battery is FULLY charged, and also that it is REMOVED. You must do everything below, TO THE LETTER, or it could fail!

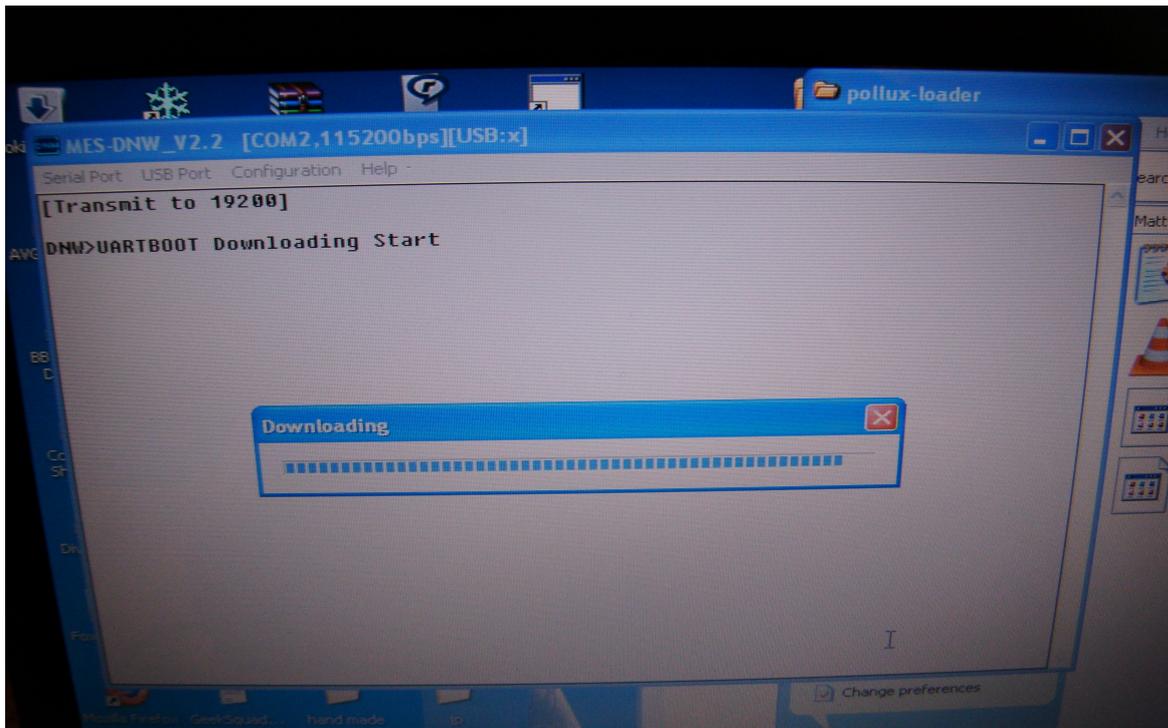
2/ Make sure your serial cable/breakout board is connected to your PC

3/ Put "Wiz" battery in, connect the "Wiz" to the serial cable/breakout board

4/ Slide the power switch down BUT HOLD IT DOWN CONTINUOUSLY – DO NOT LET IT SLIDE BACK TO THE MIDDLE POSITION. I used a metal clip to keep it held down:



5/ Run "MES_DNW_V2.5.exe" and goto "Serial Port >> Uartboot_16k" then "Serial Port >> Transmit" and a file browse dialog should appear – point it to "UART.nbo" and you should then see this:



- you must wait until the progress bar has completed sending the “UART.nbo” to the “Wiz”, and then...

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6/ You will be greeted with:

Welcome to POLLUX UARTBOOT

1. Download NAND.nbo
2. Download MBOOT.nbo
3. Run MBOOT
4. Burning to NAND (must have been downloaded both 1. and 2.)
5. FORMAT NAND

Select operation (1~5)

7/ Press “1” and you will see the confirmation “Now Downloading!!” but you have to send the file – goto: “Serial Port >> Transmit” and browse to “NAND.nbo” and confirm – (wait for the progress bar to confirm the transfer). You should see some checksum and calc sum values displayed, once the console receives the file.

8/ Press “2” and you must then goto: “Serial Port >> Transmit” and browse to “polluxb” file that came with this pack – (DO NOT USE THE “MBOOT.nbo” file!!) - you may have to change the filetype to “all types/all files” then confirm the transfer. Wait for the progress bar to confirm the transfer!. You should see some checksum and calc sum values

displayed, once the console receives the file.

9/ THE MOST IMPORTANT STEP OF ALL!

Again, are you SURE the six recovery files are on the FAT16 formatted SD card, and it is in the slot?. Great!.

Hold down the RIGHT shoulder button (top right edge-corner of "Wiz) and press "3" - Run MBOOT. You have caused the "Wiz" to run the "polluxb" which we sent it, and because you are holding the right shoulder button, it will attempt to recover the firmware from the six files we put in the ROOT of the SD card.

I hope it worked for you folks!.

(Copyleft) glossywhite, 10-12-2009