

How to install the V09 boot loader on to the MiniDMXter4, the DMXter4 RDM, or the DMXter4A RDM

March 6, 2015

To update your MiniDMXter4, DMXter4 RDM or your DMXter4A RDM to any software version newer than v3.20 (Mini) or v4.20(DMXter4/ 4A) you need to have the V09 or later version of the boot loader. If not, you first need to update the boot loader. The method for doing this is similar to doing a code update. You will be sent two files, these files are encoded for your unit and will only update your unit. If you try to load a software version that requires a later boot loader than the one presently installed in your unit, the software won't load and you will get the error message **Bad Version on line 0X0001**

In general most terminal emulators which can be configured for serial communication via USB will work. We do not recommend Hyperterm; we do recommend TeraTerm.

([Http://en.sourceforge.jp/projects/ttssh2/](http://en.sourceforge.jp/projects/ttssh2/)) Basic requirements are:

Baud rate	57,000
Word size	8 bits
Parity	none
Stop bits	1
Flow control	none
COM port	depends on what USB com ports your machine has already assigned.

Note that on the DMXter4 only you will need to set the baud rate and other serial parameters in the terminal emulator software. This does not apply if you are using a Mini or a DMXter4A.

For use with some of the DMXter USB enabled routines, you will need the emulation set to VT100 mode. It is not required for software updating.

Note: that all file transfers will be in plain text. Do not use a file transfer protocol like Kermit or xmodem.

How to know which version of boot loader you have installed

If checking a DMXter4/4A, hold down <Left>, <Right>, <Up>, and <Down> while pressing and releasing **TOP**. If using a MiniDMXter4, hold down <UP> and <DOWN> while turning on the Mini.

If you have the V09 boot loader installed the display should look like one of these:

```
Mini-Boot V09 sn1xxx  
D4 Boot v09 sn4xxx  
D4A Boot v09 sn4xxx
```

If the display is for any version lower than v09 you need to update the boot loader.

The file names will be similar to the following, but the application files will vary depending on which features were ordered and will display your unit's serial number.

BL_INSTAL_MINIv09-prod.HEX.1600	(Boot loader for Mini 1600)
BL_INSTAL_D4V09-prod.HEX.4300	(Boot loader for DMXter4 4300)
BL_INSTAL_D4Av09-prod.HEX.4400	(Boot loader for DMXter4A.4400)

v3.23.hex.1600	(V3.23 code for a MiniDMXter4, serial number 1600)
v4.23_4.hex.4300	(V4.23 code for a DMXter4 RDM, serial number 4300)
v4.23_4a.hex.4400	(V4.23 code for a DMXter4A RDM, serial number 4400)

You will need a terminal emulator. On PC's we recommend Tera Term. It is available for free from <http://sourceforge.net/>. We have yet to find a good emulator for the Apple OS. Suggestions welcome.

The method is quite straightforward, with one exception. Our friends at Microsoft by default consider an entire class of USB serial convertors to be pointing devices. Unless the default setting is changed your DMXter may take over your screen. Here are step by step installation instructions. You will do this once for a DMXter being used on one PC>

Installing the V09 Boot loader

With your DMXter or Mini turned **off**, connect it to your PC's USB port. On your computer's desktop, right click on My Computer (Computer in Win7).

- Right click Properties
- Select the **Hardware** tab
- Select **Device Manager**
- Select **Ports (COM & LPT)**

Unplug and re-plug the USB to reveal an additional USB port, which is the one you will use.

You **may** be required to install a new driver for the USB port at this point. If the OS reports new hardware found install the drivers as requested.

- Right click on the new port
- Select **Properties**
- Select the **Port Settings** tab
- Select **Advanced**
- Uncheck the **Serial Enumerator** box

Answer OK –

Exit all the way back to the desktop.

Plug your DMX unit into an external power supply (For a DMXter, use the line cord; for a Mini use the battery eliminator or the USB.)

If using a DMXter, hold down <Left>, <Right>, <Up>, and <Down> while pressing **TOP**.

If using a MiniDMXter, hold down <UP> and <DOWN> while turning on the Mini.

The unit should display

```
Bootstrap XX SNXXXX
USB connected 57.6k"
```

Open a terminal emulator. Select the COM port that you just un-ticked the Serial Enumerator for. The emulator should respond with ;

Bootstrap vXX snXXXX Press "?" to connect

This message will repeat until you enter '?'. Then you should see ;

Commands:
S=Send New Code
E=Erase Flash
C=Show Checksum
B=Blank Check
R=Restore Factory Firmware

Type E. You should see:

```
E
Erase firmware
Are you sure? (y/N):
```

Answering yes will cause you to erase the application code , so be ready to also load your software update

```
Y
```

**Erasing.....Done
Firmware is Blank**

Type **S**

**Serial Number is XXXX
Send .HEX file now (Control-C to abort):**

Either drag and drop the boot loader update file we sent you, or open it via the Send File item in the Edit menu. The file will be in the form BL_INSTALL_D4v09-prod.HEX.xxxx
When you have entered the file you will see a string of periods indicating that the boot loader is working.

```
.....  
.....  
.....Done 0x002013 bytes on line 0x0205  
Checksum=0xD0DDA1
```

The actual message and checksum will vary based on the exact version of the code.

Hit the <Top> key

**Bootloader Install Press "!" to connect
Bootloader Install Press "!" to connect**

On the PC enter '!'. You will see:

```
-----  
DMXter4 Bootloader Installer  
-----  
Copyright 2014 Goddard Design Co. - All Right Reserved  
Version 0.96 - compiled Wed Oct 01 20:49:39 2014
```

**This will install a new version of the bootloader
Once started it cannot be interrupted
The DMXter must be plugged into a reliable external power source**

**The current bootloader is version 04 (or whatever your version is)
This process will install version 09**

Do you wish to proceed with bootloader install? (Y/N):

Press Y: you will see:

**Erasing - Done
Blank Check - Done
Writing - Done
Verify - Done
Install Complete
System will now shutdown**

If you are **NOT** connected to external supply (mains voltage for a DMXter or USB on the Mini) you will see the following;

INSTALL CANCELED - External power not connected
System will now shutdown

Connect to a supply and restart the DMXter using the TOP key (or the Mini power switch). This time the unit will answer .

Bootloader Install Press "!" to connect
Bootloader Install Press "!" to connect

On the PC enter '! ' You will see:

DMXter4 Bootloader Installer

* _ * _ * _

Do you wish to proceed with bootloader install? (y/N):D

Erasing - Done
Blank Check - Done
Writing - Done
Verify - Done
Install Complete
System will now shutdown

Now you can load the new update code. Press and release TOP while holding the <Left>,<Right>,<Up> <Down> keys. (<UP> and <Down> while using the power switch to switch on the MiniDMXter)

D4 Boot v09 snxxxx Press "?" to connect
D4 Boot v09 sn4xxxx Press "?" to connect

Type "?"

Commands:
S=Send New Code
E=Erase Flash
C=Show Checksum
B=Blank Check
R=Restore Factory Firmware

Erase the boot installer with the **E** command.

Firmware is blank

Enable uploading with the **S** command, then drag and drop the new software update files. The applications code will load.

After it is loaded, press the <Left>,<Right>,<Up> <Down> keys while typing **W** on the PC.

FACTORY USE ONLY: Configure Failsafe? (y/N):

Type **Y**. When it is finished, press TOP again.

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file=Y:\word_p\wp6doc\dmx-man\BL_load1.wpd