MIDI Rocker User Guide

Firmware Revision 3.8. Revision Date: 06/14/10

Thank you for your purchase of the MIDI Rocker. I hope it helps to take your Rock Band or Guitar Hero World Tour experience to the next level!

This guide is meant to help you get started using the MIDI Rocker. Be sure to check the website ([www.ByteArts.com/midi)](www.ByteArts.com/midi) for updated documentation, software and firmware. Okay, so let's get started!

Front Panel Controls and Lights

Game Control Buttons

HOME button – Same as the "PS" button on a PlayStation controller. (Has no effect on the Wii).

BACK button – Typically used to "back up" in the game menu. When in program mode, this button is used to erase an entry. (On the Wii, this is the "-" button).

SELECT/Navigation button – Like a little "joystick", this button can be moved up/down or left/right to navigate game menus. **Pressing** this button is equivalent to hitting the GREEN drum, **holding it down** is equivalent to pressing the SELECT button on the PlayStation controller..

START button – Acts just like the "start" button on a game controller; typically used to start/pause a game.

Drum buttons (1-5) – Each button corresponds to one of the standard drum pads on a Rock Band or World Tour drum controller and has a corresponding colored light above it. (Button 5 corresponds to the kick pedal).

Indicator Lights

USB – indicates activity on the USB connection. This light will be on steady when operating normally. It will blink as the USB connection is being initialized or when the USB is in standby mode.

MIDI – indicates activity on the MIDI port. It will blink as MIDI notes are received.

NOTE: The USB and MIDI lights will both flash continuously when the MIDI Rocker is in firmware update mode (see "Updating the Firmware".)

Drum Lights (1-5) – these LEDs correspond to the "channels" or colored "notes" in the Rock Band or Guitar Hero World Tour game and will light up when a particular channel has been activated by receiving one of the programmed MIDI notes from your drum kit. (Programming notes to a channel is covered later).

Control Knobs and Switches

Function/Map Select Switch – Used to select between two different note maps. You can program and save two independent note mappings (see "Programming the MIDI Rocker"). This switch is used to select which of the two maps is currently active. You can switch maps at any time.

Mode Switch – Selects the operating mode:

• Play Mode – the normal operating mode in which the MIDI Rocker can be used as a game controller and drum set. You can "play" the drums using the 5 drum buttons, or by playing notes on the attached MIDI device (assuming the notes have been programmed into the MIDI Rocker).

• PROG1 Mode – used to map MIDI notes to any of the 5 drum buttons.

• PROG2 Mode – used to map MIDI notes to the extra "cymbal" channels.

Note: see the section on "Programming the MIDI Rocker" for more details.

Adjust Knob – Sets the MIDI note velocity threshold. (The "velocity" is a measure of how hard the drum pad is hit.) Any received MIDI notes which are below this threshold will be ignored. Turn this knob all the way down (counter-clockwise) to set the velocity to zero – all MIDI notes will be accepted when the velocity is set to 0. This adjustment can be used to reduce false triggers from crosstalk (when the vibration from hitting one pad cause another pad to generate a note).

Making the Connections

MIDI Cable: Plug a MIDI cable from the MIDI OUT of your drum kit (or other instrument) into the MIDI IN on the MIDI Rocker.

USB Cable: Plug one end of the USB cable into the MIDI Rocker, the other into a USB port on your game console. You can plug and unplug the USB connection with the console turned on, but if you unplug it while playing a game, an error message may pop up in the game screen. You can use a USB hub if you need more connections.

> Note: Be sure to unplug any other drum controllers from the game console. The game will only recognize and use one drum controller at a time.

Starting Up

Once you've plugged both ends of the USB cable in and turned on the console, power will be supplied to the MIDI Rocker and it will go through its initialization routine. When it is first plugged in, the MIDI Rocker will sequence all the LEDs on and off one at a time so that you can check that they are working, and will then briefly turn on some LEDs to indicate its current settings as described below.

Initialization Display Legend

After it sequences all the LEDs on and off one at a time briefly, the MIDI Rocker will then briefly turn on some of the LEDs to indicate its current settings – all the LEDs will then be turned off once the initialization is complete.

LED	Description
CH1 (Red)	ON when MIDI Rocker LX is in Rock Band mode.
CH5 (Orange)	ON when MIDI Rocker LX is in Guitar Hero World Tour mode. (Available on PlayStation only)

Please note: See "Changing the Game Mode" below for instructions on switching between modes.

> Note: If both the USB and MIDI lights are blinking continuously, then the MIDI Rocker is in firmware update mode. See "Updating the Firmware" below.

Changing the Game Mode (PlayStation Only)

The factory default is "Rock Band" mode. To change to "Guitar Hero" mode, hold the navigation switch to the RIGHT while plugging in the USB cable on the MIDI Rocker. To change it back to "Rock Band" mode, hold the switch to the LEFT while plugging in the USB. Each time you plug in the MIDI Rocker, it will remember which mode it was in last and stay in that mode until you change it.

> Note: If using the MIDI Rocker with the Wii, or the Xbox (with the Xbox Interface Option), there is no "Guitar Hero" mode – only Rock Band mode is currently available.

Programming the MIDI Rocker

Note Mapping Basics – Converting a MIDI Note to a Game Drum Channel

Every time you hit a pad or press a pedal on your drum kit, the drum brain sends out a MIDI note number. The MIDI Rocker receives this data, and then uses a "lookup table" to determine which game drum channel (or color) that note has been assigned to (if any). This lookup table is referred to as "note map" – it can either be programmed by connecting the MIDI Rocker to a Windows PC and using the GUI software, or by putting the MIDI Rocker into "program mode" and then playing notes on the drum kit.

The MIDI Rocker comes pre-programmed with a default note map already loaded and may not require any programming, but depending on your drum kit and how it is set up, you may need to change the programming, or you just may want to try out some different mappings.

For instructions on programming the MIDI Rocker using the Windows software, see the section titled "Using the GUI Software".

Selecting the Between Multiple Note Maps

The MIDI Rocker stores two independent note maps. The currently active map number is selected with the **Function** switch. If the switch is in the "A" position, then map #1 is selected and all changes will be stored in that map. If in position "B", then map #2 is selected. You can switch between maps at any time. <u>Any changes you make to any note map only affect the currently active map</u>.

PROG1 and PROG2 Modes - Drum and Cymbal Channel Assignments

There are two available program modes – PROG1 or PROG2, selected with the Mode switch. <u>**PROG1** mode is used to program the first 5 drum channels</u>, while <u>**PROG2** mode is used to program the "extra" cymbal channels in Rock Band 2, and the Orange cymbal in World Tour (on the PlayStation)</u>. The charts below illustrate how the channels are assigned in the different modes, depending on the active game mode.

Rock Band Channel Assignments		
Channel	PROG1 Mode	PROG2 Mode
CH1	Red drum pad	n/a
CH2	Yellow drum pad	Yellow cymbal
CH3	Blue drum pad	Blue cymbal
CH4	Green drum pad	Green cymbal
CH5	Kick pedal	n/a

Guitar Hero World Tour Channel Assignments (PlayStation only)		
Channel	PROG1 Mode	PROG2 Mode
CH1	Red drum pad	n/a
CH2	Yellow cymbal	n/a
CH3	Blue drum pad	n/a
CH4	Green drum pad	n/a
CH5	Kick pedal	Orange cymbal

Note: Guitar Hero mode is currently not available on the Wii and Xbox. When playing Guitar Hero, the MIDI Rocker LX still functions as a Rock Band drum controller, and so the game will only show 4 note "lanes", and there is no orange cymbal.

Programming a Note to a Channel

While in one of the program modes, press a drum button on the MIDI Rocker to select the channel you wish to program – the light above the button will come on and stay on. If the light doesn't come on at all, that means you are in PROG2 mode and pressed a button which doesn't have a corresponding channel assigned to it (marked with a "n/a" in the above chart).

To assign a note to the selected channel, simply play the desired note (hit a pad) on your drum kit – the MIDI light should flash, and the light above the button will blink, indicating that the note has been programmed to that channel. You can store multiple notes (up to 10 in the current firmware) to a given channel. For example, you could assign both a Low Tom and High Tom drum pad to CH1 (the Red drum channel in Rock Band). Then, when you play the game, if you hit either the Low Tom or High Tom, the Red note will be played in the game.

You can program the same note to multiple channels – then when you play that note, all the channels assigned to that note will be activated.

Note: If the drum channel light doesn't blink, it means that the note you just hit has already been assigned to that channel. If the light blinks twice, that means you have filled up all the available slots for that channel and the last note assignment will be overwritten.

Erasing a Channel

While in program mode, if you press and hold the BACK button, the PROG LED will blink off and back on, and all the notes assigned to the selected channel will be erased.

Playing With the MIDI Rocker

Once the MIDI Rocker has been programmed, you simply need to put it into play mode and you are ready to rock out on the drums! Hit a pad on your drum kit and you should see the MIDI light blink, and if the MIDI note generated by that pad has been programmed to a channel you will see the corresponding channel light flash. If one note has been assigned to multiple channels, then all the channels assigned to that note will be activated.

Switching Maps

If you want to switch to a different map, simply change the position of the Function switch.


Navigating Game Menus

You can use the Up/Down/Left/Right navigation button, and the START, SELECT and BACK buttons to navigate the game menus and control the console. On the Playstation, pressing the HOME button while in a game will bring up the XMB menu, pressing and holding the HOME button will bring up the option to turn the console off.

Using the GUI Software

You can use the GUI software on a Windows PC to quickly and easily save and recall note mappings and change other parameters. Here's a quick overview of how to use it:

1. Download and install the software from the website (www.ByteArts.com/midi/index.htm).

2. Plug the MIDI Rocker into a USB port on the PC.

3. Run the software (go to the Windows Start menu, and look under "All Programs → Byte Arts → MIDI Rocker GUI".

4. The GUI software should detect the MIDI Rocker and display the firmware version number, and game mode (Rock Band or Guitar Hero).

Multiple tabs are displayed near the top of the window, click on a tab to select a "page":
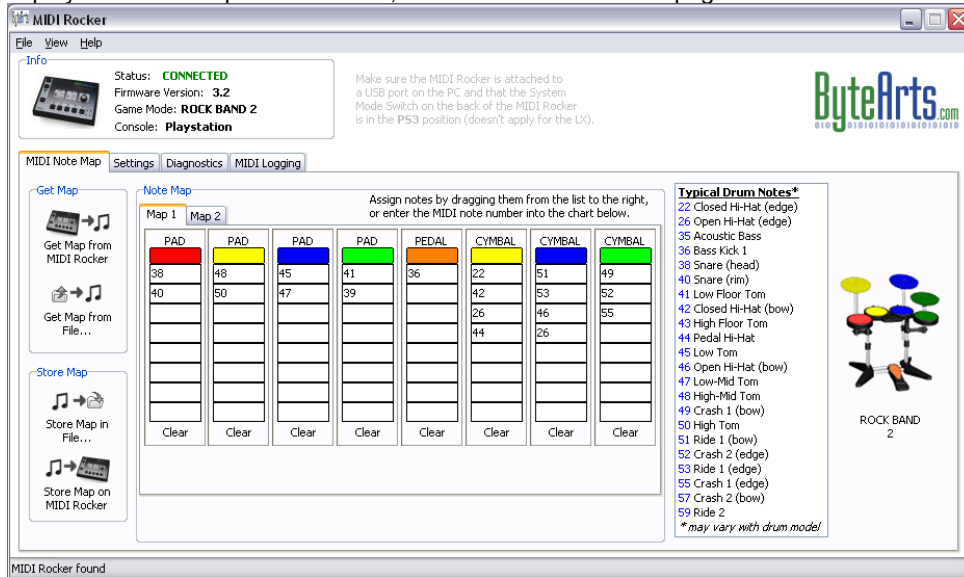
▪ **Note Map Page**

• Press the "Get Map from MIDI Rocker" button to upload the current note maps from the MIDI Rocker into the software, or press the "Get Map from File" to retrieve maps saved on the PC*. Also, be sure to check out the **MIDI Rocker Google Group** at http://groups.google.com/group/midi-rocker where other users have shared their map files.

• Select a "Map tab" to display the desired map.

• To assign a note to a button, either enter that note number into a slot underneath the desired channel, or drag and drop a note from the chart into the desired slot.

• Press the "Store Map on MIDI Rocker" button to store the maps in the MIDI Rocker's memory. The next time you plug the MIDI Rocker into the console, the stored maps will be used. Press the "Store Map in File..." button to save the maps in a file on the PC.
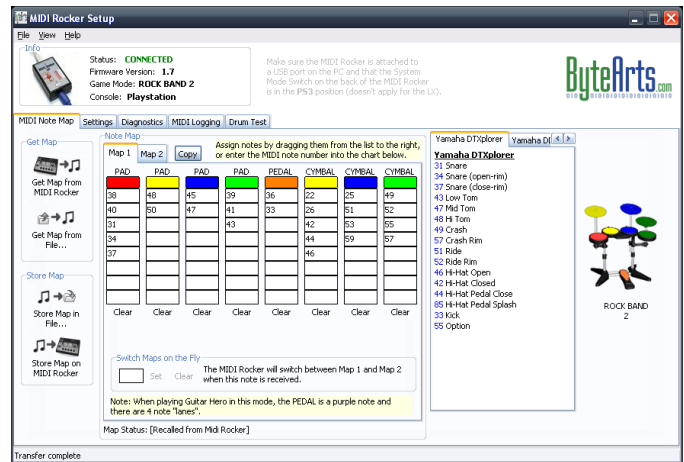
▪ Settings Page

• On the **Settings** page is the **MIDI Note Duration** setting. This setting tells the MIDI Rocker how long to "pulse" an output when an assigned MIDI note is received. This pulse will simulate a drum hit on the game drum controller. If the time is too short, then the game software won't recognize the drum hit, but if it is too long, then long sequences of fast notes may not be played correctly.

• In firmware version 3.8 and later, you will see the **Hi Hat Pedal Threshold** setting. This lets you fine-tune the behaivor of the hi hat pedal. Click on the "Enable" check box and then set the value to a number between 0 and 127 to adjust the Hi Hat Pedal position at which the Hi Hat is considered to be closed. You may need to use the MIDI Logging feature on the Diagnostics page to view the Hi Hat pedal data and determine the desired value. When enabled, the MIDI Rocker will look for note numbers 26 and 46 (hi hat open and hi hat open rim) and automatically convert those to note number 44 when the pedal is pushed past the threshold value.

▪ Diagnostics Page

• The **Diagnostics** page lets you check the functionality of the switches on the MIDI Rocker. Simply press a button and check the on-screen indicator.

▪ MIDI Logging Page

• The **MIDI Logging** page can be used to see what MIDI data is being transmitted from the drums to the MIDI Rocker. Check the "Enable Logging" option and then play a note on the attached MIDI device to see the MIDI data. It will display both "Note On" and "Note Off" data along with the associated note velocities and the time interval (in milliseconds) between events. All notes are logged, even notes with a velocity less than the current threshold setting. There are also options to log the hi hat pedal positon data, and to ignore the "Note Off" data (note off data is normally not significant for a drum).

▪ Drum Test Page

• The **Drum Test** page lets you test out your mappings and drum set. It basically shows you the real-time view of how the game console will see the data from the MIDI Rocker. You can hit pads on your drums and see how they show up in the game without having to actually connect to the game console. There is as a hit counter so you can see how many times a particular pad has been activated, and a "waterfall" display which displays a scrolling history of which note lanes have been activated.

Updating the Firmware

From time to time firmware updates are made available in order to add new features or fix bugs. Your MIDI Rocker is shipped with the latest firmware already installed and so you don't normally need to install an update. You can check for information on the latest firmware and software versions at www.ByteArts.com/midi_lx/index.htm or on the **MIDI Rocker Google Group** at http://groups.google.com/group/midi-rocker.

Firmware File	Description
MR_PS_VXX.hex	Load this firmware to use the MIDI Rocker on a PlayStation (<u>or when using with the Xbox and the Xbox interface option</u>). The XX will indicate the version number (e.g. "MR_PS_V31.hex" means version 3.1).
MR_Wii_VXX.hex	Load this firmware to use the MIDI Rocker on a Wii.

MIDI Rocker Firmware Update Procedure

The following instructions show how to update or load a different version of the firmware on the MIDI Rocker.

NOTE: The firmware update procedure results will erase any note mappings or other settings that you have changed, so you will need to reprogram those settings afterwards.

Section A. Determine What Version MIDI Rocker You Have

1. Download and install the latest software/firmware package from the website at www.bytearts.com/midi.

2. Next you need to determine which version of the MIDI Rocker "bootloader" you have. Earlier versions of the MIDI Rocker need to have a device driver installed on the PC in order for the firmware update application to communicate with the MIDI Rocker. Later versions use a generic driver which is already present on the PC and so don't need to have a driver installed. The easiest way to to determine what version you have is to put the system switch (on the back of the MIDI Rocker) in the "Update" position and then connect it to the PC.
3. If the USB and MIDI lights alternate blinking on and off, then you do not have to install a driver and can continue with the next step in Section B. If the USB and MIDI lights both are on continuously, then you will need to install the device driver if you haven't done so already -- go to Section C (<u>Updating with the Device Driver Version</u>) for instructions..

Section B. Updating with the HID Bootloader

1. Next you need to run the "updater program". Go to the Windows Start menu, and look under "All Programs->Byte Arts->Firmware Updater (HID Version)". Run this program and you'll see a window like this:
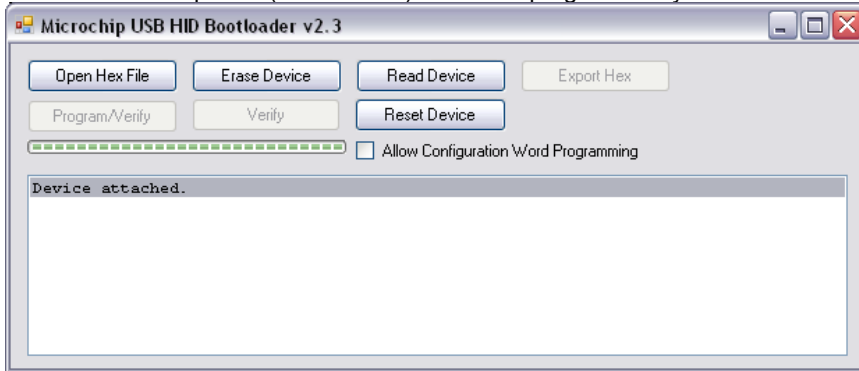
Click on the "Open Hex File" button and browse to the firmware folder (C:\Program Files\Byte Arts\Firmware) and open the firmware file.

There are several "flavors" of the firmware available, depending on which console you want the MIDI Rocker to work with. Here is a list of the current firmware files:

| Firmware File	Description
MR_PS_Vxx.hex	Load this firmware to use the MIDI Rocker on a PlayStation or when using with the Xbox interface option. (xx = the firmware version number, e.g. "MR_PS_V32" is version 3.2).
MR_Wii_Vxxi.hex	Load this firmware to use the MIDI Rocker on a Wii.

2. Next, click on the "Program/Verify" button and wait for the magic to happen (about 10-20 seconds).
3. You can now exit the updater program.

4. Return the system switch back to it's normal position (either PS3 or XBOX) and unplug the MIDI Rocker. You may want to plug it back in and then run the GUI software to test it out and load saved maps YOU ARE DONE!

## Section C: Updating with the Device Driver Version

1. If you already have the device driver and updater software installed, you can skip ahead to step 3. If you need to install the device driver and updater software, then when you run the MIDI Rocker installation program, be sure to pick "Custom" as the installation type while running the installer software, as shown here:
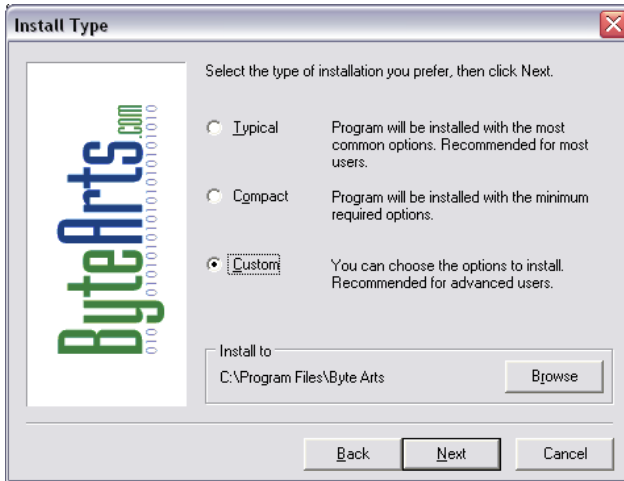
2. Make sure the system mode switch on the back of the MIDI Rocker is in the "Update" position and connect it to the PC. NOTE: You may have to log on to the computer with "Administrator" privileges in order to install the device driver. If this is the first time you've done this, you should see a "New Hardware Found" message pop up and see the "Wizard" window, as shown below.
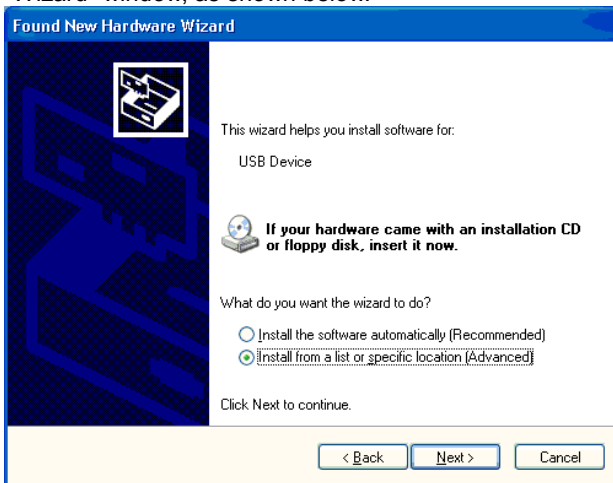

Pick the "Install from a list..." option and then click Next and you should see something like this:
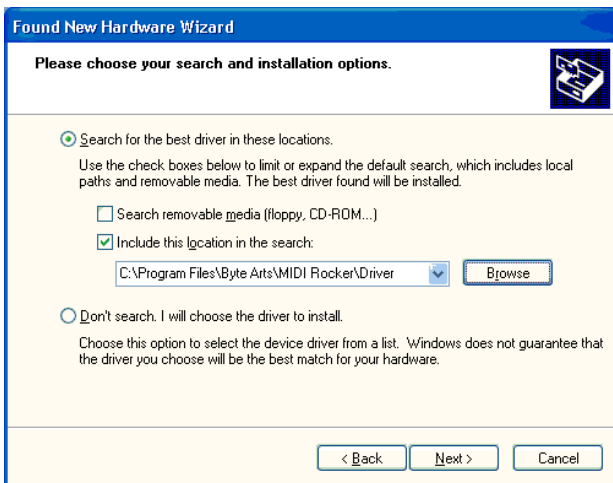
Select the options as shown above, and fill in (or browse) the indicated folder location (C:\Program Files\Byte Arts\MIDI Rocker\Driver), and then click Next.
The Wizard should now finish installing the driver and you should be all ready. It is not a bad idea to reboot the computer at this point, just in case.

3. Run the firmware updater software: Go to the Windows Start menu, and look under "All Programs->Byte Arts->Firmware Updater (Driver Version)". Run this program and you'll see a window like this:.
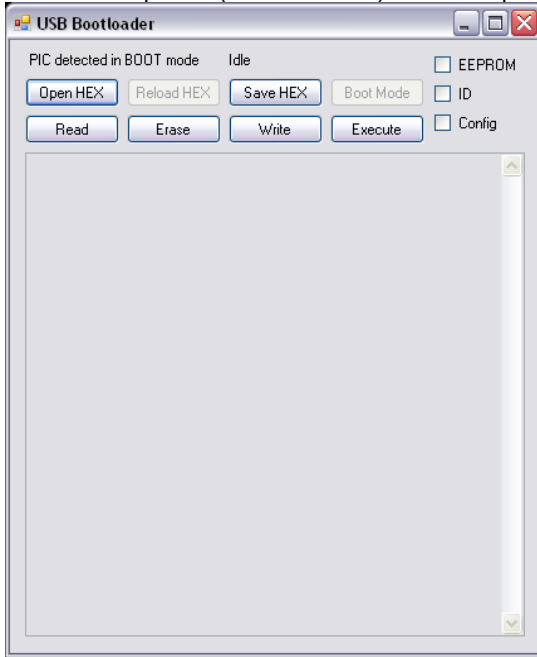
Click on the "Open Hex" button and browse to the firmware folder (C:\Program Files\Byte Arts\Firmware) and open the firmware file.

There are several "flavors" of the firmware available, depending on which console you want the MIDI Rocker to work with. Here is a list of the current firmware files:

Firmware File	Description
MR_PS_Vxx.hex	Load this firmware to use the MIDI Rocker on a PlayStation or with the Xbox Interface Option. (xx = the firmware version number, e.g. "MR_PS_V32" is version 3.2).
MR_Wii_Vxxi.hex	Load this firmware to use the MIDI Rocker on a Wii.

4. Next click on the "Write" button and wait for the update to complete.
5. You can now exit the updater program.

6. Return the system switch back to it's normal position (either PS3 or XBOX) and unplug the MIDI Rocker. You may want to plug it back in and then run the GUI software to test it out and load saved maps