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## 1. About MIDitar Hero

MIDitar Hero is a program designed to let you use a Guitar Hero or Rock Band instrument as a MIDI controller. You can use MIDitar Hero to control synthesized sounds within an application that uses MIDI, such as GarageBand, or through an external device (synthesizer, keyboard, drum machine, etc.) if you have a MIDI interface hooked up to your computer. MIDitar Hero was created using Max/MSP.

Features:

- Runs under Windows XP/Vista, Mac OS X
- Supports Xbox 360 Strat/Xplorer/Les Paul/RB Drums, PS3 Strat/Les Paul/RB Drums, Wii Strat/RB Drums, custom controller configurations
- Can be used with other applications that support software instrument playback through MIDI input (Anvil Studio, GarageBand, Fruity Loops, Pro Tools, Adobe Audition, Cakewalk Sonar, etc.)
- Can be used with external MIDI devices (keyboards, drum machines, synthesizers, etc.)
- Normal Mode allows two-and-a-half octave pitch range with default binary button layout
- 32 maximum and 4 simultaneous custom fret configurations with the ability to save and load configurations
- Easy mode lets you select a key and scale and allows easily usable power, major, minor, diminished, and 7th chords
- Whammy bar alters the pitch through MIDI pitchbend
- Solo frets on RB Strat allow you to play without strumming (no strum playing can be toggled on other guitars as well)
- Drum mode allows you to use the Rock Band Drum Set
- Sample Mode allows you to play audio files of your choosing and apply different effects to them using the Whammy Bar

MIDitar Hero is free to use, but if you enjoy using MIDitar Hero, please consider making a small donation - even if it's just a dollar or two, that's awesome. This program was began as a small project for a college course, but other than the basic features most of the program has been developed in my spare time.

## 2. Setup

To use MIDItar Hero correctly, you will need the Max/MSP Runtime, the proper controller drivers, and the MIDItar Hero software. Of course, you'll need a Guitar Hero or Rock Band instrument to properly use MIDItar Hero, but technically any USB device can be used with the program. Please follow the instructions listed at [the MIDItar Hero website](#) if you have not yet downloaded all of the necessary drivers and software to use MIDItar Hero.

### **If you want to use MIDItar Hero to control guitar or drum sounds:**

- MIDItar Hero does not create sounds - all it does is produce MIDI information that can be sent outside of the program to control sounds elsewhere. The default setting when you open MIDItar Hero is to send MIDI output to your computer's built-in synthesizer, which is that piano sound you're probably sick of by now. If you want to make anything other than that sound, you need a program or external MIDI device capable of playing software instruments through MIDI input.
- If you're running Windows and you want to use a software synthesizer from a digital audio workstation such as Mixcraft or FL Studio, you will need to download a virtual MIDI driver to send MIDI information from MIDItar Hero to your chosen program. I recommend using [LoopBe1](#) as your virtual MIDI driver.
- Once the virtual MIDI driver is installed and set up, you can link MIDItar Hero and your chosen program by setting the MIDI output within MIDItar Hero and the MIDI input within your chosen program to the same virtual MIDI port created by the virtual MIDI driver.
- If you're using Mac OS X, you do not need a virtual MIDI driver, as CoreAudio already supports virtual MIDI. Select "From Max/MSP" as your MIDI Output and Input to link MIDItar Hero with the other program.

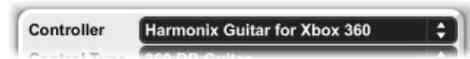
### 3. Getting Started

Upon opening MIDitar Hero, you will see the Main Window:



To get started, follow these steps:

1. Select the desired device from the Controller Menu.
2. Select the controls for your Platform and Operating System in the Control Type Menu. At this point the readouts in the Control Panel should be functioning.
3. Choose which output you want to use in the MIDI Output menu. Your computer's default synthesizer will be listed first, followed by your virtual MIDI ports or external MIDI ports if you have them.
4. Click one of the four buttons to choose between Normal Mode, Easy Mode, Drum Mode, or Sample Mode. If your computers default synthesizer is selected, you should now be hear piano sounds right away if you select any mode besides Sample Mode and try to play on your guitar or drum controller. If not, your MIDI or Synth volume may be turned down in your computer's Sound control panel.
5. Click the Setup button for the selected Mode to open the main window for that Mode. The Options button will open a window with more options for each Mode.



## 4. Guitar Modes (Normal Mode and Easy Mode)

There are two Modes designed for the guitar controllers – Normal Mode and Easy Mode. In both of these modes, playing notes works exactly like you would expect. Hold down a fret or a group of frets, and strum to play the note. To mute a note as it is playing, just let go of or push down another fret, or push the **Back** button on your guitar.

By holding down the **Back** button, you can “palm mute”. If you hold down **Back** and strum a note, it will produce a short, choppy sound similar to that of a palm muted note on a guitar. If you think the palm mute sound is too short or too long, you can change the duration of the palm muted note in the **Options Window** for Normal Mode or Easy Mode.

Normal Mode and Easy Mode each have these options available:

**Power Chords** – Hold **Start** and press **Green** to toggle

This will make every note you play a power chord instead of a single note.

**Smooth Playing** – Hold **Start** and press **Red** to toggle

When Smooth Playing is on, notes will only be muted if you press the Back button or strum another note. This lets you switch what frets you're holding without muting the current note, which makes playing sound more smooth... hence the name.

**Solo Mode** – Hold **Start** and press **Yellow** to toggle

Solo Mode allows you to play without strumming. Every time you press a fret or let go of a fret, you change what note you're playing, and it is played immediately. Solo Mode plays the notes one octave higher than normal, but this can be turned off in the Normal Mode Options window. On guitars that have an upper set of frets, such as the RB Strat, Solo Mode is automatically toggled on those frets (this can also be disabled in the Normal Mode Options window). Solo Mode is great for doing crazy solos and two handed tapping, especially on Custom Scales.

**Transpose Down** – Hold **Start** and press **Blue** to transpose down one half step.

**Transpose Up** – Hold **Start** and press **Orange** to transpose up one half step.

Transposing can also be done in the **Options Window** in Normal Mode or the **Setup Window** in Easy Mode (in Easy Mode, transposing changes the **Root Note**.)

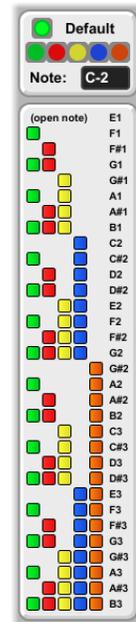
## 4.A. Normal Mode

Normal mode consists of the default two-and-a-half octave chromatic scale, and four swappable custom scale configurations.

### Default Scale

In the default scale, the frets are used in a binary format so that every possible combination of frets creates a different note. Technically, how it works is that each button adds a certain amount of half-steps to the root note. Strumming while not holding any frets down triggers the root note (which is E1 by default, but can be transposed in Norma; Mode's Options window). Holding **Green** will add one half step, holding **Red** will add two half steps, holding **Yellow** will add four half steps, holding **Blue** will add eight half steps, and holding **Orange** will add sixteen half steps.

So in the default scale, if you want to play D2, you need to hold the Red and Blue frets, and then strum. Obviously, you don't want to think about it like that while playing. It might seem unintuitive, but the chromatic scale forms a natural pattern when actually playing it on a guitar controller, so it just takes some time getting used to.



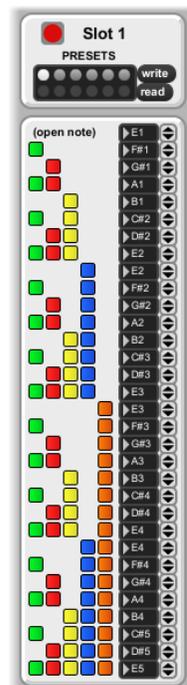
### Custom Scales

There are four Slots for custom scales available at a single time in Normal Mode. Each of the four Slots has its own Preset Box, which is where Custom Scales are saved to and loaded from. To save your current Custom Scale, hold **Shift + Click** on a circle in the box, and your Custom Scale will be saved into that circle in the Preset Box. To switch between Presets, **Click** on a circle in the box. Be careful when creating or editing a scale, as you **WILL** lose any changes you have made unless you **Shift + Click** to save your scale before switching to another preset.

You can save the current group of presets in the Preset Box as a file (which will have the extension ".maxpat") which can then be loaded into the other slots. It might be wise to create all of your custom scales in a single group of Presets, and once you are done creating your scales load that same group of Presets into every Slot. It is **HIGHLY** recommended that you save your group of presets often, especially when updating to a new version of MIDItar Hero.

You can quickly switch between Slots using the **Left and Right buttons on the D-Pad**. To use this in the most efficient way possible, go through all of your Slots beforehand and select which Preset you want to use in each Slot.

The Normal Mode **Options Window** has options that allow you to change how Solo Mode works, the current transposition, and the MIDI velocity.



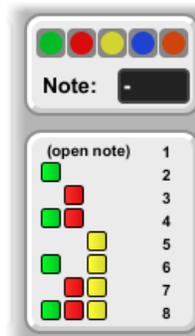
## 4.B. Easy Mode

Easy Mode consists of five different scales, each of which can be played starting on any root note you choose. The five scales you can play are **Major**, **Harmonic Minor**, **Natural Minor**, **Blues**, and **Whole Tone**.

In the **Setup Window**, first pick the **Root Note** of the scale you want to play and then the scale you want to play in. You can hold **Start** + press **Blue/Orange** to change the **Root Note** up and down by half-steps. Pressing **Left** or **Right** on the D-Pad will cycle between the five types of scales.



In Easy Mode, the first three frets (**Green**, **Red**, and **Yellow**) determine in a binary pattern which scale degree you are playing. This allows for 8 different scale degrees, or a one octave range. The other two frets (**Blue** and **Orange**) are used to play different types of chords depending on which scale degree you are currently fretting.



Holding **Blue** while on any scale degree will play a power chord with that scale degree as the root.

Holding **Orange** while on any scale degree will play the correct major, minor, or diminished chord based on the key you have chosen and the scale degree you are playing.

Holding **Blue** and **Orange** while on any scale degree will play the correct Major 7<sup>th</sup>, Minor 7<sup>th</sup>, Half Diminished 7<sup>th</sup>, or Diminished 7<sup>th</sup> chord based on the key you have chosen and the scale degree you are playing.

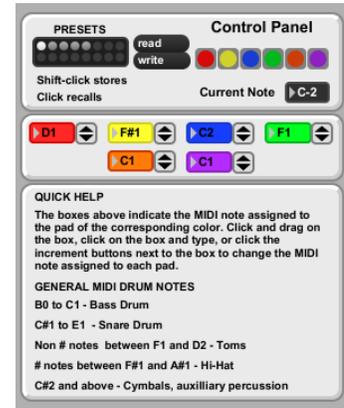


When in Solo Mode, **Blue** will add a 5<sup>th</sup> to the current note being playing, while **Orange** will add an octave to the current note being played by default. You can change how many steps each fret adds in the Easy Mode **Options Window**.

## 5. Drum Mode

Drum Mode is designed to be used with the Guitar Hero or Rock Band drum controllers. It allows you to assign a MIDI note to each pad or pedal on the drum controller, which can then be triggered by hitting the pad or pressing the pedal.

In the Drum Mode **Setup Window**, there are six number boxes of different colors, each corresponding to the same color pad or pedal on the drum controller. Click the increment buttons next to each box, click and drag up or down, or click and then type to change the MIDI note assigned to each pad. To hear the different sounds you can trigger, continuously hit a pad or pedal while changing the number box for that pad or pedal.



Drum sounds are somewhat standardized in General MIDI. Here's a list to get you started:

- Bass Drum – B0 to C1
- Snare Drum – C#1 to E1
- Non # notes between F1 and D2 – Toms (low to high)
- # notes between F#1 and A#1 – Hi-Hat
- C#2 and above – Cymbals, Auxiliary Percussion

Some programs such as Reason use audio samples of drum sounds rather than following the General MIDI standard. For example, Redrum, the drum sequencer in Reason, has 10 modules for percussion sounds. The MIDI notes for the modules begin at C1 starting on the left, and increase by half steps going to the right (second is C#1, third is D1, etc.)

## 6. Sample Mode

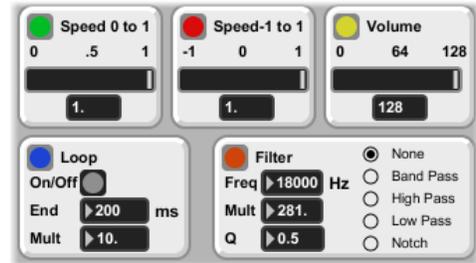
Sample Mode allows you to manipulate the playback of audio files using the controller. You can play one audio file per fret button or drum pad on the controller.

To load an audio file, press the one of colored buttons labeled “Load Audio File” on the left side of the Sample Mode window. In the dialog window that pops up, select the audio file you wish to assign to that color fret button or drum pad. The audio file must be **.wav** or **.aiff** only. If you have an audio file of another type you want to use, you can use [Audacity](#) to convert to one of those file types.



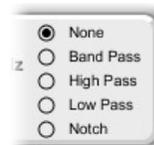
To play an audio file, simply hold down a fret button. Release it to stop playback. The **Smooth Playing** option will play the whole audio file when the button is pressed without stopping. If you are using a drum controller, turn on **Smooth Playing**.

The **Whammy Bar** is used to manipulate the playback of the audio file. Hold **Start** and press a fret button to change what the **Whammy Bar** controls. The five options are **Speed 0 to 1 (Green)**, **Speed -1 to 1 (Red)**, **Volume (Yellow)**, **Loop End (Blue)**, **Filter Frequency (Orange)**.



Change the **Mult** values to change the range of values that the **Whammy Bar** reaches for **Loop End** and **Filter Frequency**. A smaller **Mult** value means a smaller range, and a larger **Mult** value means larger range.

Click the radio buttons under **Filter** to change which type of filter is used. **Q value** is essentially the intensity of the filter.



The **Back** button toggles Loop on and off. **Solo** buttons automatically turn Loop on.

Trying using **Sample Mode** with drum sounds, sound effects, movie quotes, or record something yourself and use that as a sample.

## 7. General Tips and Tricks

### Preset Boxes

Hold **Shift** + **Click** on a circle in the box to save a preset to that circle in the Preset Box. To switch between Presets, **Click** on a circle in the box. Be careful when creating or editing your preset, as you **WILL** lose any changes you have made unless you **Shift** + **Click** to save your preset before switching to another.



You can save the current group of presets in the Preset Box as a file, which will have the extension ".maxpat", by clicking the **Write** button next to the Preset Box. Likewise, you can load a group of presets by clicking **Read** and selecting the .maxpat file. Make sure you load the right preset into the right place – even though it might read the file, a Drum Mode preset won't work in a Normal Mode slot.

### Number Boxes

You can change values in number boxes in three ways:

1. Click the increment button next to the **Number Box** to increase or decrease the value.
2. Click on the **Number Box** and drag the mouse up and down to change the value.
3. Click on the **Number Box** to highlight it and type in the value you wish to assign it.



## 8. Troubleshooting

You can contact me one of three ways:

- Send me a message on AIM (bwestplaysdrums) – I'm usually online, but not always at the computer. I will respond when I get back.
- Leave a comment on the website (<http://miditarhero.com>)
- Email me ([bwestplaysdrums@gmail.com](mailto:bwestplaysdrums@gmail.com))

In any case, please give me a detailed description including:

1. your operating system
2. controller you're using (IE: Xbox 360 Rock Band 2 Wireless Strat)
3. MIDI program you're trying use MH with (if any)
4. what you're trying to do
5. what isn't working correctly

## 9. Acknowledgements

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Thanks to Dr. Shirley at UMass Lowell for his help and introducing me to Max.

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Thanks to anyone who's posted on a forum, blog, or video about MH.