

Introduction

Congratulations on your purchase of the M-Audio Trigger Finger MIDI controller. The Trigger Finger offers an intuitive interface for programming and performing drums and percussion, as well as providing a host of additional controls for tweaking the sound and behavior of your parts.

While the Trigger Finger has been designed with ease of use in mind, we strongly suggest that you take the time to read through this manual in order to familiarize yourself with all of the features contained in this device. There's more to the Trigger Finger than meets the eye...

What's In the Box

Inside your Trigger Finger package, you will find:

- Trigger Finger controller
- Printed Quick Start Guide
- CD-ROM containing drivers, Enigma Librarian, demo set for Ableton Live Lite 4, and manuals
- CD-ROM containing Ableton Live Lite 4
- 6' USB cable

Product Features

- 16 programmable velocity- and pressure-sensitive pads
- 8 programmable knobs
- 4 programmable sliders
- 16 memory locations
- Pads able to transmit MIDI note data, controller data, and velocity data simultaneously
- Locked and Full Velocity Modes
- Selectable velocity curves
- Programmable with the Enigma Editing software (included)
- Memory presets for Reason Redrum, Live Impulse, GM Drums, XG Drums, and more
- Powered by USB bus or optional DC power supply

Supported MIDI Messages

- Program Change
- Bank LSB
- Bank MSB
- Channel – Each pad can be assigned an individual channel.
- MIDI Controller messages (0-119)
- Pitch Bend
- GM2 specified Sys Ex
- NRPN/RPN
- Note On and Velocity
- Channel Aftertouch
- Channel Mode messages (120-127)

Minimum System Requirements

NOTE: The requirements below are necessary to obtain MIDI communication between the Trigger Finger and the computer. These requirements do not reflect the additional or higher requirements of the audio software used with the Trigger Finger.

Windows:

- Windows XP with Service Pack 1
- Available USB Port

Mac OS:

- Mac OS X 10.3.8 or higher
- Available USB Port

About This Manual

This manual is broken down into sections to cover the various aspects of the Trigger Finger. Installation is covered first, followed by an overview of the controls. Next is an in-depth look at the operation of the Trigger Finger. Finally, you'll find a section on programming the unit using the Enigma Editing software.

Installation Procedure

Basic Installation

Because it is a class-compliant device, installing the Trigger Finger on your Windows XP or Mac OS X computer is simple and straightforward:

- Use the supplied USB cable to connect the Trigger Finger to a USB port on your computer and you'll be ready to go! You can do this while the computer is on or off, and no further driver installation will be necessary.

Installing the Windows Multi-client Driver

While class-compliance offers easy setup and connection of the Trigger Finger, the Windows class driver is deficient in that only a single application, or program, can use the Trigger Finger at any given time. For many users this is perfectly acceptable, as they will be using the Trigger Finger to communicate with their host audio application only.

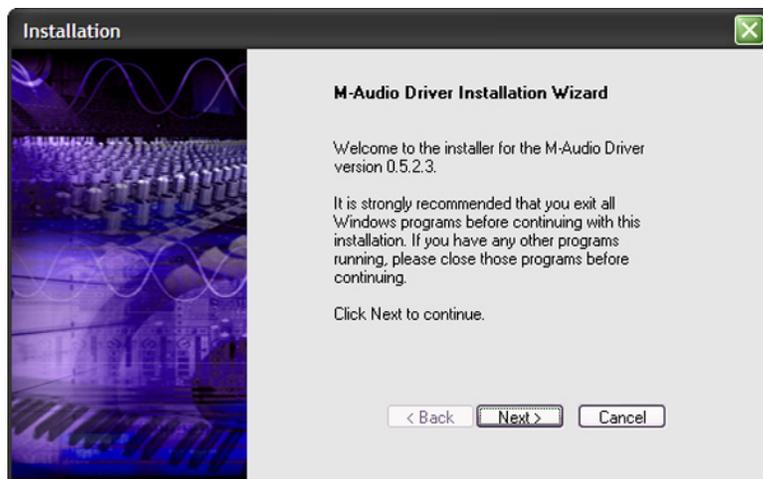
However, if you use multiple applications at once, including applications that are "ReWired" together (such as using Ableton Live as a host application and simultaneously running Propellerhead Reason as a slave), you'll need to install the Windows Trigger Finger MIDI driver so both the host and ReWired application can be controlled from the Trigger Finger simultaneously.

PLEASE NOTE: Do NOT connect your new MIDI controller to your computer until the appropriate driver files have been installed onto your computer.

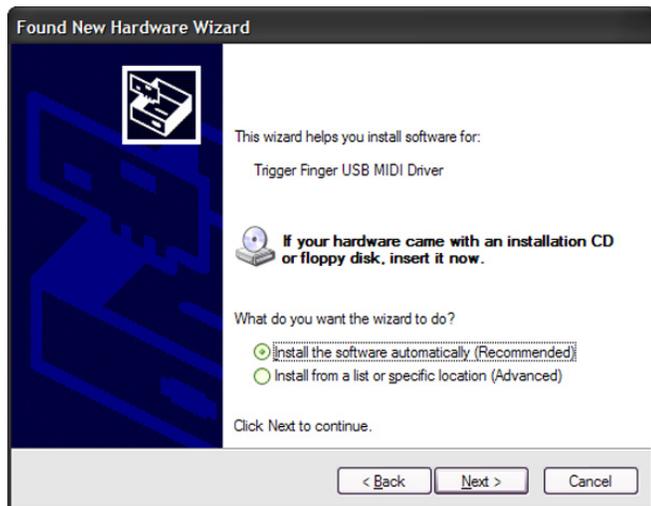
1. Insert the MIDI Controller Driver CD-ROM into your computer's CD-ROM drive.
2. The computer will automatically display the interactive install screen shown below. If your computer fails to launch the installer, manually start the installer by clicking on Start > My Computer > MIDI Controller Series.



3. Follow the on-screen directions to choose your language and product. Once you select your product, click "Install Drivers" to begin copying files.
4. Follow the driver installer's on-screen directions.



5. At various points in this installation process, you may be notified that the driver being installed has not passed Windows Logo Testing. Click “Continue Anyway” to proceed with the installation.
6. Click “Finish” once the installer is complete.
7. Connect your new MIDI controller to an available USB port and switch it on.
8. Windows will identify the new MIDI controller and will display a “Found New Hardware Wizard.” If you have Service Pack 2 installed on your computer, you will be asked if you’d like to search the Internet for a driver. Please select “No, not this time” and press “Next.” You’ll then see a screen like the one seen below:



9. Choose “Install software automatically” and click “Next.”
10. Once the final “Found New Hardware” wizard is complete, you will see a message pop up that says “Your new hardware is installed and ready to use.”

Using the Trigger Finger With Your Software

When installed, the Trigger Finger will appear in the computer as a simple MIDI device with one input port and one output port. You will select the Trigger Finger input port as the MIDI input device in your audio application. The application will then be able to read any of the data transmitted by you from the Trigger Finger.

The MIDI ports have different names depending on whether you are using Mac or PC, and whether you’ve installed the Windows Multi-client driver or not:

	Input Port	Output Port
Mac OS X	USB Trigger Finger	USB Trigger Finger
Windows Class Driver	USB Audio Device	USB Audio Device
Windows Multi-Client Driver	USB Trigger Finger In	USB Trigger Finger Out

You may be wondering why there is a MIDI output port for a controller that has no sound-generation capabilities. This is to facilitate bi-directional communication between the Trigger Finger and the Enigma Librarian. The Trigger Finger also allows you to exploit this MIDI Out port as an additional output for your computer by selecting USB as the source for the Trigger Finger’s MIDI Out jack (see the Global Parameters section later in this manual).

Hardware Controls and Indicators

This section will familiarize you with the interface of the Trigger Finger. Please reference the image below when reading about each control.



1. **MIDI Out Jack:** This jack outputs MIDI information from either the Trigger Finger control surface or from the host computer.
2. **USB Port:** The Trigger Finger is connected to a host computer through this port using the supplied USB cable.
3. **PSU Jack:** When using the Trigger Finger while disconnected from a computer, an optional DC power supply can be connected to this jack in order to power the unit.
4. **LED Display:** This three-digit display will show the current memory location being used as well as values for the Trigger Finger's various parameters.
5. **Program / Bank Change / Exit Button:** This button is used to send program/bank changes from the Trigger Finger. It is also used to exit the Edit Mode without saving your changes (more on this in the section titled "Editing the Trigger Finger").
6. **Memory Recall / Save & Exit Button:** This button is used to recall one of the 16 memory locations in the Trigger Finger. It will also save your edits when exiting Edit Mode.
7. **Lock / Full Velocity / Select Button:** This button cycles through the Trigger Finger's two velocity control modes: Locked Velocity and Full Velocity. When editing the Trigger Finger, this button is used to select one of the 8 knobs for programming.
8. **Ctrl / Note Mute / Peek Button:** Pressing this button will cycle through the two Mute Modes available on the Trigger Finger: Control Mute and Note Mute. When editing the Trigger Finger, this button is used to view the current setting of a control without changing it.
9. **Programmable Sliders:** When performing, these faders will transmit MIDI controller information. When in Edit Mode, these faders will set the global parameters (more on this in the section titled "Editing the Trigger Finger").
10. **Programmable Knobs:** When performing, these knobs will transmit MIDI controller information. When in Edit Mode, these knobs are used to set the values (such as note, controller, and channel) for the Trigger Finger's pads, sliders, and knobs (more on this in the section titled "Editing the Trigger Finger").
11. **Programmable Pads:** These 16 pads are velocity sensitive, meaning that they can sense how hard or soft they are struck. They are also pressure-sensitive, meaning they will transmit MIDI controller information based on how hard you press on the pads, similar to aftertouch on a keyboard. The pads are also used to recall and save memory locations (when used in conjunction with the Memory Recall Button) and to issue Program/Bank Changes (when used with the Prog/Bank Change Button).

Operational Overview

The Trigger Finger has two main operation modes: Performance Mode and Edit Mode. As the name suggests, Performance Mode is the mode you'll use when performing or programming drum parts, or controlling patches with program changes. Edit Mode, on the other hand, is used to edit the settings of the Trigger Finger to suit your performance needs. The currently active mode is indicated by the 2 lights above the Memory Recall and Prog/Bank Change Buttons. If these two lights are blinking, the Trigger Finger is in Edit Mode. If the lights are not blinking, the unit is in Performance Mode. The Trigger Finger defaults to Performance Mode whenever it is powered on.

Performance Mode

When in Performance Mode, the controls on the Trigger Finger will behave as follows:

- Tapping the **pads** will cause them to transmit their assigned MIDI notes with velocity data. Holding your finger on a pad and pressing harder will cause it to transmit MIDI controller data based on **pressure**. You can use the MIDI notes to trigger drum sounds, samples, loops, and synths while pressure can be used to modulate parameters such as pan, filter, effects, pitch, aftertouch, etc. The exact behaviors will be determined by the way you set up your software or hardware to work with the Trigger Finger.
- Twisting a **knob** will cause it to output a MIDI controller value for the parameter assigned to it. Examples of useful knob assignments include part volumes and pans, filter cutoffs, reverb levels, pitch, attack, decay, etc.
- Moving a **slider** will cause it to output a MIDI controller value for the parameter assigned to it, just like a knob. Examples of useful parameter assignments are filter, volume, effects, pitch, etc.
- The **LED display** will show the number of the currently selected memory location. When a knob or slider is moved, the value of the control will be displayed for two seconds before reverting back to the active memory location. When a pad is tapped, the LED display initially indicates the note velocity before the note's name is displayed
- To send a **Program/Bank Change**, press the Prog/Bank Change Button (its LED will light up showing that the Trigger Finger is waiting for your selection), then tap the pad corresponding to the program/bank change you wish to send. If you change your mind, pressing the button again will exit the mode and the LED above the button will turn off. You can have 16 different program/bank changes loaded into each of the Trigger Finger's 16 memories. The Program/Bank change parameters are individually assigned to each pad in Edit Mode.
- Pressing the Lock/Full Velocity Button once will engage Full Velocity (the LED above the button will still be on and the LED display will show "FUL" for 2 seconds). While Full Velocity is active, every note played on the pads will transmit its note with a velocity of 127 regardless of how hard the pads are played. Pressing the button a second time will cancel Full Velocity and switch to the Locked Velocity function (the LED above the button will turn on and "Loc" will be shown in the LED Display). In this mode, the Trigger Finger pads are no longer velocity sensitive. When a pad is played, it will transmit its assigned MIDI note with the assigned 'On' Velocity Lock value, and assigned 'Off' velocity value. The Velocity 'On' Lock value can be set individually for each pad in Edit Mode. The Off value can be changed in Enigma if it is required to be anything other than 0. Pressing the Lock/Full Velocity button a third time will cancel the velocity control functions (the light above the button will turn off).
- If you wish to move the knobs and sliders to new locations without transmitting MIDI data in the process, press the Ctrl/Note Mute Button once. This will engage the **Control Mute** function (the LED above the button will light and "Ctl" will be shown on the LED Display). While Control Mute is active, the Trigger Finger will no longer transmit MIDI data when knobs or sliders are moved, but the LED display will continue to show the controls' new values as they are changed. This is useful if you need to match the Trigger Finger's controls to those of a hardware or software instrument without causing "jumps" in the sound. Pressing the Ctrl/Note Mute Button a second time will cancel Control Mute and engage **Note Mute** (the light above the button stays on and "Not" will be shown in the LED Display). This mode is the opposite of Control Mute—the knobs, sliders, and pads will transmit their MIDI controller values, but the pads will no longer transmit their MIDI notes when played. This is useful when making MIDI assignments in software that feature MIDI Learn functions (such as the included Ableton Live Lite 4 application). You will be able to assign the pressure components of the pads without confusing the software by transmitting note information as well. Pressing the Ctrl/Note Mute Button a third time will cancel the mute functions (the light above the button will turn off) and the Trigger Finger will resume standard operation.
- To **load a new memory preset**, press the Memory Recall Button (its LED will light indicating that the Trigger Finger is waiting for your choice). Press the pad corresponding to the memory you wish to recall (i.e., press pad 9 to recall memory preset 9). If you press the Memory Recall Button and change your mind, press the button again to cancel (the LED will turn off).

Edit Mode

Assigning new parameters and functions to the Trigger Finger's controls can be accomplished through Edit Mode or with the Enigma Editing software. We strongly recommend that you use the Enigma Editing software to re-program the Trigger Finger, as its graphical user interface is intuitive, quick, and easy to understand. Furthermore, there are a few functions that can only be accessed using Enigma. However, for convenience and flexibility, the majority of the Trigger Finger's functions can be re-programmed from the unit itself using Edit Mode.

Edit Mode is accessed by pressing the Memory Recall and Prog/Bank Change Buttons simultaneously. When active, the lights above the two buttons will flash. When in Edit Mode, the blue labels next to each of the Trigger Finger's controls will be active (i.e. Slider 2 will be used to set the Global MIDI Channel).

Before we begin to detail the re-programming process, it is important for you to know what parameters are valid for the Trigger Finger's various controls. The list below shows the control and its valid parameters and value ranges. **Note:** The parameters shown in italics are only accessible through the Enigma application:

Pads:

- **Note:** The MIDI note transmitted by the pad. Range between C-2 and G 8.
NOTE: Due to limitations of the LED display, sharp notes are indicated by a dot after the note letter. For example, "C 3" is middle C while "C. 3" is the C# above middle C.
- **CC:** The MIDI continuous controller to use for transmitting pressure data. Range between 0 and 126 or OFF. For convenience, there is a chart of the standard MIDI controllers at the end of this manual. Note: It is possible to assign the pressure control to additional parameters as illustrated in the Table of Extended CC's at the end of this manual. These extended parameters are only accessible through Enigma.
- **Vel Lock:** This is the velocity to use for the pad when Locked Velocity is active.
Range: between 0 and 127.
- **Chan:** This is the MIDI channel used when the pad transmits a note. When set to "0," the pad will use the Global MIDI Channel (see below) for transmission. Range from 0 to 16. Note: Many sound modules place drums on channel 10, which is the default setting for the Trigger Finger's Global MIDI Channel.
- **PGM:** This is the Program Change Number to be assigned to the pad. Range: 0 to 127.
- **MSB:** This is the MSB (Most Significant Byte) of the Bank Change assigned to the pad. Range 0 to 127.
- **LSB:** This is the LSB (Least Significant Byte) of the Bank Change. Please refer to your equipment's manuals to determine the proper settings for these values. Range: 0 to 127.
- **P CH:** This is the MIDI channel used when transmitting the associated Program/Bank Change. It is therefore possible to trigger a note on one channel but issue a Program/Bank Change on another channel all from the same pad. Range: 0 to 16 (0 = Global MIDI Channel).
- **Min:** Sets the lower range of the pads' pressure controls. Range: 0 to 127.
- **Max:** Sets the upper range of the pads' pressure controls. Range: 0 to 127. Using the Min and Max parameters will let you define a range of values to be transmitted when pressing on a pad. For example, setting Min to 30 and Max to 80 will result in 80 being transmitted when full force is applied to the pad. 30 will be transmitted when the pad is released. You can also invert the pad response by setting the Max value **lower** than the Min. If the numbers above were reversed, the Trigger Finger would transmit 30 when full force is applied and 80 when the pad is released.

Knobs and Sliders:

- **Min:** The minimum value transmitted when the knob or slider is at its lowest position. Range 0 to 127.
- **CC:** This is the MIDI continuous controller assigned to the knob or slider. Range 0 to 127.

Note: It is possible to assign the knobs and sliders to additional parameters as illustrated in the Table of Extended CC's at the end of this manual. These extended parameters are only accessible through Enigma.

- **Max:** This is the maximum value to be transmitted when the knob or slider is at its highest position. Range 0 to 127. When used with the Min parameter, you can scale the knob or slider to your desired range. Setting Min to 25 and Max to 64 will result in the knob or slider transmitting 25 at its lowest position and 64 at its highest position. You can invert knob response by setting the Max value **lower** than the Min, as explained above.
- **Chan:** This is the MIDI channel used when the knob or slider transmits its data. Range 0 to 16 (0 = Global MIDI Channel).

The process of programming the Trigger Finger's controls entails selecting a control to edit (a pad, knob, or slider) then making your changes to it. When in Edit Mode, the knobs and sliders are used to set these various parameters according to their blue labels (for example, knob 8 is used to set the transmit channel for a Program/Bank Change [P CH]).

Pad Programming

Let's begin by looking at how to re-program the parameters for a pad. They are the easiest to understand:

1. Enter Edit Mode by pressing Memory Recall and Prog/Bank Change simultaneously. Their LEDs will begin to flash indicating that Edit Mode is active.
2. Tapping a pad will select it for editing. For our example, let's tap pad 16.
3. Once selected, you can re-program the pad with the knobs. For example, you can use the Note Knob to choose MIDI note F#3 for the pad (twist the knob until "F. 3" is displayed on the LED screen). For convenience, the Trigger Finger will continue to output MIDI notes when you tap the pad so you can preview your changes. You can twist other knobs to change their associated parameters, too. For instance, you can use the knobs to quickly set the pad to MIDI channel 10 and its fixed velocity to 90. The CC Knob is for selecting the MIDI controller to use when transmitting pressure information. Setting this to "10," for example, can be used to cause pressure to modulate the pan position of your sound.
4. Once you have made your desired edits to the pad, you can tap another pad to select and edit it.
5. Once all of your edits are complete, you can save your changes by pressing the Save & Exit Button followed by the pad corresponding to your desired memory location. If, for example, you want to save your changes in memory location 7, you'd press the Save & Exit Button followed by pad 7. If you want to exit Edit Mode **without saving** your changes, press the Exit Button. The Trigger Finger will return to Performance Mode (the two LEDs will stop flashing) and your edits will remain active, though not saved to a memory location. You can then try out your new preset before you save it. If you like it, re-enter Edit Mode and immediately Save & Exit.

Knob and Slider Programming

Because the knobs and sliders are used to set values when programming, an extra step is needed to actually select these controls before they can be edited. In the example above, all that was necessary to select a pad was to tap it. However, moving a knob or fader will change a value of the selected pad instead of selecting the knob or slider itself for programming. In order to select the actual knob or slider, you'll use the Select Button as follows:

Enter Edit Mode by pressing Memory Recall and Prog/Bank Change simultaneously. Their LEDs will begin to flash indicating that Edit Mode is active.

1. Press the Select Button—its LED will turn on.
2. Twisting a knob or moving a slider will now cause it to become the selected control instead of changing a value.
3. Once your desired control has been selected, press the Select Button again (its LED turns off).
4. You can now use the knobs to change the values for this selected control.
5. To select another knob or slider for editing, go back to step 2 and repeat.
6. When all edits are finished, you can exit Edit Mode and optionally save your work (see step 5 in the previous example).

Viewing Parameter Values

When setting up the Trigger Finger, you may wish to see the current value of a parameter before you change it. For example, if you want to set the MIDI note for Pad 5 one semitone higher, you'll need to know its current setting first before you dial in a new value.

The Peek Button is used to select which parameter value is shown on the LED Display while in Edit Mode. The below steps illustrate the example above:

1. Enter Edit Mode.
2. Press the Peek Button (its LED will light).
3. Move the control of the parameter you wish to view. In our example, we want to see the current note assignments, so we'll twist the "C1/ Note/Min" Knob.
4. As soon as the Note Knob is twisted, the LED display will now show the MIDI note name of any selected pad.
5. Press Peek again to exit the Peek Assignment (its LED turns off).
6. Now, tap pad 1. Its note name will be shown on the LED display. Tap pad 2 to display its current note name. In our example, we're concerned with pad 5, so tap it now to view its note name.
7. Use the Note Knob to change this value to a note one semitone higher than the original (if the original pitch was "G. 2," you'll choose "A 2" as the new note since it is one semitone above G#2).
8. Exit Edit Mode and save your changes if you wish.

You can also use the following method to inspect multiple parameters of one control:

1. Enter Edit Mode.
2. Press Select, twist Knob 6, and press Select again (we've now selected Knob 6 to edit).
3. Press the Peek Button.
4. Twist the "C1/ Note/Min" knob to see the minimum value assigned to the knob. Twist the "C3/ Vel Lock/Max" knob to see the maximum value assigned to the knob. You can also twist the "C4/Chan" and "C2/CC" knobs to view these values as well.
5. Press the Peek Button again to exit Peek Mode. You can now edit the parameters as you wish.
6. Exit Edit Mode and save your changes if you wish.

As you can see, Peek allows you to "take a peek" at the value of one common parameter for multiple controls (the first example) and to check multiple parameters of the same control (the second example).

Global Parameters

The Trigger Finger has a few parameters that work on a memory location as a whole rather than being pad- or control-specific. For convenience, the global parameters are all located on the sliders. These global parameters are:

- **Global Transpose:** This value is added to the note values of all the pads in a preset. The range is from -24 to +24 semitones. If the pads are set up in a C chromatic scale, changing this value to "+2" will result in a D chromatic scale being sent when the pads are played. Note that when the slider is positioned in the center, the transpose value is 0.
- **Global MIDI Channel:** This channel number is used by any control with its MIDI channel set to "0." For example, if pad 4 is set to note 65 and channel 0, setting the Global MIDI Channel to 8 will cause pad 4 to transmit note 65 on channel 8 when played. Permitted values are 1-16.
- **Global Velocity Curve:** Sets the pads' responsiveness to velocity from one of 9 pre-defined velocity curves shown at the end of this manual. Permitted values range from C1 to C9. There are also 3 fixed velocity curves (F0-F2) which, when selected, will set all the pads to a velocity of 64, 100 or 127 respectively.
- **Global Pressure Sensitivity:** This is similar to the velocity curve setting, but changes the pads' responsiveness to pressure. Acceptable values range from 0 to 3, where 1 requires a lighter amount of pressure than 3 to transmit the same controller value. 0 defeats pressure sensitivity entirely (pressure will no longer function).

To edit a global parameter, simply enter Edit Mode and move the sliders to your desired values. Save and exit to store your changes. If necessary, you can also use the Peek Button to view the current global parameters. Press Peek then move one of the sliders. Its value will then be shown on the LED Display. Because these parameters are global, there is no need to select any controls before you edit these values.

MIDI Out Mode

The Trigger Finger has a MIDI Out jack on the back of the unit that is set, by default, to transmit anything played on the Trigger Finger. This allows the Trigger Finger to be connected directly to another piece of hardware without the need for a computer.

The Trigger Finger does, however, provide a MIDI Output from the computer. You'll see this output port when you set up your MIDI Output devices in your host application. If you desire, the Trigger Finger's MIDI Out jack can be used to transmit this information from the computer by pressing the Ctrl/Note Mute and Lock/Full Velocity Buttons simultaneously. The LED Display will show "USB," indicating that the MIDI Out jack is now using the data sent from the computer across the USB cable. If you press the two buttons again, "CS" will be displayed, indicating that the unit is back to its standard control surface mode.

Unlike the other Global Parameters above, the MIDI Out status is **not** saved as part of a memory preset. It is a universal setting for the Trigger Finger. Also, changing the MIDI Out status will cancel any of the Ctrl/Note Mute or Velocity Lock modes that are active.

Enigma Software

The Enigma Editing software makes creating, editing, and storing memory setups for the Trigger Finger a snap. Its simple, drag-and-drop interface streamlines the re-programming process, and it also gives access to a few extra features. Additionally, memory setups can be stored on the computer, thus allowing you to amass a collection of more than 16 memory setups.

Installing Enigma

Enigma is located on the supplied MIDI Controller CD-ROM. This is the most current version at the time of pressing. We still recommend, however, that you check the M-Audio website (www.m-audio.com) for the latest version of the program as there may have been updates since the CD-ROM was originally made.

Windows Users:

1. Run the file 'enigma_pc.exe'.
2. Follow the onscreen instructions.

Mac OS X Users:

1. Double-click on the file 'enigma_mac.dmg'.
2. Drag 'Enigma' to the location on your hard drive where you want to install the software (we recommend placing Enigma in your Applications folder).

Navigating Enigma

As long as the Trigger Finger is connected to your computer and correctly installed, Enigma will recognize your Trigger Finger on start up. You will see the Trigger Finger listed in the bank list (the window in the top left hand corner) with a red symbol next to it. If this is not the case, please consult the troubleshooting section.

The Device List

Enigma is an editor and librarian that has been developed to support the entire range of programmable products from M-Audio. As a result, you will see a number of other M-Audio and Evolution controllers listed in the bank window. These are provided to let you swap presets between different controllers. For example, if you wanted to set up a control for Reason's Subtractor synth, you could copy the controls directly from the UC-33e's Reason Subtractor preset to the controls of your Trigger Finger.

As well as the red device (your connected Trigger Finger controller), other devices in the device list are represented with blue symbols (blue devices) and orange symbols (orange devices). Blue devices represent the factory presets of the various controllers. If you send the blue 'Trigger Finger defaults' file to your Trigger Finger, it has the effect of performing a factory reset. Orange devices are your own user-created devices. You can create as many of these as you like simply by clicking on the '+' button in the bottom left hand corner.

The Preset List

The Preset List is positioned directly underneath the device window. Click on the red device in the list. This device represents the physical memory on your Trigger Finger unit. You will see that all the presets of the Trigger Finger are listed with their factory default names. Note that although you can name presets anything you like, the Trigger Finger itself does not store these names. The naming of presets is an Enigma function only. If you click on other devices in the device list, you will see that the preset list updates accordingly.

Data Display

The main area in the Enigma software is reserved for displaying the data contained in the preset you have currently selected in the Preset List. Normally, you will see a graphical representation of the controller that is selected in the Device List. The View Select button in the bottom right-hand corner enables you to switch between the Graphic View and a more detailed List View. The List View is useful as a quick reference for the entire contents of the preset.

Click on the red device in the device list to select the Trigger Finger. Click on the View Select button to select the Graphic view. You will now see your Trigger Finger represented in Enigma. Now double-click on one of the controllers. This brings up the 'Editor' dialog. In the editor dialog you are able to change the assigned parameters for the controller you have selected.

Communication Between the Trigger Finger and Enigma

Enigma communicates with your Trigger Finger controller using the three buttons above the Device List. If you move the mouse over each of these three buttons, you will see a tool tip which describes the function of each button. From left to right, the buttons are:

- **Receive:** This button will update the red device in the Device List with the current contents of your Trigger Finger's memory. Note that it is always the red device that is updated, regardless of the bank you have selected currently.
- **Update:** This button sends only the edits in the red device to your Trigger Finger controller. As such, it is a quicker data transfer.
- **Send:** This button will send the currently selected bank to your Trigger Finger device.



Storing Memory Setups

Orange devices in the Device List represent custom setups for your controllers, and you can create as many of these user devices as you like. These devices will always be available in the Device List regardless of what controllers are connected to your computer, and you can file away as many as necessary.

When you click on the Receive button to download the current contents of your Trigger Finger's memory, the data will always be written to the red device. In order to store this data, you can simply drag the red device to an orange device.

Programming the Trigger Finger with Enigma

NOTE: Be sure that the Trigger Finger is connected properly to the computer before you start Enigma.

1. Double-click the Enigma icon to start the program.
2. The application will start and a picture of the default Trigger Finger will be shown.
3. Before you start editing values, the settings from your Trigger Finger need to be loaded into Enigma. Do this by pressing the Receive Button above the Device List (described above). This will download your Trigger Finger's current memory contents. The red device now represents this data.
4. Once the memory transfer is complete, you can begin editing values as described in the following sections.
5. When your edits are complete, you will need to send the changes back to the Trigger Finger. Press the Update Button above the Device List to upload the changes you have made to your Trigger Finger.
6. Your new edits will not be active until you recall one of the new presets on the Trigger Finger.

Programming the Pads

The Trigger Finger's pads can have a large number of parameters assigned to each one. For ease, these parameters have been split into three groups: MIDI controller info (CC), Program info (PGM), and Note info (♯).

- The CC info allows you to edit the CC message that is sent out as you apply pressure to a pad. You can also edit the range of the controller values sent by editing the Min and Max parameters.
- The PGM info allows you to edit the Program, Bank MSB, and Bank LSB values that are sent when sending a Program/Bank Change from the Trigger Finger.
- The NOTE info allows you to edit the Note that is sent each time a pad is tapped, as well as the velocities that are transmitted when 'Vel Fix' is pressed—the fixed 'On' velocity and fixed 'Off' velocity.

Each pad in the Enigma interface has three zones for these three types of info. Double-clicking on any of these three zones will bring up the Editor Dialog with the relevant information for that pad.

When working in List View, you will see all the values and parameters in use by the Trigger Finger. One important thing to note is that to ensure compatibility with the other M-Audio and Evolution controllers' presets that you are able to access in Enigma, the Trigger Finger uses special CC assignments for determining how notes are output from the pads. The two valid CC assignments are explained below:

- **CC 147—Note On/Off:** This CC setting results in the default behavior for the pads. Pressing the pad will send a Note On message with the played velocity, and releasing the pad will send a Note Off message. When a pad is assigned to CC 147, the Program field will contain the note number to be transmitted by the pad. The MSB value represents the note on velocity that will be used when the Locked Velocity Mode is enabled. The LSB value is the release velocity, which you will typically leave at 0 (note off).
- **CC 148—Note On/Off Toggle:** When CC 148 is assigned to the pad, it will function in toggle mode. In this mode, a note on will be sent with the played velocity the first time a pad is played. A note off will be sent the second time the pad is played. Like the CC 147 assignment, the MSB and LSB values dictate the Locked Velocity of the notes. The MSB is the velocity used the first time a pad is played when Locked Velocity mode is engaged. The LSB is the velocity used when the pad is played a second time when Locked Velocity Mode is engaged. By leaving the LSB value at 0, pressing a pad once will play a note at your chosen velocity and the second press will stop it.

Programming the Knobs and Sliders

Double-clicking on the graphic of a knob or slider will open the Editor Dialog displaying the current MIDI CC and range settings for that controller. While programming the knobs and sliders from the Trigger Finger itself only gives you access to MIDI CC numbers 0 through 127, Enigma will let you assign special extended CC's to these controls for added functionality. Please see the Extended CC table at the end of this manual for a list of the possible CC assignments.

For example, you can assign Pitch Bend to a knob by typing in CC number "144" for the control. Moving the knob will now transmit Pitch Bend messages instead of a standard MIDI continuous controller. You can also drag these extended CC's from Enigma's library directly onto the graphic of a knob or slider for the same results.

Blank Presets

As mentioned earlier in this section, you can quickly create a new user device (colored orange in the Device List) by clicking the "+" button in the lower-left corner of the screen. This will create an empty device with all of its controls and pads set to CC 255, which is the setting for "Off." You will need to set the pad's note parameter to either CC 147 or CC 148 for them to function. The pad's program parameter needs to be set to CC 145. You will also have to assign CC values to the knobs, sliders, and pressure controls as well.

To make things simpler, we recommend dragging the Trigger Finger's default settings, or your current settings, into this new device, which will then set all the controls to their proper CC values—very much like a template. You can then continue to make your edits as usual without having to reprogram the CCs for every control. Don't forget, Enigma's library also comes packed with useful data that you are able to simply drag onto your pads. This includes a library of MIDI notes.

Some Useful Programming Pointers

■ GM Drum support

Controlling drum sounds on any GM-compatible device is easy with the Trigger Finger. Presets 1-3 give examples of different pad setups that you may find useful when playing drum tracks. The GM specification states that to access drum sounds on a GM system, the Trigger Finger must be transmitting on Channel 10. The easiest method to set this up is to assign the Global MIDI Channel to 10 while all the pads are set to Channel 0. In general, you should leave the pads set to Channel 0 so that you only need change the Global MIDI Channel to change them all. The exception to this rule is if you need the Trigger Finger to transmit on more than one channel at the same time from one preset.

■ XG Drum Support

Yamaha has extended the GM specification to form the XG specification. Devices that support the XG specification have a set of controllers specific to individual drums. Accessing these controls requires that the Trigger Finger send NRPN messages. We have done a lot of this hard work for you in Preset 5. For XG drum controls, the NRPN LSB is used to select the drum that it is controlling. Preset 5 allows you to control a bass drum, for example. You can change the drums you're controlling by changing the 'Min' parameter of the controllers in the XG presets accordingly.

■ Preventing the Pads from Sending CC Data

Ctrl Mute will prevent any MIDI CC data from being sent when you tap or apply pressure to a pad. This allows the pads to send note data only. Ctrl Mute will, however, also prevent the dials and faders from transmitting MIDI data. If you wish for the knobs and sliders to transmit CCs while the pads do not, assign controller 255 (Off) to the CC portion of the pads instead. With a CC set to Off, the Trigger Finger will not generate any CC data when pressure is applied to a pad.

■ Preventing the Pads from Sending Note Data

Other than using the 'Note Mute,' assigning a note to 255 (Off) in Enigma will prevent note data being sent when a pad is touched. This allows you to use the pad purely as a pressure-sensitive control.

Building Your Memory Presets

Because of its extremely flexible architecture, there are many applications and uses for the Trigger Finger—more than can be listed here. However, you will find a few useful operation suggestions below and we suggest you read through these scenarios as they offer additional insight into the operation of the Trigger Finger. Remember, the end result of using the Trigger Finger will be based on the capabilities of the software and/or hardware you are controlling, so be sure to keep their manuals handy for reference.

Setting Up a Velocity Spread

To assist in programming drumbeats, it can be helpful to map a particular drum sound across multiple pads, each with their own unique velocity level. You will then have meticulous control over the velocities you play with the Trigger Finger. For example, a bass drum sound can be spread across all the pads (every pad will trigger the same bass drum sound) and the velocity used to trigger the sound will increase as you proceed up through the numbered pads (Pad 1 will be quiet while Pad 2 is louder, etc. Pad 16 is full velocity). You can then program your rhythm for the kick drum with exact velocities.

The Trigger Finger ships with a memory preset already arranged with increasing velocities across the pads: Preset 3. When this preset is recalled, Locked Velocity will be active. This will force the pads to play with the assigned velocities regardless of how hard you play them. The velocities used can be seen in the image below. The preset spreads the kick drum according to the GM Drum Map. If you're not using a GM drum kit, or wish to use the velocity spread on a different sound, you can transpose the Trigger Finger up or down to your desired sound:

1. Load preset 3.
2. Enter Edit Mode.
3. While tapping on a pad, move the Global Transpose Slider up or down until you find your desired sound.
4. Exit Edit Mode.

You'll now have your new sound spread across the pads for you to begin playing. If you prefer this sound rather than the ones chosen in the factory presets, you can overwrite them with your preferred settings. You can also re-assign the velocity lock values of the pads if you'd prefer a different velocity map than the one shown below.



When using one of the Spread Presets, each pad has the Velocity Lock value shown here.

Setting Up a Combination Spread

While spreading locked velocities across all of the pads provides a way to program and play with exact velocities, sometimes it is unnecessary to use all 16 pads for this. After all, you may only be using 4 of the 16 velocities in your song, so why not use the unused pads for other sounds? The fact that each pad in the Trigger Finger can be programmed individually allows you to create any sort of mapping you want, even something more complex like Preset 4, whose map is shown below.



Here, each pad has individual note and Velocity Lock assignments. This allows you to play with the precision of the spread mode while having access to more than one sound. You can, of course, assign any sound to a pad—this is merely an example.

Using the Note Off Assignment

When using Enigma to program the Trigger Finger, you will have access to more features than you would if you just used Edit Mode on the unit itself. One trick that will be available to you is the ability to assign no MIDI note to a pad, just leaving its pressure control active. In the example map below, the top 4 pads do not transmit MIDI notes. These pads only output MIDI control values based on pressure. Using this setup, you can play the drums as normal on the bottom 12 pads. However, applying pressure to pad 13 or 14 will perform a pitch bend up or down, respectively (the harder the pad is pressed, the more the pitch is bent). Pressing on pad 15 will control the reverb send for the instrument. The whole drum kit can also be fed through an effect in some music applications—in this case, pad 16 increases the drive of a distortion effect. Pressing on the pad will destroy the sound of the other pads, which can be a great performance trick.



The yellow labels indicate pads that are not transmitting MIDI note data—they're only sending MIDI controller messages. These messages are being used to control the pitch of the kit, the reverb send, and the drive of a distortion plug-in.

Technical Information

Caution: The normal function of the product may be disturbed by Strong Electro Magnetic Interference. If so, simply reset the product to resume normal operation by following the instruction manual. In case the function could not resume, please use the product in other location.

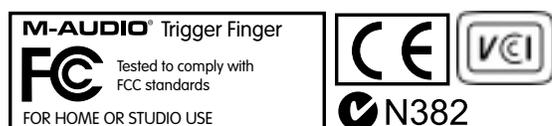
Note: Your M-Audio product has been tested to comply with FCC Standards FOR HOME OR OFFICE USE. Modifications not authorized by the manufacturer may void users authority to operate this device.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

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Troubleshooting

While the Trigger Finger is a simple device with few connections, you may run across problems from time to time. If your Trigger Finger is not behaving as expected, please try some of the procedures detailed below. They may save you from having to contact Technical Support.

Problem: My Trigger Finger is not turning on.

Reason: The Trigger Finger is not receiving power.

Solution: If you are trying to power the Trigger Finger from the USB port on your computer, re-check the connection of your USB cable. Try unplugging and re-plugging the cable on both ends—sometimes dirt and grime can build up and keep the cable from making connection.

Solution: If you're trying to power the Trigger Finger from your computer while it's off (perhaps you're triggering an external sampler), the computer may not be supplying power to the USB bus while powered down. You'll either have to turn on the computer or purchase the optional power supply to power the unit (see the accessories page on www.m-audio.com).

Solution: If you're using an external power supply, it may be broken. You'll need to order another one from the M-Audio website.

Problem: My computer is not receiving MIDI data from the Trigger Finger.

Reason: The audio application is not configured properly or the Trigger Finger is in Control Mute Mode.

Solution: Make sure Control Mute is turned off on the Trigger Finger (the light above the button should be off).

Solution: Select the Trigger Finger as the MIDI input for your audio application. You may need to arm a track in your software to monitor the incoming MIDI.

Problem: Enigma is not identifying my Trigger Finger.

Reason: No bi-directional communication with the Trigger Finger.

Solution: If you are using the Windows class driver, only one program will be able to access the Trigger Finger at a time. If you have an audio application running and you try to launch Enigma, Enigma will not be given access to the Trigger Finger MIDI ports since they are already in use by the audio application. You can either a) shut down your audio application before launching Enigma, or b) install the Windows Multi-client Driver.

Solution: The Trigger Finger needs to be plugged in **before** you launch Enigma. If you launched Enigma first, shut it down and start it again.

Contacting M-Audio

If you have any questions, comments or suggestions about this or any M-Audio product, we invite you to contact us by using the following information:

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Support

If you are having trouble with your Trigger Finger and the procedures in the Troubleshooting section do not solve your problem, you may call M-Audio Tech Support for further assistance. Before you call, be sure to be in front of your computer with it turned on, and be ready to tell the Support Representative what type of computer you're using (i.e. Mac G5 1GHz) and the operating system installed (i.e. Mac OS X 10.3.5).

M-Audio Tech Support is open from 7am to 7pm PST, Monday through Friday, and can be reached at: (626) 633-9055. You can also submit an e-mail request through the M-Audio website.

Reference

Preset Memories

1: GM Drum Kit

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Bass Drum	C 1	127	OFF	0	127	0	0	127	0
2	Snare	D 1	127	OFF	0	127	1	0	127	0
3	Electric Snare	E 1	127	OFF	0	127	2	0	127	0
4	Side Stick	C#1	127	OFF	0	127	3	0	127	0
5	Hi Tom	D 2	127	OFF	0	127	4	0	127	0
6	Hi Mid Tom	C 2	127	OFF	0	127	5	0	127	0
7	Low Tom	A 1	127	OFF	0	127	6	0	127	0
8	Floor Tom	F 1	127	OFF	0	127	7	0	127	0
9	Cowbell	G#2	127	OFF	0	127	8	0	127	0
10	Clap	D#1	127	OFF	0	127	16	0	127	0
11	Hi-Hat Closed	F#1	127	OFF	0	127	24	0	127	0
12	Hi-Hat Open	A#1	127	OFF	0	127	25	0	127	0
13	Crash 1	C#2	127	OFF	0	127	32	0	127	0
14	Crash 2	A 2	127	OFF	0	127	40	0	127	0
15	Ride	D#2	127	OFF	0	127	48	0	127	0
16	Ride Bell	F 2	127	OFF	0	127	56	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Volume	7	0	127	0
2	Modulation	1	0	127	0
3	Resonance	71	0	127	0
4	Cut-off	74	0	127	0

Knob	Drum	CC	Data 1	Data 2	Channel
1	Pan	10	0	127	0
2	Effect 1	12	0	127	0
3	Porta time	5	0	127	0
4	Porta depth	84	0	127	0
5	Reverb	91	0	127	0
6	Chorus	93	0	127	0
7	Attack	71	0	127	0
8	Release	72	0	127	0

2: GM Percussion

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Maracas	A#3	127	OFF	0	127	0	0	127	0
2	Tambourine	F#2	127	OFF	0	127	1	0	127	0
3	Muted Conga	D 3	127	OFF	0	127	2	0	127	0
4	Open Conga	D#3	127	OFF	0	127	3	0	127	0
5	Low Timbales	F#3	127	OFF	0	127	4	0	127	0
6	Hi Timbales	F 3	127	OFF	0	127	5	0	127	0
7	Hi bongo	C 3	127	OFF	0	127	6	0	127	0
8	Low bongo	C#3	127	OFF	0	127	7	0	127	0
9	Long Whistle	C 4	127	OFF	0	127	8	0	127	0
10	Short Whistle	B 3	127	OFF	0	127	16	0	127	0
11	Hi Wood Block	E 4	127	OFF	0	127	24	0	127	0
12	Low Wood Block	F 4	127	OFF	0	127	25	0	127	0
13	Open Cuica	G 4	127	OFF	0	127	32	0	127	0
14	Muted Cuica	F#4	127	OFF	0	127	40	0	127	0
15	Muted Triangle	G#4	127	OFF	0	127	48	0	127	0
16	Open Triangle	A 4	127	OFF	0	127	56	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Volume	7	0	127	0
2	Modulation	1	0	127	0
3	Resonance	71	0	127	0
4	Cut-off	74	0	127	0

Knob	Drum	CC	Data 1	Data 2	Channel
1	Pan	10	0	127	0
2	Effect 1	12	0	127	0
3	Porta time	5	0	127	0
4	Porta depth	84	0	127	0
5	Reverb	91	0	127	0
6	Chorus	93	0	127	0
7	Attack	71	0	127	0
8	Release	72	0	127	0

3: GM Bass Drum Spread velocity (with XG NRPN)

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Bass drum	C 1	7	OFF	0	127	0	0	127	0
2	Bass drum	C 1	15	OFF	0	127	1	0	127	0
3	Bass drum	C 1	25	OFF	0	127	2	0	127	0
4	Bass drum	C 1	31	OFF	0	127	3	0	127	0
5	Bass drum	C 1	39	OFF	0	127	4	0	127	0
6	Bass drum	C 1	47	OFF	0	127	5	0	127	0
7	Bass drum	C 1	55	OFF	0	127	6	0	127	0
8	Bass drum	C 1	63	OFF	0	127	7	0	127	0
9	Bass drum	C 1	71	OFF	0	127	8	0	127	0
10	Bass drum	C 1	79	OFF	0	127	16	0	127	0
11	Bass drum	C 1	87	OFF	0	127	24	0	127	0
12	Bass drum	C 1	95	OFF	0	127	25	0	127	0
13	Bass drum	C 1	103	OFF	0	127	32	0	127	0
14	Bass drum	C 1	111	OFF	0	127	40	0	127	0
15	Bass drum	C 1	119	OFF	0	127	48	0	127	0
16	Bass drum	C 1	127	OFF	0	127	56	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Cut-off	134	36	20	0
2	Resonance	134	36	21	0
3	Attack	134	36	22	0
4	Decay	134	36	23	0

Knob	Control	CC	Data 1	Data 2	Channel
1	Pitch coarse	134	36	24	0
2	Pitch fine	134	36	25	0
3	Pan	134	36	28	0
4	Volume	134	36	26	0
5	Reverb send	134	36	29	0
6	Chorus send	134	36	30	0
7	Variation send	134	36	31	0
8	OFF	255	0	127	0

4: GM Hybrid Kit

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Bass Drum	C 1	64	OFF	0	127	0	0	127	0
2	Snare	D 1	64	OFF	0	127	1	0	127	0
3	Hi-Hat	A#1	64	OFF	0	127	2	0	127	0
4	Crash 1	C#2	64	OFF	0	127	3	0	127	0
5	Bass Drum	C 1	80	OFF	0	127	4	0	127	0
6	Snare	D 1	80	OFF	0	127	5	0	127	0
7	Hi-Hat Open	F#1	64	OFF	0	127	6	0	127	0
8	Crash 1	D#2	64	OFF	0	127	7	0	127	0
9	Bass Drum	C 1	100	OFF	0	127	8	0	127	0
10	Snare	D 1	100	OFF	0	127	16	0	127	0
11	Hi-Hat	A#1	127	OFF	0	127	24	0	127	0
12	Ride	D#2	127	OFF	0	127	25	0	127	0
13	Bass Drum	C 1	127	OFF	0	127	32	0	127	0
14	Snare	D 1	127	OFF	0	127	40	0	127	0
15	Hi-Hat Open	F#1	127	OFF	0	127	48	0	127	0
16	Ride	C#2	127	OFF	0	127	56	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Volume	7	0	127	0
2	Modulation	1	0	127	0
3	Resonance	71	0	127	0
4	Cut-off	74	0	127	0

Knob	Drum	CC	Data 1	Data 2	Channel
1	Pan	10	0	127	0
2	Effect 1	12	0	127	0
3	Porta time	5	0	127	0
4	Porta depth	84	0	127	0
5	Reverb	91	0	127	0
6	Chorus	93	0	127	0
7	Attack	71	0	127	0
8	Release	72	0	127	0

5: XG hybrid Kit with NRPN control

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Bass drum	C 1	64	OFF	0	127	0	0	127	0
2	Bass drum	C 1	88	OFF	0	127	1	0	127	0
3	Bass drum	C 1	100	OFF	0	127	2	0	127	0
4	Bass drum	C 1	127	OFF	0	127	3	0	127	0
5	Snare	D 1	64	OFF	0	127	4	0	127	0
6	Snare	D 1	88	OFF	0	127	5	0	127	0
7	Snare	D 1	100	OFF	0	127	6	0	127	0
8	Snare	D 1	127	OFF	0	127	7	0	127	0
9	Hi-Hat	F#1	64	OFF	0	127	8	0	127	0
10	Hi-Hat	F#1	88	OFF	0	127	16	0	127	0
11	Hi-Hat	F#1	100	OFF	0	127	24	0	127	0
12	Hi-Hat	F#1	127	OFF	0	127	25	0	127	0
13	Crash	C#2	64	OFF	0	127	32	0	127	0
14	Crash	C#2	88	OFF	0	127	40	0	127	0
15	Crash	C#2	100	OFF	0	127	48	0	127	0
16	Crash	C#2	127	OFF	0	127	56	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Cut-off	134	49	20	0
2	Resonance	134	49	21	0
3	Attack	134	49	22	0
4	Decay	134	49	23	0

Knob	Control	CC	Data 1	Data 2	Channel
1	Pitch coarse	134	49	24	0
2	Pitch fine	134	49	25	0
3	Pan	134	49	28	0
4	Volume	134	49	26	0
5	Reverb send	134	49	29	0
6	Chorus send	134	49	30	0
7	Variation send	134	49	31	0
8	OFF	255	0	127	0

6: Glaresoff iDrum

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Channel 1	C 2	127	OFF	0	127	0	0	127	0
2	Channel 2	C#2	127	OFF	0	127	1	0	127	0
3	Channel 3	C#2	127	OFF	0	127	2	0	127	0
4	Channel 4	C 2	127	OFF	0	127	3	0	127	0
5	Channel 5	D 2	127	OFF	0	127	4	0	127	0
6	Channel 6	D#2	127	OFF	0	127	5	0	127	0
7	Channel 7	D#2	127	OFF	0	127	6	0	127	0
8	Channel 8	D 2	127	OFF	0	127	7	0	127	0
9	Channel 9	E 2	127	OFF	0	127	8	0	127	0
10	Channel 10	F 2	127	OFF	0	127	16	0	127	0
11	Channel 11	F 2	127	OFF	0	127	24	0	127	0
12	Channel 12	E 2	127	OFF	0	127	25	0	127	0
13	Channel 13	F#2	127	OFF	0	127	32	0	127	0
14	Channel 14	G 2	127	OFF	0	127	40	0	127	0
15	Channel 15	G 2	127	OFF	0	127	48	0	127	0
16	Channel 16	F#2	127	OFF	0	127	56	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Volume	7	0	127	0
2	Modulation	1	0	127	0
3	Resonance	71	0	127	0
4	Cut-off	74	0	127	0

Knob	Drum	CC	Data 1	Data 2	Channel
1	Pan	10	0	127	0
2	Effect 1	12	0	127	0
3	Porta time	5	0	127	0
4	Porta depth	84	0	127	0
5	Reverb	91	0	127	0
6	Chorus	93	0	127	0
7	Attack	71	0	127	0
8	Release	72	0	127	0

7: Wizoo Darbuka/Latigo

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Pattern 1	C 1	127	119	0	127	0	0	127	0
2	Pattern 2	C#1	127	119	0	127	1	0	127	0
3	Pattern 3	D 1	127	119	0	127	2	0	127	0
4	Pattern 4	D#1	127	119	0	127	3	0	127	0
5	Pattern 5	E 1	127	119	0	127	4	0	127	0
6	Pattern 6	F 1	127	119	0	127	5	0	127	0
7	Pattern 7	F#1	127	119	0	127	6	0	127	0
8	Pattern 8	G 1	127	119	0	127	7	0	127	0
9	Pattern 9	G#1	127	119	0	127	8	0	127	0
10	Pattern 10	A 1	127	119	0	127	16	0	127	0
11	Pattern 11	A#1	127	119	0	127	24	0	127	0
12	Pattern 12	B 1	127	119	0	127	25	0	127	0
13	Pattern 13	C 2	127	119	0	127	32	0	127	0
14	Pattern 14	C#2	127	119	0	127	40	0	127	0
15	Pattern 15	D 2	127	119	0	127	48	0	127	0
16	Pattern 16	D#2	127	119	0	127	56	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Trk Volume	7	0	127	0
2	Trk Pan	10	0	127	0
3	Trk Rear Bal	8	0	127	0
4	Trk Ambience	91	0	127	0

Knob	Control	CC	Data 1	Data 2	Channel
1	Complexity	1	0	127	0
2	Variance	2	0	127	0
3	Ambience time	12	0	127	0
4	Dynamics	13	0	127	0
5	Quantise	16	0	127	0
6	Swing	17	0	127	0
7	Timing	18	0	127	0
8	Tempo	19	0	127	0

8: Waldorf Attack

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Sound 1	C 1	127	OFF	0	127	0	0	127	0
2	Sound 2	C#1	127	OFF	0	127	1	0	127	0
3	Sound 2	C#1	127	OFF	0	127	2	0	127	0
4	Sound 1	C 1	127	OFF	0	127	3	0	127	0
5	Sound 3	D 1	127	OFF	0	127	4	0	127	0
6	Sound 4	D#1	127	OFF	0	127	5	0	127	0
7	Sound 4	D#1	127	OFF	0	127	6	0	127	0
8	Sound 3	D 1	127	OFF	0	127	7	0	127	0
9	Sound 5	E 1	127	OFF	0	127	8	0	127	0
10	Sound 6	F 1	127	OFF	0	127	9	0	127	0
11	Sound 6	F 1	127	OFF	0	127	10	0	127	0
12	Sound 5	E 1	127	OFF	0	127	11	0	127	0
13	Sound 7	F#1	127	OFF	0	127	12	0	127	0
14	Sound 8	G 1	127	OFF	0	127	13	0	127	0
15	Sound 8	G 1	127	OFF	0	127	14	0	127	0
16	Sound 7	F#1	127	OFF	0	127	15	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Cut-off	37	0	127	0
2	Resonance	38	0	127	0
3	Crack Speed	26	0	127	0
4	Crack Length	27	0	127	0

Knob	Drum	CC	Data 1	Data 2	Channel
1	Env 1 Attack	52	0	127	0
2	Env 1 Delay	53	0	127	0
3	Env 1 Shape	54	0	127	0
4	Env 1 Release	55	0	127	0
5	Env 2 Attack	56	0	127	0
6	Env 2 Delay	57	0	127	0
7	Env 2 Shape	58	0	127	0
8	Env 2 Release	59	0	127	0

9: Waldorf Attack with Delays

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Sound 1	C 1	127	OFF	0	127	0	0	127	0
2	Sound 2	C#1	127	OFF	0	127	1	0	127	0
3	Sound 2	C#1	127	OFF	0	127	2	0	127	0
4	Sound 1	C 1	127	OFF	0	127	3	0	127	0
5	Sound 3	D 1	127	OFF	0	127	4	0	127	0
6	Sound 4	D#1	127	OFF	0	127	5	0	127	0
7	Sound 4	D#1	127	OFF	0	127	6	0	127	0
8	Sound 3	D 1	127	OFF	0	127	7	0	127	0
9	Sound 5	E 1	127	OFF	0	127	8	0	127	0
10	Sound 6	F 1	127	OFF	0	127	9	0	127	0
11	Sound 6	F 1	127	OFF	0	127	10	0	127	0
12	Sound 5	E 1	127	OFF	0	127	11	0	127	0
13	Sound 7	F#1	127	OFF	0	127	12	0	127	0
14	Sound 8	G 1	127	OFF	0	127	13	0	127	0
15	Sound 8	G 1	127	OFF	0	127	14	0	127	0
16	Sound 7	F#1	127	OFF	0	127	15	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Delay 2 Time	72	0	127	16
2	Delay 2 Sync	73	0	127	16
3	Delay 2 F-back	74	0	127	16
4	Delay 2 Spread	75	0	127	16

Knob	Drum	CC	Data 1	Data 2	Channel
1	Delay 1 Time	12	0	127	16
2	Delay 1 Sync	13	0	127	16
3	Delay 1 F-back	14	0	127	16
4	Delay 1 Spread	15	0	127	16
5	Delay 1 Mod	16	0	127	16
6	Delay 1 Lo Cut	17	0	127	16
7	Delay 1 Hi Cut	18	0	127	16
8	No control	OFF	0	127	16

10: Ableton Live Impulse x2

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Drum Cell 1	C 3	127	117	0	127	0	0	127	10
2	Drum Cell 2	D 3	127	117	0	127	1	0	127	10
3	Drum Cell 3	E 3	127	117	0	127	2	0	127	10
4	Drum Cell 4	F 3	127	117	0	127	3	0	127	10
5	Drum Cell 5	G 3	127	117	0	127	4	0	127	10
6	Drum Cell 6	A 3	127	117	0	127	5	0	127	10
7	Drum Cell 7	B 3	127	117	0	127	6	0	127	10
8	Drum Cell 8	C 4	127	117	0	127	7	0	127	10
9	Drum Cell 1	C 3	127	117	0	127	8	0	127	11
10	Drum Cell 2	D 3	127	117	0	127	9	0	127	11
11	Drum Cell 3	E 3	127	117	0	127	10	0	127	11
12	Drum Cell 4	F 3	127	117	0	127	11	0	127	11
13	Drum Cell 5	G 3	127	117	0	127	12	0	127	11
14	Drum Cell 6	A 3	127	117	0	127	13	0	127	11
15	Drum Cell 7	B 3	127	117	0	127	14	0	127	11
16	Drum Cell 8	C 4	127	117	0	127	15	0	127	11

Fader	Control	CC	Data 1	Data 2	Channel
1	Undefined	112	0	127	0
2	Undefined	113	0	127	0
3	Undefined	114	0	127	0
4	Undefined	115	0	127	0

Knob	Control	CC	Data 1	Data 2	Channel
1	Undefined	33	0	127	0
2	Undefined	34	0	127	0
3	Undefined	35	0	127	0
4	Undefined	36	0	127	0
5	Undefined	37	0	127	0
6	Undefined	38	0	127	0
7	Undefined	39	0	127	0
8	Undefined	40	0	127	0

11: Ableton Live Setup

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Bass Drum	C 3	127	119	0	127	0	0	127	11
2	Snare 1	D 3	127	119	0	127	1	0	127	11
3	Stick	F 3	127	119	0	127	2	0	127	10
4	Open HiHat	G 3	127	119	0	127	3	0	127	10
5	Cowbell	E 3	127	119	0	127	4	0	127	10
6	Snare 2	A 3	127	119	0	127	5	0	127	10
7	"Trigger"	B 3	127	119	0	127	6	0	127	10
8	"Finger"	C 4	127	119	0	127	7	0	127	10
9	Synth Loop 1	C 2	127	119	0	127	8	0	127	1
10	Synth Loop 2	C#2	127	119	0	127	9	0	127	1
11	Synth Loop 3	D 2	127	119	0	127	10	0	127	1
12	Synth Loop 4	D#2	127	119	0	127	11	0	127	1
13	Chicago Bass Lp	E 2	127	119	0	127	12	0	127	1
14	Staccato Bass Lp	F 2	127	119	0	127	13	0	127	1
15	Beefy Bass Loop	F#2	127	119	0	127	14	0	127	1
16	Funky Bass Loop	G 2	127	119	0	127	15	0	127	1

Fader	Control	CC	Data 1	Data 2	Channel
1	Synth Volume	100	0	127	1
2	Bass Volume	101	0	127	1
3	Atmos Volume	102	0	127	1
4	Pads Volume	103	0	127	1

Knob	Control	CC	Data 1	Data 2	Channel
1	Undefined	104	0	127	1
2	Undefined	105	0	127	1
3	Undefined	106	0	127	1
4	Undefined	107	0	127	1
5	Undefined	108	0	127	1
6	Undefined	109	0	127	1
7	Undefined	110	0	127	1
8	Undefined	111	0	127	1

12: ArKaos VJ

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	C 1	C 1	127	119	0	127	0	0	127	0
2	D 1	D 1	127	119	0	127	1	0	127	0
3	E 1	E 1	127	119	0	127	2	0	127	0
4	F 1	F 1	127	119	0	127	3	0	127	0
5	G 1	G 1	127	119	0	127	4	0	127	0
6	A 1	A 1	127	119	0	127	5	0	127	0
7	B 1	B 1	127	119	0	127	6	0	127	0
8	C 2	C 2	127	119	0	127	7	0	127	0
9	D 2	D 2	127	119	0	127	8	0	127	0
10	E 2	E 2	127	119	0	127	16	0	127	0
11	F 2	F 2	127	119	0	127	24	0	127	0
12	G 2	G 2	127	119	0	127	25	0	127	0
13	A 2	A 2	127	119	0	127	32	0	127	0
14	B 2	B 2	127	119	0	127	40	0	127	0
15	C 3	C 3	127	119	0	127	48	0	127	0
16	D 3	D 3	127	119	0	127	56	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Pitch bend	144	0	127	0
2	Modulation	1	0	127	0
3	Unassigned	7	0	127	0
4	Unassigned	8	0	127	0

Knob	Drum	CC	Data 1	Data 2	Channel
1	Unassigned	9	0	127	0
2	Unassigned	10	0	127	0
3	Unassigned	11	0	127	0
4	Unassigned	12	0	127	0
5	Unassigned	13	0	127	0
6	Unassigned	14	0	127	0
7	Unassigned	15	0	127	0
8	Unassigned	16	0	127	0

13: Propellerhead ReBirth Drum Pattern Control

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	909 pattern 5	C 1	127	OFF	0	127	0	0	127	0
2	909 pattern 6	D 1	127	OFF	0	127	1	0	127	0
3	909 pattern 7	E 1	127	OFF	0	127	2	0	127	0
4	909 pattern 8	F 1	127	OFF	0	127	3	0	127	0
5	909 pattern 1	G 1	127	OFF	0	127	4	0	127	0
6	909 pattern 2	A 1	127	OFF	0	127	5	0	127	0
7	909 pattern 3	B 1	127	OFF	0	127	6	0	127	0
8	909 pattern 4	C 2	127	OFF	0	127	7	0	127	0
9	808 pattern 5	D 2	127	OFF	0	127	8	0	127	0
10	808 pattern 6	E 2	127	OFF	0	127	9	0	127	0
11	808 pattern 7	F 2	127	OFF	0	127	10	0	127	0
12	808 pattern 8	G 2	127	OFF	0	127	11	0	127	0
13	808 pattern 1	A 2	127	OFF	0	127	12	0	127	0
14	808 pattern 2	B 2	127	OFF	0	127	13	0	127	0
15	808 pattern 3	C 3	127	OFF	0	127	14	0	127	0
16	808 pattern 4	D 3	127	OFF	0	127	15	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Synth 1 level	11	0	127	0
2	Synth 2 level	14	0	127	0
3	808 level	17	0	127	0
4	909 level	20	0	127	0

Knob	Control	CC	Data 1	Data 2	Channel
1	Synth 1 pan	12	0	127	0
2	Synth 2 pan	15	0	127	0
3	808 pan	18	0	127	0
4	909 pan	21	0	127	0
5	Synth 1 Delay	13	0	127	0
6	Synth 2 Delay	16	0	127	0
7	808 Delay	19	0	127	0
8	909 Delay	22	0	127	0

14: Propellerhead ReBirth Synth Pattern Control

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	Syn2 pattern 5	A#0	127	OFF	0	127	0	0	127	0
2	Syn2 pattern 6	B 0	127	OFF	0	127	1	0	127	0
3	Syn2 pattern 7	C 1	127	OFF	0	127	2	0	127	0
4	Syn2 pattern 8	C#1	127	OFF	0	127	3	0	127	0
5	Syn2 pattern 1	F#0	127	OFF	0	127	4	0	127	0
6	Syn2 pattern 2	G 0	127	OFF	0	127	5	0	127	0
7	Syn2 pattern 3	G#0	127	OFF	0	127	6	0	127	0
8	Syn2 pattern 4	A 0	127	OFF	0	127	7	0	127	0
9	Syn1 pattern 5	A -1	127	OFF	0	127	8	0	127	0
10	Syn1 pattern 6	A#-1	127	OFF	0	127	9	0	127	0
11	Syn1 pattern 7	B -1	127	OFF	0	127	10	0	127	0
12	Syn1 pattern 8	C 0	127	OFF	0	127	11	0	127	0
13	Syn1 pattern 1	F -1	127	OFF	0	127	12	0	127	0
14	Syn1 pattern 2	F#-1	127	OFF	0	127	13	0	127	0
15	Syn1 pattern 3	G -1	127	OFF	0	127	14	0	127	0
16	Syn1 pattern 4	G#-1	127	OFF	0	127	15	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Synth 1 level	11	0	127	0
2	Synth 2 level	14	0	127	0
3	808 level	17	0	127	0
4	909 level	20	0	127	0

Knob	Control	CC	Data 1	Data 2	Channel
1	Synth 1 pan	12	0	127	0
2	Synth 2 pan	15	0	127	0
3	808 pan	18	0	127	0
4	909 pan	21	0	127	0
5	Synth 1 Delay	13	0	127	0
6	Synth 2 Delay	16	0	127	0
7	808 Delay	19	0	127	0
8	909 Delay	22	0	127	0

15: Propellerhead Reason Redrum

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	1	C 1	127	41	0	127	0	0	127	0
2	2	C#1	127	42	0	127	1	0	127	0
3	2	C#1	127	OFF	0	127	2	0	127	0
4	1	C 1	127	OFF	0	127	3	0	127	0
5	3	D 1	127	43	0	127	4	0	127	0
6	4	D#1	127	44	0	127	5	0	127	0
7	4	D#1	127	OFF	0	127	6	0	127	0
8	3	D 1	127	OFF	0	127	7	0	127	0
9	5	E 1	127	45	0	127	8	0	127	0
10	6	F 1	127	46	0	127	9	0	127	0
11	6	F 1	127	OFF	0	127	10	0	127	0
12	5	E 1	127	OFF	0	127	11	0	127	0
13	7	F#1	127	47	0	127	12	0	127	0
14	8	G 1	127	48	0	127	13	0	127	0
15	8	G 1	127	OFF	0	127	14	0	127	0
16	7	F#1	127	OFF	0	127	15	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Level	7	0	127	0
2	Pattern select	3	0	31	0
3	Flam amount	5	0	127	0
4	OFF	OFF	0	127	0

Knob	Drum	CC	Data 1	Data 2	Channel
1	Drum 1 send 1	29	0	127	0
2	Drum 2 send 1	30	0	127	0
3	Drum 3 send 1	31	0	127	0
4	Drum 4 send 1	33	0	127	0
5	Drum 5 send 1	34	0	127	0
6	Drum 6 send 1	35	0	127	0
7	Drum 7 send 1	36	0	127	0
8	Drum 8 send 1	37	0	127	0

16: General Purpose (Use for MIDI Learn Apps)

Pad	Drum	Note	Lock VEL	CC	MIN	MAX	PRG	LSB	MSB	CH.
1	C 1	C 1	127	OFF	0	127	0	0	127	0
2	C#1	C#1	127	OFF	0	127	1	0	127	0
3	D 1	D 1	127	OFF	0	127	2	0	127	0
4	D#1	D#1	127	OFF	0	127	3	0	127	0
5	E 1	E 1	127	OFF	0	127	4	0	127	0
6	F 1	F 1	127	OFF	0	127	5	0	127	0
7	F#1	F#1	127	OFF	0	127	6	0	127	0
8	G 1	G 1	127	OFF	0	127	7	0	127	0
9	G#1	G#1	127	OFF	0	127	8	0	127	0
10	A 1	A 1	127	OFF	0	127	16	0	127	0
11	A#1	A#1	127	OFF	0	127	24	0	127	0
12	B 1	B 1	127	OFF	0	127	25	0	127	0
13	C 2	C 2	127	OFF	0	127	32	0	127	0
14	C#2	C#2	127	OFF	0	127	40	0	127	0
15	D 2	D 2	127	OFF	0	127	48	0	127	0
16	D#2	D#2	127	OFF	0	127	56	0	127	0

Fader	Control	CC	Data 1	Data 2	Channel
1	Undefined	102	0	127	0
2	Undefined	103	0	127	0
3	Undefined	104	0	127	0
4	Undefined	105	0	127	0

Knob	Control	CC	Data 1	Data 2	Channel
1	Undefined	106	0	127	0
2	Undefined	107	0	127	0
3	Undefined	108	0	127	0
4	Undefined	109	0	127	0
5	Undefined	110	0	127	0
6	Undefined	111	0	127	0
7	Undefined	112	0	127	0
8	Undefined	113	0	127	0

Velocity Scale Graphs

These graphs show the scaling of input to output velocities for the Trigger Finger's various velocity curves:

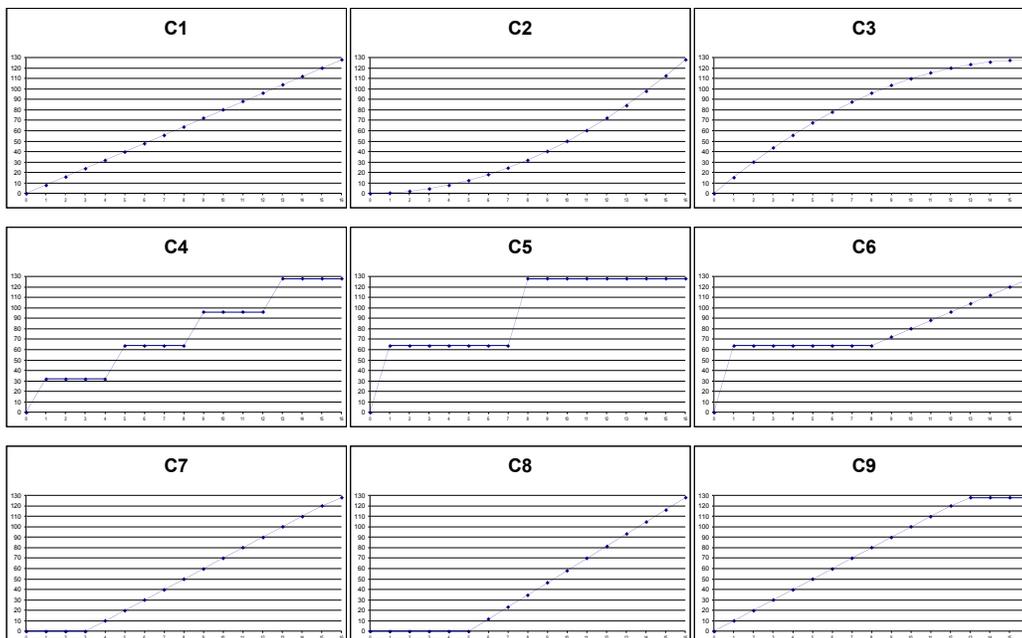


Table of Extended CCs

Using the Enigma Librarian, it is possible to assign the following extended CC values to the Trigger Finger's knobs and sliders for additional control:

<i>MIDI cc</i>	<i>Description</i>	<i>Data 1</i>	<i>Data 2</i>
0-119	Standard MIDI cc's	-	-
120-127	Channel Mode Messages	-	-
128	Pitchbend Sensitivity	-	-
129	Channel Fine Tune	-	-
130	Channel Coarse Tune	-	-
131	Channel Pressure	-	-
132	RPN Coarse	RPN LSB	RPN MSB
133	RPN Fine	RPN LSB	RPN MSB
134	NRPN Coarse	NRPN LSB	NRPN MSB
135	NRPN Fine	NRPN LSB	NRPN MSB
136	Master Volume	-	-
137	Master Pan	-	-
138	Master Coarse Tune	-	-
139	Master Fine Tune	-	-
140	Chorus Mod Rate	-	-
141	Chorus Mod Depth	-	-
142	Feedback	-	-
143	Send to Reverb	-	-
144	Pitchbend	-	-
255	Off	-	-

MIDI Note Names

This table shows the list of MIDI note numbers and their associated note names:

Note No.	Name						
0	C -2	32	G#0	64	E 3	96	C 6
1	C#-2	33	A 0	65	F 3	97	C#6
2	D -2	34	A#0	66	F#3	98	D 6
3	D#-2	35	B 0	67	G 3	99	D#6
4	E -2	36	C 1	68	G#3	100	E 6
5	F -2	37	C#1	69	A 3	101	F 6
6	F#-2	38	D 1	70	A#3	102	F#6
7	G -2	39	D#1	71	B 3	103	G 6
8	G#-2	40	E 1	72	C 4	104	G#6
9	A -2	41	F 1	73	C#4	105	A 6
10	A#-2	42	F#1	74	D 4	106	A#6
11	B -2	43	G 1	75	D#4	107	B 6
12	C -1	44	G#1	76	E 4	108	C 7
13	C#-1	45	A 1	77	F 4	109	C#7
14	D -1	46	A#1	78	F#4	110	D 7
15	D#-1	47	B 1	79	G 4	111	D#7
16	E -1	48	C 2	80	G#4	112	E 7
17	F -1	49	C#2	81	A 4	113	F 7
18	F#-1	50	D 2	82	A#4	114	F#7
19	G -1	51	D#2	83	B 4	115	G 7
20	G#-1	52	E 2	84	C 5	116	G#7
21	A -1	53	F 2	85	C#5	117	A 7
22	A#-1	54	F#2	86	D 5	118	A#7
23	B -1	55	G 2	87	D#5	119	B 7
24	C 0	56	G#2	88	E 5	120	C 8
25	C#0	57	A 2	89	F 5	121	C#8
26	D 0	58	A#2	90	F#5	122	D 8
27	D#0	59	B 2	91	G 5	123	D#8
28	E 0	60	C 3	92	G#5	124	E 8
29	F 0	61	C#3	93	A 5	125	F 8
30	F#0	62	D 3	94	A#5	126	F#8
31	G 0	63	D#3	95	B 5	127	G 8

Roland GS / Yamaha XG Controller Chart

If you are using the Trigger Finger with a GS- or XG-compatible synthesizer or keyboard, you can use the following chart to access their deeper sound synthesis parameters. The XG specification even provides control over each individual drum sound in a kit. To use these special parameters, first set the desired control on the Trigger Finger to NRPN, then enter the MSB and LSB values below. For the drum parameters below, **xx** should be replaced with the note number of the drum you want to control.

MSB	LSB	Parameter
1	8	Vibrato rate
1	9	Vibrato depth
1	10	Vibrato delay
1	32	Filter cutoff frequency
1	33	Filter resonance
1	99	Envelope attack rate
1	100	Envelope decay rate
1	102	Envelope release rate
20	xx	Filter cutoff frequency of specified drum sound*
21	xx	Filter resonance of specified drum sound*
22	xx	Envelope attack rate of specified drum sound*
23	xx	Envelope decay rate of specified drum sound*
24	xx	Pitch coarse of specified drum sound
25	xx	Pitch fine of specified drum sound*
26	xx	Level of specified drum sound
28	xx	Pan of specified drum sound
29	xx	Reverb send level of specified drum sound
30	xx	Chorus send level of specified drum sound
31	xx	Variation send level of specified drum sound**

* Yamaha XG only

** Changed from 'Delay' to 'Variation' by Yamaha XG

Warranty Info

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