

**M-AUDIO**

# **Axiom Pro**

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User Guide

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## “How To:” Quick Reference:

This section provides a quick reference to help you accomplish specific Axiom Pro-related tasks. These tasks are grouped together in a logical fashion and provide shortcuts to the specific page (and parameter) within the “Edit Mode” section of this guide.

To use this quick reference:

1. Locate the task you would like to accomplish from the left column.
2. For your desired task, press the Axiom Pro buttons listed in the middle column.
3. Finally, refer to the User Guide page number and parameter listed in the right column.

Note that the “Edit Mode” section of this User Guide describes every parameter and setting on a menu-by-menu basis and describes the internal features of Axiom Pro in complete detail. For a complete feature reference, please see the “Edit Mode” section of this User Guide.

- ✓ **TIP:** To learn how to navigate through the Edit Mode menus and change settings, refer to the note on Edit Mode navigation on page 23.

“Global” Options – How do I...	On Axiom Pro, press:	... and refer to User Guide Page
Set the global MIDI Channel?	“Edit” → “1” (Global)	“Channel” parameter on pg. 25
Shift the octave range of the keyboard?	“Edit” → “1” (Global)	“Octave” parameter on pg. 25
Transpose the keyboard?	“Edit” → “1” (Global)	“Transp.” parameter on pg. 25
Set the Velocity Curve of the keyboard?	“Edit” → “1” (Global)	“VelCurve” parameter on pg. 25
Engage or disengage MIDI release velocities?	“Edit” → “1” (Global)	“VelCurve” parameter on pg. 27
Invert the colors of the display?	“Edit”	“Inverse” parameter on pg. 24
Program and Bank Change messages – How do I...	On Axiom Pro, press:	... and refer to User Guide Page
Send a program change MIDI message?	“Edit” → “1” (Global)	“Program” parameter on pg. 28
Send a Bank LSB MIDI message?	“Edit” → “1” (Global)	“BankLSB” parameter on pg. 28
Send a Bank MSB MIDI message?	“Edit” → “1” (Global)	“BankMSB” parameter on pg. 28
Configuring Individual Controls (buttons, knobs, sliders, etc.) – How do I...	On Axiom Pro, press:	... and refer to User Guide Page
Assign the Data buttons?	“Edit” → “1” (Global)	“Data” parameter on pg. 27
Rename a control?	“Edit” → “2” (Control)	“Name” parameter on pg. 29
Set the type of message sent by a control?	“Edit” → “2” (Control)	“Type” parameter on pg. 30
Set a MIDI channel for a specific control?	“Edit” → “2” (Control)	“Channel” parameter on pg. 31
Display parameters as decimal or hexadecimal values?	“Edit” → “2” (Control)	“Entry” parameter on pg. 32

<b>Group Controls – How do I...</b>	<b>On Axiom Pro, press:</b>	<b>... and refer to User Guide Page</b>
Name the group of drum pads?	"Edit" → "3" (Group) → "P" (slider button)	"Name" parameter on pg. 34
Name the group of encoders?	"Edit" → "3" (Group) → "E" (slider button)	"Name" parameter on pg. 38
Name the group of sliders?	"Edit" → "3" (Group) → "S" (slider button)	"Name" parameter on pg. 40
Name the numerical keypad group?	"Edit" → "3" (Group) → "N" (slider button)	"Name" parameter on pg. 42
Select the MIDI channel for the drum pad group?	"Edit" → "3" (Group) → "P" (slider button)	"Channel" parameter on pg. 34
Select the MIDI channel for the encoder group?	"Edit" → "3" (Group) → "E" (slider button)	"Channel" parameter on pg. 39
Select the MIDI channel for the slider group?	"Edit" → "3" (Group) → "S" (slider button)	"Channel" parameter on pg. 40
Select the MIDI channel for the numerical keypad group?	"Edit" → "3" (Group) → "N" (slider button)	"Channel" parameter on pg. 42
Lock the velocity of drum pads?	"Edit" → "3" (Group) → "P" (slider button)	"Vel.Lock" parameter on pg. 35
Set the velocity curve of the drum pads?	"Edit" → "3" (Group) → "P" (slider button)	"Curve" parameter on pg. 35
Name one of the drum pad profiles?	"Edit" → "3" (Group) → "P" (slider button)	"1-4" parameter on pg. 37
Set the sensitivity of the encoder knobs?	"Edit" → "3" (Group) → "E" (slider button)	"Acccel. Max" parameter on pg. 39
Name one of the encoder knob profiles?	"Edit" → "3" (Group) → "E" (slider button)	"1-4" parameter on pg. 39
Toggle "drawbar" mode for the slider group?	"Edit" → "3" (Group) → "S" (slider button)	"Drawbar" parameter on pg. 41
Toggle "Null Mode" for the slider group?	"Edit" → "3" (Group) → "S" (slider button)	"NullMode" parameter on pg. 41
<b>Zones – How do I...</b>	<b>On Axiom Pro, press:</b>	<b>... and refer to User Guide Page</b>
Set the range of a zone?	"Edit" → "4" (Zone)	See pg. 43
Activate or deactivate a zone?	"Edit" → "4" (Zone)	See pg. 43
Set the MIDI output channel of a specific zone?	"Edit" → "4" (Zone) → Soft-Key 4 (Data)	"Channel" parameter on pg. 44
Set the octave shift range of a specific zone?	"Edit" → "4" (Zone) → Soft-Key 4 (Data)	"Octave" parameter on pg. 44
Set the transposition of a specific zone?	"Edit" → "4" (Zone) → Soft-Key 4 (Data)	"Transp." parameter on pg. 44
Set the MIDI output port of a specific zone?	"Edit" → "4" (Zone) → Soft-Key 4 (Data)	"MIDI Port" parameter on pg. 45
Send a program change message for a specific zone?	"Edit" → "4" (Zone) → Soft-Key 4 (Data)	"Program" parameter on pg. 45
Send a Bank LSB change message for a specific zone?	"Edit" → "4" (Zone) → Soft-Key 4 (Data)	"BankLSB" parameter on pg. 45
Send a Bank MSB change message for a specific zone?	"Edit" → "4" (Zone) → Soft-Key 4 (Data)	"BankMSB" parameter on pg. 45
<b>SysEx (System Exclusive) Commands – How do I...</b>	<b>On Axiom Pro, press:</b>	<b>... and refer to User Guide Page</b>
Select the MIDI output port for SysEx commands?	"Edit" → "5" (MIDI)	"SysEx" parameter on pg. 46
Select the "Device ID" SysEx code?	"Edit" → "5" (MIDI)	"DevID" parameter on pg. 46
Toggle whether a "Patch ID" SysEx code is issued on Patch changes?	"Edit" → "5" (MIDI)	"PatchID" parameter on pg. 47
Select the source of the data for the MIDI Output port on the Axiom Pro back panel?	"Edit" → "5" (MIDI)	"MIDI Out" parameter on pg. 47
Perform a complete SysEx dump of Axiom Pro memory?	"Edit" → "5" (MIDI)	"Send All" parameter on pg. 47
Perform a SysEx dump of a specific patch?	"Edit" → "5" (MIDI)	"Send Patch" parameter on pg. 48
Send a "Snapshot" of all current controls (knobs, sliders, etc.)?	"Edit" → "5" (MIDI)	"Snapshot" parameter on pg. 48
Send a "Panic" (all notes off) message?	"Edit" → "5" (MIDI)	"Panic" parameter on pg. 48

## Introduction

Thank you for purchasing the M-Audio Axiom Pro MIDI controller. Axiom Pro premium keyboards are designed to meet the needs of the most demanding musicians and can be used to control your MIDI hardware and audio software.

Axiom Pro 25, 49, and 61 controllers feature 25, 49, or 61 semi-weighted keys, respectively. These keyboards include eight velocity or pressure sensitive drum pads, eight “endless” encoders, six transport control buttons, aftertouch, and a high-resolution LCD display to make programming easy. In addition, the 49- and 61-key versions feature nine sliders, and a numerical keypad making it even easier to control your hardware synthesizers or software applications. Nearly all of the buttons, knobs, sliders, pads, and wheels of the Axiom Pro line are programmable, allowing the controller to adapt to your specific needs.

Another important new feature in the Axiom Pro line of controllers is the support for M-Audio’s HyperControl™ system. HyperControl allows for bi-directional communication between Axiom Pro and your audio software, keeping your keyboard and software synchronized at all times. Furthermore, HyperControl gives you “out of the box” control over many host applications (including Pro Tools, Reason, Cubase and Logic Pro) and automatically configures knobs, buttons, and other controls to your software. This system is covered in the “HyperControl Mode” section of this user guide as well as in individual HyperControl User Guides for each supported application (these guides can be found at [www.m-audio.com](http://www.m-audio.com)).

Please note that your Axiom Pro controller has many powerful features not commonly found on other controller keyboards. Even if you are familiar with MIDI controllers, please read this User Guide to ensure you get the most out of your new purchase.

### Differences between Axiom Pro 25/49/61:

The 25, 49, and 61-note versions of Axiom Pro are identical except that the 25-note version does not have sliders, slider buttons, function keys F5-F7, or the numerical keypad. These features are not available due to the space limitations of the smaller 25-note controller. Axiom Pro 25 users should note that this User Guide will make occasional references to these sliders and buttons that are not available on their controllers.

## What's in the Box

- Axiom Pro Keyboard
- Printed Quick Start Guide
- Axiom Pro Installation CD-ROM
- Software Bundle Disc
- USB Cable

## Product Features and Specifications

- 25-, 49-, or 61 semi-weighted keys with aftertouch and multiple selectable velocity response curves.
- Eight programmable “endless” knobs featuring non-déttented encoders with customizable acceleration curves. These knobs can be configured to use any of seven popular increment/decrement methods to ensure compatibility with virtually any application that supports “endless” encoders. The knobs can also function as standard MIDI controllers with a range of 0 to 127.
- Eight Velocity or pressure sensitive trigger pads that can be programmed to send MIDI note, Continuous Controller (CC), and other useful messages. Additionally, these pads feature multiple selectable velocity response curves.
- Six Transport control buttons
- Nine 40mm sliders
- 128x64 Graphic LCD
- 50 Memory Locations to store customized patches
- Quick recall of 4 “profiles” of knobs and pads, effectively providing fast access to 32 knobs and 32 pads.
- HyperControl Mode for bi-directional communication allowing synchronized control over major DAW applications, virtual instruments, and plug-ins
- ASCII keystroke messages can be sent from the controller for extended control of your applications
- Sustain and Expression Pedal inputs
- Four user definable keyboard zones
- MIDI input and output ports on rear panel for connecting hardware MIDI devices
- USB 2.0 compatible (also supports USB 1.1 and 1.0)
- Bus- or DC-powered operation



## Minimum System Requirements

Minimum system requirements can be found on the Axiom Pro product packaging as well as the M-Audio website.

### ✓ **A Note about Operating System Updates:**

*Please check the M-Audio driver download page at <http://www.m-audio.com/drivers> for the availability of an updated driver before you decide to install operating system updates.*

*Before new M-Audio device drivers are released, they are tested for use with the operating system versions that are available at that time. When updates for an operating system are released by Microsoft or Apple, all M-Audio device drivers have to be tested and possibly updated to ensure proper operation.*

*M-Audio recommends refraining from installing operating system updates until a driver has been posted to the M-Audio website for that specific operating system.*

## Driver Installation

### Windows XP/Vista Users:

Axiom Pro is a class-compliant device that offers basic functionality on Windows XP and Vista systems without having to install additional drivers. You can simply connect Axiom Pro to your computer, switch on the computer and the controller, and be ready to go.

However, M-Audio strongly recommends that Windows users install the Axiom Pro drivers from the included CD-ROM or (if Internet access is available) the most recent drivers from the M-Audio website. These drivers add functionality and allow you to:

1. Use Axiom Pro with more than one application at the same time.
2. Use long system exclusive (SysEx) commands.
3. Simultaneously use other class-compliant USB devices with audio capabilities.

The installation procedure is described in the printed Quick Start Guide that comes with Axiom Pro.

### Mac OS X users:

The class-compliant drivers built into Mac OS X provide full support for all features of Axiom Pro. This means that no additional M-Audio drivers are necessary (or available) when using Axiom Pro on Mac OS X – simply connect the controller keyboard to the computer using the supplied USB cable, configure your audio software (this is described in the printed Quick Start Guide), and start making music.

## Windows XP, Vista and Mac OS X 10.4 (Tiger) users:

When using Axiom Pro class-compliant (i.e. without installing the M-Audio driver) in Windows XP/Vista or in Mac OS X 10.4 (Tiger), the Axiom Pro MIDI ports will not be displayed with their proper port names.

### Windows XP or Vista users:

Please follow the driver installation instructions found in the printed Quick Start Guide.

### Mac OS X 10.4 (Tiger) users:

No Mac drivers are available, since the class-compliant MIDI driver built into Mac OS X supports all features of Axiom Pro. Please see the table below for more information on port naming.

## Axiom Pro Class-Compliant Port Names per Operating System

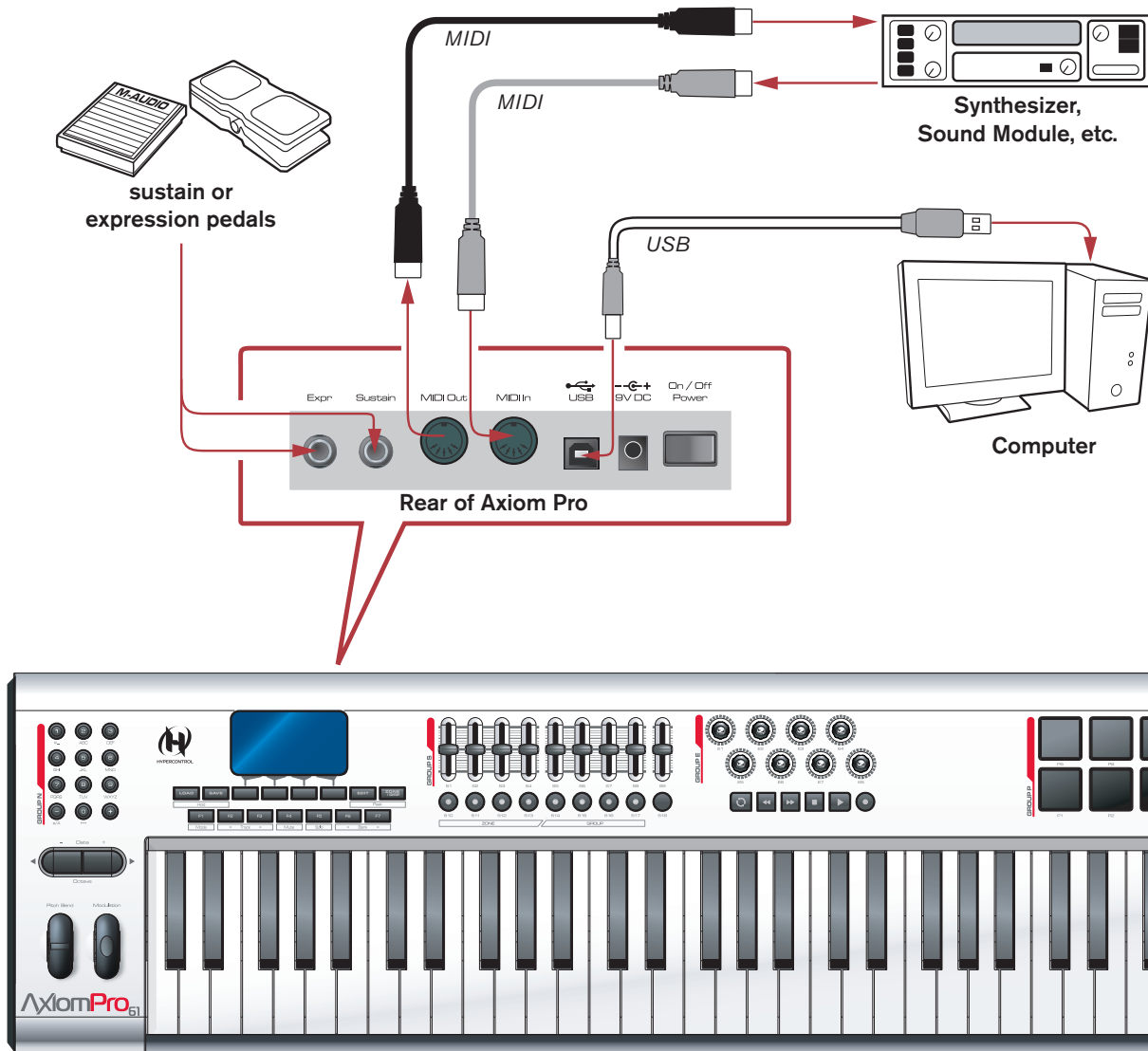
Macintosh		
Axiom Pro MIDI Input Ports	Mac OS X 10.4 MIDI Input Ports	Mac OS X 10.5 MIDI Input Ports
Axiom Pro 61 <sup>1</sup> USB A In	Axiom Pro 61 Port 1	Axiom Pro 61 USB A In
Axiom Pro 61 <sup>1</sup> HyperControl In	Axiom Pro 61 Port 2	Axiom Pro 61 HyperControl In
Axiom Pro 61 <sup>1</sup> MIDI In	Axiom Pro 61 Port 3	Axiom Pro 61 MIDI In
Axiom Pro 61 <sup>1</sup> USB B In	Axiom Pro 61 Port 4	Axiom Pro 61 USB B In
Axiom Pro MIDI Output Ports	Mac OS X MIDI Output Ports	Mac OS X 10.5 MIDI Output Ports
Axiom Pro 61 <sup>1</sup> MIDI Out	Axiom Pro 61 Port 1	Axiom Pro 61 MIDI Out
Axiom Pro 61 <sup>1</sup> HyperControl Out	Axiom Pro 61 Port 2	Axiom Pro 61 HyperControl Out

Windows		
Axiom Pro MIDI Input Ports	Windows XP MIDI Input Ports	Windows Vista MIDI Input Ports
Axiom Pro 61 <sup>1</sup> USB A In	USB Audio Device	Axiom Pro 61
Axiom Pro 61 <sup>1</sup> HyperControl In	USB Audio Device [2]	MIDIIN2 Axiom Pro 61
Axiom Pro 61 <sup>1</sup> MIDI In	USB Audio Device [3]	MIDIIN3 Axiom Pro 61
Axiom Pro 61 <sup>1</sup> USB B In	USB Audio Device [4]	MIDIIN4 Axiom Pro 61
Axiom Pro MIDI Output Ports	Windows XP MIDI Output Ports	Windows Vista MIDI Output Ports
Axiom Pro 61 <sup>1</sup> MIDI Out	USB Audio Device	Axiom Pro 61
Axiom Pro 61 <sup>1</sup> HyperControl Out	USB Audio Device [2]	MIDIOUT2 Axiom Pro 61

<sup>1</sup> These MIDI port names will display the corresponding number of keys, based on the Axiom Pro model you use: 25, 49 or 61.

## Connection Diagram

### Hosted Mode:

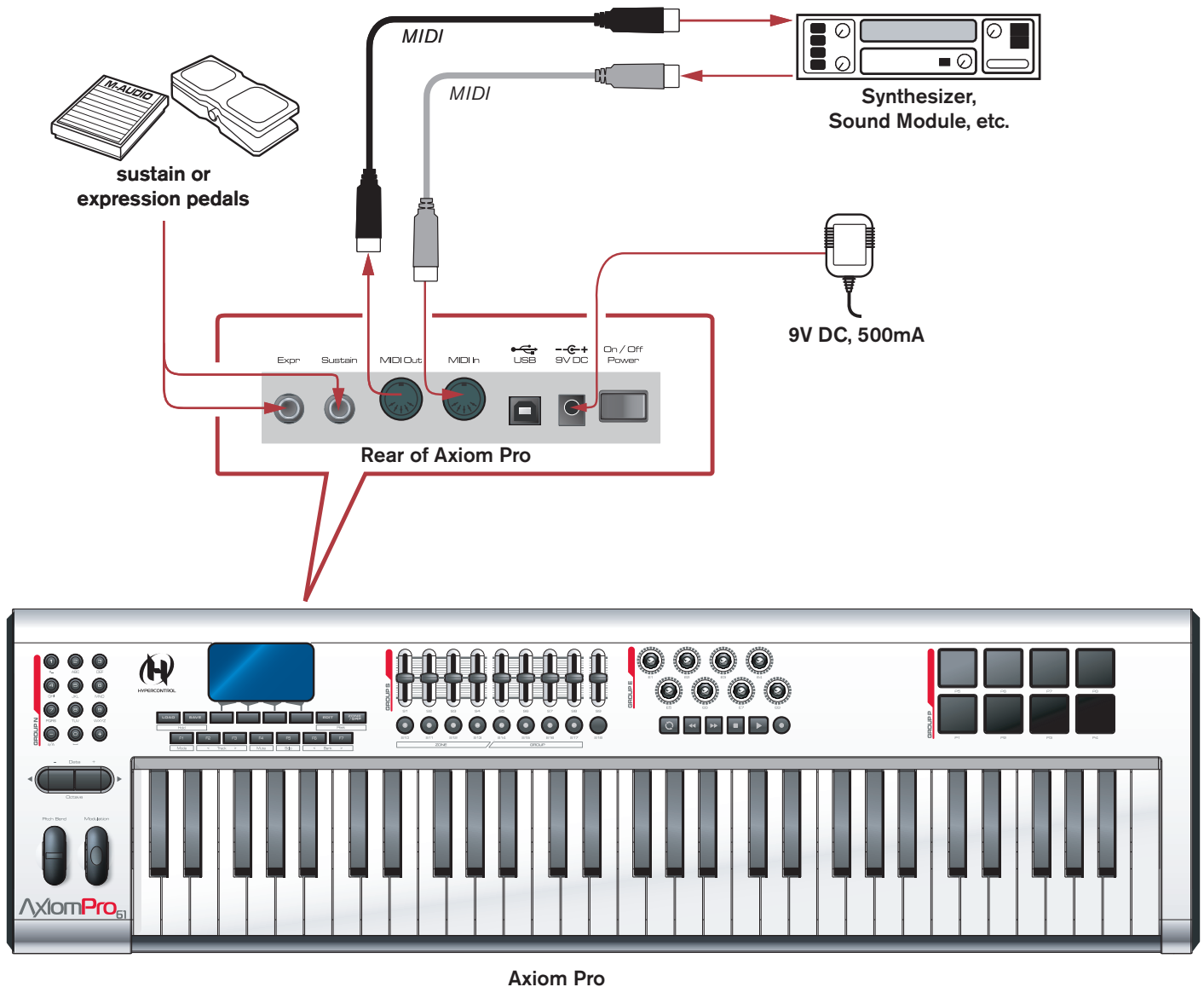


Axiom Pro

### When using Axiom Pro with a computer:

- Connect Axiom Pro to your computer using the supplied USB cable.
- If you own sustain or expression pedals, connect them to the “Sustain” and “Expr” inputs on the back of the keyboard.
- If you would like to connect Axiom Pro to an external MIDI-capable device (such as a synthesizer, sound module, etc.), connect the MIDI output port to the external device’s MIDI input, while connecting the MIDI input port of Axiom Pro to the external device’s MIDI output port.

## Standalone Mode:



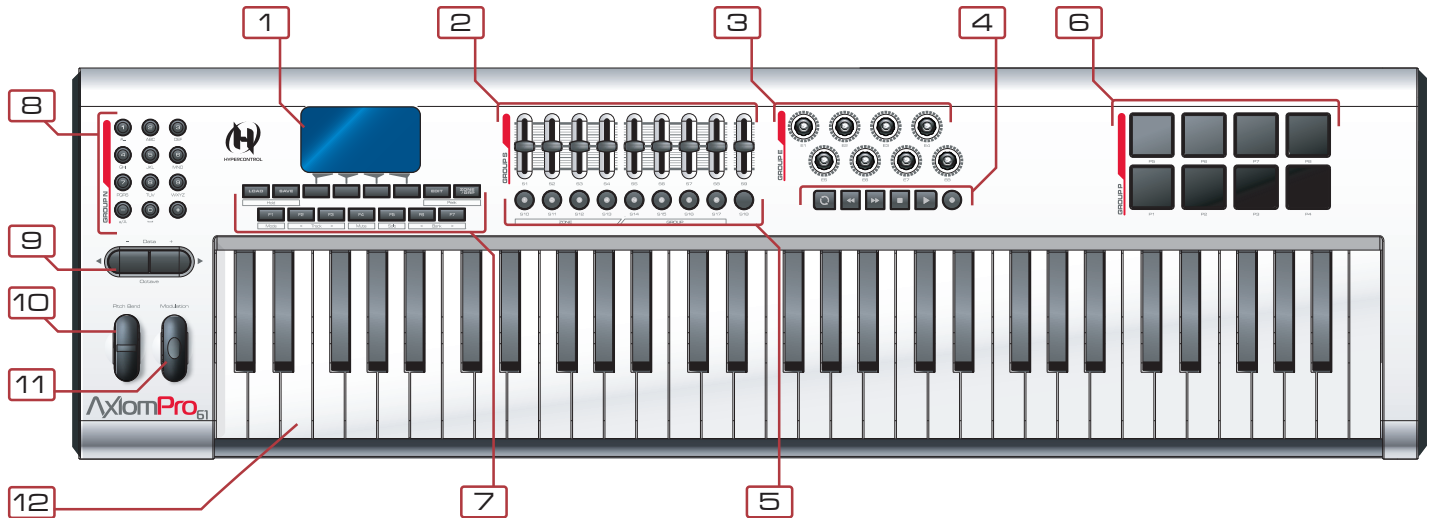
Axiom Pro

### When using Axiom Pro without a computer:

- Connect a 9V DC, 500mA power supply to the Power Socket on the rear panel of the keyboard. This power supply is optional and can be purchased from the M-Audio webstore ([store.m-audio.com](http://store.m-audio.com)). Alternatively, a USB-type power supply can be connected to the USB port instead of the standard 9V power supply.
- If you own sustain or expression pedals, connect them to the "Sustain" and "Expr" inputs on the back of the keyboard.
- Connect the MIDI output port of your Axiom Pro to the MIDI Input port of your sound module, synthesizer, or other MIDI-capable device.

## Controls and Connectors

### Top Panel Overview



1. **LCD Display:** This 128x64 pixel display indicates the current status of the Axiom Pro controller. This display changes depending on the currently selected mode of the controller. The “Edit Mode” section of this User Guide covers the various menus and pages of Axiom Pro in detail.
2. **Sliders:** The Axiom Pro 49/61 controller has nine fully assignable sliders that provide real time control over your MIDI hardware and software through MIDI messages. Each slider is assignable and can be configured to send out many kinds of control data, including MIDI Continuous Controller (CC) messages. See the “Edit Mode > Control” and “Edit Mode > Group (Slider)” sections of this guide to learn how to program these sliders.
3. **Encoders:** Like the Sliders, these knobs can be configured to control your MIDI-capable hardware and software by sending out many kinds of MIDI commands. See the “Edit Mode” > “Control and Edit Mode > Group (Encoder)” sections of this guide to learn how to program these knobs.
4. **Transport Buttons:** These buttons allow you to control your DAW application or hardware sequencer through the use of ASCII keystrokes and MIDI Machine Control (MMC) messages. These buttons are customizable and can be reprogrammed to send out other kinds of commands to suit your particular needs. See the “Edit Mode > Control” section of this manual to learn how to set these buttons.
5. **Slider Buttons:** These illuminated buttons can be configured to control your MIDI hardware and virtual instruments by sending out many kinds of MIDI commands. See the “Edit Mode > Control” and “Edit Mode > Group (Slider)” sections of this guide to learn how to program these buttons.

These buttons can also be programmed to send ASCII keystrokes just like a computer keyboard. These ASCII keystrokes can correspond to your audio application’s “keyboard shortcuts” allowing you to access various features of your software straight from Axiom Pro (i.e., without having to touch your computer keyboard).

6. **Trigger Pads:** These eight velocity sensitive pads transmit MIDI note and velocity information. The pads can be used to drum rhythmic elements of a song or to trigger samples, but can also be used to play notes just like the piano keys of Axiom Pro.

Alternatively, the pads can be configured to be pressure-sensitive. Pressure-sensitive pads will transmit MIDI CC information based on how hard you press down on the pads, just like the aftertouch functionality of the keyboard.

Finally, these pads can also be programmed to send ASCII keystrokes just like a computer keyboard. These ASCII keystrokes can correspond to your audio application's "keyboard shortcuts" allowing you to access various features of your software straight from Axiom Pro (i.e., without having to touch your computer keyboard).

See the "Edit Mode > Control" and "Edit Mode > Group (Pad)" sections of this guide to learn how to program these pads.

✓ **NOTE:** *Each drum pad can be programmed to send either MIDI note data or MIDI CC data at one time; it cannot send both note and CC data at the same time.*

7. **Function Buttons:** These buttons allow you to access various features and menu pages of the keyboard. These buttons are covered in greater detail in the "Function Buttons, F-Keys, and LCD Screen" section of this guide.
8. **Numerical Keypad:** When Axiom Pro is in Performance Mode, the numerical keypad buttons can be used to send MIDI commands and ASCII keystrokes just like a computer keyboard. ASCII keystrokes can correspond to your audio application's "keyboard shortcuts" allowing you to access various features of your software straight from Axiom Pro (i.e., without having to touch your computer keyboard).

When Axiom Pro is in Edit Mode, these buttons allow Axiom Pro 49/61 users to enter numerical values quickly. Axiom Pro 25 users can enter values by using the black piano keys (the keys range from 0-9 as you move from left to right on the keyboard).

See the "Edit Mode" > "Control and Edit Mode > Group (Numerical Keypad)" sections of this guide to learn how to program these pads.

9. **Data buttons:** These buttons can operate in two modes: Octave shift or a user-defined mode, in which you can assign these buttons to control a specific function of your choosing. By default, these buttons are set to control the octave range of the keyboard. The right data button shifts the octave range of the keyboard "upward" while the left buttons shifts the keyboard "downward." Pressing the left and right data buttons simultaneously toggles their operation and activates their user-defined function.

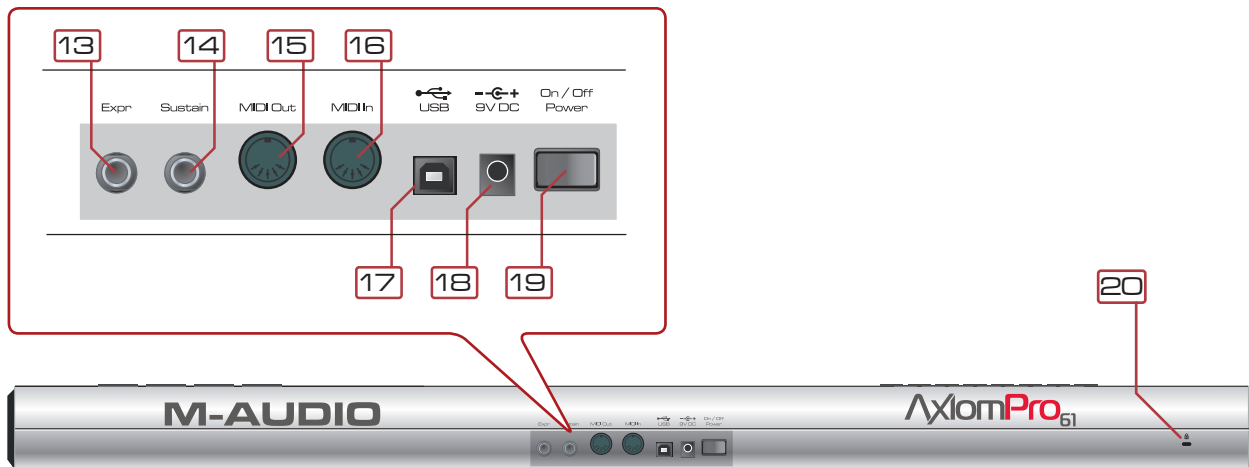
See the "Data" parameter in the "Edit Mode > Global" section of this guide to learn how to program and use these buttons.

10. **Pitch Bend Wheel:** This wheel lets you create expressive changes in your performances by raising and lowering pitch. Rolling the Pitch Bend wheel upward will raise an instrument's pitch whereas rolling it downward will lower the pitch. The upper and lower pitch bend limit is determined by settings on your hardware or software synthesizer, not by the Pitch Bend wheel on the Axiom Pro keyboard itself. Typically, this can be either a half note or an octave up/down. This wheel is spring-mounted and will return to the center detent position when released.
11. **Modulation Wheel:** This wheel is used to add expressivity to your performance by changing the intensity of certain effects. By default, most synthesizers assign this wheel to control vibrato (change in intonation) or tremolo (change in volume) although it is usually possible to reassign the function of this wheel through the instrument's control panel.

The MIDI data range of the Modulation wheel is 0 to 127, with 0 being the note-unchanged position. Like the Pitch Bend wheel, the amount of actual modulation that takes place depends on your instrument's settings, not the Axiom Pro keyboard.

12. **Keyboard:** Axiom Pro 25, 49, and 61 have two-, four-, and five-octave keyboards, respectively. All units feature velocity-sensitive keys with aftertouch.

## Rear Panel Overview



13. **Expression Pedal Input (Expr):** Connect your expression pedal's 1/4" connector to this jack.
14. **Sustain Pedal Input:** Connect your sustain pedal's 1/4" connector to this jack. The Axiom Pro keyboard supports all sustain pedal polarities by auto-sensing the pedal's orientation during startup.
15. **MIDI Out Port:** This standard 5-pin MIDI connector transmits signals to any MIDI compatible device such as a synthesizer, sound module, or drum machine.
16. **MIDI In Port:** This standard 5-pin MIDI connector accepts signals from any MIDI compatible device such as a synthesizer or drum machine.
17. **USB Port:** The USB port handles all communication between Axiom Pro and your computer. Connect this jack to an available USB port on your computer.

✓ **NOTE:** *When using the USB connection, the controller is powered via the host computer and a power adapter is not required. Also note that USB hubs (particularly USB hubs that do not have a dedicated external power supply) may result in inadequate power being sent to Axiom Pro and are not recommended for use with M-Audio products.*

18. **Power Socket:** Connect an optional 9V DC, 500mA power supply here. Note that a power supply is not necessary if Axiom Pro is connected to a computer through a USB connection.
19. **Power Switch:** This switch turns the controller on and off.
20. **Kensington® Lock Connector:** Connect a standard laptop-style locking security cable here to protect your Axiom Pro from theft.



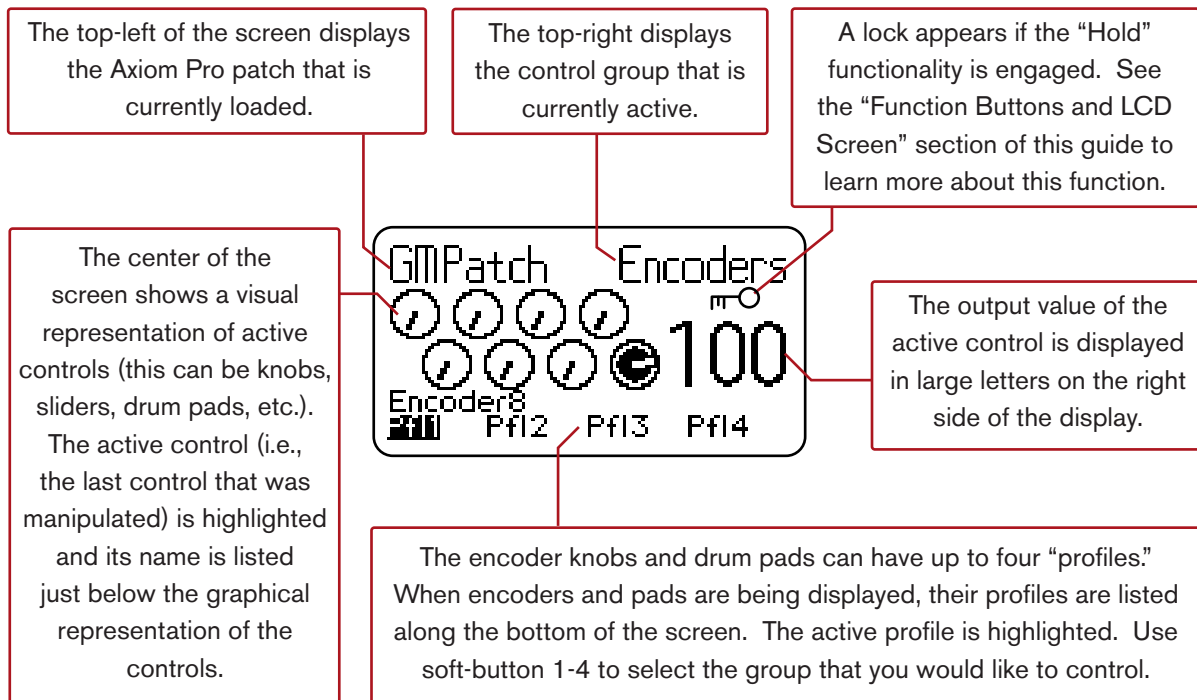
## Using Axiom Pro

Axiom Pro operates in one of two primary modes: Performance Mode and Edit Mode. Most of the time, the keyboard will be in Performance Mode so that you can play your synthesizers and control your audio software. This section covers the operation of the keyboard when it is in Performance Mode. Please see the “Edit Mode” section of this guide to learn how Axiom Pro functions when the keyboard is in Edit mode.

### Overview and Basic Operation:

#### The LCD Screen

When Axiom Pro is in Performance Mode, the LCD screen (shown below) gives you a quick overview of the keyboard. The contents of the screen may change slightly depending on what type of control (i.e., knob, slider, pad, etc.) was used most recently, but the basic layout remains the same.

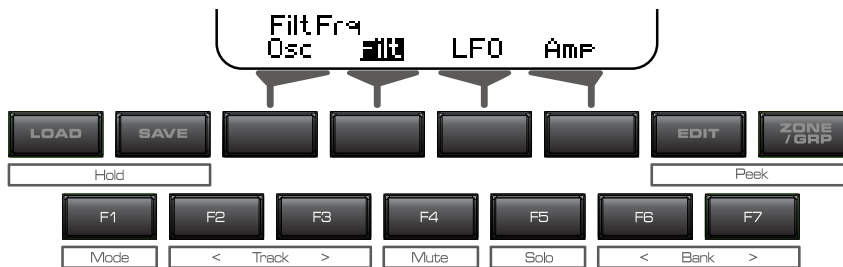


## Function Buttons and Soft Keys

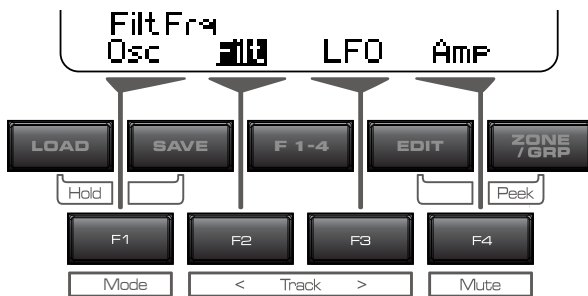
The Function Buttons and Soft Keys of Axiom Pro are located directly below the LCD screen. These buttons allow you to access various important features of the keyboard (such as loading and saving customized patches, accessing Edit mode, etc.) as well as navigating through menus displayed on the LCD screen.

While the 25, 49, and 61-key version of Axiom Pro feature nearly identical functionality, the layout of the Function Buttons and Soft Keys vary slightly between Axiom Pro 49/61 and Axiom Pro 25 due to the space limitations of the smallest keyboard.

### Axiom Pro 49/61:



### Axiom Pro 25:



These buttons function as follows:


- Load** This button brings up a prompt allowing you to load a stored Axiom Pro patch. Loading of patches is covered in detail later in this chapter.
- Save** This button brings up a prompt allowing you to save the current settings of your Axiom Pro. Saving of patches is covered in detail later in this chapter.
- Soft Keys 1-4** These buttons allow you to select various options that are displayed at the bottom of the LCD screen. These options differ from one page to another. For example, certain menus and pages may provide functionality on all four Soft Keys whereas other pages will not have any Soft Key options at all.
- Edit** This button lets you enter and exit Edit Mode. Please see the “Edit Mode” section to learn more about this mode.
- Zone/Grp** This button switches the functionality of the buttons beneath the Sliders (on Axiom Pro 49/61) or Transport Control (on Axiom Pro 25) to allow selection of Performance Groups and Zones. When the button is not illuminated (i.e., not pressed), the associated buttons send out MIDI commands. When the button is pressed, it becomes illuminated, and the associated buttons can then be used to select Zones and Groups. The “Edit Mode > Zones” section covers this subject in greater detail.

**F1-4**

This button is only available on Axiom Pro 25. When the “F1-4” button is pressed, the button becomes illuminated, and the Soft Keys mimic the first four F-Keys of Axiom Pro 49/61.

**Load+Save  
(Hold)**

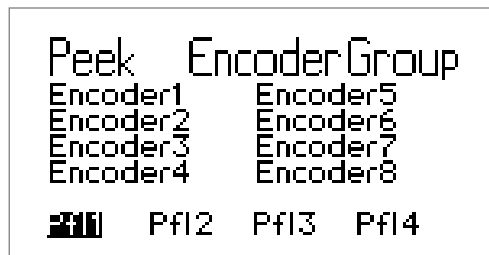
Whenever Axiom Pro is in Performance Mode, the LCD screen displays the status of the last used control and its group. For example, if the screen is displaying the status of the pad group and you turn an encoder knob, the LCD will immediately switch to the encoder group, highlight the encoder that was turned, and display that encoder’s MIDI CC value to the right of the screen.

In certain cases, you may wish to “Hold” the LCD so that the display remains locked on a specific page (for example, the pad group remains on-screen even if an encoder knob is turned). To do this, simultaneously press and hold the Save and Load buttons. A lock icon (  ) will appear directly beneath the group name any time a display is being held.

**Edit+Zone/Grp  
(Peek)**

When you manipulate one of the controls of Axiom Pro (i.e., turn an encoder knob, tap a drum pad, etc.), the keyboard immediately sends out MIDI data generated by that knob, slider, or other control.

In certain scenarios, you may wish to view the names of a group of controls at once without generating any MIDI data. To do this, simultaneously press and hold both the Edit and Zone/Grp buttons to enter “Peek” Mode:



Axiom Pro 49/61 users can press the N, S, E, and P group buttons to view the Numerical Keypad, Slider, Encoder Knob, or Pad groups. Axiom Pro 25 users can press the Play and Record buttons to access the Encoder Knob and Pad groups.

To exit Peek Mode, press both the Edit and Zone/Grp buttons again or move any of the controls.

✓ **TIP:** This page can be “held” by simultaneously pressing the Load and Save buttons. This is useful as it allows you to always see the names of the parameters that are assigned to the Encoder Knobs, even if a knob is turned.

## F-Keys

These are assignable buttons that can be used to control your audio applications and virtual instruments. By default (when the first Axiom Pro patch is active), these buttons are configured to send ASCII keystrokes and Axiom Pro patch change messages but can be re-configured to control many other functions within your audio application or a connected synthesizer. Like many of the other assignable controls on Axiom Pro, these buttons can send either MIDI commands or ASCII commands (i.e., keystrokes like the ones generated by your computer's "QWERTY" keyboard).

The default mapping of these buttons is shown below:

F-Key	Message	F-Key	Message
F1	Enter	F5	Down
F2	Left	F6	Patch -
F3	Right	F7	Patch +
F4	Up		

*Note that Axiom Pro 25 features F-Keys 1-4 only. To access these buttons, users must press the "F-Keys" button in the top row to convert the Soft Keys (i.e., the buttons on the bottom row) into F-Keys.*

## Saving and Loading Axiom Pro Patches

Axiom Pro can store up to 50 patches in memory containing all your controller assignments (i.e., button, knob, drum pad settings, etc.). This allows you to configure Axiom Pro for various scenarios (i.e., studio, live performance, portable studio setup, etc.) and quickly recall these patches when necessary.

### Saving Patches:

To save your current settings:

1. Press the Save button. The button becomes illuminated and the Save page is displayed on the LCD.
2. Turn Encoder knob E5 to select the patch number that you would like to use to store your patch.
  - ✓ **TIP:** Axiom Pro 49/61 users can also use the +/- buttons or enter the patch number using the numerical keypad.
3. By default, all of the Axiom Pro controller groups (i.e., the encoder knobs, drum pads, etc.) will be saved with the patch. If you would like any of the groups to not overwrite the settings of the patch:
  - a. Axiom Pro 49/61 users: Press the "N," "S," "E," and "P" buttons<sup>2</sup> to uncheck the Number, Slider, Encoder, and Pad groups. Axiom Pro 25 users: Press the Record and Play buttons to uncheck the encoder and pad groups, respectively.
  - b. Use Soft Keys 2-3 to uncheck the Keyboard and Transport Control groups, respectively
4. Press Soft Key 4 (Save) to bring up a prompt allowing you to name your patch. The "Editing Name Parameters" section in the "Edit Mode > Control" section of this guide details how to create patch names.
5. Once a name has been entered into the prompt, press Soft Key 4 (Enter) to confirm the entry, save the patch, and return to Performance mode. Press Soft Key 1 (Exit) to cancel the new name and to return to the Save page.

Soft Key 1 (Exit) can be pressed at any time to exit this page without saving a patch.

<sup>2</sup> **NOTE:** Since Axiom Pro 25 does not feature sliders ("S") or a numerical keypad ("N"), these groups will not appear on the Save Page.

**Loading Patches:**

To load a saved patch:

1. Press the Load button. The button becomes illuminated and the Load page is displayed on the LCD.
2. Turn Encoder knob E5 to select the patch that you would like to load.

✓ **TIP:** Axiom Pro 49/61 users can also use the +/- buttons or enter the patch number using the numerical keypad.

3. By default, all of the controller groups of Axiom Pro (i.e., the encoder knobs, drum pads, etc.) will be loaded from the saved patch. If you would like to load a new patch but keep the current settings of a group:
  - a. Axiom Pro 49/61 users: Press the “N,” “S,” “E,” and “P” buttons<sup>3</sup> to uncheck the Number, Slider, Encoder, and Pad groups. Axiom Pro 25 users: Press the Record and Play buttons to uncheck the encoder and pad groups, respectively.
  - b. Use Soft Keys 2-3 to uncheck the Keyboard and Transport Control groups, respectively
4. Press Soft Key 4 (Load) to load the patch and return to Performance mode.

Soft Key 1 (Exit) can be pressed at any time to exit this page without loading a patch.

*When a new Axiom Pro patch is recalled, the Program change and Bank LSB/MSB settings of the newly loaded patch are also recalled. If you would like to load a new Axiom Pro patch without transmitting Program Change and Bank LSB/MSB messages, use Soft-Key 2 to ensure that the keyboard group is not checked.*

<sup>3</sup> **NOTE:** Since Axiom Pro 25 does not feature sliders (“S”) or a numerical keypad (“N”), these groups will not appear on the Load Page.

## Using Axiom Pro with a Computer:

### Software Configuration

When using Axiom Pro in “hosted” mode (i.e., with a computer), you may need to set up your music software to send and receive MIDI data from Axiom Pro. This process varies from application to application, but is usually done through a “Preferences” or “Setup” menu. Refer to your software’s documentation to learn how to do this.

You may also need to configure the application’s MIDI tracks and/or HyperControl functionality to send and receive signals from the correct input and output ports of Axiom Pro. The controller will appear as four input ports and two output ports:

#### **MIDI Input sources (as seen in your music software)**

- **Axiom Pro 61<sup>4</sup> USB A In**

The various controls (keys, pads, buttons, knobs, etc.) of Axiom Pro generate MIDI data on this port by default, and selecting this port within your music software will allow you to record this data. In most cases, this port should be selected to record your performances.

- **Axiom Pro 61<sup>4</sup> HyperControl In**

This port is reserved for HyperControl input data only. To learn more about HyperControl, please refer to the individual HyperControl User Guide that was created for your specific audio application (these guides can be found on the M-Audio website.)

- **Axiom Pro 61<sup>4</sup> MIDI In**

This corresponds to the hardware MIDI Input port on the back of the keyboard.

- **Axiom Pro 61<sup>4</sup> USB B In**

This corresponds to USB MIDI port B within the Axiom Pro keyboard. If you have configured any of the Axiom Pro controls to transmit data on this port, you will need to select “Axiom Pro 61 USB B In” within your music software to record the data generated by these controls. Please see the Axiom Pro User Guide to learn how this port can be selected and when it can be used.

#### **MIDI Output destinations (as seen in your music software)**

- **Axiom Pro 61<sup>4</sup> MIDI Out**

This corresponds to the hardware MIDI Output port on the back of the keyboard.

- **Axiom Pro 61<sup>4</sup> HyperControl Out**

This port is reserved for HyperControl output data only. To learn more about HyperControl, please refer to the individual HyperControl User Guide that was created for your specific audio application (these guides can be found on the M-Audio website.)

<sup>4</sup> The 25 and 49-note versions of Axiom Pro will appear as “Axiom Pro 25” and “Axiom Pro 49” respectively.

## HyperControl Mode

### **About HyperControl Mode**

HyperControl Mode is a two-way communication protocol that allows your Axiom Pro controls (i.e., knobs, buttons, sliders, etc.) to automatically map and remain synchronized with all supported audio applications (including many popular programs such as Pro Tools, Reason, Cubase, and Logic Pro). This means that the controls of your Axiom Pro are automatically assigned within the audio application (or specific virtual instrument within the application) and the buttons, knobs, and other controls of Axiom Pro can be used to control the software without any further configuration. For example, once HyperControl is activated within Pro Tools, the transport controls, knobs, sliders, and other Axiom Pro controls automatically map to the selected virtual instrument while the Axiom Pro LCD display always shows what track/instrument is selected along with the current position of the knobs or sliders.

Furthermore, HyperControl mode allows your Axiom Pro hardware and recording software to remain synchronized at all times. For example, if a knob is turned on Axiom Pro, its corresponding on-screen knob will update as well. Alternatively, if a knob is turned on-screen (using the mouse), the corresponding knob position of Axiom Pro (as shown on the LCD display) is updated as well. If a new virtual instrument is selected, the name and various controller positions automatically update on the Axiom Pro display.

In short, HyperControl mode allows Axiom Pro to be tightly integrated with your audio software and makes the keyboard controller feel like a “dedicated” control surface that was custom built for that software. It saves you from the tedious task of having to manually assign MIDI controllers to software functions and from having to save/load stored Axiom Pro patches each time you switch instruments. This lets you work more quickly and creatively.

✓ **TIP:** Most applications that do not directly support HyperControl technology can still be controlled by Axiom Pro through a “MIDI Learn” function or by manual assignment of MIDI CC numbers. Refer to your application’s documentation to see if you can use these (or other) methods to control your software through MIDI.

### **HyperControl Installation and Usage**

Since HyperControl integration varies from one application to another, the installation and usage of HyperControl Mode is covered in separate User Guides for each supported application. Please see the Axiom Pro support pages on [www.m-audio.com/manuals](http://www.m-audio.com/manuals) to learn more about how to use HyperControl with your specific application.

## Edit Mode

### ! IMPORTANT:

If you are using Axiom Pro in HyperControl Mode, nearly all of the configuration that would normally take place using Edit Mode (described in this chapter) happens automatically. However, if your application does not support HyperControl or if you are using Axiom Pro to control a hardware MIDI device, this section will cover all of the inner workings of the controller.

Axiom Pro has two primary modes of operation: Edit Mode and Performance Mode. Most of the time, the controller stays in Performance Mode so you can use the keyboard to control your MIDI compatible hardware and software; Edit Mode is only used when you need to configure various parameters such as button, knob, or pad assignments or to change keyboard-specific parameters such as the global MIDI output channel or the velocity response curve of the keys and pads.

Pressing the Edit button illuminates the button and places the Axiom Pro keyboard into Edit Mode. Pressing the button again exits Edit mode and the Edit button will no longer be illuminated.

Edit Mode contains a main menu and six sub-menus. This chapter explains each of these six pages in detail.

- ✓ **TIP:** This section of the User Guide is written as a “reference” manual and describes every parameter and setting on a menu-by-menu basis. This is useful if you are on a specific page within Edit Mode and want to know more about an individual parameter or setting. However, if you would like to learn how to accomplish a specific task (e.g., “How do I change the MIDI assignment of an encoder knob?” or “How do I change the global MIDI channel?”) please see the “How To:” section earlier in this User Guide. The “How To:” section presents tasks in a logical fashion and provides shortcuts to the page (and parameter within that page) to help you quickly accomplish your tasks.

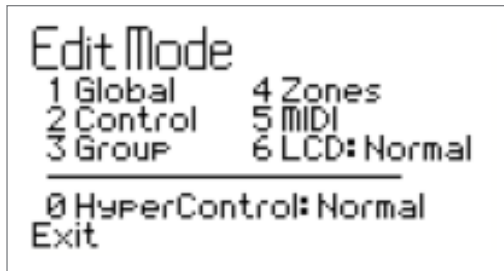
**A note on Edit Mode navigation:** There are a number of ways to select and modify the parameters contained within Edit Mode:

- To select a parameter for editing:
  - Press Soft Keys 2 or 3
  - OR
  - Turn encoder knob E1
- To change a parameter’s setting:
  - Turn encoder knob E5
  - OR
  - Use the “+” and “-” buttons on the numerical keypad (Axiom Pro 49/61 only)

Certain pages and parameters will require you to use additional encoder knobs or other controls. These pages and parameters will be discussed individually throughout the rest of this section.



## Edit Mode (Main Menu)



*This top-level menu appears when Axiom Pro enters Edit mode.*

To navigate this menu, use the numerical keypad on Axiom Pro 49/61 or the black keys of Axiom Pro 25 (each black key on Axiom 25 corresponds to the number that is silk-screened above the note).

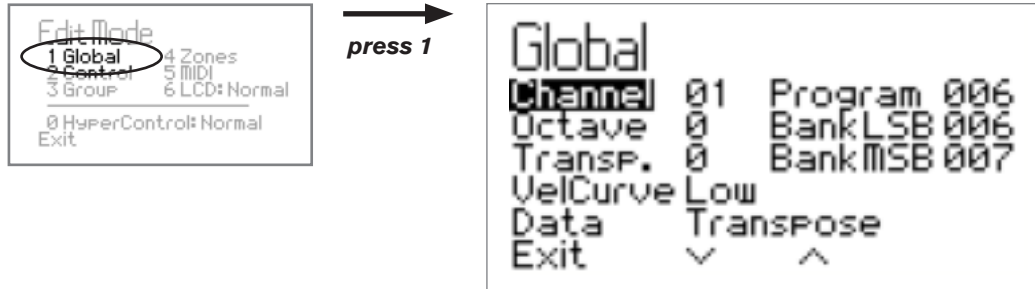
- **Options 1-5 (Global, Control, Group, Zones, MIDI):** These items are sub-menus pertaining to specific features of Axiom Pro. Each sub-menu is described in detail in the following pages.
- **Option 6:** This “LCD” option allows you to invert the colors of the display as this may increase visibility under certain lighting conditions.
- **Option 0:** The HyperControl Mode parameter can be toggled between “Normal” and “Transport.” When this parameter is left in the default “Normal” setting, HyperControl functionality spans across most controls on the keyboard (i.e. knobs, F-Keys, sliders, etc.) When the parameter is set to “Transport,” HyperControl functionality only applies to the transport controls while the remainder of the controls (knobs, F-Keys, sliders, etc.) function like a typical MIDI controller. This is useful for users who wish to create their own Axiom Pro patches, but still require transport controls that automatically map to the software within your computer.

✓ **NOTE:** *If HyperControl is active and you would like to do any of the following, set this parameter to “Transport”:*

- *Control external MIDI hardware via a selected MIDI track in your DAW*
- *Create and use customized controller assignments for your software or plug-in*
- *Run additional audio applications alongside your “main” HyperControl sequencing application and control both from Axiom Pro*

## Edit Mode > Global

The Edit Mode > Global page contains common parameters that affect all areas of Axiom Pro.



**Parameter:** Channel  
**Value Range:** 1-16

This parameter sets the global MIDI output channel of Axiom Pro.

If the “Channel” parameter on any other page of Edit mode is set to “Global,” that parameter will be set to the value selected here.

**Parameter:** Octave  
**Value Range:** -4 through +5 (Axiom Pro 25)  
 -3 through +4 (Axiom Pro 49)  
 -3 through +3 (Axiom Pro 61)

This parameter shifts the octave range of the keyboard either up or down. Setting this parameter to “0” leaves the keyboard in its default (unaltered) key range.

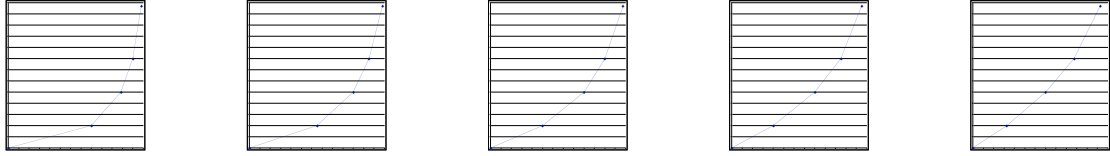

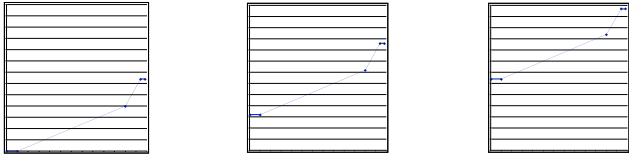

**Parameter:** Transp.  
**Value Range:** -12 through +12

This parameter simultaneously shifts all keys up to 12 semitones in either direction. Setting this parameter to “0” leaves the keyboard in its default “centered” position.

**Parameter:** VelCurve  
**Value Range:** Low, Low-Normal, Normal, Normal-High, High, Low Range, Mid Range, Hi Range, Fixed 64, Fixed 100, Fixed 127, Fixed Control

This parameter adjusts the sensitivity of the Axiom Pro keys by changing the keyboard's velocity response curve. This allows keyboard players to fine-tune the “feel” of Axiom Pro to suit their playing style.


The velocity curve settings break down into four categories as described in the table below. Appendix B includes detailed graphs of each velocity curve:

Velocity Settings (Keys)	Description <sup>5</sup>
<p>Low</p> <p>Low-Normal</p> <p>Normal</p> <p>Normal-High</p> <p>High</p>	<p>These options gradually vary the sensitivity of the keys from “Low” to “High.” “Low” is the least sensitive setting (i.e., you have to strike the keys with more force to achieve the highest MIDI velocities). In contrast, “High” is the most sensitive setting (i.e., you don’t have to strike the keys with as much force to achieve the highest MIDI velocities). “Normal” is the default setting of Axiom Pro.</p> <p>These options allow you to access the entire dynamic range of MIDI velocities (i.e. from 0 through 127).</p>  <p style="text-align: center;"> <span>Low</span>      <span>Low-Normal</span>      <span>Normal</span>      <span>Normal-High</span>      <span>High</span> </p>
<p>Linear</p>	<p>This “curve” setting results in a 1:1 (or linear) correlation between strike force and MIDI velocity.</p> <p>This setting should be used when using a virtual instrument or other music software that expects a linear input and scales velocity information internally.</p>  <p style="text-align: center;"><i>Linear</i></p>
<p>Low Range</p> <p>Mid Range</p> <p>Hi Range</p>	<p>Unlike the settings listed above, these “Range” settings limit the MIDI velocity range of the keyboard at the lowest and highest velocities. This has the effect of compressing the MIDI velocities of your performances and can “even out” the dynamics of a MIDI performance. This is a useful feature for players requiring more control over their velocities.</p> <p>The “Low Range” settings lets you access velocities 0-64 and average playing will yield values of 32-40. The “Mid Range” setting lets you access velocities 32-96 and average playing will yield values of 64-72. The “High Range” setting lets you access velocities 64-127 and average playing will yield values of 96-104.</p>  <p style="text-align: center;"> <span>Low Range</span>      <span>Mid Range</span>      <span>Hi Range</span> </p>
<p>Fixed 64</p> <p>Fixed 100</p> <p>Fixed 127</p>	<p>When “Fixed 64,” “Fixed 100,” and “Fixed 127” are selected, Axiom Pro keys always generate MIDI velocities of 64, 100, or 127, regardless of how much force is used to strike the keys.</p>  <p style="text-align: center;"> <span>Fixed 64</span>      <span>Fixed 100</span>      <span>Fixed 127</span> </p>
<p>Fixed Control</p>	<p>The “Fixed Control” parameter lets you use a knob, slider, or other control of Axiom Pro to select the MIDI velocity generated the keys.</p> <p>To use this setting, you must first assign the “Type” parameter of a knob, slider, or other control to “Kybd. Velocity.” To do this, see the “Type” parameter</p>

<sup>5</sup> All of the graphs in this table feature strike force along the horizontal axis (minimum on the left, maximum on the right) and MIDI output velocity on the vertical axis (minimum on the bottom, maximum on the top). Appendix C includes more detailed graphs of each velocity curve.


✓ **Advanced MIDI users:**

**Release Velocity**

When the *VelCurve* parameter is selected, *Soft-Key 4* displays a note-off logo (  -Off ) that can be checked and unchecked. When this option is unchecked, each time you release an *Axiom Pro* note, a basic MIDI “note off” command is transmitted. However, if this option is checked, each time you release a note, *Axiom Pro* transmits a note off message containing release velocity information (i.e., the speed at which you release the note). Note that not all applications or synthesizers make use of “release velocity” data. If the application or synth does not support this data, leave this box unchecked.

**Parameter:** Data

**Value Range:** Octave, Transpose, Channel, Program, Bank LSB, Bank MSB, Load Patch

The Data Buttons  can perform two functions: Octave shift and a user-defined mode. The functionality of the buttons is toggled by pressing both buttons at the same time. This parameter determines the user-defined functionality of the Data Buttons and can be set to the following:

- **Octave** Data buttons shift the keyboard up or down in one octave increments. The right button shifts the keyboard upward (i.e., note C3 becomes C4) while the left button shifts the keyboard downward. Note that octave shift is already the primary mode of operation for the Data Buttons. If you set the Data parameter to “Octave”, both the primary and user-defined operation of the Data Buttons will be octave shift. This means the Data Buttons cannot be used for a secondary function. Some users may find this to be useful since it will prevent them from accidentally switching to another mode during a performance.
- **Transpose** Data buttons transpose the keyboard up or down in semi-tone steps. The right button shifts the keyboard upward (i.e., note C3 becomes C#3) while the left button shifts the keyboard downward.
- **Channel** Data buttons select the global MIDI output channel of the keyboard. The right button increases the current selection by one whereas the left button decreases the selection.
- **Program** Data buttons send program change messages. The right button increments the current program number by one (i.e., if program 32 is currently selected, and the right data button is pressed, program change number 33 will be transmitted) while the left button decrements the current program number by one.
- **Bank LSB** Data buttons send Bank LSB messages. The right button increments the current Bank LSB value by one whereas the left button decreases the current value.
- **Bank MSB** Data buttons send Bank MSB messages. The right button increments the current Bank MSB value by one whereas the left button decreases the current value.

✓ **NOTE:** *Bank LSB and MSB messages must be followed by a “Program Change” message for them to take effect.*

- **Load Patch** Data buttons can be used to load patches stored within *Axiom Pro*. *Axiom Pro* can store up to 50 patches in its internal memory containing button, pad, knob, zone assignments as well as other parameters relating to the controller’s operation. The right data button increments your current patch by one whereas the left button decrements the current value.

**Parameter:** Program  
**Value Range:** 0-127

This parameter sends Program Change MIDI messages on your selected Global channel and can be used to select the different sounds contained within your sound module (or virtual instrument). For example, if you set this parameter to "20," your connected software or sound module will immediately load program number 20.

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**Parameter:** BankLSB  
**Value Range:** 0-127

This parameter sends Bank LSB messages on your selected Global channel. In other words, a Bank LSB message is transmitted as soon as you set this parameter to the desired number. Note that Bank LSB messages will not have any effect until a Program Change message is sent.

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**Parameter:** BankMSB  
**Value Range:** 0 - 127

This parameter sends Bank MSB messages on your selected Global channel. In other words, a Bank MSB message is transmitted as soon as you set this parameter to the desired number. Note that Bank MSB messages will not have any effect until a Program Change message is sent.

✓ **Why are BankLSB/BankMSB messages needed?**

The MIDI protocol generally uses 7-bit messages to exchange data, giving parameters a numerical data range from 0 to 127. This explains why MIDI CC values usually range from 0-127, or why many early MIDI modules have 128 sounds (i.e., sounds 1 through 127, plus sound number "0").

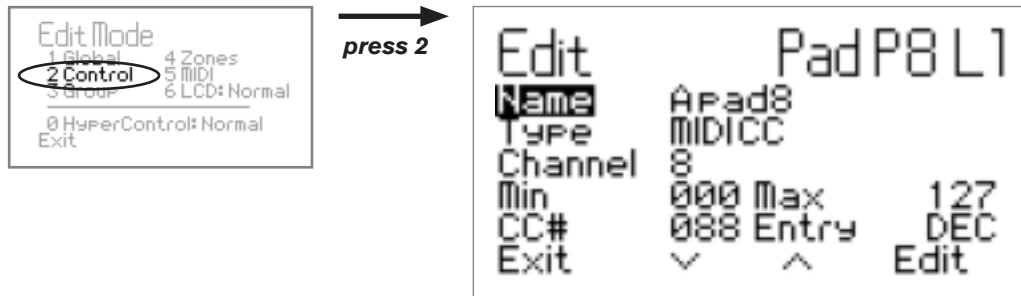
Nowadays, many MIDI devices contain hundreds (or even thousands) of sounds and a simple 7-bit "Program Change" message cannot address any instruments beyond number 127. If this is the case, the sounds are usually separated into "banks" of 128 instruments that are accessed using "Bank LSB" and "Bank MSB" messages.

Axiom Pro can generate Program Change as well as Bank LSB/MSB messages. However, your device must be capable of receiving and interpreting these messages for bank changes to take place. Please consult the user manual of your MIDI device to see how the bank change numbers relate to the sounds on your device.

✓ **NOTE:** Program change commands, as well as Bank LSB/MSB messages are sent to all active keyboard zones. For example, if two zones are selected and set to transmit on different channels, any Program or Bank LSB/MSB messages you generate will be sent on both channels. This means you may inadvertently override one zone's current program or Bank LSB/MSB setting when trying to change the other zone's program.

If you would like a zone not to receive a Bank LSB message, disable that zone before sending the message (disabling of zones is described in the "Edit Mode > Zones" section of this guide).

## Edit Mode > Control



The Edit Mode > Control page contains parameters relating to the operation of a specific control on Axiom Pro (i.e., an individual pad, encoder knob, button, etc.).

The Control page is automatically set to modify the last item that was manipulated before entering Edit mode. For example, if you adjusted the modulation wheel prior to entering the Edit Mode > Control page, the modulation wheel will be selected for editing.

Alternatively, different groups of controllers (pads, encoders, etc.) can be selected by turning encoder knob E2. Encoder knob E3 can then be used to select the specific control (i.e., the individual pad, encoder, etc.) that you would like to modify. Finally, the Axiom Pro controls (encoder knobs, pads, etc.) that can be programmed in “profiles” can be accessed by using encoder knob E4.

**Parameter:** Name

**Value Range:** (varies)

This parameter lets you name the control that is currently selected for editing.

### Editing Name Parameters:

To edit the name parameter found on any of the Edit Mode pages:

- Select the Name parameter and Press Soft Key 4 (Enter)
- Use the lower row of Encoder Knobs to select letter, numbers, and characters:
  - Turn Encoder knob E5 to select capital letters
  - Turn Encoder knob E6 to select lower-case letters
  - Turn Encoder knob E7 to select numbers
  - Turn Encoder knob E8 to select additional characters (such as spaces, parentheses, exclamation points, etc.)
- “Use Encoder knob E1 or Soft Keys 2 and 3 to move the editing prompt left and right

Once you have finished editing a Name parameter, press Soft Key 4 (Enter) to confirm your change. To cancel any changes you have made, press Soft Key 1 (Exit).

**Parameter:** Type

**Value Range:** (varies; see table below)

This parameter sets the type of message that will be generated by the selected controller. Your selection for this parameter determines what sub-parameters are displayed on the lower half of the page. For example, certain Type selections (such as "MIDI CC") will have "Min" and "Max" sub-parameters displayed (as shown in the picture above) whereas other Type selections (such as "Feedback") will result in the Min parameter being changed to "Level" and the Max parameter being removed from the page (since it is not required). The table below lists every "Type" parameter that is available on Axiom Pro as well as what sub-parameters are available for each type.

✓ **NOTE:** *The description column in the table below only provides additional information for non-standard "Type" parameters along with their associated sub-parameters (such as "Note OnOff Toggle" or "Rel. Bin Offset"). Standardized MIDI parameters (such as Continuous Controllers "CC" or "Master Volume") are not described in this guide. Detailed information about standard parameters is beyond the scope of this guide and is commonly available on the Internet as well as in books about the MIDI protocol. To learn more about standard parameters, please refer to one of these books or websites.*

Type	Control Type				MIDI Ch.	Param. A	Param B	Param C	Param D	Description*
OFF	■ ■ ■ ■	⋮	⊗	⊕	-	-	-	-	-	Selecting this parameter disables its associated controller.
MIDI CC	■ ■ ■ ■		⊗	⊕	1-16, Zone 1-4, Group, Global	Min (0-127)	Max (0-127)	CC# (0-127)	Entry (DEC, HEX)	
MIDI CC		⋮			1-16, Zone 1-4, Group, Global	Release (0-127)	Press (0-127)	CC# (0-127)	Entry (DEC, HEX)	
Pitch Bend Range	■ ■ ■ ■		⊗	⊕	1-16, Zone 1-4, Group, Global	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Pitch Bend Range		⋮			1-16, Zone 1-4, Group, Global	Value (0-127)	-	-	Entry (DEC, HEX)	
Chan Fine Tune	■ ■ ■ ■		⊗	⊕	1-16, Zone 1-4, Group, Global	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Chan Fine Tune		⋮			1-16, Zone 1-4, Group, Global	Value (0-127)	-	-	Entry (DEC, HEX)	
Chan Coarse Tune	■ ■ ■ ■		⊗	⊕	1-16, Zone 1-4, Group, Global	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Chan Coarse Tune		⋮			1-16, Zone 1-4, Group, Global	Value (0-127)	-	-	Entry (DEC, HEX)	
Channel Pressure	■ ■ ■ ■		⊗	⊕	1-16, Zone 1-4, Group, Global	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Channel Pressure		⋮			1-16, Zone 1-4, Group, Global	Value (0-127)	-	-	Entry (DEC, HEX)	
RPN coarse	■ ■ ■ ■		⊗	⊕	1-16, Zone 1-4, Group, Global	RPN LSB (0-127)	RPN MSB (0-127)	-	Entry (DEC, HEX)	
RPN coarse		⋮			1-16, Zone 1-4, Group, Global	RPN LSB (0-127)	RPN MSB (0-127)	Value (0-127)	Entry (DEC, HEX)	
RPN fine	■ ■ ■ ■		⊗	⊕	1-16, Zone 1-4, Group, Global	RPN LSB (0-127)	RPN MSB (0-127)	-	Entry (DEC, HEX)	
RPN fine		⋮			1-16, Zone 1-4, Group, Global	RPN LSB (0-127)	RPN MSB (0-127)	Value (0-127)	Entry (DEC, HEX)	
NRPN coarse	■ ■ ■ ■		⊗	⊕	1-16, Zone 1-4, Group, Global	NRPN LSB (0-127)	NRPN MSB (0-127)	-	Entry (DEC, HEX)	
NRPN coarse		⋮			1-16, Zone 1-4, Group, Global	NRPN LSB (0-127)	NRPN MSB (0-127)	Value (0-127)	Entry (DEC, HEX)	
NRPN fine	■ ■ ■ ■		⊗	⊕	1-16, Zone 1-4, Group, Global	NRPN LSB (0-127)	NRPN MSB (0-127)	-	Entry (DEC, HEX)	
NRPN fine		⋮			1-16, Zone 1-4, Group, Global	NRPN LSB (0-127)	NRPN MSB (0-127)	Value (0-127)	Entry (DEC, HEX)	
Master Volume	■ ■ ■ ■		⊗	⊕	-	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Master Volume		⋮			-	LSB (0-127)	MSB (0-127)	-	Entry (DEC, HEX)	

Control Type Key	
■ ■ ■ ■ = Pads Group	⊗ = Encoders Group
⋮ = Numerical Keypad Group, Sustain Pedal, Function Keys, Transport Controls	⊕ = Slider Group, Pitch Bend, Keyboard Aftertouch, Modulation Wheel, Expression Input

\* **NOTE:** This column only describes the “non-standard” parameters and their associated sub-parameters within Axiom Pro (such as “Note OnOff Toggle” or “Rel. Bin Offset”). Standardized MIDI parameters (such as Continuous Controllers “CC” or “Master Volume”) are not described in this guide. If you require more information, please note that standard MIDI parameters are well documented on the Internet as well as in a number books about the MIDI protocol. To learn more about these standard parameters, please refer to one of these books or websites.



Type	Control Type				MIDI Ch.	Param. A	Param B	Param C	Param D	Description*
Master Pan	■ ■ ■ ■		⊗	↑	-	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Master Pan		■ ■ ■			-	LSB (0-127)	MSB (0-127)	-	Entry (DEC, HEX)	
Coarse Tune	■ ■ ■ ■		⊗	↑	-	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Coarse Tune		■ ■ ■			-	LSB (0-127)	MSB (0-127)	-	Entry (DEC, HEX)	
Fine Tune	■ ■ ■ ■		⊗	↑	-	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Fine Tune		■ ■ ■			-	LSB (0-127)	MSB (0-127)	-	Entry (DEC, HEX)	
Chorus Mod rate	■ ■ ■ ■	■ ■ ■	⊗	↑	-	Value (0-127)	-	-	Entry (DEC, HEX)	
Chorus Mod Depth	■ ■ ■ ■	■ ■ ■	⊗	↑	-	Value (0-127)	-	-	Entry (DEC, HEX)	
Feedback	■ ■ ■ ■	■ ■ ■	⊗	↑	-	Level (0-127)	-	-	Entry (DEC, HEX)	
Send to Reverb	■ ■ ■ ■	■ ■ ■	⊗	↑	-	Level (0-127)	-	-	Entry (DEC, HEX)	
Pitch Bend	■ ■ ■ ■		⊗	↑	1-16, Zone 1-4, Group, Global	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Pitch Bend		■ ■ ■			1-16, Zone 1-4, Group, Global	LSB (0-127)	MSB (0-127)	-	Entry (DEC, HEX)	
Kybd. Velocity	■ ■ ■ ■		⊗	↑	-	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	This parameter functions similarly to the fixed velocity setting found on the Edit Mode > Global page. However, this parameter lets your selected control determine the velocity of the keys in real-time (e.g. during a performance).
Kybd. Velocity		■ ■ ■			-	Velocity (0-127)	-	-	Entry (DEC, HEX)	This parameter functions similarly to the fixed velocity setting found on the Edit Mode > Global page. However, this parameter lets your selected control determine the velocity of the keys in real-time (e.g. during a performance).
Pad Velocity	■ ■ ■ ■		⊗	↑	-	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	This parameter functions similarly to the fixed velocity setting found on the Edit Mode > Group (Pads) page. However, this parameter lets your selected control determine the velocity of the drum pads in real-time (e.g. during a performance).
Pad Velocity		■ ■ ■			-	Velocity (0-127)	-	-	Entry (DEC, HEX)	This parameter functions similarly to the fixed velocity setting found on the Edit Mode > Group (Pads) page. However, this parameter lets your selected control determine the velocity of the drum pads in real-time (e.g. during a performance).



Control Type Key	
■ ■ ■ ■ = Pads Group	⊗ = Encoders Group
■ ■ ■ = Numerical Keypad Group, Sustain Pedal, Function Keys, Transport Controls	↑ = Slider Group, Pitch Bend, Keyboard Aftertouch, Modulation Wheel, Expression Input









\* **NOTE:** This column only describes the “non-standard” parameters and their associated sub-parameters within Axiom Pro (such as “Note OnOff Toggle” or “Rel. Bin Offset”). Standardized MIDI parameters (such as Continuous Controllers “CC” or “Master Volume”) are not described in this guide. If you require more information, please note that standard MIDI parameters are well documented on the Internet as well as in a number books about the MIDI protocol. To learn more about these standard parameters, please refer to one of these books or websites.





Type	Control Type	MIDI Ch.	Param. A	Param B	Param C	Param D	Description*
Global Param Set		-	Octave	-	Value (-4 through +4)	-	This parameter lets you use a button or drum pad to quickly change the Octave shift setting on the Edit Mode > Global page to a specific value.
			Transpose		Value (-12 through +12)	-	This parameter lets you use a button or drum pad to quickly change the Transpose setting on the Edit Mode > Global page to a specific value.
			Channel		Value (1-16)	-	This parameter lets you use a button or drum pad to quickly change the Global MIDI Channel setting on the Edit Mode > Global page to a specific value.
			Program		Value (0-127)	Entry (DEC, HEX)	This parameter lets you use a button or drum pad to quickly change the Program setting on the Edit Mode > Global page and transmit that Program change message.
			Bank LSB		Value (0-127)	Entry (DEC, HEX)	This parameter lets you use a button or drum pad to quickly change the Bank LSB setting on the Edit Mode > Global page and transmit that Bank LSB change message.
			Bank MSB		Value (0-127)	Entry (DEC, HEX)	This parameter lets you use a button or drum pad to quickly change the Bank MSB setting on the Edit Mode > Global page and transmit that Bank MSB change message.
			Patch		Value (0-50)	-	This parameter lets you use a button or drum pad to quickly change the Patch setting on the Edit Mode > Global page and load that Axiom Pro patch.
			Vel. Curve		Value (Low, Low-Normal, Normal, Normal-High, High, Linear, Low Range, Mid Range, High Range, Fixed 64, Fixed 100, Fixed 127, Fixed Control)	-	This parameter lets you use a button or drum pad to quickly change the Vel Curve (Keys) setting on the Edit Mode > Global page.
Voice recall		1-16, Zone 1-4, Group, Global	Bank LSB (0-127)	Bank MSB (0-127)	Program (0-127)	Entry (DEC, HEX)	This parameter lets you use a button or drum pad to recall a specific preset within your virtual instrument or sound module
Toggle MIDI CC		1-16, Zone 1-4, Group, Global	Press 2 (0-127)	Press 1 (0-127)	CC# (0-127)	Entry (DEC, HEX)	This parameter lets your selected button or drum pad toggle between two CC values. For example, if the "MIDI CC" parameter is assigned to "64" (Sustain), and the Press 1 is assigned to "127" whereas the "Press 2" parameter is set to "0", your button or drum pad can be used to simulate the functionality of a sustain pedal. One press will engage, while pressing the button again will disengage MIDI sustain.
MIDI Note		1-16, Zone 1-4, Group, Global	Off Vel (0-127)	On Vel (0-127)	Note (C-2 through G8)	Entry (DEC, HEX)	This parameter lets your selected button or drum pad generate a MIDI note. The "On Vel" number determines the velocity of the note whereas the "Off Vel" determines the release velocity when the button or drum pad is released. In many cases, the "Off Vel" parameter should be set to "0" to generate a regular "note off" command.
Note OnOff toggle		1-16, Zone 1-4, Group, Global	Off Vel (0-127)	On Vel (0-127)	Note (C-2 through G8)	Entry (DEC, HEX)	This parameter lets your selected button or drum pad toggle between two MIDI note values. For example, if the "Note" parameter is set to "C-1," while "Press 1" is set to "127" and "Press 2" is set to "0", you can tap the pad once to trigger the note and tap it a second time to stop the note.
MMC Command		-	Type (0-127)	-	-	Entry (DEC, HEX)	This parameter lets your selected control generate a MIDI Machine Control (MMC) command
			1=Stop; 2=Play 3=Deferred Play 4=Forward 5=Rewind 6=Record Strobe 7=Record Exit 8=Record Pause 9=Pause; 10=Eject 11=Chase 12=Command Error Reset 13=MMC Reset				
Reverb type GM2		-	Type (0-127)	-	-	Entry (DEC, HEX)	This parameter lets your selected controller adjust the reverb type of your GM2-compatible software or sound module. This parameter may not function properly if your MIDI device does not support the GM2 (General MIDI 2) specification.
Reverb time GM2		-	Time (0-127)	-	-	Entry (DEC, HEX)	This parameter lets your selected controller adjust the reverb time on your GM2-compatible software or sound module. This parameter may not function properly if your MIDI device does not support the GM2 (General MIDI 2) specification.
Chorus type GM2		-	Type (0-127)	-	-	Entry (DEC, HEX)	This parameter lets your selected controller adjust the chorus type of your GM2-compatible software or sound module. This parameter may not function properly if your MIDI device does not support the GM2 (General MIDI 2) specification.
MIDI CC Value -		1-16, Zone 1-4, Group, Global	Start (0-127)	End (0-127)	CC# (0-127)	Entry (DEC, HEX)	This parameter lets you use a button or drum pad to decrement your selected MIDI CC each time that button or drum pad is tapped.
MIDI CC Value +		1-16, Zone 1-4, Group, Global	Start (0-127)	End (0-127)	CC# (0-127)	Entry (DEC, HEX)	This parameter lets you use a button or drum pad to increment your selected MIDI CC each time that button or drum pad is tapped.
Global Param -		-	Octave, Transpose, Channel, Program, Bank LSB, Bank MSB, Patch, Vel. Curve	-	-	-	This parameter lets your selected control decrement the selected global parameter each time that button or drum pad is tapped.
Global Param +		-	Octave, Transpose, Channel, Program, Bank LSB, Bank MSB, Patch, Vel. Curve	-	-	-	This parameter lets your selected control increment the selected global parameter by each time that button or drum pad is tapped.

Control Type Key	
= Pads Group	= Encoders Group
= Numerical Keypad Group, Sustain Pedal, Function Keys, Transport Controls	= Slider Group, Pitch Bend, Keyboard Aftertouch, Modulation Wheel, Expression Input

\* **NOTE:** This column only describes the "non-standard" parameters and their associated sub-parameters within Axiom Pro (such as "Note OnOff Toggle" or "Rel. Bin Offset"). Standardized MIDI parameters (such as Continuous Controllers "CC" or "Master Volume") are not described in this guide. If you require more information, please note that standard MIDI parameters are well documented on the Internet as well as in a number books about the MIDI protocol. To learn more about these standard parameters, please refer to one of these books or websites.

Type	Control Type	MIDI Ch.	Param. A	Param B	Description*																																																																																																					
ASCII Keystroke	 	-	<table border="1"> <tr> <td>A-Z</td><td>1-9</td><td>0</td><td>Return</td><td>Escape</td><td>Backspace</td><td>Tab</td><td>Spacebar</td> </tr> <tr> <td>-</td><td>=</td><td>[</td><td>]</td><td>\(Mac)</td><td>#</td><td>;</td><td>~</td><td>,</td><td>.</td><td>/</td> </tr> <tr> <td>Caps Lock</td><td>F1-F12</td><td>Print Screen</td><td>Scroll Lock</td><td>Pause</td><td colspan="5"></td> </tr> <tr> <td>Insert</td><td>Home</td><td>Page Up</td><td>Delete</td><td>End</td><td>Page Down</td><td colspan="4"></td> </tr> <tr> <td>Right Arrow</td><td>Left Arrow</td><td>Down Arrow</td><td>Up Arrow</td><td colspan="5"></td> </tr> <tr> <td>Num Lock</td><td>Keypad /</td><td>Keypad *</td><td>Keypad -</td><td>Keypad +</td><td colspan="5"></td> </tr> <tr> <td>Keypad ENTER</td><td>Keypad 0-9</td><td>Keypad.Del</td><td colspan="4"></td><td colspan="3"></td> </tr> <tr> <td>\(PC)</td><td>Modifier Only</td><td colspan="4"></td><td colspan="3"></td> </tr> </table>	A-Z	1-9	0	Return	Escape	Backspace	Tab	Spacebar	-	=	[	]	\(Mac)	#	;	~	,	.	/	Caps Lock	F1-F12	Print Screen	Scroll Lock	Pause						Insert	Home	Page Up	Delete	End	Page Down					Right Arrow	Left Arrow	Down Arrow	Up Arrow						Num Lock	Keypad /	Keypad *	Keypad -	Keypad +						Keypad ENTER	Keypad 0-9	Keypad.Del								\(PC)	Modifier Only								<b>Modifier</b> <table border="1"> <tr> <td>None</td><td>Ctrl; Shift</td><td>Ctrl+Shift</td><td>Alt</td><td>Ctrl+Alt</td><td>Shift+Alt</td> </tr> <tr> <td>Windows/Mac key</td><td>Ctrl+Windows/Mac key</td><td>shift+Windows/Mac key</td><td colspan="3"></td> </tr> <tr> <td>Ctrl+Shift+Windows/Mac key</td><td>Alt+Windows/Mac Key</td><td>Ctrl+Alt+Windows/Mac Key</td><td colspan="3"></td> </tr> <tr> <td>Shift+Alt+Windows/Mac Key</td><td>Ctrl+Shift+Alt+Windows/Mac key</td><td colspan="4"></td> </tr> </table>	None	Ctrl; Shift	Ctrl+Shift	Alt	Ctrl+Alt	Shift+Alt	Windows/Mac key	Ctrl+Windows/Mac key	shift+Windows/Mac key				Ctrl+Shift+Windows/Mac key	Alt+Windows/Mac Key	Ctrl+Alt+Windows/Mac Key				Shift+Alt+Windows/Mac Key	Ctrl+Shift+Alt+Windows/Mac key					<p>This parameter lets your selected controller generate an ASCII keystroke just like your computer keyboard. Note that the "Modifier" parameter can be used to add additional keypresses (e.g., pressing the "shift" or "control" keys) to your selected keystroke.</p>
A-Z	1-9	0	Return	Escape	Backspace	Tab	Spacebar																																																																																																			
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Type**	Control Type	MIDI Ch.	Param. A	Param B	Param C	Param D	Description*
Program Change		1-16, Zone 1-4, Group, Global	Min (0-127)	Max (0-127)	-	Entry (DEC, HEX)	
Rel. Bin Offset		1-16, Zone 1-4, Group, Global	CC# (0-127)	-	-	Entry (DEC, HEX)	This incrementing/decrementing system is used by Native Instruments to software
Rel. 2's Comp		1-16, Zone 1-4, Group, Global	CC# (0-127)	-	-	Entry (DEC, HEX)	This is one of the methods used by Ableton Live.
Signed bit 1		1-16, Zone 1-4, Group, Global	CC# (0-127)	-	-	Entry (DEC, HEX)	This is one of the methods used by Ableton Live.
Signed bit 2		1-16, Zone 1-4, Group, Global	MIDI CC (0-127)	-	-	Entry (DEC, HEX)	This is one of the methods used by Ableton Live.
Single Step -/+		1-16, Zone 1-4, Group, Global	MIDI CC (0-127)	-	-	Entry (DEC, HEX)	Some older plug-ins and applications may support this method, however it is no longer commonly used.
RPN Rel. -/+		1-16, Zone 1-4, Group, Global	RPN LSB (0-127)	RPN MSB (0-127)	-	Entry (DEC, HEX)	
NRPN Rel. -/+		1-16, Zone 1-4, Group, Global	NRPN LSB (0-127)	NRPN MSB (0-127)	-	Entry (DEC, HEX)	

Control Type Key	
 = Pads Group	 = Encoders Group
 = Numerical Keypad Group, Sustain Pedal, Function Keys, Transport Controls	 = Slider Group, Pitch Bend, Keyboard Aftertouch, Modulation Wheel, Expression Input

\* **NOTE:** This column only describes the "non-standard" parameters and their associated sub-parameters within Axiom Pro (such as "Note OnOff Toggle" or "Rel. Bin Offset"). Standardized MIDI parameters (such as Continuous Controllers "CC" or "Master Volume") are not described in this guide. If you require more information, please note that standard MIDI parameters are well documented on the Internet as well as in a number books about the MIDI protocol. To learn more about these standard parameters, please refer to one of these books or websites.

\*\* To learn more about relative encoder messages, please see the "About the "Endless" Encoders" section on page 33.

### About the “Channel” sub-parameter:

This parameter sets the MIDI output channel of the selected control. The parameter can be set in the following ways:

- **Global** Your selected control will transmit on the global MIDI channel as specified on the Edit > Global page.
- **1-16** Your selected control will transmit on a MIDI channel between 1 and 16.
- **Zone 1-4** Your selected control will transmit on the same MIDI channel used by the chosen keyboard zone (1 through 4). (see Edit Mode > Zones > Data to learn how to set these output channels).
- **Group** Your selected control will transmit on the same MIDI channel as set for its associated group of controls (e.g. encoder group). See Edit > Group to learn how to set a MIDI channel for a group of controls.



- ✓ **NOTE:** *Axiom Pro allows you to assign any control to any MIDI channel through the Edit Mode > Control menu. However, please note that certain MIDI devices reserve channel 10 for drums and percussion. Appendix E6 features a General MIDI drum map table to show you how drum sounds are commonly assigned to the keys of controllers. Please refer to your device's documentation to learn more about this.*

### About the “Entry” sub-parameter:

This parameter determines how the Min, Max, and CC# parameters will be displayed on screen. When this parameter is set to “DEC” all values will be displayed in decimal format whereas setting this parameter to “HEX” will display the same information in hexadecimal format. A decimal to hexadecimal conversion chart can be found in Appendix G.

Note that this parameter only changes the formatting of the displayed Min, Max, and CC# parameters--it does not actually change the type of numerical information contained within those parameters.



- ✓ **NOTE:** When this parameter is set to “HEX,” it is possible to enter HEX values when editing other parameters on the page, however, it is not possible to directly select A-F values using the numerical keypad (on Axiom Pro 49/61) or the keys (Axiom Pro 25). To select these values, users must select “0” or “9” and use the “-” or “+” buttons (Axiom Pro 25 users must use the “-” and “+” keys on the keyboard) to access values in the A-F (10-15) range.

- ✓ **TIP:** Many of the controls on Axiom Pro allow you to set a minimum and maximum limit via the Edit Mode > Control menu. This makes it possible to reduce the data range within which the selected control operates. When configuring sliders, the expression pedal or the aftertouch strip this way, the entire “physical range” will become available for the reduced data range, essentially enabling you to make more precise edits.

If you set the minimum and maximum limits of a slider, expression pedal, or aftertouch strip in the Edit Mode > Control menu, you can use the entire “physical range” of the slider, pedal, or aftertouch strip to send out MIDI data for your restricted range. This makes it easier to create precise edits.

For example, if you limit the range of a slider between 32 and 64, you can use the entire “travel” of the slider to select values between 32 and 64 (the bottom of the slider is value 32 whereas the top is 64). Note that this does not make the actual MIDI CC data more precise—it simply means that the physical slider can travel more distance to reach the next MIDI CC “step.”

### About the “Endless” Encoders:

The Encoder knobs can function just like the “fixed” knobs found on many synthesizers or MIDI controllers (i.e., fixed knobs stop rotating and sending MIDI data once you reach the minimum or maximum “ends” of the knob). This is how the Axiom Pro encoders behave if the “Type” parameter of an encoder is set to “MIDI CC.” In this case, when the minimum or maximum limit is reached, no more data is sent, even if you continue to turn the knob in the same direction (data is only sent again once the knob is turned in the other direction).

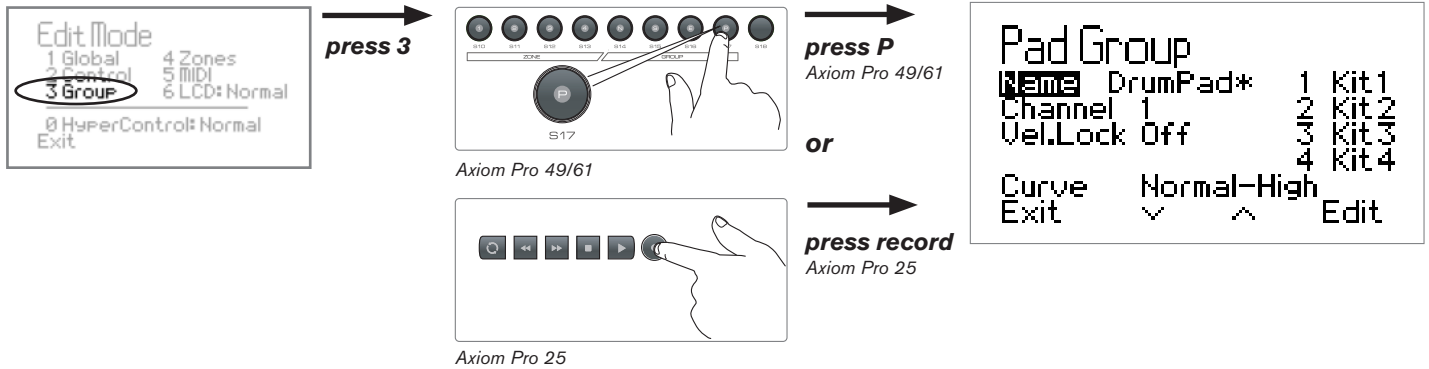
This method means that the knobs send “absolute” MIDI values. For example, if the knob is set to value “64,” turning the knob clockwise will send values “65, 66, 67” and so on. If you change presets (or virtual instruments) while you’re playing, and the new preset contains different controller values, you run the risk of having your keyboard’s knobs to be “out-of-sync” with what the MIDI hardware or software is expecting (i.e., your physical knob may be in position “64” whereas the new preset/virtual instrument expects position “0.”) This may cause your synthesizer settings to jump or “snap” from 0 to 65 when you turn the encoder—this can be a jarring experience if the parameter is assigned to master volume or filter!

To resolve this common problem, Axiom Pro encoders can also send “relative” MIDI messages. This means that when an Axiom Pro encoder is turned, a message is sent to your software (or connected MIDI device) stating “Take the current value—whatever it may be—and increase/decrease it by one.” This method is preferable to the traditional “absolute” value method since there is no risk of having your controller knobs and music hardware/software to be “out-of-sync” since Axiom Pro does not need to know the “expected” position of a knob.

Please note that not all hardware/software supports relative MIDI messages. If your software does not support relative MIDI data, you must use absolute MIDI CC messages.

Furthermore, applications that do support relative MIDI messages can differ in the way encoder support is implemented. For that reason, Axiom Pro encoders can be configured to send out many different kinds of relative MIDI message types to ensure support with nearly all popular applications. Check your hardware/software’s user guide to see what message type is supported (and to activate the feature, if necessary). Next, take a look at page 4 of the Control Assignment list found earlier in this guide and select the appropriate “Type” parameter for your Axiom Pro encoder assignments.

## Edit Mode > Group (Pad)



Press the Edit Mode button, select option number 3 and then press “P” (Axiom Pro 25: press the “Record” button) to open the Pad Group page.

The Edit Mode > Group (Pad) page displays parameters relating to the drum pads.

You can select one of the other groups of controls for editing by pressing the “N” “S” “E” and “P” group buttons on Axiom Pro 49/61. On Axiom Pro 25, use the “Play” and “Record” buttons to select the encoder and pad groups, respectively.<sup>6</sup>

Note that this section of the User Guide covers the Pad group (the other groups are covered in the following sections of this guide).

**✓ Tip:**  
 You can directly access this page by first tapping any of the pads, pressing the Edit Mode button and selecting option number 3.

**Parameter:** Name

**Value Range:** (varies)

This parameter lets you name the group of pads. Note that this name only appears within the Axiom Pro controller and does not affect your audio application in any way.

To learn more about entering or changing Name parameters, see the box titled “Editing Name Parameters” in the “Edit Mode > Control” section.

**Parameter:** Channel

**Value Range:** Global, 1-16, Zone 1-4

This parameter sets the MIDI output channel of the drum pads group. The parameter can be set in the following ways:

- **Global** This sets the “group” MIDI channel for the drum pads to the same channel as specified on the Edit > Global page.
- **1-16** This sets the “group” MIDI channel for the drum pads to a channel between 1 and 16.
- **Zone 1-4** This sets the “group” MIDI channel for the drum pads to the same channel as used by the selected keyboard zone (1 through 4). See Edit Mode > Zones > Data to learn how to set these output channels.

<sup>6</sup> Axiom Pro 25 does not have sliders or a numerical keypad, and therefore does not feature slider or numerical keypad groups.

**Parameter:** Vel.Lock

**Value Range:** Off, On

This parameter engages and disengages velocity locking for the pads.

When this parameter is set to “Off,” pads are velocity sensitive. If this parameter is set to “On,” each pad will always transmit at the velocity specified on its Edit > Control page.

Note that this feature is only available on pads that are configured to send MIDI note data. Velocity locking is automatically disabled if the pad is not configured to send MIDI note data.

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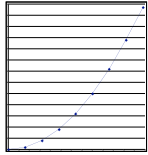
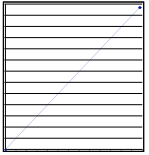
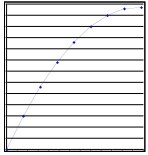
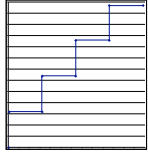
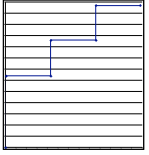
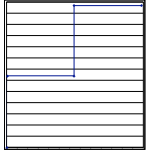
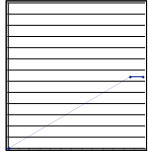
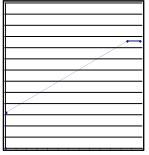
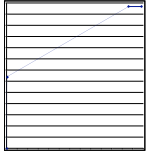

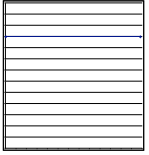

**Parameter:** Curve

**Value Range:** Low, Normal, High, 4Steps, 3Steps, 2Steps, Low Range, Mid Range, High Range, Fixed 64, Fixed 100, Fixed 127

This parameter sets the velocity curve of the eight drum pads and allows you to adjust the sensitivity of the pads to suit your playing style.

The velocity curve settings break down into four categories as described in the table below. Appendix C includes detailed graphs of each velocity curve:



Velocity Settings (Pads)	Description <sup>7</sup>
<p>Low</p> <p>Normal</p> <p>High</p>	<p>These options gradually vary the sensitivity of the pads from “Low” to “High.” “Low” is the least sensitive setting (i.e., you have to strike the keys with more force to achieve the highest MIDI velocities). In contrast, “High” is the most sensitive setting (i.e., you don’t have to strike the keys with as much force to achieve the highest MIDI velocities). “Normal” is the default setting of Axiom Pro.</p> <p>These three settings allow you to access the entire dynamic range of MIDI velocities (i.e. from 0 through 127).</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span><i>Low</i></span> <span><i>Normal</i></span> <span><i>High</i></span> </div>
<p>4 Steps</p> <p>3 Steps</p> <p>2 Steps</p>	<p>The “4 steps,” “3 steps,” and “2 steps” settings give the pads four, three, and two discreet velocity levels respectively (as shown below). These settings allow you to play rhythmic parts in “levels” (i.e., this makes it easier to perform with a consistent velocity level, while giving the option to add louder or softer accents).</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span><i>4 Steps</i></span> <span><i>3 Steps</i></span> <span><i>2 Steps</i></span> </div>
<p>Low Range</p> <p>Mid Range</p> <p>High Range</p>	<p>These “Range” settings limit the MIDI velocity range of the pads at the lowest and/or highest velocities. This has the effect of compressing the MIDI velocities of your performances and can “even out” the dynamics of a MIDI performance. This is a useful feature for players requiring more control over their velocities.</p> <p>The “Low Range” setting lets you access velocities 0-64 and average playing will yield values of 32-40. The “Mid Range” setting lets you access velocities 32-96 and average playing will yield values of 64-72. The “High Range” setting lets you access velocities 64-127 and average playing will yield values of 96-104.</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span><i>Low Range</i></span> <span><i>Mid Range</i></span> <span><i>Hi Range</i></span> </div>
<p>Fixed 64</p> <p>Fixed 100</p> <p>Fixed 127</p>	<p>When “Fixed 64,” “Fixed 100,” and “Fixed 127” are selected, Axiom Pro keys always generate MIDI velocities of 64, 100, or 127, regardless of how much force is used to strike the keys.</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span><i>Fixed 64</i></span> <span><i>Fixed 100</i></span> <span><i>Fixed 127</i></span> </div>

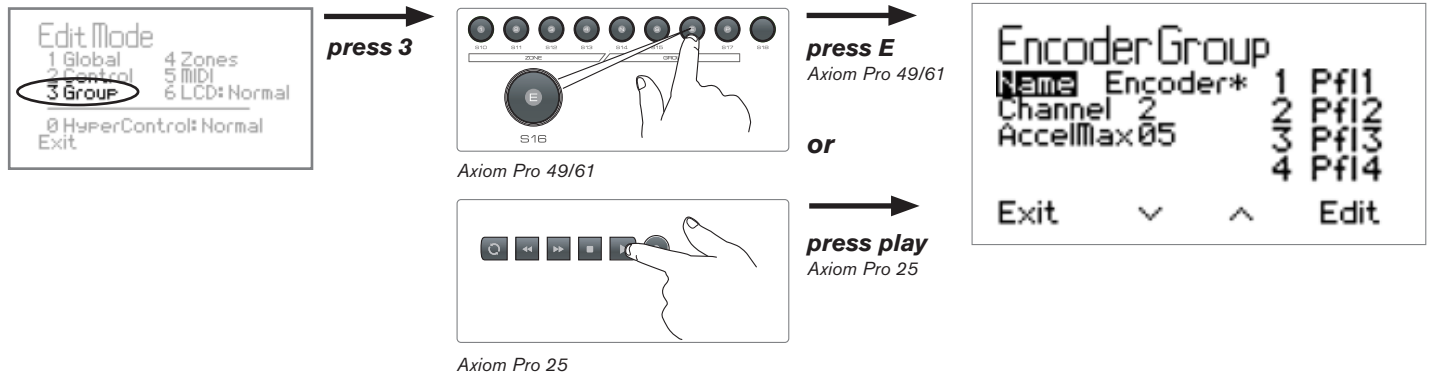
<sup>7</sup> All of the graphs in this table feature strike force along the horizontal axis (minimum on the left, maximum on the right) and MIDI output velocity on the vertical axis (minimum on the bottom, maximum on the top). Appendix C includes more detailed graphs of each velocity curve.

<b>Parameter:</b>	1-4
<b>Value Range:</b>	(varies)

The Encoder knobs and drum pads can have up to four profiles allowing you to quickly and easily control up to 32 parameters. When viewing this page in Edit Mode, a selected profile can be enabled and disabled using the “+” and “-“ buttons. Pressing Soft-Key 4 (Edit) lets you edit the name of the selected profile.

To learn more about entering or changing Name parameters, see the box titled “Editing Name Parameters” in the “Edit Mode > Control” section.

## Edit Mode > Group (Encoder)



Press the Edit Mode button, select option number 3 and then press “E” (Axiom Pro 25: press the “Play” button) to open the Encoder Group page.

The Edit Mode > Group (Encoder) page displays parameters relating to Encoder knobs.

You can select one of the other groups of controls for editing by pressing the “N” “S” “E” and “P” group buttons on Axiom Pro 49/61 or the “Play” and “Record” buttons to select the encoder and pad groups on Axiom Pro 25.<sup>8</sup>

Note that this section of the User Guide covers the Encoder group (the other groups are covered in the preceding and following sections of this guide).

**✓ Tip:**  
You can directly access this page by first turning any of the encoder knobs, pressing the Edit Mode button and selecting option number 3.

**Parameter:** Name  
**Value Range:** (varies)

This parameter lets you name the encoder group. Note that this name only appears within the Axiom Pro controller and does not affect your audio application in any way.

To learn more about entering or changing Name parameters, see the box titled “Editing Name Parameters” in the “Edit Mode > Control” section.

<sup>8</sup> Axiom Pro 25 does not have sliders or a numerical keypad, and therefore does not feature groups for these controls.

**Parameter:** Channel  
**Value Range:** Global, 1-16, Zone 1-4

This parameter sets the MIDI output channel of the encoder group. The parameter can be set in the following ways:

- **Global** This sets the “group” MIDI channel for the encoder knobs to the same channel as specified on the Edit > Global page.
- **1-16** This sets the “group” MIDI channel for the encoder knobs to a channel between 1 and 16.
- **Zone 1-4** This sets the “group” MIDI channel for the encoder knobs to the same channel as used by the selected keyboard zone (1 through 4). (see Edit Mode > Zones > Data to learn how to set these output channels).

---

**Parameter:** Accel. Max  
**Value Range:** 0-10

When the Axiom Pro encoders are turned slowly, their associated parameters update in single-step increments. However, as the encoders are turned quickly the parameters update in multi-step increments and let you make large changes with only one or two fast turns of an encoder.

The Accel.Max setting determines the maximum speed at which parameters will update as an encoder is turned quickly. The default setting is “5” To make encoders more precise (but less sensitive) at high speed, reduce this setting. Conversely, to make encoders more sensitive (but less precise) at high speeds, increase this setting.

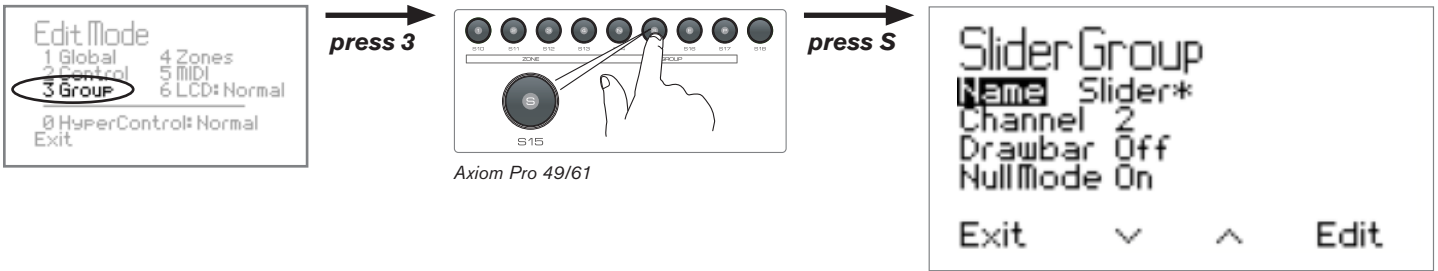
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**Parameter:** 1-4  
**Value Range:** (varies)

Encoder knob and drum pad groups can up to four profiles allowing you to quickly and easily control up to 32 parameters. When viewing this page in Edit Mode, a selected profile can be enabled and disabled using the “+” and “-” buttons. Pressing Soft-Key 4 (Edit) lets you edit the name of the selected profile.

To learn more about entering or changing Name parameters, see the box titled “Editing Name Parameters” in the “Edit Mode > Control” section.

## Edit Mode > Group (Slider)



Press the Edit Mode button, select option number 3 and then press “S” to open the Slider Group page.

The Edit Mode > Group (Slider) page displays parameters relating to the Sliders.

You can select one of the other groups of controls for editing by pressing the “N” “S” “E” and “P” group buttons on Axiom Pro 49/61 or the “Play” and “Record” buttons to select the encoder and pad groups on Axiom Pro 25.

Note that this section of the User Guide covers the Slider group (the other groups are covered in the preceding and following sections of this guide).

✓ **Tip:**  
 You can directly access this page by first moving any of the sliders, pressing the Edit Mode button and selecting option number 3.

**Parameter:** Name

**Value Range:** (varies)

This parameter lets you name the slider group. Note that this name only appears within the Axiom Pro controller and does not affect your audio application in any way.

To learn more about entering or changing Name parameters, see the box titled “Editing Name Parameters” in the “Edit Mode > Control” section.

**Parameter:** Channel

**Value Range:** Global, 1-16, Zone 1-4

This parameter sets the MIDI output channel of the slider group. The parameter can be set in the following ways:

- **Global** This sets the “group” MIDI channel for the sliders to the same channel as specified on the Edit > Global page.
- **1-16** This sets the “group” MIDI channel for the sliders to a channel between 1 and 16.
- **Zone 1-4** This sets the “group” MIDI channel for the sliders to the same channel as used by the selected keyboard zone (1 through 4). See Edit Mode > Zones > Data to learn how to set these output channels.

**Parameter:** Drawbar

**Value Range:** Off, On

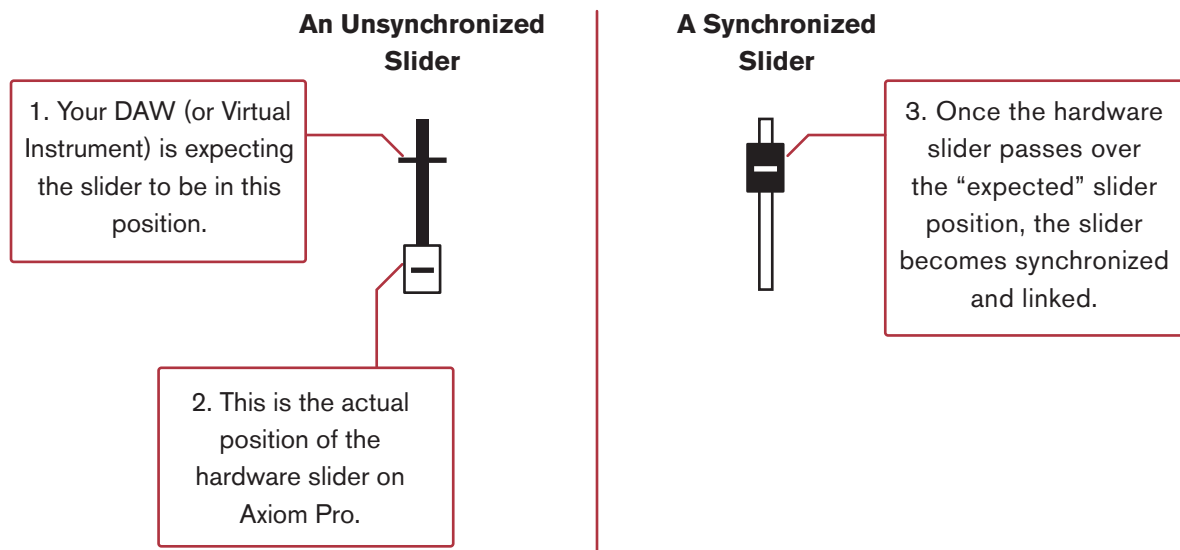
This parameter engages Drawbar Mode. When this mode is engaged, the operation of the sliders is reversed and the maximum MIDI CC value (127) is reached when the slider is at the bottom whereas the minimum CC value (0) is reached when the slider is pushed to the top. This operation mimics the behavior of typical organs with draw bars.

**Parameter:** NullMode

**Value Range:** Off, On

When this parameter is set to its default “on” position, the MIDI output of the sliders is muted if the physical slider is out-of-sync with the “expected” position of the slider shown on the LCD display. This prevents associated parameters within your audio applications from potentially “jumping” or “snapping” to a different MIDI CC value as soon as a slider is moved.

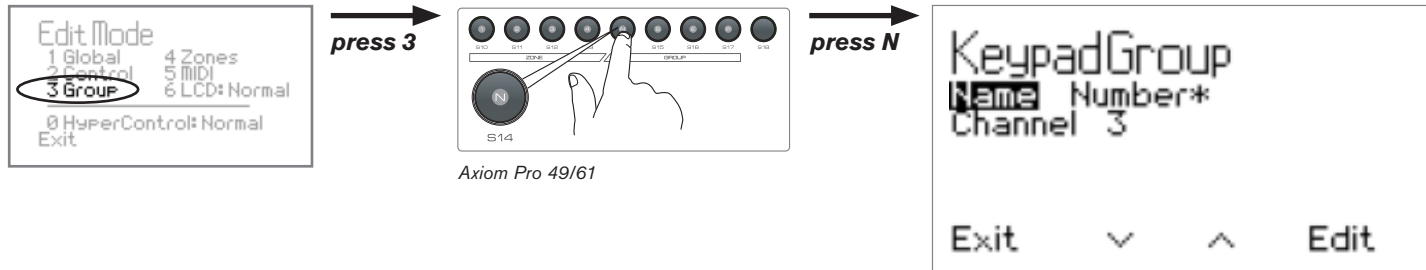
Unsynchronized sliders feature a horizontal line across the LCD display’s on-screen fader **1** that represents its expected position. A square represents the location of the physical slider **2**. Once the square moves over the line, the physical and on-screen sliders are synchronized **3** and that slider begins to output MIDI data once again.



When this parameter is set to “off,” the horizontal line representing the “expected” slider position does not appear.

Note that the values of the Sliders are remembered each time a patch change occurs. When that patch next becomes active, the values are restored.

## Edit Mode > Group (Numerical Keypad)



Press the Edit Mode button, select option number 3 and then press “N” to open the Numerical Keypad Group page.

The Edit Mode > Group (Numerical Keypad) page displays parameters relating to the Numerical Keypad.

You can select one of the other groups of controls for editing by pressing the “N”<sup>9</sup> “S”<sup>9</sup> “E” and “P” group buttons on Axiom Pro 49/61 or the “Play” and “Record” buttons to select the encoder and pad groups on Axiom Pro 25.

Note that this section of the User Guide covers the Numerical Keypad group (the other groups are covered in the preceding sections of this guide).

✓ **Tip:**  
 You can directly access this page by first pressing a button on the keypad group, pressing the Edit Mode button and selecting option number 3.

**Parameter:** Name

**Value Range:** (varies)

This parameter lets you name the keypad group. Note that this name only appears within the Axiom Pro controller and does not affect your audio application in any way.

To learn more about entering or changing Name parameters, see the box titled “Editing Name Parameters” in the “Edit Mode > Control” section.

**Parameter:** Channel

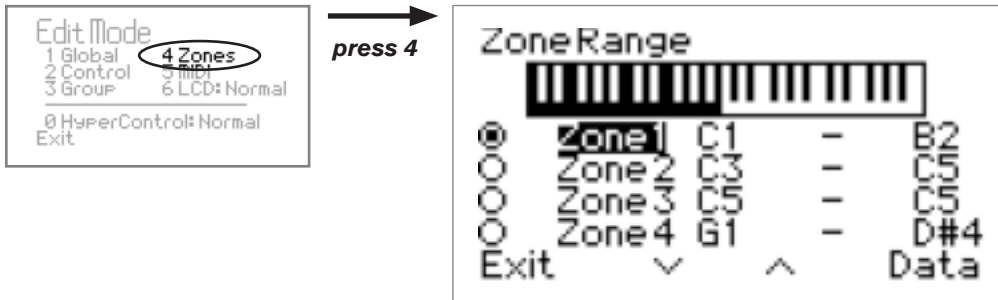
**Value Range:** Global, 1-16, Zone 1-4

This parameter sets the MIDI output channel of the numerical keypad group. The parameter can be set in the following ways:

- **Global** This sets the “group” MIDI channel for the numerical keypad to the same channel as specified on the Edit > Global page.
- **1-16** This sets the “group” MIDI channel for the numerical keypad to a channel between 1 and 16.
- **Zone 1-4** This sets the “group” MIDI channel for the numerical keypad to the same channel as used by the selected keyboard zone (1 through 4). (see Edit Mode > Zones > Data to learn how to set these output channels).

<sup>9</sup> Only available on Axiom Pro 49/61

## Edit Mode > Zones



The Edit Mode > Zones page lets you configure the parameters for each of the four zones contained within Axiom Pro.

### To select the range of a keyboard zone:

1. Use Soft Keys 2-3 (or Encoder Knob E1) to select the zone you would like to edit.
2. Use Encoder Knob E5 to set the lowest note contained in your range.<sup>10</sup>
3. Use Encoder Knob E6 to set the highest note contained in your range.<sup>10</sup>

✓ **TIP:** Keyboard zone ranges can also be set by pressing the lowest and highest notes of the range on the keyboard itself.<sup>10</sup>

4. Press Soft Key 4 (Data) to access additional parameters relating to the selected zone (the parameters contained on the "Data" sub-menu are covered in the following section of this guide.)

### To activate or deactivate a zone:

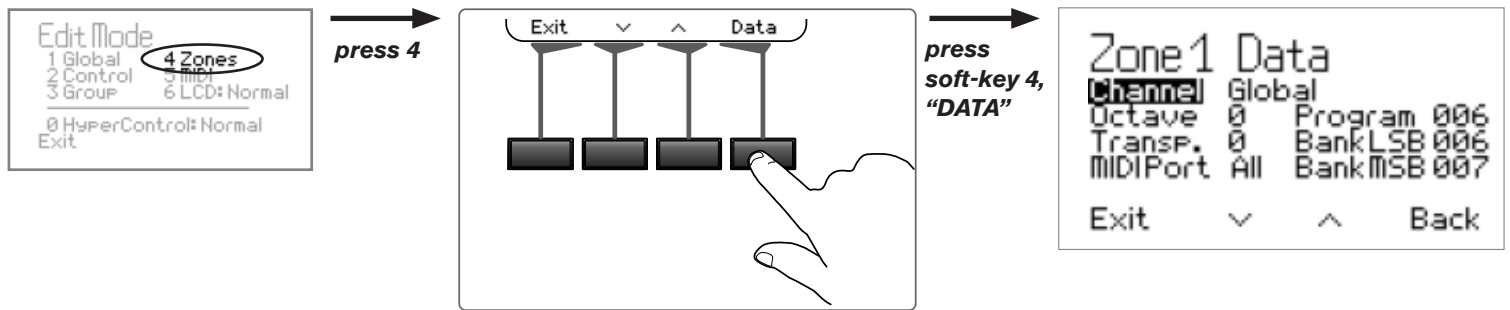
The radio buttons on the left edge of the screen indicate which zones are currently active (active zones have filled in buttons while inactive zones are not filled in). Use Slider Buttons "1" through "4" ("Loop," "Rewind," "Fast Forward," and "Stop" buttons on Axiom Pro 25), to activate a corresponding zone. To activate more than one zone, press and hold multiple buttons at the same time.

To deactivate a zone, press that zone's corresponding Slider button again.

<sup>10</sup> Note that when selecting keyboard zones, octave shift and transposition are ignored (i.e., Axiom Pro is assumed to be in its default transposition/octave-shift range).



## Edit Mode > Zones > Data



You can open the Data page for a Zone by entering Edit Mode, selecting the Zone for editing, and then pressing soft-key 4 (Data). This gives access to additional parameters relating to the operation of an individual zone.

**Parameter:** Channel

**Value Range:** Global, 1-16

This parameter sets the MIDI output channel of the selected zone. The parameter can be set in the following ways:

- **Global** This sets the MIDI channel for the selected zone to the same channel as specified on the Edit > Global page.
- **1-16** This sets the MIDI channel for the selected zone to a channel between 1 and 16.

**Parameter:** Octave

**Value Range:** -4 through +4

This parameter shifts the octave range of the selected keyboard zone either up or down. Note that this parameter works in conjunction with any global shift you may have set using the "Octave" parameter on the Edit Mode > Global page. For example, if you have set the global octave shift to "+1" and set this parameter to "+2" your selected zone will be shifted upward by three octaves.

**Parameter:** Transp.

**Value Range:** -12 through +12

This parameter simultaneously shifts all keys in the selected keyboard zone up to 12 semitones in either direction. Note that this parameter works in conjunction with any global transposition you may have set using the "Transp." parameter on the Edit Mode > Global page. In other words, if you have set the global transposition shift to "+1" and set this parameter to "+2", your selected zone will be transposed upward by three semitones.

**Parameter:** MIDI Port  
**Value Range:** O, A, A&O, B, B&O, A&B, All, Off

Each of the four zones can be individually configured to transmit MIDI data on any combination of Axiom Pro ports:

- **A** Axiom Pro 61<sup>11</sup> USB A
- **B** Axiom Pro 61<sup>11</sup> USB B
- **O** Axiom Pro 61<sup>11</sup> MIDI Out (External MIDI port)
- **All** MIDI data is transmitted on all ports
- **Off** MIDI data is not transmitted

**Parameter:** Program  
**Value Range:** 0-127

This parameter sends Program Change MIDI messages on your selected keyboard zone's MIDI output channel when an Axiom Pro patch is loaded. Note that Program Change messages are only sent on active zones. Please see the "Edit Mode > Zones" section of this guide to learn how to activate/deactivate zones.

**Parameter:** BankLSB  
**Value Range:** 0-127

This parameter sends Bank LSB messages on your selected zone's MIDI output channel when an Axiom Pro patch is loaded. Note that Bank LSB messages are only sent on active zones and will not have any effect until a Program Change message is sent.

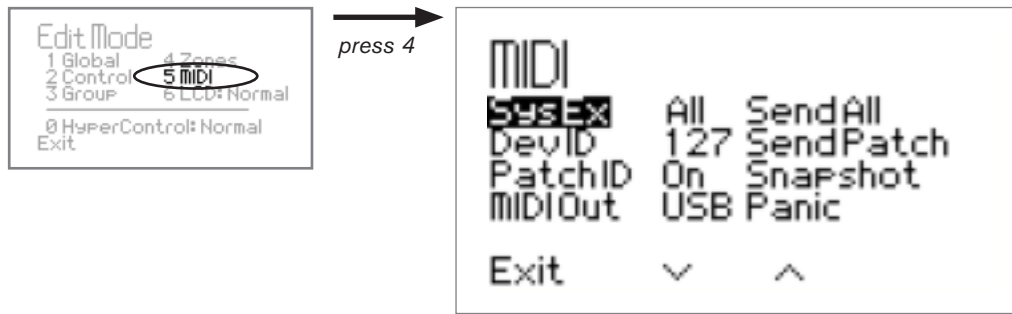
✓ **NOTE:** *If you load an Axiom Pro patch containing program change, bank LSB, or bank MSB messages for the zones, each zone will transmit its assigned program change or bank LSB/MSB message when the patch is loaded. If you would like to load a patch without sending these messages, make sure that the keyboard icon is unchecked on the Load page. Please see the "Loading Patches" section in the "Saving and Loading your Axiom Pro Patches" chapter to learn more about this topic.*

**Parameter:** BankMSB  
**Value Range:** 0-127

This parameter sends Bank MSB messages on your selected zone's MIDI output channel when an Axiom Pro patch is loaded. Note that Bank MSB messages are only sent on active zones and will not have any effect until a Program Change message is sent.

<sup>11</sup> The 25 and 49-note versions of Axiom Pro will appear as "Axiom Pro 25" and "Axiom Pro 49" respectively.

## Edit Mode > MIDI



This page contains a variety of options relating to MIDI.

**Parameter:** SysEx  
**Value Range:** Off, O, A, A&O, B, B&O, A&B, All

SysEx messages can be transmitted on any combination of Axiom Pro ports:

- **A** Axiom Pro 61<sup>12</sup> USB A
- **B** Axiom Pro 61<sup>12</sup> USB B
- **O** Axiom Pro 61<sup>12</sup> MIDI Out (External MIDI port)
- **All** MIDI data is transmitted on all ports
- **Off** MIDI data is not transmitted

✓ **NOTE:** SysEx messages are not MIDI channel specific, instead, a “Device ID” number is used. If a SysEx message is sent out of a specific Axiom Pro MIDI port, all connected devices (or software) will receive that data. More info about SysEx transfers and Device IDs can be found below.

**Parameter:** DevID  
**Value Range:** 0-127

This parameter sets the “Device ID” code used when transmitting SysEx messages from Axiom Pro. The default value is 127.

The default setting of 127 lets your Axiom Pro respond to all incoming SysEx messages that are compatible with Axiom Pro controllers. However, if you change the Device ID to any other value, your Axiom Pro will only respond to SysEx messages that contain the same Device ID number. This is useful in situations in which multiple Axiom Pro controllers are connected to your sequencer but you would like to send SysEx information to a specific controller with a unique Device ID number.

<sup>12</sup> The 25 and 49-note versions of Axiom Pro will appear as “Axiom Pro 25” and “Axiom Pro 49” respectively.

**Parameter:** PatchID

**Value Range:** On, Off

When this option is enabled, a “system exclusive” (SysEx) MIDI message that contains all the settings of the selected Axiom Pro patch is sent out whenever a patch is recalled from the Load Page.

---

**Parameter:** MIDI Out

**Value Range:** USB, Keyboard

The MIDI Out port on the back of Axiom Pro can be configured to transmit MIDI data generated by the Axiom Pro keyboard or from the computer via the USB connection:

- **USB** The MIDI output port transmits data received from your audio application via the USB connection. When this parameter is set to “USB,” the MIDI output port will not transmit any data generated by the controls of the keyboard (i.e., buttons, knobs, keys, etc.)
- **Keyboard** The MIDI output port will transmit the data generated by the controls of the keyboard (i.e., keys, buttons, knobs, etc.) When this parameter is set to “Keyboard,” any data sent to Axiom Pro through the USB connection will not be transmitted through the MIDI output port.

✓ **NOTE:** MIDI data that is generated by the controls of Axiom Pro is always sent to your computer through the USB connection, regardless of how this parameter is configured. This parameter only affects the MIDI output port on the rear of the keyboard and determines what data is transmitted through the port.

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**Parameter:** Send All

**Value Range:** Send

When this parameter is selected, a “Send” option appears for Soft Key 4. Pressing this button will send a SysEx dump of the entire memory contents of Axiom Pro out of the selected SysEx port (see the SysEx parameter above to select a SysEx output port).

✓ **TIP FOR ADVANCED MIDI USERS:** It is also possible to trigger this function externally. This is done by sending the following SysEx message to Axiom Pro:

F0 00 01 05 20 7F 01 7F F7

**Parameter:** Send Patch

**Value Range:** Send

When this parameter is selected, a “Send” option appears for Soft Key 4. Pressing this button will send a SysEx dump of the memory contents of the currently loaded Axiom Pro patch out of the selected SysEx port (see the SysEx parameter above to select a SysEx output port).

✓ **TIP FOR ADVANCED MIDI USERS:** It is also possible to trigger this function externally using a SysEx message requesting the data. To request the contents of the currently loaded patch, the following SysEx message must be sent to Axiom Pro:

```
F0 00 01 05 20 7F 01 00 F7
```

If you would like to transfer the contents of a patch that is not currently loaded, the following SysEx message must be sent to Axiom Pro:

```
F0 00 01 05 20 7F 05 xx F7
```

The placeholder “xx” represents the number of the patch you would like to request. Note that this number must be entered as a hexadecimal value (i.e., 01-32 in hexadecimal instead of 0-50 as a decimal). Please see Appendix G for a decimal-to-hexidecimal conversion chart.

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**Parameter:** Snapshot

**Value Range:** Send

When this parameter is selected, a “Send” option appears for Soft Key 4. Pressing this button will send the current values of all encoder knobs and sliders (Axiom Pro 49/61 only). This data is sent out of the MIDI ports that have been selected for the Encoder and Slider groups. See the “Edit Mode > Group (Encoder)” and “Edit Mode > Group (Slider)” sections of this guide to learn how to set the output ports of a group.

✓ **About Sysex and Snapshot data:**

The “Send All,” “Send Patch,” and “Snapshot,” options sends MIDI data that can be recorded into a sequencer. This information can then be played back to Axiom Pro to quickly set all of the controller assignments or positions to your preferred positions. For example, if you’ve created customized control assignments or would like controls to be set in a certain way before you begin playing a song, record the “patch” and “snapshot” information at the beginning of a sequence. This way, when the sequencer begins playing back, the assignments and positions will always be in the correct position.

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**Parameter:** Panic

**Value Range:** Send

When this parameter is selected, a “Send” option appears for Soft Key 4. Pressing this button will send an “All Notes Off” (or “Panic”) message on all 16 MIDI channels.

This feature should be used to stop any “stuck” notes (i.e., notes that continue to play even after the key has been released) on your virtual instrument or connected MIDI module.

## Troubleshooting

Axiom Pro is a professional keyboard controller that has been tested under a wide variety of conditions to ensure trouble-free performance. However, in the event that you do experience difficulty while using Axiom Pro, this section provides tips to help resolve some basic issues that you may encounter.

### 1. My Axiom Pro keyboard suddenly stopped working after having performed well since installation.

Close any music applications you are using, switch Axiom Pro off, and restart your computer. Once your computer has completely restarted, switch Axiom Pro back on and try again to see if the problem resolves.

### 2. I have connected a sustain pedal to my Axiom Pro, but its operation is reversed (i.e., the notes sustain when the pedal isn't pressed, but the notes stop sustaining once the pedal is pressed).

The polarity of the sustain pedal is determined by the keyboard upon startup. When Axiom Pro is powering up, the sustain pedal is assumed to be in the "up" (i.e., off) position. It is important that the sustain pedal is not pressed down during startup, otherwise its operation may be reversed.

### 3. I have connected the keyboard to my computer with the USB cable, but I cannot locate the Axiom Pro USB keyboard in my software's MIDI devices dialog box.

**Solution 1:** Axiom Pro may not be receiving enough USB bus power to function correctly. Try plugging Axiom Pro into a different USB port or use an optional 9V, 500mA power supply to see if the problem resolves."

**Solution 2:** In Windows XP, Axiom Pro will appear as "USB Audio Device" if the optional drivers have not been installed. Select "USB Audio Device" as your audio and MIDI input and output device. See the printed Axiom Pro Quick Start Guide for instructions on how to install the Axiom Pro drivers.

### 4. My virtual instrument software (or hardware MIDI module) always recalls the sound next to the program change number that I have sent to it from Axiom Pro. For example, if I send a program change number 40 (Violin), my MIDI module or software loads sound number 41 (Viola).

This behavior is normal. Some MIDI devices count their sound presets from 1 – 128 instead of 0-127. As a result, there may be an offset of +/-1 between the program change number sent from the keyboard and the recalled sound preset on your module.

**5. When I press the keys or use any of the MIDI controls (wheel, knob, data buttons, etc.), no data is transmitted from the MIDI output port on the rear of the Axiom Pro.**

This may be the result of the Axiom Pro “MIDI Out” parameter being set to “USB.” The MIDI Out port can be configured to transmit MIDI data from either the Axiom Pro keyboard or from the computer via the USB connection. If the MIDI Out mode is set to USB, the controls on the keyboard will not send any data to the MIDI Out port.

See the “Edit Mode > MIDI” section of this User Guide to learn how to toggle the MIDI Out parameter back to transmit MIDI events generated by the Axiom Pro keyboard.

**6. Windows XP/Vista users: I connected Axiom Pro to my computer and noticed that a question mark appears in the Windows Device Manager under Other Devices > M-Audio DFU. Does this indicate that there is a problem with Axiom Pro?**

This behavior is normal and your Axiom Pro will function normally as a class-compliant device (i.e., without any drivers). Installing the Axiom Pro drivers extends the keyboard’s functionality in various ways (i.e., multi-client support, support for qualified versions of the Pro Tools M-Powered software, and allowing large SysEx transfers), resolves any “DFU” related messages that may otherwise appear when drivers are not present, and should also resolve the question mark that appears next to the product in the Windows Device Manager.

**7. When playing a virtual instrument loaded in my music software, there is a noticeable delay before I hear any sound.**

This delay is known as latency, and it may be possible to reduce it through the Control Panel of your audio interface. Please refer to your audio interface’s User Guide to see if this is possible.

**8. The Axiom Pro LCD setting has changed and I can no longer see the contents of the screen.**

It is possible to bring the LCD to its viewable default settings without having to see the actual contents of the display. To do this, press the Edit Mode button, press “6” on the numerical keypad (Axiom Pro 49/61) or the “6 MNO” D# key (Axiom Pro 25) to step through the various LCD screen settings.

**9. I have changed many parameters and would like to go back to the keyboard’s default settings.**

Axiom Pro 49/61 can be reset to its “factory” settings by holding down the “+” and “-” numerical keypad buttons as the unit is switched on; Axiom Pro 25 can be reset to its default settings by simultaneously pressing the “+” and “-” Data buttons as the unit is switched on.

Note that all assignments and modified patches will be lost once you perform this action—use this function with caution!

## Appendices

### Appendix A: Axiom Pro Factory Patch settings

Axiom Pro comes preconfigured with a variety of factory patches:

Patch #	Name	Encoders				Sliders
		Profile 1	Profile 2	Profile 3	Profile 4	
1	GM Patch	<i>See below for more information</i>				
2	Pro Tools (Mac)					
3	Pro Tools (PC)					
4	Xpand 2	Part A	Part B	Part C	Part D	Global parameters, FX sends (Part A)
5	DB-33	(Various Controls)	N/A	N/A	N/A	Nine drawbars
6	Vacuum	(Various Controls)	N/A	N/A	N/A	Two envelopes
7	Hybrid A (Part A)	Oscillators	Filters	Modulation	FX	Global controls
8	Hybrid B (Part B)	Oscillators	Filters	Modulation	FX	Global controls
9	Velvet	EQ/Tube	Delay	Wah/ Distortion	Modulation	Velocity curve (timbre and amplitude), reverb, chorus
10	Strike <sup>13</sup>	Mics & Timbre	Pan	Inserts	Solo	Drum levels (first eight)
11	ImpOSCAR	Oscillators	Filters	Modulation	Velocity	VCA and VCF envelopes
12	Oddity	VCO 1	VCO 2	VCF	LFO/S&H	Main ADSR, three mixer sources
13	MiniMonsta	Oscillator	Filter	(Various Controls)	N/A	Mixer inputs, ADSR envelope
14	Logic	<i>See below for more information</i>				
15	Cubase (Mac)					
16	Cubase (PC)					
17	Reason (Mac)					
18	Reason (PC)					
19	Ableton Live					
20	Numbers					

#### <sup>13</sup> When using Strike, the mapping of Axiom Pro drum pads varies depending on your selected profile.

Profile 1 (Mics & Timbre): Pads play individual instruments

Profile 2 (Pan): Pads mute individual parts of a drum kit (or loop)

Profile 3 (Inserts): Pads trigger Part A loops

Profile 4 (Solo): Pads trigger Part B loops

#### About the F-Keys:

All Axiom Pro factory patch settings contain the same F-Key assignments:

F1 Enter

F2 Left arrow

F3 Right arrow

F4 Up arrow

F5 Down arrow

F6 Decrement selected Axiom Pro patch

F7 Increment selected Axiom Pro patch



### DAW Patches

The DAW patches can be used to control various audio applications (Pro Tools, Reason, Cubase, etc.) These patches mainly vary in terms of Numerical Keypad assignments.

Note that in all of the DAW patches (1-3 and 14-20) the Axiom Pro Transport Controls transmit ASCII keystrokes that correspond to the transport of your DAW software.

#### Patch 1: GM Patch

Axiom Pro Numerical Keypad	MIDI Message
1	Program Change: "1"
2	Program Change: "2"
3	Program Change: "3"
4	Program Change: "4"
5	Program Change: "5"
6	Program Change: "6"
7	Program Change: "7"
8	Program Change: "8"
9	Program Change: "9"
-	Program Change: Decrement by one
0	Program Change: "0"
+	Program Change: Increment by one

### Encoders and Sliders

*Sliders and Encoders generate the following MIDI CC numbers.*

Axiom Pro Control	MIDI CC#
Encoder Knob E1	10
Encoder Knob E2	02
Encoder Knob E3	12
Encoder Knob E4	13
Encoder Knob E5	75
Encoder Knob E6	76
Encoder Knob E7	92
Encoder Knob E8	95
Slider S1	74
Slider S2	71
Slider S3	91
Slider S4	93
Slider S5	73
Slider S6	72
Slider S7	05
Slider S8	84
Slider S9	07

**Patch 2: Pro Tools (Mac) and Patch 3: Pro Tools (PC)**

Axiom Pro Numerical Keypad	Pro Tools Shortcut
1	Save session
2	Toggle click on/off
3	Toggle between Edit and Mix windows
4	Duplicate selected region
5	Set loop “in” point (during playback)
6	Set loop “out” point (during playback)
7	Ctrl
8	Cmd (Mac) / Start (PC)
9	Opt (Mac) / Alt (PC)
–	Zoom out (horizontal)
0	Shift
+	Zoom in (horizontal)

**Encoders and Sliders**

The Sliders and Encoders are preconfigured to control the most useful parameters in the Digidesign AIR virtual instruments. The default mappings are also compatible with common General MIDI assignments.

**Patch 14: Logic Pro**

Axiom Pro Numerical Keypad	Logic Pro Shortcut
1	Save project
2	Undo
3	Toggle mixer view
4	Toggle plug-in view
5	Toggle click on/off
6	Quantize
7	Set marker during playback
8	Go to previous marker
9	Go to next marker
–	Previous plug-in setting
0	Loop selection
+	Next plug-in setting

**Encoders and Sliders**

Sliders and Encoders mirror the General MIDI assignments used in Axiom Pro Patch 1. Use the “Control Surfaces” module in Logic Pro to map Axiom Pro to parameters within the software, or HyperControl for complete two-way integration.

**Patch 15: Cubase (Mac) or Patch 16: Cubase (PC)**

Axiom Pro Numerical Keypad	Cubase Shortcut
1	Save project
2	Undo
3	Toggle Mixer View
4	Duplicate selection
5	Go to song start
6	Loop selection
7	Hold while pressing Axiom Pro keypad "8" and "9" to set the L and R locator points, respectively.
8	Go to L
9	Go to R
-	Zoom out (horizontal)
0	Toggle click on/off
+	Zoom in (horizontal)

**Encoders and Sliders**

To use the Axiom Pro Cubase patches, you must create a "generic" remote device in Cubase. Once Axiom Pro is configured as a generic remote device, the sliders and encoder knobs can be re-assigned to control Cubase in any way that suits your personal preference. Please refer to the Cubase user guide to learn how to do this.

By default, the Sliders and Encoders mirror the General MIDI assignments used in Axiom Pro Patch 1. For full two-way integration of Axiom Pro with Cubase, please use HyperControl.

**Patch 17: Reason (Mac) or Patch 18: Reason (PC)**

Axiom Pro Numerical Keypad	Reason Shortcut
1	Save song
2	Undo
3	Toggle click on/off
4	Toggle quantize on/off
5	Zoom out (horizontal)
6	Zoom in (horizontal)
7	Expand sequencer
8	Go to L locator
9	Go to R locator
-	Decrease tempo
0	Go to song start
+	Increase tempo

**Encoders and Sliders**

Patches 17 and 18 are designed to be used with Reason on Macintosh and PC computers, respectively. In this patch, the Axiom Pro Sliders and Encoders are mapped to the Mixer parameters for Reason. In order to make use of these, you must set up Axiom Pro as a 'remote device' and use the MIDI Channel mapping at the top of the virtual rack to assign channel 1 to the Mixer.

The Drum Pads are assigned to control Redrum. Profiles 1, 2, and 3 contain active assignments. Profile 1 will play drums 1-8, while profiles 2 and 3 provide mute and solo control over drums 1-8 respectively.

**Patch 19: Ableton Live**

Axiom Pro Numerical Keypad	Ableton Live Shortcut
1	Trigger 1
2	Trigger 2
3	Trigger 3
4	Trigger 4
5	Trigger 5
6	Trigger 6
7	Trigger 7
8	Trigger 8
9	Set Triggers to changes Encoder Pages
-	Bank mixer down
0	Set Triggers to engage Clips in bank
+	Bank mixer up

*The Ableton Live patch is designed to take advantage of the application's existing support for M-Audio Axiom controllers (i.e. the standard Axiom controller, not the "Pro" version).*

*When configuring Ableton Live, select "Axiom Classic" as your control surface.*

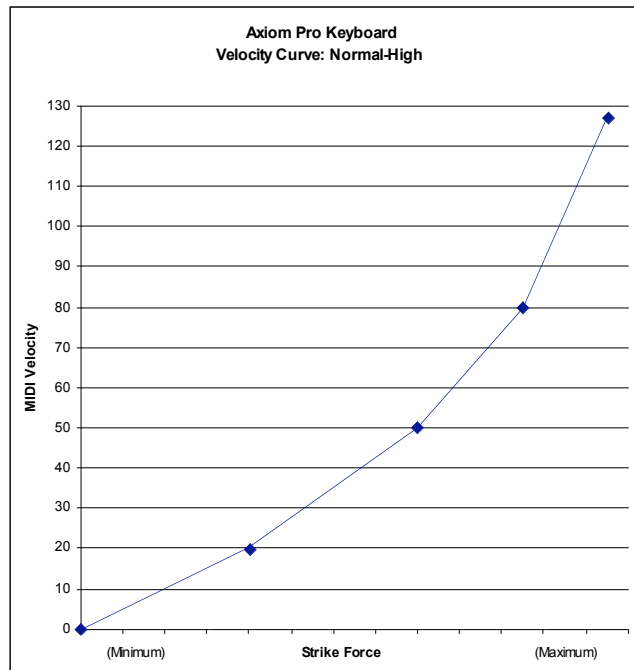
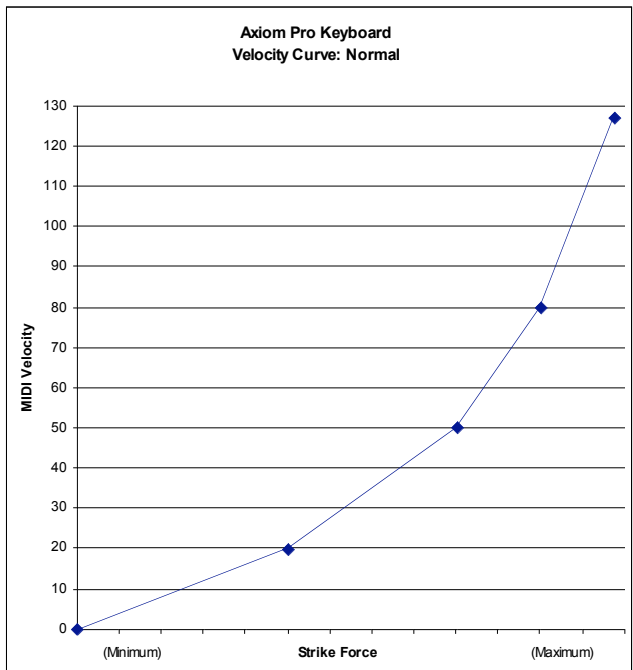
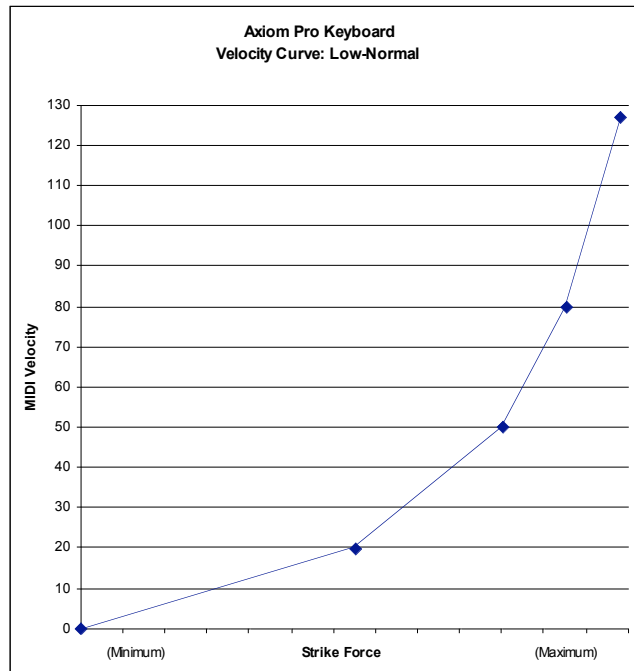
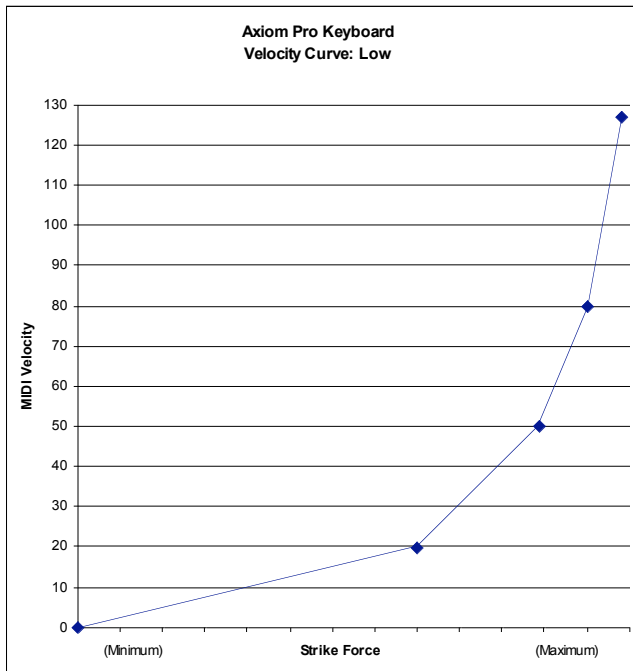
**Patch 20: Numbers**

Axiom Pro Numerical Keypad	ASCII Character
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
-	Enter
0	0
+	Esc

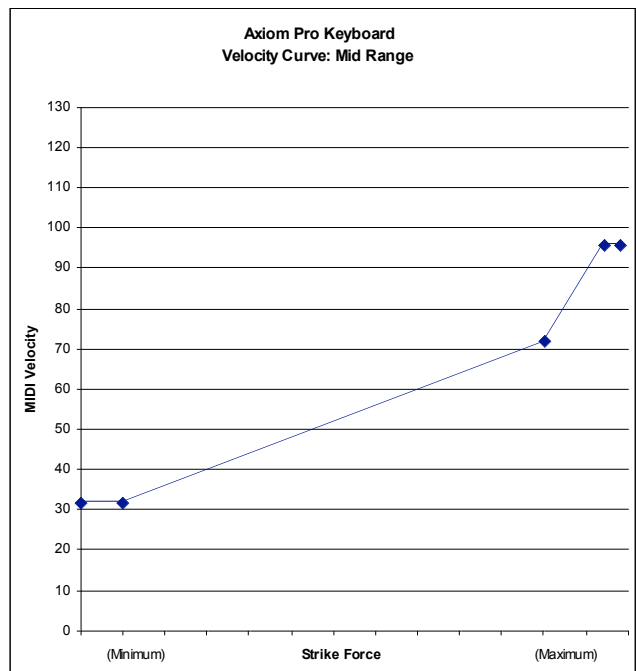
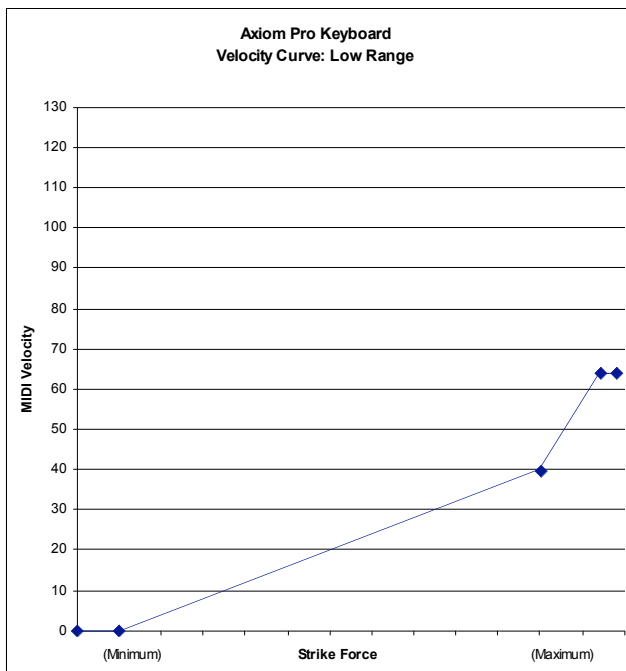
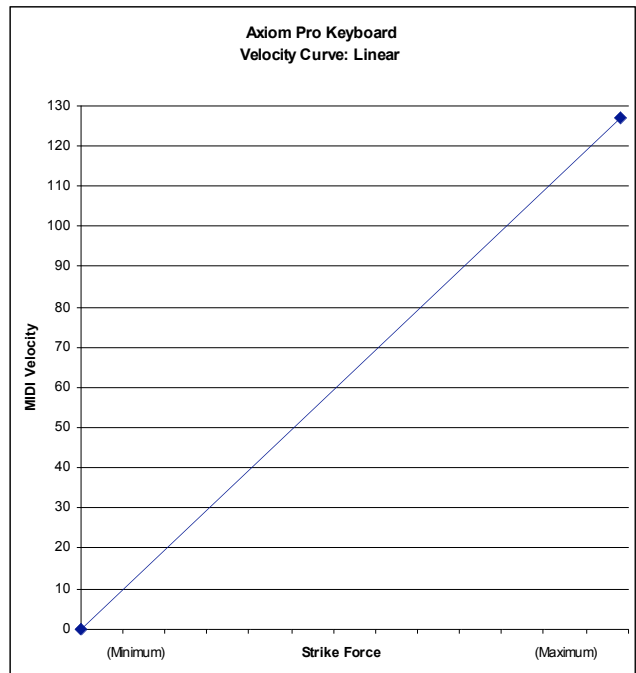
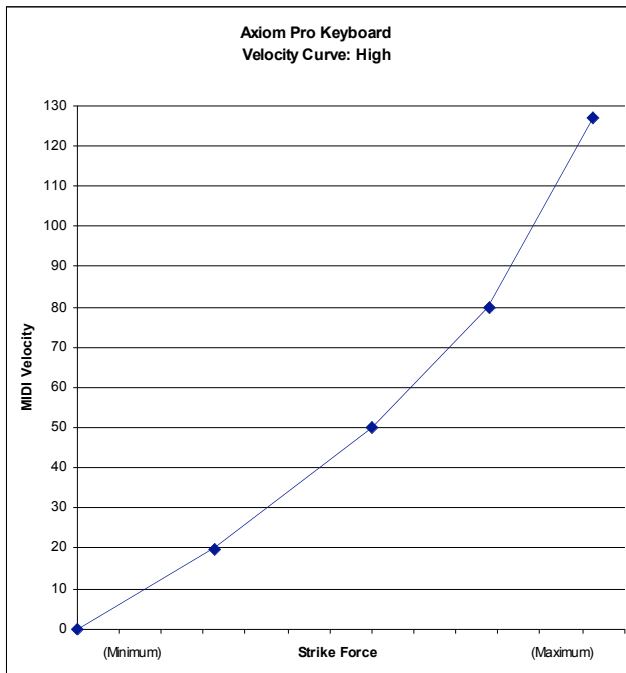
**Encoders and Sliders**

*Sliders and Encoders mirror the General MIDI assignments used in Axiom Pro Patch 1.*

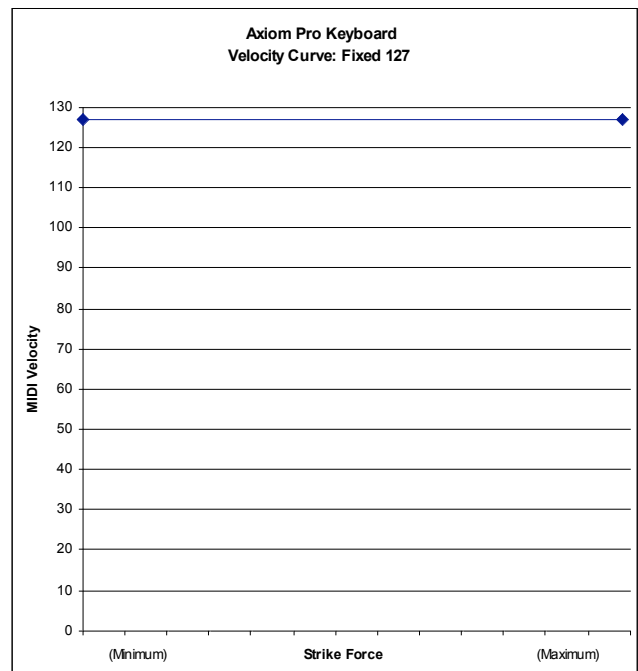
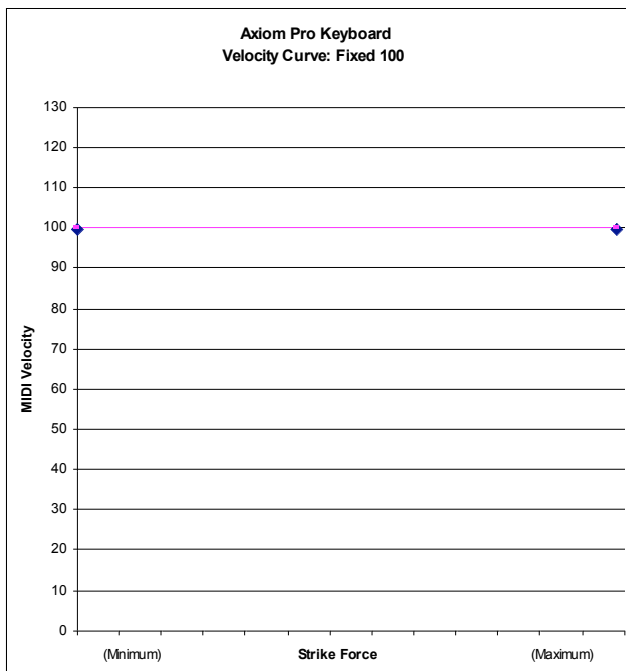
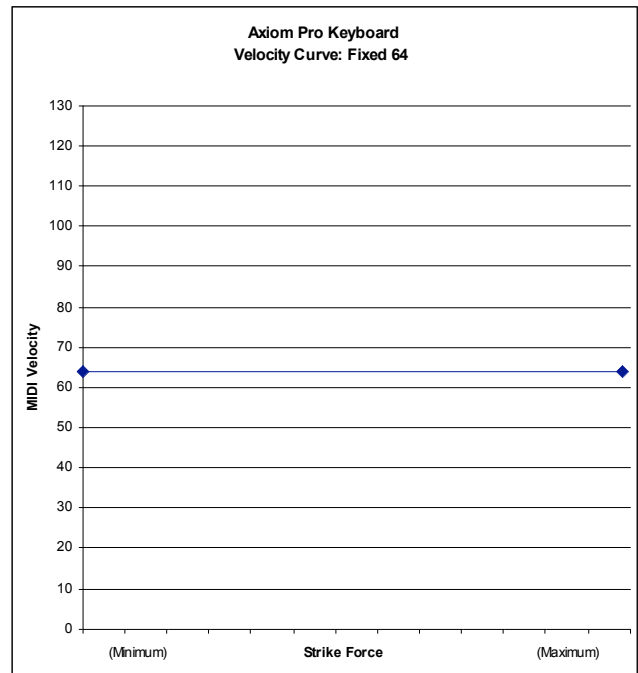
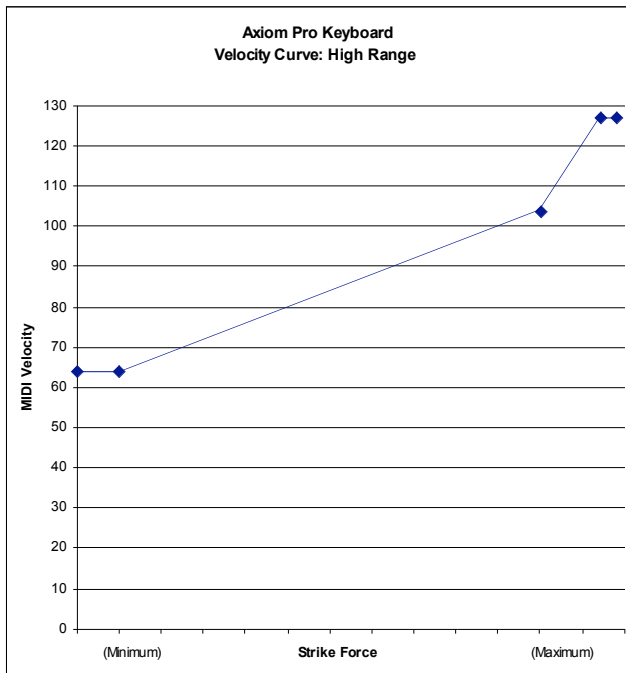
## Appendix B: Keyboard Velocity Curves



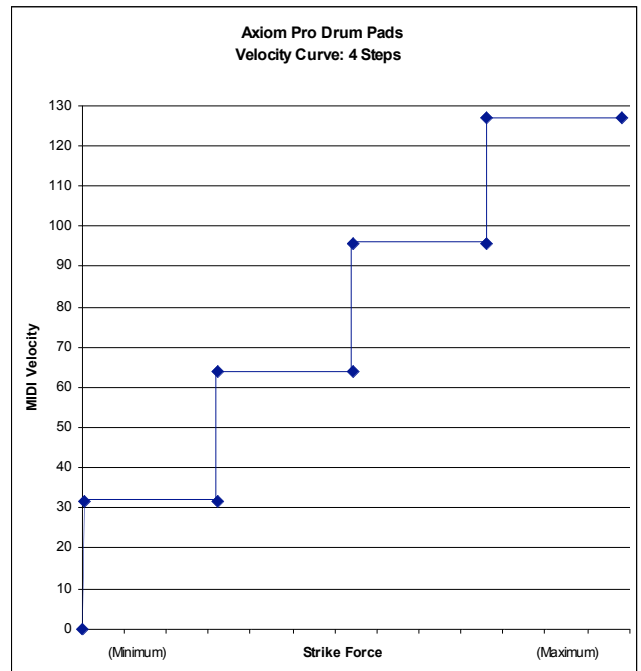
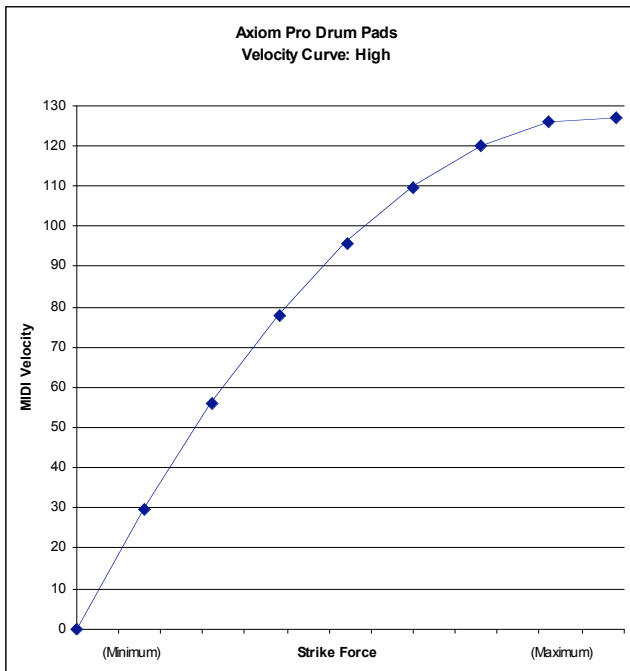
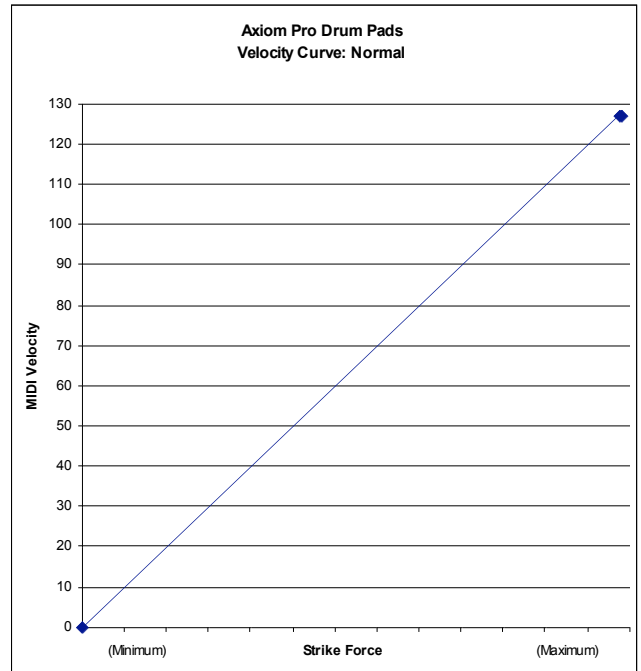
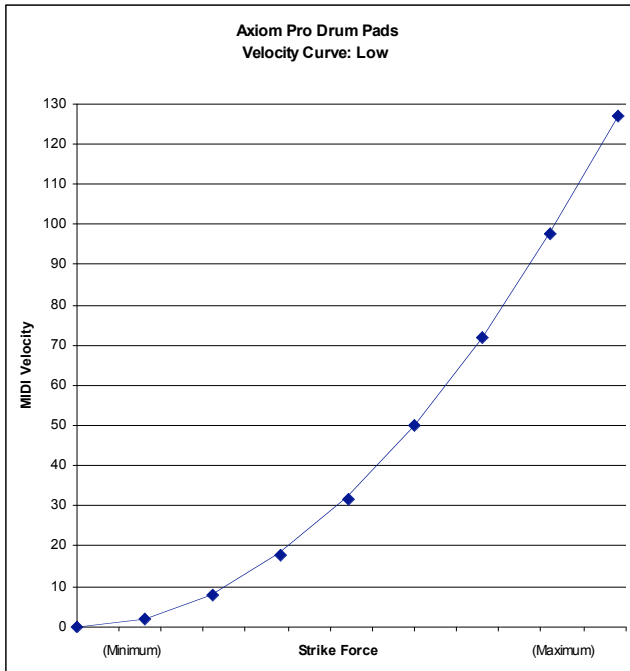
## Appendix B: Keyboard Velocity Curves (continued)



## Appendix B: Keyboard Velocity Curves (continued)

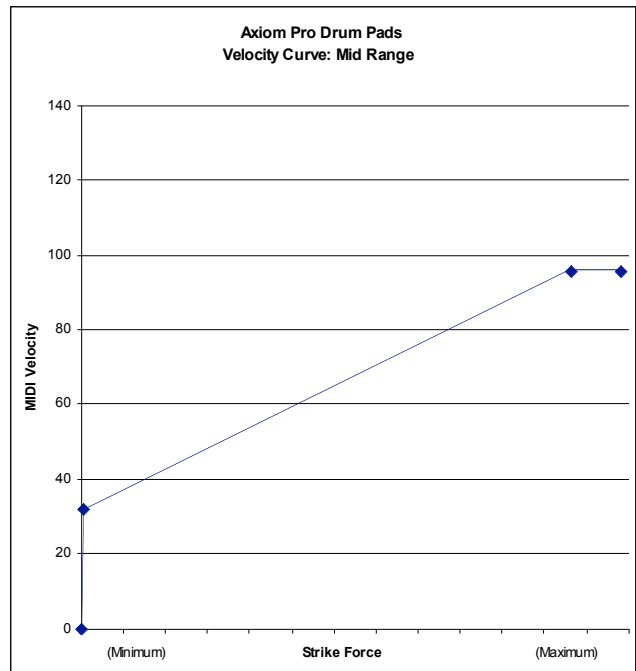
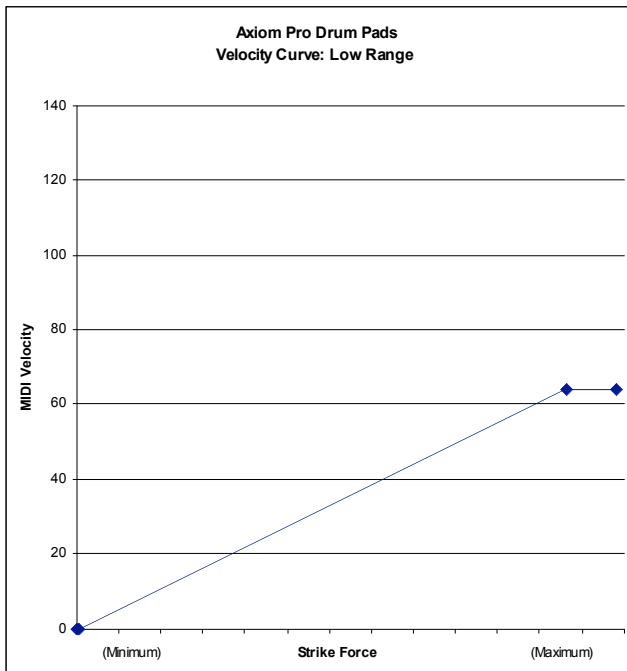
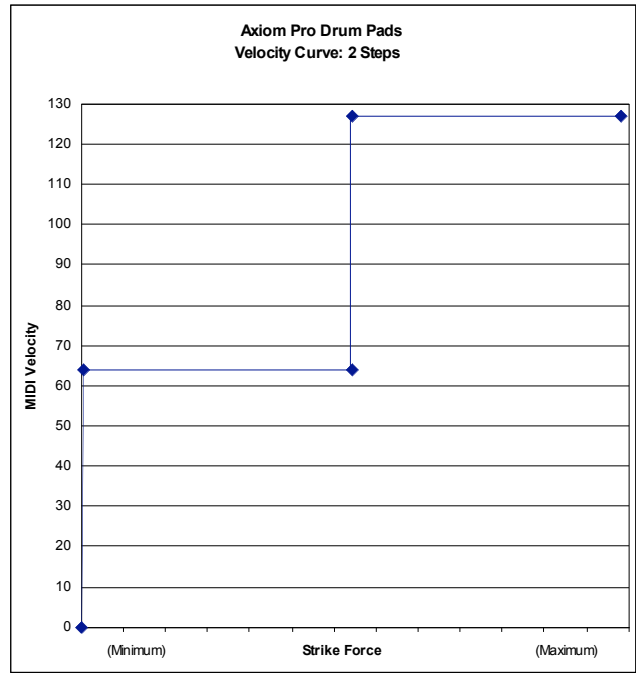
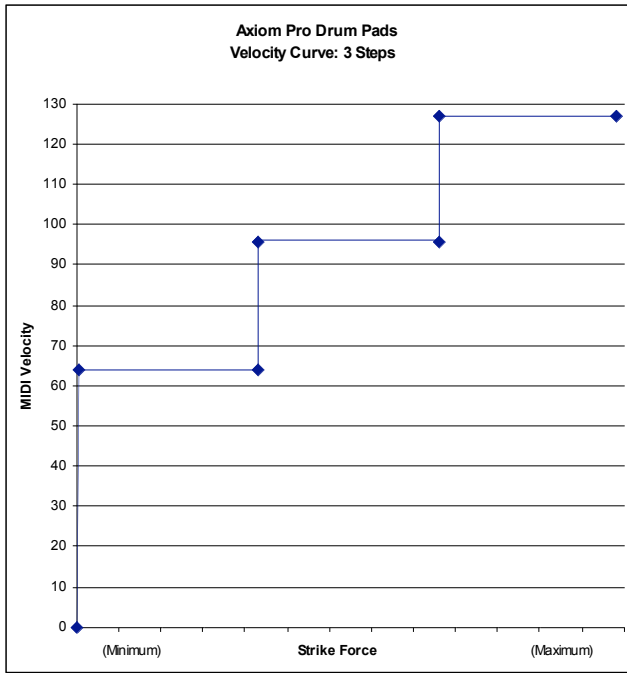


# Appendix C: Drum Pad Velocity Curves

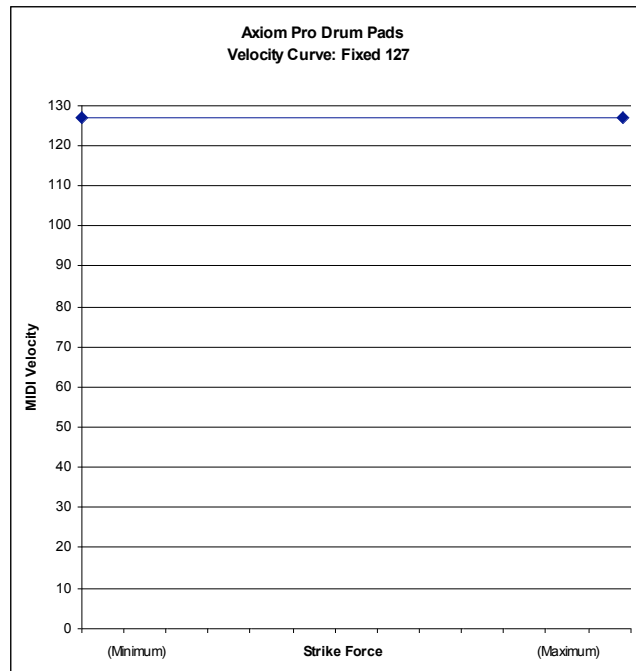
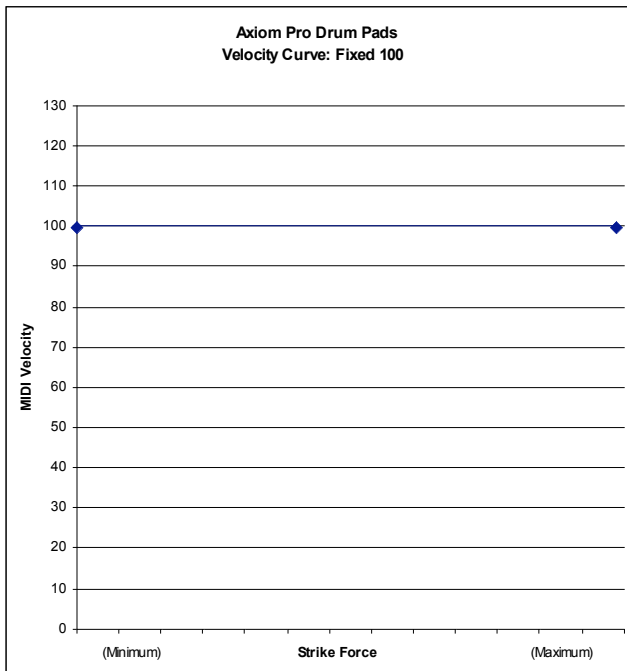
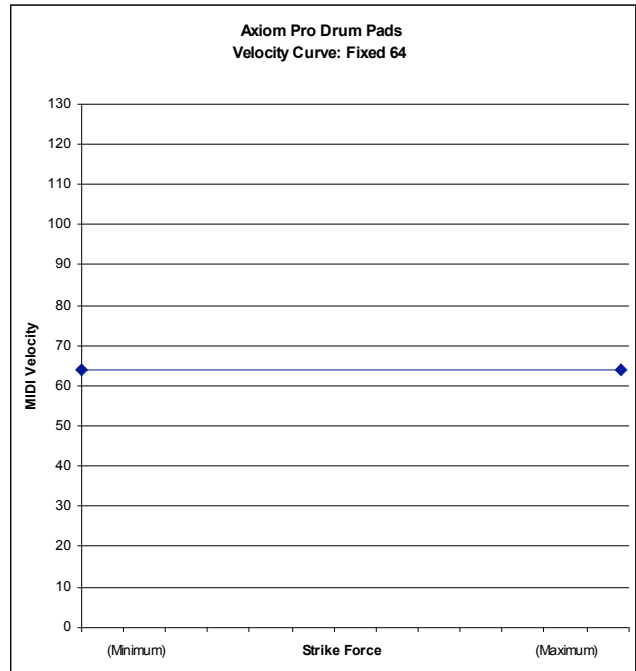
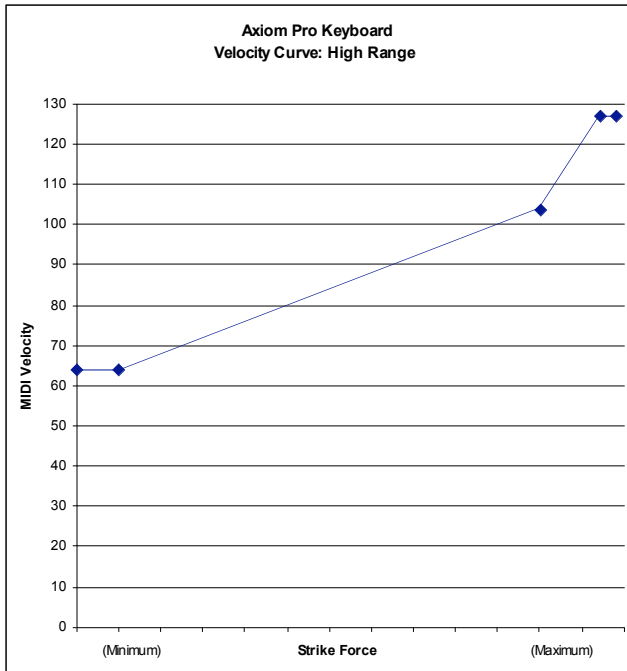




## Appendix C: Drum Pad Velocity Curves (continued)



## Appendix C: Drum Pad Velocity Curves (continued)



## Appendix D: MIDI Implementation

Function		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1-16 1-16	X X	
Mode	Default Messages Altered	Mode 3 0 *****	X	
Note Number	True Voice	0-127 *****	X	
Velocity	Note ON Note OFF	0 X	X X	
After Touch	Key's Channel	X 0	X X	
Pitch Bend		0	X	
Control Change	0-119 120-127	0 0	X X	
Program Change	True #	0-127 *****	X	
System Exclusive		0*	0*	*GM, GM2, MMC, M-Audio: Dev ID Req Mem Dump
System Common	Song Position Pointer Song Sel Tune Request	X X X	X X X	
System Real Time	Clock Commands	X X	X X	
Aux Messages	All Sounds Off Reset All Controllers Local ON/OFF All Notes OFF Active Sensing System Reset	0 0 0 0 X X	X X X X X X	
Notes				

Mode 1: OMNI ON, POLY      Mode 2: OMNI ON, MONO      0: Yes

Mode 3: OMNI OFF, POLY      Mode 4: OMNI OFF, MONO      X: No

## Appendix E: Useful MIDI Data Tables

### E1 - General MIDI Instruments - Program Numbers<sup>14</sup>

<i>Piano</i>	<i>Bass</i>	<i>Reed</i>	<i>Synth Effects</i>
0 Acoustic Grand Piano	32 Acoustic Bass	64 Soprano Sax	96 SFX Rain
1 Bright Acoustic Piano	33 Fingered Bass	65 Alto Sax	97 SFX Soundtrack
2 Electric grand Piano	34 Electric Picked Bass	66 Tenor Sax	98 SFX Crystal
3 Honky Tonk Piano	35 Fretless Bass	67 Baritone Sax	99 SFX Atmosphere
4 Electric Piano 1	36 Slap Bass 1	68 Oboe	100 SFX Brightness
5 Electric Piano 2	37 Slap Bass 2	69 English Horn	101 SFX Goblins
6 Harpsichord	38 Syn Bass 1	70 Bassoon	102 SFX Echoes
7 Clavinet	39 Syn Bass 2	71 Clarinet	103 SFX Sci-Fi
<i>Chromatic Percussion</i>	<i>Strings/Orchestra</i>	<i>Pipe</i>	<i>Ethnic</i>
8 Celesta	40 Violin	72 Piccolo	104 Sitar
9 Glockenspiel	41 Viola	73 Flute	105 Banjo
10 Music Box	42 Cello	74 Recorder	106 Shamisen
11 Vibraphone	43 Contrabass	75 Pan Flute	107 Koto
12 Marimba	44 Tremolo Strings	76 Bottle Blow	108 Kalimba
13 Xylophone	45 Pizzicato Strings	77 Shakuhachi	109 Bag Pipe
14 Tubular bells	46 Orchestral Harp	78 Whistle	110 Fiddle
15 Dulcimer	47 Timpani	79 Ocarina	111 Shanai
<i>Organ</i>	<i>Ensemble</i>	<i>Synth Lead</i>	<i>Percussive</i>
16 Drawbar Organ	48 String Ensemble 1	80 Syn Square Wave	112 Tinkle Bell
17 Percussive Organ	49 String Ensemble 2	81 Syn Sawtooth Wave	113 Agogo
18 Rock Organ	50 Syn Strings 1	82 Syn Calliope	114 Steel Drums
19 Church Organ	51 Syn Strings 2	83 Syn Chiff	115 Woodblock
20 Reed Organ	52 Choir Aahs	84 Syn Charang	116 Taiko Drum
21 Accordion	53 Voice Oohs	85 Syn Voice	117 Melodic Tom
22 Harmonica	54 Syn Choir	86 Syn Sawtooth Wave	118 Syn Drum
23 Tango Accordion	55 Orchestral Hit	87 Syn Brass & Lead	119 Reverse Cymbal
<i>Guitar</i>	<i>Brass</i>	<i>Synth Pad</i>	<i>Sound Effects</i>
24 Nylon Acoustic	56 Trumpet	88 New Age Syn Pad	120 Guitar Fret Noise
25 Steel Acoustic	57 Trombone	89 Warm Syn Pad	121 Breath Noise
26 Jazz Electric	58 Tuba	90 Polysynth Syn Pad	122 Seashore
27 Clean Electric	59 Muted Trumpet	91 Choir Syn Pad	123 Bird Tweet
28 Muted Electric	60 French Horn	92 Bowed Syn Pad	124 Telephone Ring
29 Overdrive	61 Brass Section	93 Metal Syn Pad	125 Helicopter
30 Distorted	61 Syn Brass 1	94 Halo Syn Pad	126 Applause
31 Harmonics	62 Syn Brass 2	95 Sweep Syn Pad	127 Gun Shot

<sup>14</sup> Some MIDI devices count preset sounds from 1 – 128 instead of 0-127. As a result, there may be an offset of +/-1 between the program change number sent from the keyboard and the recalled sound preset on your module.

**E2 - General MIDI Note Numbers**

Octave	Note Numbers											
	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
-2	0	1	2	3	4	5	6	7	8	9	10	11
-1	12	13	14	15	16	17	18	19	20	21	22	23
0	24	25	26	27	28	29	30	31	32	33	34	35
1	36	37	38	39	40	41	42	43	44	45	46	47
2	48	49	50	51	52	53	54	55	56	57	58	59
3	60	61	62	63	64	65	66	67	68	69	70	71
4	72	73	74	75	76	77	78	79	80	81	82	83
5	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107
7	108	109	110	111	112	113	114	115	116	117	118	119
8	120	121	122	123	124	125	126	127				

**E3 - Roland GS And Yamaha XG NRPN Messages**

NRPN	NRPN	Data	Data
MSB	LSB	MSB	LSB
CC99	CC98	CC06	CC38
01	08 00-7F	n/a	(-64 - 0 - +63) Vibrato Rate (relative change)
01	09 00-7F	n/a	(-64 - 0 - +63) Vibrato Depth (relative change)
01	0A 00-7F	n/a	(-64 - 0 - +63) Vibrato Delay (relative change)
01	20 00-7F	n/a	(-64 - 0 - +63) Filter Cutoff Freq. (relative change)
01	21 00-7F	n/a	(-64 - 0 - +63) Filter Resonance (relative change)
01	63 00-7F	n/a	(-64 - 0 - +63) EG (TVF&TVA) Attack Time (relative change)
01	64 00-7F	n/a	(-64 - 0 - +63) EG (TVF&TVA) Decay Time (relative change)
01	66 00-7F	n/a	(-64 - 0 - +63) EG (TVF&TVA) Release Time (relative change)
14 <sup>15</sup>	00-7F 00-7F	n/a	(-64 - 0 - +63) Drum Filter Cutoff Freq. (relative change)
15 <sup>15</sup>	00-7F 00-7F	n/a	(-64 - 0 - +63) Drum Filter Resonance (relative change)
16 <sup>15</sup>	00-7F 00-7F	n/a	(-64 - 0 - +63) Drum EG Attack Rate (relative change)
17 <sup>15</sup>	00-7F 00-7F	n/a	(-64 - 0 - +63) Drum EG Decay Rate (relative change)
18 <sup>15</sup>	00-7F 00-7F	n/a	(-64 - 0 - +63) Drum Instrument Pitch Coarse (relative change)
19 <sup>15</sup>	00-7F 00-7F	n/a	(-64 - 0 - +63) Drum Instrument Pitch Fine (relative change)
1A	00-7F 00-7F	n/a	(0 to Max) Drum Instrument Level (absolute change)
1C	00-7F 00-7F	n/a	(Random, L>C>R) Drum Instrument Panpot (absolute change)
1D	00-7F 00-7F	n/a	(0 to Max) Drum Instrument Reverb Send Level (absolute change)
1E	00-7F 00-7F	n/a	(0 to Max) Drum Instrument Chorus Send Level (absolute change)
%1F	00-7F 00-7F	n/a	(0 to Max) Drum Instrument Variation Send Level (absolute change)

<sup>15</sup> Added by Yamaha XG; % changed from Delay to Variation by Yamaha XG

**E4 - GM2 Reverb Types**

- 0:Small Room
- 1:Medium Room
- 2:Large Room
- 3:Medium Hall
- 4:Large Hall
- 8:Plate

**E5 - GM2 Chorus Types**

- 0:Chorus 1
- 1:Chorus 2
- 2:Chorus 3
- 3:Chorus 4
- 4:FB Chorus
- 5:Flanger

**E6 - General MIDI Drums - Note assignments**

MIDI Note	Drum Sound	MIDI Note	Drum Sound	MIDI Note	Drum Sound
35	Acoustic Bass Drum	52	Chinese Cymbal	69	Cabasa
36	Bass Drum 1	53	Ride Bell	70	Maracas
37	Side Stick	54	Tambourine	71	Short Whistle
38	Acoustic Snare	55	Splash Cymbal	72	Long Whistle
39	Hand Clap	56	Cowbell	73	Short Guiro
40	Electric Snare	57	Crash Cymbal 2	74	Long Guiro
41	Low Floor Tom	58	Vibraslap	75	Claves
42	Closed Hi-Hat	59	Ride Cymbal 2	76	Hi Wood Block
43	High Floor Tom	60	Hi Bongo	77	Low Wood Block
44	Pedal Hi-Hat	61	Low Bongo	78	Mute Cuica
45	Low Tom	62	Mute Hi Conga	79	Open Cuica
46	Open Hi-Hat	63	Open Hi Conga	80	Mute Triangle
47	Low-Mid Tom	64	Low Conga	81	Open Triangle
48	Hi-Mid Tom	65	High Timbale		
49	Crash Cymbal 1	66	Low Timbale		
50	High Tom	67	High Agogo		
51	Ride Cymbal 1	68	Low Agogo		

## Appendix F: General MIDI Continuous Controller (CC) Numbers

00	Bank Select	49	Gen Purpose 2 LSB	98	Non-Reg Param LSB
01	Modulation	50	Gen Purpose 3 LSB	99	Non-Reg Param MSB
02	Breath Control	51	Gen Purpose 4 LSB	100	Reg Param LSB
03	Controller 3	52	Controller 52	101	Reg Param MSB
04	Foot Control	53	Controller 53	102	Controller 102
05	Porta Time	54	Controller 54	103	Controller 103
06	Data Entry	55	Controller 55	104	Controller 104
07	Channel Volume	56	Controller 56	105	Controller 105
08	Balance	57	Controller 57	106	Controller 106
09	Controller 9	58	Controller 58	107	Controller 107
10	Pan	59	Controller 59	108	Controller 108
11	Expression	60	Controller 60	109	Controller 109
12	Effects Controller 1	61	Controller 61	110	Controller 110
13	Effects Controller 2	62	Controller 62	111	Controller 111
14	Controller 14	63	Controller 63	112	Controller 112
15	Controller 15	64	Sustain Pedal	113	Controller 113
16	Gen Purpose 1	65	Portamento	114	Controller 114
17	Gen Purpose 2	66	Sostenuto	115	Controller 115
18	Gen Purpose 3	67	Soft Pedal	116	Controller 116
19	Gen Purpose 4	68	Legato Pedal	117	Controller 117
20	Controller 20	69	Hold 2	118	Controller 118
21	Controller 21	70	Sound Variation	119	Controller 119
25	Controller 25	74	Cut-off Frequency	Channel Mode Messages	
26	Controller 26	75	Controller 75	120	All Sound Off
27	Controller 27	76	Controller 76	121	Reset all Controllers
28	Controller 28	77	Controller 77	122	Local Control
29	Controller 29	78	Controller 78	123	All Notes Off
30	Controller 30	79	Controller 79	124	Omni Off
31	Controller 31	80	Gen Purpose 5	125	Omni On
32	Bank Select LSB	81	Gen Purpose 6	126	Mono On (Poly Off)
33	Modulation LSB	82	Gen Purpose 7	127	Poly On (Mono Off)
34	Breath Control LSB	83	Gen Purpose 8		
35	Controller 35	84	Portamento Control		
36	Foot Control LSB	85	Controller 85		
37	Porta Time LSB	86	Controller 86		
38	Data Entry LSB	87	Controller 87		
39	Channel Volume LSB	88	Controller 88		
40	Balance LSB	89	Controller 89		
41	Controller 41	90	Controller 90		
42	Pan LSB	91	Reverb Depth		
43	Expression LSB	92	Tremelo Depth		
44	Controller 44	93	Chorus Depth		
45	Controller 45	94	Celeste (De-tune)		
46	Controller 46	95	Phaser Depth		
47	Controller 47	96	Data Increment		
48	Gen Purpose 1 LSB	97	Data Decrement		

## Appendix G: Hexadecimal Conversion Chart

Hexadecimal value	Decimal value	Hexadecimal value	Decimal value	Hexadecimal value	Decimal value
0	0	2B	43	56	86
1	1	2C	44	57	87
2	2	2D	45	58	88
3	3	2E	46	59	89
4	4	2F	47	5A	90
5	5	30	48	5B	91
6	6	31	49	5C	92
7	7	32	50	5D	93
8	8	33	51	5E	94
9	9	34	52	5F	95
0A	10	35	53	60	96
0B	11	36	54	61	97
0C	12	37	55	62	98
0D	13	38	56	63	99
0E	14	39	57	64	100
0F	15	3A	58	65	101
10	16	3B	59	66	102
11	17	3C	60	67	103
12	18	3D	61	68	104
13	19	3E	62	69	105
14	20	3F	63	6A	106
15	21	40	64	6B	107
16	22	41	65	6C	108
17	23	42	66	6D	109
18	24	43	67	6E	110
19	25	44	68	6F	111
1A	26	45	69	70	112
1B	27	46	70	71	113
1C	28	47	71	72	114
1D	29	48	72	73	115
1E	30	49	73	74	116
1F	31	4A	74	75	117
20	32	4B	75	76	118
21	33	4C	76	77	119
22	34	4D	77	78	120
23	35	4E	78	79	121
24	36	4F	79	7A	122
25	37	50	80	7B	123
26	38	51	81	7C	124
27	39	52	82	7D	125
28	40	53	83	7E	126
29	41	54	84	7F	127
2A	42	55	85		



## Technical Info

**Caution:** Electro Static Discharge, Electrical Fast Transient and Conducted RF interference may cause the unit malfunctioning. In such case, unplug the unit and plug it in again to restore normal operation.

**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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