

# **M-AUDIO®**

## **CODE49** Preset Editor

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### **User Guide**

English

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# M-AUDIO

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## Introduction

The Code 49 Editor software gives you a visual and intuitive way to edit the various MIDI messages that your Code 49 keyboard's controls send to your computer.

## Information & Support

For the latest information about this product (documentation, technical specifications, system requirements, compatibility information, etc.) and product registration, visit [m-audio.com](http://m-audio.com).

For additional product support, visit [m-audio.com/support](http://m-audio.com/support).

## Installation

1. Double-click the **.exe** (Windows®) or **.pkg** (Mac® OS X®) installer file you downloaded.
2. Follow the on-screen instructions.

After the installation has completed, open the **Code 49 Preset Editor** by doing the following:

- **Windows:** Click the **Start Menu**, click **All Programs**, click the **M-Audio** folder, and then click **Code 49 Preset Editor**.
- **Mac OS X:** Double-click **Code 49 Preset Editor** in **Applications**.

## Operation

### Getting Started

To open the Code 49 Editor:

- Optional:** Connect your Code 49 keyboard to your computer using a standard USB cable. (If you are connecting your keyboard to a USB hub, make sure it is a powered hub.) You can still use the editor without connecting a Code 49, but you will not be able to send presets to it or retrieve presets from it.
- Open the Code 49 Editor. The window will show a graphical representation of your Code 49 with all of its editable controls.

**M-AUDIO** **CODE49**

CHG PITCH BEND | CHG CC: 0

X | Y  
CHG CC: 112 | CHG CC: 113

BANK 1 | PRESET NAME PRESET

F1 F2 F3 F4 F5 F6 F7 F8 F9  
CHG CC: 0 | CHG CC: 1 | CHG CC: 2 | CHG CC: 3 | CHG CC: 4 | CHG CC: 5 | CHG CC: 6 | CHG CC: 7 | CHG CC: 8

B1 B2 B3 B4 B5 B6 B7 B8 B9  
CHG NT: 0 | CHG NT: 1 | CHG NT: 2 | CHG NT: 3 | CHG NT: 4 | CHG NT: 5 | CHG NT: 6 | CHG NT: 7 | CHG NT: 8

E1 E2 E3 E4  
CHG CC: 40 | CHG CC: 41 | CHG CC: 42 | CHG CC: 43

E5 E6 E7 E8  
CHG CC: 44 | CHG CC: 45 | CHG CC: 46 | CHG CC: 47

ZONE 1 ZONE 2 ZONE 3 ZONE 4

CHG CC: 64 | CHG CC: 7

BUTTON 1

MIDI | COLORS | MID

NOTE | MMC | PROGRAM | PROGRAM CYCLE | PROGRAM INC/DEC | CC ABSOLUTE | CC CYCLE | CC INC/DEC | RPN/RPN | OTHER

CC: Bank Select | FIRST: 0

CHAN: Global | VALUE 2: 1

TYPE: 4 Values | VALUE 3: 2

LAST: 3

BANK 1

## Managing Your Presets

### About Presets

A preset is a preset file (**.Code49**) containing all of the assignments you make in the Editor. This includes MIDI assignments, HID keystroke assignments, and color assignments. Using presets lets you maintain several different control configurations to use in different situations. For instance, you may use different presets with different kinds of software, or you may use some presets for production and others for performance.

Your Code 49 keyboard can store **12** presets at a time. You can store additional presets on your computer to load onto your Code 49 keyboard with this editor.

This chapter explains how to load presets into the editor ([Loading & Retrieving Presets](#)), save presets onto your computer ([Saving Presets](#)), and send presets to your connected Code 49 keyboard ([Sending Presets](#)).

**Note:** The current preset's name is shown in the upper-right corner of the window. This is the name that appears in your Code 49 keyboard's display when you load it. To change the name, click the field and enter a new name. Preset names can be 6 characters long and can include the following characters: **A-Z, 0-9, [ ] / \ - = \_ ' .** and spaces.



## Loading & Retrieving Presets

To edit a preset, you first have to load it into the Code 49 Editor. You can **load** a preset from your computer or **retrieve** a preset from your connected Code 49 keyboard.

**Note:** The current preset's name is shown in the upper-right corner of the window. This is the name that appears in your Code 49 keyboard's display when you load it. To change the name, click the field and enter a new name. Preset names can be 6 characters long and can include the following characters: **A-Z, 0-9, [ ] / \ - = \_ ' .** and spaces.



**To load a preset from your computer**, do one of the following:

- Click **File** and then click **Load Preset**.
- Press **Ctrl+O** (Windows) or **Control+O** (Mac OS X).

After that, locate the desired preset file (**.Code49**), and click **Open**.

**To retrieve a preset from your connected Code 49:**

1. Click **File** and then click **Retrieve Preset**. Alternatively, press **Ctrl+Shift+R** (Windows) or **Control+Shift+R** (Mac OS X).
2. In the window that appears, click the drop-down menu to select the desired preset number (**Preset 1-12**) or the current settings of your Code 49 (**RAM**).
3. Click **Get** to confirm your choice, or click the **X** in the upper-right corner to close the window and cancel the operation.

**Important:** Editing this preset will not affect the preset stored on your Code 49. See [Sending Presets](#) below to learn how to send the edited preset to your Code 49.

## Saving Presets

Saving a preset on your computer lets you edit it or send it to your Code 49 in the future. All MIDI assignments that you see in the editor will be saved in the preset.

**Note:** The current preset's name is shown in the upper-right corner of the window. This is the name that appears in your Code 49 keyboard's display when you load it. To change the name, click the field and enter a new name. Preset names can be 6 characters long and can include the following characters: **A-Z, 0-9, [ ] / \ - = \_ ' .** and spaces.



**To save the preset,** do one of the following:

- Click **File** and then click **Save Preset**.
- Press **Ctrl+S** (Windows) or **Control+S** (Mac OS X).

If this is the first time you are saving the preset, select the desired location, enter a file name, and click **Save**. The preset will be saved as a **.Code49** file.



## Sending Presets

Sending a preset to your connected Code 49 lets you transfer the preset from the editor to your Code 49 keyboard's internal memory. All MIDI assignments that you see in the editor will be sent to your Code 49.

**Note:** The current preset's name is shown in the upper-right corner of the window. This is the name that appears in your Code 49 keyboard's display when you load it. To change the name, click the field and enter a new name. Preset names can be 6 characters long and can include the following characters: **A–Z, 0–9, [ ] / \ - = \_ ' .** and spaces.



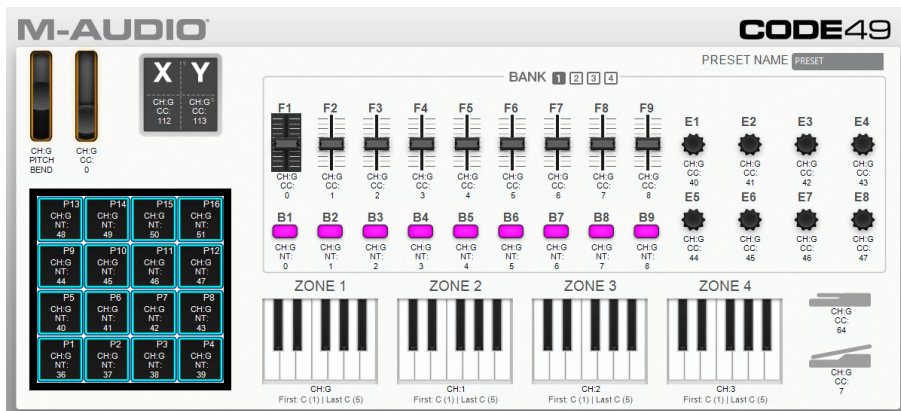
### To send a preset to your connected Code 49:

1. Click **File** and then click **Send Preset**. Alternatively, press **Ctrl+Shift+S** (Windows) or **Control+Shift+S** (Mac OS X).
2. In the window that appears, click the drop-down menu to select the desired preset number (**Preset 1–12**) or the current settings of your Code 49 (**RAM**).
3. Click **Send** to confirm your choice, or click the **X** in the upper-right corner to close the window and cancel the operation. (Sending the preset will overwrite that preset number on your Code 49.)

## Editing the Controls

### Overview

### Graphical User Interface



To edit the parameters for a type of control on your Code 49, click the desired control in the graphic of the Code 49 in the software window.

Click one of the types of controls to jump to that section of this User Guide.

[Encoders](#)

[Pads](#)

[X-Y Pad](#)

[Faders](#)

[Keybed](#)

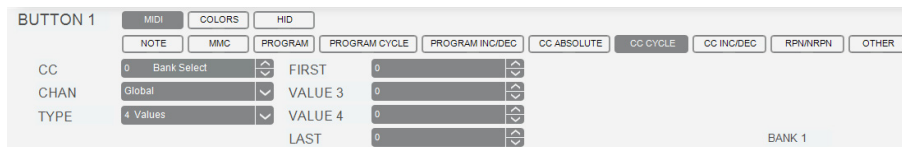
[Sustain Pedal](#)

[Buttons](#)

[Modulation & Pitch Wheels](#)

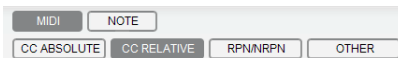
[Volume Pedal](#)

## Control Panel

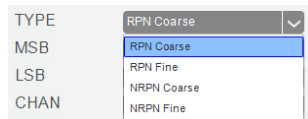


The bottom part of the window is the **control panel**, which shows the available and current modes and parameters of the selected Code 49 control. Its name will appear in the upper-left corner of the control panel, and it will be highlighted in the graphical user interface above it, as well.

**To select a button**, click it.

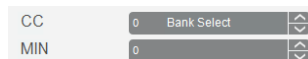


**To use a drop-down menu**, click it to reveal the menu options, and then click an option to select it.

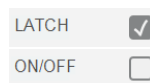


**To use a value field**, do any of the following:

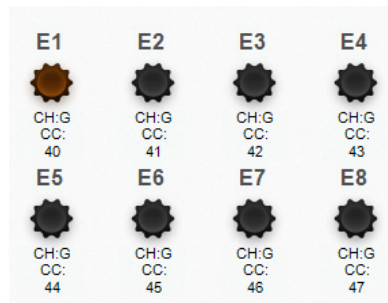
- Click it and enter a number (**0–127**).
- Click the up (▲) or down (▼) arrows next to the field.
- Click it and then use your computer's up (↑) or down (↓) keys.



**To use a checkbox**, click it to check (enable) or uncheck (disable) it. (Doing so may reveal or hide additional parameters that you can set.)



## Encoders



Click one of the encoders (**E1–E8**) to set the MIDI assignments for the corresponding **encoder** on your Code 49. Click one of the **Bank** buttons (**1–4**) at the top of the window to select another bank of encoders. You can assign the parameters for the encoders in MIDI Mode only.

**Mode:** Click one of the 4 buttons to select the corresponding mode for the encoder. The parameters below will depend on your selection.

- **CC Absolute:** The encoder will send CC messages based on its current physical position.
- **CC Relative:** The encoder will send CC messages to increment or decrement the current value.
- **RPN/NRPN:** The encoder will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**).
- **Other:** The encoder will send a message for another type of command.

ENCODER 1

MIDI

CC ABSOLUTE CC RELATIVE RPN|NRPN OTHER

CC 40 Balance LSB

MIN 0

MAX 127

CHAN Global

When set to **CC Absolute**, these are the available parameters:

- **CC:** The encoder will send its MIDI messages using this CC number.
- **Min:** The encoder's minimum position will correspond with this value. You can reverse the encoder's polarity by making this value larger than the **Max** value.
- **Max:** The encoder's maximum position will correspond with this value. You can reverse the encoder's polarity by making this value smaller than the **Min** value.
- **Chan:** The encoder will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

**ENCODER 1** MIDI

CC ABSOLUTE
CC RELATIVE
RPN/IRPN
OTHER

TYPE	Up (Type 1)	▼
CC	40 Balance LSB	↕
CHAN	Global	▼

When set to **CC Relative**, these are the available parameters:

- **Type:** The encoder will increment or decrement the CC's current value, depending on this setting. Select one of these options:
  - **Up (Type 1) or Up (Type 2):** Turning the encoder clockwise increments the value. Turning it counter-clockwise decrements the value. If your software does not respond to the **(Type 1)** setting, use the **(Type 2)** setting—or vice versa.
  - **Down (Type 1) or Down (Type 2):** Turning the encoder clockwise decrements the value. Turning it counter-clockwise increments the value. If your software does not respond to the **(Type 1)** setting, use the **(Type 2)** setting—or vice versa.
- **CC:** The encoder will send its MIDI messages using this CC number.
- **Chan:** The encoder will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

**ENCODER 1**

**MIDI**

TYPE  ▼

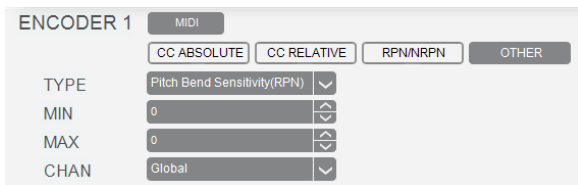
MSB  ▲▼

LSB  ▲▼

CHAN  ▼

When set to **RPN/NRPN**, these are the available parameters:

- **Type:** The encoder will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**), depending on this setting. Select one of these options:
  - **RPN Coarse** or **RPN Fine:** Turning the encoder adjusts the RPN coarsely or finely, respectively.
  - **NRPN Coarse** or **NRPN Fine:** Turning the encoder adjusts the NRPN coarsely or finely, respectively.
- **MSB:** The encoder will send this Most Significant Byte value when you turn it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN MSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN MSB.
- **LSB:** The encoder will send this Least Significant Byte value when you turn it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN LSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN LSB.
- **Chan:** The encoder will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

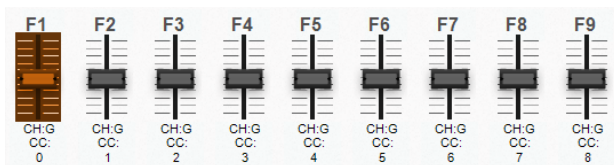


When set to **Other**, these are the available parameters:

- **Type:** The encoder will adjust this parameter when you turn it. Select one of these options: **Pitch Bend Sensitivity (RPN)**, **Fine Tune (RPN)**, **Coarse Tune (RPN)**, **Channel Pressure**, **Master Volume (SysEx)**, **Master Pan (SysEx)**, **Coarse Tune (SysEx)**, **Fine Tune (SysEx)**, **Chorus Mod. Rate (SysEx)**, **Chorus Mod. Depth (SysEx)**, **Feedback (SysEx)**, **Send to Reverb (SysEx)**, or **Pitch Bend**.
- **Min:** The encoder's minimum position will correspond with this value. Click it and enter a number (**0–127**). You can reverse the encoder's polarity by making this value larger than the **Max** value.
- **Max:** The encoder's maximum position will correspond with this value. Click it and enter a number (**0–127**). You can reverse the encoder's polarity by making this value smaller than the **Min** value.
- **Chan:** The encoder will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



## Faders



Click one of the faders (**F1–F9**) to set the MIDI assignments for the corresponding **fader** on your Code 49. Click one of the **Bank** buttons (**1–4**) at the top of the window to select another bank of faders. You can assign the parameters for the fader in MIDI Mode only.

**Mode:** Click one of the 4 buttons to select the corresponding mode for the fader. The parameters below will depend on your selection.

- **CC Absolute:** The fader will send CC messages based on its current physical position.
- **CC Relative:** The fader will send CC messages to increment or decrement the current value.
- **RPN/NRPN:** The fader will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**).
- **Other:** The fader will send a message for another type of command.

FADER 1		MIDI						
	<input type="radio"/>	CC ABSOLUTE	<input type="radio"/>	CC RELATIVE	<input type="radio"/>	RPN/NRPN	<input type="radio"/>	OTHER
CC	0	Bank Select	↑	↓				
MIN	0		↑	↓				
MAX	127		↑	↓				
CHAN	Global		↓					

When set to **CC Absolute**, these are the available parameters:

- **CC:** The fader will send its MIDI messages using this CC number.
- **Min:** The fader's minimum position will correspond with this value. You can reverse the fader's polarity by making this value larger than the **Max** value.
- **Max:** The fader's maximum position will correspond with this value. You can reverse the fader's polarity by making this value smaller than the **Min** value.
- **Chan:** The fader will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

FADER 1		MIDI
	CC ABSOLUTE	CC RELATIVE
	RPN/NRPN	OTHER
TYPE	Up (Type 1)	▼
CC	0 Bank Select	▲▼
CHAN	Global	▼

When set to **CC Relative**, these are the available parameters:

- **Type:** The fader will increment or decrement the CC's current value, depending on this setting. Select one of these options:
  - **Up (Type 1)** or **Up (Type 2):** Moving the fader up increments the value. Moving it down decrements the value. If your software does not respond to the **(Type 1)** setting, use the **(Type 2)** setting—or vice versa.
  - **Down (Type 1)** or **Down (Type 2):** Moving the fader up decrements the value. Moving it down increments the value. If your software does not respond to the **(Type 1)** setting, use the **(Type 2)** setting—or vice versa.
- **CC:** The fader will send its MIDI messages using this CC number.
- **Chan:** The fader will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

FADER 1	
	MIDI
	<input type="radio"/> CC ABSOLUTE <input type="radio"/> CC RELATIVE <input checked="" type="radio"/> RPN/NRPN <input type="radio"/> OTHER
TYPE	RPN Coarse ▾
MSB	1 ▾
LSB	127 ▾
CHAN	Global ▾

When set to **RPN/NRPN**, these are the available parameters:

- **Type:** The fader will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**), depending on this setting. Select one of these options:
  - **RPN Coarse** or **RPN Fine:** Moving the fader adjusts the RPN coarsely or finely, respectively.
  - **NRPN Coarse** or **NRPN Fine:** Moving the fader adjusts the NRPN coarsely or finely, respectively.
- **MSB:** The fader will send this Most Significant Byte value when you move it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN MSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN MSB.
- **LSB:** The fader will send this Least Significant Byte value when you move it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN LSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN LSB.
- **Chan:** The fader will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

FADER 1	
	<input type="button" value="MIDI"/>
	<input type="button" value="CC ABSOLUTE"/> <input type="button" value="CC RELATIVE"/> <input type="button" value="RPN/NRPN"/> <input type="button" value="OTHER"/>
TYPE	Pitch Bend Sensitivity(RPN) ▼
MIN	0 ▲▼
MAX	127 ▲▼
CHAN	Global ▼

When set to **Other**, these are the available parameters:

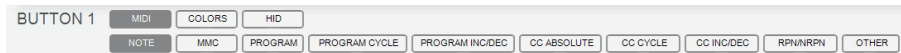
- Type:** The fader will adjust this parameter when you move it. Select one of these options: **Pitch Bend Sensitivity (RPN)**, **Fine Tune (RPN)**, **Coarse Tune (RPN)**, **Channel Pressure**, **Master Volume (SysEx)**, **Master Pan (SysEx)**, **Coarse Tune (SysEx)**, **Fine Tune (SysEx)**, **Chorus Mod. Rate (SysEx)**, **Chorus Mod. Depth (SysEx)**, **Feedback (SysEx)**, **Send to Reverb (SysEx)**, or **Pitch Bend**.
- Min:** The fader's minimum position will correspond with this value. You can reverse the fader's polarity by making this value larger than the **Max** value.
- Max:** The fader's maximum position will correspond with this value. You can reverse the fader's polarity by making this value smaller than the **Min** value.
- Chan:** The fader will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

## Buttons



Click one of the buttons (**B1–B9**) to set the MIDI assignments for the corresponding **button** on your Code 49. Click one of the **Bank** buttons (**1–4**) at the top of the window to select another bank of buttons. You can assign the parameters for the buttons in **MIDI Mode** or **HID Mode** as well as the buttons' **Colors**.

## MIDI



**Mode:** Click this menu and select one of the following options. The parameters below will depend on your selection.

- **Note:** The button will send MIDI note messages.
- **MMC:** The button will send MMC (MIDI Machine Control) messages. MMC is a transport control protocol that is used to remotely control some recording hardware and DAWs.
- **Program:** The button will send a combined program number, Bank LSB, and Bank MSB number. This can be useful for selecting a preset from a specific bank of a virtual instrument or synthesizer (the instrument or synthesizer must support these messages).
- **Program Cycle:** The button will cycle through 2, 3, or 4 program numbers each time you press it.

- **Program Inc/Dec:** The button will increment/decrement the program number by **1** each time you press it. After it reaches its highest or lowest program, it will “wrap around” and start again at its lowest or highest program, respectively. In other words, pressing the button causes the value to cycle through its entire range by increments of 1.
- **CC Absolute:** The button will send MIDI CC messages with a “pressed” value and a “released” value.
- **CC Cycle:** The button will cycle through 2, 3, or 4 MIDI CC values each time you press it.
- **CC Inc/Dec:** The button will increment/decrement a MIDI CC value by **1** each time you press it. After it reaches its highest or lowest value, it will “wrap around” and start again at its lowest or highest value, respectively. In other words, pressing the button causes the value to cycle through its entire range by increments of 1.
- **RPN/NRPN:** The button will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**).
- **Other:** The button will send a message for another type of command.

BUTTON 1

NOTE: 24 C(1)  LATCH

CHAN: Global

ON: 127

OFF: 0

BANK 1

When set to **Note**, these are the available parameters:

- **Note:** The button will send this MIDI note number when you press it.
- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).
- **Latch:** When Latch is enabled, the button will send one value when pressed and a different value when pressed a second time, alternating between the two values with each press (“latching” or “toggle” behavior). When Latch is disabled, the button will send one value when pressed and one value when released (“momentary” behavior).
- **On:** The button will send the MIDI note number with this velocity when you press it to turn it on.
- **Off:** The button will send the MIDI note number with this velocity when you press it to turn it off. This value will usually be **0** (to turn the note off).



BUTTON 1

MIDI    COLORS    HID

NOTE    MMC    PROGRAM    PROGRAM CYCLE    PROGRAM INC/DEC    CC ABSOLUTE    CC CYCLE    CC INC/DEC    RPN/RRPN    OTHER

MMC    Stop

CHAN    Global

BANK 1

When set to **MMC**, these are the available parameters:

- **MMC:** The button will send this MMC message when you press it. Select **Stop**, **Play**, **Deferred Play**, **Fast-Forward**, **Rewind**, **Record Strobe** (Punch In), **Record Exit** (Punch Out), **Record Pause**, **Pause**, **Eject**, **Chase**, or **MMC Reset**.
- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

BUTTON 1

MIDI    COLORS    HID

NOTE    MMC    PROGRAM    PROGRAM CYCLE    PROGRAM INC/DEC    CC ABSOLUTE    CC CYCLE    CC INC/DEC    RPN/RRPN    OTHER

PROGRAM    1

MSB    1

LSB    127

CHAN    Global

BANK 1

When set to **Program**, these are the available parameters:

- **Program:** The button will send this program number when you press it.
- **MSB:** The button will send this Bank MSB (Most Significant Byte) number when you press it.
- **LSB:** The button will send this Bank LSB (Least Significant Byte) number when you press it.
- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

BUTTON 1

MIDI    COLORS    HID

NOTE    MMC    PROGRAM    PROGRAM CYCLE    PROGRAM INC/DEC    CC ABSOLUTE    CC CYCLE    CC INC/DEC    RPN/INRPN    OTHER

CHAN Global

TYPE 4 Values

FIRST	1	↑	↓
VALUE 2	2	↑	↓
VALUE 3	3	↑	↓
LAST	4	↑	↓

BANK 1

When set to **Program Cycle**, these are the available parameters:

- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).
- **Type:** The button will cycle through this many program numbers (one at a time) when you press it: **2 Values**, **3 Values**, or **4 Values**.
- **First & Last:** The button will send these program numbers when you press it, one at a time, cycling through them with each press.

If **Type** is set to **3 Values** or **4 Values**, use the **Value 2** and **Value 3** fields to select additional program numbers.

BUTTON 1

MIDI    COLORS    HID

NOTE    MMC    PROGRAM    PROGRAM CYCLE    PROGRAM INC/DEC    CC ABSOLUTE    CC CYCLE    CC INC/DEC    RPN/IRPN    OTHER

TYPE    Increment    ↓

MIN    0    ↑ ↓

MAX    62    ↑ ↓

CHAN    Global    ↓

BANK 1

When set to **Program Inc/Dec**, these are the available parameters:

- **Type:** The button will send the next (**Increment**) or previous (**Decrement**) program number in the range of programs when you press it.
- **Min:** The lowest program in the range of programs will correspond with this value.
- **Max:** The highest program in the range of programs will correspond with this value.
- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

BUTTON 1	MIDI	COLORS	HID							
	NOTE	MMC	PROGRAM	PROGRAM CYCLE	PROGRAM INC/DEC	CC ABSOLUTE	CC CYCLE	CC INC/DEC	RPN/URPN	OTHER
CC	0	Bank Select	↕							
DOWN	127	↕	↕							
UP	0	↕	↕							
CHAN	Global	↕	↕	BANK 1						

When set to **CC Absolute**, these are the available parameters:

- **CC:** The button will send its MIDI messages using this CC number.
- **Down:** The button will send the MIDI CC number with this value when you press it.
- **Up:** The button will send the MIDI CC number with this value when you release it.
- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

BUTTON 1

MIDI    COLORS    HID

NOTE    MMC    PROGRAM    PROGRAM CYCLE    PROGRAM INC/DEC    CC ABSOLUTE    CC CYCLE    CC INC/DEC    RPN/WRPN    OTHER

CC    0 Bank Select    FIRST    0

CHAN    Global    VALUE 2    1

TYPE    4 Values    VALUE 3    2

LAST    3

BANK 1

When set to **CC Cycle**, these are the available parameters:

- **CC:** The button will send its MIDI messages using this CC number.
- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).
- **Type:** The button will cycle through this many values with the CC number (one at a time) when you press it: **2 Values**, **3 Values**, or **4 Values**.
- **First & Last:** The button will send these values with the CC number when you press it, one at a time, cycling through them with each press.

If **Type** is set to **3 Values** or **4 Values**, use the **Value 2** and **Value 3** fields to select additional values.

BUTTON 1

MIDI    COLORS    HID

NOTE    MMC    PROGRAM    PROGRAM CYCLE    PROGRAM INC/DEC    CC ABSOLUTE    CC CYCLE    **CC INC/DEC**    RPN/RPN    OTHER

TYPE    Increment    CHAN    Global

CC    0 Bank Select

MIN    0

MAX    64

BANK 1

When set to **CC Inc/Dec**, these are the available parameters:

- **Type:** The button will send the next (**Increment**) or previous (**Decrement**) value number in the range of values when you press it.
- **CC:** The button will send its MIDI messages using this CC number.
- **Min:** The lowest value in the range of values will correspond with this value.
- **Max:** The highest value in the range of values will correspond with this value.
- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

BUTTON 1    MIDI    COLORS    HID    NOTE    MMC    PROGRAM    PROGRAM CYCLE    PROGRAM INC/DEC    CC ABSOLUTE    CC CYCLE    CC INC/DEC    **RPN/NRPN**    OTHER

TYPE    RPN Coarse    CHAN    Global

MSB    0

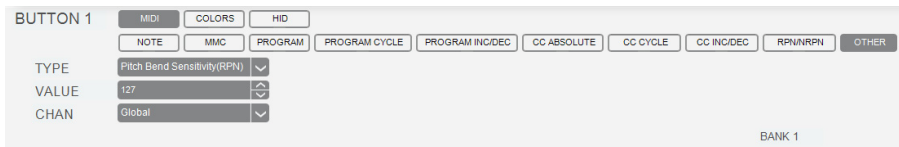
LSB    93

VALUE    0

BANK 1

When set to **RPN/NRPN**, these are the available parameters:

- **Type:** The button will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**), depending on this setting. Select one of these options:
  - **RPN Coarse** or **RPN Fine:** Pressing the button adjusts the RPN coarsely or finely, respectively.
  - **NRPN Coarse** or **NRPN Fine:** Pressing the button adjusts the NRPN coarsely or finely, respectively.
- **MSB:** The button will send this Most Significant Byte value when you press it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN MSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN MSB.
- **LSB:** The button will send this Least Significant Byte value when you press it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN LSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN LSB.
- **Value:** The button will send this value with the RPN or NRPN when you press it.
- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omn**i).

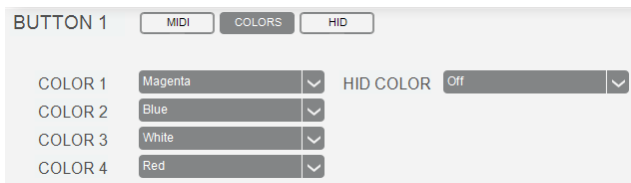


When set to **Other**, these are the available parameters:

- **Type:** The button will send a value for this parameter when you press it. Select one of these options: **Pitch Bend Sensitivity (RPN)**, **Fine Tune (RPN)**, **Coarse Tune (RPN)**, **Channel Pressure**, **Master Volume (SysEx)**, **Master Pan (SysEx)**, **Coarse Tune (SysEx)**, **Fine Tune (SysEx)**, **Chorus Mod. Rate (SysEx)**, **Chorus Mod. Depth (SysEx)**, **Feedback (SysEx)**, **Send to Reverb (SysEx)**, **Pitch Bend**, **Reverb Type (SysEx)**, **Reverb Time (SysEx)**, or **Chorus Type (SysEx)**.
- **Value:** The button will send this value for the parameter when you press it.
- **Chan:** The button will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



## Colors



Each button can have a set of colors assigned to it, making it easier to distinguish between their different functions, notes, etc. Each button can use up to 4 colors, depending on its function.

Use the 5 **Color** drop-down menus to select the color for each button state. The fifth drop-down menu corresponds to its color in HID Mode. (All 4 drop-down menus will be shown even if the button uses only 2 or 3 states.)

**Tip:** Press **Shift** and click a **button** to cycle through its colors.

0	Off	4	Magenta
1	Green	5	Red
2	Cyan	6	Yellow
3	Blue	7	White

## HID



The HID (human interface device) protocol lets devices send standard computer keyboard keystrokes. USB game controllers are an example of this, acting as an alternative to your computer’s keyboard. Your Code 49 keyboard’s assignable **buttons** can also use the HID protocol, letting you configure certain buttons to send your most-often used keystrokes to your software (for example, **Control + C** to copy).

Use the **Key** drop-down menu to select the keystroke the button will send:

<b>Off</b>	<b>Up ↑</b>	<b>‘</b>	<b>-</b>	<b>Page Up</b>
<b>0–9</b>	<b>Down ↓</b>	<b>[</b>	<b>+</b>	<b>Delete</b>
<b>A–Z</b>	<b>Left ←</b>	<b>]</b>	<b>*</b>	<b>End</b>
<b>Space</b>	<b>Right →</b>	<b>\</b>	<b>=</b>	<b>Page Down</b>
<b>F1–F12</b>	<b>Tab</b>	<b>/</b>	<b>Esc</b>	<b>0–9 (numeric keypad)</b>
<b>Backspace</b>	<b>,</b>	<b>`</b>	<b>Insert</b>	
<b>Enter</b>	<b>.</b>	<b>;</b>	<b>Home</b>	

Use the **Mod Key** drop-down menu to select the modifier the button will send:

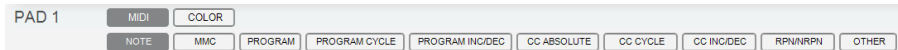
	<u>Windows Modifiers</u>	<u>Mac OS X Modifiers</u>
<b>Off</b>	<b>Shift</b>	<b>Shift</b>
	<b>Control</b>	<b>Control</b>
	<b>Window</b>	<b>Control</b>
	<b>Alt</b>	<b>Option</b>
	<b>Shift+Control</b>	<b>Shift+Control</b>
	<b>Shift+Window</b>	<b>Shift+Option</b>
	<b>Shift+Alt</b>	<b>Shift+Control</b>
	<b>Control+Window</b>	<b>Control+Control</b>
	<b>Control+Alt</b>	<b>Control+Option</b>
	<b>Window+Alt</b>	<b>Control+Option</b>
	<b>Shift+Control+Window</b>	<b>Shift+Control+Control</b>
	<b>Shift+Control+Alt</b>	<b>Shift+Control+Option</b>
	<b>Shift+Window+Alt</b>	<b>Shift+Option+Control</b>
	<b>Control+Window+Alt</b>	<b>Control+Control+Option</b>

## Pads

Click one of the pads (**P1–P16**) to set the MIDI assignments for the corresponding **pad** on your Code 49. You can assign the parameters for the pads in **MIDI Mode** as well as the pads' **Colors**.



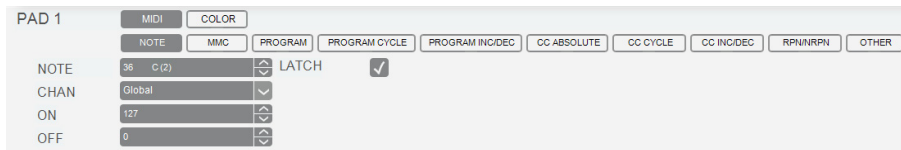
## MIDI



**Mode:** Click this menu and select one of the following options. The parameters below will depend on your selection.

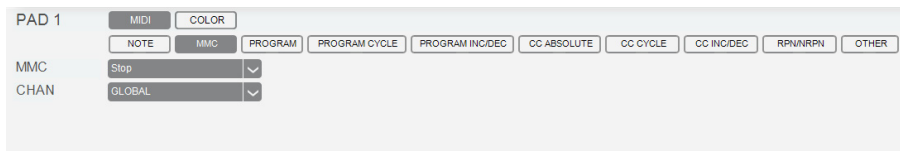
- **Note:** The pad will send MIDI note messages.
- **MMC:** The pad will send MMC (MIDI Machine Control) messages. MMC is a transport control protocol that is used to remotely control some recording hardware and DAWs.
- **Program:** The pad will send a combined program number, Bank LSB, and Bank MSB number. This can be useful for selecting a preset from a specific bank of a virtual instrument or synthesizer (the instrument or synthesizer must support these messages).
- **Program Cycle:** The pad will cycle through 2, 3, or 4 program numbers each time you press it.

- **Program Inc/Dec:** The pad will increment/decrement the program number by **1** each time you press it. After it reaches its highest or lowest program, it will “wrap around” and start again at its lowest or highest program, respectively. In other words, pressing the pad causes the value to cycle through its entire range by increments of 1.
- **CC Absolute:** The pad will send MIDI CC messages with a “pressed” value and a “released” value.
- **CC Cycle:** The pad will cycle through 2, 3, or 4 MIDI CC values each time you press it.
- **CC Inc/Dec:** The pad will increment/decrement a MIDI CC value by **1** each time you press it. After it reaches its highest or lowest value, it will “wrap around” and start again at its lowest or highest value, respectively. In other words, pressing the pad causes the value to cycle through its entire range by increments of 1.
- **RPN/NRPN:** The pad will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**).
- **Other:** The pad will send a message for another type of command.



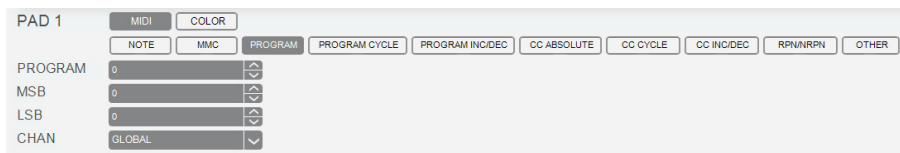
When set to **Note**, these are the available parameters:

- **Note:** The pad will send this MIDI note number when you press it.
- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).
- **Latch:** When Latch is enabled, the pad will send one value when pressed and a different value when pressed a second time, alternating between the two values with each press (“latching” or “toggle” behavior). When Latch is disabled, the pads will send one value when pressed and one value when released (“momentary” behavior).
- **On** (available if **Latch** is enabled): The pad will send the MIDI note number with this velocity when you press it to turn it on.
- **Off** (available if **Latch** is enabled): The pad will send the MIDI note number with this velocity when you press it to turn it off. This value will usually be **0** (to turn the note off).



When set to **MMC**, these are the available parameters:

- **MMC:** The pad will send this MMC message when you press it. Select **Stop**, **Play**, **Deferred Play**, **Fast-Forward**, **Rewind**, **Record Strobe** (Punch In), **Record Exit** (Punch Out), **Record Pause**, **Pause**, **Eject**, **Chase**, or **MMC Reset**.
- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omn**i).



When set to **Program**, these are the available parameters:

- **Program:** The pad will send this program number when you press it.
- **MSB:** The pad will send this Bank MSB (Most Significant Byte) number when you press it.
- **LSB:** The pad will send this Bank LSB (Least Significant Byte) number when you press it.
- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omn**i).

PAD 1

	MIDI	COLOR									
	NOTE	MMC	PROGRAM	PROGRAM CYCLE	PROGRAM INC/DEC	CC ABSOLUTE	CC CYCLE	CC INC/DEC	RPN/NRPN	OTHER	
CHAN	Global		FIRST	0							
TYPE	4 Values		VALUE 2	1							
			VALUE 3	2							
			LAST	3							

When set to **Program Cycle**, these are the available parameters:

- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).
- **Type:** The pad will cycle through this many program numbers (one at a time) when you press it: **2 Values**, **3 Values**, or **4 Values**.
- **First & Last:** The pad will send these program numbers when you press it, one at a time, cycling through them with each press.

If **Type** is set to **3 Values** or **4 Values**, use the **Value 2** and **Value 3** fields to select additional program numbers.



PAD 1

	MIDI	COLOR																		
	NOTE	MMC	PROGRAM	PROGRAM CYCLE	PROGRAM INC/DEC	CC ABSOLUTE	CC CYCLE	CC INC/DEC	RPN/RRPN	OTHER										
TYPE	Increment																			
MIN	0																			
MAX	40																			
CHAN	Global																			

When set to **Program Inc/Dec**, these are the available parameters:

- **Type:** The pad will send the next (**Increment**) or previous (**Decrement**) program number in the range of programs when you press it.
- **Min:** The lowest program in the range of programs will correspond with this value.
- **Max:** The highest program in the range of programs will correspond with this value.
- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

PAD 1	MIDI	COLOR																		
	NOTE	MMC	PROGRAM	PROGRAM CYCLE	PROGRAM IN/DEC	CC ABSOLUTE	CC CYCLE	CC IN/DEC	RPV/NRPV	OTHER										
CC	0	Bank Select																		
DOWN	127																			
UP	0																			
CHAN	Global																			

When set to **CC Absolute**, these are the available parameters:

- **CC:** The pad will send its MIDI messages using this CC number.
- **Down:** The pad will send the MIDI CC number with this value when you press it.
- **Up:** The pad will send the MIDI CC number with this value when you release it.
- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

PAD 1

	MIDI	COLOR								
	NOTE	MMC	PROGRAM	PROGRAM CYCLE	PROGRAM INC/DEC	CC ABSOLUTE	CC CYCLE	CC INC/DEC	RPN/RPN	OTHER
CC	0	Bank Select	FIRST	0						
CHAN	Global		VALUE 2	1						
TYPE	4 Values		VALUE 3	2						
			LAST	3						

When set to **CC Cycle**, these are the available parameters:

- **CC:** The pad will send its MIDI messages using this CC number.
- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).
- **Type:** The pad will cycle through this many values with the CC number (one at a time) when you press it: **2 Values**, **3 Values**, or **4 Values**.
- **First & Last:** The pad will send these values with the CC number when you press it, one at a time, cycling through them with each press.

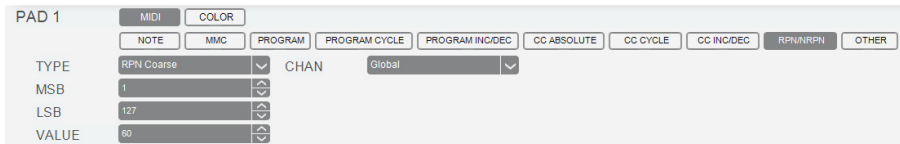
If **Type** is set to **3 Values** or **4 Values**, use the **Value 2** and **Value 3** fields to select additional values.

PAD 1

	MIDI	COLOR												
	NOTE	MMC	PROGRAM	PROGRAM CYCLE	PROGRAM INC/DEC	CC ABSOLUTE	CC CYCLE	CC INC/DEC	RPN/RPN	OTHER				
TYPE	Increment		CHAN	Global										
CC	0 Bank Select													
MIN	64													
MAX	127													

When set to **CC Inc/Dec**, these are the available parameters:

- **Type:** The pad will send the next (**Increment**) or previous (**Decrement**) value number in the range of values when you press it.
- **CC:** The pad will send its MIDI messages using this CC number.
- **Min:** The lowest value in the range of values will correspond with this value.
- **Max:** The highest value in the range of values will correspond with this value.
- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



When set to **RPN/NRPN**, these are the available parameters:

- **Type:** The pad will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**), depending on this setting. Select one of these options:
  - **RPN Coarse** or **RPN Fine:** Pressing the pad adjusts the RPN coarsely or finely, respectively.
  - **NRPN Coarse** or **NRPN Fine:** Pressing the pad adjusts the NRPN coarsely or finely, respectively.
- **MSB:** The pad will send this Most Significant Byte value when you press it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN MSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN MSB.
- **LSB:** The pad will send this Least Significant Byte value when you press it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN LSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN LSB.
- **Value:** The pad will send this value with the RPN or NRPN when you press it.
- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

PAD 1

MIDI COLOR

NOTE MMC PROGRAM PROGRAM CYCLE PROGRAM IN/DEC CC ABSOLUTE CC CYCLE CC IN/DEC RPN/VRPN OTHER

TYPE Pitch Bend Sensitivity(RPN) ▾

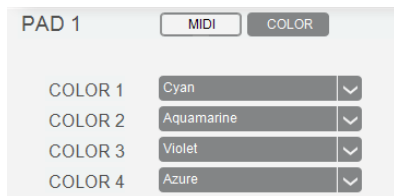
VALUE 127 ▾

CHAN Global ▾

When set to **Other**, these are the available parameters:

- **Type:** The pad will send a value for this parameter when you press it. Select one of these options: **Pitch Bend Sensitivity (RPN)**, **Fine Tune (RPN)**, **Coarse Tune (RPN)**, **Channel Pressure**, **Master Volume (SysEx)**, **Master Pan (SysEx)**, **Coarse Tune (SysEx)**, **Fine Tune (SysEx)**, **Chorus Mod. Rate (SysEx)**, **Chorus Mod. Depth (SysEx)**, **Feedback (SysEx)**, **Send to Reverb (SysEx)**, **Pitch Bend**, **Reverb Type (SysEx)**, **Reverb Time (SysEx)**, or **Chorus Type (SysEx)**.
- **Value:** The pad will send this value for the parameter when you press it.
- **Chan:** The pad will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

## Colors



Each pad can have a set of colors assigned to it, making it easier to distinguish between their different functions, notes, etc. Each pad can use up to 4 colors, depending on its function.

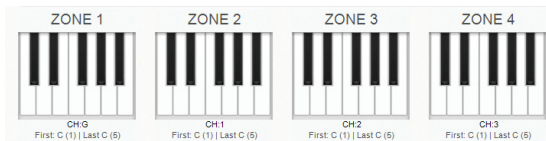
Use the 4 **Color** drop-down menus to select the color for each pad state. (All 4 drop-down menus will be shown even if the pad uses only 2 or 3 states.)

**Tip:** Press **Shift** and click a **pad** to cycle through its colors.

0	Off
1	Chartreuse
2	Green
3	Aquamarine
4	Cyan
5	Azure
6	Blue

7	Violet
8	Magenta
9	Rose
10	Red
11	Orange
12	Yellow
13	White

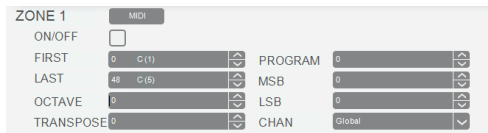
## Keybed



The **keybed** (the piano keys) on your Code 49 can be divided into 1–4 “zones.” When zones are active (when the **Zone** button and one or more **Zone 1–4** buttons are lit), each zone can send its controls’ MIDI messages over its own MIDI channel. You can assign the parameters for the keybed/zones in MIDI Mode only.

**Tip:** This feature is great for dividing your Code keyboard between different virtual instruments or synthesizers. For example, you can create two zones, each using a different MIDI channel, and play and control two virtual instruments simultaneously—one with each half of the keys.

Click one of the **Zone 1–4** piano keys to set the MIDI assignments for the corresponding zone on your Code 49. All 4 zones have the same parameters, which you can set independently.



These are the available parameters:

- **On/Off:** When this box is checked, the zone on your Code 49 keyboard will be active. When this box is unchecked, the zone on your Code 49 keyboard will be inactive.
- **First:** The zone’s lowest key will correspond with this note.
- **Last:** The zone’s highest key will correspond with this note.



- **Octave:** The zone's keys will send their notes using this octave shift (from their original position on the keybed).

**Note:** The zone octave and transposition are independent from the keyboard's overall octave and transposition, but all of these affect the note a key sends out.

- **Transpose:** The zone's keys will send their notes using this transposition (from their original position on the keybed).

**Note:** The zone octave and transposition are independent from the keyboard's overall octave and transposition, but all of these affect the note a key sends out.

- **Program:** The zone will send this program number when you press a key in it.
- **MSB:** The zone will send this Bank MSB (Most Significant Byte) number when you press a key in it.
- **LSB:** The zone will send this Bank LSB (Least Significant Byte) number when you press a key in it.
- **Chan:** The zone will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

**Note:** Any other controls whose **Chan** settings are set to this zone will send their messages using this channel, as well.

## Modulation & Pitch Wheels

Click the **modulation wheel** (the left wheel) or the **pitch-bend wheel** (the right wheel) to set the MIDI assignments for the corresponding **wheel** on your Code 49. You can assign the parameters for the modulation wheel and pitch wheel in MIDI Mode only.



**Mode:** Click one of the 4 buttons to select the corresponding mode for the wheel. The parameters below will depend on your selection.

- **CC Absolute:** The wheel will send CC messages based on its current physical position.
- **RPN/NRPN:** The wheel will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**).
- **Other:** The wheel will send a message for another type of command.

P. WHEEL		MIDI
	CC ABSOLUTE	RPN/NRPN OTHER
CC	14 Controller 14	↑ ↓
MIN	0	↑ ↓
MAX	127	↑ ↓
CHAN	Global	↓

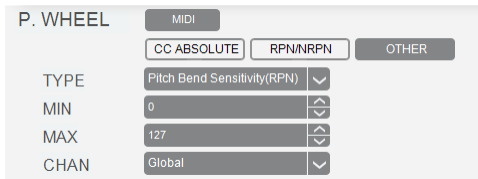
When set to **CC Absolute**, these are the available parameters:

- **CC:** The wheel will send its MIDI messages using this CC number.
- **Min:** The wheel's minimum position will correspond with this value. You can reverse the wheel's polarity by making this value larger than the **Max** value.
- **Max:** The wheel's maximum position will correspond with this value. You can reverse the wheel's polarity by making this value smaller than the **Min** value.
- **Chan:** The wheel will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

P. WHEEL	MIDI	
	CC ABSOLUTE	RPN/NRPN
	OTHER	
	TYPE	RPN Coarse
	MSB	30
LSB	60	
CHAN	Global	

When set to **RPN/NRPN**, these are the available parameters:

- **Type:** The wheel will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**), depending on this setting. Select one of these options:
  - **RPN Coarse** or **RPN Fine:** Moving the wheel adjusts the RPN coarsely or finely, respectively.
  - **NRPN Coarse** or **NRPN Fine:** Moving the wheel adjusts the NRPN coarsely or finely, respectively.
- **MSB:** The wheel will send this Most Significant Byte value when you move it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN MSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN MSB.
- **LSB:** The wheel will send this Least Significant Byte value when you move it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN LSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN LSB.
- **Chan:** The wheel will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

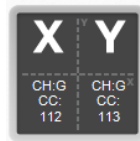


When set to **Other**, these are the available parameters:

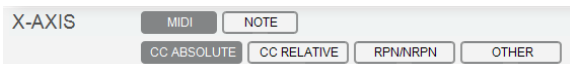
- **Type:** The wheel will adjust this parameter when you move it. Select one of these options: **Pitch Bend Sensitivity (RPN)**, **Fine Tune (RPN)**, **Coarse Tune (RPN)**, **Channel Pressure**, **Master Volume (SysEx)**, **Master Pan (SysEx)**, **Coarse Tune (SysEx)**, **Fine Tune (SysEx)**, **Chorus Mod. Rate (SysEx)**, **Chorus Mod. Depth (SysEx)**, **Feedback (SysEx)**, **Send to Reverb (SysEx)**, or **Pitch Bend**.
- **Min:** The wheel's minimum position will correspond with this value. You can reverse the wheel's polarity by making this value larger than the **Max** value.
- **Max:** The wheel's maximum position will correspond with this value. You can reverse the wheel's polarity by making this value smaller than the **Min** value.
- **Chan:** The wheel will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

## X-Y Pad

Click **X** or **Y** in the X-Y pad to set the MIDI assignments for the corresponding axis of the **X-Y pad** on your Code 49. You can assign the parameters for the X-Y pad in **MIDI Mode** and **Note Mode**.



## MIDI



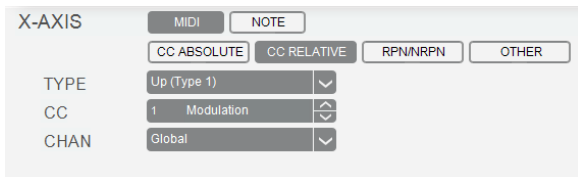
**Mode:** Click one of the 4 buttons to select the corresponding mode for the axis. The parameters below will depend on your selection.

- **CC Absolute:** The axis will send CC messages based on the current physical position of your finger on it.
- **CC Relative:** The axis will send CC messages to increment or decrement the current value.
- **RPN/NRPN:** The axis will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**).
- **Other:** The axis will send a message for another type of command.

X-AXIS	MIDI		NOTE	
	CC ABSOLUTE	CC RELATIVE	RPN/NRPN	OTHER
CC	1	Modulation	↑	↓
MIN	0		↑	↓
MAX	127		↑	↓
CHAN	Global			↓

When set to **CC Absolute**, these are the available parameters:

- **CC:** The axis will send its MIDI messages using this CC number.
- **Min:** The axis's minimum position will correspond with this value. You can reverse the axis's polarity by making this value larger than the **Max** value.
- **Max:** The axis's maximum position will correspond with this value. You can reverse the axis's polarity by making this value smaller than the **Min** value.
- **Chan:** The axis will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



When set to **CC Relative**, these are the available parameters:

- **Type:** The axis will increment or decrement the CC's current value, depending on this setting. Select one of these options:
  - **Up (Type 1)** or **Up (Type 2):** Moving your finger up along the axis increments the value. Moving it down decrements the value. If your software does not respond to the **(Type 1)** setting, use the **(Type 2)** setting—or vice versa.
  - **Down (Type 1)** or **Down (Type 2):** Moving your finger up along the axis decrements the value. Moving it down increments the value. If your software does not respond to the **(Type 1)** setting, use the **(Type 2)** setting—or vice versa.
- **CC:** The axis will send its MIDI messages using this CC number.
- **Chan:** The axis will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



X-AXIS	<input type="radio"/> MIDI	<input type="radio"/> NOTE		
	<input type="radio"/> CC ABSOLUTE	<input type="radio"/> CC RELATIVE	<input type="radio"/> RPN/NRPN	<input type="radio"/> OTHER
	TYPE	RPN Coarse	▼	
	MSB	20	▲▼	
	LSB	2	▲▼	
CHAN	Global	▼		

When set to **RPN/NRPN**, these are the available parameters:

- **Type:** The axis will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**), depending on this setting. Select one of these options:
  - **RPN Coarse** or **RPN Fine:** Moving your finger along the axis adjusts the RPN coarsely or finely, respectively.
  - **NRPN Coarse** or **NRPN Fine:** Moving your finger along the axis adjusts the NRPN coarsely or finely, respectively.
- **MSB:** The axis will send this Most Significant Byte value when you move your finger along it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN MSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN MSB.
- **LSB:** The axis will send this Least Significant Byte value when you move your finger along it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN LSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN LSB.
- **Chan:** The axis will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

X-AXIS	
	<input type="button" value="MIDI"/> <input type="button" value="NOTE"/>
	<input type="button" value="CC ABSOLUTE"/> <input type="button" value="CC RELATIVE"/> <input type="button" value="RPN/IRPN"/> <input type="button" value="OTHER"/>
TYPE	Pitch Bend Sensitivity(RPN) ▼
MIN	0 ▲▼
MAX	127 ▲▼
CHAN	Global ▼

When set to **Other**, these are the available parameters:

- Type:** The axis will adjust this parameter when you move it. Select one of these options: **Pitch Bend Sensitivity (RPN)**, **Fine Tune (RPN)**, **Coarse Tune (RPN)**, **Channel Pressure**, **Master Volume (SysEx)**, **Master Pan (SysEx)**, **Coarse Tune (SysEx)**, **Fine Tune (SysEx)**, **Chorus Mod. Rate (SysEx)**, **Chorus Mod. Depth (SysEx)**, **Feedback (SysEx)**, **Send to Reverb (SysEx)**, or **Pitch Bend**.
- Min:** The axis's minimum position will correspond with this value. You can reverse the axis's polarity by making this value larger than the **Max** value.
- Max:** The axis's maximum position will correspond with this value. You can reverse the axis's polarity by making this value smaller than the **Min** value.
- Chan:** The axis will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

## Note

X-AXIS		MIDI	NOTE		
TYPE	8 Notes	FIRST	80 C (3)	NOTE 5	67 G (3)
SCALE	Major	NOTE 2	82 D (3)	NOTE 6	69 A (3)
		NOTE 3	84 E (3)	NOTE 7	71 B (3)
		NOTE 4	85 F (3)	LAST	72 C (4)

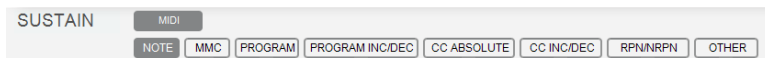
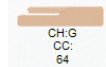
When an axis of the **X-Y pad** is in MIDI Note Mode, you can move your finger along it to send a range of MIDI notes.

These are the available parameters:

- **Type:** The length of the entire axis will be divided into this many segments of equal size: **3–8 Notes** or a range of notes that you select.
- **First:** The axis's minimum position will correspond with this MIDI note. If **Type** is set to **Range**, you can reverse the axis's polarity by making this value larger than the **Max** value.
- **Last:** The axis's maximum position will correspond with this MIDI note. If **Type** is set to **Range**, you can reverse the axis's polarity by making this value smaller than the **Min** value.
- **Note 2–7:** These 1–6 additional fields let you assign notes between the first and last notes.
- **Scale:** When using all 3–8 notes, use this menu to select a scale; all 3–8 notes will then be automatically set to ascending note values of the selected scale. You can shift the entire scale up or down by changing its root note (**First**). Select **Off** to disable this feature and select the notes manually.

## Sustain Pedal

Click the sustain pedal (just under the encoders) to set the MIDI assignments for the **sustain pedal** on your Code 49. You can assign the parameters for the sustain pedal in MIDI Mode only.



**Mode:** Click this menu and select one of the following options. The parameters below will depend on your selection.

- **Note:** The pedal will send MIDI note messages.
- **MMC:** The pedal will send MMC (MIDI Machine Control) messages. MMC is a transport control protocol that is used to remotely control some recording hardware and DAWs.
- **Program:** The pedal will send a combined program number, Bank LSB, and Bank MSB number. This can be useful for selecting a preset from a specific bank of a virtual instrument or synthesizer (the instrument or synthesizer must support these messages).
- **Program Inc/Dec:** The pedal will increment/decrement the program number by **1** each time you press it. After it reaches its highest or lowest program, it will “wrap around” and start again at its lowest or highest program, respectively. In other words, pressing the pedal causes the value to cycle through its entire range by increments of 1.
- **CC Absolute:** The pedal will send a CC message with one value when you press it to turn it on and another value when you press it to turn it off. The values will alternate with each press.
- **CC Inc/Dec:** The pedal will increment/decrement a MIDI CC value by **1** each time you press it. After it reaches its highest or lowest value, it will “wrap around” and start again at its lowest or highest value, respectively. In other words, pressing the pedal causes the value to cycle through its entire range by increments of 1.

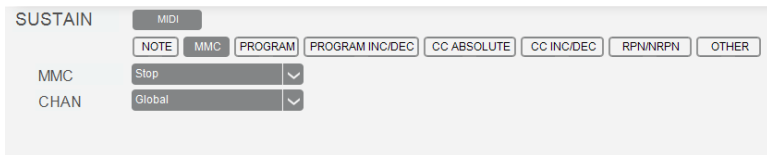
# M-AUDIO

- **RPN/NRPN:** The pedal will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**).
- **Other:** The pedal will send a message for another type of command.

SUSTAIN		MIDI						
	NOTE	MMC	PROGRAM	PROGRAM INC/DEC	CC ABSOLUTE	CC INC/DEC	RPN/NRPN	OTHER
NOTE	65 F(4)			LATCH	<input checked="" type="checkbox"/>			
CHAN	Global							
ON	127							
OFF	0							

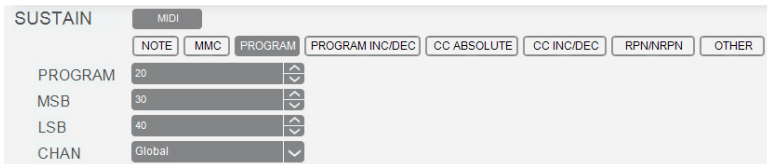
When set to **Note**, these are the available parameters:

- **Note:** The pedal will send this MIDI note number when you press it.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omn**).
- **Latch:** When Latch is enabled, the pedal will send one value when pressed and a different value when pressed a second time, alternating between the two values with each press (“latching” or “toggle” behavior). When Latch is disabled, the pedal will send one value when pressed and one value when released (“momentary” behavior).
- **On:** The pedal will send the MIDI note number with this velocity when you press it to turn it on.
- **Off:** The pedal will send the MIDI note number with this velocity when you press it to turn it off. This value will usually be **0** (to turn the note off).



When set to **MMC**, these are the available parameters:

- **MMC:** The pedal will send this MMC message when you press it. Select **Stop**, **Play**, **Deferred Play**, **Fast-Forward**, **Rewind**, **Record Strobe** (Punch In), **Record Exit** (Punch Out), **Record Pause**, **Pause**, **Eject**, **Chase**, or **MMC Reset**.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



When set to **Program**, these are the available parameters:

- **Program:** The pedal will send this program number when you press it.
- **MSB:** The pedal will send this Bank MSB (Most Significant Byte) number when you press it.
- **LSB:** The pedal will send this Bank LSB (Least Significant Byte) number when you press it.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

SUSTAIN	MIDI							
	NOTE	MMC	PROGRAM	PROGRAM INC/DEC	CC ABSOLUTE	CC INC/DEC	RPN/NRPN	OTHER
	TYPE	Increment	▼					
	MIN	0	▲					
	MAX	60	▼					
CHAN	Global	▼						

When set to **Program Inc/Dec**, these are the available parameters:

- **Type:** The pedal will send the next (**Increment**) or previous (**Decrement**) program number in the range of programs when you press it.
- **Min:** The lowest program in the range of programs will correspond with this value.
- **Max:** The highest program in the range of programs will correspond with this value.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



When set to **CC Absolute**, these are the available parameters:

- **CC:** The pedal will send its MIDI messages using this CC number.
- **Down:** The pedal will send the MIDI CC number with this value when you press it.
- **Up:** The pedal will send the MIDI CC number with this value when you release it.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



**SUSTAIN** MIDI

NOTE MMC PROGRAM PROGRAM INC/DEC CC ABSOLUTE CC INC/DEC RPN/NRPN OTHER

TYPE Increment CHAN Global

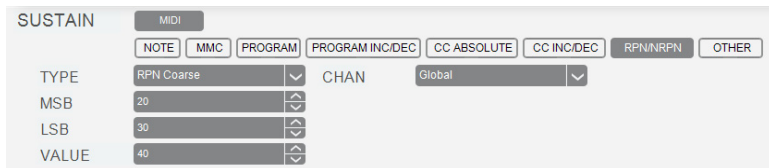
CC 0 Bank Select

MIN 0

MAX 61

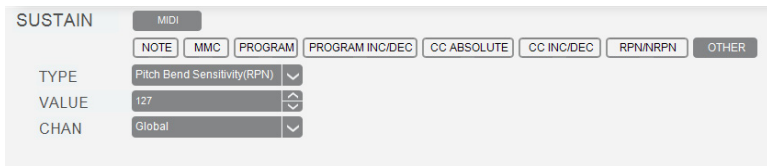
When set to **CC Inc/Dec**, these are the available parameters:

- **Type:** The pedal will send the next (**Increment**) or previous (**Decrement**) value number in the range of values when you press it.
- **CC:** The pedal will send its MIDI messages using this CC number.
- **Min:** The lowest value in the range of values will correspond with this value.
- **Max:** The highest value in the range of values will correspond with this value.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



When set to **RPN/NRPN**, these are the available parameters:

- **Type:** The pedal will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**), depending on this setting. Select one of these options:
  - **RPN Coarse** or **RPN Fine:** Pressing the pedal adjusts the RPN coarsely or finely, respectively.
  - **NRPN Coarse** or **NRPN Fine:** Pressing the pedal adjusts the NRPN coarsely or finely, respectively.
- **MSB:** The pedal will send this Most Significant Byte value when you press it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN MSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN MSB.
- **LSB:** The pedal will send this Least Significant Byte value when you press it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN LSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN LSB.
- **Value:** The pedal will send this value with the RPN or NRPN when you press it.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

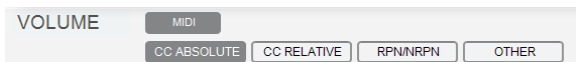


When set to **Other**, these are the available parameters:

- **Type:** The pedal will send a value for this parameter when you press it. Select one of these options: **Pitch Bend Sensitivity (RPN)**, **Fine Tune (RPN)**, **Coarse Tune (RPN)**, **Channel Pressure**, **Master Volume (SysEx)**, **Master Pan (SysEx)**, **Coarse Tune (SysEx)**, **Fine Tune (SysEx)**, **Chorus Mod. Rate (SysEx)**, **Chorus Mod. Depth (SysEx)**, **Feedback (SysEx)**, **Send to Reverb (SysEx)**, **Pitch Bend, Reverb Type (SysEx)**, **Reverb Time (SysEx)**, or **Chorus Type (SysEx)**.
- **Value:** The pedal will send this value for the parameter when you press it.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

## Volume Pedal

Click the volume pedal (in the lower-right corner) to set the MIDI assignments for the **volume pedal** on your Code 49. You can assign the parameters for the volume pedal in MIDI Mode only.



**Mode:** Click this menu and select one of the following options. The parameters below will depend on your selection.

- **CC Absolute:** The pedal will send CC messages based on its current physical position.
- **CC Relative:** The pedal will send CC messages to increment or decrement the current value.
- **RPN/NRPN:** The pedal will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**).
- **Other:** The pedal will send a message for another type of command.

VOLUME		MIDI
		<input type="radio"/> CC ABSOLUTE <input type="radio"/> CC RELATIVE <input type="radio"/> RPN/NRPN <input type="radio"/> OTHER
CC	7	Channel Volume
MIN	0	
MAX	127	
CHAN	Global	

When set to **CC Absolute**, these are the available parameters:

- **CC:** The pedal will send its MIDI messages using this CC number.
- **Min:** The pedal's minimum position will correspond with this value. You can reverse the pedal's polarity by making this value larger than the **Max** value.
- **Max:** The pedal's maximum position will correspond with this value. You can reverse the pedal's polarity by making this value smaller than the **Min** value.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

VOLUME	
	<input type="button" value="MIDI"/>
	<input type="button" value="CC ABSOLUTE"/> <input type="button" value="CC RELATIVE"/> <input type="button" value="RPN/NRPN"/> <input type="button" value="OTHER"/>
TYPE	<input type="button" value="Up (Type 1)"/> <input type="button" value="▼"/>
CC	<input type="text" value="7"/> <input type="button" value="Channel Volume"/> <input type="button" value="▲"/> <input type="button" value="▼"/>
CHAN	<input type="button" value="Global"/> <input type="button" value="▼"/>

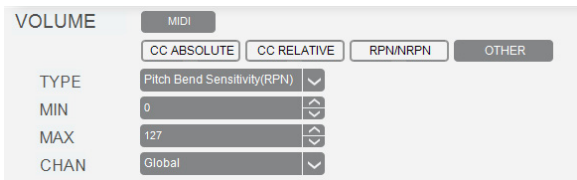
When set to **CC Relative**, these are the available parameters:

- **Type:** The pedal will increment or decrement the CC's current value, depending on this setting. Select one of these options:
  - **Up (Type 1)** or **Up (Type 2):** Moving the pedal up increments the value. Moving it down decrements the value. If your software does not respond to the **(Type 1)** setting, use the **(Type 2)** setting—or vice versa.
  - **Down (Type 1)** or **Down (Type 2):** Moving the pedal up decrements the value. Moving it down increments the value. If your software does not respond to the **(Type 1)** setting, use the **(Type 2)** setting—or vice versa.
- **CC:** The fader will send its MIDI messages using this CC number.
- **Chan:** The fader will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).

VOLUME	
	MIDI
	<input type="button" value="CC ABSOLUTE"/> <input type="button" value="CC RELATIVE"/> <input checked="" type="button" value="RPN/NRPN"/> <input type="button" value="OTHER"/>
TYPE	RPN Coarse ▾
MSB	7 ▲ ▾
LSB	27 ▲ ▾
CHAN	Global ▾

When set to **RPN/NRPN**, these are the available parameters:

- **Type:** The pedal will send a registered parameter number (**RPN**) or non-registered parameter number (**NRPN**), depending on this setting. Select one of these options:
  - **RPN Coarse** or **RPN Fine:** Moving the pedal adjusts the RPN coarsely or finely, respectively.
  - **NRPN Coarse** or **NRPN Fine:** Moving the pedal adjusts the NRPN coarsely or finely, respectively.
- **MSB:** The pedal will send this Most Significant Byte value when you press it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN MSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN MSB.
- **LSB:** The pedal will send this Least Significant Byte value when you press it. If **Type** is set to **RPN Coarse** or **RPN Fine**, it will send the RPN LSB. If **Type** is set to **NRPN Coarse** or **NRPN Fine**, it will send the NRPN LSB.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



When set to **Other**, these are the available parameters:

- **Type:** The pedal will adjust this parameter when you move it. Select one of these options: **Pitch Bend Sensitivity (RPN)**, **Fine Tune (RPN)**, **Coarse Tune (RPN)**, **Channel Pressure**, **Master Volume (SysEx)**, **Master Pan (SysEx)**, **Coarse Tune (SysEx)**, **Fine Tune (SysEx)**, **Chorus Mod. Rate (SysEx)**, **Chorus Mod. Depth (SysEx)**, **Feedback (SysEx)**, **Send to Reverb (SysEx)**, or **Pitch Bend**.
- **Min:** The pedal's minimum position will correspond with this value. You can reverse the pedal's polarity by making this value larger than the **Max** value.
- **Max:** The pedal's maximum position will correspond with this value. You can reverse the pedal's polarity by making this value smaller than the **Min** value.
- **Chan:** The pedal will send its messages over this channel. Select the global channel (**Global**), a specific channel (**Channel 1–16**), a zone (**Zone 1–4**), or all channels (**Omni**).



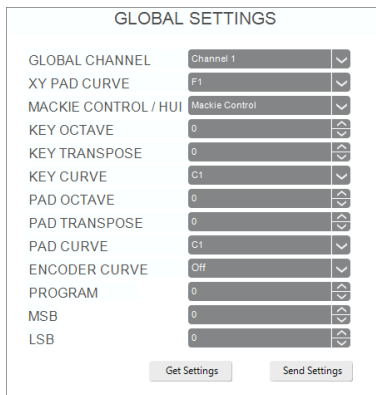
## Global Settings

The Global Settings affect the overall operation of your Code 49 keyboard, regardless of the current preset.

**To open Global Settings**, click **File** and then click **Global Settings**.

**To send the global settings to your connected Code 49**, click **Send Settings**.

**To retrieve the global settings from your connected Code 49**, click **Get Settings**.



These are the available settings:

- **Channel:** This menu lets you set the global channel (**Channel 1–16**). Any other controls or zones whose **Chan** settings are set to **Global** will send their messages using this channel.
- **XY Pad Curve:** This field determines the velocities of the notes the **X-Y pad** sends as you move your finger across it. This setting affects the X-Y pad in MIDI Note Mode only. See [Appendix > Velocity Curves > X-Y Pad](#) for descriptions of the different settings.
- **Mackie Control/HUI:** This menu determines whether the **faders**, **buttons**, and **encoders** can be set to Mackie Control Mode (**Mackie Control**) or HUI Mode (**HUI**).

When set to **Mackie Control**, you can use the **Fader Mode**, **Button Mode**, and/or **Encoder Mode** buttons to set the **faders**, **buttons**, and/or **encoders** Mackie Control Mode.

When set to **HUI**, you can use the **Fader Mode**, **Button Mode**, and/or **Encoder Mode** buttons to set the **faders**, **buttons**, and/or **encoders** HUI Mode.

- **Key Octave:** This field determines the current octave shift of the entire **keybed** (-3 to 4).  
**Note:** The keyboard's overall octave and transposition are independent from the zones' octaves and transpositions, but all of these affect the note a key sends out.
- **Key Transpose:** This field determines the current transposition of the entire **keybed** (-12 to 12).  
**Note:** The keyboard's overall octave and transposition are independent from the zones' octaves and transpositions, but all of these affect the note a key sends out.
- **Key Curve:** This field determines the velocity sensitivity of the **keybed**—the amount of force required to generate a note with a specific velocity. See [Appendix > Velocity Curves > Keybed](#) for descriptions of the different settings.
- **Pad Octave:** This field determines the current octave shift of the **pads** (-5 to 5).
- **Pad Transpose:** This field determines the current transposition of the **pads** (-12 to 12).
- **Pad Curve:** This field determines the velocity sensitivity of the **pads**—the amount of force required to generate a note with a specific velocity. See [Appendix > Velocity Curves > Pads](#) for descriptions of the different settings.
- **Encoder Curve:** This field determines the rate of acceleration as you turn an encoder. See [Appendix > Velocity Curves > Encoders](#) for descriptions of the different settings.
- **Program:** This field determines the number of the program change message that will be sent when you click **Send Settings**.
- **MSB:** This field determines the number of the Bank MSB (Most Significant Byte) message that will be sent when you click **Send Settings**.  
**Note:** A Bank LSB or Bank MSB number may not have any effect until you send a program change message after it.
- **LSB:** This field determines the number of the Bank LSB (Least Significant Byte) message that will be sent when you click **Send Settings**.  
**Note:** A Bank LSB or Bank MSB number may not have any effect until you send a program change message after it.

## Software Menus

### File

- Send Preset** Select this to export the current settings from the Code 49 Editor to your connected Code 49 keyboard. Alternatively, press **Ctrl+Shift+S** (Windows) or **Control+Shift+S** (Mac OS X).
- Retrieve Preset** Select this to import the current settings from your connected Code 49 keyboard into the Code 49 Editor. Alternatively, press **Ctrl+Shift+R** (Windows) or **Control+Shift+R** (Mac OS X).
- Load Preset** Select this to locate and load a preset file (**.Code49**) on your computer to the Code 49 Editor. Alternatively, press **Ctrl+O** (Windows) or **Control+O** (Mac OS X).
- Save Preset** Select this to save the Code 49 Editor's current settings to your computer as a preset file (**.Code49**). Alternatively, press **Ctrl+S** (Windows) or **Control+S** (Mac OS X).
- Global Settings** Select this to open the Global Settings window. See [Global Settings](#) to learn about this.
- Exit** Select this to close the Code 49 Editor.  
**Mac OS X users:** This option is in the Code 49 Editor menu.

### Help

- Open User Guide** Select this to open this *User Guide*.
- About Code 49 Preset Editor** Select this to view information about this version of the Code 49 Preset Editor.  
**Mac OS X users:** This option is in the **Code 49 Preset Editor** menu.

## Appendix

### Velocity Curves

#### Encoders

To select one of these curves, use the **Encoder Curve** field in the **Global Settings**. See the [Global Settings](#) chapter to learn about this.

Curve Number	Code 49 Display	Description
0	ECrVOf	Turning the encoder will always send a value change of one step in either direction regardless of how quickly/slowly you turn it.
1	ECrVC1	This is a slow acceleration curve, useful for making fine adjustments.
2	ECrVC2	This is a medium acceleration curve (the default).
3	ECrVC3	This is a quick acceleration curve, useful for making coarse adjustments with broad “sweeps.”

## Keybed

To select one of these curves, use the **Key Curve** field in the **Global Settings**. See the [Global Settings](#) chapter to learn about this.

Curve Number	Code 49 Display	Description
1	VCrVC1	This is a low-sensitivity setting, useful for playing notes with mostly low velocities.
2	VCrVC2	This is a medium-sensitivity setting (the default), useful for playing with an average amount of force.
3	VCrVC3	This is a high-sensitivity setting, useful for playing notes with mostly high velocities.
4	VCrVC4	This is a linear curve. The velocity of the note will be proportional to the amount of force.
5	VCrVF1	All notes will have a fixed velocity of <b>64</b> .
6	VCrVF2	All notes will have a fixed velocity of <b>100</b> .
7	VCrVF3	All notes will have a fixed velocity of <b>127</b> .

## Pads

To select one of these curves, use the **Pad Curve** field in the **Global Settings**. See the [Global Settings](#) chapter to learn about this.

Curve Number	Code 49 Display	Description
1	PCrVC1	This is a low-sensitivity setting, useful for playing notes with mostly low velocities.
2	PCrVC2	This is a medium-sensitivity setting (the default), useful for playing with an average amount of force.
3	PCrVC3	This is a high-sensitivity setting, useful for playing notes with mostly high velocities.
4	PCrVC4	This is a linear curve. The velocity of the note will be proportional to the amount of force.
5	PCrVF1	All notes will have a fixed velocity of <b>64</b> .
6	PCrVF2	All notes will have a fixed velocity of <b>100</b> .
7	PCrVF3	All notes will have a fixed velocity of <b>127</b> .
8	PCrVS2	All notes will have a velocity of <b>64</b> or <b>127</b> , depending on the amount of force.
9	PCrVS3	All notes will have a velocity of <b>64</b> , <b>100</b> , or <b>127</b> , depending on the amount of force.
10	PCrVS4	All notes will have a velocity of <b>32</b> , <b>64</b> , <b>100</b> , or <b>127</b> , depending on the amount of force.

## X-Y Pad

To select one of these curves, use the **XY Pad Curve** field in the **Global Settings**. See the [Global Settings](#) chapter to learn about this.

Curve Number	Code 49 Display	Description
1	TCrVF1	All notes will have a fixed velocity of <b>64</b> (the default).
2	TCrVF2	All notes will have a fixed velocity of <b>100</b> .
3	TCrVF3	All notes will have a fixed velocity of <b>127</b> .
4	TCrVS2	The velocities of the notes will between <b>64</b> and <b>127</b> .
5	TCrVS3	Every third note will have a velocity of <b>127</b> . All other notes will have a velocity of <b>64</b> .
6	TCrVS4	The velocities of the notes will between <b>100</b> and <b>127</b> .
7	TCrVS5	Every third note will have a velocity of <b>127</b> . All other notes will have a velocity of <b>100</b> .
8	TCrVS6	Each axis represents the range of velocities from <b>64</b> to <b>127</b> . A note generated at the axis's minimum point will have a velocity of <b>64</b> . A note generated at the axis's maximum point will have a velocity of <b>127</b> .
9	TCrVS7	Each axis represents the range of velocities from <b>100</b> to <b>127</b> . A note generated at the axis's minimum point will have a velocity of <b>100</b> . A note generated at the axis's maximum point will have a velocity of <b>127</b> .
10	TCrVS8	Each axis represents the range of velocities from 1 to <b>127</b> . A note generated at the axis's minimum point will have a velocity of 1. A note generated at the axis's maximum point will have a velocity of <b>127</b> .

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