

**M-AUDIO®**

**CODE25**

**CODE49**

**CODE61**

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**User Guide**

English

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## Introduction

### Box Contents

Code Series Keyboard	Quickstart Guide
USB Cable	User Guide (download)
Software Download Cards	Safety & Warranty Manual

**Important:** Visit [m-audio.com](http://m-audio.com) to download the Code Preset Editor. The Preset Editor gives you a visual and intuitive way to edit the various messages that Code's controls send to your computer without having to use the hardware interface.

### Support

For the latest information about this product (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).

### Quick Start

**Software:** We've included Pro Tools | First M-Audio Edition and Ableton Live Lite with your Code Series Keyboard so you can get started making music with professional software right out of the box. For Pro Tools | First M-Audio Edition, register your Code Series Keyboard on [m-audio.com](http://m-audio.com), and follow the install instructions in your User Account. For installing Ableton Live Lite, follow the instructions on the included Ableton Live Lite software download card. Also, visit [ableton.com](http://ableton.com) to check for any available software updates.

**Virtual Instruments:** Follow the instructions on the software download card for installing the included virtual instrument plugins. After installation, most DAWs will not load virtual instrument plugins automatically. In order to access the virtual instrument plugins with Pro Tools | First M-Audio Edition and Ableton Live Lite, you will need to choose the plugin folder for the software to scan:

#### Pro Tools | First M-Audio Edition (AAX) plugin folders:

**Windows (32-bit):** C:\Program Files (x86)\Common Files\Avid\Audio\Plug-Ins

**Windows (64-bit):** C:\Program Files\Common Files\Avid\Audio\Plug-Ins

**macOS:** Macintosh HD/Library/Application Support/Avid/Audio/Plug-Ins

#### Ableton (VST) Plugins:

**Windows (32-bit):** C:\Program Files (x86)\VSTplugins

**Windows (64-bit):** C:\Program Files\VSTplugins

**macOS:** Macintosh HD/Library/Audio/PlugIns/VST

To set your plugin folder in Ableton Live Lite:

1. Go to the **Preferences** menu.
2. Select the **File Folder** tab. Under **Plug-In Sources** click **Browse** and select the appropriate plugin folder.
3. After making your selection, the **Use VST Custom Plug-In Folder** button should be **ON**. If it is not, click the button to turn it on.
4. Exit the **Preferences** menu.

## Pro Tools | First M-Audio Edition Setup

1. Connect your Code Series Keyboard to an available USB port on your computer using the supplied USB cable, and launch Pro Tools | First M-Audio Edition.
2. Open or Create a Project.
3. Select the **Setup** pulldown menu and open **MIDI Input Devices**. Enable **MIDI Input** from your Code Series Keyboard by clicking the box next to **Code 25**, **Code 49**, or **Code 61**.
4. Select the **Setup** pulldown menu and open **Playback Engine**. Choose your audio device from the **Playback Engine** pulldown menu.
5. To create a new Instrument track, select the **Track** pulldown menu and select **New**.
6. In the **New** pulldown menu, select **Stereo**, and then **Instrument Track**.
7. In the newly created track, add an Insert to your track by clicking in your track's Inserts A-E and selecting **Multichannel Plugin > Instrument** and select the instrument you would like to use, such as Xpand!2 (Stereo). The plugin can now be triggered with your Code Series Keyboard.

**Note:** Windows users will need either an external soundcard (such as the M-Track 2X2) or a low-latency ASIO driver.

## Ableton Live Lite Setup

1. Connect your Code Series Keyboard to an available USB port on your computer using the supplied USB cable, and launch Ableton Live Lite.
2. Next, open the Ableton Live Lite **Preferences** window. Choose your **Audio Device** in the **Audio** tab. This will be dependent upon the audio interface that you are using.

**Windows:** Select **Options > Preferences**

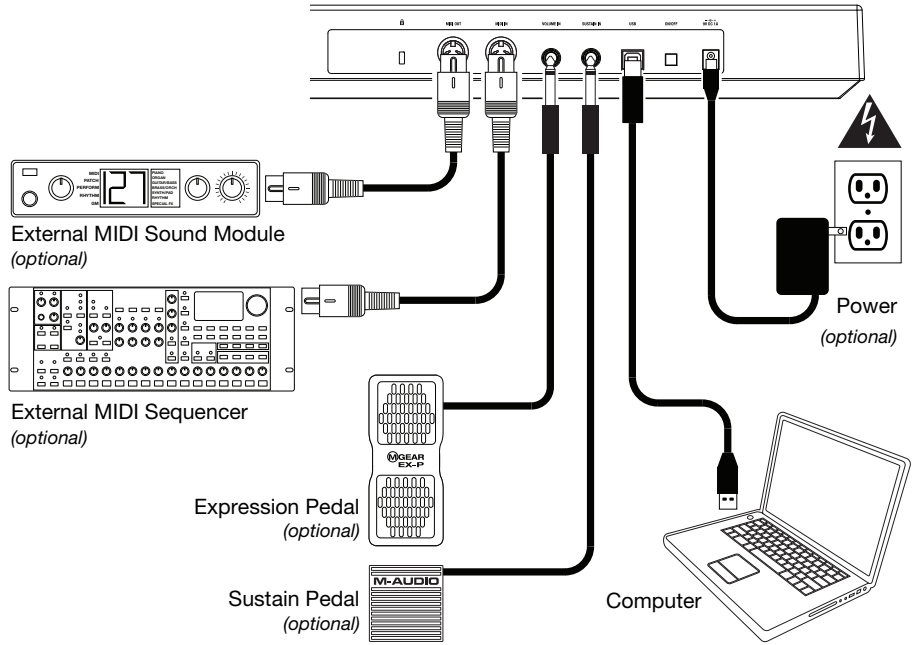
**macOS:** Select **Live > Preferences**

3. Select the **MIDI / Sync** tab. Within the **MIDI Ports** section, adjust the settings as seen below:  
Next to **Input:** **Code 25**, **Code 49**, or **Code 61**, toggle the **On** button in the **Track** and **Remote** columns.  
Next to **Output:** **Code 25**, **Code 49**, or **Code 61**, toggle the **On** button in the **Track** and **Remote** columns.
4. Close the **Preferences** window.
5. To add an instrument or plugin to Ableton Live Lite in order to generate sound, in the **Categories** column, choose **Instruments** or **Plug-Ins**.
6. In the **Name** column, just to the right of the **Categories** column, locate the Instrument or Plug-in of your choice. **Click-and-drag** the instrument to a MIDI track in Ableton Live Lite to load the instrument. The Instrument can now be triggered with your Code Series Keyboard.

## Connection Diagram

Remember to select **Code 25**, **Code 49**, or **Code 61** as the controller in the **Setup**, **Preferences**, or **Options** of your digital audio workstation (DAW).

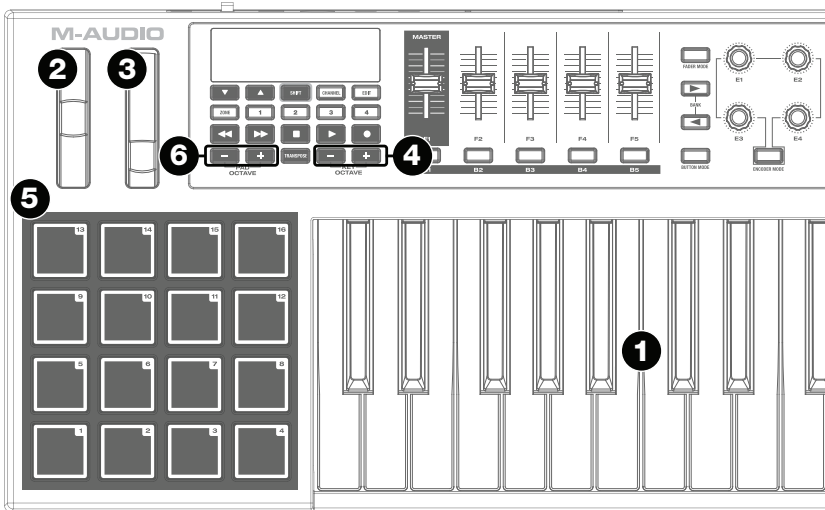
Items not listed in [Introduction > Box Contents](#) are sold separately.



# Features

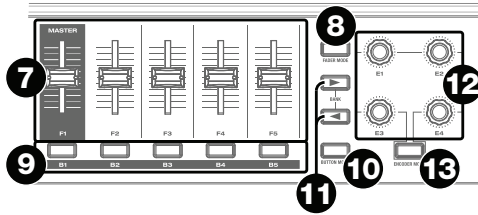
## Code 25

### Top Panel

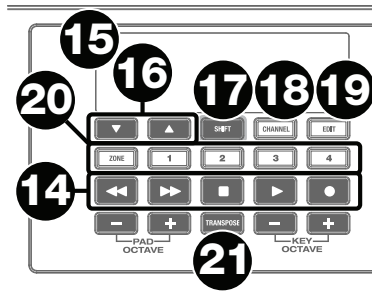


**Important:** For more complete explanations of how to use all of these controls, please see the [Operation](#) chapter.

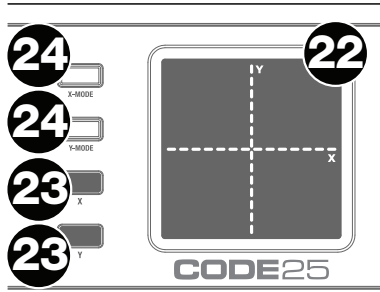
1. **Keyboard:** This 25-note keyboard is velocity-sensitive with aftertouch and, in conjunction with the **Key Octave**  $-/+$  buttons, can access the full range of 127 available MIDI notes (10 octaves).
2. **Pitch-Bend Wheel:** Move this wheel to send MIDI pitch bend information.  
You can also change this wheel's MIDI assignment. See [Operation > Wheels > Editing Assignments](#) to learn how to do this.
3. **Modulation Wheel:** Move this wheel to send continuous controller data—MIDI CC #01 (modulation), by default.  
You can also change this wheel's MIDI assignment. See [Operation > Wheels > Editing Assignments](#) to learn how to do this.
4. **Key Octave  $-/+$ :** Press one of these buttons to move the keyboard up or down an octave.  
Press and hold **Transpose** and press one of the buttons to move the keyboard down or up a semitone.
5. **Pads:** Use these pads to trigger drum hits or other samples in your software or external MIDI sound module. The pads are velocity-sensitive, which makes them very responsive and intuitive to play.  
You can also change these pads' MIDI and Color assignments. See [Operation > Pads > Editing Assignments](#) to learn how to do this.
6. **Pad Octave  $-/+$ :** Press one of these buttons to move the pads up or down an octave.  
Press and hold **Transpose** and press one of the buttons to move the pads down or up a semitone.



7. **Faders (F1–F5):** Use these faders to send MIDI CC or Mackie Control®/HUI® messages to your software or external MIDI device. Use the **Fader Mode** button to change their current mode.  
You can also change these faders’ MIDI assignments. See [Operation > Faders > Editing Assignments](#) to learn how to do this.
8. **Fader Mode:** Press this button to switch the **Faders (F1–F5)** between their two modes, distinguishable by this button’s color:  
**Red:** MIDI Mode (the default)  
**Green:** Mackie Control/HUI Mode  
Learn more about these modes in [Operation > Faders > Modes](#).
9. **Buttons (B1–B5):** Use these buttons to send MIDI CC, Mackie Control/HUI, or HID messages to your software or external MIDI device. They can function as momentary or toggle (latching) buttons. Use the **Button Mode** button to change their current mode.  
You can also change these buttons’ MIDI, HID, and Color assignments. See [Operation > Buttons > Editing Assignments](#) to learn how to do this.
10. **Button Mode:** Press this button to cycle the **Buttons (B1–B5)** through their three modes, distinguishable by this button’s color:  
**Red:** MIDI Mode (the default)  
**Green:** Mackie Control/HUI Mode  
**Yellow:** HID Mode  
Learn more about these modes in [Operation > Buttons > Modes](#).
11. **Bank Right/Left:** Press one of these buttons to move to the next or previous bank of assignable controls (**Faders, Buttons, and Encoders**). This will affect only the assignable controls that are in the same mode as the **Bank Right/Left** buttons, distinguishable by this button’s color:  
**Red:** MIDI Mode  
**Green:** Mackie Control/HUI Mode  
**Yellow:** HID Mode  
**White:** Global (the default; this affects all assignable controls regardless of their current modes)  
Learn more about these modes in [Operation > Basic Concepts > Control Modes > Using the Bank Buttons](#).
12. **Encoders (E1–E4):** Use these 360° knobs to send MIDI CC or Mackie Control/HUI messages to your software or external MIDI device. You can also change these encoders’ MIDI assignments.  
You can also change these encoders’ MIDI assignments. See [Operation > Encoders > Editing Assignments](#) to learn how to do this.
13. **Encoder Mode:** Press this button to switch the **Encoders (E1–E4)** between their two modes, distinguishable by this button’s color:  
**Red:** MIDI Mode (the default)  
**Green:** Mackie Control/HUI Mode  
Learn more about these modes in [Operation > Encoders > Modes](#).



14. **Transport Controls:** These six buttons are dedicated buttons for sending conventional Mackie Control®/HUI® transport control commands: **Rewind** (⏮), **Fast-Forward** (⏭), **Stop** (■), **Play** (▶), and **Record** (●).
15. **Display:** Use this screen to view parameter values, settings, and messages relevant to Code 25's current operation. The various messages shown here are described throughout this *User Guide*.
16. **Preset Down/Up (▼▲):** Use these buttons to move to the previous or next preset. You can also use these buttons to cycle through the editable parameters shown in the display, set the global MIDI channel, or set the MIDI channel of a zone of the keyboard. Press and hold **Shift** and press these buttons to move to the previous or next program.
17. **Shift:** Press and hold this button to access the secondary functions of certain buttons and keys. Press this button in Zone Edit Mode to access additional zone editing functions.
18. **Channel:** Press this button to enter or exit Channel Mode. In Channel Mode, use the **Preset Down/Up (▼▲)** buttons to change Code 25's global MIDI channel. See [Operation > Basic Concepts > Channels > Global Channel](#) to learn more about this mode. Press and hold **Shift** and press this button to send a MIDI Snap Shot. This sends the assigned MIDI message and current position/value of all controls.
19. **Edit:** Press this button to enter or exit Edit Mode. In Edit Mode:
- Use the **Preset Down/Up (▼▲)** buttons to change the value or setting of the parameter shown in the **display**.
  - Use the keyboard's keys to access additional functions or commands.
- Learn more about this mode in [Operation > Basic Concepts > Edit Mode](#).
20. **Zone, 1–4:** Press the **Zone** button to enter Zone Mode, which lets you use 4 different overlapping or non-overlapping ranges of keys on different MIDI channels. This is useful for sending notes to 4 virtual instruments or 4 external synthesizers from the same keyboard, for example. Press any of the **1–4** buttons simultaneously or separately (when the Zone Button is active/lit) to activate or deactivate those zones of the keyboard. When a zone is active, its corresponding button will be lit. Press and hold the **Zone Button** for 1 second to enter or exit Zone Edit Mode. You can press any of the flashing **1–4** buttons to edit that zone. Learn more about zones in [Operation > Basic Concepts > Zones](#).
21. **Transpose:** Press and hold this button and press one of the **Pad Octave -/+** or **Key Octave -/+** buttons to move the pads or keys (respectively) down or up a semitone. Press and hold **Shift** and press this button to send a "MIDI Panic" message. This means all MIDI notes will stop and all controls will stop sending their messages.



22. **X/Y Pad:** This touch-sensitive pad lets you control two parameters simultaneously in a two-dimensional way (rather than a traditional one-dimensional modulation wheel or encoder). You can assign the parameter and range of each axis, **X** (horizontal) and **Y** (vertical). This pad can be in one of three modes as determined by the **X-Mode** and **Y-Mode** buttons.

You can also change each axis’s MIDI and Note assignment. See [Operation > X/Y Pad > Editing Assignments](#) to learn how to do this.

23. **X/Y Buttons:** Press one of these buttons to send the minimum value for the parameter assigned to that axis.

Press and hold **Shift** and press one of these buttons to send the middle value for the parameter assigned to that axis (e.g., a MIDI value of 64—halfway between 0 and 127).

In Edit Mode, press one of these buttons when assigning a parameter to assign it to that axis: **X** (horizontal) or **Y** (vertical).

In HID Mode, use the **X** or **Y** button as a left-click or right-click mouse command (respectively).

24. **X-Mode / Y-Mode:** Press one of these buttons to cycle through the available modes for that axis of the **X/Y Pad**, distinguishable by the button’s color:

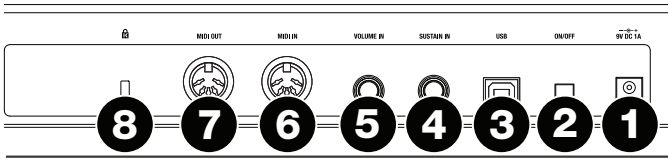
**Red:** MIDI CC Mode (the axis is assigned to a MIDI CC number)

**Pink:** In MIDI Note Mode (the axis is assigned a range, scale, or group of MIDI notes)

**Yellow:** HID Mode (the axis lets you use the **X/Y Pad** as a mouse/track pad)

Learn more about these modes in [Operation > X/Y Pad > Modes](#).

Rear Panel



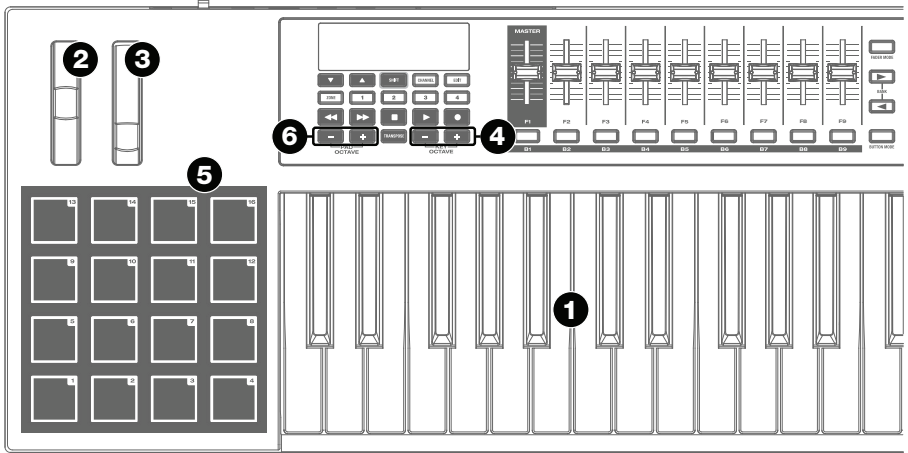
1. **Power Input:** If you do not want to use a computer in your setup (i.e., if you are using Code 25 to control an external MIDI module), connect Code 25’s power input to a power outlet using an optional power adapter (9 VDC, 1 A, center-positive, sold separately). Alternatively, you can connect Code 25’s **USB Port** to a power outlet using a standard USB charger (sold separately).
2. **Power Switch:** Press this button to power Code 25 on. Press and hold this button for 1 second and then release it to power Code 25 off.
3. **USB Port:** Use a standard USB cable to connect this USB port to your computer. The computer’s USB port provides ample power to Code 25. This connection is also used to send and receive MIDI data to and from your computer.

This connection is also relevant to Code 25’s **MIDI Out** and **MIDI In**:

- If an external device is connected to the **MIDI Out**, your computer can send MIDI messages out along this path: **computer** ➔ **Code 25** ➔ **external device**.
  - If an external device is connected to the **MIDI In**, the external device sends MIDI messages in along this path: **external device** ➔ **Code 25** ➔ **computer**. MIDI messages can then be sent to an external device via the MIDI Out, but it must pass through the computer first.
4. **Sustain In:** Connect an optional 1/4” (6.35 mm) TS sustain pedal to this input.  
You can also change this input’s MIDI assignment. See [Operation > Sustain Pedal > Editing Assignments](#) to learn how to do this.
  5. **Volume In:** Connect an optional 1/4” (6.35 mm) TRS expression pedal to this input.  
You can also change this input’s MIDI assignment. See [Operation > Volume Pedal > Editing Assignments](#) to learn how to do this.
  6. **MIDI In:** Use a standard five-pin MIDI cable to connect this MIDI In to the MIDI Out of an external MIDI device (e.g., another MIDI controller). The MIDI messages sent to this MIDI In will be sent to your computer via the **USB port**.
  7. **MIDI Out:** Use a standard five-pin MIDI cable to connect this MIDI Out to the MIDI In of an external MIDI device (e.g., a synthesizer, sequencer, drum machine, etc.).
  8. **Kensington® Lock Slot:** You can use this slot to secure your Code 25 to a table or other surface.

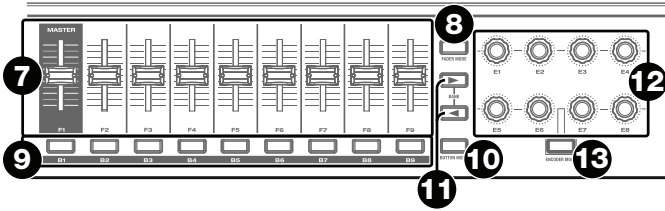


Top Panel

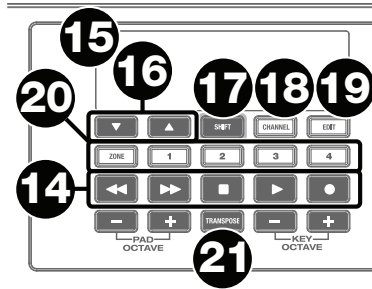


**Important:** For more complete explanations of how to use all of these controls, please see the [Operation](#) chapter.

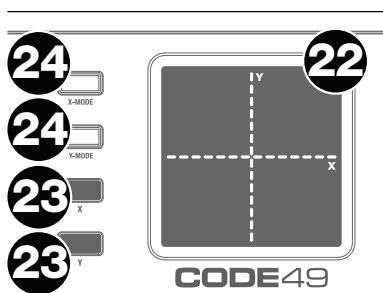
1. **Keyboard:** This 49-note keyboard is velocity-sensitive with aftertouch and, in conjunction with the **Key Octave -/+** buttons, can access the full range of 127 available MIDI notes (10 octaves).
2. **Pitch-Bend Wheel:** Move this wheel to send MIDI pitch bend information.  
You can also change this wheel's MIDI assignment. See [Operation > Wheels > Editing Assignments](#) to learn how to do this.
3. **Modulation Wheel:** Move this wheel to send continuous controller data—MIDI CC 01 (modulation), by default.  
You can also change this wheel's MIDI assignment. See [Operation > Wheels > Editing Assignments](#) to learn how to do this.
4. **Key Octave -/+:** Press one of these buttons to move the keyboard up or down an octave.  
Press and hold **Transpose** and press one of the buttons to move the keyboard down or up a semitone.
5. **Pads:** Use these pads to trigger drum hits or other samples in your software or external MIDI sound module. The pads are velocity-sensitive, which makes them very responsive and intuitive to play.  
You can also change these pads' MIDI and Color assignments. See [Operation > Pads > Editing Assignments](#) to learn how to do this.
6. **Pad Octave -/+:** Press one of these buttons to move the pads up or down an octave.  
Press and hold **Transpose** and press one of the buttons to move the pads down or up a semitone.



7. **Faders (F1–F9):** Use these faders to send MIDI CC or Mackie Control®/HUI® messages to your software or external MIDI device. Use the **Fader Mode** button to change their current mode.  
 You can also change these faders’ MIDI assignments. See [Operation > Faders > Editing Assignments](#) to learn how to do this.
8. **Fader Mode:** Press this button to switch the **Faders (F1–F9)** between their two modes, distinguishable by this button’s color:  
**Red:** MIDI Mode (the default)  
**Green:** Mackie Control/HUI Mode.  
 Learn more about these modes in [Operation > Faders > Modes](#).
9. **Buttons (B1–B9):** Use these buttons to send MIDI CC, Mackie Control/HUI, or HID messages to your software or external MIDI device. They can function as momentary or toggle (latching) buttons. Use the **Button Mode** button to change their current mode.  
 You can also change these buttons’ MIDI, HID, and Color assignments. Please see [Operation > Buttons > Editing Assignments](#) to learn how to do this.
10. **Button Mode:** Press this button to cycle the **Buttons (B1–B9)** through their three modes, distinguishable by this button’s color:  
**Red:** MIDI Mode (the default)  
**Green:** Mackie Control/HUI Mode  
**Yellow:** HID Mode  
 Learn more about these modes in [Operation > Buttons > Modes](#).
11. **Bank Right/Left (▶◀):** Press one of these buttons to move to the next or previous bank of assignable controls (**Faders**, **Buttons**, and **Encoders**). This will affect only the assignable controls that are in the same mode as the **Bank Right/Left (▶◀)** buttons, distinguishable by this button’s color:  
**Red:** MIDI Mode  
**Green:** Mackie Control/HUI Mode  
**Yellow:** HID Mode  
**White:** Global (the default; this affects all assignable controls regardless of their current modes)  
 Learn more about these modes in [Operation > Basic Concepts > Control Modes > Using the Bank Buttons](#).
12. **Encoders (E1–E8):** Use these 360° knobs to send MIDI CC or Mackie Control/HUI messages to your software or external MIDI device. You can also change these encoders’ MIDI assignments. Please see [Operation > Encoders > Editing Assignments](#) to learn how to do this.
13. **Encoder Mode:** Press this button to switch the **Encoders (E1–E8)** between their two modes, distinguishable by this button’s color:  
**Red:** MIDI Mode (the default)  
**Green:** Mackie Control/HUI Mode  
 Learn more about these modes in [Operation > Encoders > Modes](#).



14. **Transport Controls:** These six buttons are dedicated buttons for sending conventional Mackie Control/HUI transport control commands: **Rewind** (◀), **Fast-Forward** (▶), **Stop** (■), **Play** (▶), and **Record** (◉).
15. **Display:** Use this screen to view parameter values, settings, and messages relevant to Code 49’s current operation. The various messages shown here are described throughout this *User Guide*.
16. **Preset Down/Up (▼▲):** Use these buttons to move to the previous or next preset.  
 You can also use these buttons to cycle through the editable parameters shown in the display, set the global MIDI channel, or set the MIDI channel of a zone of the keyboard.  
 Press and hold **Shift** and press these buttons to move to the previous or next program.
17. **Shift:** Press and hold this button to access the secondary functions of certain buttons and keys. Press this button in Zone Edit Mode to access additional zone editing functions.
18. **Channel:** Press this button to enter or exit Channel Mode. In Channel Mode, use the **Preset Down/Up (▼▲)** buttons to change Code 49’s global MIDI channel. See [Operation > Basic Concepts > Channels > Global Channel](#) to learn more about this mode.  
 Press and hold **Shift** and press this button to send a MIDI Snap Shot. This sends the assigned MIDI message and current position/value of all controls.
19. **Edit:** Press this button to enter or exit Edit Mode. In Edit Mode:
  - Use the **Preset Down/Up (▼▲)** buttons to change the value or setting of the parameter shown in the **display**.
  - Use the keyboard’s keys to access additional functions or commands.
 Learn more about this mode in [Operation > Basic Concepts > Edit Mode](#).
20. **Zone, 1–4:** Press the **Zone** button to enter Zone Mode, which lets you use 4 different overlapping or non-overlapping ranges of keys on different MIDI channels. This is useful for sending notes to 4 virtual instruments or 4 external synthesizers from the same keyboard, for example.  
 Press any of the **1–4** buttons simultaneously or separately (when the Zone Button is active/lit) to activate or deactivate those zones of the keyboard. When a zone is active, its corresponding button will be lit.  
 Press and hold the **Zone Button** for 1 second to enter or exit Zone Edit Mode. You can press any of the flashing **1–4** buttons to edit that zone.  
 Learn more about zones in [Operation > Basic Concepts > Zones](#).
21. **Transpose:** Press and hold this button and press one of the **Pad Octave -/+** or **Key Octave -/+** buttons to move the pads or keys (respectively) down or up a semitone.  
 Press and hold **Shift** and press this button to send a “MIDI Panic” message. This means all MIDI notes will stop and all controls will stop sending their messages.



22. **X/Y Pad:** This touch-sensitive pad lets you control two parameters simultaneously in a two-dimensional way (rather than a traditional one-dimensional modulation wheel or encoder). You can assign the parameter and range of each axis, **X** (horizontal) and **Y** (vertical). This pad can be in one of three modes as determined by the **X-Mode** and **Y-Mode** buttons.

You can also change each axis's MIDI and Note assignment. See [Operation > X/Y Pad > Editing Assignments](#) to learn how to do this.

23. **X/Y Buttons:** Press one of these buttons to send the minimum value for the parameter assigned to that axis.

Press and hold **Shift** and press one of these buttons to send the middle value for the parameter assigned to that axis (e.g., a MIDI value of 64—halfway between 0 and 127).

In Edit Mode, press one of these buttons when assigning a parameter to assign it to that axis: **X** (horizontal) or **Y** (vertical).

In HID Mode, use the **X** or **Y** button as a left-click or right-click mouse command (respectively).

24. **X-Mode / Y-Mode:** Press one of these buttons to cycle through the available modes for that axis of the **X/Y pad**, distinguishable by the button's color:

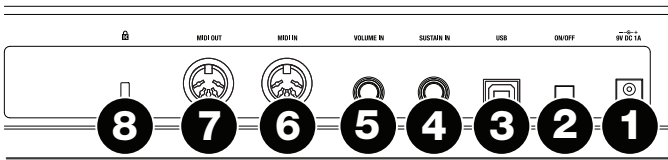
**Red:** MIDI CC Mode (the axis is assigned to a MIDI CC number)

**Pink:** In MIDI Note Mode (the axis is assigned a range, scale, or group of MIDI notes)

**Yellow:** HID Mode (the axis lets you use the **X/Y pad** as a mouse/trackpad)

Learn more about these modes in [Operation > X/Y Pad > Modes](#).

Rear Panel



1. **Power Input:** If you do not want to use a computer in your setup (i.e., if you are using Code 49 to control an external MIDI module), connect Code 49’s power input to a power outlet using an optional power adapter (9 VDC, 1 A, center-positive, sold separately). Alternatively, you can connect Code 49’s **USB Port** to a power outlet using a standard USB charger (sold separately).
2. **Power Switch:** Press this button to power Code 49 on. Press and hold this button for 1 second and then release it to power Code 49 off.
3. **USB Port:** Use a standard USB cable to connect this USB port to your computer. The computer’s USB port provides ample power to Code 49. This connection is also used to send and receive MIDI data to and from your computer.

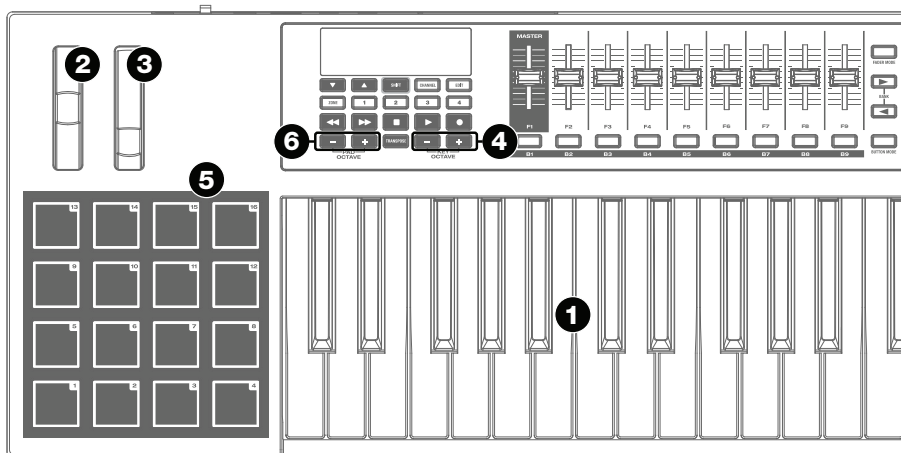
This connection is also relevant to Code 49’s **MIDI Out** and **MIDI In**:

- If an external device is connected to the **MIDI Out**, your computer can send MIDI messages out along this path: **computer** ➔ **Code 49** ➔ **external device**.
- If an external device is connected to the **MIDI In**, the external device sends MIDI messages in along this path: **external device** ➔ **Code 49** ➔ **computer**. MIDI messages can then be sent to an external device via the MIDI Out, but it must pass through the computer first.

4. **Sustain In:** Connect an optional 1/4” (6.35 mm) TS sustain pedal to this input.  
You can also change this input’s MIDI assignment. See [Operation > Sustain Pedal > Editing Assignments](#) to learn how to do this.
5. **Volume In:** Connect an optional 1/4” (6.35 mm) TRS expression pedal to this input.  
You can also change this input’s MIDI assignment. See [Operation > Volume Pedal > Editing Assignments](#) to learn how to do this.
6. **MIDI In:** Use a standard five-pin MIDI cable to connect this MIDI In to the MIDI Out of an external MIDI device (e.g., another MIDI controller). The MIDI messages sent to this MIDI In will be sent to your computer via the **USB port**.
7. **MIDI Out:** Use a standard five-pin MIDI cable to connect this MIDI Out to the MIDI In of an external MIDI device (e.g., a synthesizer, sequencer, drum machine, etc.).
8. **Kensington® Lock Slot:** You can use this slot to secure your Code 49 to a table or other surface.

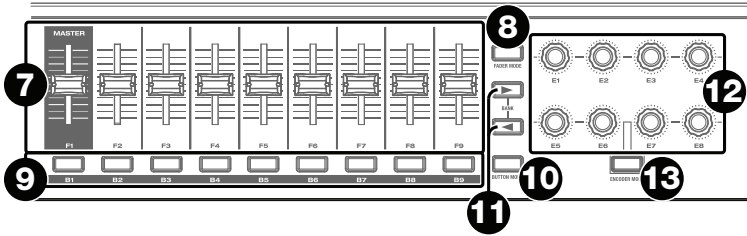
## Code 61

## Top Panel

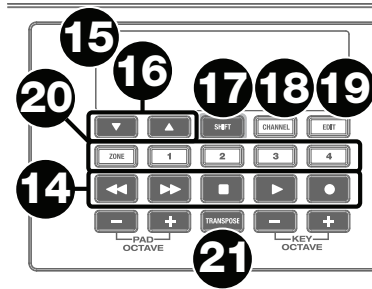


**Important:** For more complete explanations of how to use all of these controls, please see the [Operation](#) chapter.

- Keyboard:** This 61-note keyboard is velocity-sensitive with aftertouch and, in conjunction with the **Key Octave -/+** buttons, can access the full range of 127 available MIDI notes (10 octaves).
- Pitch-Bend Wheel:** Move this wheel to send MIDI pitch bend information.  
 You can also change this wheel's MIDI assignment. See [Operation > Wheels > Editing Assignments](#) to learn how to do this.
- Modulation Wheel:** Move this wheel to send continuous controller data—MIDI CC 01 (modulation), by default.  
 You can also change this wheel's MIDI assignment. See [Operation > Wheels > Editing Assignments](#) to learn how to do this.
- Key Octave -/+:** Press one of these buttons to move the keyboard up or down an octave.  
 Press and hold **Transpose** and press one of the buttons to move the keyboard down or up a semitone.
- Pads:** Use these pads to trigger drum hits or other samples in your software or external MIDI sound module. The pads are velocity-sensitive, which makes them very responsive and intuitive to play.  
 You can also change these pads' MIDI and Color assignments. See [Operation > Pads > Editing Assignments](#) to learn how to do this.
- Pad Octave -/+:** Press one of these buttons to move the pads up or down an octave.  
 Press and hold **Transpose** and press one of the buttons to move the pads down or up a semitone.



7. **Faders (F1–F9):** Use these faders to send MIDI CC or Mackie Control®/HUI® messages to your software or external MIDI device. Use the **Fader Mode** button to change their current mode. You can also change these faders’ MIDI assignments. See [Operation > Faders > Editing Assignments](#) to learn how to do this.
8. **Fader Mode:** Press this button to switch the **Faders (F1–F9)** between their two modes, distinguishable by this button’s color:
  - Red:** MIDI Mode (the default)
  - Green:** Mackie Control/HUI Mode.
 Learn more about these modes in [Operation > Faders > Modes](#).
9. **Buttons (B1–B9):** Use these buttons to send MIDI CC, Mackie Control/HUI, or HID messages to your software or external MIDI device. They can function as momentary or toggle (latching) buttons. Use the **Button Mode** button to change their current mode. You can also change these buttons’ MIDI, HID, and Color assignments. Please see [Operation > Buttons > Editing Assignments](#) to learn how to do this.
10. **Button Mode:** Press this button to cycle the **Buttons (B1–B9)** through their three modes, distinguishable by this button’s color:
  - Red:** MIDI Mode (the default)
  - Green:** Mackie Control/HUI Mode
  - Yellow:** HID Mode
 Learn more about these modes in [Operation > Buttons > Modes](#).
11. **Bank Right/Left (▶◀):** Press one of these buttons to move to the next or previous bank of assignable controls (**Faders**, **Buttons**, and **Encoders**). This will affect only the assignable controls that are in the same mode as the **Bank Right/Left (▶◀)** buttons, distinguishable by this button’s color:
  - Red:** MIDI Mode
  - Green:** Mackie Control/HUI Mode
  - Yellow:** HID Mode
  - White:** Global (the default; this affects all assignable controls regardless of their current modes)
 Learn more about these modes in [Operation > Basic Concepts > Control Modes > Using the Bank Buttons](#).
12. **Encoders (E1–E8):** Use these 360° knobs to send MIDI CC or Mackie Control/HUI messages to your software or external MIDI device. You can also change these encoders’ MIDI assignments. Please see [Operation > Encoders > Editing Assignments](#) to learn how to do this.
13. **Encoder Mode:** Press this button to switch the **Encoders (E1–E8)** between their two modes, distinguishable by this button’s color:
  - Red:** MIDI Mode (the default)
  - Green:** Mackie Control/HUI Mode
 Learn more about these modes in [Operation > Encoders > Modes](#).



14. **Transport Controls:** These six buttons are dedicated buttons for sending conventional Mackie Control/HUI transport control commands: **Rewind** (◀), **Fast-Forward** (▶), **Stop** (■), **Play** (▶), and **Record** (●).
15. **Display:** Use this screen to view parameter values, settings, and messages relevant to Code 61’s current operation. The various messages shown here are described throughout this *User Guide*.
16. **Preset Down/Up (▼▲):** Use these buttons to move to the previous or next preset.
 

You can also use these buttons to cycle through the editable parameters shown in the display, set the global MIDI channel, or set the MIDI channel of a zone of the keyboard.

Press and hold **Shift** and press these buttons to move to the previous or next program.
17. **Shift:** Press and hold this button to access the secondary functions of certain buttons and keys. Press this button in Zone Edit Mode to access additional zone editing functions.
18. **Channel:** Press this button to enter or exit Channel Mode. In Channel Mode, use the **Preset Down/Up (▼▲)** buttons to change Code 61’s global MIDI channel. See [Operation > Basic Concepts > Channels > Global Channel](#) to learn more about this mode.
 

Press and hold **Shift** and press this button to send a MIDI Snap Shot. This sends the assigned MIDI message and current position/value of all controls.
19. **Edit:** Press this button to enter or exit Edit Mode. In Edit Mode:
  - Use the **Preset Down/Up (▼▲)** buttons to change the value or setting of the parameter shown in the **display**.
  - Use the keyboard’s keys to access additional functions or commands.

Learn more about this mode in [Operation > Basic Concepts > Edit Mode](#).
20. **Zone, 1–4:** Press the **Zone** button to enter Zone Mode, which lets you use 4 different overlapping or non-overlapping ranges of keys on different MIDI channels. This is useful for sending notes to 4 virtual instruments 4 external synthesizers from the same keyboard, for example.
 

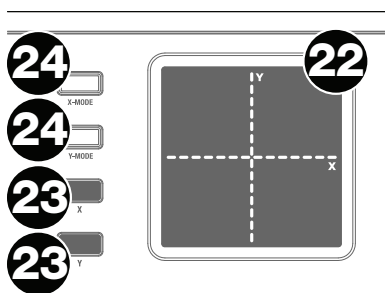
Press any of the **1–4** buttons simultaneously or separately (when the Zone Button is active/lit) to activate or deactivate those zones of the keyboard. When a zone is active, its corresponding button will be lit.

Press and hold the **Zone Button** for 1 second to enter or exit Zone Edit Mode. You can press any of the flashing **1–4** buttons to edit that zone.

Learn more about zones in [Operation > Basic Concepts > Zones](#).
21. **Transpose:** Press and hold this button and press one of the **Pad Octave -/+** or **Key Octave -/+** buttons to move the pads or keys (respectively) down or up a semitone.
 

Press and hold **Shift** and press this button to send a “MIDI Panic” message. This means all MIDI notes will stop and all controls will stop sending their messages.





22. **X/Y Pad:** This touch-sensitive pad lets you control two parameters simultaneously in a two-dimensional way (rather than a traditional one-dimensional modulation wheel or encoder). You can assign the parameter and range of each axis, **X** (horizontal) and **Y** (vertical). This pad can be in one of three modes as determined by the **X-Mode** and **Y-Mode** buttons.

You can also change each axis's MIDI and Note assignment. See [Operation > X/Y Pad > Editing Assignments](#) to learn how to do this.

23. **X/Y Buttons:** Press one of these buttons to send the minimum value for the parameter assigned to that axis.

Press and hold **Shift** and press one of these buttons to send the middle value for the parameter assigned to that axis (e.g., a MIDI value of 64—halfway between 0 and 127).

In Edit Mode, press one of these buttons when assigning a parameter to assign it to that axis: **X** (horizontal) or **Y** (vertical).

In HID Mode, use the **X** or **Y** button as a left-click or right-click mouse command (respectively).

24. **X-Mode / Y-Mode:** Press one of these buttons to cycle through the available modes for that axis of the **X/Y pad**, distinguishable by the button's color:

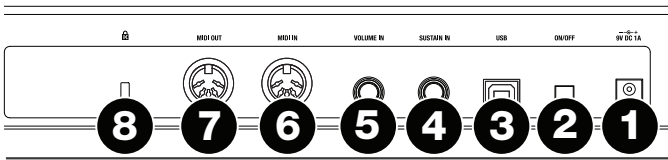
**Red:** MIDI CC Mode (the axis is assigned to a MIDI CC number)

**Pink:** In MIDI Note Mode (the axis is assigned a range, scale, or group of MIDI notes)

**Yellow:** HID Mode (the axis lets you use the **X/Y pad** as a mouse/trackpad)

Learn more about these modes in [Operation > X/Y Pad > Modes](#).

Rear Panel



1. **Power Input:** If you do not want to use a computer in your setup (i.e., if you are using Code 61 to control an external MIDI module), connect Code 61’s power input to a power outlet using an optional power adapter (9 VDC, 1 A, center-positive, sold separately). Alternatively, you can connect Code 61’s **USB Port** to a power outlet using a standard USB charger (sold separately).
2. **Power Switch:** Press this button to power Code 61 on. Press and hold this button for 1 second and then release it to power Code 61 off.
3. **USB Port:** Use a standard USB cable to connect this USB port to your computer. The computer’s USB port provides ample power to Code 61. This connection is also used to send and receive MIDI data to and from your computer.

This connection is also relevant to Code 61’s **MIDI Out** and **MIDI In**:

- If an external device is connected to the **MIDI Out**, your computer can send MIDI messages out along this path: **computer** ➔ **Code 61** ➔ **external device**.
- If an external device is connected to the **MIDI In**, the external device sends MIDI messages in along this path: **external device** ➔ **Code 61** ➔ **computer**. MIDI messages can then be sent to an external device via the MIDI Out, but it must pass through the computer first.

4. **Sustain In:** Connect an optional 1/4” (6.35 mm) TS sustain pedal to this input.  
You can also change this input’s MIDI assignment. See [Operation > Sustain Pedal > Editing Assignments](#) to learn how to do this.
5. **Volume In:** Connect an optional 1/4” (6.35 mm) TRS expression pedal to this input.  
You can also change this input’s MIDI assignment. See [Operation > Volume Pedal > Editing Assignments](#) to learn how to do this.
6. **MIDI In:** Use a standard five-pin MIDI cable to connect this MIDI In to the MIDI Out of an external MIDI device (e.g., another MIDI controller). The MIDI messages sent to this MIDI In will be sent to your computer via the **USB port**.
7. **MIDI Out:** Use a standard five-pin MIDI cable to connect this MIDI Out to the MIDI In of an external MIDI device (e.g., a synthesizer, sequencer, drum machine, etc.).
8. **Kensington® Lock Slot:** You can use this slot to secure your Code 61 to a table or other surface.

## Operation

This chapter describes the features of your Code Series keyboard.

### Basic Concepts

This chapter gives an overview of some fundamental concepts that will help you understand and use your Code Series keyboard:

[Presets](#)                      [Zones](#)  
[Control Modes](#)          [Channels](#)  
[Edit Mode](#)

Each section contains links to other relevant sections of this guide, which we recommend reading, as well.

### Presets

A preset is a saved collection of assignments for Code's controls, channel settings, keyboard zone settings, etc. You can store up to **12** presets in Code's internal memory, enabling you to use a dedicated preset for each digital audio workstation (DAW), virtual instrument, or project/session, for example.

We recommend visiting [m-audio.com](http://m-audio.com) and downloading the **Code Preset Editor**, which gives you a visual and intuitive way to edit the various messages that Code's controls send to your computer without having to use the hardware interface.

Learn more about managing presets in the [Presets and Memory](#) chapter.

**To select a preset**, use the **Preset Down/Up** (▼▲) buttons. The current preset number will appear in the display.

The available default presets are described in [Appendix > Presets](#).

**Important:** If you power off your Code Series keyboard without saving/storing your preset, you will lose any assignments or changes you have made.

#### To store a preset:

1. Press **Edit** to enter Edit Mode. The button will light up.
2. Press the keyboard's **Store** key. The display will show **TO** and the number of the last-selected preset.
3. Use the numeric keys (**0–9**) or **Preset Down/Up** (▼▲) buttons to enter the desired preset number (**00–12**).
4. Press the **Enter** key. The current settings will be stored as a preset. *This will overwrite that preset.*

## Control Modes

**Fader Modes:** The **faders** are always in one of two modes. Press **Fader Mode** to switch between them, distinguishable by the **Fader Mode** button's color:

**MIDI Mode (red):** Moving the faders will send MIDI CC messages.

**Mackie Control®/HUI® Mode (green):** Moving the faders will send messages using the Mackie Control/HUI protocol.

See [Faders > Modes](#) to learn more about these modes.

**Button Modes:** The **buttons** are always in one of three modes. Press **Button Mode** button to cycle through them, distinguishable by the **Button Mode** button's color:

**MIDI Mode (red):** Pressing the buttons will send MIDI CC messages.

**Mackie Control/HUI Mode (green):** Pressing the buttons will send messages using the Mackie Control/HUI protocol.

**HID Mode (yellow):** Pressing the buttons will send ASCII character messages.

See [Buttons > Modes](#) to learn more about these modes.

**Encoder Modes:** The **encoders** are always in one of two modes. Press **Encoder Mode** to switch between them, distinguishable by the **Encoder Mode** button's color:

**MIDI Mode (red):** Moving the encoders will send MIDI CC messages.

**Mackie Control/HUI Mode (green):** Moving the encoders will send messages using the Mackie Control/HUI protocol.

See [Encoders > Modes](#) to learn more about these modes.

**X-Modes / Y-Modes:** The **X/Y pad** is always in one of three modes. Press **X-Mode** or **Y-Mode** to cycle through them, distinguishable by the **X-Mode** or **Y-Mode** button's color (respectively):

**MIDI Mode (red):** The axis is assigned to a MIDI CC number.

**MIDI Note Mode (magenta):** The axis is assigned to a range, scale, or group of MIDI notes.

**HID Mode (yellow):** The axis lets you use the **X/Y pad** as a mouse/trackpad. You can also use the **X** button as a left-click button and the **Y** button as a right-click button.

See [X/Y Pad > Modes](#) to learn more about these modes.

## Using the Bank Buttons

The faders, buttons, and encoders all have multiple banks. You can use the **Bank Right/Left** (▶◀) buttons to move to the next or previous bank. You can set these buttons to change the bank for all controls **or** for controls in a specific mode only.

The mode of the **Bank Right/Left** (▶◀) buttons determines which controls it affects. Only the controls that are in that same mode will change banks.

**To change the Bank Right/Left (▶◀) buttons' mode**, press and hold **Shift**, and then press one of the **Bank Right/Left** (▶◀) buttons. Their current mode is distinguishable by their color and the message shown in the **display**.

### All Mode (white, ALL)

Pressing the **Bank Right/Left** (▶◀) buttons will change the bank for **all** controls regardless of their modes.

When you press the **Bank Right/Left** (▶◀) buttons, the current bank will appear in the **display** as **A1, A2, A3, or A4**.

### MIDI Mode (red, MIDI)

Pressing the **Bank Right/Left** (▶◀) buttons will change the bank for all controls in MIDI Mode.

When you press the **Bank Right/Left** (▶◀) buttons, the current bank will appear in the **display** as **MIDI1, MIDI2, MIDI3, or MIDI4**.

### Mackie Control®/HUI® Mode (green, MACHUI)

Pressing the **Bank Right/Left** (▶◀) buttons will change the bank for all controls in Mackie Control/HUI Mode.

When you press the **Bank Right/Left** (▶◀) buttons, only M/H will appear in the **display**, but you will still be moving to the next or previous bank (of 4 total).

### HID Mode (yellow, HID)

Pressing the **Bank Right/Left** (▶◀) buttons will change the bank for all controls in HID Mode.

When you press the **Bank Right/Left** (▶◀) buttons, the current bank will appear in the **display** as **H1, H2, H3, or H4**.

**Note:** If you change the mode of the **faders, buttons, or encoders**, they will automatically be in the bank that you most recently selected in that mode. For example, if the faders are in MIDI Mode Bank **3** and the buttons are in HID Mode Bank **2**, the buttons will automatically be in Bank **3** if you change them to MIDI Mode.

## Edit Mode

Edit Mode lets you set various functions on Code. For instance, you can assign MIDI parameters, set MIDI value ranges, change the colors of buttons, or assign MIDI channels.

To enter or exit Edit Mode, press **Edit**. The button will light up while in Edit Mode.

## Overview of Control Assignments

When you select a control to edit, you can set any of the following:

- **MIDI assignment (Ctrl Assign):** This number determines what type of MIDI message the control sends (a MIDI CC number, for example).
- **Data 1 (if applicable):** This number determines how the control functions (whether a button acts as a momentary or toggle button, for example). *This applies only to a button, a pad, or the sustain pedal when its MIDI message (described above) is a non-registered parameter number (NRPN, a parameter number higher than 127).*
- **Data 2:** This number determines the control's minimum value, its "released" message, etc.
- **Data 3:** This number determines the control's maximum value, its "pressed" message, etc.

All of these numbers and their corresponding parameters are listed in [Appendix > Parameter Numbers](#). Some numbers correspond to their conventional MIDI parameters, but others may be less familiar to you, particularly NRPNs.

## Editing Controls

This section is a brief overview of how to edit the basic control assignments described above as well as other settings. Please note, though, that different controls have different available parameters, settings, values, etc., so refer to the chapters listed below for more in-depth explanations:

[Faders > Editing Assignments](#)

[Buttons > Editing Assignments](#)

[Encoders > Editing Assignments](#)

[X/Y Pad > Editing Assignments](#)

[Pads > Editing Assignments](#)

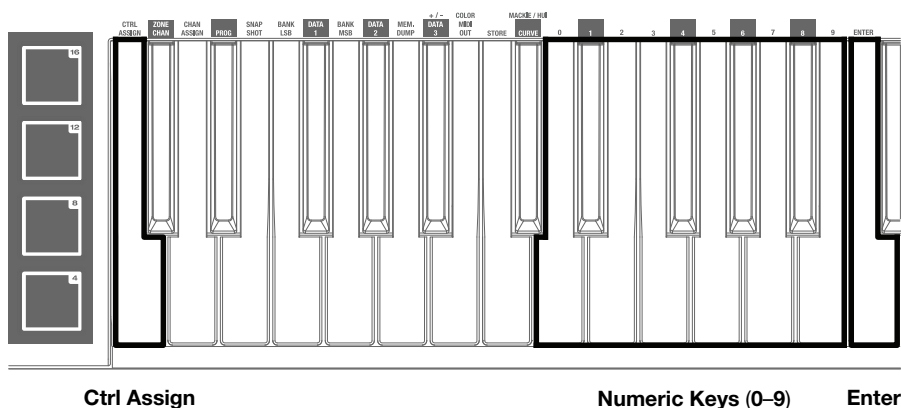
[Wheels > Editing Assignments](#)

[Sustain Pedal > Editing Assignments](#)

[Volume Pedal > Editing Assignments](#)

### Important:

- In Edit Mode, moving or pressing any control will cause it to send its MIDI message. In other words, Edit Mode does not prevent/disable controls from sending their normal data. Keep this in mind while selecting controls to edit them. The exceptions are the keyboard's lowest 25 keys, which you can use to access additional functions or commands (see the diagram on the next page).
- After making your changes in Edit Mode, you must press the keyboard's **Enter** key to save them. To cancel your changes at any time, press **Edit** to exit Edit Mode.



**To assign or edit a control:**

1. Press **Edit** to enter Edit Mode. The button will light up.
2. Select the control you want to assign or edit by moving or pressing it. Its name (and number, if available) will appear in the **display**.
3. Set any of the four control settings below. You can do more than one and in any order:

**Control Assign:**

- i. Press the keyboard’s **Ctrl Assign** key.
- ii. Use the keyboard’s numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter the number that corresponds to the desired MIDI message as specified in [Appendix > Parameter Numbers](#).

**Data 1 (if applicable):** This applies only to a **button**, a **pad**, or the **sustain pedal** when its MIDI message is a non-registered parameter number (NRPN, a parameter number higher than 127).

- i. Press the keyboard’s **Data 1** key.
- ii. Use the keyboard’s numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter the Data 1 value, which will appear in the **display**. This number corresponds to a specific MIDI parameter specified in [Appendix > Parameter Numbers](#).

**Data 2:**

- i. Press the keyboard’s **Data 2** key.
- ii. Use the keyboard’s numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter the Data 2 value, which will appear in the **display**. This number corresponds to, usually, the minimum value set on a control.

**Data 3:**

- i. Press the keyboard’s **Data 3** key.
- ii. Use the keyboard’s numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter the Data 3 value, which will appear in the **display**. This number corresponds to, usually, the maximum value set on a control.

4. To save your changes, press the keyboard’s **Enter** key. Your changes will be saved and you will automatically exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

**Important:** If you power off your Code Series keyboard without saving/storing your preset, you will lose any assignments or changes you have made. See [Presets and Memory > Storing Presets](#) to learn more.

## Zones

The **keyboard** 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.

**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.

By default, the zones are set to specific channels. Learn how to change each zone’s channel in the following **Zone Channels** section.

For the **keyboard**, you can shift the range of notes they play within that zone. See the following **Zone Octave and Transposition** section to learn about this.

Each zone can also send Zone Program Change or Zone Bank Change (LSB and MSB) messages when you activate it, ensuring that the zone always uses the same program. See the following **Zone Program** and **Zone LSB and MSB** sections to learn about this.

## Assigning Keys to a Zone

To assign a section of the keyboard to a zone, you need to define the range of notes. By default, all zones will contain all notes.

### To assign a range of keys to a zone:

1. Press and hold **Zone** for 1 second to enter Zone Edit Mode. The active **Zone Buttons 1–4** will flash.
2. Press one of **Zone Buttons 1–4** to edit that zone. Alternatively, you can press multiple **Zone Buttons 1–4** to edit those zones simultaneously. The **display** will show the zone’s current lowest and highest keys (e.g., **C 1.C 5** or **Bb2.Eb4**).
3. Press the lowest key you want to assign to the zone, and then press the highest key you want to assign to the zone (or press the highest key, then the lowest). The **display** will show the note values as you enter them. You can also redo this step, if necessary.

To assign a range of keys for another zone, repeat Steps 2–3.

**Important:** The zone is defined by the keys, not the notes they play. If you change the keyboard’s octave or transposition (using the **Key Octave –/+** buttons), the zone will remain unchanged, but its keys will play different notes.

4. Press **Zone** to exit Zone Edit Mode.



## Zone Channel

You can set each zone to a different MIDI channel. Each zone (controls and keys) can then control a different virtual instrument or synthesizer (set to receive MIDI messages on those channels).

By default, all zone channels are set to Channel “00,” which is the global channel (see [Channels > Global Channel](#) to learn about this). If you want each zone to control only a specific virtual instrument or synthesizer, you should set each zone to a different channel, and then set each virtual instrument or synthesizer to receive messages on those channels.

**Note:** Preset 12 has some keyboard zones and controls set to different channels as it controls both Hybrid and Loom virtual instruments simultaneously.

### To set the MIDI channel for a zone:

1. Press and hold **Zone** for 1 second to enter Zone Edit Mode. The active **Zone Buttons 1–4** will flash.
2. Press one of **Zone Buttons 1–4** to edit that zone. Alternatively, you can press multiple **Zone Buttons 1–4** to edit those zones simultaneously.
3. Press and hold **Shift** and then press the **Zone Chan** key. The **display** will show **CHN** and the zone’s current MIDI channel.
4. Enter the desired MIDI channel by doing one of the following:
  - While holding **Shift**, use the numeric keys (0–9) to enter a channel (00 or 01–16).
  - Use the **Preset Down/Up** (▼▲) buttons to select a channel (00 or 01–16).
5. While holding **Shift**, press the **Enter** key.
6. To set the MIDI channel for another zone, repeat Steps 2–5.  
To exit Zone Edit Mode, press **Zone**.

You can also assign other controls to the same MIDI channel as a keyboard zone. This does not mean the control is assigned to that zone—just that it will use the same channel.

### To assign a control to a zone channel:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press or move the desired key or control. The control’s number will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** and then show the button’s number and current MIDI channel or zone channel.
4. Use the numeric keys (0–9) or the **Preset Down/Up** (▼▲) buttons to enter the desired zone (17–20 or z1–z4).

**Note:** This process is the same as assigning a control to a channel. Values 00 and 01–16 correspond to Code’s global channel and the 16 available MIDI channels. Values 17–20 correspond to channels used by **Zones 1–4** (z1–z4).

5. Press the **Enter** key. The button will be assigned to that channel, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Zone Octave and Transposition

You can set each zone to a different octave or transposition. The keys of each zone can then send different notes to a different virtual instrument or synthesizer (set to receive MIDI messages on those channels).

The zone octave and transposition are independent from the keyboard's overall octave and transposition; all of these affect the note a key sends out. For example, if a zone's octave shift is set to +1, and the entire keyboard's octave shift is set to +1, the notes played by the zone's keys will be 2 octaves higher than normal. Similarly, if a zone's octave shift is set to +1, and the entire keyboard's transposition is set to -2 (semitones), the notes played by the zone's keys will be 10 semitones higher than normal.

### To set the zone octave and/or transposition for the keys:

1. Press and hold **Zone** for 1 second to enter Zone Edit Mode. The active **Zone Buttons 1–4** will flash.
2. Press one of **Zone Buttons 1–4** to edit that zone. Alternatively, you can press multiple **Zone Buttons 1–4** to edit those zones simultaneously. The **display** will show the zone's current lowest and highest keys (e.g., **C 1.C 5** or **Bb2.Eb4**).
3. **To change the octave**, use the **Key Octave –/+** buttons to lower or raise the octave (**-5** to **5**). The **display** will show **OCT** and the number of octaves.

**To change the transposition**, press and hold **Transpose**, and then use the **Key Octave –/+** buttons to lower or raise the transposition. The **display** will show **TRN** and the number of semitones (**-12** to **12**).

To change the octave and/or transposition for another zone, repeat Steps 2–3.

4. Press **Zone** to exit Zone Edit Mode.

## Zone Program Change

Each zone can send Zone Program Change messages when you activate it, ensuring that the zone always uses the same program.

### To set the zone program change:

1. Press and hold **Zone** for 1 second to enter Zone Edit Mode. The active **Zone Buttons 1–4** will flash.
2. Press one of **Zone Buttons 1–4** to edit that zone. Alternatively, you can press multiple **Zone Buttons 1–4** to edit those zones simultaneously.
3. Press and hold **Shift**, and then press the **Prog** key. The **display** will show **PRO** and the program change number.
4. Enter the desired program change number by doing one of the following:
  - While holding **Shift**, use the numeric keys (**0–9**) to enter a program change number (**000–127**).
  - Use the **Preset Down/Up (▼▲)** buttons to select a program change number (**000–127**).
5. While holding **Shift**, press the **Enter** key. (This will also send the program change message.)
6. To set the program change for another zone, repeat Steps 2–5.

To exit Zone Edit Mode, press **Zone**.

## Zone Bank Change

Zone Bank Change messages are sent on the channel(s) of active zones, thus accessing additional banks of instrument sound presets (if available) for each zone. Each bank change consists of an LSB number (Least Significant Byte) and an MSB number (Most Significant Byte). These bank change messages are stored in each preset, ensuring that each zone selects the correct instrument whenever you load a preset.

### To set the zone bank change:

1. Press and hold **Zone** for 1 second to enter Zone Edit Mode. The active **Zone Buttons 1–4** will flash.
2. Press one of **Zone Buttons 1–4** to edit that zone. Alternatively, you can press multiple **Zone Buttons 1–4** to edit those zones simultaneously.
3. Press and hold **Shift**, and then press the **Bank LSB** key. The **display** will show **LSB** and the LSB number.
4. Enter the desired LSB number by doing one of the following:
  - While holding **Shift**, use the numeric keys (**0–9**) to enter an LSB number (**000–127**).
  - Use the **Preset Down/Up (▼▲)** buttons to select an LSB number (**000–127**).
5. While holding **Shift**, press the **Enter** key.
6. While holding **Shift**, press the **Bank MSB** key. The **display** will show **MSB** and the MSB number.
7. Enter the desired MSB number by doing one of the following:
  - While holding **Shift**, use the numeric keys (**0–9**) to enter an MSB number (**000–127**).
  - Use the **Preset Down/Up (▼▲)** buttons to select an MSB number (**000–127**).
8. While holding **Shift**, press the **Enter** key.
9. To set the program change for another zone, repeat Steps 2–8.  
To exit Zone Edit Mode, press **Zone**.

## Channels

Your Code Series keyboard uses four different types of MIDI channels, each described in this section:

- **Control Channel** (the channel used by a specific control, which you can assign)
- **Zone Channel** (the channel used by a zone, which can contain multiple controls and a section of the keyboard)
- **Global Channel** (the channel used by the keyboard if it is not being used by an active zone)
- **Omni Channel** (all channels used at once)

## Control Channel

Each control can send its MIDI messages over a specified MIDI channel.

**Tip:** This feature is most often used to control multiple virtual instruments within a single preset. For example, you can set the two halves of your encoders to different MIDI channels and use each half to adjust the parameters of a separate virtual instrument (each one receiving messages on its respective channel).

### To set the MIDI channel for a control:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Move the desired fader. The fader's number will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** and then show the fader's number and current MIDI channel or zone channel.
4. Use the numeric keys (**0–9**) or the **Preset Down/Up** (**▼▲**) buttons to enter the desired channel (**01–16**).

**Note:** This process is the same as assigning a control to a zone. Values **00** and **01–16** correspond to Code's global channel and the 16 available MIDI channels. Values **17–20** correspond to channels used by **Zones 1–4** (**z1–z4**). To assign the control to a zone channel, select the desired zone (**17–20** or **z1–z4**).

5. Press the **Enter** key. The fader will be assigned to that channel, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

**Important:** To save your changes in the preset, store your preset. See [Presets and Memory > Storing Presets](#) to learn more.

## Zone Channel

Like individual controls, a zone can send its MIDI messages over a specified MIDI channel.

By default, all zone channels are set to Channel “00” which is the global channel (see the following [Global Channel](#) section). If you want each zone to control only a specific virtual instrument or synthesizer, you should set each zone to a different channel, and then set each virtual instrument or synthesizer to receive messages on those channels.

**Note:** Preset 12 has some keyboard zones and controls set to different channels as it controls both Hybrid and Loom virtual instruments simultaneously.

**Tip:** This feature is useful if you frequently need to switch groups of controls between different virtual instruments (each one receiving messages on a different channel). Instead of having to set a new channel of each control one at a time, you can assign those controls to a zone and then change the zone’s channel. All controls in that zone will instantly be set to the new channel.

### To set the MIDI channel for a zone:

1. Press and hold **Zone** for 1 second to enter Zone Edit Mode. The active **Zone Buttons 1–4** will flash.
  2. Press one of **Zone Buttons 1–4** to edit that zone. Alternatively, you can press multiple **Zone Buttons 1–4** to edit those zones simultaneously.
  3. Press and hold **Shift** and then press the **Zone Chan** key. The **display** will show **CHN** and the zone’s current MIDI channel.
  4. Enter the desired MIDI channel by doing one of the following:
    - While holding **Shift**, use the numeric keys (**0–9**) to enter a channel (**01–16**).
    - Use the **Preset Down/Up (▼▲)** buttons to select a channel (**01–16**).
  5. While holding **Shift**, press the **Enter** key.
  6. To set the MIDI channel for another zone, repeat Steps 2–5.
- To exit Zone Edit Mode, press **Zone**.

## Global Channel

When setting the MIDI channel of an individual control or an entire zone, you can select a standard MIDI channel (**1–16**), but you can alternatively select **00**, which is the “global” channel. You can then set the global channel to a standard MIDI channel (**1–16**). This is useful if you want to change the MIDI channel used by several controls all at once, saving you the time of having to change the channel assignment of each control individually.

Any sections of the keyboard that are not in an active zone will use the global channel.

By default, the global channel is set to Channel 1.

### To change the global MIDI channel:

1. Press **Channel**. The **display** will show **CHN** and the current global MIDI channel.
2. Use the **Preset Down/Up (▼▲)** buttons to select a channel (**01–16**).
3. Press **Channel**. The **display** will return to its previous state.

## Omni Channel

When setting the MIDI channel of an individual control, you can select a standard MIDI channel (1–16), but you can alternatively select **OM**, which is the “omni” channel. This is useful if you want to have a control affect multiple channels or Zones at once, enabling you to control parameters of 2 or more different Virtual Instruments at the same time with one control.

See the [Chan Assign](#) section of this User Guide for instructions on how to assign a control to the omni channel.

**Note:** When a control is set to the omni channel, it will not send data to the MIDI Din port.

## Keyboard

The keyboard is velocity-sensitive with aftertouch and can access the full range of 127 available MIDI notes across 10 octaves.

This chapter explains how to use the keyboard to perform different commands while configuring the assignable controls. See the [Commands](#) section to learn how to do this.

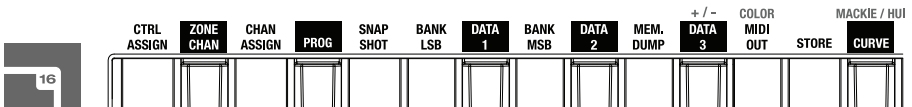
You can also set the keyboard’s channel (which is the “global” channel) and its response curve. See the [Editing Assignments](#) section to learn how to do this.

You can also shift the range of the keys by octave or semitones. See the [Octaves and Transposition](#) section to learn about this.

## Commands

The lowest 25 keys of the keyboard (or all keys of the Code 25) have additional functions or commands. When you are in Edit Mode (i.e., when the **Edit** button is lit), press these keys to execute their functions. The keys will not send out their usual MIDI note messages.

(Click a key below to jump to that part of this section.)



## Ctrl Assign

Press this key to enter the **Control Assign** number (using the numeric keys [0–9]). This number determines what type of MIDI message the control sends (a MIDI CC number, for example). The available numbers and their corresponding functions are listed in [Appendix > Parameter Numbers](#).

## M-AUDIO

### Zone Chan

While in Zone Edit Mode, press and hold **Shift** and then press this key to enter the MIDI channel over which a zone will send its MIDI note messages. You can set up to four zones, and each one can send its messages over a different channel.

**Tip:** This feature is great for dividing the keyboard and/or controls between different virtual instruments or synthesizers. For example, you can create two zones (each using a different MIDI channel), and use each zone to play a different virtual instrument without having to change presets. Similarly, you could assign each half of the encoders to a different virtual instrument.

Learn more about keyboard zones in the [Zones](#) chapter or MIDI channels in the [Channels](#) chapter.

### Chan Assign

Press this key to view or enter the MIDI channel (using the numeric keys **[0–9]**) for the currently selected control. The control will send its MIDI messages over this MIDI channel.

When assigning the MIDI channel for a control, you can select one of the standard MIDI channels (**00–16**); Code's global MIDI channel (**00**); one of Values **17–20**, which correspond to channels used by **Zones 1–4 (z1–z4)**; or Value **21**, which corresponds to the omni MIDI channel (**OM**). Instead of selecting a specific channel, you can assign the control to a zone channel or the omni channel.

To learn how to set the MIDI channel for a specific control, see one of the sections below:

[Faders > Editing Assignments > Channel](#)

[Buttons > Editing Assignments > Channel](#)

[Encoders > Editing Assignments > Channel](#)

[X/Y Pad > Editing Assignments > Channel](#)

[Pads > Editing Assignments > Channel](#)

[Wheels > Editing Assignments > Channel](#)

[Sustain Pedal > Editing Assignments > Channel](#)

[Volume Pedal > Editing Assignments > Channel](#)

To learn how to set the MIDI channel for an entire zone, see [Channels > Zone Channel](#).

### Prog

Press this key to enter a program change number (using the numeric keys **[0–9]**) and send it over the global MIDI channel.

Alternatively, press and hold **Shift** and then press one of the **Preset Down/Up (▼▲)** buttons.

To learn how to send program change messages, see the [Program Changes](#) chapter.



## M-AUDIO

### Snap Shot

Press this key to send out the assigned MIDI message and current position/value of **all** controls. This ensures that your software or other MIDI device matches the current positions/values of all controls on your Code Series keyboard.

**Tip:** Alternatively, press **Shift** and **Channel** simultaneously.

### Bank LSB / Bank MSB

Use these keys to send bank change messages (Bank LSB and Bank MSB) over the current MIDI channel. These messages are used to access additional banks of presets on virtual instruments, MIDI sound modules, etc. (if available).

To learn how to send bank change messages, see the [Bank Changes](#) chapter.

**Note:** A Bank LSB or Bank MSB number may not have any effect until you send a program change message after it. See [Program Changes](#) to learn how to do this.

### Memory Dump

Press this key to send a “System Exclusive” (SysEx) memory dump for all 12 presets. You can later send the SysEx file back to your Code Series keyboard to restore your presets.

See [Presets and Memory > Sending and Restoring SysEx Memory](#) to learn more.

### Data 1

Press this key to enter the **Data 1** number (using the numeric keys [0–9]). This number determines how the control functions (whether a button acts as a momentary or toggle button, for example). The available numbers and their corresponding functions are listed in [Appendix > Parameter Numbers](#).

This applies only to a **button**, a **pad**, or the **sustain pedal** when its **Control Assign** number is a non-registered parameter number (NRPN, a parameter number higher than 127).

### Data 2

Press this key to enter the **Data 2** number (using the numeric keys [0–9] or the **Preset Down/Up** (▼▲) buttons). This number determines the control’s minimum value, its “released” message, etc.

### Data 3 / +/-

Press this key to enter the **Data 3** number (using the numeric keys [0–9] or the **Preset Down/Up** (▼▲) buttons). This number determines the control’s maximum value, its “pressed” message, etc.

## M-AUDIO

### MIDI Out / Color

Press this key to enable or disable the **MIDI Out** port. By default, this port is disabled, but you can enable it to send out MIDI messages from your Code Series keyboard. It will not send out incoming MIDI messages from your DAW or the **MIDI In** port. See [MIDI Out](#) to learn more about this.

Press and hold **Shift** and then press this key to set the color of the **pads** or **buttons**. See [Pads > Editing Assignments > Colors](#) and [Buttons > Editing Assignments > Colors](#) to learn more about this.

### Store

Press this key to save the current assignments to one of 12 presets. This will overwrite the preset currently stored there. See [Presets and Memory > Storing Presets](#) to learn more about this.

### Curve / Mackie®/HUI®

Press this key to set the velocity curve of the **keyboard**, **pads**, **encoders**, or **X/Y pad** (when set to Note Mode). To learn how to set the velocity curve for each control, see one of the sections below:

[Keyboard > Editing Assignments > Curve](#)

[Pads > Editing Assignments > Curve](#)

[Encoders > Editing Assignments > Curve](#)

[X/Y Pad > Editing Assignments > Curve](#)

Press and hold **Shift** and then press this key to switch the current preset between Mackie Control Mode and HUI Mode. While in each mode, any control that is set to that mode will send out send messages using that protocol. See [Mackie Control and HUI](#) to learn more about this.

### Numeric Keys (0–9)

Use the keyboard's numeric keys (**0–9**) to enter values, which will appear in the **display**.



### Enter

Press this key to confirm a command or selection (not every command or selection requires you to press this key, though).

## Editing Assignments

You can set the keyboard’s channel (which is the “global” channel). See [Channel](#) to learn how to do this.

To learn how to set the keyboard’s response curve, see the [Curve](#) section.

### Channel

Any sections of the keyboard that are not in an active zone (described in [Zones > Assigning Keys to a Zone](#)) will use the “global” channel, which is set to a standard MIDI channel (**01–16**).

By default, the global channel is set to Channel 1.

#### To change the global MIDI channel:

1. Press **Channel**. The **display** will show **CHN** and the current global MIDI channel.
2. Use the **Preset Down/Up** (**▼▲**) buttons to select a channel (**01–16**).
3. Press **Channel**. The **display** will return to its previous state.

### Curve

The curve setting for the keyboard determines its velocity sensitivity—the amount of force required to generate a note with a specific velocity.

#### To set the keyboard curve:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the **Curve** key once. The display will show **VCrV** and the current curve setting:

Display	Curve Number	Description
VCrVC1	01	This is a low-sensitivity setting, useful for playing notes with mostly low velocities.
VCrVC2	02	This is a medium-sensitivity setting (the default), useful for playing with an average amount of force.
VCrVC3	03	This is a high-sensitivity setting, useful for playing notes with mostly high velocities.
VCrVC4	04	This is a linear curve. The velocity of the note will be proportional to the amount of force.
VCrVF1	05	All notes will have a fixed velocity of <b>64</b> .
VCrVF2	06	All notes will have a fixed velocity of <b>100</b> .
VCrVF3	07	All notes will have a fixed velocity of <b>127</b> .

3. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired curve number (**1–7**).
4. Press the **Enter** key. The keyboard will now use that curve, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

### Octaves and Transposition

By using the **Key Octave**  $-/+$  buttons, the keyboard can access the full range of 127 available MIDI notes (10 octaves). Additionally, you can transpose the keyboard up to 12 semitones (1 octave) in either direction.

**To change the octave of the keyboard**, use the **Key Octave**  $-/+$  buttons to lower or raise the octave, respectively. The **display** will temporarily show **OCT** and the current octave shift.

Code 25's keyboard can be shifted **4** octaves down or **5** octaves up.

Code 49's keyboard can be shifted **3** octaves down or **4** octaves up.

Code 61's keyboard can be shifted **3** octaves down or **3** octaves up.

**To change the transposition of the keyboard**, press and hold **Transpose**, and then use the **Key Octave**  $-/+$  buttons to lower or raise the octave, respectively. The **display** will temporarily show **TRN** and the current transposition (**-12** to **12**).

**Important:** The keyboard's overall octave and transposition are independent from zone octaves and transposition; all of these affect the note a key sends out. For example, if a zone's octave shift is set to +1, and the keyboard's octave shift is set to +1, the notes played by the zone's keys will be 2 octaves higher than normal. Similarly, if a zone's octave shift is set to +1, and the entire keyboard's transposition is set to -2 (semitones), the notes played by the zone's keys will be 10 semitones higher than normal.

To learn more about setting a zone's octave or transposition, please see [Basic Concepts > Zones > Zone Octave and Transposition](#).

## Faders

This chapter explains how to assign the faders to different commands. See the [Editing Assignments](#) section to learn how to do this.

The faders' functions also depend on their current mode. See the [Modes](#) section to learn about their modes.

## Editing Assignments

You can set the channel of each fader. See [Channel](#) to learn how to do this.

To learn how to assign different types of messages to a fader, see the [Messages](#) section.

## Channel

### To set the MIDI channel for a fader:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Move the desired fader. The fader's number will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** for 1 second and then show the fader's number and current MIDI channel or zone channel.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI channel (**00** or **01–16**), zone channel (**17–20**), or omni channel (**21**).

**Note:** Values **00** and **01–16** correspond to Code's global channel and the 16 available MIDI channels. Values **17–20** correspond to channels used by **Zones 1–4** (**z1–z4**). Value **21** corresponds to the omni channel.

5. Press the **Enter** key. The fader will be assigned to that channel, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Messages

### MIDI CCs

You can assign the faders to send MIDI CC messages with values within a specified range.

#### To assign a MIDI CC to a fader:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Move the desired fader. The fader's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the fader's number (**F\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a MIDI CC number (**000–127**).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the fader's number (**F\_**) and the value at its minimum position.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the fader's number (**F\_**) and the value at its maximum position.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Enter** key. The fader is now set to send the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can reverse the direction (polarity) of the fader so that its lowest position sends its maximum value and vice versa. To do this, enter the desired maximum value in Step 5 and the desired minimum value in Step 7.

## Relative Messages

Most software controls receive “absolute” messages by scanning the position of a fader or encoder and using that position’s value. Some other software controls, however, receive “relative” messages, which simply increment/decrement the value (as opposed to sending a precise value to designate a position).

### To set a fader to send relative messages:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Move the desired fader. The fader’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the fader’s number (**F\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI CC number (**000–127**).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the fader’s number (**F\_**) and the value at its minimum position.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter one of the following values for the desired relative operation:
  - 128 or 130:** Moving the fader up increments the value. Moving it down decrements the value.
  - Note:** If using the **128** setting does not work with your software, use the **130** setting instead; not all software applications respond to the same type of relative message.
  - 129 or 131:** Moving the fader up decrements the value. Moving it down increments the value.
  - Note:** If using the **129** setting does not work with your software, use the **131** setting instead; not all software applications respond to the same type of relative message.
7. Press the **Enter** key. The fader is now set to send relative messages for the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Modes

The **faders** are always in one of two modes. Press **Fader Mode** to switch between them, distinguishable by the **Fader Mode** button's color.

### MIDI Mode

In this mode, the **Fader Mode** button will be lit **red**.

Moving the faders will send MIDI CC messages, which you can assign (described earlier in [Editing Assignments > Message](#)).

### Mackie Control®/HUI® Mode

In this mode, the **Fader Mode** button will be lit **green**.

If your Code Series keyboard is set to use the **Mackie Control** protocol, moving the **faders** will adjust the **volume** of each track.

If your Code Series keyboard is set to use the **HUI** protocol, moving the **faders** will adjust the **volume** of each track except for the **master fader (F1)**, which will be in MIDI Mode.

Use the **Bank Right/Left** (▶◀) buttons to move to another bank of tracks.

To select the Mackie Control or HUI protocol, see [Mackie Control and HUI](#).

**Important note if you are using Code 25:** In your DAW, it may look like you are controlling 8 tracks, but you can control only 4 tracks at a time. When you press one of the **Bank Right/Left** (▶◀) buttons, you will control only the next/previous 4 tracks.



## Buttons

This chapter explains how to assign the buttons to different commands. See the [Editing Assignments](#) section to learn how to do this.

The buttons' functions also depend on their current mode. See the [Modes](#) section to learn about their modes.

## Editing Assignments

You can set the channel of each button. See [Channel](#) to learn how to do this.

To learn how to assign different types of messages to a button, see the [Messages](#) section.

You can also set whether a button is “momentary” (the default) or “latching” (also known as “toggle”). See the [Latching](#) section to learn about this.

While in MIDI Mode or HID Mode, you can customize the color of each button. See [Colors](#) to learn how to do this.

## Channel

### To set the MIDI channel for a button:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button's number will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** for 1 second and then show the button's number and current MIDI channel or zone channel.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI channel (**00** or **01–16**), zone channel (**17–20**), or omni channel (**21**).

**Note:** Values **00** and **01–16** correspond to Code's global channel and the 16 available MIDI channels. Values **17–20** correspond to channels used by **Zones 1–4 (z1–z4)**. Value **21** corresponds to the omni channel.

5. Press the **Enter** key. The button will be assigned to that channel, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Messages

### MIDI CCs

You can assign the buttons to send MIDI CC messages with a “pressed” value and a “released” value.

The buttons must be in MIDI Mode to do this (see [Modes > MIDI Mode](#)).

#### To assign a MIDI CC to a button:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the button’s number (**B\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a MIDI CC number (**000–127**).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the button’s number (**B\_\_**) and the value it will send when released.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the button’s number (**B\_\_**) and the value it will send when pressed.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Enter** key. The button is now set to send the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## MIDI CC Value Increment/Decrement

You can set a button to 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.

The buttons must be in MIDI Mode to do this (see [Modes > MIDI Mode](#)).

**Important:** Each button with this type of assignment is independent of the others. If you set one button to increment a value and another button to decrement the same value, they will each be sending different values, not resuming where the other button left off.

For example, pressing an “increment” button would cause a MIDI CC value to become 1, 2, 3, etc., but pressing a “decrement” button for the same MIDI CC would cause it to become 127, 126, 125, etc.

### To assign a button to increment/decrement a MIDI CC value:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the button’s number (**B\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **154** (to increment a MIDI CC value) or **153** (to decrement a MIDI CC value).
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the button’s number (**B\_**) and the MIDI CC value it will increment/decrement.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the button’s number (**B\_**) and the lowest value it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the button’s number (**B\_**) and the highest value it will send.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
11. Press the **Enter** key. The button is now set to increment/decrement the assigned MIDI CC value, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## MIDI CC Value Cycle

You can set a button to cycle through or switch between 2, 3, or 4 MIDI CC values each time you press it.

### To assign a button to cycle through or switch between 2, 3, or 4 MIDI CC values:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the button's number (**B\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **146**.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the button's number (**B\_\_**) and the desired MIDI CC.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the button's number (**B\_\_**) and the lowest value it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the button's number (**B\_\_**) and the highest value it will send.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
11. Press and hold **Shift**, and then press the **Data 3 / +/-** key. The **display** will show **DATA+1** for 1 second and then show the button's number (**B\_\_**) an additional value it will send.
12. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value between the lowest and highest values (**000–127**).
13. **Optional:** To set one more value the button will send, repeat Steps 11–12 once more, but press the **Data 3 / +/-** key twice. The **display** will show **DATA+2** for 1 second and then show the button's number (**B\_\_**) an additional value it will send.
14. Press the **Enter** key. The button is now set to cycle through the 3 or 4 assigned MIDI CC values, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Program, Bank LSB, and Bank MSB

You can set a button to 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).

The buttons must be in MIDI Mode to do this (see [Modes > MIDI Mode](#)).

### To assign a button to send a combined program, Bank LSB, and Bank MSB number:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the button's number (**B\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **145**.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the button's number (**B\_\_**) and the program number it will send.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired program number.
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the button's number (**B\_\_**) and the Bank LSB number it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired Bank LSB number.
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the button's number (**B\_\_**) and the Bank MSB number it will send.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired Bank MSB number.
11. Press the **Enter** key. The button is now set to send the program number, Bank LSB number, and Bank MSB number, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Program Increment/Decrement

You can set a button to 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.

**Important:** Each button with this type of assignment is independent of the others. If you set one button to increment the program number and another button to decrement it, they will each be sending different values, not resuming where the other button left off.

For example, pressing an “increment” button would change the program to 1, 2, 3, etc., but pressing the “decrement” button would change it to 127, 126, 125, etc.

### To assign a button to increment/decrement the program number:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the button’s number (**B\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **156** (to increment the program number) or **155** (to decrement the program number).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the button’s number (**B\_\_**) and the lowest program number it will send.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the button’s number (**B\_\_**) and the highest program number it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Enter** key. The button is now set to increment/decrement the program number, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Program Cycle

You can also set a button to cycle through 2, 3, or 4 program numbers by each time you press it.

### To assign a button to cycle through 2, 3, or 4 program numbers:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the button's number (**B\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **157** to toggle between 2, 3, or 4 program changes.
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the button's number (**B\_\_**) and the lowest program number it will send.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the button's number (**B\_\_**) and the highest program number it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press and hold **Shift**, and then press the **Data 3 / -/+** key. The **display** will show **DATA+1** for 1 second and then show the button's number (**B\_\_**) an additional program number it will send.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a program number between the lowest and highest values (**000–127**).
11. **Optional:** To set one more program number the button will send, repeat Steps 9–10 once more.
12. Press the **Enter** key. The button is now set to cycle through the assigned 3 or 4 program numbers, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can reverse the order of the program messages sent so that the highest set message sends first. To do this, enter the desired maximum value in Step 5 and the desired minimum value in Step 7.

## MIDI Notes

You can assign the buttons to send MIDI note numbers.

The buttons must be in MIDI Mode to do this (see [Modes > MIDI Mode](#)).

### To assign a MIDI note to a button:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the button's number (**B\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) to enter **147** (if the display does not already show it). This sets the button to send MIDI note messages.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the button's number (**B\_\_**) and a number for the MIDI note.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired note number (**000–127**).
7. Repeat Steps 5–6 but using the **Data 2** key. This will determine the Note Off velocity.
8. Repeat Steps 5–6 but using the **Data 3** key. This will determine the Note On velocity.
9. Press the **Enter** key. The button is now set to send the assigned note, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can assign a button to send a Note On message when it is pressed once and send a Note Off message when it is pressed a second time. To do this, follow the steps above, but enter **148** (instead of **147**) in Step 4.



## MMC (MIDI Machine Control)

Some recording hardware and DAWs can be controlled remotely via MMC (MIDI Machine Control) messages. MMC is a transport control protocol.

The buttons must be in MIDI Mode to do this (see [Modes > MIDI Mode](#)).

### To assign a MMC message to a button:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the button's number (**B\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) to enter **149** (if the display does not already show it). This sets the button to send MMC messages.
5. Press the **Chan Assign** key. The **display** will show **DEV ID** for 1 second and then show the button's number (**B\_**) and the current MIDI channel it uses.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **127**.
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the button's number (**B\_**) and the number for its MMC message (if any):

<b>001</b> Stop	<b>008</b> Record Pause
<b>002</b> Play	<b>009</b> Pause
<b>003</b> Deferred Play	<b>010</b> Eject
<b>004</b> Fast-Forward	<b>011</b> Chase
<b>005</b> Rewind	<b>013</b> MMC Reset
<b>006</b> Record Strobe (Punch In)	
<b>007</b> Record Exit (Punch Out)	

8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the number of the desired MMC message.
9. Press the **Enter** key. The button is now set to send the assigned MMC message, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Keystrokes

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 Series 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).

The buttons must be in HID Mode to do this (see [Modes > HID Mode](#)).

### To assign a computer keystroke to a button:

1. Use the **Button Mode** button to select HID Mode. **HID** will appear in the **display**.
2. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
3. Press the desired button. The button’s number will appear in the **display**.
4. Press the **Data 1** key. The **display** will show **KEY1** for 1 second and then show the character it will send:

<b>Off</b>	<b>Up ↑</b>	`	-	Page Up ( <b>PAGEU</b> )
<b>0–9</b>	<b>Down ↓</b>	[	+	Delete
<b>A–Z</b>	<b>Left ←</b>	]	*	End
<b>Space</b>	<b>Right →</b>	\	=	Page Down ( <b>PAGED</b> )
<b>F1–F12</b>	<b>Tab</b>	/	<b>Esc</b>	1–0 ( <b>NUM1–0</b> )
Backspace ( <b>BKSP</b> )	, ( <b>COMMA</b> )	`	<b>Insert</b>	
Enter ( <b>RETURN</b> )	.	;	<b>Home</b>	

5. Use the **Preset Down/Up** (▼▲) buttons to select the desired keystroke.
6. Press the **Data 2** key. The **display** will show **KEY2** for 1 second and then show the modifier it will send:

	<u>Windows Modifiers</u>	<u>macOS Modifiers</u>
<b>Off</b>	Shift ( <b>WSHIFT</b> )	Shift ( <b>MSHIFT</b> )
	Control ( <b>W CTRL</b> )	Control ( <b>M CTRL</b> )
	Window ( <b>W WIN</b> )	⌘ ( <b>M CMD</b> )
	Alt ( <b>W ALT</b> )	Option ( <b>M OPT</b> )
	Shift+Control ( <b>W S+C</b> )	Shift+Control ( <b>M S+C</b> )
	Shift+Window ( <b>W S+W</b> )	Shift+Option ( <b>M S+O</b> )
	Shift+Alt ( <b>W S+A</b> )	Shift+⌘ ( <b>M S+D</b> )
	Control+Window ( <b>W C+W</b> )	Control+⌘ ( <b>M C+D</b> )
	Control+Alt ( <b>W C+A</b> )	Control+Option ( <b>M C+O</b> )
	Window+Alt ( <b>W W+A</b> )	⌘+Option ( <b>M D+O</b> )
	Shift+Control+Window ( <b>WS+C+W</b> )	Shift+Control+⌘ ( <b>MS+C+D</b> )
	Shift+Control+Alt ( <b>WS+C+A</b> )	Shift+Control+Option ( <b>MS+C+O</b> )
	Shift+Window+Alt ( <b>WS+W+A</b> )	Shift+Option+⌘ ( <b>MS+O+D</b> )
	Control+Window+Alt ( <b>C+W+A</b> )	Control+⌘+Option ( <b>MC+D+O</b> )

7. Use the **Preset Down/Up** (▼▲) buttons to select the desired modifier.
8. Press the **Enter** key. The button is now set to send the assigned keystroke, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Latching

By default, the buttons are set to send one value when pressed and one value when released. This is often called “momentary” behavior. You can change this so that a button sends one value when pressed and a different value when pressed a second time, alternating between the two values with each press. This is often called “latching” or “toggle” behavior.

The buttons must be in MIDI Mode to do this (see [Modes > MIDI Mode](#)).

### To set a button to latching behavior:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The pad’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the button’s number (**B\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **146** (if the display does not already show it). This sets the button to use latching behavior.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the button’s number (**B\_**) and a number for the MIDI CC.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI CC number (**000–127**).
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the button’s number (**B\_**) and the value it will send when pressed the second time.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired value (**000–127**).
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the button’s number (**B\_**) and the value it will send when pressed the first time.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired value (**000–127**).
11. Press the **Enter** key. The button is now set to latching, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can assign a button to send a latching Program message when it is pressed. To do this, follow the steps above, but enter **157** (instead of **146**) in Step 4.

To return the button to its default “momentary” behavior, set it to send a MIDI note, send a MIDI CC, or increment the program number as described in the earlier [Message](#) section.

## 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.

### To set the color(s) of a button:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired button. The button's number will appear in the **display**.
3. Press and hold **Shift** and then press the **MIDI Out / Color** key the same number of times as the number of the color:
  - **1 press:** The display will show **COLOR1** for 1 second and then show the button's "off" color number.
  - **2 presses:** The display will show **COLOR2** for 1 second and then show the button's "first press" color number.
  - **3 presses:** The display will show **COLOR3** for 1 second and then show the button's "second press" color number.
  - **4 presses:** The display will show **COLOR4** for 1 second and then show the button's "fourth press" color number.
4. Use the numeric keys (**0-9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired color number:

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

5. Press the **Enter** key. The button is now set to use those colors, and you will exit Edit Mode. To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything. Remember to store the preset if you want to save your changes in that preset.

## Modes

The **buttons** are always in one of three modes. Press **Button Mode** to switch between them, distinguishable by the **Button Mode** button's color.

### MIDI Mode

In this mode, the **Button Mode** button will be lit **red**.

Pressing the **buttons** will send MIDI CC messages, which you can assign (described earlier in [Editing Assignments > Message](#)).

### Mackie Control<sup>®</sup>/HUI<sup>®</sup> Mode

In this mode, the **Button Mode** button will be lit **green**.

If your Code Series keyboard is set to use the **Mackie Control** protocol, pressing the **buttons** will perform one of the following functions for each track, depending on its color: **Track Select** (green, the default), **Record-Arm** (red), **Solo** (yellow), or **Mute** (blue).

The first **button** (**B1**, under the **master fader**) does not have a track-specific function.

Use the **Bank Right/Left** (▶◀) buttons to move to another bank of tracks.

**Important note if you are using Code 25:** In your DAW, it may look like you are controlling 8 tracks, but you can control only 4 tracks at a time. When you press one of the **Bank Right/Left** (▶◀) buttons, you will control only the next/previous 4 tracks.

**To set the function of all buttons**, press and hold **Shift**, and then press the first **button** (**B1**, under the **master fader**) to cycle through the four functions. The **display** will show the current function: **TRACK** (track select), **RECORD** (record-arm), **SOLO**, or **MUTE**. This will set all **buttons** to the same function regardless of their current functions.

**To set the function of one button only**, press and hold **Shift**, and then press the desired **button** to cycle that button only through the four functions. The **display** will show the current function: **TRACK** (track select), **RECORD** (record-arm), **SOLO**, or **MUTE**.

### HID Mode

In this mode, the **Button Mode** button will be lit **yellow**.

Pressing the **buttons** will send computer keystrokes as messages using the HID (human interface device) protocol. You can assign each button's color while in HID Mode, but each button uses only one color.

**Tip:** The HID (human interface device) protocol lets devices send typical computer keyboard keystrokes. USB game controllers are an example of this, acting as an alternative to your computer's keyboard. Your Code Series 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).

Please see [Editing Assignments > Message > Keystrokes](#) to learn how to assign keystrokes to the buttons.

## Encoders

This chapter explains how to assign the encoders to different commands. See the [Editing Assignments](#) section to learn how to do this.

The encoders' functions also depend on their current mode. See the [Modes](#) section to learn about their modes.

## Editing Assignments

You can set the channel of each encoder. See [Channel](#) to learn how to do this.

To learn how to assign different types of messages to an encoder, see the [Messages](#) section.

To learn how to set the encoders' response curve, see the [Curve](#) section.

## Channel

### To set the MIDI channel for an encoder:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Move the desired encoder. The encoder's number will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** for 1 second and then show the encoder's number and current MIDI channel or zone channel.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI channel (**00** or **01–16**), zone channel (**17–20**), or omni channel (**21**).

**Note:** Values **00** and **01–16** correspond to Code's global channel and the 16 available MIDI channels. Values **17–20** correspond to channels used by **Zones 1–4 (z1–z4)**. Value **21** corresponds to the omni channel.

5. Press the **Enter** key. The encoder will be assigned to that channel, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Messages

### MIDI CCs

You can assign the encoders to send MIDI CC messages when you turn them.

The encoders must be in MIDI Mode to do this (see [Modes > MIDI Mode](#)).

#### To assign a MIDI CC to an encoder:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Move the desired encoder. The encoder's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the encoder's number (**E\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a MIDI CC number (**000–127**).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the encoder's number (**E\_**) and the minimum value it will send.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the encoder's number (**E\_**) and the maximum value it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Enter** key. The encoder is now set to send the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can reverse the direction (polarity) of the encoder so that turning it clockwise decreases the value and turning it counterclockwise increases it. To do this, enter the desired maximum value in Step 5 and the desired minimum value in Step 7.

## Relative Messages

Most software controls receive “absolute” messages by scanning the position of a fader or encoder and using that position’s value. Some other software controls, however, receive “relative” messages, which simply increment/decrement the value (as opposed to sending a precise value to designate a position).

The encoders must be in MIDI Mode to do this (see [Modes > MIDI Mode](#)).

### To set an encoder to send relative messages:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Turn the desired encoder. The encoder’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the encoder’s number (**E\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI CC number (**000–127**).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the encoder’s number (**E\_**) and the value at its minimum position.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter one of the following values for the desired relative operation:
  - 128** or **130**: Turning the encoder clockwise increments the value. Turning it counterclockwise decrements the value.
  - Note**: If using the **128** setting does not work with your software, use the **130** setting instead; not all software applications respond to the same type of relative message.
  - 129** or **131**: Turning the encoder clockwise decrements the value. Turning it counterclockwise increments the value.
  - Note**: If using the **129** setting does not work with your software, use the **131** setting instead; not all software applications respond to the same type of relative message.
7. Press the **Enter** key. The encoder is now set to send relative messages for the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.



## Curve

The curve setting for an encoder determines its rate of acceleration as you turn it.

### To set the encoder curve:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the **Curve** key four times. The display will show **ECrV** and the current curve setting:

Display	Curve Number	Description
ECrV <b>0f</b>	00	Turning the encoder will always send a value change of one step in either direction regardless of how quickly/slowly you turn it.
ECrV <b>C2</b>	01	This is a slow acceleration curve, useful for making fine adjustments.
ECrV <b>C3</b>	02	This is a medium acceleration curve (the default).
ECrV <b>C4</b>	03	This is a quick acceleration curve, useful for making coarse adjustments with broad “sweeps.”

3. Use the numeric keys (**0-9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired curve number (**0-3**).
4. Press the **Enter** key. The encoder will now use that curve, and you will exit Edit Mode.  
To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.  
Remember to store the preset if you want to save your changes in that preset.

## Modes

The **encoders** are always in one of two modes. Press **Encoder Mode** to switch between them, distinguishable by the **Encoder Mode** button's color.

### MIDI Mode

In this mode, the **Encoder Mode** button will be lit **red**.

Turning the **encoders** will send MIDI CC messages, which you can assign (described earlier in [Editing Assignments > Message](#)).

### Mackie Control®/HUI® Mode

In this mode, the **Encoder Mode** button will be lit **green**.

If your Code Series keyboard is set to use the **Mackie Control** protocol, turning the **encoders** will adjust the **panning** of each track.

If your Code Series keyboard is set to use the **HUI** protocol, turning the **encoders** will adjust the **panning** of each track. In Avid® Pro Tools®, stereo channels have two panning controls: left and right. Press the **Shift** button to switch the encoders between the left channel and right channel.

Use the **Bank Right/Left** (▶◀) buttons to move to another bank of tracks.

To select the Mackie Control or HUI protocol, see [Mackie Control and HUI](#).

**Important note if you are using Code 25:** In your DAW, it may look like you are controlling 8 tracks, but you can control only 4 tracks at a time. When you press one of the **Bank Right/Left** (▶◀) buttons, you will control only the next/previous 4 tracks.

## X/Y Pad

This chapter explains how to assign the axes of the X/Y pad to different commands. See the [Editing Assignments](#) section to learn how to do this.

The axes' functions also depend on their current modes. See the [Modes](#) section to learn about their modes.

## Editing Assignments

You can set the channel of each axis of the X/Y pad. See [Channel](#) to learn how to do this.

To learn how to assign different types of messages to each axis of the X/Y pad, see the [Messages](#) section.

To learn how to set the X/Y pad's response curve, see the [Curve](#) section.

## Channel

### To set the MIDI channel for an axis of the X/Y pad:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the **X** button or **Y** button to select the desired axis. The axis letter will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** for 1 second and then show the axis's number and current MIDI channel or zone channel.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI channel (**00** or **01–16**), zone channel (**17–20**), or omni channel (**21**).

**Note:** Values **00** and **01–16** correspond to Code's global channel and the 16 available MIDI channels. Values **17–20** correspond to channels used by **Zones 1–4 (z1–z4)**. Value **21** corresponds to the omni channel.

5. Press the **Enter** key. The axis will be assigned to that channel, and you will exit Edit Mode. To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything. Remember to store the preset if you want to save your changes in that preset.

## Messages

### MIDI CCs

You can assign an axis of the X/Y pad to send a MIDI CC message when you move your finger along it.

The X/Y pad must be in MIDI Mode to do this (see [Modes > MIDI Mode](#)).

#### To assign a MIDI CC to an axis of the X/Y pad:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the **X** or **Y** button. **X** or **Y** will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **X** or **Y** and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a MIDI CC number (**000–127**).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **X** or **Y** and the value it will send at its minimum position.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show **X** or **Y** and the value it will send at its maximum position.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Enter** key. The axis is now set to send the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can reverse the direction (polarity) of the axis so that moving your finger in the positive direction decreases the value and moving it in the negative direction increases it. To do this, enter the desired maximum value in Step 5 and the desired minimum value in Step 7.

## Relative Messages

Most software controls receive “absolute” messages by scanning the position of a fader or encoder and using that position’s value. Some other software controls, however, receive “relative” messages, which simply increment/decrement the value (as opposed to sending a precise value to designate a position).

### To set an axis of the X/Y pad to send relative messages:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the **X** or **Y** button. **X** or **Y** will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **X** or **Y** and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI CC number (**000–127**).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **X** or **Y** and the value at its minimum position.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter one of the following values for the desired relative operation:
  - 128 or 130:** Moving your finger in the positive direction increments the value. Moving your finger in the negative direction decrements the value.
  - Note:** If using the **128** setting does not work with your software, use the **130** setting instead; not all software applications respond to the same type of relative message.
  - 129 or 131:** Moving your finger in the positive direction decrements the value. Moving your finger in the negative direction increments the value.
  - Note:** If using the **129** setting does not work with your software, use the **131** setting instead; not all software applications respond to the same type of relative message.
7. Press the **Enter** key. The axis is now set to send relative messages for the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## MIDI Notes

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

The X/Y pad must be in MIDI Note Mode to do this (see [Modes > MIDI Note Mode](#)).

### To assign an axis of the X/Y pad to send a range of MIDI notes:

1. Use the **X-Mode** or **Y-Mode** button to select MIDI Note Mode. **NOTE** will appear in the **display**.
2. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
3. Press the **X** or **Y** button. **X** or **Y** will appear in the **display**.
4. Press the **Data 2** key. The **display** will show **MIN** for 1 second and then show **X** or **Y** and the MIDI note it will send at its minimum position.
5. Enter the desired MIDI note number by doing one of the following:
  - Use the numeric keys (**0–9**) to enter the desired MIDI note number (**000–127**).
  - Use the **Preset Down/Up** (**▼▲**) buttons to select a MIDI note (**C-1–G9**).
6. Repeat Steps 5–6 but using the **Data 3** key. This will determine the MIDI note it will send at its maximum position (**MAX**).
7. **Optional:** To set more values the axis will send, press and hold **Shift** and press the **Data 3 / +/-** key again. The display will show **DATA+1** for 1 second and then show **X** or **Y** and the MIDI note it will send. Repeat this step to add up to a total of 8 notes per axis.
8. Press the **Enter** key. The axis is now set to send the assigned MIDI note range, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can reverse the direction (polarity) of the axis so that moving your finger in the positive direction decreases the value and moving it in the negative direction increases it. To do this, enter the desired maximum value in Step 5 and the desired minimum value in Step 6.

## Curve

The curve setting for the X/Y pad determines the velocities of the notes it sends out as you move your finger across it. The curve setting affects the X/Y pad in MIDI Note Mode only.

### To set the X/Y pad curve:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the **Curve** key three times. The display will show **TCrV** and the current curve setting:

Display	Curve Number	Description
TCrVF1	01	All notes will have a fixed velocity of <b>64</b> (the default).
TCrVF2	02	All notes will have a fixed velocity of <b>100</b> .
TCrVF3	03	All notes will have a fixed velocity of <b>127</b> .
TCrVS2	04	The velocities of the notes will alternate between <b>64</b> and <b>127</b> .
TCrVS3	05	Every third note will have a velocity of <b>127</b> . All other notes will have a velocity of <b>64</b> .
TCrVS4	06	The velocities of the notes will alternate between <b>100</b> and <b>127</b> .
TCrVS5	07	Every third note will have a velocity of <b>127</b> . All other notes will have a velocity of <b>100</b> .
TCrVS6	08	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> .
TCrVS7	09	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> .
TCrVS8	10	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> .

3. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired curve number (**1–10**).
4. Press the **Enter** key. The encoder will now use that curve, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

# M-AUDIO

## Modes

Each axis of the **X/Y pad** is always in one of three modes. Press **X-Mode** or **Y-Mode** to cycle through them, distinguishable by the **X-Mode** or **Y-Mode** button's color.

### MIDI Mode

In this mode, the **X-Mode** or **Y-Mode** button will be lit **red**.

Moving your finger along the axis will send a MIDI CC message, which you can assign (described earlier in [Editing Assignments > Message](#)).

### MIDI Note Mode

In this mode, the **X-Mode** or **Y-Mode** button will be lit **pink**.

Moving your finger along the axis will send a range of MIDI note messages, which you can assign (described earlier in [Editing Assignments > Message > MIDI Notes](#)).

### HID Mode

In this mode, the **X-Mode** or **Y-Mode** button will be lit **yellow**.

Moving your finger along the axis will move the cursor on your computer (similar to a laptop computer trackpad).

The **X** button functions as a left-click. The **Y** button functions as a right-click.



## Pads

This chapter explains how to assign the pads to different commands. See the [Editing Assignments](#) section to learn how to do this.

You can also shift the range of the pads by octave or semitones. See the [Octaves and Transposition](#) section to learn about this.

## Editing Assignments

You can set the channel of each pad. See [Channel](#) to learn how to do this.

To learn how to assign different types of messages to a pad, see the [Messages](#) section.

You can also set whether a pad is “momentary” (the default) or “latching” (also known as “toggle”). See the [Latching](#) section to learn about this.

To learn how to set the pads’ response curve, see the [Curve](#) section.

While in MIDI Mode, you can customize the color of each pad. See [Colors](#) to learn how to do this.

## Channel

By default, the pads are set to send MIDI notes on Channel 10, which is commonly reserved for drums and percussion in the General MIDI (GM) specification. You can change this setting if you want, though.

### To set the MIDI channel for a pad:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The pad’s number will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** for 1 second and then show the pad’s number and current MIDI channel or zone channel.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI channel (**00** or **01–16**), zone channel (**17–20**), or omni channel (**21**).

**Note:** Values **00** and **01–16** correspond to Code’s global channel and the 16 available MIDI channels. Values **17–20** correspond to channels used by **Zones 1–4 (z1–z4)**. Value **21** corresponds to the omni channel.

5. Press the **Enter** key. The pad will be assigned to that channel, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Messages

By default, the pads are set to send MIDI notes on Channel 10, which is commonly reserved for drums and percussion in the General MIDI (GM) specification. You can change this setting if you want, though.

### MIDI Notes

You can assign the pads to send MIDI note numbers.

#### To assign a MIDI note to a pad:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The pad's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the pad's number (**P\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) to enter **147** (if the display does not already show it). This sets the pad to send MIDI note messages.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the pad's number (**P\_\_**) and a number for the MIDI note.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired note number (**000–127**).
7. Press the **Enter** key. The pad is now set to send the assigned MIDI note, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can assign a button to send a Note On message when it is pressed one and send a Note Off message when it is pressed a second time. To do this, follow the steps above, but enter **148** (instead of **147**) in Step 4.

Pad	Drum	MIDI Note	Pad	Drum	MIDI Note
P1	Kick Drum	36 (C2)	P9	Pedal Hi-Hat	44 (Ab2)
P2	Side-Stick	37 (Db2)	P10	Low Tom	45 (A2)
P3	Snare Drum	38 (D2)	P11	Open Hi-Hat	46 (Bb2)
P4	Hand-Clap	39 (Eb2)	P12	Low Mid Tom	47 (B2)
P5	Electric Snare Drum	40 (E2)	P13	Hi Mid Tom	48 (C3)
P6	Low Floor Tom	41 (F2)	P14	Crash Cymbal 1	49 (Db3)
P7	Hi-Hat (closed)	42 (Gb2)	P15	High Tom	50 (D3)
P8	High Floor Tom	43 (G2)	P16	Ride Cymbal 1	51 (Eb3)

## MIDI CCs

You can assign the pads to send MIDI CC messages with a “pressed” value and a “released” value.

### To assign a MIDI CC to a pad:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The pad’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the pad’s number (**P\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a MIDI CC number (**000–127**).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the pad’s number (**P\_\_**) and the value the pad will send when released.
6. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the pad’s number (**P\_\_**) and the value the pad will send when pressed.
8. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a value (**000–127**).
9. Press the **Enter** key. The pad is now set to send the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## MIDI CC Value Increment/Decrement

You can set a pad to 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.

**Important:** Each pad with this type of assignment is independent of the others. If you set one pad to increment a value and another pad to decrement the same value, they will each be sending different values, not resuming where the other pad left off.

For example, pressing an “increment” pad would cause a MIDI CC value to become 1, 2, 3, etc., but pressing a “decrement” pad for the same MIDI CC would cause it to become 127, 126, 125, etc.

### To assign a pad to increment/decrement a MIDI CC value:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The pad’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the pad’s number (**P\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **154** (to increment a MIDI CC value) or **153** (to decrement a MIDI CC value).
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the pad’s number (**P\_\_**) and the MIDI CC value it will increment/decrement.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the pad’s number (**P\_\_**) and the lowest value it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the pad’s number (**P\_\_**) and the highest value it will send.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
11. Press the **Enter** key. The pad is now set to increment/decrement the assigned MIDI CC value, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## MIDI CC Value Cycle

You can also set a pad to cycle through 3 or 4 MIDI CC values by each time you press it.

### To assign a pad to cycle through 3 or 4 MIDI CC values:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The pad's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the pad's number (**P\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **146**.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the pad's number (**P\_\_**) and the MIDI CC value it will increment/decrement.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the pad's number (**P\_\_**) and the lowest value it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the pad's number (**P\_\_**) and the highest value it will send.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
11. Press and hold **Shift**, and then press the **Data 3 / -/+** key. The **display** will show **DATA+1** for 1 second and then show the pad's number (**P1–P16**) an additional value it will send.
12. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value between the lowest and highest values (**000–127**).
13. **Optional:** To set one more value the pad will send, repeat Steps 11–12 once more.
14. Press the **Enter** key. The pad is now set to cycle through the 3 or 4 assigned MIDI CC values, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can reverse the order of the MIDI CC messages sent so that the highest value sends first. To do this, enter the desired maximum value in Step 7 and the desired minimum value in Step 9.

## Program, Bank LSB, and Bank MSB

You can set a pad to 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).

### To assign a pad to send a combined program, Bank LSB, and Bank MSB number:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The button's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the pad's number (**P\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter **145**.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the pad's number (**P\_\_**) and the program number it will send.
6. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter the desired program number.
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the pad's number (**P\_\_**) and the Bank LSB number it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter the desired Bank LSB number.
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the pad's number (**P\_\_**) and the Bank MSB number it will send.
10. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter the desired Bank MSB number.
11. Press the **Enter** key. The pad is now set to send the combined program, Bank LSB, and Bank MSB number, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Program Increment/Decrement

You can set a pad to 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.

**Important:** Each pad with this type of assignment is independent of the others. If you set one pad to increment the program number and another pad to decrement it, they will each be sending different values, not resuming where the other pad left off.

For example, pressing an “increment” pad would change the program to 1, 2, 3, etc., but pressing the “decrement” pad would change it to 127, 126, 125, etc.

### To assign a pad to increment/decrement the program number:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The pad’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the pad’s number (**P\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter **156** (to increment the program number) or **155** (to decrement the program number).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the pad’s number (**P\_\_**) and the lowest program number it will send.
6. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the pad’s number (**P\_\_**) and the highest program number it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a value (**000–127**).
9. Press the **Enter** key. The pad is now set to increment/decrement the program number, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Program Cycle

You can also set a pad to cycle through 3 or 4 program numbers by each time you press it.

### To assign a pad to cycle through 3 or 4 program numbers:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The pad's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the pad's number (**P\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter **156** (to increment the program number) or **155** (to decrement the program number).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the pad's number (**P\_\_**) and the lowest program number it will send.
6. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the pad's number (**P\_\_**) and the highest program number it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a value (**000–127**).
9. Press and hold **Shift**, and then press the **Data 3 / -/+** key. The **display** will show **DATA+1** for 1 second and then show the pad's number (**P1–P16**) an additional program number it will send.
10. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a program number between the lowest and highest values (**000–127**).
11. **Optional:** To set one more program number the pad will send, repeat Steps 9–10 once more.
12. Press the **Enter** key. The pad is now set to cycle through the assigned 3 or 4 program numbers, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.



## MMC (MIDI Machine Control)

Some recording hardware and DAWs can be controlled remotely via MMC (MIDI Machine Control) messages. MMC is a transport control protocol.

### To assign a MMC message to a pad:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The pad's number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the pad's number (**P\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) to enter **149** (if the display does not already show it). This sets the pad to send MMC messages.
5. Press the **Chan Assign** key. The **display** will show **DEV ID** for 1 second and then show the pad's number (**P\_\_**) and the current MIDI channel it uses.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **127**.
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the pad's number (**P\_\_**) and the number for its MMC message (if any):

<b>001</b> Stop	<b>008</b> Record Pause
<b>002</b> Play	<b>009</b> Pause
<b>003</b> Deferred Play	<b>010</b> Eject
<b>004</b> Fast-Forward	<b>011</b> Chase
<b>005</b> Rewind	<b>013</b> MMC Reset
<b>006</b> Record Strobe (Punch In)	
<b>007</b> Record Exit (Punch Out)	

8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the number of the desired MMC message.
9. Press the **Enter** key. The pad is now set to send the assigned MMC message, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Latching

By default, the pads are set to send one value when pressed and one value when released. This is often called “momentary” behavior. You can change this so that a pad sends one value when pressed and a different value when pressed a second time, alternating between the two values with each press. This is often called “latching” or “toggle” behavior.

### To set a pad to latching behavior:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the desired pad. The pad’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show the pad’s number (**P\_\_**) and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **146** (if the display does not already show it). This sets the pad to use latching behavior.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show the pad’s number (**P\_\_**) and a number for the MIDI CC.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI CC number (**000–127**).
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show the pad’s number (**P\_\_**) and the value it will send when pressed the first time.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired value (**000–127**).
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show the pad’s number (**P\_\_**) and the value it will send when pressed the second time.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired value (**000–127**).
11. Press the **Enter** key. The pad is now set to latching, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can assign a pad to send a latching Program message when it is pressed. To do this, follow the steps above, but enter **157** (instead of **146**) in Step 4.

To return the pad to its default “momentary” behavior, set it to send a MIDI note, send a MIDI CC, or increment the program number. Please see the earlier **Message** section to learn how to do this.

## Curve

The curve setting for the pads determines their velocity sensitivity—the amount of force required to generate a note with a specific velocity.

### To set the pad curve:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the **Curve** key twice. The display will show **PCrV** and the current curve setting:

Display	Curve Number	Description
PCrVC1	01	This is a low-sensitivity setting, useful for playing notes with mostly low velocities.
PCrVC2	02	This is a medium-sensitivity setting (the default), useful for playing with an average amount of force.
PCrVC3	03	This is a high-sensitivity setting, useful for playing notes with mostly high velocities.
PCrVC4	04	This is a linear curve. The velocity of the note will be proportional to the amount of force.
PCrVF1	05	All notes will have a fixed velocity of <b>64</b> .
PCrVF2	06	All notes will have a fixed velocity of <b>100</b> .
PCrVF3	07	All notes will have a fixed velocity of <b>127</b> .
PCrVS2	08	All notes will have a velocity of <b>64</b> or <b>127</b> , depending on the amount of force.
PCrVS3	09	All notes will have a velocity of <b>64</b> , <b>100</b> , or <b>127</b> , depending on the amount of force.
PCrVS4	10	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.

3. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired curve number (**1–10**).
4. Press the **Enter** key. The pads will now use that curve, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## 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 (in other words, you can assign all 4 colors to a pad, but it may use only some of them).

### To set the color(s) of a pad:

1. Press **Edit** to enter Edit Mode. The **Edit** pad will light up.
2. Press the desired pad. The pad's number will appear in the **display**.
3. Press and hold **Shift** and then press the **MIDI Out / Color** key the same number of times as the number of the color:
  - **1 press:** The display will show **COLOR1** for 1 second and then show the pad's "off" color number.
  - **2 presses:** The display will show **COLOR2** for 1 second and then show the pad's "first press" color number.
  - **3 presses:** The display will show **COLOR3** for 1 second and then show the pad's "second press" color number.
  - **4 presses:** The display will show **COLOR4** for 1 second and then show the pad's "fourth press" color number.
4. Use the numeric keys (**0-9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired color number:

0 Off	7 Violet
1 Chartreuse	8 Magenta
2 Green	9 Rose
3 Aquamarine	10 Red
4 Cyan	11 Orange
5 Azure	12 Yellow
6 Blue	13 White

5. Press the **Enter** key. The pad is now set to use those colors, and you will exit Edit Mode. To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything. Remember to store the preset if you want to save your changes in that preset.

### Octaves and Transposition

By using the **Pad Octave**  $-/+$  buttons, the pads can access the full range of 127 available MIDI notes (10 octaves). Additionally, you can transpose the pads up to 12 semitones (1 octave) in either direction.

**To change the octave of the pads**, use the **Pad Octave**  $-/+$  buttons to lower or raise the octave, respectively. The **display** will temporarily show **OCT** and the current octave shift (**-5** to **5**).

**To change the transposition of the pads**, press and hold **Transpose**, and then use the **Pad Octave**  $-/+$  buttons to lower or raise the octave, respectively. The **display** will temporarily show **TRN** and the current transposition (**-12** to **12**).

## Wheels

### Editing Assignments

You can set the channel of each wheel. See [Channel](#) to learn how to do this.

To learn how to assign a MIDI CC message to a wheel, see the [Messages](#) section.

### Channel

#### To set the MIDI channel for a wheel:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Move the desired wheel. **PW** (pitch-bend wheel) or **MW** (modulation wheel) will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** for 1 second and then show **PW** or **MW** and current MIDI channel or zone channel.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI channel (**00** or **01–16**), zone channel (**17–20**), or omni channel (**21**).

**Note:** Values **00** and **01–16** correspond to Code's global channel and the 16 available MIDI channels. Values **17–20** correspond to channels used by **Zones 1–4** (**z1–z4**). Value **21** corresponds to the omni channel.

5. Press the **Enter** key. The wheel will be assigned to that channel, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Messages

### MIDI CCs

You can assign the wheels to send MIDI CC messages when you move them.

#### To assign a MIDI CC to a wheel:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Move the desired wheel. **PW** (pitch-bend wheel) or **MW** (modulation wheel) will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **PW** or **MW** and a number for the type of message it sends.
4. Use the numeric keys (0–9) or **Preset Down/Up** (▼▲) buttons to enter a MIDI CC number (000–127).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **PW** or **MW** and the value it will send at its minimum position.
6. Use the numeric keys (0–9) or **Preset Down/Up** (▼▲) buttons to enter a value (000–127).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show **PW** or **MW** and the value it will send at its maximum position.
8. Use the numeric keys (0–9) or **Preset Down/Up** (▼▲) buttons to enter a value (000–127).
9. Press the **Enter** key. The wheel is now set to send the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can reverse the direction (polarity) of the wheel so that its lowest position sends its maximum value and vice versa. To do this, enter the desired maximum value in Step 5 and the desired minimum value in Step 7.

**Note:** For the **pitch-bend wheel**, the minimum and maximum positions will determine its **entire** range, not the range from its center position to its minimum or maximum positions.

## Sustain Pedal

### Editing Assignments

You can set the channel of the sustain pedal. See [Channel](#) to learn how to do this.

To learn how to assign different types of messages to the sustain pedal, see the [Messages](#) section.

You can also whether the sustain pedal is “momentary” (the default) or “latching” (also known as “toggle”). See the [Latching](#) section to learn about this.

### Channel

#### To set the MIDI channel for the sustain pedal:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the sustain pedal down and then release it. **SUS** will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** for 1 second and then show **SUS** and current MIDI channel or zone channel.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI channel (**00** or **01–16**), zone channel (**17–20**), or omni channel (**21**).

**Note:** Values **00** and **01–16** correspond to Code’s global channel and the 16 available MIDI channels. Values **17–20** correspond to channels used by **Zones 1–4** (**z1–z4**). Value **21** corresponds to the omni channel.

5. Press the **Enter** key. The sustain pedal will be assigned to that channel, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.



## Messages

### MIDI CCs

You can assign the sustain pedal to send a MIDI CC message when you press it.

#### To assign a MIDI CC to the sustain pedal:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the sustain pedal. **SUS** will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **SUS** and a number for the type of message it sends.
4. Use the numeric keys (0–9) or **Preset Down/Up** (▼▲) buttons to enter a MIDI CC number (000–127).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **SUS** and the value it will send when released.
6. Use the numeric keys (0–9) or **Preset Down/Up** (▼▲) buttons to enter a value (000–127).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show **SUS** and the value it will send when pressed.
8. Use the numeric keys (0–9) or **Preset Down/Up** (▼▲) buttons to enter a value (000–127).
9. Press the **Enter** key. The sustain pedal is now set to send the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## MIDI Notes

You can assign the sustain pedal to send a MIDI note number when you press it.

### To assign a MIDI note to the sustain pedal:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the sustain pedal. **SUS** will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **SUS** and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) to enter **147** (if the display does not already show it). This sets the sustain pedal to send MIDI note messages.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show **SUS** and a number for the MIDI note.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired note number (**000–127**).
7. Repeat Steps 5–6 but using the **Data 2** key. This will determine the Note On velocity.
8. Repeat Steps 5–6 but using the **Data 3** key. This will determine the Note Off velocity.
9. Press the **Enter** key. The sustain pedal is now set to send the assigned note, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can assign a button to send a Note On message when it is pressed once and send a Note Off message when it is pressed a second time. To do this, follow the steps above, but enter **148** (instead of **147**) in Step 4.

## MIDI CC Value Increment/Decrement

You can set the sustain pedal to 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 sustain pedal causes the value to cycle through its entire range by increments of 1.

### To assign the sustain pedal to increment/decrement a MIDI CC value:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the sustain pedal. **SUS** will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **SUS** and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **154** (to increment a MIDI CC value) or **153** (to decrement a MIDI CC value).
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show **SUS** and the MIDI CC value it will increment/decrement.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **SUS** and the lowest value it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show **SUS** and the highest value it will send.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter a value (**000–127**).
11. Press the **Enter** key. The sustain pedal is now set to increment/decrement the MIDI CC value, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Program, Bank LSB, and Bank MSB

You can set the sustain pedal to 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).

### To assign the sustain pedal to send a combined program, Bank LSB, and Bank MSB number:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the sustain pedal. **SUS** will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **SUS** and a number for the type of message it sends.
4. Use the numeric keys (0–9) or **Preset Down/Up (▼▲)** buttons to enter **145**.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show **SUS** and the program number it will send.
6. Use the numeric keys (0–9) or **Preset Down/Up (▼▲)** buttons to enter the desired program number.
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **SUS** and the Bank LSB number it will send.
8. Use the numeric keys (0–9) or **Preset Down/Up (▼▲)** buttons to enter the desired Bank LSB number.
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show **SUS** and the Bank MSB number it will send.
10. Use the numeric keys (0–9) or **Preset Down/Up (▼▲)** buttons to enter the desired Bank MSB number.
11. Press the **Enter** key. The sustain pedal is now set to send the combined program, Bank LSB, and Bank MSB number, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Program Increment/Decrement

You can set the sustain pedal to 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 sustain pedal causes the value to cycle through its entire range by increments of 1.

### To assign the sustain pedal to increment/decrement the program number:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the sustain pedal. The button’s number will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **SUS** and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter **156** (to increment the program number) or **155** (to decrement the program number).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **SUS** and the lowest program number it will send.
6. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a value (**000–127**).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show **SUS** and the highest program number it will send.
8. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter a value (**000–127**).
9. Press the **Enter** key. The sustain pedal is now set to increment/decrement the program number, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## MMC (MIDI Machine Control)

Some recording hardware and DAWs can be controlled remotely via MMC (MIDI Machine Control) messages. MMC is a transport control protocol.

### To assign a MMC message to the sustain pedal:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the sustain pedal. **SUS** will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **SUS** and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) to enter **149** (if the display does not already show it). This sets the sustain pedal to send MMC messages.
5. Press the **Chan Assign** key. The **display** will show **DEV ID** for 1 second and then show **SUS** and the current MIDI channel it uses.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **127**.
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **SUS** and the number for its MMC message (if any):

**001** Stop

**002** Play

**003** Deferred Play

**004** Fast-Forward

**005** Rewind

**006** Record Strobe (Punch In)

**007** Record Exit (Punch Out)

**008** Record Pause

**009** Pause

**010** Eject

**011** Chase

**013** MMC Reset

8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the number of the desired MMC message.
9. Press the **Enter** key. The sustain pedal is now set to send the assigned MMC message, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

## Latching

By default, the sustain pedal is set to send one value when pressed and one value when released. This is often called “momentary” behavior. You can change this so that the sustain pedal sends one value when pressed and a different value when pressed a second time, alternating between the two values with each press. This is often called “latching” or “toggle” behavior.

### To set the sustain pedal to latching behavior:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the sustain pedal. **SUS** will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **SUS** and a number for the type of message it sends.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter **146** (if the display does not already show it). This sets the sustain pedal to use latching behavior.
5. Press the **Data 1** key. The **display** will show **DATA1** for 1 second and then show **SUS** and a number for the MIDI CC.
6. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI CC number (**000–127**).
7. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **SUS** and the value it will send when pressed the first time.
8. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired value (**000–127**).
9. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show **SUS** and the value it will send when pressed the second time.
10. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired value (**000–127**).
11. Press the **Enter** key. The sustain pedal is now set to latching, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

To return the sustain pedal to its default “momentary” behavior, assign it to a MIDI note or MIDI CC as described in the earlier [Message](#) section.

## Volume Pedal

### Editing Assignments

You can set the channel of the volume pedal. See [Channel](#) to learn how to do this.

To learn how to assign MIDI CC messages to the volume pedal, see the [Messages](#) section.

### Channel

#### To set the MIDI channel for the volume pedal:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Move the volume pedal. **VOL** will appear in the **display**.
3. Press the **Chan Assign** key. The display will show **CHN** for 1 second and then show **VOL** and current MIDI channel or zone channel.
4. Use the numeric keys (**0–9**) or **Preset Down/Up** (**▼▲**) buttons to enter the desired MIDI channel (**00** or **01–16**), zone channel (**17–20**), or omni channel (**21**).

**Note:** Values **00** and **01–16** correspond to Code's global channel and the 16 available MIDI channels. Values **17–20** correspond to channels used by **Zones 1–4** (**z1–z4**). Value **21** corresponds to the omni channel.

5. Press the **Enter** key. The volume pedal will be assigned to that channel, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.



## Messages

### MIDI CCs

You can assign the sustain pedal to send a MIDI CC message when you press it.

#### To assign a MIDI CC to the volume pedal:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the volume pedal. **VOL** will appear in the **display**.
3. Press the **Ctrl Assign** key. The **display** will show **ASGN** for 1 second and then show **VOL** and a number for the type of message it sends.
4. Use the numeric keys (0–9) or **Preset Down/Up** (▼▲) buttons to enter a MIDI CC number (000–127).
5. Press the **Data 2** key. The **display** will show **DATA2** for 1 second and then show **VOL** and the value it will send at its minimum position.
6. Use the numeric keys (0–9) or **Preset Down/Up** (▼▲) buttons to enter a value (000–127).
7. Press the **Data 3** key. The **display** will show **DATA3** for 1 second and then show **VOL** and the value it will send at its maximum position.
8. Use the numeric keys (0–9) or **Preset Down/Up** (▼▲) buttons to enter a value (000–127).
9. Press the **Enter** key. The volume pedal is now set to send the assigned MIDI CC, and you will exit Edit Mode.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

**Tip:** You can reverse the direction (polarity) of the volume pedal so that its lowest position sends its maximum value and vice versa. To do this, enter the desired maximum value in Step 5 and the desired minimum value in Step 7.

## Mackie Control® and HUI®

Your Code Series keyboard can send messages using the Mackie Control or HUI (Human User Interface) protocols rather than standard MIDI communication. You must first select which one it will use.

Remember that the faders, buttons, and/or encoders you want to use with this protocol must be set to Mackie Control/HUI Mode for this to work properly. See [Basic Concepts > Control Modes](#) to learn about this.

Using either protocol does not affect the pads or keyboard.

### To select the Mackie Control or HUI protocol:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press and hold **Shift**, and then press the **Curve / Mackie/HUI** key. Each time you press it, it will switch between the Mackie Control protocol or HUI protocol. The current mode will appear in the **display**.
3. To confirm your selection, wait for 1 second. You will exit Edit Mode automatically.

## Using Mackie Control

When your faders, buttons, and/or encoders are in Mackie Control/HUI Mode, their respective **Fader Mode**, **Button Mode**, or **Encoder Mode** button will be lit **green**.

Use the **Bank Right/Left** (▶◀) buttons to move to another bank of tracks.

**Important note if you are using Code 25:** In your DAW, it may look like you are controlling 8 tracks, but you can control only 4 tracks at a time. When you press one of the **Bank Right/Left** (▶◀) buttons, you will control only the next/previous 4 tracks.

When using the **Mackie Control** protocol, each of the controls will do the following:

- **Faders:** Moving the faders will adjust the **volume** of each track.
- **Buttons:** Pressing the **buttons** will perform one of the following functions for each track, depending on its color:
  - o **Track Select** (green, the default)
  - o **Record-Arm** (red)
  - o **Solo** (yellow)
  - o **Mute** (blue)

The first **button (B1, under the master fader)** does not have a track-specific function.

To set the function of all buttons, press and hold **Shift**, and then press the first **button (B1, under the master fader)** to cycle through the four functions. The **display** will show the current function: **TRACK** (track select), **RECORD** (record-arm), **SOLO**, or **MUTE**. This will set all **buttons** to the same function regardless of their current functions.

To set the function of one button only, press and hold **Shift**, and then press the desired **button** to cycle that button only through the four functions. The **display** will show the current function: **TRACK** (track select), **RECORD** (record-arm), **SOLO**, or **MUTE**.

- **Encoders:** Turning the encoders will adjust the **panning** of each track.

## Using HUI

When your faders, buttons, and/or encoders are in Mackie Control/HUI Mode, their respective **Fader Mode**, **Button Mode**, or **Encoder Mode** button will be lit **green**.

Use the **Bank Right/Left** (▶◀) buttons to move to another bank of tracks.

**Important note if you are using Code 25:** In your DAW, it may look like you are controlling 8 tracks, but you can control only 4 tracks at a time. When you press one of the **Bank Right/Left** (▶◀) buttons, you will control only the next/previous 4 tracks.

When using the **HUI** protocol, each of the controls will do the following:

- **Faders:** Moving the faders will adjust the **volume** of each track except for the **master fader (F1)**, which will remain in MIDI Mode.
- **Buttons:** Pressing the buttons will perform one of the following functions for each track, depending on its color:
  - **Track Select** (green, the default)
  - **Record-Arm** (red)
  - **Solo** (yellow)
  - **Mute** (blue)

The first **button (B1)**, under the **master fader** does not have a track-specific function.

To set the function of all buttons, press and hold **Shift**, and then press the first **button (B1)**, under the **master fader** to cycle through the four functions. The **display** will show the current function: **TRACK** (track select), **RECORD** (record-arm), **SOLO**, or **MUTE**. This will set all **buttons** to the same function regardless of their current functions.

To set the function of one button only, press and hold **Shift**, and then press the desired **button** to cycle that button only through the four functions. The **display** will show the current function: **TRACK** (track select), **RECORD** (record-arm), **SOLO**, or **MUTE**.

- **Encoders:** Turning the encoders will adjust the **panning** of each track. In Avid® Pro Tools®, stereo channels have two panning controls: left and right. Press the **Shift** button to switch the encoders between the left channel and right channel.

## MIDI Out

The **MIDI Out** port sends out MIDI messages from your Code Series keyboard. You can enable or disable this port. By default, it is disabled. It will not send out incoming MIDI messages from your DAW or the **MIDI In** port.

### To enable or disable the MIDI Out port:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the **MIDI Out** key to enable or disable the port. The **display** will show **MID** and whether the port is **ON** or **OFF**.

To change it while the display still shows the state, press the **MIDI Out** key or a **Preset Down/Up (▼▲)** key to switch between **ON** or **OFF**.

To confirm your change, wait for 1 second. You will exit Edit Mode automatically.

## MIDI Panic

If you are experiencing “stuck” notes (notes that will not stop playing), you can send a “MIDI Panic” message. This means all MIDI notes will stop and all controls will stop sending their messages.

Press and hold **Shift** and press **Transpose** to send a MIDI Panic message.

## Program Changes

To send a program change message, do one of the following sets of steps:

### To send a program change message in Edit Mode:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up. (You can cancel this procedure at any time by pressing **Edit** to exit Edit Mode.)
2. Press the **Prog** key. The **display** will show **PRO** and the currently assigned program value.
3. Use the numeric keys (**0–9**) to enter the exact program number (**000–127**).

Alternatively, use the **Preset Down/Up** (**▼▲**) buttons to scroll through the program numbers (**000–127**) (please note that this will send a program change message for each button press).

4. Press the **Enter** key.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

Remember to store the preset if you want to save your changes in that preset.

### To send a program change message in any mode:

1. Press and hold **Shift**.
2. Use the **Preset Down/Up** (**▼▲**) buttons to move through the program change numbers. The **display** will show **PRO** and the currently selected program value (please note that this will send a program change message with each button press).
3. When the **display** shows the desired program change number, release **Shift**.

## Zone Program Change

Zone Program Change messages are sent on the channel(s) of active zones, thus selecting the instrument sound for each zone. These program change messages are stored in each preset, ensuring that each zone selects the correct instrument whenever you load a preset.

### To set the zone program change:

1. Press and hold **Zone** for 1 second to enter Zone Edit Mode. The active **Zone Buttons 1–4** will flash.
2. Press one of **Zone Buttons 1–4** to edit that zone. Alternatively, you can press multiple **Zone Buttons 1–4** to edit those zones simultaneously.
3. Press and hold **Shift**, and then press the **Prog** key. The **display** will show **PRO** and the program change number.
4. Enter the desired program change number by doing one of the following:
  - While holding **Shift**, use the numeric keys (**0–9**) to enter a program change number (**000–127**).
  - Use the **Preset Down/Up** (**▼▲**) buttons to select a program change number (**000–127**) (please note that this will send a program change message with each button press).
5. While holding **Shift**, press the **Enter** key. (This will also send the program change message.)
6. To set the program change for another zone, repeat Steps 2–5.

To exit Zone Edit Mode, press **Zone**.

## Bank Changes

Bank LSB and Bank MSB messages are used to access additional banks of presets on virtual instruments, MIDI sound modules, etc. (if available).

**Note:** A Bank LSB or Bank MSB number may not have any effect until you send a program change message after it. See [Program Change](#) to learn how to do this.

### To set a Bank LSB or Bank MSB number:

1. Press **Edit** to enter Edit Mode. The **Edit** button will light up.
2. Press the **Bank LSB** or **Bank MSB** key. The **display** will show **LSB** or **MSB** and the LSB or MSB number.
3. Use the numeric keys (**0–9**) to enter the exact LSB or MSB number (**000–127**).

Alternatively, use the **Preset Down/Up** (**▼▲**) buttons to enter the desired LSB or MSB number (**000–127**) (please note that this will send a Bank LSB or Bank MSB message with each button press).

4. Press the **Enter** key.

To cancel your changes instead, press **Edit**. You will exit Edit Mode without saving anything.

## Zone Bank Change

Zone Bank Change messages are sent on the channel(s) of active zones, thus accessing additional banks of instrument sound presets (if available) for each zone. Each bank change consists of an LSB number (Least Significant Byte) and an MSB number (Most Significant Byte). These bank change messages are stored in each preset, ensuring that each zone selects the correct instrument whenever you load a preset.

**Note:** A Bank LSB or Bank MSB number may not have any effect until you send a program change message after it. See [Program Change](#) to learn how to do this.

### To set the zone bank change:

1. Press and hold **Zone** for 1 second to enter Zone Edit Mode. The active **Zone Buttons 1–4** will flash.
2. Press one of **Zone Buttons 1–4** to edit that zone. Alternatively, you can press multiple **Zone Buttons 1–4** to edit those zones simultaneously.
3. Press and hold **Shift**, and then press the **Bank LSB** or **Bank MSB** key. The **display** will show **LSB** or **MSB** and the LSB or MSB number.
4. Enter the desired LSB or MSB number by doing one of the following:
  - While holding **Shift**, use the numeric keys (**0–9**) to enter an LSB or MSB number (**000–127**).
  - Use the **Preset Down/Up** (**▼▲**) buttons to select an LSB or MSB number (**000–127**) (please note that this will send a Bank LSB or Bank MSB message with each button press).
5. While holding **Shift**, press the **Enter** key.
6. To set the bank change for another zone, repeat Steps 2–5.

To exit Zone Edit Mode, press **Zone**.

## Presets and Memory

A preset is a saved collection of MIDI assignments for your Code Series keyboard's controls, channel settings, keyboard zone settings, etc. You can store up to **12** presets in its internal memory, enabling you to use a dedicated preset for each digital audio workstation (DAW), virtual instrument, or project/session, for example.

**Important:** If you power off your Code Series keyboard without saving your preset, you will lose any assignments or changes you have made.

We recommend visiting [m-audio.com](https://www.m-audio.com) and downloading the **Code Preset Editor** to save and load your custom presets to your computer. The Preset Editor gives you a visual and intuitive way to edit the various messages that Code's controls send to your computer without having to use the hardware interface.

## Selecting Presets

**To select a preset**, use the **Preset Down/Up (▼▲)** buttons. The current preset number will appear in the **display**. You can start using that preset immediately.

## Storing Presets

**To store a preset:**

1. Press **Edit** to enter Edit Mode. The button will light up.
2. Press the keyboard's **Store** key. The **display** will show **TO** and the number of the last-selected preset.
3. Use the numeric keys (**0-9**) or **Preset Down/Up (▼▲)** buttons to enter the desired preset number (**00-12**).
4. Press the **Enter** key. The current settings will be stored as a preset. *This will overwrite that preset.*

### Sending and Restoring SysEx Memory

A “System Exclusive” (SysEx) file contains the settings for all 12 of your presets. You can send out a SysEx file, and then send it back to your Code Series keyboard later to restore those presets.

#### To send a SysEx file from your Code Series keyboard to your DAW:

1. On your computer, set your SysEx librarian to record.
2. On your Code Series keyboard, press **Edit** to enter Edit Mode. The **Edit** button will light up.
3. On your computer, start recording with the SysEx librarian.
4. On your Code Series keyboard, press the **Mem Dump** key. It will ask you what preset you would like to send **TO**. Use the numeric keys (**0–9**) or **Preset Down/Up (▼▲)** buttons to enter the desired preset number (**00–12**), and then press Enter.
5. Your Code Series keyboard will send the SysEx file, and **SYS** will appear in the display.

#### To send a SysEx file to your Code Series keyboard from your DAW:

1. On your computer, open your SysEx librarian, and make sure your Code is selected as the MIDI Out port.
2. Use your SysEx librarian to send a SysEx file.
3. **SYS** will appear in your Code Series keyboard’s **display** to indicate that it is receiving the SysEx file. *This will overwrite its current presets.*
4. Do one of the following:
  - Press one of the **Preset Down/Up (▼▲)** buttons to load a new preset.
  - Use your Code Series keyboard’s **Power Button** to power it off and then on again.

### Restoring Default Settings

To return your Code Series keyboard to its default settings, press and hold both **Pad Octave +/-** buttons while powering it on. *This will overwrite its current presets.* The available default presets are described in [Appendix > Presets](#).



## Appendix

### Parameter Numbers

#### Faders, Encoders, X/Y Pad, Wheels, and Volume Pedal

##### Registered Parameter Numbers (RPNs) (000–127)

<b>00</b> Bank Select	<b>37</b> Portamento Time LSB
<b>01</b> Modulation	<b>38</b> Data Entry LSB
<b>02</b> Breath Control	<b>39</b> Channel Volume LSB
<b>03</b> Controller 3	<b>40</b> Balance LSB
<b>04</b> Foot Control	<b>41</b> Controller 41
<b>05</b> Portamento Time	<b>42</b> Pan LSB
<b>06</b> Data Entry MSB	<b>43</b> Expression LSB
<b>07</b> Channel Volume	<b>44</b> Controller 44
<b>08</b> Balance	<b>45</b> Controller 45
<b>09</b> Controller 9	<b>46</b> Controller 46
<b>10</b> Pan	<b>47</b> Controller 47
<b>11</b> Expression	<b>48</b> General Purpose 1 LSB
<b>12</b> Effects Controller 1	<b>49</b> General Purpose 2 LSB
<b>13</b> Effects Controller 2	<b>50</b> General Purpose 3 LSB
<b>14</b> Controller 14	<b>51</b> General Purpose 4 LSB
<b>15</b> Controller 15	<b>52</b> Controller 52
<b>16</b> General Purpose 1	<b>53</b> Controller 53
<b>17</b> General Purpose 2	<b>54</b> Controller 54
<b>18</b> General Purpose 3	<b>55</b> Controller 55
<b>19</b> General Purpose 4	<b>56</b> Controller 56
<b>20</b> Controller 20	<b>57</b> Controller 57
<b>21</b> Controller 21	<b>58</b> Controller 58
<b>22</b> Controller 22	<b>59</b> Controller 59
<b>23</b> Controller 23	<b>60</b> Controller 60
<b>24</b> Controller 24	<b>61</b> Controller 61
<b>25</b> Controller 25	<b>62</b> Controller 62
<b>26</b> Controller 26	<b>63</b> Controller 63
<b>27</b> Controller 27	<b>64</b> Sustain Pedal
<b>28</b> Controller 28	<b>65</b> Portamento
<b>29</b> Controller 29	<b>66</b> Sostenuto
<b>30</b> Controller 30	<b>67</b> Soft Pedal
<b>31</b> Controller 31	<b>68</b> Legato Pedal
<b>32</b> Bank Select LSB	<b>69</b> Hold 2
<b>33</b> Modulation LSB	<b>70</b> Sound Variation
<b>34</b> Breath Control LSB	<b>71</b> Resonance
<b>35</b> Controller 35	<b>72</b> Release Time
<b>36</b> Foot Control LSB	<b>73</b> Attack Time

## Registered Parameter Numbers (RPNs) (000–127, continued)

<b>74</b> Cut-off Frequency	<b>102</b> Controller 102
<b>75</b> Controller 75	<b>103</b> Controller 103
<b>76</b> Controller 76	<b>104</b> Controller 104
<b>77</b> Controller 77	<b>105</b> Controller 105
<b>78</b> Controller 78	<b>106</b> Controller 106
<b>79</b> Controller 79	<b>107</b> Controller 107
<b>80</b> General Purpose 5	<b>108</b> Controller 108
<b>81</b> General Purpose 6	<b>109</b> Controller 109
<b>82</b> General Purpose 7	<b>110</b> Controller 110
<b>83</b> General Purpose 8	<b>111</b> Controller 111
<b>84</b> Portamento Control	<b>112</b> Controller 112
<b>85</b> Controller 85	<b>113</b> Controller 113
<b>86</b> Controller 86	<b>114</b> Controller 114
<b>87</b> Controller 87	<b>115</b> Controller 115
<b>88</b> High-Resolution Velocity Prefix	<b>116</b> Controller 116
<b>89</b> Controller 89	<b>117</b> Controller 117
<b>90</b> Controller 90	<b>118</b> Controller 118
<b>91</b> Effects 1 Depth	<b>119</b> Controller 119
<b>92</b> Effects 2 Depth	
<b>93</b> Effects 3 Depth	<b>Channel Mode Messages:</b>
<b>94</b> Effects 4 Depth	<b>120</b> All Sound Off
<b>95</b> Effects 5 Depth	<b>121</b> Reset All Controllers
<b>96</b> Data Increment	<b>122</b> Local Control On/Off
<b>97</b> Data Decrement	<b>123</b> All Notes Off
<b>98</b> NRPN LSB	<b>124</b> Omni Mode Off (+ All Notes Off)
<b>99</b> NRPN MSB	<b>125</b> Omni Mode On (+ All Notes Off)
<b>100</b> RPN LSB	<b>126</b> Mono Mode On (+ Poly Off + All Notes Off)
<b>101</b> RPN MSB	<b>127</b> Poly Mode On (+ Mono Off + All Notes Off)

## Non-Registered Parameter Numbers (NRPNs) (128–144)

<b>128</b> Pitch-Bend Sensitivity	<b>137</b> Master Pan
<b>129</b> Fine Tune	<b>138</b> Coarse Tune
<b>130</b> Coarse Tune	<b>139</b> Fine Tune
<b>131</b> Channel Pressure	<b>140</b> Chorus Modulation Rate
<b>132</b> RPN Coarse	<b>141</b> Chorus Modulation Depth
<b>133</b> RPN Fine	<b>142</b> Feedback
<b>134</b> NRPN Coarse	<b>143</b> Send to Reverb
<b>135</b> NRPN Fine	<b>144</b> Pitch Bend
<b>136</b> Master Volume	

**Buttons, Pads, and Sustain Pedal****Registered Parameter Numbers (RPNs) (000–127)**

<b>00</b> Bank Select	<b>41</b> Controller 41
<b>01</b> Modulation	<b>42</b> Pan LSB
<b>02</b> Breath Control	<b>43</b> Expression LSB
<b>03</b> Controller 3	<b>44</b> Controller 44
<b>04</b> Foot Control	<b>45</b> Controller 45
<b>05</b> Portamento Time	<b>46</b> Controller 46
<b>06</b> Data Entry MSB	<b>47</b> Controller 47
<b>07</b> Channel Volume	<b>48</b> General Purpose 1 LSB
<b>08</b> Balance	<b>49</b> General Purpose 2 LSB
<b>09</b> Controller 9	<b>50</b> General Purpose 3 LSB
<b>10</b> Pan	<b>51</b> General Purpose 4 LSB
<b>11</b> Expression	<b>52</b> Controller 52
<b>12</b> Effects Controller 1	<b>53</b> Controller 53
<b>13</b> Effects Controller 2	<b>54</b> Controller 54
<b>14</b> Controller 14	<b>55</b> Controller 55
<b>15</b> Controller 15	<b>56</b> Controller 56
<b>16</b> General Purpose 1	<b>57</b> Controller 57
<b>17</b> General Purpose 2	<b>58</b> Controller 58
<b>18</b> General Purpose 3	<b>59</b> Controller 59
<b>19</b> General Purpose 4	<b>60</b> Controller 60
<b>20</b> Controller 20	<b>61</b> Controller 61
<b>21</b> Controller 21	<b>62</b> Controller 62
<b>22</b> Controller 22	<b>63</b> Controller 63
<b>23</b> Controller 23	<b>64</b> Sustain Pedal
<b>24</b> Controller 24	<b>65</b> Portamento
<b>25</b> Controller 25	<b>66</b> Sostenuto
<b>26</b> Controller 26	<b>67</b> Soft Pedal
<b>27</b> Controller 27	<b>68</b> Legato Pedal
<b>28</b> Controller 28	<b>69</b> Hold 2
<b>29</b> Controller 29	<b>70</b> Sound Variation
<b>30</b> Controller 30	<b>71</b> Resonance
<b>31</b> Controller 31	<b>72</b> Release Time
<b>32</b> Bank Select LSB	<b>73</b> Attack Time
<b>33</b> Modulation LSB	<b>74</b> Cutoff Frequency
<b>34</b> Breath Control LSB	<b>75</b> Controller 75
<b>35</b> Controller 35	<b>76</b> Controller 76
<b>36</b> Foot Control LSB	<b>77</b> Controller 77
<b>37</b> Portamento Time LSB	<b>78</b> Controller 78
<b>38</b> Data Entry LSB	<b>79</b> Controller 79
<b>39</b> Channel Volume LSB	<b>80</b> General Purpose 5
<b>40</b> Balance LSB	<b>81</b> General Purpose 6

## Registered Parameter Numbers (RPNs) (000–127, continued)

<b>82</b> General Purpose 7	<b>106</b> Controller 108
<b>83</b> General Purpose 8	<b>107</b> Controller 107
<b>84</b> Portamento Control	<b>108</b> Controller 108
<b>85</b> Controller 85	<b>109</b> Controller 109
<b>86</b> Controller 86	<b>110</b> Controller 110
<b>87</b> Controller 87	<b>111</b> Controller 111
<b>88</b> High-Resolution Velocity Prefix	<b>112</b> Controller 112
<b>89</b> Controller 89	<b>113</b> Controller 113
<b>90</b> Controller 90	<b>114</b> Controller 114
<b>91</b> Effects 1 Depth	<b>115</b> Controller 115
<b>92</b> Effects 2 Depth	<b>116</b> Controller 116
<b>93</b> Effects 3 Depth	<b>117</b> Controller 117
<b>94</b> Effects 4 Depth	<b>118</b> Controller 118
<b>95</b> Effects 5 Depth	<b>119</b> Controller 119
<b>96</b> Data Increment	
<b>97</b> Data Decrement	<b>Channel Mode Messages:</b>
<b>98</b> NRPN LSB	<b>120</b> All Sound Off
<b>99</b> NRPN MSB	<b>121</b> Reset All Controllers
<b>100</b> RPN LSB	<b>122</b> Local Control On/Off
<b>101</b> RPN MSB	<b>123</b> All Notes Off
<b>102</b> Controller 102	<b>124</b> Omni Mode Off (+ All Notes Off)
<b>103</b> Controller 103	<b>125</b> Omni Mode On (+ All Notes Off)
<b>104</b> Controller 104	<b>126</b> Mono Mode On (+ Poly Off, + All Notes Off)
<b>105</b> Controller 105	<b>127</b> Poly Mode On (+ Mono Off, + All Notes Off)

## Non-Registered Parameter Numbers (NRPNs) (128–157)

<b>128</b> Pitch-Bend Sensitivity	<b>143</b> Send to Reverb
<b>129</b> Fine Tune	<b>144</b> Pitch Bend
<b>130</b> Coarse Tune	<b>145</b> Voice Recall
<b>131</b> Channel Pressure	<b>146</b> Toggle MIDI CC
<b>132</b> RPN Coarse	<b>147</b> MIDI Note
<b>133</b> RPN Fine	<b>148</b> Note On/Off Toggle
<b>134</b> NRPN Coarse	<b>149</b> MMC Command
<b>135</b> NRPN Fine	<b>150</b> Reverb Type, General MIDI
<b>136</b> Master Volume	<b>151</b> Reverb Time, General MIDI
<b>137</b> Master Pan	<b>152</b> Chorus Type, General MIDI
<b>138</b> Coarse Tune	<b>153</b> MIDI CC Value –
<b>139</b> Fine Tune	<b>154</b> MIDI CC Value +
<b>140</b> Chorus Modulation Rate	<b>155</b> Program –
<b>141</b> Chorus Modulation Depth	<b>156</b> Program +
<b>142</b> Feedback	<b>157</b> Toggle Program

## Presets

Your Code Series keyboard includes 12 presets with pre-assigned controls for various plugins and digital audio workstations (DAWs).

When using each of these presets:

- The **faders**, **buttons**, **encoders**, and **X/Y pad** in MIDI Mode will control the plugin/plugins.
- The **buttons** and **X/Y pad** in HID Mode will control the DAW.

**Note:** To use the **transport controls** with your DAW, make sure your DAW is set to receive Mackie Control or HUI commands.

Preset	DAW	Plugin
1	General ASCII	VIP
2	Ableton™ Live	AIR Music Technology® Hybrid
3	Ableton™ Live	AIR Music Technology® Loom
4	Avid® Pro Tools®	AIR Music Technology® Hybrid
5	Avid® Pro Tools®	AIR Music Technology® Loom
6	Steinberg™ Cubase™	AIR Music Technology® Hybrid
7	Steinberg™ Cubase™	AIR Music Technology® Loom
8	Apple® Logic® Pro	AIR Music Technology® Hybrid
9	Apple® Logic® Pro	AIR Music Technology® Loom
10	Bitwig Studio®	AIR Music Technology® Hybrid
11	Bitwig Studio®	AIR Music Technology® Loom
12	Ableton™ Live	AIR Music Technology® Hybrid & Loom

By default, the pads on each preset are set to send MIDI notes on Channel 10, which is commonly reserved for drums and percussion in the General MIDI (GM) specification. You can change this setting if you want, though (see [Operation > Pads > Editing Assignments](#)).

Pad	Drum	MIDI Note	Pad	Drum	MIDI Note
P1	Kick Drum	36 (C2)	P9	Pedal Hi-Hat	44 (Ab2)
P2	Side-Stick	37 (Db2)	P10	Low Tom	45 (A2)
P3	Snare Drum	38 (D2)	P11	Open Hi-Hat	46 (Bb2)
P4	Hand-Clap	39 (Eb2)	P12	Low Mid Tom	47 (B2)
P5	Electric Snare Drum	40 (E2)	P13	Hi Mid Tom	48 (C3)
P6	Low Floor Tom	41 (F2)	P14	Crash Cymbal 1	49 (Db3)
P7	Hi-Hat (closed)	42 (Gb2)	P15	High Tom	50 (D3)
P8	High Floor Tom	43 (G2)	P16	Ride Cymbal 1	51 (Eb3)

# M-AUDIO

## Colors

### Buttons

Each button can use up to 4 colors, depending on its function. The **display** will show **COLOR1**, **COLOR2**, **COLOR3**, or **COLOR4**.

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

### Pads

Each pad can use up to 4 colors, depending on its function. The **display** will show **COLOR1**, **COLOR2**, **COLOR3**, or **COLOR4**.

0 Off	7 Violet
1 Chartreuse	8 Magenta
2 Green	9 Rose
3 Aquamarine	10 Red
4 Cyan	11 Orange
5 Azure	12 Yellow
6 Blue	13 White

## Velocity Curves

### Keyboard (VCrV)

**VCrV** will appear in the **display** when you are selecting the keyboard velocity curve.

Display	Curve Number	Description
VCrVC1	01	This is a low-sensitivity setting, useful for playing notes with mostly low velocities.
VCrVC2	02	This is a medium-sensitivity setting (the default), useful for playing with an average amount of force.
VCrVC3	03	This is a high-sensitivity setting, useful for playing notes with mostly high velocities.
VCrVC4	04	This is a linear curve. The velocity of the note will be proportional to the amount of force.
VCrVF1	05	All notes will have a fixed velocity of <b>64</b> .
VCrVF2	06	All notes will have a fixed velocity of <b>100</b> .
VCrVF3	07	All notes will have a fixed velocity of <b>127</b> .

### Pads (PCrV)

**PCrV** will appear in the **display** when you are selecting the pads' velocity curve.

Display	Curve Number	Description
PCrVC1	01	This is a low-sensitivity setting, useful for playing notes with mostly low velocities.
PCrVC2	02	This is a medium-sensitivity setting (the default), useful for playing with an average amount of force.
PCrVC3	03	This is a high-sensitivity setting, useful for playing notes with mostly high velocities.
PCrVC4	04	This is a linear curve. The velocity of the note will be proportional to the amount of force.
PCrVF1	05	All notes will have a fixed velocity of <b>64</b> .
PCrVF2	06	All notes will have a fixed velocity of <b>100</b> .
PCrVF3	07	All notes will have a fixed velocity of <b>127</b> .
PCrVS2	08	All notes will have a velocity of <b>64</b> or <b>127</b> , depending on the amount of force.
PCrVS3	09	All notes will have a velocity of <b>64</b> , <b>100</b> , or <b>127</b> , depending on the amount of force.
PCrVS4	10	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.

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### Encoders (ECrV)

**ECrV** will appear in the **display** when you are selecting the encoders' velocity curve.

Display	Curve Number	Description
ECrV <b>0f</b>	00	Turning the encoder will always send a value change of one step in either direction regardless of how quickly/slowly you turn it.
ECrV <b>C2</b>	01	This is a slow acceleration curve, useful for making fine adjustments.
ECrV <b>C3</b>	02	This is a medium acceleration curve (the default).
ECrV <b>C4</b>	03	This is a quick acceleration curve, useful for making coarse adjustments with broad "sweeps."

### X/Y Pad (TCrV)

**TCrV** will appear in the display when you are selecting the X/Y pad's velocity curve.

Display	Curve Number	Description
TCrV <b>F1</b>	01	All notes will have a fixed velocity of <b>64</b> (the default).
TCrV <b>F2</b>	02	All notes will have a fixed velocity of <b>100</b> .
TCrV <b>F3</b>	03	All notes will have a fixed velocity of <b>127</b> .
TCrV <b>S2</b>	04	The velocities of the notes will between <b>64</b> and <b>127</b> .
TCrV <b>S3</b>	05	Every third note will have a velocity of <b>127</b> . All other notes will have a velocity of <b>64</b> .
TCrV <b>S4</b>	06	The velocities of the notes will between <b>100</b> and <b>127</b> .
TCrV <b>S5</b>	07	Every third note will have a velocity of <b>127</b> . All other notes will have a velocity of <b>100</b> .
TCrV <b>S6</b>	08	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> .
TCrV <b>S7</b>	09	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> .
TCrV <b>S8</b>	10	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> .



## Technical Specifications

Specifications are subject to change without notice.

### Code 25

<b>Keyboard</b>	<p>25 velocity- and pressure-sensitive keys (with aftertouch)</p> <p>10-octave range available with <b>Key Octave</b> -/+ buttons</p> <p>4 assignable zones</p> <p>All 25 keys send secondary commands in Edit Mode</p>
<b>Pads</b>	16 assignable velocity-sensitive pads, multicolor-backlit
<b>Faders</b>	<p>5 30mm assignable faders</p> <p>4 banks available with <b>Bank</b> ►/◄ buttons</p>
<b>Buttons</b>	<p>5 assignable buttons, multicolor-backlit</p> <p>4 banks available with <b>Bank</b> ►/◄ buttons</p>
<b>Encoders</b>	<p>4 assignable 360° knobs</p> <p>4 banks available with <b>Bank</b> ►/◄ buttons</p>
<b>X/Y Pad</b>	<p>55mm x 55mm touch-sensitive pad</p> <p>2 independently assignable axes: X (horizontal), Y (vertical)</p>
<b>Display</b>	85mm x 25mm LCD
<b>Connections</b>	<p>1 USB port</p> <p>1 1/4" (6.35mm) TS sustain pedal/footswitch input</p> <p>1 1/4" (6.35mm) TRS volume/expression pedal input</p> <p>1 5-pin MIDI input</p> <p>1 5-pin MIDI output</p> <p>1 power adapter input (power adapter not included)</p> <p>1 Kensington lock slot</p>
<b>Power</b>	<p>via USB bus power</p> <p>or</p> <p>via power adapter (9 VDC, 1A, center-positive, not included)</p>
<b>Dimensions</b> (width x depth x height)	<p>20.9" x 10.0" x 2.8"</p> <p>53.0 cm x 25.5 cm x 7.1 cm</p>
<b>Weight</b>	<p>6.2 lbs.</p> <p>2.8 kg</p>

## Code 49

<b>Keyboard</b>	<p><b>49</b> velocity- and pressure-sensitive keys (with aftertouch)</p> <p><b>10</b>-octave range available with <b>Key Octave -/+</b> buttons</p> <p><b>4</b> assignable zones</p> <p>Lowest 25 keys send secondary commands in Edit Mode</p>
<b>Pads</b>	<b>16</b> assignable velocity-sensitive pads, multicolor-backlit
<b>Faders</b>	<p><b>9</b> 30mm assignable faders</p> <p><b>4</b> banks available with <b>Bank ▶/◀</b> buttons</p>
<b>Buttons</b>	<p><b>9</b> assignable buttons, multicolor-backlit</p> <p><b>4</b> banks available with <b>Bank ▶/◀</b> buttons</p>
<b>Encoders</b>	<p><b>8</b> assignable 360° knobs</p> <p><b>4</b> banks available with <b>Bank ▶/◀</b> buttons</p>
<b>X/Y Pad</b>	<p>55mm x 55mm touch-sensitive pad</p> <p><b>2</b> independently assignable axes: X (horizontal), Y (vertical)</p>
<b>Display</b>	85mm x 25mm LCD
<b>Connections</b>	<p><b>1</b> USB port</p> <p><b>1</b> 1/4" (6.35mm) TS sustain pedal/footswitch input</p> <p><b>1</b> 1/4" (6.35mm) TRS volume/expression pedal input</p> <p><b>1</b> 5-pin MIDI input</p> <p><b>1</b> 5-pin MIDI output</p> <p><b>1</b> power adapter input (power adapter not included)</p> <p><b>1</b> Kensington lock slot</p>
<b>Power</b>	<p>via USB bus power</p> <p>or</p> <p>via power adapter (9 VDC, 1A, center-positive, not included)</p>
<b>Dimensions</b> (width x depth x height)	<p>33.9" x 10.0" x 2.8"</p> <p>86.0 cm x 25.5 cm x 7.1 cm</p>
<b>Weight</b>	<p>9.9 lbs.</p> <p>4.5 kg</p>

## Code 61

<b>Keyboard</b>	<p><b>61</b> velocity- and pressure-sensitive keys (with aftertouch)</p> <p><b>10</b>-octave range available with <b>Key Octave -/+</b> buttons</p> <p><b>4</b> assignable zones</p> <p>Lowest 25 keys send secondary commands in Edit Mode</p>
<b>Pads</b>	<b>16</b> assignable velocity-sensitive pads, multicolor-backlit
<b>Faders</b>	<p><b>9</b> 30mm assignable faders</p> <p><b>4</b> banks available with <b>Bank ▶/◀</b> buttons</p>
<b>Buttons</b>	<p><b>9</b> assignable buttons, multicolor-backlit</p> <p><b>4</b> banks available with <b>Bank ▶/◀</b> buttons</p>
<b>Encoders</b>	<p><b>8</b> assignable 360° knobs</p> <p><b>4</b> banks available with <b>Bank ▶/◀</b> buttons</p>
<b>X/Y Pad</b>	<p>55mm x 55mm touch-sensitive pad</p> <p><b>2</b> independently assignable axes: X (horizontal), Y (vertical)</p>
<b>Display</b>	85mm x 25mm LCD
<b>Connections</b>	<p><b>1</b> USB port</p> <p><b>1</b> 1/4" (6.35mm) TS sustain pedal/footswitch input</p> <p><b>1</b> 1/4" (6.35mm) TRS volume/expression pedal input</p> <p><b>1</b> 5-pin MIDI input</p> <p><b>1</b> 5-pin MIDI output</p> <p><b>1</b> power adapter input (power adapter not included)</p> <p><b>1</b> Kensington lock slot</p>
<b>Power</b>	<p>via USB bus power</p> <p>or</p> <p>via power adapter (9 VDC, 1A, center-positive, not included)</p>
<b>Dimensions</b> (width x depth x height)	<p>40.4" x 10.0" x 2.8"</p> <p>102.5 cm x 25.5 cm x 7.1 cm</p>
<b>Weight</b>	<p>11.5 lbs.</p> <p>5.2 kg</p>

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