

M-AUDIO[®]

CTRL49

User Guide

English

Manual Version 1.0

Table of Contents

(Click a chapter/section to skip to it.)

Introduction	5
Box Contents	5
Support.....	5
About This User Guide	5
 Initial Setup.....	 6
1. Software/Driver Download and Installation.....	6
2. Controller Setup	6
3. Software-Controller Configuration	7
With VIP in Your DAW	7
With VIP in Standalone Mode (Without a DAW)	8
With Your DAW Only	8
With External MIDI Equipment (Without a Computer)	8
 Features	 9
Top Panel	9
Rear Panel.....	11

Operation	12
Setup Scenarios	13
With VIP in Your DAW	13
With VIP in Standalone Mode (Without a DAW)	13
With Your DAW Only	14
With External MIDI Equipment (Without a Computer)	14
Display and Navigation	15
Basic Functions	16
Loading Presets.....	16
Loading Patches.....	16
Controlling Your Patch or Your DAW	17
Modes.....	18
Main Mode.....	18
Selecting the Browser or Setlists.....	19
Loading Patches	19
Editing Various Global Settings	20
Setup Mode.....	21
Loading and Saving Presets	21
Editing Various Global Settings	22
Browser Mode	23
Selecting Tag Categories.....	23
Loading Patches	24
Loading Multi Slots	24
Global Mode	25
Available Global Settings	25
Control Mode.....	27
Selecting Controls.....	28
Adjusting Controls	28
Custom Control Mode	28

Control Edit Mode	29
Selecting Controls.....	29
Editing Control Parameters.....	29
Available Control Parameters	30
MIDI Mode.....	32
Selecting Controls.....	32
Adjusting Controls	32
MIDI Edit Mode.....	33
Selecting Controls.....	33
Editing Control Parameters.....	33
Available Control Parameters	34
Multi Mode.....	40
About Multis.....	40
Creating and Editing Multis.....	40
Adjusting Multi Channels	41
Adjusting Bus Sends.....	42
Adjusting Inserts	42
Split Mode	43
Editing Multi Slot Parameters	43
Available Split Mode Parameters.....	44
Timing Functions	45
Overview.....	45
Tempo.....	45
Tap Tempo.....	45
Time Division.....	46
Transport Control.....	46
Arpeggiator.....	47
Note Repeat (Roll)	47
Appendix	48
Technical Specifications	48
Trademarks & Licenses	48

Introduction

Box Contents

CTRL49

Power Adapter

USB Cable

Software Download Cards

Quickstart Guide

Safety & Warranty Manual

Support

For the latest information about this product (system requirements, compatibility information, etc.) and product registration, visit m-audio.com.

For additional product support, visit m-audio.com/support.

About This User Guide

This *User Guide* was written to help you get familiar with the CTRL49 hardware.

For consistency and to help prevent confusion, we used a uniform set of symbols to show topics of interest or significance:

Important/Note/Tip: Important or helpful information on a given topic.

Buttons, controls, parameters, and other important items are usually indicated in bold characters.

Examples: Press **Multi**.

Turn the **Data Dial**.

Select the **Mode** field.

Some text refers to other relevant sections, shown in blue, bold italic characters. Click the text to jump to that part of the *User Guide*.

Examples: Make sure your CTRL49 box includes all of the items listed above in ***Box Contents***.

For descriptions of CTRL49's controls, please see the ***Features*** chapter.

To learn how to change an encoder's minimum and maximum value, please see ***Modes > Control Edit Mode***.

Initial Setup

1. Software/Driver Download and Installation

To download and install the required drivers, VIP software application, and virtual instruments:

1. Go to m-audio.com and register your product. If you don't have an M-Audio account yet, you will be prompted to create one.
2. Download the **CTRL49 Driver**.
3. Open the file and double-click the installer application: **.exe** (Windows) or **.dmg** (Mac OS X).
4. Follow the on-screen instructions to complete the installation.
5. Download and install the **CTRL Software Package**.

Note: By default, VIP will be installed in [your hard drive] \ Program Files \ VstPlugins (Windows) or **Applications** (Mac OS X). A shortcut will be created on your Desktop, as well.

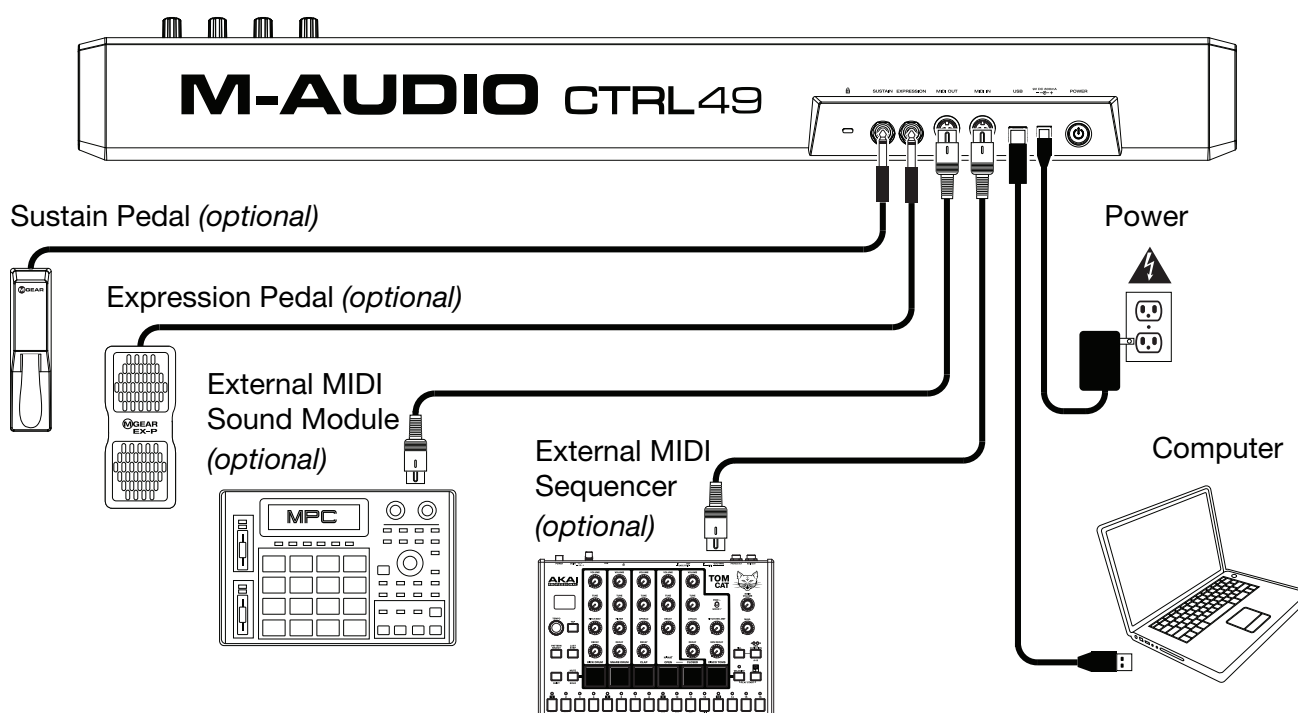
To download additional plugins and audio content:

1. Open VIP.
2. In VIP, click **Store**.
3. In the **Store** panel, select and download the plugins and audio content you want to use with VIP. Follow the on-screen instructions for each selection.

Important: When installing these plugins, we recommend installing them on your computer's internal hard drive rather than on an external hard drive.

2. Controller Setup

Here is just an example of how to use CTRL49 to your setup. Items not listed under [Introduction > Box Contents](#) are sold separately.



3. Software-Controller Configuration

This section describes how to start using your CTRL49. We recommend using CTRL49 with the included VIP software which you can use to perform with, create, edit, and manage multiple plugin patches simultaneously. To learn more about how you can use CTRL49 in each kind of setup, please see the [Operation](#) chapter.

Make sure you have installed the software (described earlier in [1. Software/Driver Download and Installation](#)) and connected CTRL49 to your computer, external MIDI equipment, and/or other devices (described earlier in [2. Controller Setup](#)).

With VIP in Your DAW

To set up CTRL49 with VIP in your DAW:

1. Power on your CTRL49, and open your DAW in your computer.
2. Open your DAW's **Preferences** (or **Options**, **Device Setup**, etc.) and select **CTRL49** as your controller. Make sure the MIDI Port (**CTRL49 USB**) is enabled for standard MIDI and the Mackie/HUI Port (**CTRL49 Mackie/HUI**) is enabled for Mackie Control® or HUI® communication.
3. In your DAW, create a new MIDI track (i.e., not an audio track).
4. Open VIP in your DAW as you would open a standard VST plugin. By default, VIP is installed in **[your hard drive] \ Program Files \ VstPlugins** (Windows) or **Applications** (Mac OS X).
5. In VIP, click the **Settings** menu and select **Plugin Manager**.
6. At the bottom of the **Plugin Manager** window, click one of the **Plugin Folder** fields, and then select the folder where your instrument plugins are located on your computer. You can select up to two locations (one for each **Plugin Folder** field).
7. Click **Scan**. VIP will scan the folder/folders for available plugins, which will appear in the list. When the process is complete, click **OK** to close the Settings window. VIP will return to its main window and begin importing the patches (presets) for all of your scanned plugins. This can take several minutes.
8. On CTRL49, turn the **Data Dial** to browse your list of patches in the **display** (the plug-in name will appear under the patch name). Press the **Data Dial** to load one.

To learn more about how you can use CTRL49 in this kind of setup, please see [Operation > Setup Scenarios > With VIP in Your DAW](#).

With VIP in Standalone Mode (Without a DAW)

To set up CTRL49 with VIP in Standalone Mode:

1. Power on your CTRL49.
2. Open VIP. By default, VIP is installed in [your hard drive] \ Program Files \ VstPlugins (Windows) or Applications (Mac OS X).
3. In VIP, click the **Settings** menu and select **Plugin Manager**.
4. At the bottom of the **Plugin Manager** window, click one of the **Plugin Folder** fields, and then select the folder where your instrument plugins are located on your computer. You can select up to two locations (one for each **Plugin Folder** field).
5. Click **Scan**. VIP will scan the folder/folders for available plugins, which will appear in the list. When the process is complete, click **OK** to close the Settings window. VIP will return to its main window and begin importing the patches (presets) for all of your scanned plugins. This can take several minutes.
6. On CTRL49, turn the **Data Dial** to browse your list of patches in the **display** (the plug-in name will appear under the patch name). Press the **Data Dial** to load one.

To learn more about how you can use CTRL49 in this kind of setup, please see [Operation > Setup Scenarios > With VIP in Standalone Mode \(Without a DAW\)](#).

With Your DAW Only

To set up CTRL49 with your DAW only:

1. Power on your CTRL49, and open your DAW in your computer.
2. Open your DAW's **Preferences** (or **Options**, **Device Setup**, etc.) and select **CTRL49** as your controller. Make sure the MIDI Port (**CTRL49 USB**) is enabled for standard MIDI and the Mackie/HUI Port (**CTRL49 Mackie/HUI**) is enabled for Mackie Control® or HUI® communication.
3. To use CTRL49 as a standard MIDI controller, create a new MIDI track (i.e., not an audio track) in your DAW.

To learn more about how you can use CTRL49 in this kind of setup, please see [Operation > Setup Scenarios > With Your DAW Only](#).

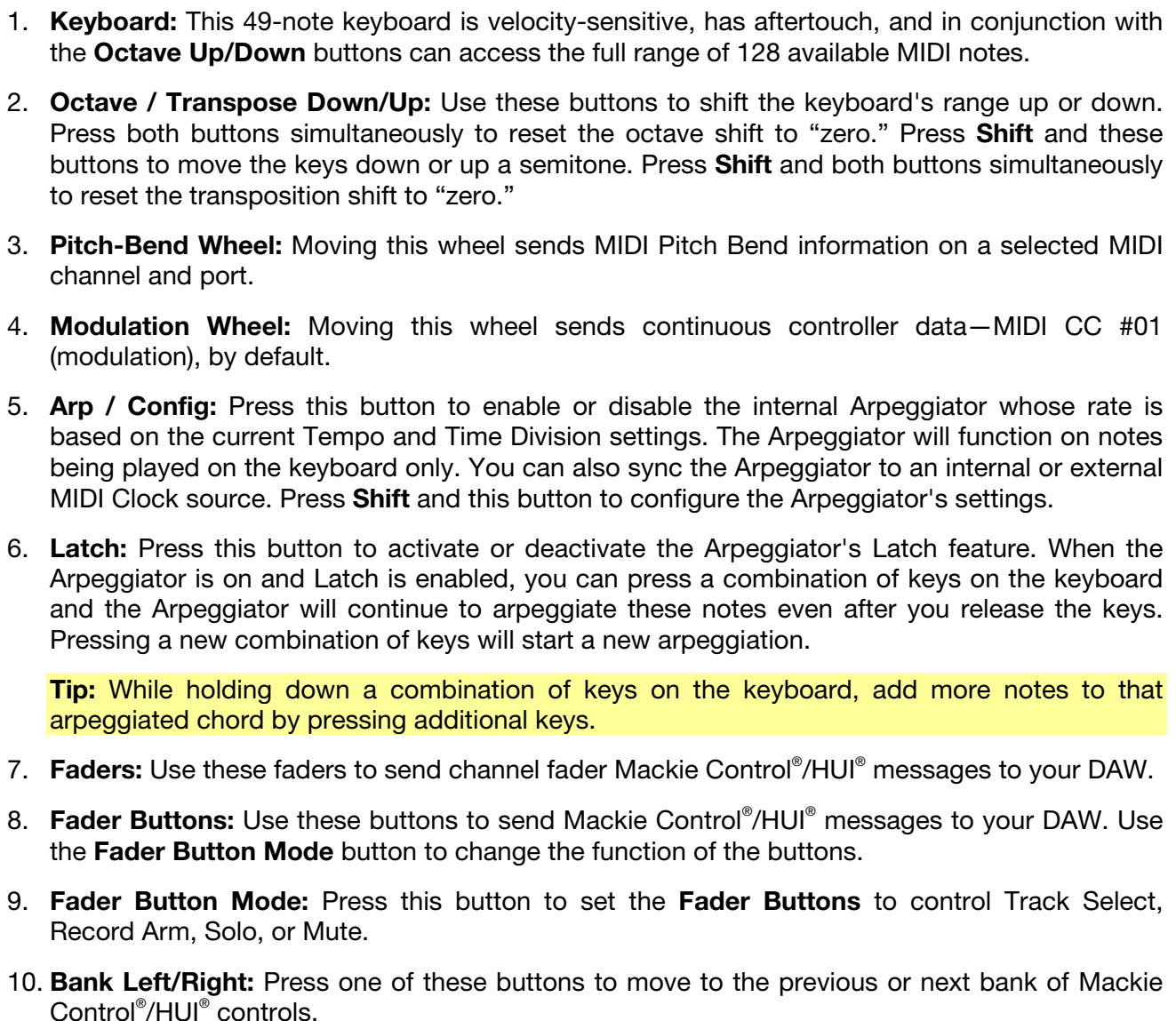
With External MIDI Equipment (Without a Computer)

To set up CTRL49 with external MIDI equipment:

1. Power on your CTRL49 and your external MIDI device.
2. When no USB cable is connected to the **USB Port**, CTRL49 is automatically set to send all of its MIDI messages to your external MIDI device via the **MIDI Out**.

To learn more about how you can use CTRL49 in this kind of setup, please see [Operation > Setup Scenarios > With External MIDI Equipment \(Without a Computer\)](#).

Top Panel



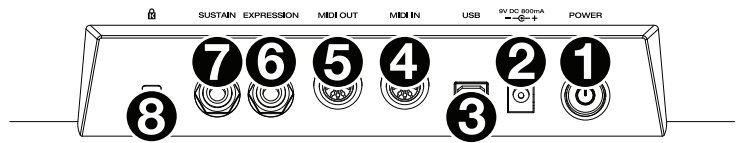
11. **Encoders:** Use these 360° knobs to send MIDI CC or Increment/Decrement messages to your software or external MIDI device.
12. **Pads:** Use these pads to send MIDI Note messages to your software or external MIDI sound module. The pads are pressure- and velocity-sensitive, which makes them very responsive and intuitive to play when triggering drum hits or other samples.
13. **Pad Banks / Banks:** Use these buttons to select Pad Bank A, B, C, or D. Between these 4 banks with 8 pads per bank, you can access up to 32 MIDI events. When VIP is open, press **Shift** and these buttons to switch between banks of VIP controls.
14. **Full Level:** Press this button to activate or deactivate Full Level. When Full Level is active, the pads always play at their maximum velocity no matter how hard or soft you hit them.
15. **Roll / Config:** Use this button to activate or deactivate Roll. While Roll is active, striking a pad and continuing to hold it causes its note to retrigger at a rate based on the current Tempo and Time Division settings. Press **Shift** and this button to configure the roll settings.
16. **Tap Tempo / Config:** Tap this button at the desired rate to enter a new tempo. Press **Shift** and this button to configure the global tempo settings.

Important: This feature does not work when the CTRL49 is set to **External** sync.

17. **Time Div:** Use this button and the **Switches** to select the current Time Division, which determines the rate of the Roll and Arpeggiator features. While Time Division is active, the switches will not send any of their normal MIDI CC, Program Change, or Program Bank messages.
18. **Switches:** Use these switches to send MIDI CC, Program Change, or Program Bank messages to your software or external MIDI device. They can function as momentary or toggle (latching) switches. If **Time Division** is activated, these switches select the time division of the Arpeggiator and Roll features.
19. **Display:** Use this full-color display to view CTRL49's menus, options, parameters, and settings.
20. **Page Left/Right:** Use these buttons to move between the available pages in the **display**.
21. **Cursors:** Use these buttons to navigate through the menus and options in the current page in the **display**.
22. **Data Dial:** Use this dial to change parameter values, settings, etc. in the **display**. Pressing the dial also functions as an **Enter** button.
23. **Mode Buttons:** Press one of these buttons to enter its corresponding mode. See [Operation > Modes](#) for more information.
24. **Favorites:** Use these buttons to save and recall your favorite presets. Press and hold a button for 3 seconds to save the active preset as a favorite. Tap a button to recall that favorite preset. When VIP is open, use these buttons to quickly load one of your first 5 Setlists. Tap the button to load that Setlist.
25. **Shift:** Press and hold this button to enable secondary functions of certain other buttons on CTRL49.
26. **Transport Control Buttons:** These five buttons are dedicated buttons for sending conventional transport control commands: **Rewind** (⏮), **Fast-Forward** (⏭), **Stop** (■), **Play** (▶), and **Record** (●). These can be set to send **MIDI** (Start/Stop), pre-assigned MIDI **CC** values, **MMC** (MIDI Machine Control), and **MMC/MIDI SysEx**. The **PTEX** setting is for use with Avid® Pro Tools® Express only. When set to **DAW Fader**, the transport buttons will match the message format that the **Faders** are currently set to (Mackie Control® or HUI®).

Rear Panel

1. **Power Button:** Press and hold this button to power the CTRL49 on or off.
2. **Power Input:** Connect this power input to a power outlet using the included power adapter (9V DC, 800 mA, center-positive).



3. **USB Port:** Use a standard USB cable to connect this USB port to your computer. If you connect it to a USB hub, make sure it is a powered hub. This connection is used to send and receive MIDI data to and from your computer.

When using CTRL49 with external MIDI equipment:

- If an external device is connected to the **MIDI Out**, your computer can send MIDI messages out along this path: **Computer ➔ CTRL49 ➔ External Device**.
 - If an external device is connected to the **MIDI In**, the external device sends MIDI messages in along this path: **External Device ➔ CTRL49 ➔ Computer**. MIDI messages can then be sent to an external device via the MIDI Out, but they must pass through the computer first.
4. **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, sequencer, etc.). The MIDI messages sent to this MIDI In will be sent to your computer via the USB port. Please see the above [USB Port](#) description for information about how MIDI messages are routed while using CTRL49.
 5. **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, drum machine, etc.). Please see the above [USB Port](#) description for information about how MIDI messages are routed while using CTRL49.
 6. **Expression Pedal Input:** Connect an optional 1/4" (6.35 mm) TRS expression pedal to this input.
 7. **Sustain Pedal Input:** Connect an optional 1/4" (6.35 mm) TS sustain pedal to this input.
 8. **Kensington® Lock Slot:** You may use this Kensington® lock slot to secure the CTRL49 to a table or other surface.

Operation

This chapter describes how you can use CTRL49 in your studio or performance setup.

Read [Setup Scenarios](#) to learn how CTRL49 can function with software or hardware (with or without a DAW, with or without VIP, etc.).

Read [Display and Navigation](#) to get a better understanding of CTRL49's full-color display and how to move through its various menus and panels.

Read [Basic Functions](#) to learn how to do some simple tasks with CTRL49.

Read [Modes](#) to learn about each of CTRL49's modes, which let you browse and select your plugins and patches, assign/edit controllers and parameters, adjust global settings, and more.

Read [Timing Functions](#) to see an overview of CTRL49's time-related features. This section also describes how to configure the settings for the Arpeggiator and Note Repeat (Roll) features.

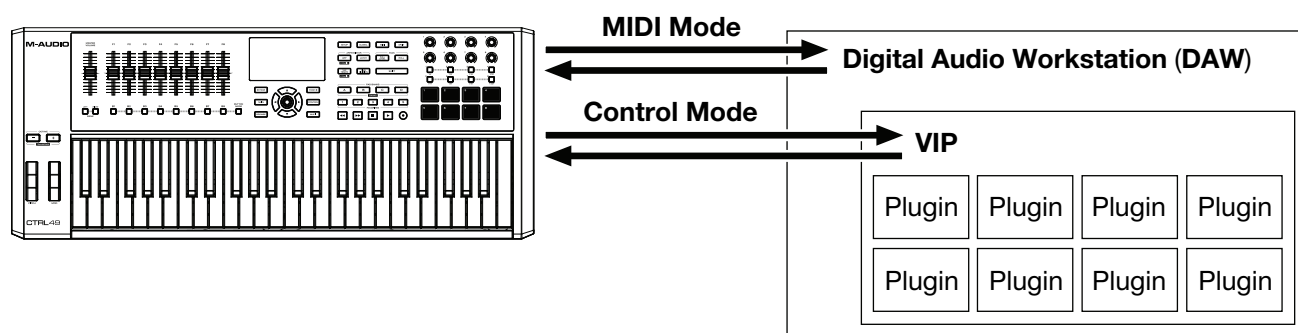
Setup Scenarios

With VIP in Your DAW

The included VIP software lets you get the most control and function out of your CTRL49. VIP is essentially a host for your plugins, a hub where you can create, edit, and manage your patches (presets) for your various plugins. When VIP is used as a plugin, as in this scenario, all audio from VIP will be sent into your DAW on its track. You can switch between CTRL49's Control Mode to control VIP or MIDI Mode to control your DAW. You can also use **CTRL49's faders, fader buttons, and transport control buttons** to control your DAW using Mackie Control[®]/HUI[®] (see the [Modes](#) section for more information).

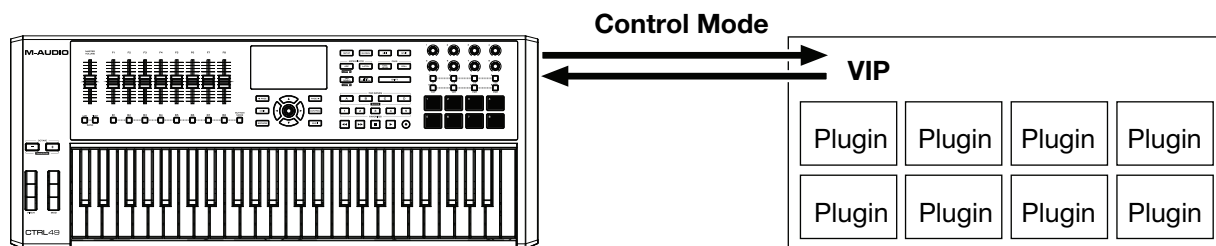
Tip: You can use Control Edit Mode to assign some knobs to MIDI CC messages instead of VST parameters. This lets you control your plugin *and* your DAW while in Control Mode. See [Modes > Control Edit Mode](#) for more information.

Tip: As with other plugins, you can use multiple instances of VIP in your DAW, each on its own track.



With VIP in Standalone Mode (Without a DAW)

You can use VIP in Standalone Mode without a DAW. This works the same way as when used as a plugin (described [above](#)) except the audio is routed to your computer's sound card instead of to your DAW. You can use CTRL49's Control Mode to control VIP (see the [Modes](#) section for more information).

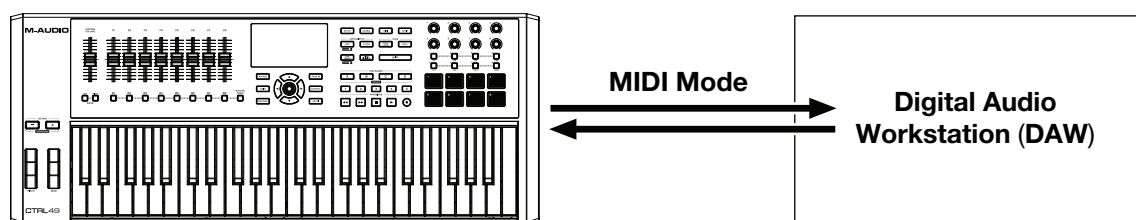


With Your DAW Only

You can use CTRL49 as a standard USB MIDI controller for your music creation software. We've created presets for several popular DAWs so you can use CTRL49 with your projects in the most logical and intuitive way possible. You can use CTRL49's MIDI Mode and the Mackie Control®/HUI® **faders, fader buttons**, and **transport controls** to control your DAW (see the [Modes](#) section for more information).

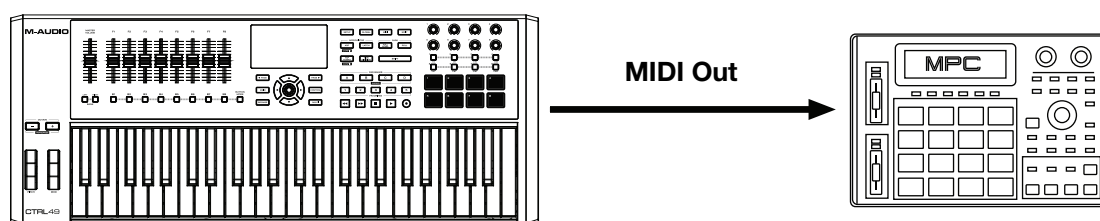
Follow these steps to set up Mackie Control®/HUI® communication with your DAW:

1. Make sure the Mackie/HUI Port (**CTRL49 Mackie/HUI**) is enabled as a **Control Surface** in your DAW's **Preferences, Options, or Device Setup** menu.
2. Use MIDI Edit Mode to set the **faders** and **fader buttons** to a preset that corresponds to your DAW. You can also use the Setup mode preset associated with your DAW
3. You can also set the **transport control buttons** to match the message format that the **Faders** are currently set to (Mackie Control® or HUI®) in Global Mode (see the [Modes](#) section for more information).

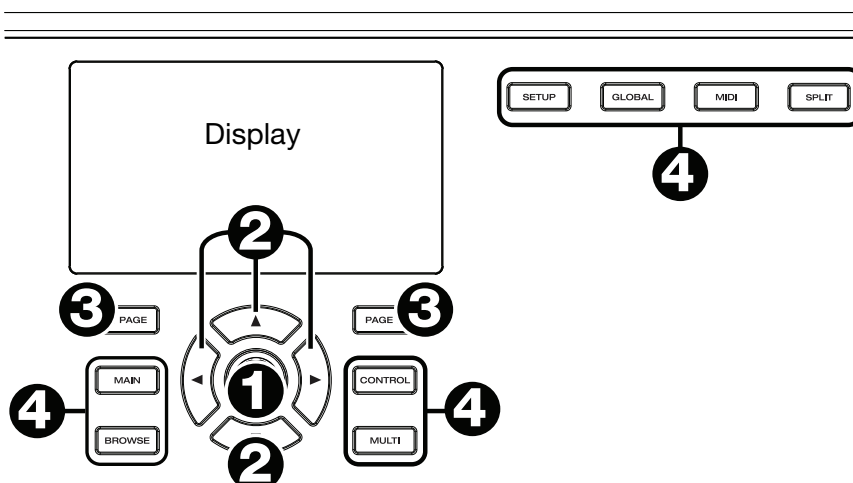


With External MIDI Equipment (Without a Computer)

You can connect an external MIDI device (synth, drum machine, etc.) to CTRL49's **MIDI Out**, letting you use CTRL49 to control it.



Display and Navigation



CTRL49's display shows information about its current mode and operations. You can navigate its different modes, pages, etc. by using the following controls:

1. **Data Dial:** Use this dial to change a selected parameter values, settings, etc. in the display. Press the dial to enter or confirm a command or setting.
2. **Cursors:** Use these buttons to navigate through the menus and options in the current page in the display.
3. **Page Left/Right:** Use these buttons to move between the available pages in the display. When there is a page available to the left or right of the current one, the corresponding button will light up.
4. **Mode Buttons:** Press one of these buttons to enter its corresponding mode.

The display contains the essential information you'll need during performance, recording, or production. When using VIP, though, the VIP software window on your computer may contain additional information, depending on the current mode. Keep this in mind while exploring the different modes in VIP (see the following [Modes](#) section for more information).

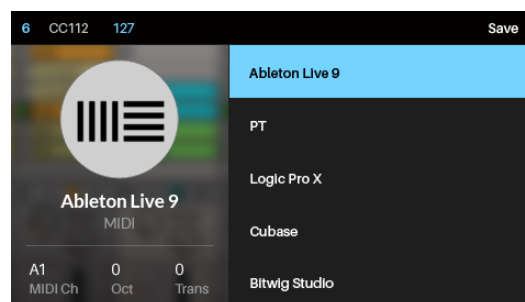
Basic Functions

Loading Presets

Setup Mode will show a list of presets that help you use CTRL49 to control your DAW or other setups. We've pre-mapped each so you can use CTRL49 to control your DAW or external MIDI equipment in the most logical and intuitive way possible.

To load a preset:

1. Press the **Setup button** to enter Setup Mode.
2. Turn the **Data Dial** to scroll through the list.
3. Press the **Data Dial** to load a preset. The loaded preset will be highlighted.



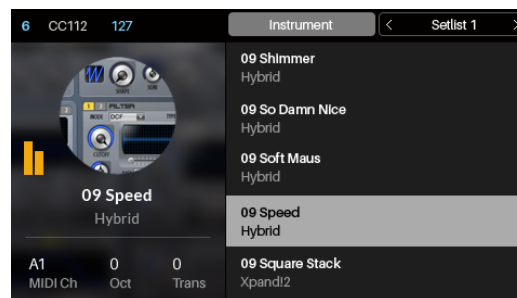
Loading Patches

While using VIP with CTRL49, you can load a patch using the Patch Browser (the right half of the display), which will show all available patches or multis currently in VIP's Patch Browser or in a setlist (described in [Main Mode > Selecting the Browser or Setlists](#)).

To load a patch:

1. Press the **Main button** to enter Main Mode.
2. Turn the **Data Dial** to scroll through the list.
3. Press the **Data Dial** to load a patch. The loaded patch will be highlighted.

Note: The patches shown in the Patch Browser are based on both the currently selected tags and the text in the **Search** field in VIP (above its own Patch Browser). If you think some patches are missing from the Patch Browser, make sure that (1) VIP's **Search** field is empty and (2) the correct tags are selected. To learn about tags, see [Browser Mode > Selecting Tag Categories](#).



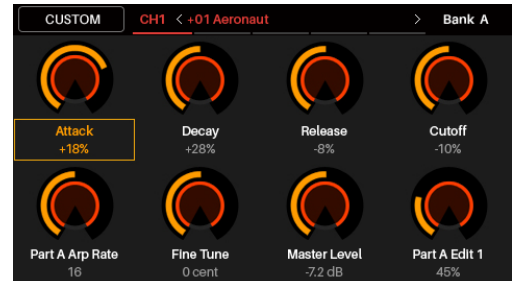
Controlling Your Patch or Your DAW

CTRL49 has two modes that let you view and control your patch parameters in VIP or functions in your DAW: Control Mode and MIDI Mode.

Control Mode shows you the current settings of CTRL49's controls in VIP. Press the **Control button** to enter it. You can access this mode only when using VIP.

To adjust the value or change the state of a control, simply turn the **encoder** or press the **switch** or **pad**.

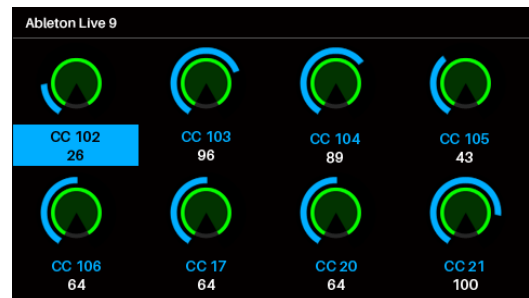
To learn how to edit the parameters of these controls (minimum values, maximum values, CC or note numbers, etc.), see the [Control Edit Mode](#) chapter.



MIDI Mode shows you the current settings of CTRL49's controls when used with your DAW (or an external MIDI device). Press the **MIDI button** to enter it.

To adjust the value or change the state of a control, simply turn the **encoder** or press the **switch** or **pad**. If you're using VIP, you can do this in MIDI Mode (or MIDI Edit Mode) or Setup Mode. If you're not using VIP, you can do this in any mode.

To learn how to edit the parameters of these controls (minimum values, maximum values, CC or note numbers, etc.), see the [MIDI Edit Mode](#) chapter.



Modes

CTRL49 has ten different modes of operation. Enter each mode by pressing its corresponding mode button. Note that a mode's appearance may depend on whether or not you are using the VIP software.

Click a link below to jump to the description of that mode:

[*Main Mode*](#)

[*Control Mode*](#)

[*Multi Mode*](#)

[*Setup Mode*](#)

[*Control Edit Mode*](#)

[*Split Mode*](#)

[*Browser Mode*](#)

[*MIDI Mode*](#)

[*Global Mode*](#)

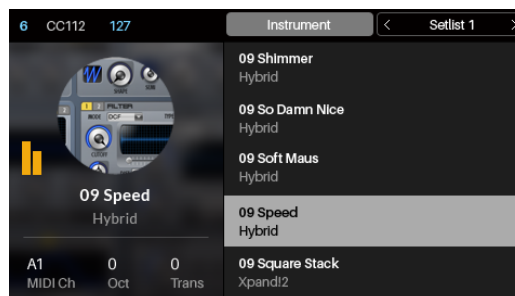
[*MIDI Edit Mode*](#)

Main Mode

When using VIP, Main Mode shows a list of all available patches for all plugins in VIP.

To navigate this mode:

1. Press the **Main button** to enter Main Mode.
2. Use the **Cursors** to move between different fields and tabs. You can change some global settings in this mode (MIDI channel (**MIDI Ch**), octave (**Oct**), and transposition (**Trans**)), as well.
3. Use the **Data Dial** to move through the list of patches or to change a value or setting.

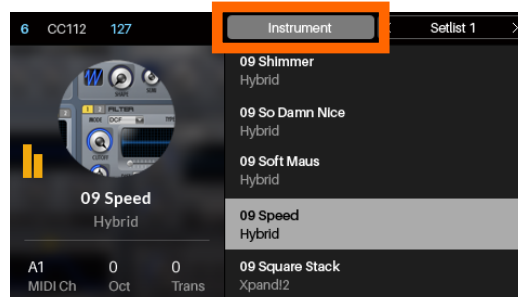


Selecting the Browser or Setlists

While using VIP with CTRL49, the Patch Browser (the right half of the display) will show the patches and multis that are **(A)** currently in VIP's Patch Browser or **(B)** in a setlist. The currently selected one will be shaded grey in the upper-right part of the display.

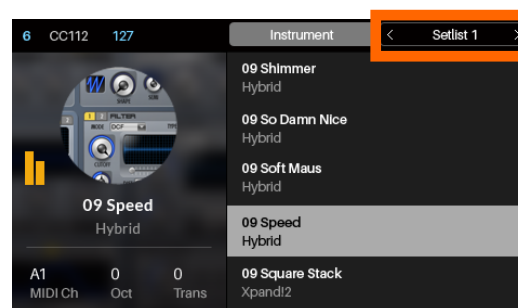
To select the Browser:

1. Use the **Cursor Buttons** to select **Instrument** (at the top of the display).
2. Press the **Data Dial**. The patches and multis shown in VIP's Patch Browser will appear below.



To select a setlist:

1. Use the **Cursor Buttons** to select the field in the upper-right corner of the display (a setlist's name).
2. Turn the **Data Dial** to select the desired setlist.
3. Press the **Data Dial**. The patches and multis in that setlist will appear below.

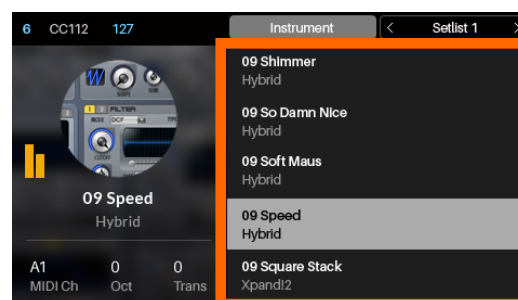


Loading Patches

While using VIP with CTRL49, you can load a patch using the Patch Browser (the right half of the display), which will show all available patches or multis currently in VIP's Patch Browser or in a setlist (described [earlier](#)).

To load a patch:

1. Make sure you have selected either the **Instrument** or the Setlist with the patch you want.
2. Use the **Cursor Buttons** to select the Patch Browser (the list of patches in the right half of the display).
3. Turn the **Data Dial** to scroll through the list.
4. Press the **Data Dial** to load a patch. The loaded patch will be highlighted.



Note: The patches shown in the Patch Browser are based on both the currently selected tags and the text in the **Search** field in VIP (above its own Patch Browser). If you think some patches are missing from the Patch Browser, make sure that **(1)** VIP's **Search** field is empty and **(2)** the correct tags are selected. To learn about tags, see [Browser Mode > Selecting Tag Categories](#).

You can also use the **Favorite** buttons to quickly select the first five patches in your Setlist.

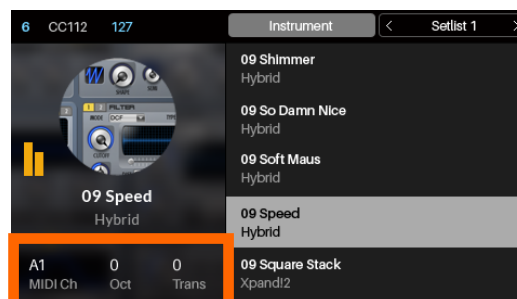
Editing Various Global Settings

You can change some of CTRL49's global settings in Main Mode. See [Global Mode](#) for the full list of global settings.

To adjust global settings in Main Mode:

1. Use the **Cursor Buttons** to select any of the three fields in the lower-left corner of the display:
 - **MIDI Ch:** CTRL49 will send its messages over this MIDI channel. This is the same as the **Common Channel** setting in [Global Mode](#).
 - **Oct:** CTRL49's keyboard will be offset by this many octaves. This is the same as the **Octave** setting in [Global Mode](#) or using the **Octave Down/Up** buttons.
 - **Trans:** CTRL49's keyboard will be transposed by this many semitones. This is the same as the **Transpose** setting in [Global Mode](#) or using **Shift** + the **Octave Down/Up** buttons.
2. Turn the **Data Dial** to change the setting. The setting will be updated immediately.

Press the **Data Dial** to return the setting to its default.

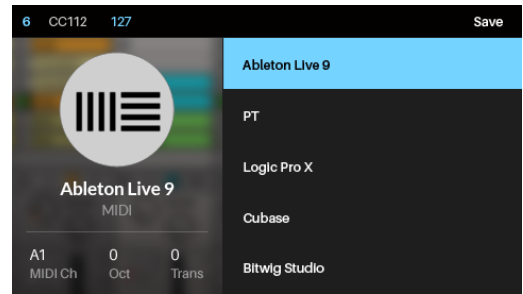


Setup Mode

Setup Mode shows a list of available presets that help you use CTRL49 to control your DAW or other setups. We've pre-mapped each so you can use CTRL49 to control your DAW or external MIDI equipment in the most logical and intuitive way possible.

To navigate this mode:

1. Press the **Setup button** to enter Setup Mode.
2. Use the **Cursors** to move between different fields and tabs. You can change some global settings in this mode (MIDI channel (**MIDI Ch**), octave (**Oct**), and transposition (**Trans**)), as well.
3. Use the **Data Dial** to change a value or setting.



See the following sections to learn more about using Setup Mode.

Loading and Saving Presets

To load a preset:

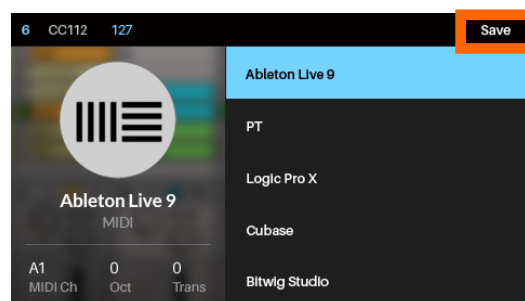
1. Use the **Cursor Buttons** to select the Preset Browser (the list of presets in the right half of the display).
2. Turn the **Data Dial** to scroll through the list.
3. Press the **Data Dial** to load a preset. The loaded preset will be highlighted.

Press and hold one of the **Favorite** buttons to save the active preset as a favorite. Tap one of the **Favorite** buttons to quickly load that preset.

You can also save presets with your own custom MIDI mappings (made in [MIDI Edit Mode](#)). You can do so by either saving over an existing preset or editing one of the user presets (**User Preset Default ##**).

To save a preset:

1. With the desired preset already selected, use the **Cursor Buttons** to select **Save** in the upper-right corner of the display.
2. Press the **Data Dial**. The preset's name in the left half of the display will be highlighted.
3. Enter a new name for the preset by using the following controls:
 - To move to the previous or next character, press the **Left Cursor** or **Right Cursor**, respectively.
 - To add a new character, press the **Right Cursor** at the end of the name.
 - To add a space, press the **Up Cursor**.
 - To change the current character, turn the **Data Dial**.
 - To delete the current character, press the **Down Cursor**.
4. Press the **Data Dial**. The preset is now saved.



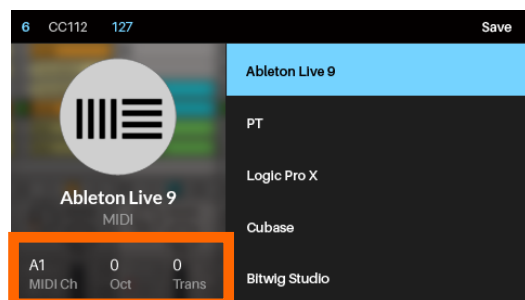
Editing Various Global Settings

You can change some of CTRL49's global settings in Setup Mode. See [Global Mode](#) for the full list of global settings.

To adjust global settings in Setup Mode:

1. Use the **Cursor Buttons** to select any of the three fields in the lower-right corner of the display:
 - **MIDI Ch:** CTRL49 will send its messages over this MIDI channel. This is the same as the **Common Channel** setting in [Global Mode](#).
 - **Oct:** CTRL49's keyboard will be offset by this many octaves. This is the same as the **Octave** setting in [Global Mode](#) or using the **Octave Down/Up** buttons.
 - **Trans:** CTRL49's keyboard will be transposed by this many semitones. This is the same as the **Transpose** setting in [Global Mode](#) or using **Shift** + the **Octave Down/Up** buttons.
2. Turn the **Data Dial** to change the setting. The setting will be updated immediately.

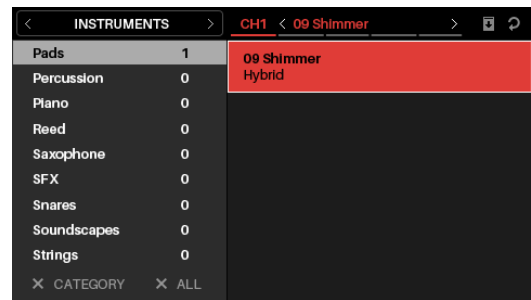
Press the **Data Dial** to return the setting to its default.



Browser Mode

Browser Mode lets you browse and select patches of your plugins. You can access this mode only when using VIP.

1. Press the **Browse button** to enter Browser Mode.
2. Use the **Cursors** to move between different fields and tabs.
3. Use the **Data Dial** to select a plugin or patch.
4. Use the **Page Left/Right** buttons to view each plugin category (Plugin, Instruments, Style, etc.).



See the following sections to learn more about using Browser Mode.

Selecting Tag Categories

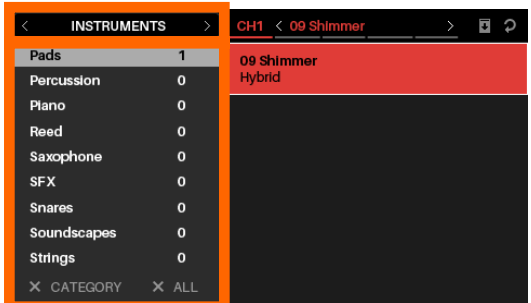
In VIP, each of your patches can be associated with various “tags” in different categories. This feature lets you easily sort and filter your numerous patches based on **Plugin** name, **Expansion** name, **Instruments**, **Timbres**, **Styles**, and/or **Articulations**.

A patch can be tagged with one or more tags from each category. For example, a synth pad might be tagged with multiple **Timbres**: **Airy**, **Clean**, **Pure**, and **Waves**. The exceptions are the **Plugin** and **Expansion** categories; a patch will have only one **Plugin** tag and (if it belongs to an Expansion) only one **Expansion** tag.

When using tags to filter your patches, you can select one or multiple tags from one or multiple categories. For example, to view all of your bass patches, you could select just the **Bass** tag in the **Instrument** category. To narrow your search results, you could also select **Distorted** and **Noise** from the **Timbres** category as well as **Dance** and **Dub** from the **Styles** category.

To select tags (to filter your patches):

1. Use the **Page Left/Right** buttons to view each tag category (**Plugin**, **Instruments**, **Style**, etc.). Alternatively, use the **Cursor Buttons** to select the field in the upper-left corner of the display, and then turn the **Data Dial**.
2. Use the **Cursor Buttons** to select the Tag Browser (the list of tags in the left half of the display).
3. Turn the **Data Dial** to scroll through the list of tags in that category.
4. Press the **Data Dial** to select or deselect a tag. A selected tag will be highlighted and any patches with that tag will appear in the Patch Browser in the right half of the display.



To select additional tags, repeat **Steps 1–4** (for tags in a different category) or **Steps 3–4** (for tags in the same category).

Note: The patches shown in the Patch Browser are based on both the currently selected tags and the text in the **Search** field in VIP (above its own Patch Browser). If you think some patches are missing from the Patch Browser, make sure that (1) VIP’s **Search** field is empty and (2) the correct tags are selected.

To deselect all tags in the currently shown category, use the **Cursor Buttons** to select **X Category** (in the lower-left corner of the display), and then press the **Data Dial**.

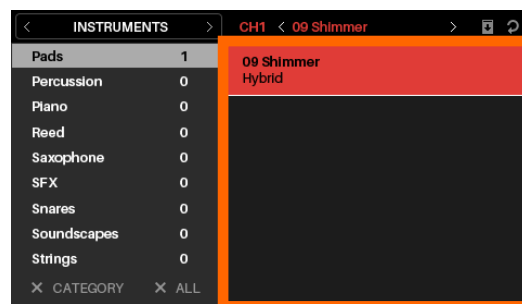
To deselect all tags, use the **Cursor Buttons** to select **X All** (in the lower-left corner of the display), and then press the **Data Dial**.

Loading Patches

Browser Mode also lets you load a patch using the Patch Browser (the right half of the display), which will show all available patches or multis currently in VIP's Patch Browser.

To load a patch:

1. Use the **Cursor Buttons** to select the Patch Browser (the list of patches in the right half of the display).
2. Turn the **Data Dial** to scroll through the list.
3. Press the **Data Dial** to load a patch. The loaded patch will be highlighted.



Note: The patches shown in the Patch Browser are based on both the currently selected tags and the text in the **Search** field in VIP (above its own Patch Browser). If you think some patches are missing from the Patch Browser, make sure that (1) VIP's **Search** field is empty and (2) the correct tags are selected.

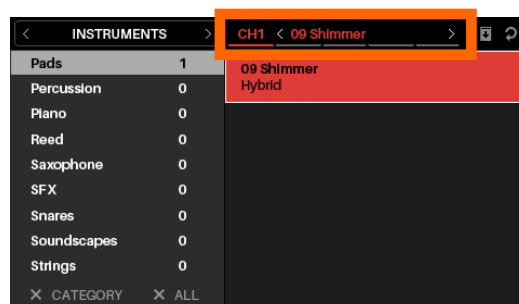
Loading Multi Slots

Browser Mode also lets you load different patches to channels or insert slots in a multi. When you have selected a multi channel, you can then use Browser Mode to select a patch and then load it to that multi channel or insert slot.

Learn more about how multis work in the [Multi Mode](#) chapter.

To load a patch to a multi channel:

1. Use the **Cursors** to move to the **Channel** tab in the upper-right corner (**CH#**). The number indicates the currently selected channel of the multi.
2. Turn the **Data Dial** to select the desired channel (**CH1–CH8**) or insert slot and then press the **Data Dial**.
3. Use the **Data Dial** and **Cursors** to select and load a patch (described [earlier](#)). That patch will then be loaded to the channel or insert slot of the multi. Repeat these steps to load patches to other multi channels or insert slots.



Global Mode

Global Mode lets you set parameters and make changes to CTRL49's general ("global") settings that are not specific to a preset.

To navigate this mode:

1. Press the **Global button** to enter Global Mode.
2. Use the **Page Left/Right** buttons to view each page of settings.
3. Use the **Cursors** to select the setting you want to edit.
4. Use the **Data Dial** to change a value or setting.

Important: To retain your new settings for future sessions, save them. To do this, use the **Page Right** button to move to the right-most page, select **Save Global Settings**, and press the **Data Dial**. Without saving, the settings will return to their default settings once you power off your CTRL49.

GLOBAL 1	
Common Channel	A1
Note Display Type	Name
Screen Contrast	10
Transport Format	MIDI
Octave	0
Trans	0

Available Global Settings

Below is a list of available global parameters.

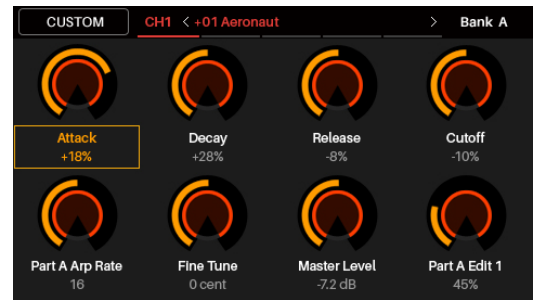
Common Channel	CTRL49 will send its messages over this MIDI channel. This is the same as the MIDI Ch setting in Main Mode or Setup Mode. You can select any one of Channels A1–16 or B1–16 . Channels A1–16 are for USB MIDI; Channels B1–16 are for the 5-pin MIDI Out .
Note Display Type	This determines whether CTRL49's display will show notes as a Name (e.g., C1 , F#2 , etc.) or a Number (e.g., 36 , 66 , etc.).
Screen Contrast	This determines the brightness of CTRL49's display. The available range is 1–10 .
Transport Format	This determines what type of transport control command CTRL49's transport buttons (Rewind , Fast-Forward , Stop , Play , and Rec) send. These can be set to send MIDI (MIDI Start/Stop), CC (pre-assigned MIDI CC values), MMC (MIDI Machine Control), and MMC/MIDI . The PTEX setting is for use with Avid® Pro Tools® Express only. When set to DAW Fader , the transport buttons will match the message format that the Faders are currently set to (Mackie Control® or HUI®).
Octave	CTRL49's keyboard will be offset by this many octaves. This is the same as changing the Oct setting in Main Mode or Setup Mode or using the Octave Down/Up buttons. The available range is -3 to +4 . 0 indicates the center (no offset).

Transpose	CTRL49's keyboard will be transposed by this many semitones. This is the same as the Trans setting in Main Mode or Setup Mode. The available range is -36 to +36 . 0 indicates the center (no transposition).
Keybed Curve	This is the velocity curve of CTRL49's keyboard . The available settings are Linear , Exp1 (exponential), and Exp2 (exponential).
Keybed Sensitivity	This is the overall velocity sensitivity of CTRL49's keyboard . The available range is 1–10 . At 1 , it would take a lot of force to generate the maximum velocity value of 127. At 10 , it is fairly easy to generate a maximum-velocity note.
Pad Threshold	This is the velocity threshold to trigger CTRL49's pads . This setting can help prevent false triggering or make it easier to trigger the pads. The available range is 0–15 .
Pad Curve	This is the velocity curve of CTRL49's pads . The available settings are Linear , Exp1 (exponential), Exp2 (exponential), Log1 (logarithmic), and Log2 (logarithmic).
Pad Sensitivity	This is the overall velocity sensitivity of CTRL49's pads . The available range is 1–10 . At 1 , it would take a lot of force to generate the maximum velocity value of 127. At 10 , it is fairly easy to generate a maximum-velocity note.
Internal Tempo	This is the global tempo in beats per minute (BPM). When CTRL49 is using its internal MIDI clock (see Clock Source below), this setting also determines the speed of the Note Repeat (Roll) feature and Arpeggiator. The available range is 30–300 BPM.
Tap Average	This is the number of times you would need to press Tap Tempo for CTRL49 to detect and enter a new tempo. The available range is 2–4 .
Tempo LED	When CTRL49 is using its internal MIDI clock (see Clock Source below), the Tap Tempo light will flash in time with the current tempo setting. You can turn this feature On or Off .
Clock Source	This determines whether CTRL49 uses its Internal MIDI clock or refers to an External clock (e.g., from a DAW).
Save Global Settings	If this setting is selected and its field says Push to save , you can press the Data Dial to store your global settings. Once the field reads No changes , the global settings are stored in CTRL49's internal memory.
Send Program	If this setting is selected, you can press the Data Dial to send all of CTRL49's current controller settings (encoder positions, switch states, etc.) to your computer connected to the USB Port or to an external MIDI device connected to the MIDI Out .
Firmware Version	This is CTRL49's current firmware version.
Boot ROM	This is CTRL49's current read-only memory version.
Factory Reset	If this setting is selected, you can press the Data Dial to restore CTRL49's factory/default settings. Your CTRL49 will immediately power off and on again with restored default global settings.

Control Mode

Control Mode shows you the current settings of CTRL49's controls in VIP. You can access this mode only when using VIP.

Orange/yellow controls are assigned to parameters in VIP. Green/aqua controls are assigned to MIDI CC messages, which are sent to your DAW.



To navigate this mode:

1. Press the **Control button** to enter Control Mode.
2. Press the **Control button** again to view each set of controls (**encoders, switches, and pads**).
3. Use the **Page Left/Right** buttons to view each bank of that control type.
4. Use the **Cursors** to select a control. Alternatively, turn or press a control to select it directly.

When in Control Mode, you can also press the **Data Dial** to enter Control Edit Mode.

Note: You can use [Control Edit Mode](#) to assign some knobs to **MIDI CC** messages instead of VST parameters (**VST Param**). This lets you control your plugin *and* your DAW in the same Control Mode page.

Although Control Mode is preassigned to control VIP (orange/yellow controls), it's important to understand that you can edit these assignments so that you can control both VIP (with orange/yellow controls) **and** your DAW (with green/aqua controls) in Control Mode. In contrast, MIDI Mode lets you control your DAW only.

You could therefore configure Control Mode in any of the following ways:

- to control VIP only (the **display** will show only orange/yellow controls)
- to control both VIP and your DAW (the **display** will show a combination of orange/yellow and green/aqua controls)
- to control your DAW only (the **display** will show only green/aqua controls; effectively, this would act as an additional MIDI Mode)

To learn how to edit your control assignments and parameters, see [Control Edit Mode](#).



See the following sections to learn more about using Control Mode.

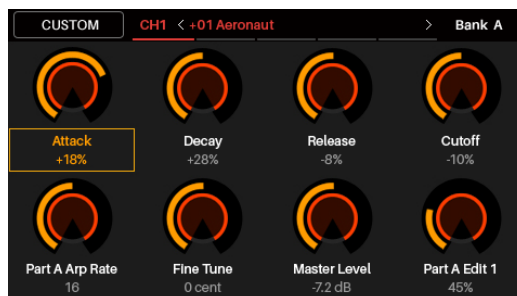
Selecting Controls

In Control Mode, you can select a control **(A)** to view its settings or **(B)** to edit it in Control Edit Mode.

To select a control:

1. Select the type of control by pressing the **Control button**. Each time you press it, the display will show the next type of control: **encoders**, **switches**, and **pads**.
2. Use the **Page Left/Right** buttons to select the desired bank of that control type. For pads, you can alternatively use the **Pad Bank** buttons.
3. To select the desired control, do either of the following:
 - Turn the desired **encoder** or press the desired **switch** or **pad**. (The control will send its MIDI message when you do this.)
 - Use the **Cursors** to select the desired encoder, switch, or pad in the display. (Use this option if you do not want the control to send its MIDI message.)
4. To adjust the value or change the state of a control, simply turn the **encoder** or press the **switch** or **pad**. You can do this in Control Mode (or Control Edit Mode) or Main Mode.

To edit the selected control's parameters, press the **Data Dial**. See [Control Edit Mode](#) to learn more about editing its parameters.



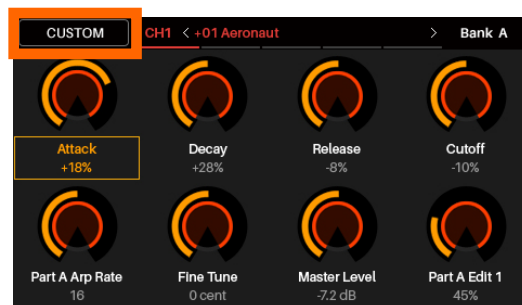
Adjusting Controls

To adjust the value or change the state of a control, simply turn the **encoder** or press the **switch** or **pad**. You can do this in Control Mode (or Control Edit Mode) or Main Mode.

Custom Control Mode

To create your own custom control layout, use the Custom Control Mode.

1. Use the **Up Cursor** to select Custom in the upper-left corner.
2. Press the **Data Dial**.
3. You can now use Control Edit Mode (see [below](#)) to assign the encoders and switches to any available parameter in any patch in your current multi or any MIDI CC. This means that you can control parameters for different plugins at the same time—you don't have to keep switching between multi channels to adjust each one's parameters.
4. To revert back to Plugin Control Mode, press the **Custom** button in the upper left corner once again.

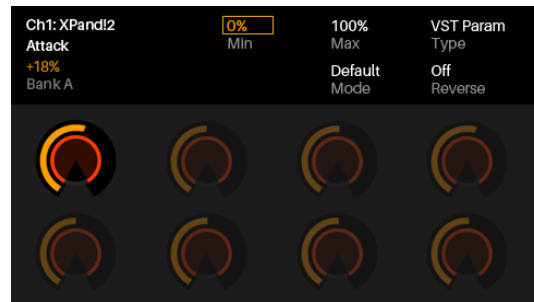


Control Edit Mode

Control Edit Mode lets you edit the parameters of your controls (minimum values, maximum values, CC or note numbers, etc.) *for the current patch* in VIP. You can access this mode only when using VIP.

Orange/yellow controls are assigned to parameters in VIP. Green/aqua controls are assigned to MIDI CC messages, which are sent to your DAW.

Because VIP lets you control multiple patches, make sure you have selected the one you want before making adjustments in this mode.



To navigate this mode:

1. From Control Mode, press the **Data Dial** to enter Control Edit Mode.
2. Press the **Control button** to view each set of controls (**encoders**, **switches**, and **pads**).

Note: Use the **Page Left/Right** buttons to view each bank of that control type.

3. To edit a specific control, turn or press the **encoder**, **switch**, or **pad** you would like to edit while viewing that control's group. For example, press Pad 3 while viewing the pads page to edit the parameters of Pad 3.
4. Use the **Cursors** to select the parameter you want to edit. Alternatively, turn or press a control to select it directly.
5. Turn the **Data Dial** to change a value or setting.
6. Press the **Data Dial** to save your changes and return to the normal Control Mode (described [above](#)).

Important: To edit parameters for the keybed, enter Global Mode instead.

See the following sections to learn more about using Control Edit Mode.

Selecting Controls

You can select a control to edit in one of two ways:

- Select it in Control Mode as described [earlier](#), and then press the **Data Dial**. The display will immediately show the control and its parameters.
- Simply turn the **encoder** or press the **switch** or **pad**. The display will immediately show the control and its parameters. Use the **Page Left/Right** buttons at any time to select that control in another bank.

Editing Control Parameters

To edit a control's parameters, use the **Cursors** to select the desired parameter, and then turn the **Data Dial** to change its value or setting. The new value or setting will take effect immediately; you do not need to confirm your choice or exit Control Edit Mode.

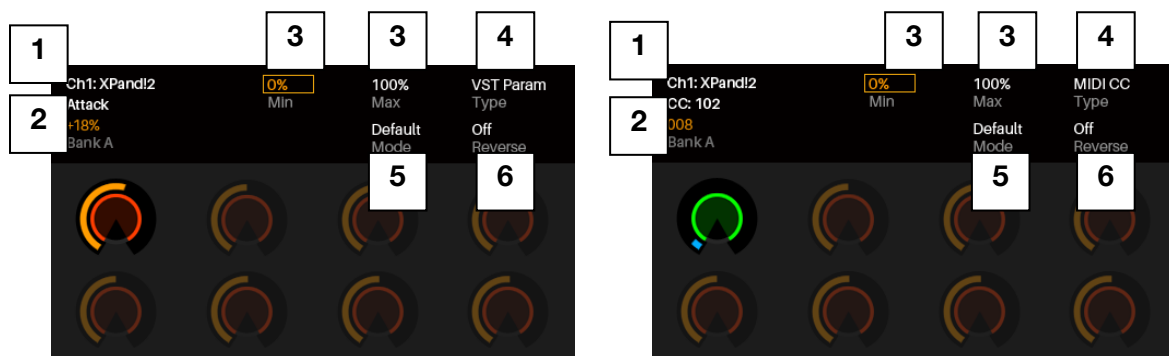
You can continue to edit other parameters for this control, or you can select another control to edit its parameters instead.

To exit Control Edit Mode and return to the normal Control Mode, press the **Data Dial**.

Available Control Parameters

Below is a list of available parameters for each type of control.

Encoders



1. **Channel/Slot** This determines what channel or effects slot of a multi you are viewing. You can also use this to select what patch in the multi the encoder controls when making a Custom layout (see Custom Control Mode above)
2. **Parameter or CC** When **Type** is set to **VST Param**, this is the parameter for a VST plugin in VIP that is controlled by the encoder. When **Type** is set to **MIDI CC**, this is the MIDI CC number for a parameter in your DAW that the encoder controls.
3. **Min / Max** These determine the lowest (**Min**) and highest (**Max**) values. The available range is **0%–100%**.
4. **Type** This determines whether the encoder controls a parameter for a plugin in VIP (**VST Param**; the encoders will be orange/yellow) or sends a **MIDI CC** message to your DAW (the encoders will be green/aqua).
5. **Mode** This determines whether the encoder's operation is normal (**Default**) or **Bipolar**:
 - **Default:** The encoder's minimum position corresponds to **0**.
 - **Bipolar:** The encoder's 12 o'clock position corresponds to **0**, while turning it clockwise from that position will set the parameter to positive values, and turning it counterclockwise will set it to negative values.

Important: These **Mode** operations will be reversed if **Reverse** is set to **On**.
6. **Reverse** This determines whether the encoder's polarity is normal (**Off**) or inverted (**On**).

Switches

Channel/Slot	This determines what channel or effects slot of a multi you are viewing. You can also use this to select what patch in the multi the switch controls when making a Custom layout (see Custom Control Mode above)
Parameter or CC	When Type is set to VST Param , this is the parameter for a plugin in VIP that is controlled by the switch. When Type is set to MIDI CC , this is the MIDI CC number for a parameter in your DAW that the switch controls.
Min / Max	These determine the lowest (Min) and highest (Max) values. The available range is 0%–100% .
Type	This determines whether the switch controls a parameter for a plugin in VIP (VST Param) or sends a MIDI CC message to your DAW.
Steps	When Mode is set to Step , this determines the total number of steps. The available range is 2–200 .
Mode	<p>This determines whether the switch's operation is Toggle, Momentary, or Step:</p> <ul style="list-style-type: none"> • Toggle: Each time you press the switch it will turn on or off and remain in that state until you press it again. • Momentary: The switch will be on for as long as you are holding it down. It will turn off when you release it. • Step: The full range of the switch's parameter (minimum value to maximum value) will be divided into a number of "steps." Each time you press the switch, the value will increase by one step. Once it's at the maximum value, press the switch once more to reset it to the minimum value. <p>For example, if the parameter's range is 0% to 100% and the range is divided into 20 steps, pressing the switch each time will increase the value by 5% (Step 1/20). When the value is at 100% (Step 20/20), pressing the switch once will return it to 0% (Step 0/20).</p> <p>Important: These Mode operations will be reversed if Reverse is set to On.</p>
Reverse	This determines whether the switch's polarity is normal (Off) or inverted (On).

Pads

Important:

In VIP, the pads' parameters are global. In other words, the pads' MIDI note and channel assignments are not associated with a specific plugin or patch.

The pads' colors will change depending on what bank is currently selected.

Transp	The pad will be transposed by this many semitones up or down. The available range is -36 to +36 . 0 indicates the center (no transposition).
MIDI Ch	This is the MIDI channel over which the pad will send its MIDI note when you press it. You can select any one of Channels 1–16 .

MIDI Mode

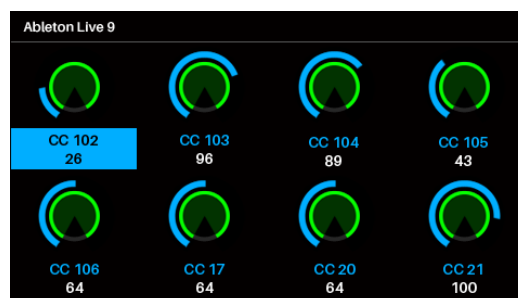
MIDI Mode shows you the current settings of CTRL49's controls when used with your DAW.

To navigate this mode:

1. Press the **MIDI button** to enter MIDI mode.
2. Press the **MIDI button** again to view each set of controls (**encoders**, **switches**, and **pads**).

Note: When viewing the **pads**, use the **Page Left/Right** buttons to view each pad bank.

3. Use the **Cursors** to select a control. Alternatively, turn or press a control to select it directly.
4. Press the **Data Dial** to enter MIDI Edit Mode.



See the following sections to learn more about using MIDI Mode.

Selecting Controls

In MIDI Mode, you can select a control **(A)** to view its settings or **(B)** to edit it in MIDI Edit Mode.

To select a control:

1. Select the type of control by pressing the **MIDI button**. Each time you press it, the display will show the next type of control: **encoders**, **switches**, and **pads**.
2. If you are viewing the pads, use the **Page Left/Right** buttons or **Pad Bank** buttons to select the desired bank.
3. To select the desired control, do either of the following:
 - Turn the desired **encoder** or press the desired **switch** or **pad**. (The control will send its MIDI message when you do this.)
 - Use the **Cursors** to select the desired encoder, switch, or pad in the display. (Use this option if you do not want the control to send its MIDI message.)

To adjust the value or change the state of a control, simply turn the **encoder** or press the **switch** or **pad**. If you're using VIP, you can do this in MIDI Mode (or MIDI Edit Mode) or Setup Mode. If you're not using VIP, you can do this in any mode.

To edit the selected control's parameters, press the **Data Dial**. See [MIDI Edit Mode](#) to learn more about editing its parameters.

Adjusting Controls

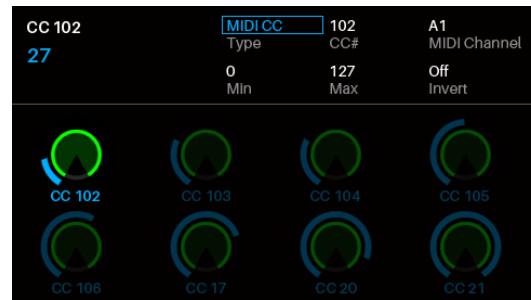
To adjust the value or change the state of a control, simply turn the **encoder** or press the **switch** or **pad**. If you're using VIP, you can do this in MIDI Mode (or MIDI Edit Mode) or Setup Mode. If you're not using VIP, you can do this in any mode.

MIDI Edit Mode

MIDI Edit Mode lets you edit the parameters of your controls (minimum values, maximum values, CC or note numbers, etc.) when used with your DAW.

To navigate this mode:

1. From MIDI Mode, press the **Data Dial** to enter MIDI Edit Mode.
2. Press the **MIDI button** again to view each set of controls (**encoders**, **switches**, **pads**, **footswitch**, **expression pedal**, **modulation wheel**, **pitch-bend wheel**, and **faders**).



Note: When viewing the **pads**, use the **Page Left/Right** buttons to view each pad bank.

3. To edit a specific control, turn or press the **encoder**, **switch**, or **pad** you would like to edit while viewing that control's group. For example, press Pad 3 while viewing the pads page to edit the parameters of Pad 3.
4. Use the **Cursors** to select the parameter you want to edit. Alternatively, turn or press a control to select it directly.
5. Turn the **Data Dial** to change a value or setting.
6. Press the **Data Dial** when viewing an **encoder**, **switch**, or **pad** page to save your changes and return to the normal MIDI Mode (described [above](#)).

Important: To edit parameters for the keybed, enter **Global Mode** instead.

See the following sections to learn more about using MIDI Edit Mode.

Selecting Controls

You can select a control to edit in a few different ways:

- **To edit an encoder, switch, or pad**, select it in MIDI Mode as described [earlier](#), and then press the **Data Dial**. The display will immediately show the control and its parameters.
If you are already editing an **encoder**, **switch**, or **pad**, and want to edit another control of the same type, simply turn or press it. The display will immediately show the control and its parameters. For pads, use the **Page Left/Right** buttons or **Pad Bank** buttons at any time to select another bank.
- **To edit the footswitch, expression pedal, modulation wheel, pitch-bend wheel, or DAW settings**, make sure you are already in MIDI Edit Mode, and then press **MIDI button** again to cycle through all available controls. These additional controls will appear in the display after the **pads**.

Editing Control Parameters

To edit a control's parameters, use the **Cursors** to select the desired parameter, and then turn the **Data Dial** to change its value or setting. The new value or setting will take effect immediately; you do not need to confirm your choice or exit MIDI Edit Mode.

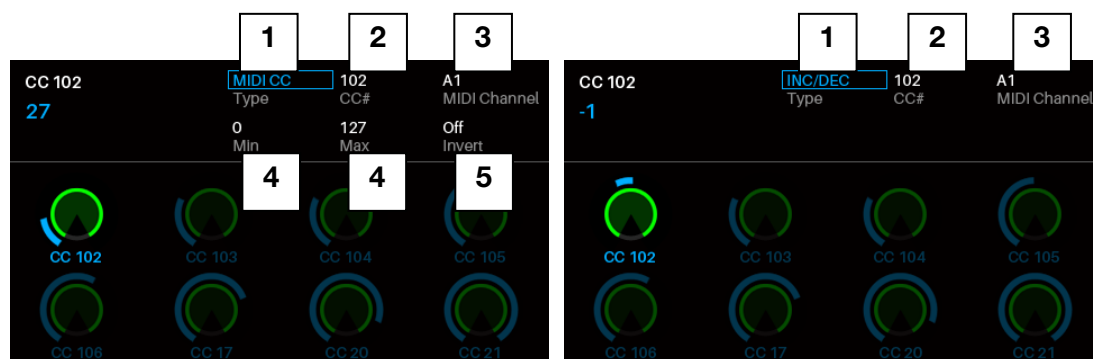
You can continue to edit other parameters for this control, or you can select another control to edit its parameters instead.

To exit MIDI Edit Mode and return to the normal MIDI Mode, press the **Data Dial**.

Available Control Parameters

Below is a list of available parameters for each type of control.

Encoders



1. **Type** This determines whether the encoder sends a **MIDI CC** message or an increment/decrement message (**Inc/Dec**).
2. **CC#** This is the MIDI CC number that the encoder controls. The available range is **0–127**.
3. **MIDI Channel** This is the MIDI channel over which the encoder will send its MIDI message when you turn it. You can select the Common Channel (**Common:##**) or any one of Channels **A1–16** or **B1–16**.
4. **Min / Max** When **Type** is set to **MIDI CC**, these determine the lowest (**Min**) and highest (**Max**) values. The available range is **0–127**.
5. **Invert** When **Type** is set to **MIDI CC**, this determines whether the encoder's polarity is normal (**Off**) or inverted (**On**).

Switches

Type	This determines whether the switch sends a MIDI CC message, Program Change message (Program Chn), or Program Bank message.
CC#	When Type is set to CC , this is the MIDI CC number that the switch controls. The available range is 0–127 .
Program	When Type is set to Program Chn or Program Bank , this is the Program number that the switch sends.
MIDI Channel	This is the MIDI channel over which the switch will send its MIDI message when you press it. You can select the Common Channel (Common:##) or any one of Channels A1–16 or B1–16 .
Mode	<p>When Type is set to CC, this determines whether the switch's operation is Toggle or Momentary:</p> <ul style="list-style-type: none"> • Toggle: Each time you press the switch, it will turn on or off and remain in that state until you press it again. • Momentary: The switch will be on for as long as you are holding it down. It will turn off when you release it. This operation will be reversed if Invert is set to On.
Invert	When Type is set to CC and Mode is set to Momentary , this determines whether the switch's polarity is normal (Off) or inverted (On).
MSB / LSB	When Type is set to Program Bank , these determine the Most Significant Bit (MSB) and Least Significant Bit (LSB) messages. The available range is 0–127 .

Pads

Important: Remember that you can use the **Page Left/Right** buttons or the **Pad Bank** buttons to select the desired bank, which is shown in the upper-left corner of the display.

Note	<p>This is the MIDI note that the pad will send when you press it.</p> <p>Tip: You can set whether this appears as a Name (e.g., C1, F#2, etc.) or a Number (e.g., 36, 66, etc.) in Global Mode.</p>
MIDI Channel	<p>This is the MIDI channel over which the pad will send its MIDI note when you press it. You can select the Common Channel (Common:##) or any one of Channels A1–16 or B1–16.</p>
Aftertouch	<p>If Mode is set to Momentary, this is the type of aftertouch messages the pad will send after the initial press (if you hold it down).</p> <ul style="list-style-type: none"> • Off: The pad will not send aftertouch messages. • Channel Aftertouch (Chn): The pad will send channel pressure messages. • Poly Aftertouch: The pad will send key aftertouch messages.
Mode	<p>This determines whether the pad's operation is Toggle or Momentary:</p> <ul style="list-style-type: none"> • Toggle: Each time you press the pad, it will turn on or off and remain in that state until you press it again. • Momentary: The pad will be on for as long as you are holding it down. It will turn off when you release it.
On Color / Off Color	<p>These determine each pad's color when pressed/on and when not pressed/off.</p> <p>The available colors for each setting are: Off (no light), Red, Orange, Amber, Yellow, Green, Green/Blue, Aqua, Light Blue, Blue, Purple, Pink, Hot Pink, LtPurple (Light Purple), LtGreen (Light Green), LtPink (Light Pink), and Grey. You can press and release the pads while selecting your colors to test how they look.</p> <p>Tip: Select contrasting colors for a pad's on and off states to easily see your presses. You could also select different sets of colors for each pad bank to easily determine which bank is selected.</p>

Footswitch

Type	This is the type of message that the footswitch will send when you press it. The footswitch can send a Sustain message, send a MIDI CC message, or act as a switch for Tap Tempo , Play , Record , Stop , Play/Stop , or Arp On/Off .
MIDI Channel	When Type is set to Sustain or MIDI CC , this is the MIDI channel over which the footswitch will send its MIDI note when you press it. You can select the Common Channel (Common:##) or any one of Channels A1–16 or B1–16 .
CC #	When Type is set to MIDI CC , this is the MIDI CC number that the footswitch controls. The available range is 0–127 .
Mode	When Type is set to Sustain or MIDI CC , this determines whether the footswitch's operation is Toggle or Momentary : <ul style="list-style-type: none"> • Toggle: Each time you press the footswitch, it will turn on or off and remain in that state until you press it again. • Momentary: The footswitch will be on for as long as you are holding it down. It will turn off when you release it.

Expression Pedal

MIDI Channel	This is the MIDI channel over which the expression pedal will send its MIDI message when you turn it. You can select the Common Channel (Common:##) or any one of Channels A1–16 or B1–16 .
CC#	When Type is set to MIDI CC , this is the MIDI CC number that the expression pedal controls. The available range is 0–127 .
Min / Max	When Type is set to MIDI CC , these determine the lowest (Min) and highest (Max) values. The available range is 0–127 .
Invert	When Type is set to MIDI CC , this determines whether the expression pedal's polarity is normal (Off) or inverted (On).

Modulation Wheel

MIDI Channel	This is the MIDI channel over which the modulation wheel will send its MIDI message when you turn it. You can select the Common Channel (Common:##) or any one of Channels A1–16 or B1–16 .
CC#	When Type is set to MIDI CC , this is the MIDI CC number that the modulation wheel controls. The available range is 0–127 .
Min / Max	When Type is set to MIDI CC , these determine the lowest (Min) and highest (Max) values. The available range is 0–127 .
Invert	When Type is set to MIDI CC , this determines whether the modulation wheel's polarity is normal (Off) or inverted (On).

Pitch Wheel

MIDI Channel	This is the MIDI channel over which the pitch-bend wheel will send its MIDI message when you turn it. You can select the Common Channel (Common:##) or any one of Channels A1–16 or B1–16 .
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DAW

DAW

This is the preset that corresponds to your DAW for setting up Mackie Control®/HUI® communication with the faders and fader buttons. You can select **None**, **PT** (ProTools), **Logic**, **Cubase**, **Bitwig**, **Ableton**, **Reaper**, **Studio One**, **Reason**, **Mackie Ctrl**, or **Mackie HUI**.

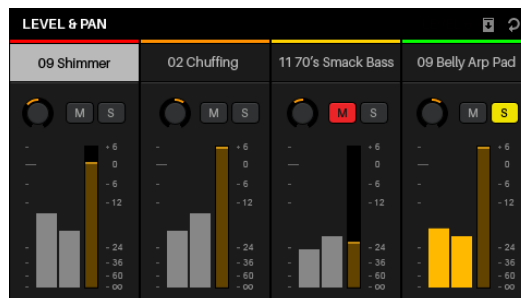
Each preset uses LED colors that are set match the look of functions in the corresponding DAW. If you do not like the color scheme we've chosen for your DAW, you can use the basic **Mackie Ctrl** preset for sending Mackie Control® messages, or the **Mackie HUI** preset for sending Mackie HUI® messages. See the table below for details on all the presets.

Preset	Message Format	Record LED	Solo LED	Mute LED	Track Select LED
None	Mackie HUI®	Red	Yellow	Blue	Green
PT	Mackie HUI®	Red	Yellow	Orange	Green
Logic	Mackie Control®	Red	Dark Yellow	Turquoise	White
Cubase	Mackie Control®	Red	Pale Red	Dark Yellow	White
Bitwig	Mackie Control®	Red	Yellow	Orange	White
Ableton	Mackie Control®	Red	Blue	Amber	White
Reaper	Mackie Control®	Red	Yellow	Pale Red	White
Studio One	Mackie Control®	Pale Red	Yellow	Red	White
Reason	Mackie Control®	Red	Green	Orange	White
Mackie Ctrl	Mackie Control®	Red	Yellow	Blue	Green
Mackie HUI	Mackie HUI®	Red	Yellow	Blue	Green

Multi Mode

About Multis

Multi Mode lets you use your CTRL49 to control a multi in VIP. A **multi** is collection of 2–8 patches (from 1 or more plugins). Each patch is assigned to a channel, and each channel has an assigned color. When using a multi, you can simultaneously control volume, panning, solos, and mutes for each channel in a mixer-style interface. You can also access sends and inserts from this mode. You can do this only when using VIP.



To navigate this mode:

1. Press the **Multi button** to enter Multi Mode.
2. Use the **Page Left/Right** buttons to move between each view of 4 channels.
3. Use the **Cursors** to select a channel.
4. Press the **Multi button** again to switch between the pages for **Level & Pan**, **Sends**, and **Inserts**.
5. Press the **Data Dial** or the **Split button** to enter Split Mode.

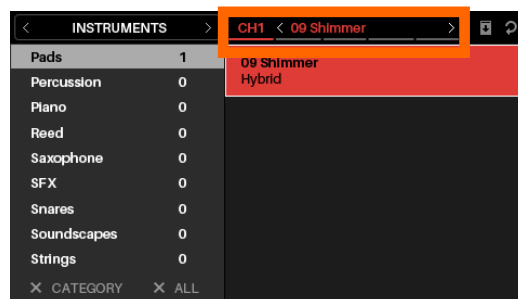
See the following sections to learn more about using Multi Mode.

Creating and Editing Multis

To create and load patches to a multi:

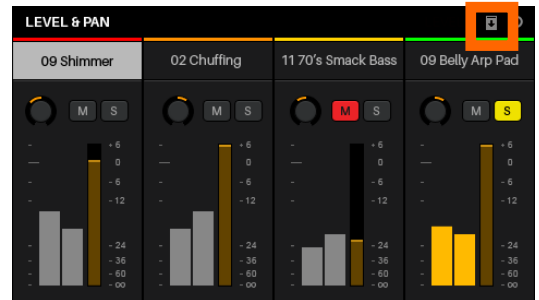
Note: You need to exit Multi Mode to load patches to a multi.

1. Press the **Browse button** to enter Browser Mode.
2. Use the **Cursors** to move to the **Channel** tab at the top of the page (**CH#**). The number indicates the currently selected slot of the multi.
3. Turn the **Data Dial** to select the desired channel (**CH1–CH8**) or Insert slot (for channels 1–8, sends B1–B4, and Master channel) and then press the **Data Dial**.
4. Use the **Data Dial** and **Cursors** as you would in Browser Mode (described in [Browser Mode > Loading Patches](#)) to select and load a patch. That patch will then be loaded to the channel of the multi. Repeat Steps 2–4 to add more patches.
5. Press the **Multi button** to return to Multi Mode.



To save patches to a multi:

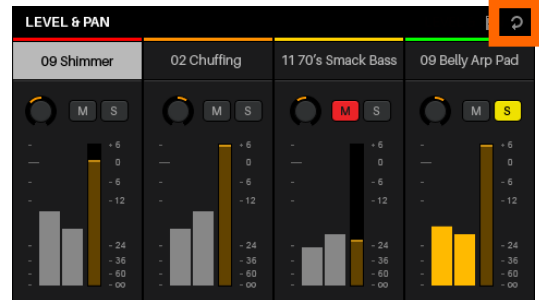
1. In Multi Mode, use the **Cursors** to select the **Save Multi** icon in the upper-right corner.
2. Press the **Data Dial** to save the patches to the multi. It will be named automatically. You can rename your multi in the VIP window.



To clear patches from a multi:

1. In Multi Mode, use the **Cursors** to select the **Clear Multi** icon in the upper-right corner.
2. Press the **Data Dial** to clear the multi. All instruments and effects will be removed.

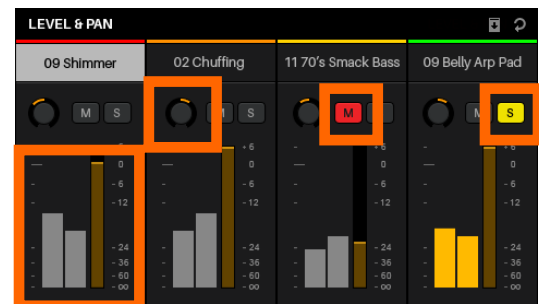
To clear only one channel at a time, use the **Clear Slot** parameter in **Split Mode** (described [below](#)).



Adjusting Multi Channels

Use the following CTRL49 controls to adjust the volume, panning, solos, and mutes for each channel in a multi. The 8 channels correspond to the 8 **encoders**, **switches**, and **pads**.

- **To solo a channel**, press its **switch**. The **S** button will light up in the display and its pad will flash. Any unsoloed channels' pad lights will turn off.
- **To mute a channel**, press its **pad**. The **M** button will light up in the display, and its pad light will turn off.
- **To adjust the volume of a channel**, turn its **encoder**. The meter will move in the display.
- **To adjust the panning of a channel**, press **Shift** and turn its **encoder**. The panning knob will move in the display.
- **To switch between each view of 4 channels**, use the **Page Left/Right** buttons. Note that you are always controlling **all 8 channels** in Multi Mode, regardless of which 4 channels you are viewing.



Important: You can still make normal Multi Mode adjustments to all 8 channels even while you are in Multi Edit Mode. Not all of the parameters will be shown in the **display**, but they are visible in VIP (and when you return to the normal Multi Mode).

Adjusting Bus Sends

1. Press the **Multi button** a second time to view the Sends page.
2. Use the **Up/Down Cursors** to select the desired bus row number (Bus 1–Bus 4).
3. Use the **Encoders** to adjust the level of the bus send.

Adjusting Inserts

1. Press the **Multi button** a third time to view the Inserts page.
2. Use the **Page Left/Right** buttons to switch between each view of 4 channels, as well as the bus Sends, and Master Channel.
3. Use the **Cursors** or the **Data Dial** to select the desired effect slot.
4. Press the **Browse button** or the **Data Dial** to enter Browser Mode. Effects plugins will already be selected.

Note: If an effect is already loaded to a slot, press the **Browse button** to enter Browser mode. Pressing the **Data Dial** will bypass the effect instead.

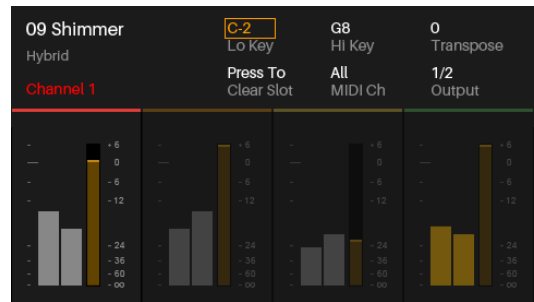
5. Use the **Data Dial** and **Cursors** as you would in Browser Mode (described in [Browser Mode > Loading Patches](#)) to select and load an effect. That patch will then be loaded to the effect slot of the channel. Repeat Steps 2–4 to add more effects.
6. Press **Multi** to return to Multi Mode.

Split Mode

Split Mode lets you edit the various settings of each slot when using CTRL49 (keyboard range, transposition, MIDI channel, and mute or solo status). You can access this mode only when using VIP.

To navigate this mode:

1. Press the **Split button** to enter Split Mode. Alternatively, press the **Data Dial** while in Multi Mode.
2. Press the **Split button** again to switch between the multi channels (1–8).
3. Use the **Cursors** to select the parameter you want to edit.
4. Use the **Data Dial** to change a value or setting.
5. Press the **Multi** mode button or **Data Dial** to return to the normal Multi Mode (described [earlier](#)).



You can also add patches to a channel while in Split Mode. Press the **Browse** button to open the Browser and use the **Data Dial** and **Cursors** as you would in Browser Mode (described in [Browser Mode > Loading Patches](#)) to select and load a patch. That patch will then be loaded to the channel of the multi.

See the following sections to learn more about using Split Mode.

Editing Multi Slot Parameters

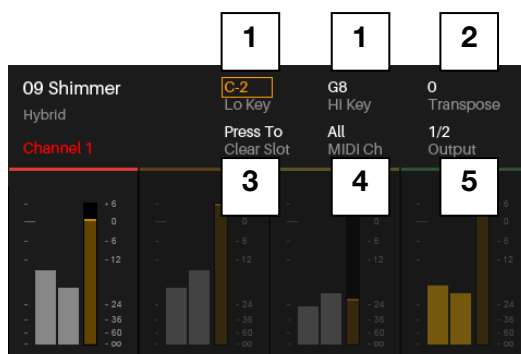
To edit a multi slot's parameters:

1. Press the **Split button** again to switch between the instrument channels (1–8) and select the one you would like to edit.
2. To edit a multi slot's parameters, use the **Cursors** to select the desired parameter, and then turn the **Data Dial** to change its value or setting. The new value or setting will take effect immediately; you do not need to confirm your choice or exit Split Mode.
3. To exit Split Mode and return to the normal Multi Mode, press the **Multi button** or **Data Dial**.

Important: You can still make normal Multi Mode adjustments to all 8 slots even while you are in Multi Edit Mode. Not all of the parameters will be shown in the **display**, but they are visible in VIP (and when you return to the normal Multi Mode).

Available Split Mode Parameters

Below is a list of available parameters for each multi slot.



1. **Lo Key / Hi Key** These fields indicate (respectively) the lowest and highest incoming MIDI notes that the slot will use to play its patch. The slot will ignore any incoming notes outside of this range.

Tip: This is also useful for playing multiple patches simultaneously. Set certain slots' regions so they overlap others, causing multiple patches to play at the same time, creating new sounds and tonalities. This also is useful for creating different regions on your CTRL49 to play specific patches only. For instance, you could assign 4 non-overlapping, 1-octave regions of the keyboard to play 4 different patches.
2. **Transpose** The multi slot will be transposed by this many semitones up or down. The available range is **-36** to **+36**. **0** indicates the center (no transposition). This is useful if you want to offset the pitches that are available to you on your CTRL49's pads.
3. **Press To Clear Slot** Press the **Data Dial** when this option is selected to clear all plugins and effects loaded to the slot.
4. **MIDI Ch** This is the MIDI channel over which the multi slot will send its MIDI message when you play its patch. You can select **All** channels or any one of Channels **1–16**.
5. **Output** This selects to which stereo pair of outputs the multi channel is routed. You can select **1/2**, **3/4**, **5/6**, **7/8**, **9/10**, **11/12**, **13/14**, or **15/16**. If a plugin uses more than two outputs, its additional outputs will be routed to the next-highest pairs.

Timing Functions

Overview

Between your VIP, your DAW, and/or an external MIDI device, your CTRL49 will be working within a setup that requires a MIDI clock source. Here are some things to keep in mind when (1) selecting the MIDI clock source and (2) adjusting/editing any timing-related settings in your setup.

Tempo

External MIDI Clock Source: To use your DAW or external MIDI device as your MIDI clock source, set CTRL49's **Clock Source** (in [Global Mode](#)) to **External**. Similarly, set the MIDI clock source in your DAW or external MIDI device to send its clock information out. CTRL49's Tap Tempo button will be disabled and its light will remain off when using an external clock source.

Internal MIDI Clock Source: To use CTRL49 as your MIDI clock source, set its **Clock Source** (in [Global Mode](#)) to **Internal**. Similarly, set your DAW and/or external MIDI device to receive clock information from CTRL49.

You can set CTRL49's internal tempo in either of the following ways:

- Tap the **Tap Tempo** button at the desired rate.
- Adjust the **Internal Tempo** setting in Global Mode.

The tempo of the MIDI clock source affects CTRL49's [Arpeggiator](#) and [Note Repeat \(Roll\)](#) features.

Tap Tempo

When CTRL49's **Clock Source** (in [Global Mode](#)) is set to **Internal**, its **Tap Tempo** button will flash at rate the current tempo. The button will be disabled and its light will remain off when CTRL49's **Clock Source** is set to **External**.

You can use Global Mode to customize the Tap Tempo button's operation. Use **Tap Average** to set the number of times you would need to press **Tap Tempo** for CTRL49 to detect and enter a new tempo. Use **Tempo LED** to turn the button's light **On** or **Off**.

You can also set a connected **footswitch** to act as the Tap Tempo button. See [MIDI Edit Mode](#) to learn how to do this.

Note: You can quickly access the [Global Mode](#) timing settings by holding **Shift** and pressing the **Tap Tempo** button. Use the **Cursors** to select the parameter you want to edit, and use the **Data Dial** to change the value or setting.

Time Division

CTRL49's time division setting determines how each beat is divided. The setting is a subdivision of the tempo: **1/4**, **1/4T**, **1/8**, **1/8T**, **1/16**, **1/16T**, **1/32**, and **1/32T** (T denotes a triplet-based time division). This feature works whether CTRL49's **Clock Source** is set to **Internal** or **External**.

You can set the time division by pressing **Time Division** and pressing one of the 8 **switches**. Alternatively, set the **Time Division** parameter in the configuration pages for the [Arpeggiator](#) or [Note Repeat \(Roll\)](#).

Transport Control

The five **Transport Control** buttons are dedicated buttons for sending conventional transport control commands: conventional transport control commands: **Rewind** (⏮), **Fast-Forward** (⏭), **Stop** (■), **Play** (▶), and **Record** (●). You can use the **Transport Format** setting (in [Global Mode](#)) to set these buttons to send **MIDI** (MIDI Start/Stop), **CC** (pre-assigned MIDI CC values), **MMC** (MIDI Machine Control), and **MMC/MIDI** SysEx.

The **PTEX** setting is for use with Avid® Pro Tools® Express only.

When set to **DAW Fader**, the transport buttons will match the message format that the **Faders** are currently set to (Mackie Control® or HUI®). See [MIDI Edit Mode](#) to learn how to do this.

Important: Configure the **Transport Format** in Global Mode so it communicates properly with your software.

Arpeggiator

CTRL49's Arpeggiator separates chords whose rate is based on the current tempo and time division settings. The Arpeggiator will function on notes being played on the **keyboard** only. You can sync the Arpeggiator to an internal or external MIDI clock source.

To edit the Arpeggiator's parameters, press and hold **Shift** and then press **Arp**. The Arpeggiator's parameters will appear in the **display**. Use the **Cursors** to select the parameter you want to edit, and use the **Data Dial** to change the value or setting.

Type	This is the type of arpeggio a played chord will produce when the Arpeggiator is on. There are over 100 unique arpeggios to choose from.
Range	This is the total range of the arpeggio in octaves. The available range is 0–3 . The direction depends on the Type .
Swing	This is the amount of swing used in the notes of the arpeggio. The available range is 50%–75% .
Time Div	<p>This is the Arpeggiator's speed shown as a division of the master tempo or external clock. The available options are 1/4, 1/4T, 1/8, 1/8T, 1/16, 1/16T, 1/32, and 1/32T. (T denotes a triplet-based time division.)</p> <p>Tip: Alternatively, press Time Division so it is lit, and then press one of the 8 switches to select the time division shown underneath each of them.</p>
Note Len	This is the length of the arpeggiated notes. The available range is 1%–50% of the current time division setting. (Depending on the currently loaded patch/patches, adjustments to this setting may not have an obvious effect.)

Note Repeat (Roll)

While CTRL49's Note Repeat feature is active, striking a **pad** and continuing to hold it causes its note to retrigger at a rate based on the current Tempo and Time Division settings. You can sync Note Repeat to an internal or external MIDI Clock source.

To edit Note Repeat's parameters, press and hold **Shift** and then press **Roll**. Use the **Cursors** to select the parameter you want to edit, and use the **Data Dial** to change the value or setting.

Swing	This is the amount of swing used in the repeated notes. The available range is 50%–75% .
Time Div	<p>This is the speed of the repeated notes shown as a division of the master tempo or external clock. The available options are 1/4, 1/4T, 1/8, 1/8T, 1/16, 1/16T, 1/32, and 1/32T. (T denotes a triplet-based time division.)</p> <p>Tip: Alternatively, press Time Division so it is lit, and then press one of the 8 switches to select the time division shown underneath each of them.</p>

Appendix

Technical Specifications

Keyboard	49 velocity- and pressure-sensitive keys 128 -note range with Octave Down/Up buttons Pitch-bend wheel Modulation wheel
Faders	9 Mackie Control®/HUI® faders
Encoders	8 360° assignable encoders 1 360° encoder with push function for display navigation
Pads	8 velocity- and pressure-sensitive pads, multicolor-backlit
Switches	33 function switches, single color-backlit 11 Mackie Control®/HUI® switches, multicolor-backlit 8 assignable switches, amber-backlit 4 directional cursor buttons, red-backlit
Display	3.75" x 2.125" (95.3 mm x 54 mm) full-color LCD
Connections	1 USB port 1 1/4" (6.35mm) TS sustain pedal/footswitch input 1 1/4" (6.35mm) TRS volume/expression pedal input 1 5-pin MIDI input 1 5-pin MIDI output 1 power adapter input 1 Kensington lock slot
Power	via 9V DC, 800 mA, center-positive (included)
Dimensions (width x depth x height)	32.04" x 12.36" x 4.08" 81.4 cm x 31.4 cm x 10.4 cm
Weight	13.22 lbs. 6.0 kg

Specifications are subject to change without notice.

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