Logic Pro X
Control Surfaces Support

For OS X

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Control surfaces overview

Control surfaces are hardware devices that feature a variety of controls, which can include faders, rotary knobs, buttons, and displays. Control surfaces typically allow you to select parameters for editing or to select particular tracks/channel strips or banks (of channel strips). Many also offer a Jog Wheel, which allows you to move the playhead precisely; transport buttons, such as Play, Rewind, and so on; and other controls.

Some simple control surfaces only provide (non-motorized) faders and knobs. More sophisticated units include motorized faders, rotary encoders, LED rings, and programmable displays. The additional feedback these control surfaces provide makes them easier to use—without having to refer to your computer screen to know what mode the device is in or what current parameter values are.

You can use hardware control surfaces to control and automate transport, mixing, recording, and other tasks in Logic Pro.

All Logic Pro Mixer controls, such as level and pan, can be adjusted onscreen—using your mouse and computer keyboard. This is not, however, an ideal method for precise real-time control. You can enhance your creative flow and achieve greater flexibility and precision by connecting a hardware control surface to your computer.

Control surfaces are ideal for creating a dynamic live (onstage) performance when used with a portable computer, MIDI keyboard, and audio and MIDI interfaces. In the studio, you can record control surface automation (even when Logic is not in record mode). Track automation appears in the Logic Tracks window and in the Piano Roll Editor.

When you move a fader on the control surface, the corresponding fader in the Logic Mixer moves with it. EQ or other parameters can be altered by turning rotary knobs on the control surface, with assigned parameters updating instantly in Logic.

Because communication between Logic and your control surface is bidirectional, adjustments to parameters onscreen are immediately reflected by the corresponding control on the control surface.

Note: When you use a supported control surface with Logic Pro, some controls are pre-mapped to common functions. You can map unassigned controls to other Logic Pro commands and functions (see Controller assignments overview on page 34).

Basic control surface setup 2

Control surface requirements

Regardless of the control surface being used, you first need to connect, add, and configure your device for use with Logic Pro. The setup procedures and preferences are common to all control surfaces.

To use one or more control surfaces with Logic Pro, you will need:

- An installed, authorized copy of Logic Pro
- *For USB- or FireWire-equipped devices:* An available USB or FireWire port. Ideally, this should be a direct USB or FireWire connection with the computer, rather than through a hub. Refer to the documentation provided by the manufacturer of your control surface.
- *For devices that are only equipped with MIDI ports:* A MIDI interface with free MIDI input and output ports for each device. For example, if you are using a MIDI interface with eight MIDI input ports and eight MIDI output ports—with one Mackie Control and one Mackie Control XT unit—you will need to use two MIDI interface MIDI In ports and two MIDI interface MIDI Out ports.
- An installed driver (if required by your control surface) that is supported by the operating system you are using on your computer

Important: Your MIDI interface must feature driver software that supports SysEx communication. Consult the documentation that shipped with your MIDI interface (or MIDI interface drivers).

The number of devices that can be used simultaneously depends on the number of free ports of the appropriate type (USB, FireWire, or other) available on your system. Using multiple control surfaces allows you to control more tracks and channels, effects, and other parameters simultaneously.

In a standard control surface configuration, you can use a single control surface or one accompanied by one or more expansion devices. You can also create control surface groups, as described in Create control surface groups on page 16.

Connect control surfaces

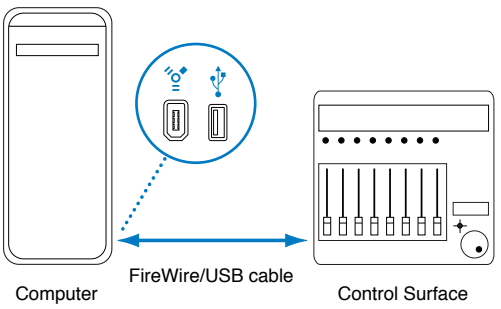
Logic Pro supports many control surfaces that connect to your computer using FireWire, USB, and other connection protocols. Be sure to check the type of connection that your device features and that it is supported by your computer. Before connecting the device, read the installation instructions included with it, and install the latest version of any appropriate firmware or driver software, if needed. For more information, refer to the documentation that came with the device.

Note: Some control surfaces allow you to connect footswitches or pedals as additional controllers. If your control surface features suitable connectors, you can connect optional footswitches to remotely control playback and other functions. This frees your hands for other controls and can also be helpful when using guitars or other instruments that require two-handed playing.

Connect a FireWire or USB control surface

1 Connect your FireWire or USB control surface directly to your computer.

FireWire and USB devices transmit and receive data through a single cable, if the device supports bidirectional communication. The diagram illustrates a typical setup using a FireWire or USB cable:



Important: It is recommended that you connect FireWire and USB devices directly to your computer, rather than through a hub. Daisy-chaining devices can result in errors and other problems, due to the amount of data transmitted in real time.

2 Once connected, press the power switch on your control surface.

When powered, the displays (such as an LCD, if your device has one) or LEDs are lit. Some LCDs display a welcome message, which includes the firmware version number. On most control surfaces with motorized faders, each fader slides to its top position, then back to its bottom or center position. This self-diagnostic initialization procedure indicates that your units are functioning correctly.

Note: Generally, you can turn on your computer either before or after you turn on the control surface. Some devices, however, may require the computer to be turned on before or after the device has initialized. Check the device documentation, and manufacturer website.

Connect a networked control surface

1 Connect your control surface to the network (LAN) ports of your Mac computer, using a standard (CAT5 or CAT6) networking cable.

Most devices connected in this way also incorporate audio I/O and digital audio converters, plus built-in MIDI ports, making the addition of these peripherals a simple, single cable (and driver) installation.

Important: It is recommended that such devices are directly connected to the computer, rather than through a network hub or switch.

2 Once connected, press the power switch on your control surface.

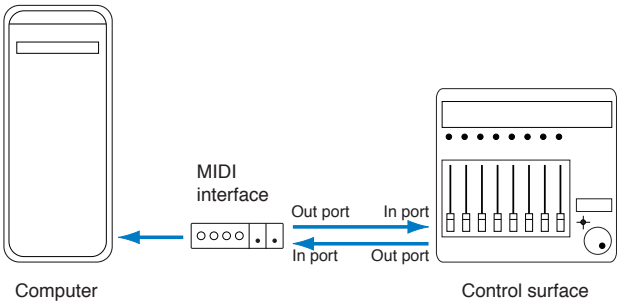
When powered, the displays (such as an LCD, if your device has one) or LEDs are lit. Some LCDs display a welcome message, which includes the firmware version number. On most control surfaces with motorized faders, each fader slides to its top position, then back to its bottom or center position. This self-diagnostic initialization procedure indicates that your units are functioning correctly.

Note: Generally, you can turn on your computer either before or after you turn on the control surface. Some devices, however, may require the computer to be turned on before or after the device has initialized. Check the device documentation, and manufacturer website.

Connect a MIDI control surface

1 Connect your MIDI control surface to a MIDI interface, and connect the MIDI interface to your computer.

MIDI interfaces are typically connected to your computer via the USB or FireWire connection protocols. MIDI uses separate ports for input and output, and you must connect both the MIDI input and output to use the device with Logic Pro. The diagram illustrates a typical setup using MIDI input and output:



Important: It is recommended that you do not daisy-chain other MIDI devices via MIDI through to the MIDI In or Out ports used by control surfaces. Daisy-chaining can result in errors and other problems due to the amount of data transmitted in real time.

2 Once connected, press the power switch on your control surface.

When powered, the displays (such as an LCD, if your device has one) or LEDs are lit. Some LCDs display a welcome message, which includes the firmware version number. On most control surfaces with motorized faders, each fader slides to its top position, then back to its bottom or center position. This self-diagnostic initialization procedure indicates that your units are functioning correctly.

Note: Generally, you can turn on your computer either before or after you turn on the control surface. Some devices, however, may require the computer to be turned on before or after the device has initialized. Check the device documentation, and manufacturer website.

Add a control surface to Logic Pro

Some control surfaces (such as the Mackie Control) are detected automatically when you open Logic Pro. You can add other devices that are not detected automatically using the Setup window. Installation is covered in the setup section for your particular device. Some devices may require different or additional steps, but in most cases you only need to select the name of the device you want to use with Logic Pro, then add it.

Add a control surface by scanning

1. To open the Control Surfaces Setup window, choose Logic Pro > Control Surfaces > Setup.
2. In the Setup window, choose New > Install, and then select the device from the list. You can select more than one model by Command-clicking multiple entries in the list. If you select more than one model, Logic Pro performs the operation for each model, in turn.

   Note: If you don't want to select the models to be scanned, you can choose New > Scan All in the Setup window: Logic Pro searches for all supported control surface units on all ports. This process may take a few minutes.
3. Click the Scan button. You can also press Enter, or double-click the device name to initiate the scan.

   Logic Pro scans your system for connected devices, and automatically installs (and connects to) those it finds.
4. When you finish, close the window.

Add a control surface manually

Some control surfaces don't support automatic scanning. Such devices must be added manually to your setup. When you add a device manually, you also need to assign the appropriate MIDI In and Out port parameters.

Note: It is preferable to install devices by scanning, whenever possible. Logic Pro is able to gather more information about devices through scanning than with manual installation.

1. To open the Control Surfaces Setup window, choose Logic Pro > Control Surfaces > Setup.
2. In the Setup window, choose New > Install, and select the device you want from the list.
3. Click the Add button.
4. Close the Install window when you finish.

   If another control surface of the selected type already exists in your setup, a warning dialog asks you to confirm the addition of the new device.

   You need to manually alter the MIDI In and Out port values (in the Device parameters of the Setup window) to match those of the connected unit.

   Note: You can reinitialize the support of all connected control surfaces by choosing Logic Pro > Control Surfaces > Rebuild Defaults.

Create control surface groups

If you have multiple control surface units in your system, you can define how they relate to each other by creating control surface groups. A control surface group consists of multiple devices that you combine to create a single, unified virtual control surface.

You can create up to 20 control surface groups. Each group can consist of any number of physical devices. The only limiting factor is the number of available ports.

You can independently determine the default behavior of each device in a group. For more information, see Device parameters on page 19.

Create a control surface group

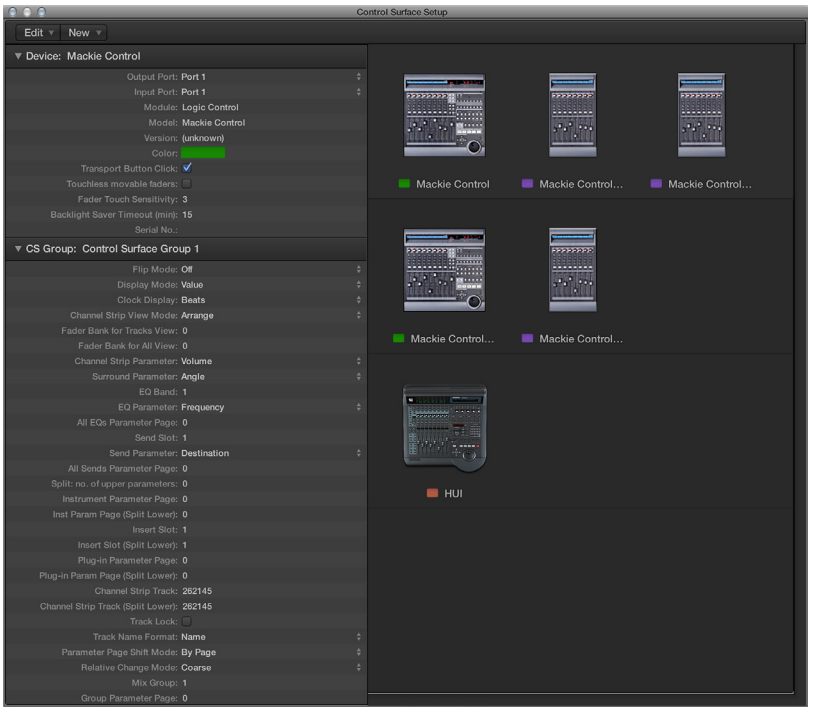
1. To open the Control Surfaces Setup window, choose Logic Pro > Control Surfaces > Setup.
2. In the Setup window, drag the icons of the control surfaces you want to group so that they form a single horizontal row.

The order of the icons from left to right defines the order in which tracks and parameters are arranged and displayed on the devices.

Use two control surfaces independently

1. To open the Control Surfaces Setup window, choose Logic Pro > Control Surfaces > Setup.
2. In the Setup window, arrange the icons for the control surfaces in separate rows—that is, one above the other.

Pictured below is a multiple group example with two Mackie Controls, three Mackie Control XTs, and one HUI:



The top row, consisting of the Mackie Control #1, Mackie Control XT #1, and Mackie Control XT #2, forms a single control surface group with 24 channels. Mackie Control #1 controls channels 1 to 8, XT #1 controls channels 9 to 16, and XT #2 handles channels 17 to 24.

In the second row, the Mackie Control #2 and Mackie Control XT #3 form a second control surface group, controlling instruments (on channels 1 to 8) and auxes (on channels 9 to 16).

In the third row, the HUI forms a single unit control surface group.

Each group has individual settings, such as Flip mode, Display mode, Plug-in Parameter Bank Offset, and others. This allows you to access, edit, and automate different sections of the Logic Pro Mixer.

In the example above, the three units in the top row could be used to control audio and MIDI channel strips. In the second row, Mackie Control #2 could be used to control software instrument channel strips 1 to 8, and XT #3 could be used to control aux channel strips 1 to 8. The HUI could be used to edit group definitions. The physical placement of units and the way you use them are completely flexible.

Note: In most situations, the placement of your control surface units in relation to each other should be the same onscreen as in the real world.

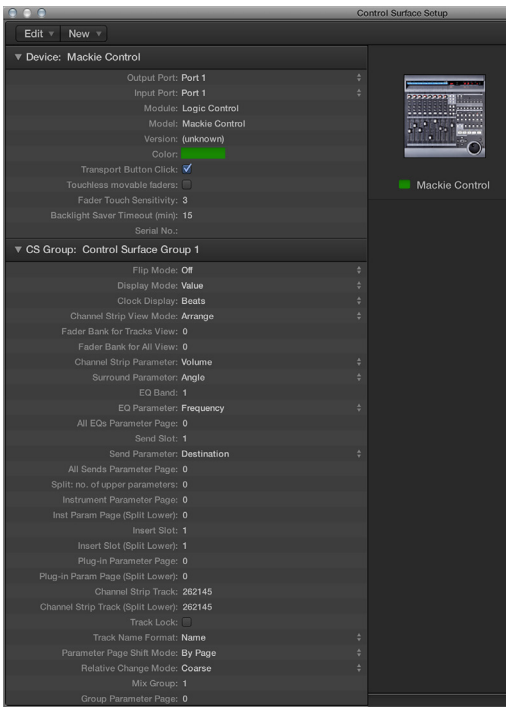
Once you have created a control surface group, you can configure it in the Setup window. For more information, see Control Surface Group parameters overview on page 20.

Control surface inspector

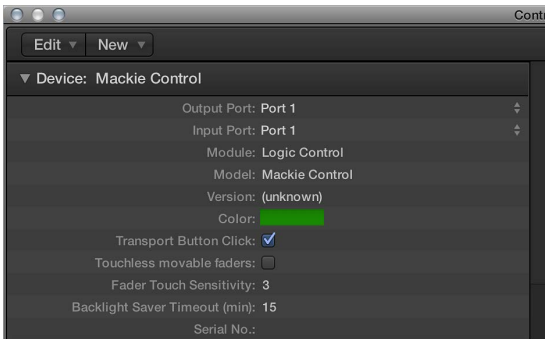
Control surface inspector overview

The inspector at the left side of the Control Surfaces Setup window contains two or three parameter areas: Device parameters, Special parameters, and Control Surface Group parameters. You can configure your control surface setup to meet your needs by editing these parameters.

Important: Any changes to settings (in the Setup window or from the device) are saved in a preferences file, named "com.apple.logic.pro.cs." It is found here: ~/Library/Containers/com.apple.logic10/Data/Library/Preferences/. This file is saved independently of the Logic Pro Preferences file.



Device parameters



Device parameters

- *Out Port pop-up menu:* Choose the MIDI output port from the pop-up menu.
- *Input pop-up menu:* Choose the MIDI input port from the pop-up menu.

  Each control surface must be connected to an independent MIDI In and Out port (or corresponding USB/FireWire port, designated as a MIDI port by the device driver). When the device is added, the automatic setup or scan procedure sets the appropriate MIDI input and output port settings for the device. If the MIDI port settings are incorrect, you can manually choose them from the Input and Out Port pop-up menus.
- *Module:* Shows the name of the control surface.
- *Model:* Shows the model name of the control surface.
- *Version:* Shows the firmware version for some control surfaces.
- *Color:* Click to select the color that indicates which tracks are being controlled by this control surface. Choose the color from the color picker that opens. In the Tracks window, the tracks controlled by this device are colored along the left edge of the track list when control surface bars are displayed.

Special parameters

Some control surfaces such as the Mackie Control allow you to define "special" parameters such as fader touch sensitivity. When a device that offers special parameters is connected, the special parameters area appears in the inspector. For more information about supported special parameters, refer to the documentation for your device.

Control Surface Group parameters

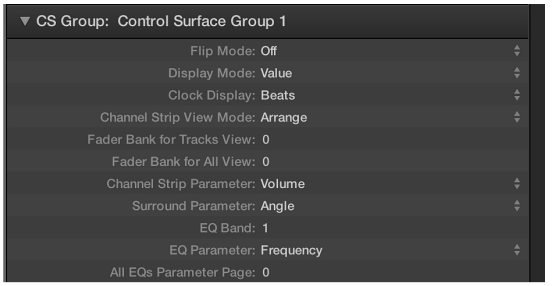
Control Surface Group parameters overview

If you have created one or more control surface groups, you can configure these groups in the Control Surface Group parameters. These parameters apply to the group associated with the selected device and allow you to set up each group to meet your needs. Many group parameters can also be changed directly from the control surface.

Control Surface Group parameters are divided into several areas. See Control Surface Group display parameters, Control Surface Group send and plug-in parameters, and Control Surface Group other parameters.

Control Surface Group display parameters

The parameters at the top of the Control Surface Group parameters give you control over aspects of the device displays.



Display parameters

- *Flip Mode pop-up menu:* Choose the functions for the faders and rotary encoders of the channel strips on the device. For control surfaces that contain a fader and a rotary encoder for each channel strip, Flip mode allows you to assign both controls to the same parameter, or to swap their assignments. The choices are:
  - *Off:* Standard mode, with the fader acting as a volume control.
  - *Duplicate:* Assigns both the fader and encoder to the currently selected encoder parameter.
  - *Swap:* Switches the fader and encoder assignments, making the fader a pan control and the encoder a channel volume control, for example.
  - *Mute:* Disables the fader. This is useful when recording in the same room as the control surface and you want to avoid the mechanical noise of the faders. Any existing automation still functions normally.
- *Display Mode:* Click to limit the device display to only the name or only the value of the current parameter. This is helpful if there is insufficient space for the display of both the parameter name and value.
- *Clock Display:* If your control surface features a position display, this parameter determines how the playhead position is represented. Click to switch between Beats (musical values) or SMPTE (absolute time values).

  Note: The exact elements displayed, and thus their positions, depend on the selected SMPTE or bar/beat display option defined in the Logic Pro Preferences.
- *Channel Strip View Mode pop-up menu:* Choose one of the following views:
  - *Arrange:* The channel strips on the device correspond to Logic Pro channel strips as they appear in the Mixer window. The layout of channel strips matches the way tracks are laid out in the Tracks window. Channel strip 1 in the Mixer window is equivalent to channel 1 on the control surface, channel strip 2 in the Mixer is equivalent to channel 2, and so on. Instruments and channels used by multiple tracks are merged into one channel. This is the default mode of most devices, including the Mackie Control.
  - *All:* The channel strips on the device correspond to Logic Pro channel strips of certain types, such as MIDI or aux channels, independent of their use in tracks. Control surfaces that support this view generally allow you to define which channel types you want to display. The contents of the Logic Pro Mixer window automatically follow the state of the control surface, provided that the View > Link Control Surfaces option is turned on.
  - *Tracks:* This view is similar to Arrange view, but individual channel strips are shown when multiple tracks address the same channel. Typically, this is a software or MIDI instrument channel, with several tracks routed to it.

- *Single:* This view shows a single channel and its routing to auxes and so on. You can determine which parameters are edited by the channel strip controllers on the control surface.

Note: The View is a property of the control surface group, not a global setting. One group can display busses, while the other shows tracks, for example.

- *Fader Bank for Tracks View:* Drag vertically, or enter an integer value to offset which tracks are controlled by the channel strips of the device in Tracks view. For example, if your device has eight channel strips, these might normally be assigned to audio channel strips 1–8 in Logic Pro. If you set this parameter to 2, the device channel strips would control Logic Pro Mixer channel strips 3–10 (1 + 2 = 3).
- *Fader Bank for All View:* Drag vertically, or enter an integer value to offset which Logic Pro channel strips are controlled by the device in All view. This parameter is only available when multiple channel strip types are displayed in the Mixer. When single channel strip types are displayed, there are separate fader bank parameters. (These aren't displayed in the parameter list.)
- *Channel Strip Parameter pop-up menu:* Choose which function is controlled by the channel strip encoders on the device. The choices are:
  - *Volume:* Encoders adjust channel volume.
  - *Pan:* Encoders adjust channel panorama position.
  - *Format:* Encoders adjust or select channel format.
  - *Input:* Encoders adjust or select channel input source.
  - *Output:* Encoders adjust or select channel output (main outs/auxes/surround).
  - *Automation:* Encoders adjust or select channel automation mode.
  - *Group:* Encoders adjust group membership of the track. Editing the parameter allows you to set either "no group" or a single group. Enabling membership of multiple groups is not possible. (This can only be done directly in the Logic Pro Mixer.)
  - *Displayed Par.:* Encoders adjust the automation parameter selected in the Tracks window. This is especially useful if you set the control surface to Arrange view, and your Tracks window shows multiple automation subtracks with Logic Pro parameters.
- *Surround Parameter pop-up menu:* Choose the surround parameter that the rotary encoders will control. The choices are:
  - *Angle:* Encoders adjust surround angle.
  - *Diversity:* Encoders adjust surround diversity (direction).
  - *LFE:* Encoders adjust LFE level.
  - *Spread:* Encoders adjust the Spread parameter of Stereo to Surround channel strips.
  - *X:* Encoders adjust surround X position.
  - *Y:* Encoders adjust surround Y position.
  - *Center:* Encoders adjust the Center channel level.

  Note: The X and Y parameters are a different representation of the Angle and Diversity parameters, and thus are independent of them. The X and Y parameters support the use of surround joysticks.
- *EQ Band:* Drag vertically, or enter an integer value to set the current EQ band, enabling you to edit a particular Channel EQ or Linear Phase EQ parameter for all tracks in the EQ Multi Channel View.

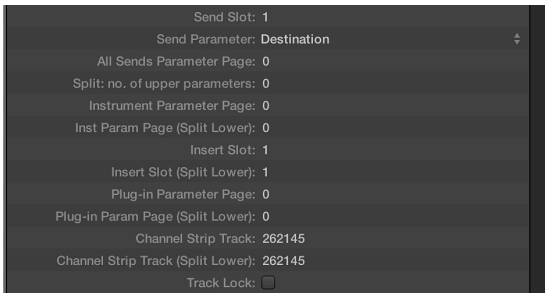
- *EQ Parameter pop-up menu:* Choose which parameter of the selected EQ band is controlled by the encoders in EQ Multi Channel View. The choices are:
  - *Frequency:* Encoders adjust the frequency of the selected band.
  - *Gain:* Encoders adjust the gain of the selected band. For the Low Cut (band 1) and High Cut (band 8) bands of the Channel and Linear Phase EQ, this parameter controls the slope.
  - *Q:* Encoders adjust the Q factor of the selected band.
  - *On/Off:* Encoders bypass the selected EQ band.
- *EQ Parameter Page:* Drag vertically, or enter an integer value to set the EQ parameter displayed in EQ Channel Strip view.

  The Channel and Linear Phase EQs feature eight bands per audio channel, with each band offering four parameters. All of these parameters can be accessed with your control surface.

  If your control surface does not display all EQ parameters at once, you view them by stepping through the parameter pages in sequence. For example, if your control surface has eight channel strips, you can directly control parameters 1 to 8 with knobs or sliders 1 to 8 when you switch to EQ Channel Strip Edit view. You then need to switch by a page to access parameters 9 to 16.

Control Surface Group send and plug-in parameters

The parameters in the middle of the Control Surface Group parameters let you control different operational aspects when working with send and plug-in parameters.



Send and plug-in parameters

- *Send Slot:* Drag vertically, or enter an integer value to set the currently selected Send slot. The default is 1, which sets the first (top) Send on each channel as the Send slot. A value of 2 sets the second send as the Send slot, a value of 3, the third Send slot, and so on.
- *Send Parameter pop-up menu:* Choose the Send parameter controlled by the encoders when in the Send Multi Channel view. The choices are:
  - *Destination:* Encoder is used to determine the bus channel number for the Send slot.
  - *Level:* Encoder is used to adjust the Send level.
  - *Position:* Encoders set Pre, Post, or Post Pan fader modes.
  - *Mute:* Encoders mute/unmute the selected Send slot.
- *Send Parameter Page:* Drag vertically, or enter an integer value to set the current page for the Send parameters. Up to 32 parameters are available in Send Channel Strip view for a given channel (eight Send slots multiplied by the four parameters listed above).
- *Split: no. of upper parameter:* Drag vertically, or enter an integer value to set the number of encoders that belong to Split Upper, for control surfaces that support Split mode. The remaining encoders belong to Split Lower. A value of 0 means that Split mode is off—all encoders are assigned to the Split Upper area.

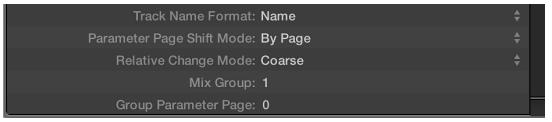
Control surfaces that support Split mode allow the display of two separate parameter sections within one plug-in (or even different plug-ins). They are called *Split Upper* and *Split Lower*.

- *Instrument Parameter Page:* Drag vertically, or enter an integer value to determine which parameter is assigned to the leftmost encoder when editing a software instrument. The next instrument parameter is assigned to encoder 2, and so on. This applies to Split Upper when Split mode is turned on.
- *Inst Param Page (Split Lower):* Drag vertically, or enter an integer value to set the parameter that is assigned to the leftmost encoder of Split Lower when editing a software instrument when Split mode is turned on. The next instrument parameter is assigned to encoder 2, and so on.
- *Insert Slot:* Drag vertically, or enter an integer value to set the current Insert slot number, both for selecting a plug-in (in Plug-in Channel Strip view) and for editing its parameters. The default is 1, which sets the first (top) plug-in slot on each channel as the Insert slot. A value of 2 sets the second plug-in slot as the Insert slot, and so on. This applies only to Split Upper when Split mode is turned on.
- *Insert Slot (Split Lower):* Drag vertically, or enter an integer value to set the current Insert slot number for Split Lower when selecting or editing a plug-in when Split mode is turned on.

  Note: The effect plug-in and instrument page parameters are kept separate because this allows you to quickly switch between editing an instrument and editing an effect plug-in on a channel, without adjusting the parameter page every time.
- *Plug-in Parameter Page:* Drag vertically, or enter an integer value to define which parameter is assigned to the leftmost encoder when editing a plug-in. The next plug-in parameter is assigned to encoder 2, and so on. This applies only to Split Upper when Split mode is turned on.
- *Plug-in Param Page (Split Lower):* Drag vertically, or enter an integer value to define which parameter is assigned to the leftmost encoder of Split Lower when editing a plug-in with Split mode turned on. The next plug-in parameter is assigned to encoder 2, and so on.
- *Channel Strip Track:* Drag vertically, or enter an integer value to define which track is displayed for Channel Strip views. This applies only to Split Upper when Split mode is turned on.
- *Channel Strip Track (Split Lower):* Drag vertically, or enter an integer value to define which track is displayed in the Split Lower section of the control surface for Channel Strip views, when Split mode is turned on.
- *Track Lock checkbox:* Click to determine how the control surface responds when a track is selected in Logic Pro—in essence, this remotely affects the Track and Track (Split Lower) parameters. When Track Lock is turned on, the control surface group continues to display the same track, independent of the currently selected track in Logic Pro. When Track Lock is turned off, the control surface group automatically switches to the track selected in Logic Pro.

Control Surface Group other parameters

The parameters at the bottom of the Control Surface Group parameters area let you set global group parameters.



Other parameters

- *Track Name Format:* Choose whether the track name display shows only the track name or the track name and number.
- *Parameter Page Shift Mode:* Choose whether the parameter is shifted by one page or by one parameter.
- *Relative Change Mode:* Choose the mode for controller assignments that support a Relative Value Change mode (rotary encoders, for example). The choices are:
  - *Coarse:* The parameter is adjusted in coarse steps.
  - *Full:* Rotating the encoder to the right sets the maximum value and rotating it to the left sets the minimum value. The encoder also stops at its default value. For example, when the Pan knob is left of center, turning the encoder to the right initially sets the Pan parameter to the center position (its default value). A further turn to the right sets Pan to full right (its maximum value).
  - *Fine:* The parameter is incremented or decremented in fine steps—by one tick or other unit. In this mode, the highest possible resolution is used. For example, when editing the Sample Delay plug-in's Delay parameter, every encoder tick increases or decreases the value by 1 sample, regardless of the resolution value.
- *Mix Group:* Drag vertically, or enter an integer value to determine which group is edited when in Group Edit mode.
- *Group Parameter Page:* Drag vertically, or enter an integer value to define which parameter of the edited group is assigned to the leftmost encoder.

Control surfaces preferences

Open Control Surfaces preferences

Settings that affect the onscreen appearance and performance of control surfaces are changed in the Control Surfaces preferences window. There are two preferences tabs: General Control Surfaces preferences and Help Tags preferences.

Important: If you want to make changes to the default assignments of control surfaces, you need to use the Controller Assignments window Easy view or Expert view. See Controller assignments overview. Easy view is available only when you click the Show Advanced Tools checkbox in the Advanced Logic Pro preferences. Expert view is available only when you click the Show Advanced Tools checkbox *and* the Control Surfaces checkbox in the Advanced Logic Pro preferences.

Open the Control Surfaces preferences window

- Choose Logic Pro > Control Surfaces > Preferences (or use the Open Control Surfaces Preferences key command).

Click the General or Help Tags tab to access the associated preferences.

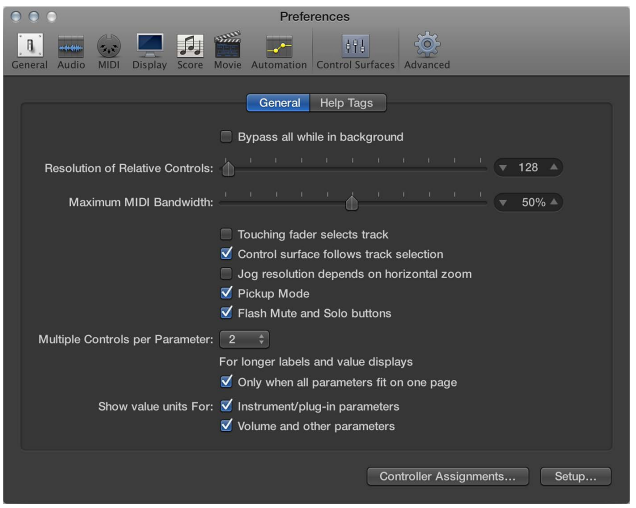
Temporarily disable your control surfaces

- Choose Logic Pro > Control Surfaces > Bypass all Control Surfaces.

This command is useful for silencing motorized control surface faders when recording in the same room. It is also handy when troubleshooting MIDI data errors or for reducing MIDI bandwidth requirements.

General Control Surfaces preferences

General Control Surfaces preferences include resolution of relative controls, maximum MIDI bandwidth, and other functions.



General preferences

- *Bypass All while in background checkbox:* Turn on to allow your control surface to be shared with other applications, when Logic Pro is not the active program.
- *Resolution of Relative Controls slider:* Drag to set the resolution of controls that change values in a relative manner. The default resolution is 128 steps. Choose a higher resolution value to divide the value range into finer increments.

- *Maximum MIDI Bandwidth slider:* Drag to set the maximum amount of MIDI bandwidth that your control surface can use. This is set to a default of 50%, which should be suitable for most situations. You can adjust the value if MIDI or automation playback is being affected.
- *Touching fader selects track checkbox:* Turn on to select the track corresponding to the fader when you touch a fader on the control surface.

  Note: This feature works only with devices that have touch-sensitive faders.
- *Control surface follows track selection checkbox:* Turn on to automatically select the corresponding track or channel on the control surface when you select a track in the Tracks window.
- *Jog resolution depends on horizontal zoom checkbox:* Turn on to link the precision of scrubbing (using the Jog/Shuttle Wheel of your control surface) with the horizontal zoom level of Logic Pro. Your control surface must feature a Jog/Shuttle Wheel (or similar control) for this to have an effect. To retain a consistent resolution, regardless of Logic Pro window zoom levels, deselect this checkbox.
- *Pickup Mode checkbox:* Turn on to use your control surface in Pickup mode (if this mode is available).

  Some control surfaces, typically those without motorized faders or knobs, do not show parameter changes—caused by playing back existing automation data—on their interface. Such control surfaces usually offer a Pickup mode. In Pickup mode, the controller must reach ("pick up") the current value before the value starts to change. This feature prevents sudden jumps of parameter values caused by playing back automation. Your device may provide a display (usually a pair of arrow LEDs) that indicates the direction or distance you need to move the controller, in order to match the settings shown in Logic Pro (also known as NULL). Once you have matched the onscreen values, deactivate Pickup mode and start automating. When Pickup mode is turned off, adjusting a fader modifies the parameter immediately (which can result in parameter value jumps).
- *Flash Mute and Solo buttons checkbox:* Turn on to make the Mute and Solo buttons on the control surface blink (flash) on and off when mute or solo modes are engaged.
- *Multiple Controls per Parameter pop-up menu:* Choose the maximum number of encoders used for each parameter when editing plug-ins or audio instruments. The choices are:
  - *1:* Parameters are always displayed using one encoder per parameter, with the least space available for the parameter name and value in the LCD.
  - *2:* On each unit, encoders 1 and 2 are used for the first parameter, encoders 3 and 4 for the second, and so on.
  - *4:* On each unit, encoders 1 to 4 are used for the first parameter, encoders 5 to 8 for the second, and so on.
  - *8:* On each unit, encoders 1 to 8 are used for the first parameter, encoders 9 to 16 for the second, and so on.

  When multiple encoders are used per parameter, the encoders are divided into groups (1/2, 3/4, 5/6, 7/8, for example). The first encoder of each group controls the parameter shown in the display. The remaining encoders are inactive. Using more than one encoder per parameter shows fewer parameters at any given time, but you gain space on the LCD to cater to longer parameter names and values. The more control surfaces you have within a control surface group, the more you benefit from this feature.
- *Only when all parameters fit on one page checkbox:* Turn on to use the defined number of encoders only when there are sufficient encoders available to show all parameters without changing pages.

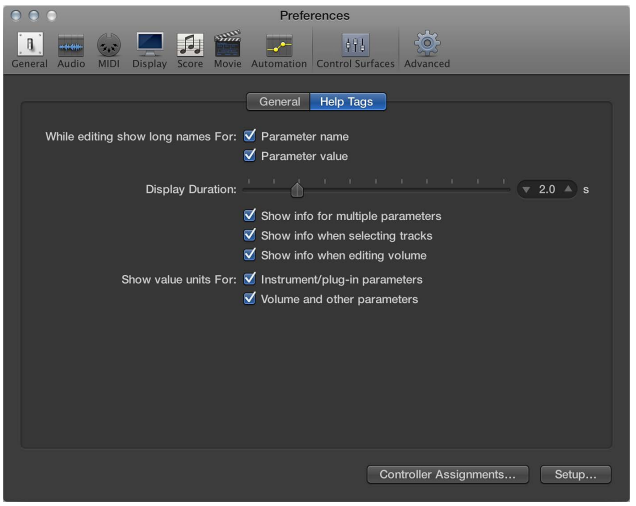
For example, if you have a Mackie Control and two Mackie Control XTs (giving you a total of 24 encoders), a plug-in with 13 parameters is shown with one encoder per parameter. Eleven encoders remain unused. A plug-in with 11 parameters is shown with two encoders per parameter. Two encoders remain unused (as do the inactive encoders of the subdivisions mentioned above). When this parameter is turned off, multiple encoders are used for each parameter, which may require scrolling. This is not the case if only one encoder is used for each parameter.

- *Show value units for checkboxes:* Turn on the two checkboxes to add the measurement unit to parameter values, where applicable—"Hz" or "%," for example. You can set this option separately for instrument and plug-in parameters, and for volume and other channel strip parameters. Turn off this option if viewing units makes the display too cluttered.
- *Controller Assignments button:* Click to open the Controller Assignments window.

  Important: Easy view is available only when you click the Show Advanced Tools checkbox in the Advanced Logic Pro preferences. Expert view is available only when you select the Show Advanced Tools checkbox *and* the Control Surfaces checkbox in the Advanced Logic Pro preferences.
- *Setup button:* Click to open the Control Surfaces Setup window.

Help Tags preferences

For control surfaces that feature programmable displays with more than six characters per line or segment of the display, you can change the way help tags are shown. Control surface help tags show additional information during use.



Help Tags preferences

- *While editing show long names for checkboxes:* Turn on the two checkboxes in this section to determine how parameter names and values are displayed on the LCD of the control surface.
  - *Parameter name checkbox:* Turn on to show the full parameter name in the upper LCD line when you edit a parameter.
  - *Parameter value checkbox:* Turn on to show the full parameter value in the lower LCD line when you edit a parameter. If the Show value units for checkboxes (see below) are turned on, the value is appended by the measurement unit, where applicable (for example, dB, Hz, or %).

  Note: The following options only have an effect if at least one of the two parameters described above is active.

- *Display Duration slider:* Drag to adjust the time that parameter names and values remain on the LCD, following selection and adjustments.
- *Show info for multiple parameters checkbox:* Turn on to show the long name and information in the LCD until the most recently edited parameter's information display times out. This may cause overlapping text. Turn off to limit the long name display to show only the most recently edited parameter, which can cause screen flicker.
- *Show info when selecting tracks checkbox:* Turn on to show "Selected" in the upper row of the LCD and the selected track name in the lower LCD row when you select a track.
- *Show info when editing volume checkbox:* Turn on to show "Volume" in the upper row of the LCD and the edited value in the lower LCD row when you edit a track's volume.
- *Show value units for checkboxes:* Turn on to show the appropriate measurement unit (Hz or %, for example) after parameter values. You can set this option separately for Instrument/plug-in parameters and Volume and other parameters. If you can work without value units, the display is less cluttered.

  Note: This parameter applies only while you are editing the relevant values.

Modal dialog display

All modal dialogs (except File Open dialogs) appear on the LCD display of control surfaces that feature text displays. Examples of modal dialogs include authorization warnings, edit confirmations, or error messages.

Important: You cannot perform actions in any other window while a modal dialog is visible.

The modal dialog text appears in the upper row of the LCD. If the dialog text does not fit in the LCD's upper row, it scrolls after three seconds. You can scroll the dialog text manually with an appropriate control for your device. Once you start scrolling the text manually, automatic scrolling is disabled.

- If your control surface has an Enter or OK button, pressing it triggers the dialog's default button, where applicable.
- If your control surface has a Cancel or an Exit button, pressing it triggers the button labeled Cancel or Abort, where applicable.
- All buttons in the modal dialog (push buttons, including Enter, Default, and Cancel, as well as checkboxes and radio buttons, but not pop-up menus) appear in the display's lower row.

Pressing a control surface button below the display triggers the appropriate function in the dialog, if applicable. Once you press an Enter or a Cancel button on the control surface or click it onscreen, the dialog disappears, and all controls and displays return to their previous state.

When a File Open dialog appears onscreen, the "There is a file select dialog on the screen" message appears on the LCD.

Control surface use tips

You may find that using control surfaces changes the way you use Logic Pro. Slight changes to your working methods can help you to use control surfaces more effectively. The following hints may streamline your Logic Pro control surface workflow.

- *Customize your templates*
  - Set up screensets 1–7 as your most frequently used screensets. You can access these directly on some control surfaces. On a Mackie Control, for example, you can access them with function keys F1 to F7, while function key 8 (F8) closes the topmost window.
  - Assign a full-screen Tracks window, with track automation view set to On (for all tracks), as one of your screensets.
  - Assign a full-screen Mixer window as another screenset.
- *Make use of markers*

  Markers allow you to quickly navigate from location to location in a project. Most control surfaces feature a number of shortcuts that allow you to rapidly move between markers, which is an effective way to move between positions in your projects.

  Markers are also useful for creating or selecting cycle areas and a number of other tasks, such as punch and replace recording.

  If you tend to follow a particular song structure or like to work with a certain number of bars (4, 8, 16 bars, and so on) for verse and chorus sections, set up a number of markers at suitable locations in your templates.

Control surfaces supported by Logic Pro

The table shows control surfaces directly supported by Logic Pro.

Supported control surfaces communicate with Logic Pro via special plug-in files that are installed with the application. The plug-in files are located in the /Contents/MIDI Device Plug-ins subfolder of the Logic Pro application bundle. To view the bundle contents, Control-click the Logic Pro application icon, and choose Show Package Contents from the shortcut menu. Logic Pro also checks for control surface plug-ins installed in the ~/Library/Application Support/MIDI Device Plug-ins and ~/Library/Application Support/MIDI Device Plug-ins folders.

When new control surface plug-ins are released independently of a Logic Pro update (or supplied directly by the device manufacturer), place them in the folders described above or as advised in the documentation supplied with the plug-in.

Supported devices	Manufacturer	Notes
01V96	Yamaha	The Yamaha 01V96 emulates two HUI units, using two virtual MIDI In and Out connections over a USB cable. See Set up your 01V96 on page 235.
01X	Yamaha	The Yamaha 01X emulates a Mackie Control. It does not feature all controls available to the Mackie units, however. Refer to the 01X documentation for details. Logic Pro recognizes the 01X as an 01X, and displays a custom icon, but communication is as with a Mackie Control unit. See Mackie Control overview on page 54.
02R96	Yamaha	The Yamaha 02R96 emulates three HUI units, using three virtual MIDI In and Out connections over a USB cable. See Set up your 02R96 on page 247.
Baby HUI	Mackie	The Baby HUI is a smaller version of the HUI. See Set up your Baby HUI on page 158.
C4	Mackie	The Mackie C4 is directly supported. See Set up of your C4 on page 180.
CM408T (System 5-MC)	Euphonix	See Set up your Euphonix device on page 113.
CS-32 MiniDesk	JLCooper	See Set up your CS-32 MiniDesk on page 140.
DM1000	Yamaha	The Yamaha DM1000 emulates two HUI units, using two virtual MIDI In and Out connections over a USB cable. See Set up your DM1000 on page 254.

Supported devices	Manufacturer	Notes
DM2000	Yamaha	The Yamaha DM2000 emulates three HUI units, using three virtual MIDI In and Out connections over a USB cable. See Set up your DM2000 on page 266.
FaderMaster 4/100	JLCooper	See Set up your FaderMaster 4/100 on page 148.
FE-8/FW-1082/FW-1884	Tascam	See Set up FW-1884, FE-8, or FW-1082 on page 210.
HUI	Mackie	See Set up your HUI on page 162.
iControl	M-Audio	See iControl overview on page 104.
KONTROL49/microKONTROL	Korg	A larger version of the microKONTROL. See Set up microKONTROL and KONTROL49 on page 152.
Logic Control	Mackie/Emagic	See Mackie Control overview on page 54 for more details.
Logic Control XT	Mackie/Emagic	This is the extension unit for the Logic Control. It only offers the channel strip section, making it less useful without a Logic (or Mackie) Control. See Mackie Control overview on page 54.
Mackie Control	Mackie	The Mackie Control hardware is similar to the Logic Control. The front panel legend is different, however. If your unit has firmware version 1.02 or later, you can use either the Logic Control or Mackie Control mode. See Mackie Control overview on page 54.
Mackie Control Extender	Mackie	Mackie-badged version of the Logic Control XT. If you have firmware version 1.02 or later, you can use either the Logic Control or Mackie Control mode. See Mackie Control overview on page 54.
Mackie Control Universal	Mackie	A Mackie Control with Logic Control silk screening (legend) and firmware version 2.0 or later (including HUI emulation). If your unit has firmware version 1.02 or later, you can use either the Logic Control or Mackie Control mode. See Mackie Control overview on page 54.
MC	Euphonix	See Set up your Euphonix device on page 113.
MCS3	JLCooper	See Set up your MCS3 on page 149.

Supported devices	Manufacturer	Notes
microKONTROL	Korg	See Set up microKONTROL and KONTROL49 on page 152.
Motormix	CM Labs	See Set up your Motormix on page 125.
SAC-2.2/2k	Radikal Technologies	The SAC-2.2/2k's native mode is directly supported, but it can also emulate a Mackie Control. You should use the native mode. See Set up your SAC-2K on page 192.
SI-24	Roland	See Set up your SI-24 on page 203.
TranzPort	Frontier Design Group	See Set up your TranzPort on page 135.
US-224/US-428	Tascam	See Set up your US-428 or US-224 on page 230.
US-2400	Tascam	Use the US-2400's native mode. In contrast to its Mackie Control mode, all controls, including the joystick, are supported. See Set up your US-2400 on page 221.

Software and firmware

Most control surfaces depend on Logic Pro for their functionality and cannot be operated if Logic Pro is not running. They do not provide any additional functionality that is not available in Logic Pro itself. One advantage of this approach is that as new functions are added to Logic Pro, or as you create new assignments, your control surface can access and control them.

Most control surface units do include a form of software called *firmware*. Firmware is similar to the low-level boot software found in your computer, mobile phone, iPod, and so on.

New behaviors, such as improved control of motorized faders and changes to the display, can be provided by firmware updates. You should periodically visit the manufacturer's website for your device to check for updates that may enhance use or performance.

The firmware is usually stored on an EEPROM (Electronically Erasable Programmable Read-Only Memory) chip. It can often be updated via a MIDI dump procedure, in the form of a MIDI file. Should new firmware become available, you can download the appropriate MIDI file and play it from Logic Pro to your control surface. The steps required to perform a firmware update are outlined in the documentation that accompanies the MIDI file. Read all supplied documentation *before* attempting any update.

Note: Some control surfaces may require a hardware chip replacement for firmware updates. Contact the manufacturer of your device for details.

Controller assignments 3

Controller assignments overview

You can assign any controller capable of generating a MIDI message to a parameter in Logic Pro. Assigning controllers to Logic Pro parameters lets you use faders, knobs, switches, and other controllers to remotely control Logic Pro functions. These can be used directly or in conjunction with modifier keys.

Most supported control surfaces include preset controller assignments that become active when you add the device to your system. You can change existing assignments for supported control surfaces and create new assignments for both supported and unsupported devices. For example, the default assignments of the F1 to F7 buttons on the Mackie Control open screensets 1 to 7 in Logic Pro. You can reassign these control surface buttons to other Logic commands—either alone or in conjunction with the Command, Shift, Option, and Control modifier buttons on the control surface—in any combination.

You can assign controllers to parameters in the Logic Pro Controller Assignments window, using the Learn process. The Controller Assignments window has two views: a compact Easy view, where you can assign channel strip and plug-in parameters, and the more extensive Expert view, where you can create and edit any type of controller assignment, including global, automation, and control surface group assignments. See Use Controller Assignments Easy view and Use Expert view.

Important: Easy view is available only when you select the Show Advanced Tools checkbox in the Advanced Logic Pro preferences. Expert view is available only when you select the Show Advanced Tools checkbox *and* the Control Surfaces checkbox in the Advanced Logic Pro preferences.

The current controller assignments and all Control Surfaces preferences are stored in the *~/Library/Containers/com.apple.logic10/Data/Library/Preferences/com.apple.logic.pro.cs* file.

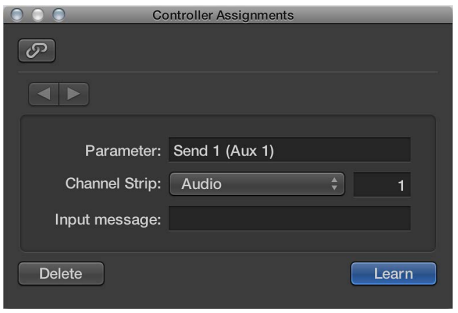
You do not need to explicitly save controller assignments or related preferences and settings. These are automatically stored when you quit Logic Pro.

Controller Assignments Easy view

Use Controller Assignments Easy view

Easy view allows you to see and assign controllers to channel strip and plug-in parameters and to change the target track that assignments apply to.

Important: Easy view is available only when you select the Show Advanced Tools checkbox in the Advanced Logic Pro preferences.



The Easy view of the Controller Assignments window contains the following fields and buttons:

- *Expert View button:* Click to open the editor in Expert view.
- *Back/Forward buttons:* Click to move back and forth between assignments.
- *Link button:* Turn on to automatically select the assignment that matches the most recently received MIDI message.
- *Parameter field:* Displays the name of the selected parameter.
- *Channel Strip pop-up menu:* Choose whether the assignment applies to the selected track or matches the channel strip number entered in the field beside the pop-up menu (as shown in the Mixer's All view).
- *Input message field:* Displays the incoming MIDI message data of the controller being assigned to a function.

Open the Controller Assignments window Easy view

- Choose Logic Pro > Control Surfaces > Controller Assignments (or press Command-K), then click the Easy View button.

Assign and delete controllers in Easy view

Only one set of assignment parameters is visible at a time in Easy view. You use the Learn process to assign controllers to channel strip and plug-in parameters by moving a controller on your control surface. This sends a MIDI message to Logic Pro, thus "teaching" it which controller you are assigning to the chosen parameter.

Assign a controller in Easy view

1. In the Mixer, or in any plug-in window, select the parameter you want Logic Pro to learn as a controller assignment.
2. Choose Logic Pro > Control Surfaces > Learn Assignment for [parameter name]. (Alternatively, you can use the Learn new Controller Assignment key command, default: Command-L, to open the Controller Assignments window, and activate Learn mode.)

   The Controller Assignments window opens in Easy view, with the Learn Mode button activated. In most cases, the name of the selected parameter is shown in the Parameter field.
3. Move the hardware controller you want to assign to the selected parameter.

   Moving the controller sends a MIDI message to Logic Pro, which appears in the "Input message" field. This memorizes the controller assignment, and you can click the Learn Mode button to complete the Learn process.

   If you do not click the Learn Mode button, Learn mode remains active, allowing you to make further assignments.
4. To make another assignment, select the parameter you want to assign in Logic Pro, then move the controller on the control surface.
5. Click the Learn Mode button (or press Command-L) to complete the Learn process.

Assign a controller using a modifier key

1. To open the Controller Assignments window, choose Logic Pro > Control Surfaces > Learn Assignment for [parameter name] (or press Command-L).
2. Hold down the modifier key you want to use (Command, for example) as you select the parameter you want to assign, while moving the control.
3. Click the Learn Mode button to complete the Learn process.

   If Logic Pro receives a MIDI message from the device while you are holding down the modifier key, the Learn Mode button is deactivated when you release the key, and the Learn process is complete. If you release the modifier key before Logic Pro receives a MIDI message, the Learn Mode button remains active, so you can still move a controller to send a MIDI message. In this situation, be sure to click the Learn Mode button when you are finished to end the Learn process.

Assign a series of controllers to a series of parameters

Logic Pro includes a shortcut that makes it easy to assign a series of controllers to a series of similar parameters. For example, you can use this shortcut to assign a series of faders to volume; to assign a series of knobs or switches to other channel strip parameters such as pan, solo, or mute; or to assign a series of controllers to a set of plug-in parameters.

1. In the Mixer, or in any plug-in window, select the parameter you want Logic Pro to learn as a controller assignment.
2. Choose Logic Pro > Control Surfaces > Learn Assignment for [parameter name]. (Alternatively, you can use the Learn new Controller Assignment key command, default: Command-L, to open the Controller Assignments window, and activate Learn mode.)

The Controller Assignments window opens in Easy view, with the Learn Mode button activated. In most cases, the name of the selected parameter is shown in the Parameter field.

3. Assign the first controller in the series to the first parameter (assign fader 1 to control volume for channel strip 1, for example).
4. Assign the last controller in the series to the last parameter (assign fader 16 to control volume for channel strip 16, for example). The number of controllers between the first and last in the series must match the number of parameters between the first and last parameter. In the example, the distance between 1 and 16 would equal 15.

   A "Do you want to fill up in between?" dialog appears.
5. To automatically fill the controllers between the first and last with the corresponding assignments, click OK.

   Note: You can only use shortcuts for knobs that send a single channel message, where the first data byte is the controller number and the second data byte is the value. Alternatively, the controller number can be encoded in the MIDI channel, with a fixed first data byte. Consult the documentation that came with your device for information on its data structure.

Delete a controller assignment in Easy view

- Select the assignment you want to remove in the Controller Assignments Easy View window, then click the Delete button.

Controller Assignments Expert view

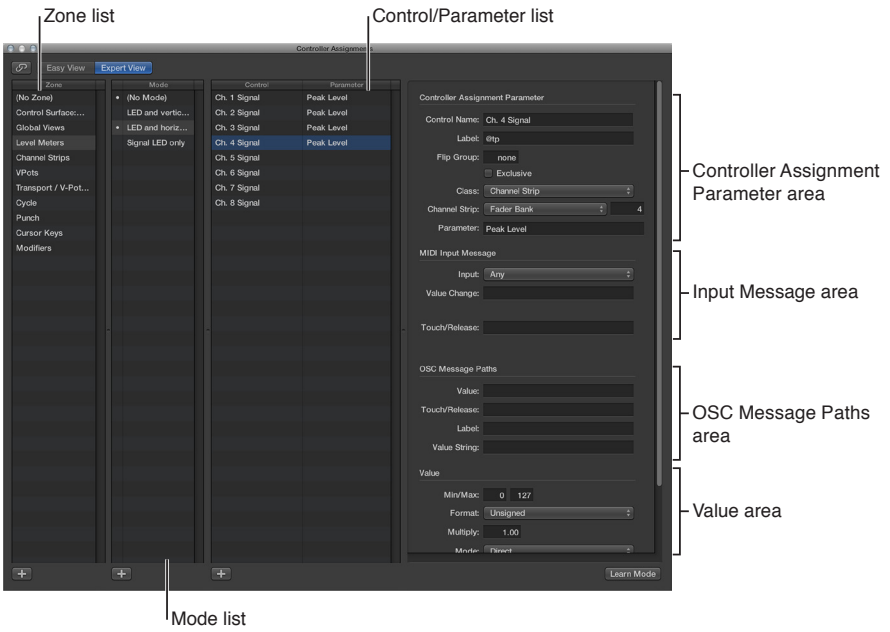
Use Expert view

You can use Expert view to make advanced controller assignments. These include Logic Pro parameters other than channel strip and plug-in parameters. For example, you can assign controllers to global, automation, and control surface group parameters in Expert view. You can also edit controller assignments in Expert view and define zones and modes that let you switch between groups of controllers.

Important: Expert view is available only when you select the Show Advanced Tools checkbox *and* the Control Surfaces checkbox in the Advanced Logic Pro preferences.

The Learn process opens the Controller Assignments window in Easy view, which shows the basic parameters for the current assignment. To make assignments other than channel strip or plug-in assignments or to edit other assignment parameters, you need to switch to Expert view.

Tip: You can only switch back to Easy view if a track or plug-in parameter is selected.



The Expert view of the Controller Assignments window contains the following:

- *Zone list:* Displays the available zones for the device. The first entry "(No Zone)" is for zoneless assignments—assignments that are always active, regardless of the active zone. Select a zone in the list to see its modes (in the Mode list), and its current assignments (in the Control/Parameter list). You can also double-click a zone to rename it. See Use zones and modes on page 42.
- *Mode list:* Displays the modes for the currently selected zone. The first entry "(No Mode)" is for modeless assignments. Select a mode in the list to see its assignments in the Control/Parameter list, and make it the selected zone's active mode. You can also double-click a mode to rename it. See Use zones and modes on page 42.
- *Control/Parameter list:* Select the assignment you want to edit. The left column displays the name of the control and the right column displays the (abbreviated) name of the parameter being controlled. The parameters of the selected assignment appear in the fields to the right of the list. See Expert view parameters on page 39.

Note: You can select multiple assignments in the list, but only the parameters of the *first* selected assignment are displayed. When multiple assignments are selected, operations performed via the Edit menu can be applied to all selected assignments. All other operations apply only to the first assignment.

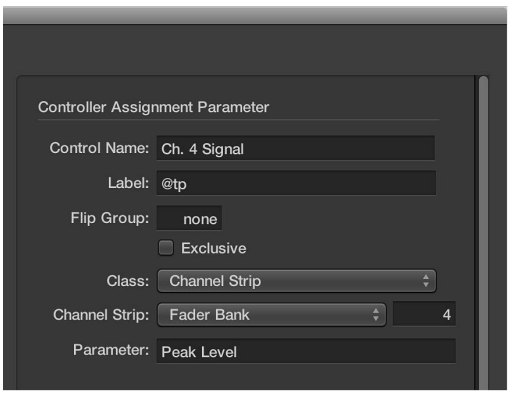
- *Controller Assignment Parameter area:* All aspects of the selected controller assignment parameter are shown, and can be changed, in this area. See Expert view parameters on page 39.
- *Input Message area:* The port and MIDI input message can be altered directly. Some fields in this section are merely displays and cannot be changed. See Expert view Input Message parameters on page 48.
- *Value area:* The range of values, and response, of the controller assignment to incoming messages is determined in this area. Feedback to the display of control surfaces can also be determined here. See Expert view Value parameters on page 49.

Open the Controller Assignments window Expert view

- Choose Logic Pro > Control Surfaces > Controller Assignments (or press Command-K), then click the Expert View button.

Expert view parameters

This section outlines each parameter shown in the fields on the right side of the Controller Assignments window when in Expert view.



Controller Assignment parameters

- *Control Name field:* Displays the name of the controller for supported devices. For unsupported devices, Learned is displayed. See Control Name and Label fields on page 44.
- *Label field:* Displays characters that represent the label for the assignment on the control surface's display. You can view this much like a scribble strip on a mixer. See Control Name and Label fields on page 44.
- *Flip Group field:* Enter an integer to define a flip group for the assignment. See Flip Group and Exclusive parameters on page 44.
- *Class pop-up menu:* Choose the class of parameter (parameter type) you want to assign. See Class pop-up menu parameters on page 45.

  Note: Depending on the chosen class, different fields and pop-up menus for that class appear below the Class pop-up menu.

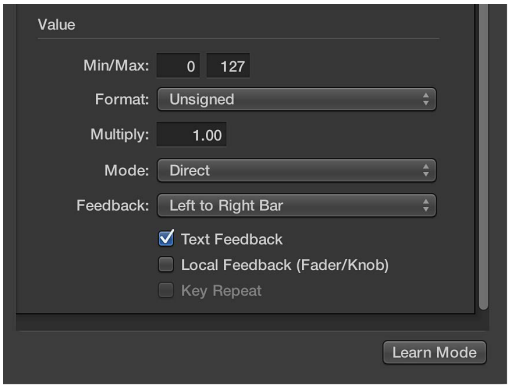
- *Parameter/Mode pop-up menu and field:* Depending on your choice in the Class pop-up menu, you can choose from dozens of different parameters and modes. The options available change as different classes are selected.

- *Group/Track/Command/Key field pop-up menu:* These options also change depending on your choice in the Class pop-up menu.
- *Bank Type pop-up menu:* This pop-up menu determines the bank relationship of the assigned parameter. This can be as per the Group setting, By One, or By Bank.

Input Message parameters

The area at the center right shows the following parameters. See Expert view Input Message parameters on page 48 for details.

- *MIDI Input pop-up menu:* Choose a MIDI input source (MIDI Port or Caps Lock Keyboard). This can be changed by incoming MIDI messages, shown in the Value Change field.
- *Value Change field:* Displays incoming MIDI messages that cause a value change.
- *Touch/Release field:* Enter an integer value to force incoming MIDI messages to change the touch/release state of the selected parameter. This only applies to control surfaces that provide touch-sensitive controls (where touching or releasing a fader, for example, enables or disables reception of data from the control surface).



Value parameters

The area at the bottom right shows the following parameters. See Expert view Value parameters on page 49 for details.

- *Min and Max fields:* Enter integer values to set the range of incoming MIDI values.
- *Format pop-up menu:* Choose the format used to encode negative values.
- *Multiply field:* Enter a value to scale incoming MIDI values.
- *Mode pop-up menu:* Choose the mode used by incoming values to modify the current parameter value.
- *Feedback pop-up menu and checkboxes:* Choose the display format of the parameter value (on the control surface display, if applicable).

Assign and delete controllers in Expert view

You can use the Learn process to assign controllers in the Controller Assignments window Expert view, just as you would in Easy view. You can also assign controllers to classes of Logic Pro parameters that are not accessible in Easy view.

The procedure for reassigning an active controller (an assigned controller in the *active* mode) is different from that of an inactive controller (one with an assignment in an *inactive* mode). See Use zones and modes for information on modes.

Learn a controller for a non-channel strip or plug-in parameter

1. Choose Logic Pro > Control Surfaces > Controller Assignments (or press Command-K), then click the Expert View button.
2. Choose a zone or mode unless you want to make a modeless assignment, then click the plus button in the lower-left corner of the Control/Parameter list.

   A new, blank assignment appears in the Control/Parameter list.
3. Click the Learn Mode button to start the Learn process.
4. Move the controller that you want to assign to the selected parameter.

   Moving the controller sends a MIDI message to Logic Pro, thus "teaching" Logic Pro which controller you are assigning. The Learn Mode button remains active, allowing you to make further assignments. The incoming MIDI message appears in the Input message field.
5. Choose the class of parameter you want to assign from the Class pop-up menu.
6. Assign the parameter by making choices in the pop-up menus and fields that appear below the Class pop-up menu.

   Note: A detailed explanation of classes and other assignment parameters can be found in Class pop-up menu parameters on page 45.
7. Click the Learn Mode button (or press Command-L) to complete the Learn process.

   Tip: You can use the shortcut described in Assign a series of controllers to a series of parameters on page 36 to assign a series of controllers to a series of similar parameters.

Delete an assignment in Expert view

Should you accidentally move the wrong controller in Learn mode, you can easily delete an unwanted assignment.

1. Select the assignment you want to delete in the Control/Parameter list.
2. Choose Edit > Delete (or press the Delete key).

Reassign an active controller

- Use the Learn process to assign an active controller (one with an assignment in the active mode), then choose one of the options shown in the dialog:

- *Cancel:* Click to delete the new assignment, retaining the existing assignment.
- *Keep both:* Click to retain the new and old assignments.

  This is generally used when one knob controls multiple parameters as a macro.

- *Reassign:* Click to delete all existing active assignments for this parameter.

  Use this option to reassign a function key such as F1 to F8 to a new key command.

Reassign an inactive controller

Supported control surfaces generally have empty user pages available, allowing for new encoder assignments. You would select a particular user page mode (page 3, for example), then learn an assignment for the encoder.

- Use the Learn process to assign a controller in an inactive mode.

  Note: The new assignment becomes part of the active mode in the same zone that contained the previous, inactive assignment.

Use zones and modes

You can define a group of controllers as a zone in Expert view and switch all controls in a zone to different parameters. Using a Mackie Control, for example, you can define the eight rotary encoders as a zone and switch them between pan, send level, and plug-in parameters. You can also define multiple zones for a control surface: one zone for the encoders, and a second zone that switches the function keys (F1 to F8) to different functions.

Each set of zone parameters is called a *mode*. A zone can contain one or more modes, but only one mode can be active at any given time. A zone can also contain assignments that are always active, regardless of the active mode. These are known as *modeless assignments*.

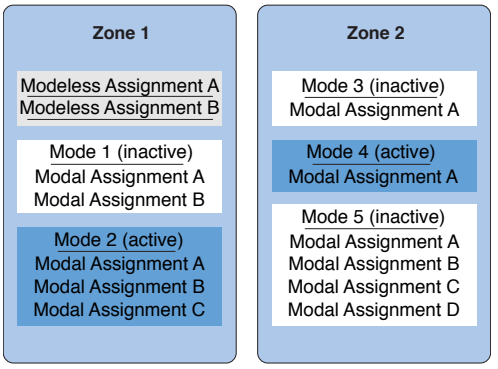
The simultaneous use of modal and modeless assignments allows you to do things such as:

- Define a zone that switches between two modes or functions by pressing and releasing a control surface modifier button (such as Shift or Option)—while using a particular function button on the control surface.
- Define a zone that allows you to use modeless assignments for display updates, transport functions, and Save or Undo operations. The same zone could contain a modal assignment for all Volume and Pan controls. Switching to another mode could provide access to EQ parameters. In both modal situations, the display, transport, and Save or Undo functions would be available.

A mode can contain any number of assignments. Only the assignments for the active mode are processed by Logic Pro. Assignments of inactive modes are ignored. You can switch the active mode for a zone by making special assignments.

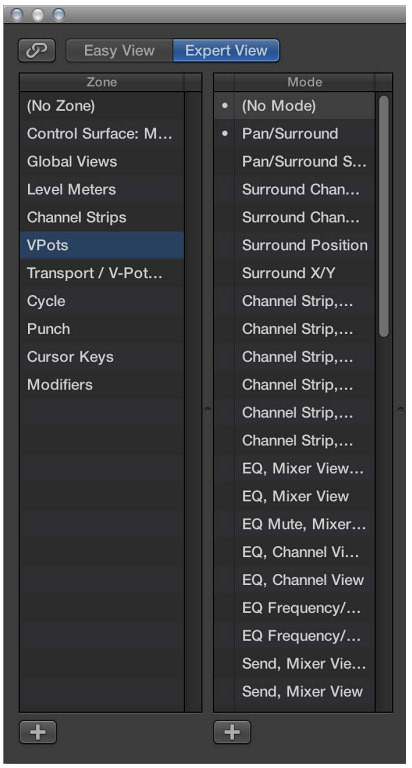
Zones and modes can be defined across multiple control surfaces to support the use of control surface groups.

The illustration shows one possible hierarchical arrangement of zones and modes.



Define a zone

1 Choose Logic Pro > Control Surfaces > Controller Assignments (or press Command-K), then click the Expert View button.



2 Click the Add button in the lower-left corner of the Zone list.

A new, blank zone appears in the Zone list. It is highlighted, allowing you to immediately rename it.

3 Enter a name for the zone.

If you want to add controllers to the zone, see Assign and delete controllers in Expert view on page 41.

Define a mode

1 Choose Logic Pro > Control Surfaces > Controller Assignments (or press Command-K), then click the Expert View button.

2 Click the Add button in the lower-left corner of the Mode list.

A new, blank mode appears in the Mode list. It is highlighted, allowing you to immediately rename it.

3 Enter a name for the mode.

Control Name and Label fields

The Control Name and Label fields are shown at the top right of the Controller Assignment parameters in the Expert View window.

Control Name and Label parameters

- *Control Name field:* Shows the name of the control. For supported devices, the control surface name is used. For assignments created with the Learn process on unsupported control surfaces, the control name defaults to "Learned." You can enter a new name in the field. The control name is for display only and has no effect on function.
- *Label field:* Shows characters that represent the label for the assignment that appears on the control surface display—for supported control surfaces. Unsupported control surfaces can only send information, not receive it, and therefore cannot display an assignment label.

  If the field contains fixed text, it can contain any number of characters. When used as a placeholder for dynamically created text, however, the field contains three characters that represent the label. The first character is always @, followed by two additional characters. For example, "Send@s#" translates as "Send1," "Send2," and so on.

  - *Second Character:* This character is used to define a type for the event label. For example: t=track, r=surround, s=send slot, S=number of sends, e=EQ band, E=number of EQs, p=insert slot, i=instrument slot, and so on.
  - *Third Character:* This character is used to define a value for the chosen event label type, such as the track number or name. For example: #=number of track, send slot, EQ band, insert slot, and so on, n=name, p=name of parameter addressed by the assignment, P=name of first parameter, o=parameter offset—counted from 1, O=maximum parameter offset—counted from 1, b=parameter bank offset or bank size—counted from 1, B=total number of banks—counted from 1.

Flip Group and Exclusive parameters

The Flip Group field and Exclusive checkbox are shown in the Controller Assignment parameters at the top right of the Expert View window.

Flip Group and Exclusive parameters

- *Flip Group Field:* Enter the same integer value for two assignments to define a counterpart for Flip mode—for supported control surfaces that provide Flip mode. By setting a fader and an encoder to the same flip group, for example, they are coupled. To set "none," enter a value of 0.

  For unsupported devices, you need to set up two active assignments, both of which use the same flip group. One assignment needs to be absolute (using a fader, for example), and the other assignment needs to be relative (an encoder, for example).
- *Exclusive checkbox:* Turn on to deactivate all other assignments that have Exclusive turned off for the same control on supported control surfaces. This limits a modeless assignment to particular modes. For example, faders normally control volume. To create a mode where faders control the send level, select Exclusive.

Class pop-up menu parameters

Choose the class of assignment (the type of destination parameter controlled) from the pop-up menu. Different options appear below the Class pop-up menu when you choose a class. The following describes the different classes, and the options available for each.

Class pop-up menu parameters

- *Mode Change:* Choose to use an assignment to switch from one mode to another. An additional Mode pop-up menu appears below the Class pop-up menu, allowing you to choose between available modes. For example, Mackie Control assignment buttons can be used to choose different modes for the encoders. The mode chosen in the Mode pop-up menu is activated only when the Mode menu is set to Direct. If any other Mode menu item is chosen, the following applies:
  - *Toggle:* The assignment toggles between the zone's first mode and the chosen mode. The mode change assignment *must* be located in the same zone.
  - *Relative:* Use to step up and down through modes in a zone (using two buttons) or to choose a mode with an encoder. The minimum destination parameter represents this zone's first mode, and the maximum represents the zone's last mode. The mode change assignment *must* be located in the same zone.
  - *Rotate:* Use to step through all available modes with a single button press. For example, if used with a Jog Wheel, a single button press would cycle between Off, Scrub, Shuttle, and then back to Off. The minimum destination parameter represents this zone's first mode, and the maximum represents the zone's last mode. The mode change assignment *must* be located in the same zone.
- *Global:* Choose to use an assignment to control global parameters. A Parameter pop-up menu appears below the Class pop-up menu, showing the parameters listed below. These only work in relative mode, where changes are relative to the starting value or position.
  - *Playhead:* Controls the position of the playhead; feedback is sent in the format chosen in the control surface group's Clock Display parameter.
  - *Playhead (Beats):* As above, but feedback is sent in beats format.
  - *Playhead (Time Code):* As above, but feedback is sent in SMPTE timecode format.
  - *Playhead (Beats, Scrubbing):* Moving the controller initiates scrubbing. The format is defined by the control surface group's Format parameter. The controller value defines the scrubbing speed.
  - *Move Locators:* Moves the left and right locators.
  - *Left Locator:* Sets the left locator.
  - *Right Locator:* Sets the right locator.
  - *Move Punch Locators:* Moves the punch in and punch out locators.
  - *Left Locator:* Sets the punch in locator.
  - *Right Locator:* Sets the punch out locator.
  - *Marker Position:* Edits the position of the current marker.
  - *Marker Length:* Edits the length of the current marker.
  - *Nudge selected Regions/Events:* Nudges the selected regions or events by the chosen nudge value. (See "Nudge Value" below.)
  - *Any Solo:* Feedback only. On if any (track or region) Solo button is active.
  - *Nudge Value:* Sets the value used for Nudge selected Regions/Events. Choose from: tick, division, beat, bar, frame, and 1/2 frame.

- *Scrub Status:* Sets the scrubbing status for the Playhead parameter (beats, scrubbing). Choose from: set clock, audio scrubbing, shuttle.
- *Automation of all tracks:* Switches the automation state of all tracks between the following values: Off, Read, Touch, Latch, and Write.
- *Alert Text, Alert Button, Alert Icon:* Used by plug-ins to define a special Alert mode. This is mainly of use to control surface developers.
- *Dummy:* Used to temporarily disable a modeless assignment, by using the Exclusive checkbox. See Flip Group and Exclusive parameters on page 44.
- *Cycle:* Turns Cycle mode on and off.
- *Autopunch:* Turns Autopunch mode on and off.
- *Go to Marker:* Moves the playhead to a marker number. An additional number field below the Parameter pop-up menu is used to determine the destination marker number.
- *Group Clutch:* Sets the automation group clutch; automation groups are disabled when the clutch is enabled. For buttons, sets the group clutch to 1 when the button is pressed, and sets it to 0 when the button is released.
- *Active Sense:* Used by some control surfaces such as the HUI to process incoming Active Sensing messages.
- *Shuttle Speed:* Sets the forward and backward shuttle speed. Use this for controllers that send an absolute, rather than relative, value.
- *Waveform Zoom:* Sets the waveform zoom level in the key focus window.
- *Quantize Value:* Sets the Quantize value in the key focus window.
- *Division:* Sets the Division value in the key focus window.
- *Horizontal Zoom:* Sets the horizontal zoom level in the key focus window.
- *Vertical Zoom:* Sets the vertical zoom level in the key focus window.

- *Channel Strip:* Choose to use an assignment to set a channel strip parameter. A Channel Strip pop-up menu appears below the Class pop-up menu, showing the following parameters.
  - *Selected track:* Corresponds to the selected track except when the control surface group's Track Lock parameter is active. In this case, the selected track is the one that was chosen when Track Lock was enabled.
  - *Fader Bank:* Addresses a channel strip in the control surface group's current View (Arrange, All, Tracks, Single). This is dependent on the current Fader Bank value for this mode. For example, if the View is All, the All view Fader Bank is five, and the number next to this parameter is two. Thus, the eighth channel strip in the All view is addressed (Fader Bank and No. are zero-based, so add 1).
  - *Index:* Same as the Fader Bank setting, but is not dependent on the current Fader Bank value.
  - *Audio:* An audio channel. The numerical value (No.) determines which audio channel is addressed (zero-based; to address audio channel 2, use a value of 1).
  - *Software Instrument:* A software instrument channel. The numerical value (No.) determines which channel is addressed (zero-based; to address channel 2, use a value of 1).
  - *Bus:* A Bus channel. The numerical value (No.) determines which channel is addressed (zero-based; to address Bus 2, use a value of 1).
  - *Auxiliary:* An Aux channel. The numerical value (No.) determines which channel is addressed (zero-based; to address Bus 2, use a value of 1).
  - *Output:* An Output channel. The numerical value (No.) determines which channel is addressed (zero-based; to address Bus 2, use a value of 1).

- *Master:* The Master channel strip; if it does not exist in the project, the first output channel strip is addressed.

If you choose the Fader Bank, Index, Audio, Software Instrument, Bus, Auxiliary, Output, or Master setting from the Channel Strip pop-up menu, the following two parameters become available:

- *Number field:* A zero-based offset, which is added to the channel strip number. The typical use for this field is for sequential controls: Fader 1 uses offset 0, Fader 2 uses offset 1, and so on.
- *Parameter field:* Text description of the addressed parameter. Can only be set by choosing the Logic Pro > Control Surfaces > Learn Assignment for [parameter name] menu item. Note that for plug-in and instrument parameters, Parameter Page offsets apply, allowing you to shift the parameter addressing up and down by page.

- *Key:* Choose to use assignments to emulate computer keyboard keystrokes. You can enter the key to emulate in the Key field, which appears below the Class pop-up menu. This is not case-sensitive.
- *Key Command:* Choose to use an assignment to perform a key command. You can enter the key command in the Command field, which appears below the Class pop-up menu. Some key commands provide on/off or enabled/disabled feedback.

  If you want your key command assignment to be executed repeatedly, select the Key Repeat checkbox at the bottom of the Controller Assignments window. For further information, see Expert view Value parameters on page 49. Click the Show button to open the Key Commands window. The key command shown in the Command field is automatically selected and shown in the Key Commands window.
- *Control Surface Group:* Choose to set a property for the control surface group that the assignment belongs to. When you choose this class, a Parameter pop-up menu appears below the Class pop-up menu. This pop-up menu allows you to choose a Control Surface Group parameter (see Control Surface Group parameters overview on page 20), or one from those listed below.

  Note: Assignments for unsupported control surfaces always belong to the *first* control surface group.

  - *Fader Bank for Current View:* Maps to the fader bank for the currently used View allowing you to use one assignment per left or right button for all View modes.
  - *Filter for All View:* Choose to show eight additional checkboxes (for the eight channel strip types) when the View is All. Depending on the Value mode, these switches define which channel strips are displayed (by using Direct mode) or which are toggled (by using X-OR mode).
  - *Fader Bank for:* Channel strip choices are: MIDI, Input, Audio, Instrument, Aux, Bus, Output. These fader bank parameters are used in All View when only one channel strip type is displayed. This allows you to switch between several channel strip types, while retaining the current fader bank for each type.

  If you choose one of the fader bank or parameter page settings from the Parameter pop-up menu, the following Bank Type options appear below the pop-up menu.

  - *By One:* The fader bank or parameter page is shifted by one channel strip or parameter.
  - *By Bank:* The fader bank or parameter page is shifted by the number of displayed channel strips or parameters.
  - *CS Group Setting:* The fader bank or parameter page is shifted by the value defined for the Parameter Page Shift Mode control surface group parameter.

- *Automation Group:* Choose to use the assignment to set an automation group parameter. When chosen, a Group field appears below the Class pop-up menu. You can determine the edited group by entering a number in the field. Entering a "0" sets this parameter to the group selected for the Automation Group parameter (in the control surface group parameters). A Parameter pop-up menu also appears below the Group field, allowing you to choose the automation group parameter for the assignment. For further information, see the Group Settings section of the *Logic Pro Help*.

Expert view Input Message parameters

The parameters in this section let you control different aspects of MIDI input.

Input Message parameters

- *MIDI Input pop-up menu:* Choose a MIDI input port to change all assignments that use the same input port. If the assignment belongs to a supported control surface, the device's MIDI input also changes in the Setup window.

  This makes it easy for you to create default assignments for a new control surface. These new assignments can be moved to other computers by copying and pasting your preferences file into the Preferences folder of another computer. You can then open the Controller Assignments window in Expert view on the other computer and change the MIDI Input parameter of one assignment.

- *Value Change field:* Shows incoming MIDI messages that cause a value change in the destination parameter, and lets you edit these MIDI messages.

  The Value Change field displays the message as a sequence of hexadecimal bytes. The plain language meaning appears below the field. The placeholders for the variable part of the message are:

  - *Lo7:* Low 7 bits of the value (LSB or Least Significant Bits)
  - *Hi7:* High 7 bits of the value (MSB or Most Significant Bits)

  For messages containing only a Lo7 placeholder, the value is treated as 7 bit. For messages containing both a Lo7 and Hi7 placeholder, the value is treated as 14 bit. The order of Lo7 and Hi7 is honored, and there may be constant bytes in between. This allows you to define Control Change LSB and MSB portions. For example, B0 08 Hi7 B0 28 Lo7 indicates a 14-bit message.

  Note: When you enter multiple MIDI messages, always enter each message completely, being sure to repeat the status byte, even if it's the same. It may help to write out the message to ensure that the correct byte works, as you can't know what status the previously sent message had.

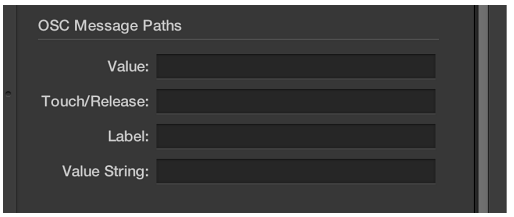
  For messages containing neither Lo7 nor Hi7 placeholders, Logic Pro assumes an incoming value of 1. This is typical for pressed or released buttons. Also see *Multiply field* in Expert view Value parameters on page 49.

- *Touch/Release field:* Enter an integer value to use the incoming MIDI message for status changes of the destination parameter from touched to released, or vice versa. A non-zero value means touched; a value of 0 means released. The messages are shown and edited in the same way as the Value Change field.

  Note: The Touch/Release setting applies only to the Channel Strip assignment class and to parameters that can be automated.

OSC Message Paths

The parameters in this section let you edit the OSC paths used to communicate with OSC devices. The OSC protocol allows for realtime communication between software and hardware over a network, or using USB or other serial interfaces. The current OSC implementation in Logic supports UDP and IPv4 network connections only.



OSC Message Path parameters

- *Value field:* Determine the message for sending the parameter value. Normally the value is a normalized float, such as 0.0 to 1.0.

  Note: There is an exception to the normalized value rule: feedback for global and control surface group parameters is always sent non-normalized. As an example, the current fader bank is sent as per its integer form, but in float format (0.0, 1.0, 2.0 and so on).

- *Touch/Release field:* Choose from the following values: 1.0 indicates touched and a value of 0.0 indicates released.
- *Label field:* Displays the parameter name.
- *Value String field:* Displays the current parameter value.

Expert view Value parameters

The parameters in this section let you control different aspects of the values for incoming MIDI messages.

Value parameters

- *Min and Max fields:* Enter an integer value to set the minimum and maximum range for incoming values represented by Lo7 and Hi7. Typically, the minimum defaults to 0, and the maximum defaults to 127. Some control surfaces (such as the CM Labs Motor Mix) may use the same message, with different value ranges, for different controls. For more specific information, refer to the documentation that came with your device.
- *Format pop-up menu:* Choose the encoding format for negative values in the 7-bit portions sent over MIDI. The choices are:
  - *Unsigned:* No negative values are possible. The full 7- or 14-bit range is treated as a positive number. The value range is 0 to 127 (7 bit) or 0 to 16383 (14 bit).
  - *2's complement:* If the most significant bit is set, the value is negative. To obtain the absolute value, invert all bits and add 1. The value range is from –128 (7 bit) to 127 or –8192 to 8191 (14 bit).
  - *1's complement:* If the most significant bit is set, the value is negative. To set the absolute value, invert all bits. Note that this allows two possible encoding values for zero. The value range is –127 to 127 (7 bit) or –8191 to 8191 (14 bit).
  - *Sign Magnitude:* If the most significant bit is set, the value is negative. To set the absolute value, clear the most significant bit. Note that this allows two possible encoding values for zero. The value range is –127 to 127 (7 bit) or –8191 to 8191 (14 bit).

Note: The appropriate format for a device is usually specified in its documentation. If unavailable, check the control surface manufacturer's website or contact them for more information.

- *Multiply field:* Enter a scaling value for incoming values. This is useful for button presses that have a value of 1. For example:
  - *To set the automation mode to Write:* Set Multiply to 4.00, and Mode to Direct.
  - *To decrement a parameter by 1 with a button press:* Set Multiply to –1.00, and Mode to Relative.
- *Mode pop-up menu:* Choose the mode used by incoming values to modify the current parameter value. The choices are:
  - *Direct:* The incoming value is used as the parameter value.
  - *Toggle:* If the parameter's current value is 0, it is set to the incoming value. All other values set the parameter value to 0. This option is useful for buttons that toggle a value, such as Mute or Solo.
  - *Scaled:* The incoming value is scaled from its value range to the destination parameter's value range. This is useful for faders and rotary encoders.
  - *Relative:* The incoming value is added to the parameter's current value. This is commonly used for encoders but is also useful for buttons that increment or decrement by a certain amount—specified by the Multiply parameter.
  - *Rotate:* The incoming value is added to the parameter's current value, cycling between maximum and minimum values. This is useful for button presses that cycle between modes, such as automation mode.
  - *X-OR:* The value defines a bit mask (a filter), which is applied to the parameter's current value with the "exclusive or" Boolean operation. This is useful for enabling or disabling single channel strip types in All view.

  Note: For On/Off parameters, Mode is set to Toggle by default. It is set to Scaled for absolute controls (faders and knobs, for example) or to Relative for encoders.
- *Feedback pop-up menu:* Choose the display format for the parameter's current value on the control surface display. The choices are:
  - *None:* No feedback is sent.
  - *Single Dot/Line:* LED rings: only one LED; LCDs: a single vertical line.
  - *Left to Right Bar:* A bar from the minimum to the current value.
  - *Bar from Center:* A bar from the center position to the current value.
  - *Right to Left Bar:* A bar from the current value to the maximum.
  - *Q/Spread:* Two equal bars from the center to the current value.
  - *Ascending Bar:* A bar from the bottom to the current value.
  - *Descending Bar:* A bar from the top to the current value.
  - *Text Only:* LED rings: no feedback; LCDs: no feedback as a graphics element.
  - *Automatic:* Depending on the currently assigned parameter, the most suitable feedback mode is used: Plug-in and Instrument parameters carry this information, Pan displays a single dot or line (Single Dot/Line), and all other parameters display a bar that runs from left to right (Left to Right Bar).

  Note: Feedback only works for supported control surfaces, and not all settings are available for all controls.

- *Text Feedback checkbox:* Turn on to send a text representation of the current value to the control surface's display. The control surface display capabilities determine the display position and number of characters that are used.
- *Local Feedback (Fader/Knob) checkbox:* Turn on to stop feedback while the parameter is in Touch mode. This prevents motorized faders from "fighting" against the user.
- *Key Repeat checkbox:* Turn on to repeatedly execute the assignment. The Key Repeat Rate slider—set in OS X Keyboard preferences—determines how quickly Logic Pro repeats the assignment. The duration that the button must be held for before the assignment is repeated is set with the Delay Until Repeat slider in Keyboard preferences.

  Key Repeat is useful for the zoom function. For example, if you assign a Key Repeat command to the Mackie Control Zoom buttons, holding the Zoom In button will continuously zoom in the Logic Pro window until the button is released. The alternative is to repeatedly press the Mackie Control Zoom buttons to zoom in or out more than one level.

  Note: The Key Repeat checkbox is available only for key commands, key presses, and relative value changes. If any other assignment class is selected, the checkbox is dimmed.

  The default key command assignments support the Key Repeat function if useful or applicable to the control surface or device, making changes unnecessary to use this function. If you want to enable the Key Repeat function for your own assignments, you may need to use the re-learn option for the assigned message. Key Repeat messages must include the Lo7 byte, which provides information on the up (released) or down (pressed) state of the assigned button. Logic Pro guides you through the re-learning process. The current MIDI message is automatically cleared, Learn mode is activated, and a help tag prompts you to send the required MIDI message. Releasing the assigned button—after learning the MIDI message—automatically creates the Lo7 byte, and assigns the Lo7 value (for the button release message) to the Min parameter. The Lo7 value for the button pressed message is automatically assigned to the Max parameter. Typically, the value range of 1 to 127 is used for the button pressed message. The zero (0) value is generally used for the button release message.

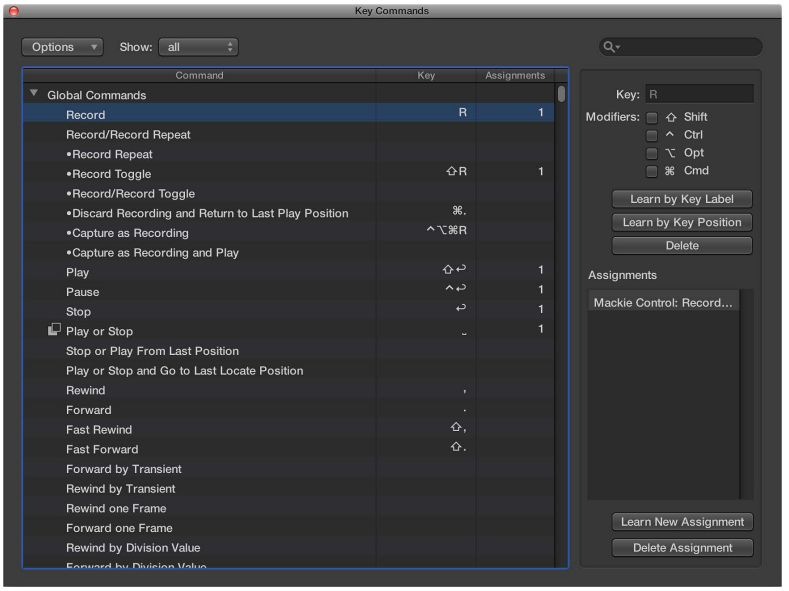
  Note: Some control surfaces, such as CM Labs Motormix, may use different value ranges. Assigning appropriate Min and Max values ensures that the Key Repeat function works with such devices. Take care when manually changing the Min or Max value for a key command because the complete assignment does not work in cases where the Min and Max values do not match the button pressed (on) and button released (off) states. Consult your control surface manual for further information about the values it uses.

Assign buttons to key commands

In addition to assigning controllers to parameters, you can assign control surface buttons—and button or key release messages—to key commands.

Assign a control surface button to a key command

1 To open the Key Commands window, choose Logic Pro > Key Commands.



2 In the Command list, click the disclosure triangle next to the category whose commands you want to reveal, then select the key command you want to assign. You can also search for the key command in the Search field.

3 Click the Learn New Assignment button.

4 Press the control surface button that you want to assign to the key command. This sends a MIDI message to Logic Pro.

The name of the controller appears in the Assignments field.

5 Repeat steps 2 to 4 to make additional assignments.

6 To exit the window, click the close button.

Assign a button or key release message to a key command

1 To open the Key Commands window, choose Logic Pro > Key Commands.

2 In the Command list, click the disclosure triangle to reveal the commands for a category, then select the key command you want to assign (or use the Search field).

3 Hold down the control surface button or key that you want to assign to the key command.

4 Click the Learn New Assignment button.

5 Release the button or key.

The name of the button or key appears in the Assignments field.

6 To exit the window, click the close button.

Delete a key command assignment

1. To open the Key Commands window, choose Logic Pro > Key Commands.
2. Select the key command with an assignment you want to delete in the Command list.
3. Select the assignment for the key command in the Assignments field.
4. Press the Delete key.

Mackie Control 4

Mackie Control overview

You can control Logic Pro with a Mackie Control and can extend its functionality with several expansion devices, such as the XT and C4 units.

The controls of the Mackie Control are physically grouped into different areas that are clearly labeled and distinguished by different shades of gray on the device. The Mackie Control features and functions described in the documentation are organized by these groupings.

Any powered Mackie Control unit that is connected to your system is automatically detected when you open Logic Pro. You can use the Mackie Control immediately—with the default settings—or you can customize its settings, as described in Controller assignments overview on page 34.

Once set up, you can use the Mackie Control to control Logic Pro in the following ways, or perhaps take an alternate approach that best meets your working preferences.

- With your project open in the Tracks window, select the channel strips you want to control by pressing the fader bank buttons on the Mackie Control. See Mackie Control Bank buttons.
- Select the parameters you want to edit, and whether you want to edit multiple channels (Mixer view) or a single channel (Channel view), using the Assignment buttons. See Mackie Control Assignment buttons overview on page 60.
- Start playback, and move the playhead to the position where you want to work, using the Mackie Control transport buttons and Jog Wheel. See Mackie Control transport buttons overview on page 82 and Mackie Control Jog/Scrub wheel on page 89.
- Edit the project with the channel strip controls. See Mackie Control channel strips overview on page 57 and Mackie Control V-Pots.

Note: The term *Mackie Control* is used for the Mackie Control Universal, the original Mackie Control, the Logic Control, and the Mackie (or Logic) Control Extender (XT) throughout the documentation.

Mackie Control displays

Mackie Control displays overview

The displays are located along the top of the Mackie Control. Each shows different information:

Displays

- *Main Liquid Crystal Display (LCD):* The main LCD is divided into eight columns, each with two lines of text. Each column displays information for the channel strip controls directly below it. The information displayed changes when you edit different parameters and when Mixer view or Channel view is active. In general, the upper row of each column displays the abbreviated track (or channel) name, and the lower row displays the abbreviated parameter name and its value.

  In some modes, a long parameter name (or other text) appears briefly onscreen while you are moving the corresponding control. You can set the display and duration of long parameter names in Control Surfaces preferences. For information on setting preferences, see Open Control Surfaces preferences on page 26.

  Note: On the LCD, 8-bit ASCII characters such as curly quotes and umlauts are replaced with the best-possible 7-bit ASCII equivalent.

- *Assignment display:* The Assignment display (also referred to as the *mode display*), to the right of the main LCD, shows a two-digit abbreviation for the current assignment state. A period (.) appears at the bottom-right corner of the display when Channel view is active.
- *Time display:* The Time display, to the right of the Assignment display, shows the current playhead position, either in musical time divisions (BEATS) or in SMPTE timecode format (SMPTE). A small LED to the left of the display indicates the current display format.
  - When the format is set to Beats, the four segments of the Time display show the current playhead position as bars, beats, beat subdivisions, and ticks.
  - When the format is set to SMPTE, the four segments of the Time display show the current playhead position as hours, minutes, seconds, and frames.

  Press the SMPTE/BEATS button to switch between formats. You can also set the default format with the Clock Display parameter in the Control Surfaces Setup window. See Control surface inspector overview on page 18.
- *Solo LED:* The Solo LED (Rude Solo on the Mackie Control) is lit when a channel strip is set to solo or when Solo mode is turned on. It is a helpful reminder in situations where you have soloed a channel strip, then switched the fader bank, resulting in the Solo LED of the soloed channel strip being hidden on the control surface.

Mackie Control display control buttons

The control buttons, located just below the left edge of the Time display, affect what you see in the main LCD and Time display.

Display buttons

- *SMPTE/BEATS:* Press the SMPTE/BEATS button to switch between the two time formats (SMPTE time or beats). See Mackie Control displays overview on page 55.
- *NAME/VALUE:* Press the NAME/VALUE button to switch between the two parameter display formats (either the parameter name or value is shown) on the main LCD.

  Hold down the SHIFT button, then press the NAME/VALUE button to cycle through three level meter modes on the main LCD:

- *Vertical:* In this mode, the last character of each channel (in both LCD rows) is overlaid by a vertical bar that shows the channel level. The text characters reappear when the level meter is not visible.
- *Horizontal with Peak Hold:* In this mode, the lower row of the LCD is replaced by horizontal channel level bars. Peak Hold appears as a hollow box, which disappears after a few seconds. Signal overloads (clipping) are indicated by an asterisk, which remains on the LCD display until cleared.
- *Off:* In this mode, no level meter bars are displayed in the main LCD.

In all three modes, the SIGNAL LEDs of the channel strips function as per usual, indicating the presence of a signal.

Hold down the CONTROL button, then press the NAME/VALUE button to clear any overload (clipping) indicators in the Logic Pro Mixer and in the LCD if the Horizontal with Peak Hold mode is active.

Hold down the CMD/ALT or OPTION button, then press the NAME/VALUE button to turn on Control Surface Group Settings mode. This mode lets you edit the outlined control surface group settings, some of which are not accessible with a single button.

You can exit Control Surface Group Settings mode by pressing NAME/VALUE or by entering one of the Marker or Nudge modes. See Mackie Control Marker button overview and Mackie Control Nudge button overview.

Control	Action
V-POT 5	Sets the track name display format. • *Name:* Displays the track name only. • *No: Name:* Displays the track number and name.
V-POT 6	Switches Channel view to Lock mode. • *Off:* The standard mode, in which selecting a channel strip makes it the active (currently being edited) channel strip. • *On:* Locks the active channel strip. Selection of another channel strip has no impact on the channel strip being edited. When you switch from On to Off, the channel strip is also updated.
V-POT 7	Switches the LCD display format. • *Name:* The upper line of the LCD displays global information, and the lower line displays parameter names. • *Value:* The upper line of the LCD displays parameter names, and the lower line displays parameter values. Functionally, this is identical to pressing the NAME/VALUE button.
V-POT 8	Switches the Clock display format. • *Beats:* Clock is displayed in bars, beats, beat subdivisions, and ticks. • *SMPTE:* Clock is displayed in SMPTE format. Functionally, this is identical to pressing the SMPTE/BEATS button.

Mackie Control channel strips

Mackie Control channel strips overview

Directly below the main LCD display are eight sets of channel strip controls. You can use these to control Logic Pro channel strip parameters, plug-in parameters, and other functions. Each channel strip of both the Mackie Control and XT units includes the controls described in the linked sections:

- V-Pot rotary encoder with button. See Mackie Control V-Pots on page 57.
- REC/RDY button and LED. See Mackie Control channel strip buttons and LEDs on page 58.
- Touch-sensitive motorized fader. The Mackie Control also provides a dedicated Master fader. See Mackie Control faders on page 59.

Mackie Control V-Pots

The V-Pot is a rotary encoder, with an integrated button (accessed by pressing down on the top of the encoder). You can use the V-Pot to adjust the channel's send level and pan/balance (in Channel view) or to adjust effect or instrument plug-in parameters. The V-Pot can also be used to scroll through and choose items such as plug-ins, software instruments, and more from menus, and to determine send destinations. The faster you turn the V-Pot, the quicker it changes values, scrolls through menus, and so on.

The top of each V-Pot has an integrated push button, which typically sets a default parameter value (if a parameter has more than two possible values) or switches between two parameter values (on/off). The button can also be used to activate a function you have selected with the V-Pot. For example, you can turn the V-Pot to scroll through a list of effect plug-ins for one of the channel Insert slots. Once the effect you want is displayed in the main LCD, press the top of the V-Pot to select and insert the effect, and open the plug-in window. The button is also sometimes used to switch to a special assignment mode.

When a value or name (such as a plug-in) has been preselected, but not confirmed or inserted, the value (or name) flashes on the main LCD until you press the V-Pot button.

The current value of the parameter you are adjusting with the V-Pot is displayed on the main LCD (depending on the Name/Value setting) and is also indicated by the ring of LEDs encircling the V-Pot. The way that parameter values are displayed on the LED ring varies depending on the type of parameter being displayed.

Hold down the CMD/ALT button to set V-Pots to high-resolution (fine) mode, for parameters where this mode applies.

Hold down the OPTION button and turn a V-Pot to switch between the minimum, default, and maximum values for the parameter.

Mackie Control channel strip buttons and LEDs

Each channel strip provides identical buttons and LEDs.

Channel strip buttons

- *REC/RDY button:* Press the REC/RDY button to arm the channel strip for recording. If the channel is currently armed, pressing the REC/RDY button disarms it. Each REC/RDY button features a red LED, which is illuminated when the channel is armed for recording.

  Hold down the OPTION button while pressing the REC/RDY button of *any* channel strip to disarm all channel strips.

- *SOLO button:* Press the SOLO button to hear the channel strip in isolation. Each SOLO button has an amber LED that is lit when the channel strip is soloed. The Rude Solo LED on the right edge is also lit whenever any channel is soloed.

  Hold down the OPTION button while pressing any channel strip SOLO button to disable solo for all channel strips.

  In the Send Destination/Level view (see Mackie Control Send button overview on page 68), the SOLO button controls the Pre/Post mode selection for both Mixer view and Channel view.

- *MUTE button:* Press the MUTE button to silence the channel. Each MUTE button has a red LED that is lit when the channel is muted.

  Hold down the OPTION button while pressing any channel strip MUTE button to unmute all muted channel strips.

  In the EQ Frequency/Gain and Send Destination/Level views, the MUTE button controls the EQ bypass or Send Mute function. This affects both Mixer and Channel views.

- *SELECT button:* Press the SELECT button to choose and activate the channel for channel-based editing or assignment commands. Each SELECT button has a green LED that is lit when the channel is selected.

  Hold down the SHIFT button while pressing a channel strip SELECT button to set the channel volume to unity level (0 dB).

  Note: While holding down the SHIFT button, the SELECT button LED indicates if the channel volume is set to 0 dB.

  Hold down the OPTION button while pressing the SELECT button of any channel strip to create a new track—assigned to the same channel strip as the selected track.

  Hold down the SHIFT and OPTION buttons while pressing a channel strip SELECT button to create a new track with the next channel strip (the one following the selected track).

- *Signal LED:* Indicates the presence of an outgoing MIDI or audio signal. During recording, it indicates the presence of an incoming signal.

Mackie Control faders

The motorized fader of each channel strip is generally used to control the channel level, just like a volume fader on a mixing console. You can, however, also assign the fader to control other parameters by using Flip mode.

Flip mode is activated by pressing the FLIP button, just above the MASTER fader. When Flip mode is activated, you can control the parameter that is currently assigned to the channel's V-Pot with the fader. This allows more precise control of pans, aux returns, MIDI track parameters, EQs, effects, software instrument, or other channel parameters.

You can switch between channels being controlled with the eight faders by pressing one of the CHANNEL or FADER BANK buttons. See Mackie Control Channel buttons on page 76 and Mackie Control Bank buttons on page 75.

The behavior of the faders changes in different modes, as outlined below:

- *In Flip mode:* Duplicates or swaps parameters with the V-Pot on the same channel.
- *In Surround Angle/Diversity view:* Adjusts surround diversity.
- *In EQ Frequency/Gain view:* Adjusts the gain of the selected EQ band.
- *In Send Destination/Level Mixer view:* Adjusts the send level of the selected send.
- *In Send Destination/Level Channel view:* Adjusts the send level of the send on the *selected* channel strip.

The Mackie Control also provides a Master fader that controls the level of the primary master channel strip in the Logic Pro Mixer. This raises or lowers the level of all output channel strips, without changing their relative levels.

When no Master channel strip exists in the project, the Mackie Control Master fader is mapped to output channel strip 1–2.

If you use multiple audio systems simultaneously, the Master fader only controls the Master channel strip of the *first* device (matching the order shown in the Audio Preferences window).

Mackie Control assignment buttons

Mackie Control Assignment buttons overview

Directly below the Assignment LED are six ASSIGNMENT buttons.

Press one of the ASSIGNMENT buttons to select the type of parameter that you want to control or edit with the channel strip V-Pots, faders, and switches. The corresponding LED is lit to indicate the currently active assignment, and the Assignment display shows a two-digit abbreviation of the assignment type.

The ASSIGNMENT buttons work in both Single and All views. Views are discussed in Mackie Control assignment views on page 60.

Mackie Control assignment views

Each ASSIGNMENT button has two views: Mixer view and Channel view. These views provide two ways to edit parameters in your project.

- *Mixer view:* Displays, and allows you to edit, a single parameter in multiple channels.
- *Channel view:* Displays, and allows you to edit, multiple parameters for a single channel. The mode display shows a period (.) in the lower-right corner when Channel view is active.

Pressing an ASSIGNMENT button once selects it, and switches to Mixer view, except when switching between Instrument Edit view and Plug-in Edit view. In this case, the mode remains in Channel view.

Note: For each of the ASSIGNMENT buttons, the parameters you can edit change, depending on the active view.

The NAME/VALUE button also affects what is shown on the main LCD when in the Mixer and Channel views. For more information, see Mackie Control function keys on page 77.

Mackie Control Track button

Mackie Control Track button overview

Press the TRACK button to select Channel view and assign the channel strip controls to edit channel strip parameters.

- Press the TRACK button once to edit a single parameter in multiple channel strips and to activate Mixer view.
- Press the TRACK button again to edit multiple parameters for a single channel strip and switch to Channel view.
- Hold down the TRACK button to display the Track shortcut menu on the LCD.
- Hold down the TRACK button to display the Track shortcut menu on the LCD, then press V-Pot 8 or F8 to switch to Channel strip setup view.

Mixer view

Mixer view allows you to edit a single parameter in multiple channel strips: volume, pan, input format, input assignment, output assignment, or automation mode. When you switch to Mixer view, the parameter being edited is briefly displayed on the right side of the main LCD. The mode display shows "tr" (for track), and the upper row of the LCD shows track names.

Press NAME/VALUE to display parameter values on the lower row of the LCD. These are shown when you turn a V-Pot, or press its button.

You can manipulate the following controls for editing in Mixer view:

- Rotating the V-Pots changes the associated channel strip parameter.
- Pressing the button on a V-Pot sets the parameter to its default value.
- The Cursor Left/Cursor Right buttons switch to the next or previous channel strip parameter. The selected parameter is displayed briefly in the upper row of the LCD.

Note: Ensure that the ZOOM button isn't active when using the cursor buttons.

Channel view

Channel view allows you to edit the most important channel strip parameters for a single channel strip: volume, pan, instrument, Insert slot 1 assignment, Insert slot 2 assignment, Send 1 level, Send 2 level, and Send 3 level. When you switch to Channel view, the mode display shows "tr.," and the upper row of the LCD shows the name of the channel strip.

Press NAME/VALUE to show parameter names in the upper row and parameter values in the lower row.

The table outlines V-Pot edits in Channel view:

Control	Action
V-Pot 1	Edits volume. The current value is shown in the lower row of the LCD.
V-Pot 2	Edits pan. The current value appears in the lower row of the LCD.
V-Pot 3	For software instrument tracks, turn to choose the instrument. Press the V-Pot 3 button to confirm your choice, insert the instrument, and open the plug-in window.
V-Pot 4	For audio and software instrument tracks, turn to choose the plug-in used on Insert slot 1. Press the V-Pot 4 button to confirm your choice, insert the effect, and open the plug-in window.
V-Pot 5	For audio and software instrument tracks, turn to choose the plug-in used on Insert slot 2. Press the V-Pot 4 button to confirm your choice, insert the effect, and open the plug-in window.
V-Pot 6	Edits the send level of Send 1.
V-Pot 7	Edits the send level of Send 2.
V-Pot 8	Edits the send level of Send 3.

Hold down SHIFT while pressing one of the MUTE or V-Pot buttons to switch between mute and bypass.

Control	Action
V-Pot 1 or Mute 1	Mutes (or unmutes) the channel strip.
V-Pot 2 or Mute 2	Mutes (or unmutes) the channel strip.
V-Pot 3 or Mute 3	For software instrument tracks, mutes (or unmutes) the software instrument used on the channel strip.
V-Pot 4 or Mute 4	For audio and software instrument tracks, bypasses the effect plug-in used in Insert slot 1.
V-Pot 5 or Mute 5	For audio and software instrument tracks, bypasses the effect plug-in used in Insert slot 2.
V-Pot 6 or Mute 6	Mutes (or unmutes) Send 1.
V-Pot 7 or Mute 7	Mutes (or unmutes) Send 2.
V-Pot 8 or Mute 8	Mutes (or unmutes) Send 3.

Track shortcut menu

Hold down the TRACK button to display the Track shortcut menu on the LCD. When this menu is active, the mode display shows "t_" (for Track shortcuts). Press one of the V-Pot or Function buttons to make the outlined changes.

Control	Action
V-Pot 1 or F1	Switches to Mixer view, and selects volume as the parameter edited by the V-Pot.
V-Pot 2 or F2	Switches to Mixer view, and selects pan as the parameter edited by the V-Pot.
V-Pot 3 or F3	Switches to Mixer view, and selects input format as the parameter edited by the V-Pot.
V-Pot 4 or F4	Switches to Mixer view, and selects the input assignment as the parameter edited by the V-Pot.
V-Pot 5 or F5	Switches to Mixer view, and selects the output assignment as the parameter edited by the V-Pot.
V-Pot 6 or F6	Switches to Mixer view, and selects the automation mode as the parameter edited by the V-Pot.
V-Pot 7 or F7	Switches to Mixer view, switches Logic Pro to Arrange view, and selects the automation parameter selected in the Tracks window.
V-Pot 8 or F8	Switches to Channel Strip Setup view.

Channel strip setup view

Hold down the TRACK button to display the Track shortcut menu on the LCD, then press V-Pot 8 or F8 to enter Channel Strip Setup view. In this view, you can edit the listed parameters for the selected channel strip.

Control	Action
V-Pot 1	Edits the channel strip format (mono, stereo, left, right, and surround).
V-Pot 2	Edits the Spread parameter.
V-Pot 3	Selects the channel strip input assignment. Confirm by pressing V-Pot 6.
V-Pot 4	Selects the channel strip output assignment. Confirm by pressing V-Pot 7.
V-Pot 5	Edits the automation mode.
V-Pot 6	Edits group membership. You can only choose one group or Off. To make a channel strip a member of multiple groups, use Group Edit mode.

Mackie Control Pan/Surround button

Mackie Control Pan/Surround button overview

Press the PAN/SURROUND button once to activate Pan/Surround Mixer view.

Press the PAN/SURROUND button repeatedly to switch between Pan/Surround Mixer view and Pan/Surround Channel view.

Hold down the PAN/SURROUND button to display the Alternative Pan/Surround mode options submenu on the LCD.

Pan/Surround Mixer view

Pan/Surround Mixer view allows you to edit one pan/surround parameter for all channel strips: Angle or Pan (on non-surround channel strips), Diversity, LFE, and Spread (on surround channel strips). The parameter being edited is displayed briefly when switching to this mode. Regardless of the selected (and active) surround parameter, non-surround channel strips always display the standard Pan control.

In a project containing both surround and non-surround channel strips, you can edit a specified surround parameter for surround channel strips, while the V-Pots of non-surround channel strips edit pan position, as usual.

In Pan/Surround Mixer view:

- The mode display shows “Pn” (for Pan).
- The upper row of the LCD shows channel strip names.
- Rotating the V-Pots changes the current pan/surround parameter.
- The Surround Angle parameter rotates between 0 and 359 degrees, avoiding any angle limits.
- Pressing the button on a V-Pot sets the parameter to its default value.
- The Cursor Left/Cursor Right buttons switch to the next or previous surround parameter. The selected parameter appears briefly in the upper row of the LCD.

Note: Ensure that the ZOOM button isn’t active when using the cursor buttons.

Pan/Surround Channel view

Pan/Surround Channel view allows you to edit all surround parameters for the selected channel strip.

- The mode display shows "Pn" (for Pan).
- The upper LCD row shows the name of the channel strip and "Pan/Surround."

Control	Action
V-Pot 1	Edits angle (or pan on non-surround channel strips).
V-Pot 2	Edits diversity.
V-Pot 3	Edits LFE level.
V-Pot 4	Edits spread.
V-Pot 5	Edits Surround X.
V-Pot 6	Edits Surround Y.

Note: The Angle/Diversity and X/Y pairs influence each other. Only the Angle/Diversity parameters are automated and recorded.

Alternative Pan/Surround mode options

Hold down the PAN/SURROUND button to display the alternate Pan/Surround mode options submenu on the LCD. The V-Pots and function keys allow you to make the changes outlined in the table.

Control	Action
V-Pot 1 or F1	Switches to Pan/Surround Mixer view and selects Angle.
V-Pot 2 or F2	Switches to Pan/Surround Mixer view and selects Diversity.
V-Pot 3 or F3	Switches to Pan/Surround Mixer view and selects LFE level.
V-Pot 4 or F4	Switches to Pan/Surround Mixer view and selects Spread.
V-Pot 5	—
V-Pot 6 or F5	Switches to Pan/Surround Channel view.
V-Pot 7 or F6	Switches to Surround Angle/Diversity Mixer view. • The mode display shows "Ad" (Angle/Diversity). • The upper LCD row shows channel strip names. • The lower LCD row shows the surround angle currently assigned to each channel strip. • Rotating a V-Pot changes the surround angle (or adjusts pan position on non-surround channel strips). • Pressing a V-Pot sets the surround angle to its default value. • The faders edit surround diversity.
V-Pot 8 or F7	Switches to Surround X/Y Mixer view. • The mode display shows "XY." • The upper LCD row shows channel strip names. • The lower LCD row shows the surround X value currently assigned to each channel strip. • Rotating a V-Pot changes the surround X value (or adjusts pan position on non-surround channel strips). • Pressing a V-Pot sets surround X to its default value. • The faders edit surround Y.

Note: The X and Y parameters are limited to a rectangular coordinate system. As such, value pairs outside the surround circle are not possible. If you try to set a Y value that is invalid, the X coordinate is automatically adjusted to a valid position, and vice versa. For example, moving Y to +1000 results in an X coordinate value of 0. When only one coordinate value is edited, the other coordinate value defaults to the setting of the most recently selected channel strip. This helps you to create linear movements. X and Y have a value range of −1000 to +1000, but the resolution is not that high because surround positions are currently recorded as 7-bit data.

Mackie Control EQ button

Mackie Control EQ button overview

Press the EQ button to activate EQ Mixer view.

Press the EQ button repeatedly to switch between EQ Mixer view and EQ Channel view.

Hold down the EQ button to access the Alternate EQ edit mode options submenu in the LCD.

Note: If no Channel or Linear Phase EQ is present on the selected channel strip, a Channel EQ is inserted automatically when you enter EQ Channel view.

EQ Mixer view

EQ Mixer view allows you to edit one equalizer parameter for all channel strips: Frequency, Gain, Q, or EQ bypass. The EQ band number, and parameter being edited, are displayed briefly when you switch to this mode.

- The mode display shows E1 to E8, indicating the selected EQ band.
- The upper LCD row shows channel strip names.
- Rotating the V-Pots changes the current EQ parameter.
- Pressing a V-Pot button sets the parameter to its default value.
- The Cursor Up/Cursor Down buttons switch to the next or previous EQ band.
- The Cursor Left/Cursor Right buttons switch to the next or previous EQ parameter. The selected parameter is displayed briefly in the upper LCD row.
- Pressing a MUTE button while holding down the SHIFT button switches the current EQ band's Bypass state.
- When Flip mode is turned on, the MUTE buttons display, and switch, the current EQ band's Bypass state.

Note: Ensure that the ZOOM button isn't active when using the cursor buttons.

EQ Channel view

EQ Channel view allows you to edit all EQ parameters—in all bands—for the selected channel strip.

- The mode display shows EQ (EQ channel strip).
- The upper row of the LCD shows the name of the channel strip, EQs, the page number, and the total number of pages (for example:"Page 1/2").

Control	Action
V-Pot 1	Edits the frequency of odd-numbered EQ bands.
V-Pot 2	Edits the gain of odd-numbered EQ bands.
V-Pot 3	Edits the Q-factor of odd-numbered EQ bands.
V-Pot 4	Switches the bypass state of odd-numbered EQ bands.
V-Pot 5	Edits the frequency of even-numbered EQ bands.
V-Pot 6	Edits the gain of even-numbered EQ bands.
V-Pot 7	Edits the Q-factor of even-numbered EQ bands.
V-Pot 8	Switches the bypass state of even-numbered EQ bands.

The Cursor Left and Cursor Right buttons switch to the next or previous EQ band. The LCD displays two EQ bands. If you have one or more connected Mackie Control (XT) units, each XT can display two EQ bands—up to a total of eight bands.

Note: Ensure that the ZOOM button isn't active when using the cursor buttons.

Alternate EQ edit mode options

Hold down the EQ button to access the alternate EQ edit mode options submenu in the LCD. The mode display shows E_ or E_., depending on whether you are in EQ Mixer or EQ Channel view.

Control	Action
V-Pot 1 or F1	Switches to EQ Mixer view and selects frequency.
V-Pot 2 or F2	Switches to EQ Mixer view and selects gain.
V-Pot 3 or F3	Switches to EQ Mixer view and selects Q.
V-Pot 4 or F4	Switches to EQ Mixer view and selects bypass.
V-Pot 6 or F6	Switches to EQ Channel view.
V-Pot 7 or F7	Switches to Frequency/Gain Mixer view. In this mode, you can edit the frequency and gain parameters of a specific EQ band (1 to 8) for all channel strips. • The mode display shows F1 to F8, indicating the selected EQ band. • The upper LCD row shows channel strip names. • The lower LCD row shows the frequency of the selected EQ band. • Rotating a V-Pot changes EQ frequency. • Pressing a V-Pot sets the EQ frequency to its default value. • Use the Mute buttons to bypass the EQ. • Use the faders to adjust the EQ gain.
V-Pot 8 or F8	Switches to Frequency/Gain Channel view. In this mode, you can edit the frequency and gain parameters for all EQ bands of the selected channel strip. Each pair of channel strips corresponds to one EQ band. • The mode display shows FG. • V-Pots 1 to 8 control the frequency of EQ bands 1 to 8. • Mute buttons 1 to 8 control the bypass of EQ bands 1 to 8. • Faders 1 to 8 control the gain of EQ bands 1 to 8.

Note: The faders form a frequency response curve in this mode, if the EQ bands have ascending frequency values.

Tip: You can edit another channel strip's EQ without leaving this view by selecting the channel strip in Logic Pro or by pressing the appropriate SELECT button on the Mackie Control.

Mackie Control Send button

Mackie Control Send button overview

Press the SEND button to activate Send Mixer view.

Press the SEND button repeatedly to switch between Send Mixer view and Send Channel view.

Hold down the SEND button to access the Alternate Send edit mode options submenu in the LCD.

Send Mixer view

Send Mixer view allows you to edit one send parameter for all channel strips: Destination, Level, Position, or Mute. The Send slot number and the parameter being edited are displayed briefly on the LCD when switching to this mode.

- The mode display shows S1 to S8, indicating the selected Send slot.
- The upper LCD row shows channel strip names.
- Rotating the V-Pots changes the current send parameter.
- Pressing a V-Pot confirms the preselected send destination and sets the other send parameters to their defaults.
- Cursor Up/Cursor Down switches to the next or previous Send slot.
- Cursor Left/Cursor Right switches to the next or previous send parameter. The selected parameter appears briefly in the upper LCD row.
- Pressing a MUTE button while holding down the SHIFT button switches the current send's mute state.
- When Flip mode is turned on, the MUTE buttons display and edit the current send's mute state.

Note: Ensure that the ZOOM button isn't active when using the cursor buttons.

Send Channel view

Send Channel view allows you to edit all send parameters for the selected channel strip. The mode display shows "SE." (for send channel strip). The upper row of the LCD shows the name of the channel strip, the text "Sends," the page number and the total number of pages—"Page 1/4," for example.

Control	Action
V-Pot 1	Edits the destination of odd-numbered sends.
V-Pot 2	Edits the level of odd-numbered sends.
V-Pot 3	Edits the position (pre/post) of odd-numbered sends.
V-Pot 4	Sets the mute state of odd-numbered sends.
V-Pot 5	Edits the destination of even-numbered sends.
V-Pot 6	Edits the level of even-numbered sends.
V-Pot 7	Edits the position (pre/post) of even-numbered sends.
V-Pot 8	Sets the mute state of even-numbered sends.

The Cursor Left and Cursor Right buttons shift between pages. The number of sends that can be displayed simultaneously depends on the number of Mackie Control XTs you have.

Note: Make sure that the ZOOM button isn't active when using the cursor buttons.

Alternate Send edit mode options

Hold down the SEND button to access the alternate Send edit mode options submenu in the LCD. The mode display shows S_ or S_., depending on whether you are in Send Mixer view or Send Channel view.

Control	Action
V-Pot 1 or F1	Switches to Send Mixer view and selects destination.
V-Pot 2 or F2	Switches to Send Mixer view and selects send level.
V-Pot 3 or F3	Switches to Send Mixer view and selects position.
V-Pot 4 or F4	Switches to Send Mixer view and selects mute.
V-Pot 5 or F5	Switches to Send Channel view.
V-Pot 6 or F6	Switches to Send Channel Strip 2 view: This mode is similar to Send Channel view, but parameters are arranged in a slightly different way. You can control one parameter for all Send slots used in the selected channel strip. • The mode display shows "SE." (Send channel strip). • The upper LCD row shows the name of the channel strip, the text "Sends," the page number, and total number of pages. • V-Pots 1 to 8 edit the displayed parameter. • The horizontal cursor buttons shift between pages. The number of parameters that can be displayed simultaneously depends on the number of Mackie Control XTs you have.
V-Pot 7 or F7	Switches to Destination/Level Mixer view. In this mode, you can control one Send slot for all channel strips. Each channel strip corresponds to the channel strip name shown in the upper LCD row. • The mode display shows d1 to d8, indicating the selected send. • The upper LCD row shows channel strip names. • The lower LCD row shows the destination of the selected send. • Rotating a V-Pot preselects the send destination. • Pressing a V-Pot confirms the preselected send destination. • The SOLO buttons edit send position—a lit SOLO LED indicates Pre Fader mode. • The MUTE buttons set the send mute state. • The faders edit the send level.

Control	Action
V-Pot 8 or F8	Switches to Destination/Level Channel view. You can control all Send slots for the selected channel strip in this mode. Each channel strip corresponds to the (embossed) send number shown below the LCD. • The mode display shows "dL." • Rotating a V-Pot preselects the corresponding send destination. • Pressing a V-Pot confirms a preselected send destination. • The Solo buttons edit send position—a lit Solo LED indicates Pre Fader mode. • The MUTE buttons set the send mute state. • The faders edit the send gain.

If one or more sends are activated on multiple channels, you can switch between them while in the Channel views by pressing the SELECT button of the channel.

Mackie Control Plug-in button

Mackie Control Plug-in button overview

A single press of the PLUG-IN button activates Plug-in Mixer view.

Press the PLUG-IN button repeatedly to switch between Plug-in Mixer view and Plug-in Channel view.

Note: There is one exception to this behavior. If you are in Instrument Edit view, pressing the PLUG-IN button switches to Plug-in edit view. For more information, see Instrument edit view on page 74.

Plug-in Mixer view

In this view, you can edit the plug-ins associated with a particular Insert slot for all channels. The mode display shows P1 to P9, or 10 to 16, indicating the selected Insert slot number.

Note: If a software instrument channel is selected, the display shows P1 to P9 and 10 to 15.

In Plug-in Mixer view:

- The upper row of the LCD shows channel strip names.
- The lower row of the LCD shows the currently selected plug-in for the active Insert slot. Muted plug-ins are shown with an asterisk (*) that precedes the plug-in name.
- Rotating the V-Pots preselects a new plug-in. The plug-in name flashes until confirmed by pressing the V-Pot button.
- Rotating another channel's V-Pot cancels any earlier preselection, and starts preselection on the newly selected channel strip.
- Pressing a V-Pot button:
  - Confirms or activates the preselected plug-in (assuming that you've made your preselection by rotating the V-Pot).
  - Opens a plug-in window, if none is open. If a plug-in window is open and Link mode is turned on, the selection of another plug-in replaces the existing plug-in window.
  - Switches to Plug-in Edit view.

- The Cursor Up/Cursor Down buttons change the currently displayed plug-in Insert slot (1 to 15).
- Pressing a V-Pot or MUTE button while the SHIFT button is held down mutes or unmutes the plug-in.

Note: Ensure that the ZOOM button isn't active when using the cursor buttons.

Remove a plug-in

- Preselect the "--" value (by rotating the V-Pot fully counterclockwise), then press the V-Pot button of the appropriate Insert slot.

The Mackie Control does not switch to Plug-in Edit view, and no plug-in window opens when the "--" value is chosen. If a plug-in window is open, it closes (if Link mode is inactive).

Plug-in Channel view

This view shows the plug-ins associated with all Insert slots for the selected channel.

In Plug-in Channel view:

- The mode display shows the text "PL."
- The upper LCD row shows Ins1Pl through Ins8Pl.
- The lower LCD row shows the plug-in that is currently selected for this Insert slot. Muted plug-ins are indicated by an asterisk (*), which precedes the plug-in name.
- Rotating the V-Pots preselects a new plug-in. The plug-in name flashes until activated.
- Rotating another channel's V-Pot cancels any previous preselection and starts preselection on the newly selected channel strip.
- Pressing a V-Pot button:
  - Activates the preselected plug-in (assuming that you've made your preselection by rotating the V-Pot).
  - Opens a plug-in window if none is open. (If a plug-in window is open and Link mode is turned on, the selection of another plug-in replaces the existing plug-in.)
  - Switches to Plug-in Edit view.
- Pressing a V-Pot button while the SHIFT button is held down mutes/unmutes the plug-in.

Remove a plug-in

- Preselect the "--" value (by rotating the V-Pot fully counterclockwise), then press the V-Pot linked to the appropriate Insert slot.

The Mackie Control does not switch to Plug-in Edit view, and no plug-in window opens. If one was previously opened, it closes (if Link mode is inactive).

Plug-in edit view

You can view and edit plug-in parameters in this mode.

Note: Mackie Control can edit all plug-ins that can be automated. The plug-in type (Logic Pro native or Audio Units) is irrelevant. Some third-party manufacturer plug-ins don't provide parameter names or values as text. In such cases, parameters are named and enumerated as "Control #1,""Control #2," and so on, with values displayed as numbers ranging between 0 and 1000. Contact the plug-in manufacturer to obtain a version that supports this feature.

In Plug-in Edit view:

- The mode display shows P1. to P8., indicating the number of the selected plug-in Insert slot.
- Depending on the NAME/VALUE button, the LCD display changes between the two modes in the following ways:
  - *Name:* The upper LCD row shows the channel strip's name, insert number, plug-in name, current parameter page, and total number of parameter pages. The lower LCD row shows the name of the parameter, which can be edited via the corresponding V-Pot (the one below the parameter name).
  - *Value:* The upper LCD row shows the name of the parameter that can be edited via the corresponding V-Pot. The lower LCD row shows the current value of the parameter. If there is sufficient onscreen space, the unit type will be added; for example, Hz or dB.
- Rotating the V-Pots changes parameter values.
- Pressing a V-Pot button sets the parameter to its default value, except when the parameter only has two values (on/off, for example). In this case, pressing the V-Pot button switches between these values.
- The Cursor Left/Cursor Right buttons switch to the next or previous parameter page.

Note: Ensure that the ZOOM button isn't active when using the cursor buttons.

When using the cursor buttons to switch between parameters, the parameters change in groups of eight (unless the parameters on the last page do not make a complete group of eight). For example, if a plug-in has 19 parameters, and the Mackie Control is controlling parameters 1 to 8:

- Pressing the Cursor Right button shifts to parameters 9 to 16.
- Pressing the Cursor Right button again shifts to parameters 12 to 19.
- Pressing the Cursor Left button shifts back to parameters 9 to 16, not 4 to 11.

This way, you always revert to the page positions you expect to find and are comfortable with.

- To switch by a single parameter, rather than by page, hold down the CMD/ALT key while pressing the Cursor Left or Cursor Right button.
- The Cursor Up/Cursor Down buttons change the currently displayed Insert slot (1 to 15).

If you have a control surface group consisting of several Mackie Control and XT units, the parameters are distributed across their displays. The number of parameters shown depends on the Multiple Controls per Parameter settings in Logic Pro > Control Surfaces > Preferences. See Open Control Surfaces preferences on page 26 for details.

Note: When you leave Plug-in Edit view, the plug-in window closes.

Mackie Control Instrument button

Mackie Control Instrument button overview

Press the INSTRUMENT button to activate Instrument Mixer view, unless the Mackie Control is currently in Plug-in edit view. In this case, pressing the INSTRUMENT button switches to Instrument edit view.

If you can't see the software instrument channel strips, use the BANK or CHANNEL buttons in the Fader Bank zone, or switch to All view by pressing the INSTRUMENT button. (This assumes that you have created at least one or more software instrument tracks.)

Instrument Mixer view

In this view, you can edit the Instrument slots of all channels.

In Instrument Mixer view:

- The mode display shows "In" (for instrument).
- The upper LCD row shows channel strip names.
- The lower LCD row shows the currently selected instrument. Muted instrument names are preceded by an asterisk (*).
- Rotating the V-Pots preselects a new instrument. The preselected instrument name flashes until activated.
- Rotating another channel's V-Pot cancels any previous preselection and starts preselection on the newly chosen channel strip.
- Pressing a V-Pot button:
  - Activates the preselected instrument plug-in (assuming that you've made your preselection by rotating the V-Pot).
  - Opens a plug-in window, if none is open. If a plug-in window is open and Link mode is turned on, the selection of another instrument plug-in replaces the existing one.
  - Switches to Instrument Edit view.
- Pressing a V-Pot or MUTE button while holding down the SHIFT button mutes/unmutes the instrument.

Remove an instrument

1. Preselect the "--" value (by rotating the V-Pot fully counterclockwise).
2. Press the V-Pot button.

Mackie Control does not switch to Instrument Edit view, and no plug-in window opens. If a plug-in window is open, it closes.

Instrument edit view

In this view, you can edit instrument parameters.

Note: Mackie Control can edit all instruments that can be automated, regardless of the type of plug-in you are using (Logic Pro native or Audio Units). Some third-party manufacturer instruments do not provide parameter names or values as text. In such cases, parameters are named and enumerated as "Control #1," "Control #2," and so on, with values displayed as numbers ranging between 0 and 1000. Contact the plug-in manufacturer to obtain a version that supports this feature.

In Instrument edit view:

- The mode display shows "In."
- Depending on the state of the NAME/VALUE button, the LCD changes in the following ways:
  - *Name:* The upper LCD row shows the channel strip name, instrument name, current parameter page, and total number of parameter pages. The lower LCD row shows the name of the parameter that can be edited with the V-Pot directly below.
  - *Value:* The upper LCD row shows the name of the parameter that can be edited with the V-Pot below. The lower LCD row shows the current value of the parameter being edited. If there is sufficient space on the LCD row, the unit type is shown after the value; for example, Hz or dB.
- Rotating a V-Pot changes the corresponding parameter.
- Pressing a V-Pot button sets the parameter to its default value, except when the parameter only has two values (on/off, for example). In this case, pressing the V-Pot button switches between these values.

Mackie Control fader bank buttons

Mackie Control Bank buttons

The Mackie Control provides eight sets of channel strip controls, allowing you to edit eight corresponding channels. The BANK LEFT and BANK RIGHT buttons let you move between "banks" of eight channel strips. For example, if you are editing channel strips 1–8, pressing the BANK RIGHT button moves to channel strips 9–16. Pressing BANK RIGHT again moves to channel strips 17–24. Pressing BANK LEFT returns to channel strips 9–16, then to 1–8 with one more button press.

If you are using a control surface group, the BANK LEFT and BANK RIGHT buttons shift the active channel strips by the total number of channels in the control surface group. For example, if you have a Mackie Control and two Mackie Control XT units, the view shifts by 24 channels—the total number of channels in the control surface group.

The BANK buttons always change channel strips in groups of eight, unless the last channel strips do not make a complete group of eight. For example, if a project has 19 channel strips, and the Mackie Control is controlling channel strips 1 to 8:

- Pressing the BANK RIGHT button shifts to channel strips 9 to 16.
- Pressing the BANK RIGHT button again shifts to channel strips 12 to 19.
- Pressing the BANK LEFT button shifts back to channel strips 9 to 16, not 4 to 11.

This way, you always revert to the channel strips you expect to find and are comfortable with.

Notes on using the Bank or Channel buttons

Hold down the OPTION button, then press the BANK or CHANNEL LEFT button to jump to the first set of channel strips in the project. Pressing the BANK or CHANNEL RIGHT button jumps to the last set of channel strips in the project. For example, if your project has 64 channel strips, pressing BANK or CHANNEL LEFT jumps to channel strips 1 through 8, and pressing BANK or CHANNEL RIGHT jumps to channel strips 57 through 64.

For views where one type of channel strip is displayed (such as audio, instruments, or busses), Logic Pro remembers the last group of eight channel strips shown in the view, and returns to it when you switch back from another view. For example, if you start in a view with audio channel strips 4 through 11 visible, switch to an instruments view, scroll to instruments 6 through 13, and then switch back to the audio Channel view, you will return to audio channel strips 4 through 11 (not 6 through 13). Switching to the Instrument Channel view displays instruments 6 through 13.

Mackie Control Channel buttons

You can use the CHANNEL LEFT and CHANNEL RIGHT buttons to move up or down by a single channel strip. Pressing the CHANNEL RIGHT button shifts the active channel strips up by a single channel strip, while pressing CHANNEL LEFT shifts them down by a single channel strip. For example, if you are viewing channel strips 1 to 8 and press the CHANNEL RIGHT button, channel strips 2 to 9 are displayed.

Notes on using the Bank or Channel buttons

Hold down the OPTION button, then press the BANK or CHANNEL LEFT button to jump to the first set of channel strips in the project. Pressing the BANK or CHANNEL RIGHT button jumps to the last set of channel strips in the project. For example, if your project has 64 channel strips, pressing BANK or CHANNEL LEFT jumps to channel strips 1 through 8, and pressing BANK or CHANNEL RIGHT jumps to channel strips 57 through 64.

For views where one type of channel strip is displayed (such as audio, instruments, or busses), Logic Pro remembers the last group of eight channel strips shown in the view and returns to it when you switch back from another view. For example, if you start in a view with audio channel strips 4 through 11 visible, switch to an instruments view, scroll to instruments 6 through 13, and then switch back to the audio Channel view, you will return to audio channel strips 4 through 11 (not 6 through 13). Switching to the Instrument Channel view displays instruments 6 through 13.

Mackie Control Flip button

Press the FLIP button (alone, or in combination with a modifier key) to activate or deactivate one of the following modes: Flip, Swap, or Zero.

- *Flip mode:* In Flip mode, the current assignments of the eight V-Pots are mirrored by the eight channel faders, so that both control the same parameter. Rotating one of the V-Pots causes the corresponding fader to move, and vice versa. When you activate Flip mode, the LED next to the FLIP button illuminates. Pressing the FLIP button again turns off Flip mode. Flip mode offers the following advantages:
  - You can edit any type of parameter with a fader, which allows more precise editing control.
  - Unlike the V-Pots, the faders are touch-sensitive. This allows you to overwrite existing controller automation movements with a constant value.
- *Swap mode:* Hold down the SHIFT button while pressing the FLIP button to activate Swap mode. In Swap mode, the encoder assignments are swapped with the fader assignments, so that the faders control the parameter previously assigned to the V-Pots, and vice versa. The LED next to the FLIP button flashes when Swap mode is active.

  When Swap mode is active, pressing FLIP again reverts to Flip mode. Holding down the SHIFT button and pressing FLIP turns off Swap mode, and returns the V-Pot and fader assignments to the state they were in before you activated Flip or Swap mode.
- *Zero mode:* Hold down the CONTROL button while pressing the FLIP button to activate Zero mode. In Zero mode, the faders are set to the zero position and do not move. This is useful in situations where the Mackie Control is located close to microphones, and you want to make sure that you don't capture the mechanical noise of the faders moving.

  When Zero mode is active, pressing FLIP again reverts to Flip mode. Holding down the CONTROL button while pressing FLIP turns off Zero mode, and reactivates the faders.

Mackie Control Global View buttons

The GLOBAL VIEW button is used in conjunction with the other eight GLOBAL VIEW buttons to display (and edit) specific types of channel strips. Pressing any of the buttons activates All View; when this view is active, the green LED to the right of the GLOBAL VIEW button is lit.

When you press one of the Global View buttons, the corresponding type of channel strip appears in the main LCD. You can edit each channel strip with the corresponding channel strip controls. Pressing multiple buttons (Audio Tracks, Instruments, and Aux, for example) displays all channels of the selected types.

View (and edit) multiple All View channel strips

- While holding down any button in the Global View zone, press another button to add this channel strip type to those currently displayed. If a channel strip type is already displayed, pressing its button removes it from the display.

  For example, to display both the audio and output channel strips, hold down the AUDIO TRACKS button, then press the OUTPUTS button.

Mackie Control function keys

The eight function key buttons, labeled F1 through F8, are assigned as follows.

Hold down the specified modifier button while pressing one of the function keys to perform the function or command:

Function key	No modifier	SHIFT	CMD/ALT
F1	Screenset 1	Open/close Tracks window	Cut
F2	Screenset 2	Open/close Mixer	Copy
F3	Screenset 3	Open/close Event List	Paste
F4	Screenset 4	Open/close Score Editor	Clear
F5	Screenset 5	Open/close Step Editor	Select All
F6	Screenset 6	Open/close Piano Roll Editor	Select All Following
F7	Screenset 7	Open/close Control bar	Select Similar Regions/ Events
F8	Screenset 8	Open/close Audio Bin	Select Inside Locators

In modal dialogs, pressing one of the function keys is equivalent to using the computer keyboard number keys:

Function key	Action
F1	1
F2	2
F3	3
F4	4
F5	5
F6	6
F7	7
F8	8
The buttons located directly below the function keys complete the numeric input functions:	
MIDI Tracks button	9
Inputs button	0

In some other modes, the function keys perform other actions, such as shortcuts to markers. For more information, see Mackie Control Marker button overview on page 83. Also see the tables in Mackie Control assignments overview on page 90.

Mackie Control modifier buttons

The four Modifier buttons correspond to the modifier keys on your computer keyboard (but function independently from them). You can use these buttons, along with the appropriate key on your computer keyboard or with the mouse or trackpad, in place of using the corresponding modifier key. This also applies to modified Mackie Control commands.

Modifier buttons

- *SHIFT:* Provides an alternate function or meaning for a button.
- *OPTION:* The function applies to all channel strips. For relative value changes, sets the value to its minimum, default, or maximum, depending on whether you're increasing or decreasing it.
- *CONTROL:* Hold down to turn on group clutch and temporarily disable channel strip groups.
- *CMD/ALT:* Allows fine-tuning or a variation of the function.

Mackie Control automation buttons

The automation buttons activate corresponding automation modes in Logic Pro. You use the automation buttons in conjunction with the channel strip SELECT buttons.

Automation buttons

- *READ/OFF:* If no automation mode is active, pressing the READ/OFF button switches between Read mode and Off.
  - *Read:* The fader reads (follows) any existing automation data but does not record any new automation data.
  - *Off:* Automation is off. The fader neither sends nor receives automation data. Existing automation data is not changed. The fader still adjusts the volume or pan position as usual when moved.
- *TOUCH:* Writes new data when the fader is touched or the V-Pot is turned during playback. Any existing automation data (of the current fader type) is replaced with new data for as long as the control is active (while the fader is being touched or the V-Pot is being turned).
- *LATCH:* Similar to Touch mode, but the control remains active, even when the fader is no longer being touched or the V-Pot is not being turned. When you release the fader, the current fader value replaces all existing automation data for as long as the sequencer is in playback (or record) mode. Press STOP to prevent existing automation data from being overwritten.
- *WRITE:* Overwrites *all* existing automation data, or creates new automation data if none exists. Only use this option if you want to destroy all existing automation data.

Hold down the OPTION button, then press one of the Automation buttons to assign the selected automation mode to *all* channels. When an automation mode has been assigned to all channels, the corresponding automation mode button LED illuminates whenever you hold down the OPTION button.

Important: This behavior is slightly different for the Off automation mode. Holding down the OPTION button and pressing READ/OFF dims the LEDs for the other Automation buttons, but this does not necessarily indicate that all channel strips are in Off mode—they could still be set to other modes. To make sure that you have set all channel strips to Off mode, press READ/OFF twice while holding down the OPTION button. The READ/OFF button LED turns on, then off.

Set the automation mode for a channel

1. Press the SELECT button on the channel strip you want to automate.
2. Press the Automation mode button.
3. Do one of the following:
   - Move the channel strip fader.
   - Rotate the channel strip V-Pot.
   - Press the Solo or Mute button.

Mackie Control Group button

Press the GROUP button to activate group edit mode that allows you to edit various Mixer group parameters.

- The upper row of the LCD displays channel strip names.
- The lower row of the LCD displays group parameters.
- The Assignment display shows the currently displayed group—G1, for example.
- The Time display shows the group name. (If the name is longer than ten characters, the last ten characters are displayed.)
- You can switch between group parameters with the V-Pot buttons.
- The Cursor Up and Cursor Down buttons select the previous or next group.
- The Cursor Left and Cursor Right buttons shift the group parameter display.
- The SELECT buttons determine group membership. Pressing a SELECT button adds the channel strip to the group (or removes it from the group, if already a member). An illuminated SELECT button LED indicates active group membership.
- The LED next to the GROUP button is illuminated.

Note: Make sure that the ZOOM button isn't active when using the cursor buttons.

If Group Edit mode is off, holding down the GROUP button and pressing one or more SELECT buttons allows you to create a new group.

Pressing the GROUP button while holding down the SHIFT button creates a new group, opens the Group window, and activates group edit mode.

Pressing the GROUP button while holding down the TRACK button switches to Mixer view, with the channel strip group parameter shown. It displays the group that the selected channel strip belongs to. Multiple group membership is displayed as in the Mixer window. Rotating a V-Pot changes group membership.

Note: You can select only one group (or Off) with this function.

Mackie Control utilities buttons

The four utilities buttons activate the Save, Undo, Cancel, and Enter commands in Logic Pro.

Utilities buttons

- *SAVE button:* Press to save the current project file. The first time you save a project, a Save dialog appears on your computer screen. Enter a name and location for the file, then click the Save button in the dialog.

  The main LCD displays this message: "There is a file select dialog on the screen." The Position/Time display shows "ALERT." All LEDs are unlit. Once the Save operation has been confirmed in Logic Pro, the Mackie Control returns all controls to their previous state (before you pressed the SAVE button).

  Once you have named a project and saved it, further presses of the SAVE button store the current project state without presenting a Save dialog onscreen or showing any alerts on the LCD. This allows you to quickly save incremental changes you make as your project develops.

  The SAVE LED is illuminated as soon as you make (savable) changes to your project.

  Holding down the OPTION button while pressing SAVE opens the Save As dialog on the computer screen. This allows you to rename a project or save it in a different location.

- *UNDO button:* Press to undo the last undoable action. Because Logic Pro supports a nearly unlimited number of undo/redo steps, the green UNDO LED illuminates to indicate that Redo is available, not to indicate an undoable step. The LCD provides a warning that performing a reversible editing step will render all Redo steps unavailable.
  - Hold down the SHIFT button while pressing UNDO to perform a Redo.
  - Hold down the OPTION button while pressing UNDO to open the Undo History window.

- *CANCEL button:* Press to cancel or exit an alert that appears on your computer screen. For information about alerts, see Modal dialog display on page 29.

  Pressing the CANCEL button when no alert is visible onscreen does the following:
  - It opens the Toolbox at the current pointer position.
  - Alternatively, it performs any function currently assigned to the computer keyboard's Esc (Escape) key.
  - If the Mackie Control currently shows the contents of a folder track, pressing the CANCEL button exits the folder.
  - The CANCEL button also lets you invalidate a (blinking) parameter value preselection.

- *ENTER button:* Press to activate the default button in an onscreen alert. For information about alerts, see Modal dialog display on page 29.

  If there is no alert onscreen, and the selected track is a folder track, pressing the ENTER button opens the folder.

Mackie Control transport buttons

Mackie Control transport buttons overview

The transport buttons provide standard control bar functions.

Transport buttons

- *REWIND button:* Rewinds through your project. Press repeatedly while rewinding to accelerate the rewind speed. Press the FAST FWD button repeatedly while rewinding to slow down, stop, and eventually reverse the shuttle direction. Press the STOP button to halt the rewind process at the current playhead position. Rotating the Jog/Scrub Wheel also exits rewind shuttle mode.
  - When one of the Marker modes is activated, pressing the REWIND button moves the playhead to the previous marker.
  - When one of the Nudge modes is activated, the REWIND button moves the selected regions or events backward by the value defined in Large Nudge mode.
- *FAST FWD button:* Fast forwards through your project. Press FAST FWD repeatedly while fast forwarding to accelerate the shuttle speed. Press the REWIND button repeatedly while fast forwarding to slow down, stop, and eventually reverse the shuttle direction. Press the STOP button to halt the fast forward process. Rotating the Jog/Scrub Wheel also exits forward shuttle mode.
  - When one of the Marker modes is active, pressing the FAST FWD button moves the playhead to the next marker.
  - When one of the Nudge modes is active, pressing the FAST FWD button moves the selected regions or events forward by the value defined in Large Nudge mode.

  Tip: You can combine markers with cycle areas by pressing the respective buttons on the Mackie Control. This, in conjunction with navigation between markers (using the REWIND and FAST FWD buttons), moves the playhead, and automatically sets a cycle area between adjacent markers. Try this, and other options, with various button combinations.
- *STOP button:* Stops project playback or recording and stops all other Transport functions. Press the STOP button a second time to return the playhead to the project start point or to the beginning of the nearest cycle area if Cycle mode is active. Press STOP repeatedly to switch between these two functions.
- *PLAY button:* Starts playback from the current playhead position. Press PLAY repeatedly to jump to the beginning of the nearest cycle area if Cycle mode is active. Press SHIFT and PLAY simultaneously to pause playback.
- *RECORD button:* Starts recording on the selected MIDI, audio, or software instrument channel strip if it is armed for recording.

  Note: It is possible that the *first* time you arm an audio channel strip (by pressing the REC/RDY button for the channel), a Save dialog will appear on your computer screen. Enter a filename (and a save location) in the dialog, then press Save. The Mackie Control LCD display shows "There is a file select dialog on the screen." The Position/Time display shows "ALERT." All LEDs are unlit. Once you enter the filename (and press Save), all controls on the Mackie Control return to their previous state. After the default audio filename has been entered, you can select and arm any audio channel strip, then press the RECORD button. No alert messages and file save dialogs will appear onscreen.

Tip: To minimize the appearance of the dialog, save your project with Assets before you start recording. Saving your project this way bypasses the need to define filenames and makes handling faster and easier when using Logic Pro with the Mackie Control.

Just above the transport buttons are seven small, circular buttons for different recording and playback modes: Marker, Nudge, Cycle, Drop, Replace, Click, and Solo. You can use these buttons independently or in conjunction with one another, to navigate and edit your projects. Each button has a dedicated LED that indicates its current status.

Mackie Control Marker button

Mackie Control Marker button overview

Press the MARKER button to activate one of three marker modes: Small Marker mode, Large Marker mode, and Temporary Marker mode. You can use these modes to create or delete markers and jump to markers in your project.

Note: The Marker and Nudge modes are mutually exclusive; activating one deactivates the other.

- *Small Marker mode:* Press the MARKER button to activate Small Marker mode. Small Marker mode is useful if you want to jump to markers while using the V-Pots for other purposes. In this mode, pressing the FAST FWD or REWIND button moves the playhead to the next or previous marker. Pressing the MARKER button again reverts to the default behavior of the FAST FWD and REWIND buttons. (See Mackie Control transport buttons overview on page 82.)
- *Large Marker mode:* Hold down the SHIFT button, then press the MARKER button to show three create options on the LCD, assigned to the three rightmost V-Pot buttons. (See Large Marker mode on page 84.)
- *Temporary Marker mode:* Hold down the MARKER button if you want to enter Marker mode temporarily to quickly perform a few marker functions. Press one (or more) of the V-Pot buttons to execute the marker function and then leave Marker mode by releasing the MARKER button.
  - Press function keys F1 to F8 to move the playhead to the first eight markers (if created). For example, to navigate to marker 3, hold down the MARKER button and press F3.
  - To jump between markers, with (or without) the MARKER button held down, press the FAST FWD or REWIND button.

Large Marker mode

Hold down the SHIFT button, then press the MARKER button to show three create options on the LCD, assigned to the three rightmost V-Pot buttons.

Once markers have been created, press the V-Pot button listed below to create or delete a marker at the current playhead position.

Control	Action
V-Pot 1 to 5	Displays the first five markers by name. Pressing a V-Pot button moves the playhead to the corresponding marker. When the playhead position is inside a marker, the lower line displays INSIDE, and the V-Pot LED ring is lit.
V-Pot 6	Cr w/o—Creates a marker, without rounding to the nearest bar.
V-Pot 7	Create—Creates a marker, rounded to the nearest bar.
V-Pot 8	Delete—Deletes the marker above the current playhead position.

A recommended workflow for creating or deleting markers is to use the Jog/Scrub Wheel. Turn the wheel to move the playhead to the required project position, and then press the appropriate V-Pot to create or delete a marker.

- For coarse placement, use the wheel to move the playhead.
- For fine placement, press the SCRUB button, then use the wheel to precisely position the playhead. (This technique is only appropriate if creating or deleting an unrounded marker.)

For more information about using the Jog/Scrub Wheel, see Mackie Control Jog/Scrub wheel on page 89.

Large Marker mode is ended by pressing the MARKER button again.

Mackie Control Nudge button

Mackie Control Nudge button overview

The NUDGE button allows you to move (nudge) selected audio or MIDI regions (or events) in Small, Large, or Temporary Nudge mode.

Note: The Marker and Nudge modes are mutually exclusive; activating one deactivates the other.

- *Small Nudge mode:* Press the NUDGE button to reassign the behavior of the FAST FWD and REWIND buttons; pressing either FAST FWD or REWIND nudges the selected regions or events by the value defined in Large Nudge mode. Pressing the NUDGE button a second time reverts to the default behavior of the FAST FWD and REWIND buttons. (See Mackie Control transport buttons overview on page 82.) Small Nudge mode is useful if you want to nudge regions or events but still use the V-Pots for other purposes.
- *Large Nudge mode:* Hold down the SHIFT button, then press the NUDGE button to show eight functions on the LCD that are mapped to the corresponding V-Pot buttons. These functions allow you to move the selected region or events by various amounts or to a specific position. See Large Nudge mode.
- *Temporary Nudge mode:* Hold down the NUDGE button and use one or more of the V-Pots to use Nudge temporarily for one or two small moves. This action executes the selected function, then exits Temporary Nudge mode as soon as you release the NUDGE button. See Temporary Nudge mode.

Large Nudge mode

Hold down the SHIFT button, then press the NUDGE button to show eight functions on the LCD that are mapped to the corresponding V-Pot buttons. These functions allow you to move the selected region or events by various amounts or to a specific position. Press the NUDGE button a second time to turn off Large Nudge mode.

The position of the first selected region or event is displayed above V-Pots 3 and 4. If nothing is displayed, either a window that does not allow the selection of regions or events is open or no regions or events are selected.

Control	Label	Action
V-Pot 1	Nudge	Selects the nudge value used by the REWIND and FAST FWD buttons. These buttons move the selected objects backward/forward by the defined value.
V-Pot 2	Pickup	Moves to the current playhead position.
V-Pot 3	Bar	Moves by one bar.
V-Pot 4	Beat	Moves by the current project denominator value (beats).
V-Pot 5	Division	Moves by the current project division value.
V-Pot 6	Ticks	Moves by single ticks.
V-Pot 7	Frames	Moves by one SMPTE frame.
V-Pot 8	Fram/2	Moves by half a SMPTE frame.

The cursor buttons emulate the computer keyboard's arrow keys, allowing easy selection of a region or event.

Note: Make sure that the ZOOM button is not active when using the cursor buttons.

Temporary Nudge mode

Hold down the NUDGE button and use one or more of the V-Pots to use Nudge temporarily for one or two small moves. This action executes the selected function, then exits Temporary Nudge mode as soon as you release the NUDGE button.

In Temporary Nudge mode, the cursor buttons emulate the computer keyboard's arrow keys, allowing easy selection of a region or event.

The Nudge value for the REWIND and FAST FWD buttons can also be defined with the function buttons.

Function button	Action
F1	Sets Ticks.
F2	Sets Division.
F3	Sets Beat.
F4	Sets Bar.
F5	Sets Frames.
F6	Sets Half Frames.

Use the Mackie Control Cycle button

The CYCLE button turns Cycle mode on or off. By default, the cycle area falls between the first two markers.

Subsequent markers can act as left and right boundaries for further cycle areas.

Jump between cycle areas defined by the markers

1. Press the MARKER button.
2. Press the CYCLE button, and when active (as indicated by the LED), press the REWIND or FAST FWD button.

Set the left or right locator to the current playhead position

- Hold down the CYCLE button and press REWIND or FAST FWD.

This also activates Cycle mode.

Quickly define a new cycle area

1. Navigate to the target left locator position with the Jog/Scrub Wheel.
2. Press the CYCLE and REWIND buttons.
3. Navigate to the right locator position with the Jog/Scrub Wheel.
4. Press the CYCLE and FAST FWD buttons.

Use Cycle view

1. To activate Cycle view, press the SHIFT and CYCLE buttons.

   The mode display shows "Cy."
2. To return to a regular assignment mode, press one of the Assignment buttons.

Control	Action
Rotate V-Pot 1	Shows and edits the current cycle state (off or on); you can also use the CYCLE button.
Rotate V-Pot 2	BySel—sets the current cycle area by the selection made in the Tracks window (selected audio or MIDI region).
Rotate V-Pot 3	Move—moves the current cycle by a bar with each click of the V-Pot.
Press V-Pot 5	Picks up the current playhead position for the left locator.
Rotate V-Pot 5	Changes the left locator in bars.
Rotate V-Pot 6	Changes the left locator in beats (denominator steps).
Press V-Pot 7	Picks up the current playhead position for the right locator.
Rotate V-Pot 7	Changes the right locator in bars.
Rotate V-Pot 8	Changes the right locator in beats (denominator steps).

Use the Mackie Control Drop button

The DROP button turns Autopunch mode on or off.

Navigate between punch in areas

1. Press the MARKER button.
2. Press the DROP button, and when active (as indicated by the lit LED), press the FAST FWD or REWIND button.

Set the punch in or punch out locator to the current playhead position

- Hold down the DROP button and press FAST FWD or REWIND.

  This also activates Autopunch mode.

Quickly define a new punch in area

1. Navigate to the target punch in locator position with the Jog/Scrub Wheel.
2. Press the DROP and REWIND buttons.
3. Navigate to the target punch out locator position with the Jog/Scrub Wheel.
4. Press the DROP and FAST FWD buttons.

Use Punch view

1. To activate Punch view, press the SHIFT and DROP buttons.

   The mode display shows "Pu."
2. To return to a regular assignment mode, press one of the Assignment buttons.

Note: Changing a punch locator value with the Mackie Control automatically activates Autopunch mode in Logic Pro.

Control	Action
Rotate V-Pot 1	Shows and edits the current Autopunch state (off or on); you can also use the DROP button.
Rotate V-Pot 3	Move—moves the current punch area by a bar with each click of the V-Pot.
Press V-Pot 5	Picks up the current playhead position for the punch in locator.
Rotate V-Pot 5	Changes the punch in locator in bars.
Rotate V-Pot 6	Changes the punch in locator in beats (denominator steps).
Press V-Pot 7	Picks up the current playhead position for the punch out locator.
Rotate V-Pot 7	Changes the punch out locator in bars.
Rotate V-Pot 8	Changes the punch out locator in beats (denominator steps).

Mackie Control Replace, Click, and Solo buttons

These buttons are used for a number of global Logic Pro functions.

Replace, Click, and Solo buttons

- *REPLACE button:* Press to turn Replace mode on or off. There are independent click settings for play and record. To access the click settings, choose File > Project Settings > Metronome.
- *CLICK button:* Press to turn the MIDI or Klopfgeist metronome click on or off.

  Press the SHIFT and CLICK buttons to activate or deactivate both External Sync mode and transmission of MMC.
- *SOLO button:* Press to turn the Solo function on or off. This behaves like the Solo key command.

  Individual channels can be soloed with the SOLO buttons on each channel strip. MIDI or audio regions can be selected, and soloed, along with the selected channels. Each channel features an independent SOLO LED, which is lit when a channel strip is soloed. The RUDE SOLO LED—just to the right of the Position/Time display—is lit when any channel strip is soloed.

  Press the SHIFT and SOLO buttons to activate Solo Lock mode.

Use Mackie Control cursor and zoom keys

The five buttons to the left of the Jog/Shuttle Wheel serve a number of purposes. The four cursor buttons—Up, Down, Left, and Right—encircle the central ZOOM button.

When the ZOOM button is not active (its LED is unlit), the four cursor buttons select the current parameter, or shift the current parameter page or Send/EQ/Insert slot, depending on the current V-Pot assignment.

- *When the OPTION button is held down:* The Cursor Left and Cursor Right buttons scroll to the first and last page, and the Cursor Up and Cursor Down buttons scroll to the first and last slot.
- *When the CMD/ALT button is held down:* The Cursor Left and Cursor Right buttons shift the parameter display by one parameter, rather than one page.

Use Zoom mode

Do one of the following:

- *To turn Zoom mode on or off:* Press the ZOOM button.
- *To change the vertical or horizontal zoom factor of the window with key focus:* Use the cursor buttons.

  In the Tracks window:

  - OPTION and Up or Down changes the zoom factor of the selected track.
  - OPTION and Left resets the zoom factor of the selected track.
  - OPTION and Right resets the zoom factor of all tracks of the same class (audio, MIDI, and so on) as the selected track.

Use the cursor buttons as computer keyboard arrow keys

In modes that don't require page or slot shifts, the cursor buttons emulate the computer keyboard arrow keys. As an example, the left and right buttons select channel strips when in Mixer view.

In Large and Temporary Nudge modes, the Cursor Left and Cursor Right buttons emulate the computer keyboard arrow keys, allowing region or event selection.

- Hold down the SHIFT button, then use the Up, Down, Left, or Right buttons as you would use the equivalent computer keyboard arrow keys.

  When SHIFT and ZOOM are pressed, the cursor buttons enter Permanent Cursor Key mode—they mimic the computer arrow keys without the need to hold down the SHIFT button. The ZOOM button LED flashes when in this mode. Press the ZOOM button to turn off this mode.

Mackie Control Jog/Scrub wheel

The Jog/Scrub Wheel and SCRUB button can be used to navigate through the project, which is useful for a number of transport tasks. Turn the dial to use it. The outlined Scrub modes change the behavior of the Jog/Scrub Wheel.

- *Scrub mode off:* The Jog/Scrub Wheel moves the playhead.
- *Scrub mode on:* The Jog/Scrub Wheel performs scrubbing, which allows you to hear the data of the selected (or soloed) tracks while scrolling or moving through the project.

  Audio tracks are normally played back at their original speed. If you would rather hear them at double speed, choose Logic Pro > Preferences > Audio > Drivers, and set Maximum Scrub Speed to Double in the pop-up menu.

  Note: You can also use the SCRUB button for Pause functionality.
- *SHUTTLE mode:* The Jog/Scrub Wheel shuttles the playhead—Rotating it increases or decreases the speed at which the playhead moves. The SCRUB button LED flashes when in Shuttle mode.

Mackie Control programmable user modes

The Mackie Control provides six programmable user modes, which you can use for your own assignments. You can activate each of these modes by holding down the SHIFT button and one of the Assignment buttons, as follows:

- TRACK + SHIFT = User mode 1.
- PAN/SURROUND + SHIFT = User mode 2.
- EQ + SHIFT = User mode 3.
- SEND + SHIFT = User mode 4.
- PLUG-IN + SHIFT = User mode 5.
- INSTRUMENT + SHIFT = User mode 6.

The Assignment display shows user modes as u1, u2, and so on.

Create an assignment in one of the user modes

1. Activate the user mode you want to use by holding down the SHIFT button and pressing one of the Assignment buttons, as listed above.
2. In Logic Pro, use the Learn process to create one or more assignments, as described in Assign and delete controllers in Easy view on page 36.

Mackie Control foot switches

You can connect a momentary foot pedal—with either positive or negative polarity—to the foot switch sockets. By default, foot switches control the outlined functions:

- USER SWITCH A is assigned to Start/Stop.
- USER SWITCH B is assigned to Record. (Note that a track must be selected and armed for recording to take place.)
- EXTERNAL CONTROL is assigned to the MASTER fader level. Use only an expression pedal with this socket.

The polarity of the foot switches is determined by the Mackie Control when powered up. You should first connect the foot switches, then turn on the Mackie Control.

Mackie Control assignments

Mackie Control assignments overview

Each of these sections outline how Mackie Control interface elements are assigned to Logic functions.

Mackie Control Display buttons

The table outlines the display controls and their functions:

Button	Modifier	Function/Comments
NAME/VALUE	—	Switch between parameter name and parameter value display.
	SHIFT	Cycle through level meter displays: vertical, horizontal, and off.
	OPTION	Switch between track name and track number: name display.
	CONTROL	Clear clip/overload flags.
	CMD/ALT	Enter control surface group settings mode.
SMPTE/BEATS	—	Switch between SMPTE and beat format in clock display.

Mackie Control channel strips (1 to 8)

The table outlines the channel strip controls and their functions:

Control	Modifier	Function/Comments
Rotate V-Pot	—	Modify parameter displayed in LCD.
	OPTION	Set parameter to minimum, default, or maximum value.
	CMD/ALT	Modify parameter at high resolution.
Press V-Pot button	—	Set parameter displayed on LCD to default value, or switch between two possible values.
	Flashing preselection:	
	—	Enter the preselected value.
	Menu options:	
	—	Enter whatever option is visible in display.
	If track is folder:	
	—	Enter folder.
REC/RDY button	—	Activate/deactivate Record Enable button of track.
	OPTION	Disable Record Enable button for all tracks.

Control	Modifier	Function/Comments
SOLO button	—	Activate/deactivate Solo button of track's channel strip.
	OPTION	Disable Solo button for all channel strips.
	In Send Destination/Level Mixer view:	
	—	Switch pre/post state of selected send.
	In Send Destination/Level Channel view:	
	—	Switch between pre/post fader mode of send on selected channel strip.
MUTE button	—	Activate/deactivate Mute button of track's channel strip.
	OPTION	Disable Mute button for all channel strips.
	In Mixer view:	
	SHIFT	Activate/deactivate mute/bypass of the shown parameter.
	In EQ Mixer view:	
	SHIFT	Activate/deactivate bypass of the current EQ band.
	In EQ Frequency/Gain view:	
	—	Activate/deactivate bypass of selected EQ band.
	In Send Mixer view:	
	SHIFT	Activate/deactivate bypass of selected send.
	In Send Destination/Level Mixer view:	
	—	Activate/deactivate bypass of selected send.
	In Send Destination/Level Channel view:	
	—	Activate/deactivate mute of send on selected channel strip.
	In Plug-in Mixer view:	
	SHIFT	Activate/deactivate bypass of plug-in.
	In Instrument Mixer view:	
	SHIFT	Activate/deactivate bypass of instrument.

Control	Modifier	Function/Comments
SELECT button	—	Select channel strip.
	SHIFT	Set channel strip volume to unity level (0 dB).
	OPTION	Creates a new track with the same assignment as the selected track and switches to Arrange view.
	SHIFT+OPTION	Create a new track with the next channel strip (following the selected track) and switches to Arrange view.
Fader	—	Adjust volume.
	In Flip mode "Duplicate":	
	—	Same function as V-Pot of same channel.
	In Flip mode "Swap":	
	—	Swap function with V-Pot of same channel.
	In Surround Angle/Diversity view:	
	—	Adjust surround diversity.
	In EQ Frequency/Gain view:	
	—	Adjust gain of selected EQ band.
	In Send Destination/Level Mixer view:	
	—	Adjust send level of selected send.
	In Send Destination/Level Channel view:	
	—	Adjust send level of send on selected channel strip.

Mackie Control Assignment buttons

Hold down to show a shortcut menu on the LCD. Functions or commands are assigned to V-Pots. Release the chosen assignment button to switch V-Pots to Multi Channel or Channel views. The table outlines both the standard use of assignment buttons and their use when used in conjunction with a modifier button.

Button	Modifier	Function/Comments
TRACK	—	Channel strip parameters User mode 1
	SHIFT	User mode 1
PAN/SURROUND	—	Pan/Surround parameters
	SHIFT	User mode 2
EQ	—	EQ parameters
	SHIFT	User mode 3
SEND	—	Send parameters
	SHIFT	User mode 4
PLUG-IN	—	Plug-in selection or Plug-in Edit mode
	SHIFT	User mode 5
INSTRUMENT	—	Instrument selection or Instrument Edit mode
	SHIFT	User mode 6
BANK <>	—	Shift fader bank LEFT/RIGHT by number of channel strips.
	OPTION	Shift fader bank to beginning or end.
CHANNEL<>	—	Shift fader bank LEFT/RIGHT by one channel.
	OPTION	Shift fader bank to beginning or end.
FLIP	—	Switch Flip mode between Off and Duplicate.
	SHIFT	Switch Flip mode between Off and Swap.
	CONTROL	Switch Flip mode between Off and Zero (turns fader motors off).
GLOBAL VIEW	—	Switch between Arrange view and All view.
	SHIFT	Switch between Arrange view and Tracks view.

Mackie Control function keys

The table outlines the function key controls and their functions:

Button	Modifier	Function/Comments
F1	—	Recall screenset 1.
	SHIFT	Open or close Tracks window.
	CMD/ALT	Cut
	TRACK	Switch to Mixer view Volume.
	PAN/SURROUND	Switch to Mixer view Pan/surround angle.
	EQ	Switch to Mixer view Bypass.
	SEND	Switch to Mixer view Destination.
	MARKER	Create marker without rounding.
	NUDGE	Nudge value: Tick
In modal dialog:		F1 key is equivalent to computer keyboard 1 key.
F2	—	Recall screenset 2.
	SHIFT	Open or close Mixer window.
	CMD/ALT	Copy
	TRACK	Switch to Mixer view Pan.
	PAN/SURROUND	Switch to Mixer view Pan/surround radius.
	EQ	Switch to Mixer view EQ Type.
	SEND	Switch to Mixer view Level.
	MARKER	Create marker with rounding.
	NUDGE	Nudge value: Format
In modal dialog:		F2 key is equivalent to computer keyboard 2 key.
F3	—	Recall screenset 3.
	SHIFT	Open or close Event Editor.
	CMD/ALT	Paste
	TRACK	Switch to Mixer view Channel Strip mode.
	PAN/SURROUND	Switch to Mixer view Pan/surround LFE.
	EQ	Switch to Mixer view Frequency.
	SEND	Switch to Mixer view Position.
	MARKER	Delete marker.
	NUDGE	Nudge value: Beat
In modal dialog:		F3 key is equivalent to computer keyboard 3 key.

Button	Modifier	Function/Comments
F4	—	Recall screenset 4.
	SHIFT	Open or close Score Editor.
	CMD/ALT	Clear
	TRACK	Switch to Mixer view Input.
	PAN/SURROUND	Switch to Mixer view Pan/surround mode.
	EQ	Switch to Mixer view Gain.
	SEND	Switch to Mixer view Mute.
	NUDGE	Nudge value: Bar
In modal dialog:		F4 key is equivalent to computer keyboard 4 key.
F5	—	Recall screenset 5.
	SHIFT	Open or close Step Editor.
	CMD/ALT	Select All
	TRACK	Switch to Mixer view Output.
	PAN/SURROUND	Switch to Channel view.
	EQ	Switch to Mixer view Q Factor.
	SEND	Switch to Channel view.
	NUDGE	Nudge value: Frame
In modal dialog:		F5 key is equivalent to computer keyboard 5 key.
F6	—	Recall screenset 6.
	SHIFT	Open or close Piano Roll Editor.
	CMD/ALT	Select All Following.
	TRACK	Switch to Mixer view Automation.
	PAN/SURROUND	Switch to Angle/Diversity view.
	EQ	Switch to Channel view.
	SEND	Switch to Channel Strip 2 view.
	NUDGE	Nudge value: 1/2 Frame
In modal dialog:		F6 key is equivalent to computer keyboard 6 key.

Button	Modifier	Function/Comments
F7	—	Recall screenset 7.
	SHIFT	Open/Close Control bar.
	CMD/ALT	Select Similar Regions/events.
	TRACK	Switch to Mixer view Displayed parameter.
	PAN/SURROUND	Switch to Surround X/Y view.
	EQ	Switch to Frequency/Gain Mixer view.
	SEND	Switch to Destination/Level Mixer view.
In modal dialog:		F7 key is equivalent to computer keyboard 7 key.
F8	—	Close topmost floating window.
	SHIFT	Open or close Audio Bin.
	CMD/ALT	Select Inside Locators.
	TRACK	Switch to Channel Strip Setup view.
	EQ	Switch to Frequency/Gain Channel view.
	SEND	Switch to Destination/Level Channel view.
In modal dialog:		F8 key is equivalent to computer keyboard 8 key.

Mackie Control Global View buttons

The table outlines the global view controls and their functions:

Button	Modifier	Function/Comments
MIDI TRACKS	—	Switch to All view and show MIDI tracks.
	SHIFT	Set to fader bank no. 1 (channel strips 1 to 8, for example).
In modal dialog:		MIDI TRACKS button is equivalent to computer keyboard 9 key.
INPUTS	—	Switch to All view and show input channel strips.
	SHIFT	Set to fader bank no. 2 (channel strips 9 to 16, for example).
In modal dialog:		INPUTS button is equivalent to computer keyboard 0 key.
AUDIO TRACKS	—	Switch to All view and show audio channel strips.
	SHIFT	Set to fader bank no. 3 (channel strips 17 to 24, for example).

Button	Modifier	Function/Comments
In modal dialog:		AUDIO TRACKS button is equivalent to computer keyboard's Period key.
AUDIO INSTRUMENTS	—	Switch to All view and show software instrument channel strips.
	SHIFT	Set to fader bank no. 4 (channel strips 25 to 32, for example).
In modal dialog:		AUDIO INSTRUMENTS button is equivalent to computer keyboard / key.
AUX	—	Switch to All view and show aux channel strips.
	SHIFT	Set to fader bank no. 5 (channel strips 33 to 40, for example).
In modal dialog:		AUX button is equivalent to computer keyboard * key.
BUSSES	—	Switch to All view and show bus channel strips.
	SHIFT	Set to fader bank no. 6 (channel strips 41 to 48, for example).
In modal dialog:		BUSSES button is equivalent to computer keyboard - key.
OUTPUTS	—	Switch to All view and show output and master channel strips.
	SHIFT	Set to fader bank no. 7 (channel strips 49 to 56, for example).
In modal dialog:		OUTPUTS button is equivalent to computer keyboard + key.
USER	—	Currently unassigned
	SHIFT	Set to fader bank no. 8 (channel strips 57 to 64, for example).

Mackie Control modifier buttons

The table outlines the modifier buttons (while held down) and their functions:

Button	Function/Comments
SHIFT	Switch to second function.
OPTION	Apply function to all channel strips or set parameter to minimum, default, or maximum value.
CONTROL	Disable Group functions while held down.
CMD/ALT	Enable Fine mode; shift parameter page by one parameter instead of page.

Mackie Control automation buttons

The table outlines the automation controls and their functions:

Mackie Control	Modifier	Function/Comments
READ/OFF	—	Set selected track's automation to Read or Off.
	OPTION	Set all tracks' automation to Read or Off.
TOUCH	—	Set selected track's automation to Touch.
	OPTION	Set all tracks' automation to Touch.
LATCH	—	Set selected track's automation to Latch.
	OPTION	Set all tracks' automation to Latch.
WRITE	—	Set selected track's automation to Write.
	OPTION	Set all tracks' automation to Write.
TRIM		Currently unassigned
GROUP	—	Enter Group Edit mode.
	SHIFT	Create a new group, open the Group window and enter Group Edit mode.
	TRACK	Switch to Mixer view, displaying group parameter.
	OPTION	Switch to Single view.

Mackie Control utilities buttons

The table outlines the utility controls and their functions:

Button	Modifier	Function/Comments
SAVE	—	Save project.
	OPTION	Save project as.
UNDO	—	Undo
	SHIFT	Redo
	OPTION	Open Undo History.
CANCEL	—	Leave folder.
	Flashing preselection:	
	—	Cancel preselection.
	In alerts:	
	—	Execute Cancel button.
ENTER	—	Enter folder of selected track.
	In alerts:	
	—	Execute default button.

Mackie Control transport buttons

The table outlines the transport controls and their functions:

Button	Modifier	Function/Comments
MARKER	—	Switch Small Marker mode on/off.
	SHIFT	Switch Large Marker mode on/off.
NUDGE	—	Switch Small Nudge mode on/off.
	SHIFT	Switch Large Nudge mode on/off.
	MARKER	Create a marker. This allows you to create a marker with one hand without entering Large Marker mode.
CYCLE	—	Activate/deactivate Cycle mode.
	SHIFT	Switch to Cycle view.
DROP	—	Activate/deactivate Autopunch mode.
	SHIFT	Switch to Punch view.
REPLACE	—	Activate/deactivate Replace mode.
CLICK	—	Activate/deactivate metronome click (separately for playback and record).
	SHIFT	Activate/deactivate internal/ external sync and MMC.
SOLO	—	Activate/deactivate Solo Lock function.
	SHIFT	Enable Solo Lock function.
REWIND <<	—	Shuttle rewind.
	MARKER	Go to previous marker.
	NUDGE	Nudge left by chosen value.
	CYCLE	Engage Cycle mode and set left locator to playhead.
	DROP	Engage Autopunch mode and set punch in locator.
	In Marker mode:	
	—	Go to previous marker.
	In Nudge mode:	
	—	Nudge left by chosen value.

Button	Modifier	Function/Comments
F.FWD >>	—	Shuttle forward.
	MARKER	Go to next marker.
	NUDGE	Nudge right by chosen value.
	CYCLE	Engage Cycle mode and set right locator to playhead.
	DROP	Engage Autopunch and set punch out to locator.
	In Marker mode:	
	—	Go to previous marker.
	In Nudge mode:	
	—	Nudge right by chosen value.
STOP	—	Stop
PLAY	—	Play
	SHIFT	Pause
RECORD	—	Record

Mackie Control cursor keys

The table outlines the cursor controls and their functions:

Mackie Control	Modifier	Function/Comments
Cursor Left/Right	If in Mixer view:	
	—	Select previous/next parameter of current view.
	ZOOM	Scroll window horizontally by page.
	If in Channel Strip EQ, Send view, or Plug-in/Instrument Edit view:	
	—	Shift current editor page by one page.
	CMD/ALT	Shift current editor page by one parameter.
	ZOOM	Scroll window horizontally by page.
	Otherwise (always in Nudge mode):	
	—	Mimic computer keyboard Left/Right Arrow keys.
	ZOOM	Scroll window horizontally by page.
	In Zoom mode:	
	—	Change horizontal zoom level.
	SHIFT	Reset individual track zoom of current track (Cursor Left) or all tracks of same type (Cursor Right).

Mackie Control	Modifier	Function/Comments
Cursor Up/Down	In Channel Strip EQ, Send view, or Plug-In/Instrument Editor view:	
	—	Select previous/next EQ band, Send, or Insert slot.
	ZOOM	Scroll window vertically by page.
	Otherwise (always in Nudge mode):	
	—	Mimic computer keyboard Up/Down Arrow keys.
	ZOOM	Scroll window vertically by page.
	In Zoom mode:	
	—	Change vertical zoom level.
	SHIFT	Change individual track zoom of current track.
ZOOM	—	Switch between default cursor button behavior (see above) and Zoom mode.
	SHIFT	Switch between default cursor button behavior and permanently mimicking computer keyboard arrow keys.

Mackie Control Jog/Scrub wheel

The table outlines the Jog/Scrub wheel controls and their functions:

Control	Modifier	Function
Jog Wheel	—	Move the playhead forward or back.
	CYCLE	Set the left locator to the current playhead position, advance the playhead as normal, then set the right locator to the playhead position. Further Jog Wheel turns while still holding down CYCLE advances the playhead and sets the right locator again. Tip: Rotating the Jog Wheel counterclockwise while holding down CYCLE defines a skip-cycle range.
	DROP	Set the punch in locator to the current playhead position, advance the playhead as normal, then set the punch out locator to the playhead position. Further Jog Wheel turns while still holding down DROP advances the playhead and sets the punch out locator again.
SCRUB button	—	Activate/deactivate Scrub mode.
	SHIFT	Enable Shuttle mode on the Jog Wheel (SCRUB button LED flashes).

Mackie Control external inputs

The table outlines the external input controls and their functions:

Input	Modifier	Function
USER SWITCH A	—	Play/Stop
USER SWITCH B	—	Record
EXTERNAL CONTROL	—	Master Volume

M-Audio iControl

5

iControl overview

You can use the iControl with Logic Pro to make working with GarageBand projects easier. When you open a GarageBand project in Logic Pro, you can edit it using the iControl just as you would in GarageBand. You can also take full advantage of the greater control, editing, and processing power afforded by Logic Pro.

Given the hugely expanded functionality of Logic Pro over GarageBand, some iControl buttons may not be assigned as you might expect. You can, however, easily reassign iControl buttons in the Controller Assignments window. For more information, see Controller assignments overview on page 34.

In addition to editing volume, pan, and other channel strip functions, the iControl lets you edit any plug-in that can be automated in Logic Pro. Many Logic Pro effect and instrument plug-ins, and those of third-party manufacturers, feature dozens of parameters. You can access each of these parameters with the iControl.

Note: If a third-party plug-in that you're using does not support remote editing or other features mentioned in this documentation, contact the plug-in manufacturer to obtain an updated version.

When you connect the iControl to any of your computer's USB ports, Logic Pro automatically detects the device. If any channels are muted, soloed, or record-enabled in the current project, the LED on the corresponding channel strip control is lit to reflect the channel strip's state. If Cycle mode is active, a lit LED also indicates this.

iControl Assignment buttons

You can use the buttons along the left side of the iControl, in the areas labeled All Tracks and Selected Track, to select different functions for the rotary encoders located along the right edge, in the channel strip area. In some cases, the channel strip area controls can change the functionality of the Select buttons.

Assignment buttons

- *Volume button:* Press the Volume button to assign the rotary encoders (in the channel strip area) to control volume for the eight active channels. The channel strip buttons—Select, Record Enable, Mute, and Solo—work as described in iControl channel strip controls on page 107.
- *Pan button:* Press the Pan button to assign the rotary encoders to control the pan/balance of the eight active channels. The channel strip button functionality is as per their defaults.
- *Track Info button:* Press the Track Info button to activate Channel view. In this view, you can use the Select (Sel) buttons and rotary encoders to edit global parameters of the selected channel strip. The Record Enable, Mute, and Solo buttons retain their default functions.
  - *Sel button 1 to 5:* Switches the bypass state of the first five Insert slots.
  - *Sel button 6 and 7:* Switches the bypass state of the first and second Send slots.
  - *Sel button 8:* Not assigned

  In Channel view, each of the Select buttons is lit when the respective Insert or Send slot is enabled, and unlit when the slot is bypassed.
  - *Encoder 1:* If the selected channel is an audio channel strip with a Noise Gate effect, controls the Threshold parameter of the Noise Gate (if inserted in the *selected* channel strip).
  - *Encoder 2:* If the selected channel is an audio channel strip with a Compressor effect, controls the Compressor's Ratio.

  Note: The assignments for Encoder 1 and 2 are optimized for GarageBand Real Instrument tracks, which have a default Noise Gate and Compressor effect inserted.
  - *Encoder 3:* Not assigned
  - *Encoder 4:* Not assigned
  - *Encoder 5:* Controls the Pan knob of the channel.
  - *Encoder 6:* Controls the send level for the first send of the channel.
  - *Encoder 7:* Controls the send level for the second send of the channel.
  - *Encoder 8:* Controls the Volume fader of the channel.
- *Generator button:* If the selected channel strip is a software instrument channel strip, pressing the Generator button assigns the rotary encoders to edit the sound generation parameters of the instrument. These assignments are in groups of eight parameters. The Arrow Up and Arrow Down buttons switch to the previous or next page of eight parameters. Use of the Generator button has no effect if the selected channel strip is not a software instrument channel strip.
- *Effect 1 and Effect 2 buttons:* Press Effect 1 to assign the rotary encoders to edit the parameters of the third Insert slot of the selected channel strip. Press Effect 2 to assign the rotary encoders to edit the parameters of the fourth Insert slot (if a fourth Insert slot exists). The Arrow Up and Arrow Down buttons switch to the previous or next page of parameters.

  Hold down Option while pressing the Effect 1 or Effect 2 button to switch the bypass state of Insert slots 3 and 4, respectively.

When using the Arrow buttons to switch between parameter pages—accessed through use of the Generator, Effect 1, or Effect 2 button—the parameters change in groups of eight (unless the parameters on the last page do not make a complete group of eight). For example, if a plug-in has 19 parameters and the iControl is controlling parameters 1 to 8:

- Press the Arrow Up button to shift to parameters 9 to 16.
- Press the Arrow Up button again to shift to parameters 12 to 19.
- Press the Arrow Down button to shift back to parameters 9 to 16, not 4 to 11.

This way, you always revert to the page positions you expect to find and are comfortable with.

- *EQ button:* Press the EQ button to edit the EQ parameters of the selected channel strip. If a Channel or Linear Phase EQ is inserted in the selected channel strip, pressing the EQ button opens the EQ plug-in window. If no Channel or Linear Phase EQ exists on the selected channel strip, a Channel EQ is inserted automatically. The Arrow Up and Arrow Down buttons switch to the next or previous parameter page.

  Each Assignment button has two modes—Mixer view and Channel view—that determine whether the rotary encoders (and in some cases, the Select buttons) edit separate channels or the same channel. For more information, see iControl Mixer and Channel view on page 107.

iControl Arrow buttons

The iControl has channel strip controls for eight channel strips, which default to channel strips 1 to 8. To access further channel strips, press the Arrow Up button. This allows you to control channel strips 9 through 16. Press the Arrow Up button again to control channel strips 17 to 24, or press the Arrow Down button to control channel strips 1 to 8.

When using the Arrow buttons to switch between groups of channel strips, the channel strips follow groupings of eight (starting from channel strip 1) unless the last group of channel strips does not make a complete group of eight. For example, if a project has 19 channel strips, and the iControl is controlling channel strips 1 to 8:

- Press the Arrow Up button to shift to channel strips 9 to 16.
- Press the Arrow Up button again to shift to channel strips 12 to 19.
- Press the Arrow Down button to shift back to channel strips 9 to 16, not 4 to 11.

Hold down the Option button while pressing the Arrow Up button to jump to the first eight channel strips in the project. Press the Option and Arrow Down buttons to jump to the last eight channel strips in the project. For example, if a project has 64 channel strips, pressing Option–Arrow Up jumps to channel strips 57 to 64, and pressing Option–Arrow Down jumps to channel strips 1 to 8.

Note: If the Generator, EQ, Effect 1, or Effect 2 button is lit, the functions of the Arrow Up and Arrow Down buttons are as described in iControl Assignment buttons on page 105.

iControl channel strip controls

The right side of the iControl features eight rows of controls that you can use to edit channel strips. Each row includes Select, Record Enable, Mute, and Solo buttons plus a rotary encoder.

Channel strip controls

- *Select button:* Press to select the channel for channel-based editing or assignment commands. When a channel is selected, "Sel" is lit on the button.

  Note: If the Track Info button is lit, the Select buttons behave differently. See iControl Assignment buttons on page 105 for details.

- *Record Enable button:* Press to arm the associated channel strip for recording. When a channel is armed for recording, the dot is lit. Press the Record Enable button a second time to disable recording for the channel.

  Hold down the Option button and press the Record Enable button of any channel to disarm all channel strips.

- *Mute button:* Press to mute the channel. The speaker icon is lit when the channel strip is muted. Press the Mute button a second time to unmute the channel strip.

  Hold down the Option button and press the Mute button of any channel to unmute all channel strips.

- *Solo button:* Press to solo the associated channel strip in the application. The headphone icon is lit when the channel strip is soloed. Press the Solo button a second time to exit Solo mode for the channel strip.

  Hold down the Option button and press the Solo button of any channel to hear (unsolo) all channel strips.

- *Rotary encoder:* Each channel features a rotary encoder, located to the right of the Solo button. The function assigned to the encoders changes when different Assignment buttons are pressed. See iControl Assignment buttons on page 105.

  Pressing the Option button while turning a rotary encoder—regardless of the active assignment mode—switches between the parameter's minimum, default, and maximum values.

iControl Mixer and Channel view

The rotary encoders operate in two views: Mixer view and Channel view. The view determines whether the rotary encoders (and in some cases, the Select buttons) edit multiple channels or a single channel.

- *Mixer view:* Accesses the same parameter for eight channel strips, such as pan or volume (normally a section of the Mixer window).
- *Channel view:* Accesses eight parameters of the selected channel strip.

Press one of the Assignment buttons to access Mixer or Channel view. For more information about using the Assignment buttons, see iControl Assignment button functions on page 110.

Use the iControl Jog Wheel

You can navigate through projects with the Jog Wheel, located toward the lower-left area of the iControl, just above the transport controls.

Navigate with the iControl Jog Wheel

- Turn the wheel to the right to move the playhead forward.
- Turn the wheel to the left to move the playhead backward.

iControl transport controls

The transport controls at the bottom-left corner of the iControl feature six large buttons: Record, Return to Zero, Rewind, Play, Fast Forward, and Cycle. You can use these buttons to navigate your projects and to perform a number of recording and editing tasks.

Transport controls

- *Record button:* Press to activate recording on channel strips that are currently armed for recording. See iControl Assignment buttons on page 105.
- *Return to Zero button:* Press to move the playhead to the beginning of the project.
- *Rewind button:* Quickly press to move the playhead backward by one bar. Hold down the Rewind button to continuously move the playhead backward in one-bar steps.

  You can also press the Rewind and Cycle buttons simultaneously to activate Cycle mode, and set the left cycle border (left locator) to the current playhead position.
- *Play/Stop button:* Press to start playback from the current playhead position or to stop playback if the project is currently playing or recording.
- *Fast Forward button:* Quickly press to move the playhead forward by one bar. Hold down the Fast Forward button to continuously move the playhead forward in one-bar increments.

  You can also press the Fast Forward and Cycle buttons simultaneously to activate Cycle mode, and set the right cycle border (right locator) to the current playhead position.
- *Cycle button:* Press to turn Cycle mode on or off.

  You can activate Cycle mode—and set the left and right cycle locators, respectively—by using the Rewind or Fast Forward and Cycle buttons together. See Use iControl locators and Cycle mode on page 109.

Use iControl locators and Cycle mode

The left and right locators are used to mark a section of your project. These are often used in conjunction with cycle facilities, which repeatedly play back the section of your project between the locators.

Set left and right locators and turn on Cycle mode

1. Use the Jog Wheel to move the playhead to the left locator position, then press both the Cycle and Rewind buttons.
2. Do one of the following:
   - Navigate to the position where you want to set the right locator with the Jog Wheel, then press the Cycle and Fast Forward buttons simultaneously.
   - Hold down the Cycle button, navigate to the position where you want to set the right locator using the Jog Wheel, then release the Cycle button.
   - Rotating the Jog Wheel counterclockwise (to the left) while holding down Cycle defines a skip-cycle range.

iControl Master fader

Move the Master fader on the iControl to set the level of the Master fader in the Logic Pro Mixer. The Master fader changes the level of all output channels, but does not affect the relative levels of channels that precede the Master fader in the signal path. Move the fader left to decrease the master level, or to the right to increase the master level.

iControl assignments

iControl assignments overview

The assignment tables show all assignments for each control, both with and without the Option button for the Assignment buttons and channel strip controls and the Cycle button for the Jog Wheel and transport buttons.

iControl Assignment button functions

The Assignment buttons in the All Tracks and Selected Track areas define the behavior of the channel strip controls.

iControl button	Modifier	Function/Comments
Volume	—	Encoders control channel's Level fader.
Pan	—	Encoders control channel's Pan/ Balance control.
Generator	—	Encoders control software instrument parameters.
Track Info	—	Encoders control channel strip parameters.
EQ	—	Encoders control EQ parameters.
Effect 1	—	Encoders control Insert 3 parameters.
Effect 2	—	Encoders control Insert 4 parameter.
Option	—	Modifier for other controls; while held down, the modified control either applies the function to all channel strips, or sets the parameter to its minimum, default, or maximum value.
Arrow Up/Arrow Down	—	Shift fader bank left/right by number of channel strips.
	Option	Shift fader bank to first or last group of channels in the project.

iControl channel strip functions

The table outlines the channel strip controls and their functions:

iControl	Modifier	Function/Comments
Encoder	—	Modifies currently selected parameter.
	Option	Sets parameter to minimum, default, or maximum value.
Record Enable	—	Turns Record Enable button of channel strip on or off.
	Option	Disables Record Enable buttons of all channel strips.
Solo	—	Turns Solo button of channel strip on or off.
	Option	Disables Solo buttons of all channel strips.
Mute	—	Turns Mute button of channel strip on or off.
	Option	Disables Mute buttons of all channel strips.
Sel	—	Selects channel strip, except in Channel view.

iControl Jog Wheel functions

The table outlines the Jog Wheel controls and their functions:

iControl	Modifier	Function/Comments
Jog Wheel	—	Moves playhead.
	Cycle	Sets the left locator to the current playhead position, advances the playhead as usual, then sets the right locator to the new playhead position. Further Jog Wheel turns (to the right) while holding down the Cycle button advance the playhead and reset the right locator position.

iControl transport functions

The table outlines the transport controls and their functions:

iControl	Modifier	Function/Comments
Record	—	Record
Return to Zero	—	Go to beginning of project.
Rewind	—	Moves the playhead one bar backward. If held down, continues to scroll backward.
	Cycle	Engages Cycle function, and sets left locator to playhead position.
Play	—	Play or Stop.
Fast Forward	—	Moves the playhead one bar forward. If held down, continues to scroll forward.
	Cycle	Engages Cycle function, and sets right locator to playhead position.
Cycle	—	Switches Cycle mode on or off.

Euphonix devices

6

Set up your Euphonix device

Logic Pro supports the EuCon protocol developed by Euphonix. This protocol allows enhanced communication between the MC Pro, System 5-MC, MC Control, MC Mix, or MC Transport and Logic Pro.

The term *Euphonix device* is used when describing all devices as a group. *MC Professional device* is used when speaking about the MC Pro and System 5-MC. *MC Artist device* is used when speaking about the MC Mix, MC Transport, and MC Control. For any exceptions to the above, individual device names are used.

Note: This is an addendum to the Euphonix user documentation and is limited to descriptions of features specific to Logic Pro. Refer to the Euphonix documentation for more information about the individual control surfaces.

Depending on the specific Euphonix device you have, the setup process varies. Follow the steps below to use your Euphonix device with Logic Pro.

Note: EuCon support in Logic Pro works in a different way than other supported control surface devices. As a consequence, you cannot use the Controller Assignments window to change assignments. See the documentation provided with your Euphonix device for information on the use of parameters and device features. EuCon devices do *not* appear in the Control Surfaces Setup window.

Set up your MC Professional device for use with Logic Pro

1. Set up your device as described in the Euphonix user documentation.
2. Install the latest EuCon software on your computer. (If necessary, go to the Euphonix website to download the most recent version.)

   Note: Installing EuCon software on the MC Professional device requires the installation of two applications—one for the MC Pro device (EuConMC software), and a second for the computer (EuConWS client). Full details are in the Euphonix user documentation.
3. Open Logic Pro.

   The startup screen lets you know that Logic Pro is starting EuCon.
4. On the MC Pro, press the workstation button associated with your computer.

   The MC Pro display shows an Attaching to Logic Pro progress bar.

Set up your MC Artist device for use with Logic Pro

1. Set up your device as described in the Euphonix user documentation.
2. Install the latest EuCon software on your computer. (If necessary, go to the Euphonix website to download the most recent software version.)
3. With the EuControl application running on your computer, open Logic Pro.

   Your MC Artist device automatically connects to the application.

Change the Euphonix track display

By default, tracks shown in the Mixer and on the display of your Euphonix device mirror the Mixer's Arrange View. This means that all channel strips with corresponding Track window tracks are displayed in the same order.

Note: Redundant tracks—where multiple tracks are routed to the same channel strip—are not accessible.

Switching the Mixer view to another mode (using the view buttons or channel strip filter buttons) does not update the Euphonix device display. You can, however, override the default behavior.

Switch the view of channel strips on Euphonix devices

- Choose Logic Pro > Control Surfaces > Setup window, and change the Channel Strip View in the Control Surface Group 1 menu.

Set up MC Professional Soft Key assignments

The "Logic Pro.xml" Application Set file—installed with the EuCon software on your MC Professional device—features a number of useful Soft Key assignments. It is possible to edit these assignments.

Change a Soft Key assignment on your MC Professional device

1. Press the Setup button in the lower-right corner of the Soft Keys section on the device.
2. Select the respective Soft Key by pressing it.
3. Choose the EuCon command from the menu.

Logic Pro supports the following EuCon commands:

- *Key Commands:* All Logic Pro key commands (except the transport commands) are found here. The touchscreen uses the same hierarchy as the Key Commands window. Many of these key commands switch between states (on/off, for example) or set a value. Most also provide feedback on the Soft Key; for example, a Soft Key assigned to the Open/Close Score Editor command is illuminated when a Score Editor window is open.
- *Left Wheel/Right Wheel:* The commands found here allow you to configure the left or right wheel to perform a certain action when turned. This includes horizontal or vertical zoom, waveform zoom, individual track zoom, move locators, adjust left locator, adjust right locator, move punch locators, adjust punch in or punch out locator, move markers, adjust marker lengths, nudge selected regions or events, left/right pan (surround X), and front/back pan (surround Y).
- *Project > Markers:* All markers defined in the open project are shown as a list (which only appears once you create the first marker in that project). Assigning a Soft Key to a marker displays the marker title on the Soft Key, but only if the marker title consists of six characters or fewer. A marker name with more than six characters is replaced on the Soft Key by the marker number (1, for example). With this same limitation, renaming a marker in Logic Pro also changes the associated Soft Key display. Pressing the Soft Key moves the playhead to the marker start point. The Soft Key is illuminated while the playhead is within the marker boundaries. Moving a marker disconnects the Soft Key from the marker.

  Note: Marker Soft Keys are a part of the Application Set, not the project. Don't forget to save the User Set after defining a Marker Soft Key.
- *Transport:* All transport-related key commands are found here.

Choose Euphonix automation modes

The Euphonix devices only support Read and Write automation modes. Logic Pro, however, also features Touch and Latch automation modes. When you use the Euphonix devices, activating Read/Write mode activates Touch mode in Logic Pro. Latch mode cannot be activated with these devices.

Choose an automation mode on the MC Pro

1. Press the Wave and Select keys simultaneously.
2. Select the automation mode you want from the pop-up menu displayed on the touchscreen. You can choose between:
   - *Isolate:* Automation mode is off.
   - *Read:* Activates Read mode in Logic Pro.
   - *Write:* Activates Write mode in Logic Pro.
   - *Read/Write:* Activates Touch mode in Logic Pro.

   You can also use the Select key to switch between automation modes in Logic Pro:
   - When you set the automation mode to Off or Read, the Select key switches between these two modes.
   - When you set the automation mode to Read or Touch, the Select key switches between these modes.

Choose an automation mode on a CM408T channel strip

1. Press the Wave and Y keys simultaneously.

   The available automation modes are displayed in a pop-up menu on the CM408T display.
2. Use the fader of the channel strip to scroll through the following options:
   - *Isolate:* Automation mode is Off.
   - *Read:* Activates Read mode in Logic Pro.
   - *Write:* Activates Write mode in Logic Pro.
   - *Read/Write:* Activates Touch mode in Logic Pro.
3. Use the Y key to confirm your selection, or the N key to cancel the operation.

Note: If a write automation mode (Touch, Latch, Write) is active (and an automation parameter is enabled in the Logic Pro > Preferences > Automation > Touch/Latch/Write Erase settings), the red "W" LED is lit. The green LED is lit when a read automation mode is active. Both LEDs are lit when Touch or Latch mode is active.

Choose an automation mode on MC Artist devices

1. Hold down the Shift key.
2. Press the AUTO key repeatedly until your chosen automation mode appears on the display screen. You can choose between:
   - *Blank:* Automation mode is Off.
   - *Read (r):* Activates Read mode in Logic Pro.
   - *Write (w):* Activates Write mode in Logic Pro.
   - *Read/Write (rw):* Activates Touch mode in Logic Pro.

Euphonix fader strips

The number of fader strips differs across each of the Euphonix devices. This section outlines the behavior of some fader strip elements in Logic Pro.

Note: This section is limited to descriptions of features specific to Logic Pro. Refer to the Euphonix user documentation for information about basic fader behavior.

- *On key:* The On key provides the same function as the Mute button in Logic Pro but behaves in a way that may not be expected.
  - The track is unmuted when the On key is lit (the Logic Pro Mute button is unlit).
  - The track is muted when the On key is unlit (the Logic Pro Mute button is lit).
- *L LED:* On MC Professional devices, when the Logic Pro channel strip being controlled by the fader belongs to an automation group, the L LED of the channel strip is lit.
- *Touching fader selects track:* The "Touching fader selects track" preference of Logic Pro does not apply to the Euphonix devices when they are used with the EuCon protocol. This function is offered by the individual devices, using the device's "Select channel by touching fader/joystick" or "Select by Touch" General preference. This is the same as pressing the Select/Sel key.

Control of plug-ins with Euphonix devices

Logic Pro supports the Euphonix "Open plug-ins on workstation when editing" and "Close plug-ins on workstation when exiting" preferences.

If the Link button is enabled in an open plug-in window:

- "Open plug-ins on workstation when editing" does not open a new window when a new plug-in is selected but replaces the open window's contents.
- "Close plug-ins on workstation when exiting" does nothing.

If the Link button is disabled in an open plug-in window:

- "Open plug-ins on workstation when editing" opens a new plug-in window.
- "Close plug-ins on workstation when exiting" closes the plug-in window.

Euphonix knobsets

Euphonix knobsets overview

When using the Euphonix devices with Logic Pro, the Mixer's channel strip functions can be accessed and edited using knobsets. A knobset contains pages, each comprised of eight parameters. Knobsets are organized hierarchically.

The top-level knobset leads to the following knobsets:

- *Inserts:* Press the Inserts knob top to display all effect plug-ins inserted in the currently selected channel strip. (See Use the Inserts knobset on page 118.) If a plug-in is enabled (and does not belong to the dynamic, EQ, or filter plug-in groups), either the On key is lit (MC Pro and MC Mix) or the knob's image shows a small green LED on the lower left (MC Control). To switch the bypass state, press the respective On key or knob image, or the Ins In key on the CM408T channel strip.
- *Input:* Press the Input knob top to display all possible channel input values for the selected channel strip. (See Use the Input knobset on page 119.)
- *Dyn:* The Dyn knob top is not currently used to display a list, or allow editing, of dynamic plug-ins. If a dynamic plug-in is enabled, either the On key is lit (MC Pro and MC Mix) or the knob's image shows a small green LED on the lower left (MC Control). To switch the bypass state, press the respective On key or knob image or the Dyn In key on the CM408T channel strip.
- *EQ:* Press the EQ knob top to switch to EQ editing mode. (See Use the EQ knobset on page 121.) If an EQ plug-in is enabled, either the On key is lit (MC Pro and MC Mix) or the knob's image shows a small green LED on the lower left (MC Control). To switch the bypass state, press the respective On key or knob image or the EQ In key on the CM408T channel strip.
- *Aux or Sends:* Press the Aux or Sends knob top to switch to send editing mode. See Use the Aux or Sends knobset on page 122. If an Aux or Send is enabled, either the On key is lit (MC Pro and MC Mix) or the knob's image shows a small green LED on the lower left (MC Control). Pressing the respective On key or knob image switches the bypass state.
- *Pan:* Press the Pan knob top to switch to pan/surround editing mode. (See Use the Pan/Surround knobset on page 123.)
- *Group:* Press the Group knob top to switch to group editing mode. (See Use the Group knobset on page 123.)
- *Mix or Output:* Press the Mix or Output knob top to switch to output editing mode. (See Use the Mix or Output knobset on page 124.)

Use the Inserts knobset

This knobset allows you to:

- Edit an effect plug-in (Inserts mode)
- Change or insert an effect plug-in (Inserts Configuration mode)

Note: This knobset only relates to insert effects and not to instrument plug-ins.

Edit an effect plug-in

1. Press the Inserts knob top, or key, to display all effect plug-ins inserted in the currently selected channel strip. This key is labeled "*" (asterisk) on the CM408T channel strip.

   Note: If using the MC Mix, press the CHAN key to enter Channel mode.

   The effect plug-in names are displayed on the Soft Keys, the touchscreen, or the display, depending on the system you are using.

   If more than eight effect plug-ins are inserted, you can use the Page keys to display ensuing plug-ins.

2. Press the knob top that features the name of the effect plug-in you want to edit.

   The parameters are displayed in the order shown in the Controls view of the effect.

3. Rotate the respective knob to change the value.

   Depending on the system you are using, for parameters with only two values, you can either press the On key, or turn the respective knob, to switch between the two values. The On key is lit when the value is 1 (or on) and unlit when the value is 0 (or off).

   Pressing a knob top sets the controlled parameter to its default value.

   If there are more than eight parameters, use the Page keys to navigate between them.

4. Press the Back key to return to the top-level knobset.

Change or insert an effect plug-in

1. Press the Inserts knob top or key. The key is labeled "*" (asterisk) on the CM408T channel strip.

   Note: If using the MC Mix, press the CHAN key to enter Channel mode.

2. Press both Page keys simultaneously to display the Inserts Configuration knobset.

   The first eight Insert slots of the selected channel strip are displayed.

   If an Insert slot already contains an effect plug-in, the On key is lit (on the MC Professional and MC Mix devices). On the MC Control, it is indicated by a small green LED in the lower left of the knob image.

3. Select the Insert slot you want by pressing the respective knob top. Press the Page keys to display Insert slots 9 to 15.

   The Effect plug-in menu appears. Press the Page keys to display ensuing plug-ins and to move through the effect plug-in hierarchy.

4. Choose the effect plug-in you want:

   - Pressing the knob top enters a submenu or inserts a selected effect plug-in.
   - Pressing the Back key navigates up one level in the menu hierarchy.

Use the Input knobset

This knobset behaves differently, depending on the channel strip type you are working with—audio or software instrument.

On audio channel strips, this knobset allows you to:

- Set a channel strip's input value (Input mode)
- Set a channel strip's input format (Input Configuration mode)

On software instrument channel strips, this knobset allows you to:

- Edit an instrument plug-in (Input mode)
- Change or insert an instrument plug-in (Input Configuration mode)

Set a channel strip's input value

1. Press the Input knob top, or key, to display all possible channel input values for the selected channel strip.

   Note: If using the MC Mix, press the CHAN key to enter Channel mode.

   The input values are displayed on the Soft Keys, the touchscreen, or the display, depending on the system you are using.

   You can use the Page keys to display ensuing input values.

2. Press the knob top that features the name of the channel input value you want to set.

   The currently active input value is indicated by a lit On key (on the MC Professional and MC Mix devices). On the MC Control, it is indicated by a small green LED in the lower left of the knob image.

Set an audio channel strip's input format

1. Press the Input knob top or key.

   Note: If using the MC Mix, press the CHAN key to enter Channel mode.

2. Press both Page keys simultaneously to switch to Input Configuration mode.

   The selected channel strip's input format values—Mono, Stereo, Left, Right, Surround—are displayed.

   The currently active format value is indicated by a lit On key (on the MC Professional and MC Mix devices). On the MC Control, it is indicated by a small green LED in the lower left of the knob image.

3. Press the respective knob top to choose the input format you want.

Edit an instrument plug-in

1. Press the Input knob top, or key, to display the software instrument plug-in inserted in the currently selected channel strip.

   The instrument plug-in name is displayed on the Soft Keys, the touchscreen, or the display, depending on the system you are using.

2. Press the knob top to display the instrument plug-in parameters in the order shown in the Controls view of the instrument.
3. Rotate the respective knob to change the value.

   Depending on the system you are using, for parameters with only two values, you can either press the On key, or turn the respective knob, to switch between the two values. The On key is lit when the value is 1 (or on) and unlit when the value is 0 (or off).

   Pressing a knob top sets the controlled parameter to its default value.

   If the instrument plug-in features more than eight parameters, use the Page keys to navigate between pages of parameters.

4. Press the Back key to return to the top-level knobset.

Change or insert an instrument plug-in

1. Press the Input knob top, or key.
2. Press both Page keys simultaneously to switch to Input Configuration mode.

   The Instruments plug-in menu appears. Press the Page keys to display ensuing plug-ins.

   If an instrument plug-in is already inserted, the On key is lit (on the MC Professional and MC Mix devices). On the MC Control, it is indicated by a small green LED in the lower left of the knob image.

3. Choose the instrument you want:
   - Pressing the knob top activates a submenu or inserts a selected instrument plug-in.
   - Pressing the Back key navigates up one level in the menu hierarchy.

Use the EQ knobset

This knobset allows you to edit the first Channel or Linear Phase EQ inserted in the selected channel strip.

There are two pages, each showing four EQ bands on eight knobs:

- One page contains the parameters of EQ bands 1, 2, 7, and 8.
- One page contains the parameters of EQ bands 3, 4, 5, and 6.

When no Channel or Linear Phase EQ is present on the selected channel strip, pressing the knob top labeled AddChEQ inserts a Channel EQ.

- The first knob of an EQ band (the upper or left knob of the pair) controls either Frequency or Q. To switch between Frequency and Q, use the Select/SEL key if working with the MC Professional devices or the MC Mix. If using the MC Control, press the Shift key while touching the knob's image on the touchscreen. (When active, a small yellow LED lights on the upper left of the image.) Pressing the knob top sets the controlled parameter to its default value.
- The second knob of an EQ band (the lower or right knob of the pair) controls Gain (or Slope). Pressing the knob top sets the controlled parameter to its default value.
- If working with the MC Professional devices or the MC Mix, the On key switches the bypass state of the band. On the MC Control, press the knob's touchscreen image.

Edit an EQ plug-in

1 Press the EQ knob top, or key, to display the EQ bands of the EQ plug-in inserted in the currently selected channel strip.

Note: The MC Mix automatically switches to Channel mode.

The EQ band parameters are displayed on the Soft Keys, the touchscreen, or the display, depending on the system you are using.

You can use the Page keys to display ensuing parameters.

2 Rotate the respective knob to change the parameter value.

Pressing a knob top sets the controlled parameter to its default value.

3 Press the Back key to return to the top-level knobset.

Use the Aux or Sends knobset

The Aux or Sends (Configuration) knobset allows you to:

- Edit a send destination (Aux or Sends mode)
- Change or set a send destination (Aux or Sends Configuration mode)

The Select key (labeled SEL on the MC Mix) switches between Pre Fader (off—unlit) and Post Fader (on—lit) modes.

Edit a send destination

1. Press the Aux or Sends knob top, or key, to display all send options for the currently selected channel strip.

   Note: If using the MC Mix, press the CHAN key to enter Channel mode.

   The send options are displayed on the Soft Keys, the touchscreen, or the display, depending on the system you are using.

2. Rotate the respective knob to change the send level.

   Pressing a knob top sets the controlled parameter to its default level.

3. Press the Back key to return to the top-level knobset.

Change or set a send destination

1. Press the Aux or Sends knob top, or key.

   Note: If using the MC Mix, press the CHAN key to enter Channel mode.

2. Press both Page keys simultaneously to switch to Send Configuration mode.

   The eight Send slots of the currently selected channel strip are displayed.

3. Select the Send slot you want by pressing the respective knob top.

   The first eight send destinations are displayed. You can use the Page keys to display further send destinations (busses).

4. Choose the send destination:

   - Pressing the knob top changes, or sets, a selected destination.
   - Pressing the Back key navigates up one level in the menu hierarchy.

Use the Pan/Surround knobset

This knobset allows you to adjust a channel strip's Pan/Surround control. If the channel strip's input format is set to Surround, the knobset displays the following parameters:

- Surround Angle
- Surround Diversity
- LFE Level
- Surround X (left/right)
- Surround Y (front/back)
- Spread
- Center Level

Adjust the pan/surround control

1 Press the Pan/Surround knob top, or key, to display the Pan/Surround parameters for the currently selected channel strip.

Note: If using the MC Mix, press the CHAN key to enter Channel mode.

The parameter names are displayed on the Soft Keys, the touchscreen, or the display, depending on the system you are using.

2 Rotate the respective knob to change the parameter value.

Pressing a knob top sets the controlled parameter to its default value.

3 Press the Back key to return to the top-level knobset.

Use the Group knobset

This knobset allows you to edit a channel strip's group membership.

Add a channel strip to a group

1 Press the Group knob top, or key, to display the list of groups that the currently selected channel strip is assigned to. This key is labeled Grp on the CM408T channel strip.

Note: If using the MC Mix, press the CHAN key to enter Channel mode.

The group names are displayed on the Soft Keys, the touchscreen, or the display, depending on the system you are using.

If a channel strip is associated with more than the first eight groups, you can use the Page keys to display ensuing groups.

2 Press the knob top that features the name of the group you want to associate the channel strip with.

- When you choose an inactive group number, the Group Settings window opens automatically, with the channel strip being added to the group.
- When you choose an active group number, the channel strip is added directly to the group.

  Tip: The On key can also be used to switch between active and inactive group membership for the selected channel strip.

3 Press the Back key to return to the top-level knobset.

Remove a channel strip from a group

1. Press the Group knob top, or key, to display the list of groups that the currently selected channel strip is assigned to. This key is labeled Grp on the CM408T channel strip.

   Note: If using the MC Mix, press the CHAN key to enter Channel mode.

2. Press the knob top that features the name of the group you want to remove the channel strip from.

   That particular channel is removed from the group.

   Tip: The On key can also be used to switch between active and inactive group membership for the selected channel strip.

3. Press the Back key to return to the top-level knobset.

Use the Mix or Output knobset

This knobset allows you to change the mix or output destination of a channel strip.

Change the output destination of a channel strip

1. Press the Mix or Output knob top, or key, to display all possible mix or output values for the currently selected channel strip.

   Note: If using the MC Mix, press the CHAN key to enter Channel mode.

   The value names are displayed on the Soft Keys, the touchscreen, or the display, depending on the system you are using.

2. To select the output destination, do one of the following:

   - Press the knob top that features the name of the mix or output value.
   - Press the On key for the relevant mix or output value.

   You can use the Page keys to display ensuing outputs.

   The currently active output is indicated by a lit On key (on the MC Professional and MC Mix devices). On the MC Control, it is indicated by a small green LED in the lower left of the knob image.

3. Press the Back key to return to the top-level knobset.

Euphonix Logic Pro features

This section describes other features specific to Logic Pro.

- *Layouts:* Tracks assigned to channel strips can be saved as a Layout. This Layout can then be recalled at a later time. Any Layouts saved on Euphonix devices are automatically saved with the Logic Pro project.
- *Monitors and Control Room:* Logic Pro does not support EuCon monitoring control. Use the Studio Monitor Pro application.
- *Control Surface bar:* The control surface bar of the Logic Pro Tracks window offers a special feature on the Euphonix devices: it shows attentioned tracks in blue.

Note: The color of the control surface bar cannot be changed in the Control Surfaces Setup window.

CM Labs Motormix 7

Set up your Motormix

Follow the steps below to use your CM Labs Motormix control surface with Logic Pro.

Set up your CM Labs Motormix in Logic Pro

1. Ensure that your Motormix unit is connected bidirectionally with the MIDI interface.
2. Choose Logic Pro > Control Surfaces > Setup.
3. Choose Install from the Setup window's New menu.
4. Select Motormix in the Install window, click Add, then set the appropriate MIDI In and Out ports in the Setup window.

Assignments of CM Labs Motormix interface elements to Logic functions are covered in these sections:

Motormix assignments

Motormix Select buttons

The Select buttons (the buttons just below the LCD) have multiple uses, depending on the current mode.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Mode	Assignment
Normal	Selects the channel displayed in the upper LCD line. Channels can be shifted to the left and right with the View left and right buttons.
Bank button LED flashing	Channel View: Select buttons switch between displayed channel strips: • 1: Switches to Single view. • 2: Switches to Arrange view. • 3: All view, MIDI channels • 4: All view, input channels • 5: All view, audio channels • 6: All view, instrument channels • 7: All view, aux and bus channels • 8: All view, output and master channels
WINDOW/tool button LED on	Window Select mode: Select buttons open, assign key focus, or close a particular window type. LED off: If the window is not open, the button opens it. LED on: If the window is open but does not have key focus, the button activates it. LED flashes: If the window has key focus, the button closes it. • 1: Tracks window • 2: Mixer • 3: Event List • 4: Score Editor • 5: Step Editor • 6: Piano Roll Editor • 7: Control bar • 8: Audio Bin
WINDOW/tool button flashes	Select Tool mode: Select buttons choose a tool. • 1: Pointer • 2: Pencil • 3: Eraser • 4: Text tool • 5: Scissors • 6: Glue tool • 7: Solo tool • 8: Mute tool

Mode	Assignment
PLAY/transport button flashes	Transport section mode • 1: Record • 2: Pause • 3: Stop • 4: Play • 5: Rewind • 6: Fast Forward • Upper LCD row displays current playhead position.
STOP/locate button flashes	Locate mode • 1: Goes to the left locator. • 2: Goes to the right locator. • 3: Enables or disables Cycle mode. • 4: Enables or disables Autopunch mode. • 5: Enters Marker mode (see below). • 6: Opens Marker List. • Upper LCD row displays the current playhead position.
Marker mode	• 1 to 6: Select markers 1 to 6. Marker names are displayed in the upper LCD row. • 7: Creates a new marker. • 8: Deletes the selected marker.
Group Edit mode	Switches between group parameters. Parameter display can be shifted by the View left and right buttons when the SHIFT button is held down.
Effect Assign mode	Enters Effect Edit mode for the selected channel.
Effect Edit mode	Enables or disables the selected parameter, or resets it to the default value.
Instrument Assign mode	Enters Instrument Edit mode for the selected (instrument) channel.
Instrument Edit mode	Enables or disables the selected parameter, or resets it to the default value.

Note: In modal dialogs, the Select buttons generate the computer keyboard character shown on the button face.

Motormix faders and pots

The faders normally control volume. When in Flip mode, however, they duplicate the rotary encoder assignments.

The table outlines the rotary pot controls and their assignments.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Rotary pots 1 to 8		Control parameter chosen with the Rotary Selector, as displayed in the 7 segment display (see below)

Control	Modifier	Assignment
7 segment display		Shows the current selection for rotary pots: Send/EQ editing (S-MUTE or PRE/PST LED is on): • S1 to S8 = Send 1 to 8 level • F1 to F8 = EQ band 1 to 8 frequency • G1 to G8 = EQ band 1 to 8 gain • q1 to q8 = EQ band 1 to 8 Q factor Pan/Surround editing (select LED is on): • Pn = Pan • An = Surround Angle • dv = Surround Diversity • FE = Surround LFO • Sp = Surround Spread • X = Surround X • Y = Surround Y Channel parameter editing (eff-4 LED is on): • VL = Volume • Pn or An = Pan/Surround Angle • FM = Channel input format • In = Channel input assignment • Ou = Channel output assignment • Au = Automation mode • Gr = Group membership Assignment: • d1 to d8 = Assign Send 1 to 8 destination. Effect editing (DSP/compare LED is on): • P1 to 15 = Assign Insert slot 1 to 15 to effect. • P1. to 15. = Effect parameter editing Instrument editing (DSP/compare LED is on): • IA = Assign instrument to Instrument slot. • IE. = Instrument parameter editing Group property editing (group LED is on): • G1 to 32 = group number

Control	Modifier	Assignment
Rotary Selector		Selects a slot or parameter for rotary encoders, depending on the parameter types being edited with the rotary encoders: • Send slot when editing send level or assigning send destination • EQ band when editing an EQ parameter • Effect/Instrument slot when assigning an effect or instrument • Pan/Surround parameter when editing a Pan/Surround parameter • Channel parameter when editing a channel parameter • Effect/instrument parameter page when editing an effect or instrument plug-in
Rotary Selector push button		Switches Flip mode between Off and Duplicate (faders mirror the rotary encoder assignments).
	SHIFT	Switches the channel strip display mode between: • Page info in upper line, parameter name in lower line • Parameter name in upper line, parameter value in lower line

Motormix multi buttons

These buttons (labeled A to H) have multiple uses depending on the current mode, as indicated by the green and yellow LEDs to the right.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Mode	Modifier	Assignment
fx bypass		Enables or disables bypass of the currently selected insert effect.
	SHIFT (eff-1)	Enables or disables bypass of the currently selected EQ band, and switches rotary encoders to EQ frequency editing.
s-mute		Enables or disables bypass of the currently edited send, and switches rotary encoders to send level editing.
	SHIFT (eff-2)	Enables or disables bypass of the currently selected EQ band, and switches rotary encoders to EQ Gain editing.
pre/post		Switches between Pre and Post Fader modes of the currently edited send, and switches rotary encoders to send level editing. Post mode is indicated by a lit LED.
	SHIFT (eff-3)	Enables or disables the bypass of the currently selected EQ band, and switches rotary encoders to (EQ) Q factor editing.
select		Switches the rotary encoders to Pan/Surround editing. The parameter is chosen with the rotary selector.
	SHIFT (eff-4)	Switches the rotary encoders to channel parameter editing.

Note: In modal dialogs, the Multi buttons generate the computer keyboard character shown on the button face.

Motormix burn buttons

These buttons (labeled I to P) have multiple uses depending on the current mode, as indicated by the red LEDs to the left.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Mode	Modifier	Assignment
record		Enables or disables Record Enable state of channel.
	SHIFT (fnctA)	Switches automation mode to Latch.
	ALL + SHIFT (fnctA)	Switches automation mode of all channels to Latch.
write		Switches automation mode to Write.
	ALL	Switches automation mode of all channels to Write.
	SHIFT (fnctB)	Switches automation mode to Read.
	ALL + SHIFT (fnctA)	Switches automation mode of all channels to Read.
burn		Switches automation mode to Touch.
	ALL	Switches automation mode of all channels to Touch.
	SHIFT (fnctC)	Switches automation mode to Off.
	ALL + SHIFT (fnctA)	Switches automation mode of all channels to Off.

Note: In modal dialogs, the Burn buttons generate the computer keyboard character shown on the button face.

Motormix Solo and Mute buttons

These buttons switch the solo and mute state of the displayed channel.

Note: In modal dialogs, the SOLO and MUTE buttons generate the computer keyboard character shown on the button face.

Motormix view controls

The table outlines the view controls and their assignments.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Left/right buttons		In Effect and Instrument Plug-in Edit modes: shifts the parameter bank. In other modes: • If BANK LED is off: shifts the fader bank by one channel. • If BANK LED is on: shifts the fader bank by one bank (a group of eight channels).
	SHIFT	In Effect and Instrument Plug-in Edit modes: shifts the parameter bank by one parameter. In Group Edit mode, the group parameter bank is shifted.
bank		Switches mode of left/right buttons (see above).
	SHIFT	Sets the Select buttons to Channel View.
group		Sets the Select buttons, rotary encoders, and Multi buttons to Group Edit mode.
	SHIFT	Displays channels' group assignments in the LCD. The rotary encoders allow you to change assignments.

Motormix left function buttons

The table outlines the left function button controls and their assignments.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
AUTO ENBL/mode		Currently unassigned
	SHIFT	Switches rotary encoders to Automation Enable mode.
SUSPEND/create		While held down, the groups are temporarily disabled.
	SHIFT	Creates a new group, and enters Group Edit mode.
PLUG-IN/compare		Switches rotary encoders and Multi buttons to Effect Assign mode. Use the Rotary Select knob to choose the Insert slot you want to edit. In Effect or Instrument Assign mode, it switches to Pan mode. In Effect Edit mode, it switches to Effect Assign mode. In Instrument Edit mode, it switches to Instrument Assign mode.
	SHIFT	Switches the rotary encoders and Multi buttons to Instrument Assign mode.
WINDOW/tools		Switches the Select buttons to Window Select mode.
	SHIFT	Switches the Select buttons to Select Tool mode.
ALL/ALT/FINE		While ALL/ALT/FINE is held down, rotary encoders are in Full mode: rotating counterclockwise sets minimum; rotating clockwise sets maximum value.
	SHIFT	While SHIFT and ALL/ALT/FINE are held down, the rotary encoders are in Fine mode. Parameter changes are made in single unit (or smaller) values.
DEFAULT/bypass		Currently unassigned
	SHIFT	In Instrument Edit mode: switches bypass state of the instrument. In Effect Edit mode: switches bypass state of the effect being edited.
UNDO/save		Performs an Undo step. The LED is lit if there is a Redo step available.
	SHIFT	Saves the project. The LED is lit if the project contains unsaved changes.

Control	Modifier	Assignment
SHIFT		Switches to Shift mode, where the functions indicated by the (inverted) labels below the buttons apply.

Motormix right function buttons

The table outlines the right function button controls and their assignments.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
PLAY/transport		Play key command
	SHIFT	Switches the Select buttons to Transport Section mode.
STOP/locate		Stop key command
	SHIFT	Switches the Select buttons to Locate mode.
FFWD/monitor		Shuttle Forward key command
REWIND/status		Shuttle Rewind key command
	SHIFT	Opens Project Settings Synchronization window.
NEXT/configure		Moves the playhead to the next marker.
LAST/assign		When rotary encoders are displaying send destinations, use of LAST/assign reverts to displaying send levels. Otherwise, moves the playhead to previous marker.
	SHIFT	When rotary encoders are displaying send levels, use of LAST/assign switches them to display send destinations. When rotary encoders are in Effect Edit mode, use of LAST/assign switches them to Effect Assign mode. When the rotary encoders are in Instrument Edit mode, use of LAST/assign switches them to Instrument Assign Mode.
ENTER/utility		Identical to the Enter key on computer keyboard
	SHIFT	Opens the Project Settings Automation window.
ESCAPE		When LED is lit, escapes from "special" mode (denoted by flashing LED). At all other times, identical to the Esc key on the computer keyboard.

Frontier Design TranzPort

8

Set up your TranzPort

Follow the steps below to use your Frontier Design TranzPort control surface with Logic Pro.

Note: Support for the AlphaTrack control surface is available from Frontier Design.

Set up your Frontier Design TranzPort device in Logic Pro

1. Ensure that the software that shipped with the TranzPort is installed.
2. Make sure that the Tranz Bridge (the wireless transmitter) is connected to the computer via USB.

When Logic Pro is opened, it installs the TranzPort automatically, and sets it to native mode.

These sections outline the assignment of Frontier Design TranzPort interface elements to Logic functions.

- TranzPort channel strip on page 136
- TranzPort master controls on page 137

TranzPort LCD

The LCD displays the following information:

- *Top line left:* Name of currently displayed channel
- *Top line middle:* Volume level of currently displayed channel
- *Top line right:* Pan position of currently displayed channel
- *Bottom line left:* Level meter of currently displayed channel
- *Bottom line right:* Current playhead position

TranzPort assignments

TranzPort channel strip

The table outlines the channel strip controls and their assignments:

Note: A SHIFT (or other modifier) shown below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
<CHAN		Shifts the currently displayed channel to the left by one channel.
	SHIFT	Shifts the currently displayed channel left by eight channels.
CHAN>		Shifts the currently displayed channel right by one channel.
	SHIFT	Shifts the currently displayed channel right by eight channels.
REC		Turns the Record Enable button of the currently displayed channel on or off.
	SHIFT	Disables the Record Enable buttons of all channels.
SOLO		Enables or disables Solo for the currently displayed channel.
	SHIFT	Disables Solo for all channels.
MUTE		Enables or disables Mute for the currently displayed channel.
	SHIFT	Disables Mute for all channels.
ANY SOLO		Lit if any tracks, channels, or regions are soloed.
UNDO		Undo
	SHIFT	Redo

TranzPort master controls

The table outlines the master controls and their assignments:

Note: A SHIFT (or other modifier) shown below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
SHIFT		Modifier that alters the function of other controls.
IN		Moves playhead to left cycle locator.
	PUNCH	Engages Autopunch mode, and sets punch in locator to playhead position.
	LOOP	Engages Cycle mode, and sets left cycle locator to playhead position.
OUT		Goes to right cycle locator.
	PUNCH	Engages Autopunch mode, and sets punch out locator to playhead position.
	LOOP	Engages Cycle mode, and sets right cycle locator to playhead position.
PUNCH		Enables or disables Autopunch mode.
LOOP		Enables or disables Cycle mode.
PREV		Moves playhead to previous marker.
	SHIFT	Sets locators by previous marker.
ADD		Creates marker at playhead position.
	SHIFT	Deletes marker at playhead position.
NEXT		Moves playhead to next marker.
	SHIFT	Sets locators by next marker.

Control	Modifier	Assignment
Jog Wheel		Depending on current Jog Wheel mode: • Moves playhead by bars. • Controls audio (and MIDI) scrubbing. • Shuttles forward or backward.
	SHIFT	Adjusts volume of the currently displayed channel.
	LOOP	Sets the left locator to the current playhead position, advances the playhead as usual, then sets the right locator to the playhead position. Further Jog Wheel use—while holding down LOOP—advances the playhead, and sets the right locator. *Tip:* Rotating the Jog Wheel counterclockwise, while holding down LOOP, defines a skip cycle range.
	DROP	Sets the punch in locator to the current playhead position, advances the playhead as usual, then sets the punch out locator to the playhead position. Further Jog Wheel use—while holding down DROP—advances the playhead, and sets the punch out locator.
REW		Shuttles backward.
	SHIFT	Goes to last play position.
	PUNCH	Engages Autopunch mode, and sets punch in locator to playhead position.
	LOOP	Engages Cycle mode, and sets left locator to playhead position.
F FWD		Shuttles forward.
	PUNCH	Engages Autopunch mode, and sets punch out locator to playhead position.
	LOOP	Engages Cycle mode, and sets right locator to playhead position.
STOP		Stop
	SHIFT	Switches Jog Wheel between Move Playhead (by bars), Scrubbing, and Shuttle modes.
PLAY		Play
	SHIFT	Pause

Control	Modifier	Assignment
RECORD		Record
	SHIFT	Save
Foot Switch		Punch In/Out

JLCooper CS-32 MiniDesk 9

Set up your CS-32 MiniDesk

Follow the steps below to use your JLCooper CS-32 MiniDesk control surface with Logic Pro.

Add JLCooper CS-32 control surfaces connected via USB

1. Install the software that comes with the CS-32.
2. Ensure that the CS-32 is in Host mode.
3. Make sure that your CS-32 units are connected to the computer via USB.

   USB units are installed automatically when you open Logic Pro.

Add JLCooper CS-32 control surfaces connected via MIDI

1. Install the software that comes with the CS-32.
2. Ensure that the CS-32 is in Host mode.
3. Make sure that your CS-32 units are connected to the computer via MIDI.
4. Choose Logic Pro > Control Surfaces > Setup.
5. Choose Install from the Setup window's New menu.
6. Select the CS-32 from the list in the Install window.
7. Click the Scan button.

CS-32 MiniDesk assignments

CS-32 MiniDesk assignments overview

Assignments of JLCooper CS-32 MiniDesk interface elements to Logic functions are covered in these sections:

CS-32 MiniDesk display

The display shows information on the current mode and parameters being edited.

Display text	Meaning
--	A switching parameter (Solo, Mute, Rec/Rdy) has been disabled.
AE	Automation Enable setup: Mute buttons 1–6 display/set various automation parameters.
AS	Pots (knobs) are in Pan/Send Assignment mode.
b1—b9	Pots are in Plug-in or Instrument Bank Select mode.
In	Pots are in Instrument Edit mode.
Lt	Mute buttons display/set Latch automation mode.
Mu	Mute has been enabled.
P1—P9	Pots are in Effect Edit mode.
PA	Pots are in Pan/Send mode.
rd	Mute buttons display/set Read automation mode.
Re	Rec/Rdy has been enabled.
So	Solo has been enabled.
Tc	Mute buttons display/set Touch automation mode.
Wr	Mute buttons display/set Write automation mode.
Other text	When a channel is selected, the first two characters of its name are briefly displayed.
Numbers	While editing a numerical value with a fader or pot, the current value is displayed. If there are more than two digits in the value, the last two digits are shown. Plus/minus signs (+/–) are shown if only one digit is displayed.

CS-32 MiniDesk pots

Because the CS-32 MiniDesk pots are not motorized, Pickup mode is used if turned on in Control Surfaces preferences. In Pickup mode, the controller must reach (pick up) the current value before the value starts to change. This prevents sudden jumps of parameter values caused by playing back automation.

A pot's current value is indicated by the NULL arrow LEDs.

- The Upper arrow is lit if the pot's value is above the current value.
- The Lower arrow is lit if the pot's value is below the current value.
- Both arrow LEDs are lit when the pot has reached the current value.

The pots can operate in one of three modes, with one sub-mode in each.

- *Instrument edit mode:* Press F8 to enter Instrument edit mode (display shows "In"). The pots control (software) instrument parameters. Hold down SHIFT (display shows "b1"–"b9") to move between banks (pages) of parameters. (See CS-32 MiniDesk cursor controls on page 146.)
- *Effect edit mode:* Press F9 to enter Effect edit mode (display shows "P1"–"P9"). The pots control the parameters of the effect in the currently selected Insert slot. Hold down SHIFT (display shows "b1"–"b9") to switch between Insert slots, and move between banks (pages) of parameters. (See CS-32 MiniDesk cursor controls on page 146.)
- *Pan/Send mode:* Press F7 to enable Pan/Send mode (display shows "PA"). In this mode, the pots control the following channel parameters:

Control	Assignment
SEND A/P1	Controls Send 1 level of selected channel.
SEND B/P2	Controls Send 2 level of selected channel.
PAN/P3	Controls pan of selected channel.
SEND C/P4	Controls Send 3 level of selected channel.
SEND D/P5	Controls Send 4 level of selected channel.
SEND E/P6	Controls Send 5 level of selected channel.

While SHIFT is held down (display shows "AS"), the pots allow you to perform the following assignments:

Control	Assignment
SEND A/P1	Assigns Send 1 destination (bus) for selected channel.
SEND B/P2	Assigns Send 2 destination for selected channel.
PAN/P3	Assigns input format of selected channel.
SEND C/P4	Assigns Send 3 destination for selected channel.
SEND D/P5	Assigns Send 4 destination for selected channel.
SEND E/P6	Assigns Send 5 destination for selected channel.

CS-32 MiniDesk channel strips

The table outlines the channel strip controls and their assignments:

Note: If a modifier button, such as SHIFT, is shown below a description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
PAN SELECT/TRACK SELECT		Selects channel strip (destination for the selected track).
SOLO		Enables or disables Solo.
LOCATE		Moves playhead to markers 1 to 32.
	SHIFT	LOCATE 17: Creates a new marker. LOCATE 18: Creates a new marker without rounding. LOCATE 19: Deletes the marker at the playhead position. LOCATE 25: Opens the Marker List. LOCATE 26: Opens the Marker Text window. LOCATE 28: Sets locators by previous marker. LOCATE 29: Sets locators by current marker. LOCATE 30: Sets locators by next marker. LOCATE 31: Moves playhead to previous marker. LOCATE 32: Moves playhead to next marker.

Control	Modifier	Assignment
MUTE		Enables or disables Mute.
	F1	Automation Enable setup (display shows "AE"). MUTE 1: Enables or disables volume automation. MUTE 2: Enables or disables pan automation. MUTE 3: Enables or disables mute automation. MUTE 4: Enables or disables automation of solo. MUTE 5: Enables or disables send (level) automation. MUTE 6: Enables or disables automation of plug-in parameters.
	F2	Switches automation mode between Read and Off (display shows "Td").
	F3	Switches automation mode between Touch and Off (display shows "Tc").
	F4	Switches automation mode between Latch and Off (display shows "Lt").
	F5	Switches automation mode between Write and Off (display shows "Wr").
ARM		Turns Record Enable button on or off.
Faders		Control volume. As the faders don't offer feedback, Pickup mode is used, as per the pots. See the pickup information in CS-32 MiniDesk pots on page 142.

CS-32 MiniDesk bank button

The table outlines the bank controls and their assignments:

Control	Assignment
Small red button with green LED	LED off: Black labels of channel strip buttons apply (TRK/LOC/ARM). LED on: White labels of channel strip buttons apply (PAN/SOLO/MUTE).

CS-32 MiniDesk F keys

The table outlines the F key controls and their assignments:

Note: If a modifier button, such as SHIFT, is shown below a description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
SHIFT		Modifier for function of other controls. See SHIFT entries in left column.
F1		While held down, MUTE buttons 1–6 enable/disable automation of certain parameters (see MUTE).
	SHIFT	Enables or disables Cycle mode.
F2		While held down, MUTE buttons set automation mode to Read.
	SHIFT	Enables or disables Autopunch mode.
F3		While held down, MUTE buttons set automation mode to Touch.
	SHIFT	Sets left locator by current playhead position.
F4		While held down, MUTE buttons set automation mode to Latch.
	SHIFT	Sets right locator by current playhead position.
F5		While held down, MUTE buttons set automation mode to Write.
	SHIFT	Sets punch in locator by current playhead position.
F6		
	SHIFT	Sets punch out locator by current playhead position.
F7		Sets pots to Pan/Send mode (display shows "PA").
	SHIFT	Enables or disables metronome click.
F8		Sets pots to Instrument Edit mode (display shows "In").
F9		Sets pots to Effect Edit mode (display shows "P1"–"P9").

CS-32 MiniDesk cursor controls

The table outlines the cursor controls and their assignments:

Note: If a modifier button, such as SHIFT, is shown below a description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Up		Zooms out vertically.
	SHIFT	In Effect Edit mode: moves up one Insert slot (unless top slot is selected).
Down		Zooms in vertically.
	SHIFT	In Effect Edit mode: moves down one Insert slot (unless bottom slot).
Left		Zooms out horizontally.
	SHIFT	In Instrument and Effect Edit modes: decrements current parameter bank (moves down one bank, or page, of parameters).
Right		Zooms in horizontally.
	SHIFT	In Instrument and Effect Edit modes: increments current parameter bank (moves up one bank, or page, of parameters).

CS-32 MiniDesk transport controls

The table outlines the transport controls and their assignments:

Control	Assignment
RECORD	Record
STOP	Stop
REW	Moves playhead backward by one bar.
PLAY	Play
F FWD	Moves playhead forward by one bar.

CS-32 MiniDesk Jog wheel controls

The table outlines the Jog Wheel controls and their assignments:

Control	Assignment
Jog Wheel	SCRUB off: Moves playhead (in bar increments). SCRUB on: Scrubbing of audio (and MIDI) is possible. SHUTTLE on: Shuttle mode
SCRUB	Switches Jog Wheel between Move Playhead (by bars), and Scrubbing modes.
SHUTTLE	Switches Jog Wheel between Move Playhead (by bars) and Shuttle modes.

JLCooper FaderMaster 4/100

10

Set up your FaderMaster 4/100

You can combine several FaderMaster 4/100 devices to form one large virtual control surface. The meaning and functionality of the Track buttons, however, are individually switched for each device.

Before using your FaderMaster 4/100 control surface with Logic Pro, you should make sure that your FaderMaster 4/100 (MIDI or USB version) has firmware version 1.03 or later installed. If you have older firmware (see the sticker on the back of the unit), contact JLCooper.

Connect your FaderMaster 4/100 devices to the computer via USB or MIDI. If connected via USB, installation is automatic.

Note: USB model only: Install the software that comes with the FaderMaster 4/100.

Install JLCooper FaderMaster 4/100 units connected via MIDI

1. Choose Logic Pro > Control Surfaces > Setup.
2. Choose Install from the New menu.
3. Select FaderMaster 4/100 from the list in the Install window.
4. Click the Scan button.

FaderMaster 4/100 assignments

The table outlines the global controls and their assignments:

Control	Assignment
Select	Switches Track buttons to track selection duties.
Aux	Switches Track buttons to emulate Record Enable buttons.
Solo	Switches Track buttons to emulate Solo buttons.
Mute	Switches Track Buttons to emulate Mute buttons.
Inc	Increases fader bank display to show next four channels.
Dec	Decreases fader bank display to show previous four channels.

The table outlines the channel strip controls and their assignments:

Control	Assignment
Track button	Performs currently selected function (Select, Record Enable, Solo, Mute).
Fader	Controls volume (touch-sensitive and motorized).

JLCooper MCS3

11

Set up your MCS3

Logic Pro supports USB or MIDI versions of the JLCooper MCS3 control surface. Both USB and MIDI versions are installed automatically when you open Logic Pro. If your MCS3 is not recognized and installed correctly, follow the steps below.

Add JLCooper MCS3 control surfaces connected via USB

1. Ensure that your MCS3 USB device is correctly connected to the computer with a USB cable. Also ensure that the unit is powered.
2. Open Logic Pro.

   The MCS3 is added to the Control Surfaces Setup window.

Add JLCooper MCS3 control surfaces connected via MIDI

1. Make sure that your MCS3 units are connected to the computer via MIDI.
2. Choose Logic Pro > Control Surfaces > Setup.
3. Choose Install from the Setup window's New menu.
4. Select the MCS3 from the list in the Install window.
5. Click the Scan button.

MCS3 assignments

MCS3 assignments overview

Assignments of JLCooper MCS3 interface elements to Logic functions are covered in these sections:

MCS3 F1 to F6 buttons

The table outlines the F1 to F6 buttons and their assignments:

Control	Assignment
F1	Switches to Layer 1.
F2	Switches to Layer 2.
F3	Switches to Layer 3.
F4	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.
F5	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.
F6	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.

MCS3 W1 to W7 buttons

The table outlines the W1 to W7 buttons and their assignments:

Control	Assignment
W1	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.
W2	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.
W3	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.
W4	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.
W5	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.
W6	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.
W7	Unassigned. Can be assigned to different key commands in Layers 1, 2, and 3.

MCS3 cursor controls

The table outlines the cursor controls and their assignments:

Control	Assignment
Up Arrow	Mirrors the behavior of the computer keyboard Up Arrow key.
Down Arrow	Mirrors the behavior of the computer keyboard Down Arrow key.
Left Arrow	Mirrors the behavior of the computer keyboard Left Arrow key.
Right Arrow	Mirrors the behavior of the computer keyboard Right Arrow key.

MCS3 Jog wheel and Shuttle ring

The table outlines the Jog wheel and Shuttle ring controls and their assignments:

Control	Assignment
Jog wheel	Scrubs audio and MIDI.
Shuttle ring	Shuttles the playhead backward when turned to the left. Shuttles the playhead forward when turned to the right.

MCS3 transport controls

The table outlines the transport controls and their assignments:

Control	Assignment
REW	Moves the playhead backward by one bar.
F FWD	Moves the playhead forward by one bar.
STOP	Stop
PLAY	Play
RECORD	Record. LED is lit when active.

Korg microKONTROL and KONTROL49

12

Set up microKONTROL and KONTROL49

Follow the steps below to use your control surface with Logic Pro.

Set up your Korg control surface with Logic Pro

1. Ensure that your control surfaces are connected to the computer via USB.
2. Open Logic Pro.

   The devices are scanned for and installed automatically. The microKONTROL/KONTROL49 is automatically set to native mode; internal Scene settings are ignored.

   Note: If installation and identification fails, it may be possible that the microKONTROL/KONTROL49 reaction time is too slow due to USB bus-power issues. In this situation, connect the supplied power adapter, and set the power switch to the DC position.

   When you quit Logic Pro (or delete the control surface icon in the Control Surfaces Setup window), the microKONTROL/KONTROL49 is reset to normal (non-native) operation.

microKONTROL and KONTROL49 assignments

microKONTROL and KONTROL49 Pads

microKONTROL and KONTROL49 Pads overview

The Pads can operate in one of eight modes, and three overlays. While pressing SCENE, you can select modes for the Pads and channel strips. Releasing SCENE without pressing a Pad does not affect the currently selected Pad or channel views.

Pad	Assignment
1	Switches Pads to Transport mode.
2	Switches Pads to Solo/Mute mode.
3	Switches Pads to Rec/Select mode mode.
4–8	Switches Pads to Use the User 4–8 modes. These modes have unassigned Pads. You can assign them to key commands with the Learn function.
9	Switches channel strips to Pan mode.
10	Switches channel strips to Send mode.
11	Switches channel strips to Automation mode.
12	Switches channel strips to Instrument edit mode.
13	Switches channel strips to Effect edit mode.
14–16	Switches channel strips to User 6–8 mode. These modes have unassigned encoders. You can assign them with the Logic Pro Learn function.

Transport mode

This mode is enabled by pressing SCENE and Pad 1.

Pad	Assignment
1	Sets main encoder to Transport mode.
2	Sets main encoder to Scrub mode.
3	Sets main encoder to Shuttle mode.
7	Switches sync between internal and external.
8	Enables or disables metronome click (separately for Playback and Record).
9	Enables or disables Cycle mode.
10	Enables or disables Autopunch mode.
11	Enables or disables Replace mode.
12	Enables or disables Solo.
13	Record
14	Pause
15	Play
16	Stop

Solo/Mute mode

This mode is enabled by pressing SCENE and Pad 2.

Pad	Assignment
1–8	Enables or disables Solo for the eight channels being controlled with the eight channel strips.
9–16	Enables or disables Mute for the eight channels being controlled with the eight channel strips.

Rec/Select mode

This mode is enabled by pressing SCENE and Pad 3.

Pad	Assignment
1–8	Turns the Record Enable button of the eight channels being controlled with the eight channel strips on or off.
9–16	Selects one of the eight channels being controlled with the eight channel strips.

Use the User 4–8 modes

These modes are enabled by pressing SCENE and Pad 4 to 8.

In these modes, the Pads are unassigned. Use the Learn function: Logic Pro > Control Surfaces > Learn Assignment for [function name] to assign them to key commands, for example.

Note: When in Learn mode, if a Pad is pressed and released immediately, the learned assignment does not work as expected.

Assign a key command

1. Enable the Learn New Assignment button in the Key Commands window.
2. Choose a key command, then press and hold down the Pad, until the Learn New Assignment button switches to the "up" state.

This slightly different approach is due to messages sent by the Korg devices: when the Pad is immediately released, a value range is learned. Holding the Pad until Learn mode disengages results in a fixed value being learned.

Send mode

This mode is enabled by pressing SCENE and Pad 10. In Send mode, the channel strip encoders control the send level of the selected send. The Pads remain in the currently selected mode.

- *Send Overlay:* Press SETTING while the encoders are in Send mode to change the operation of the Pads in Send mode.

Pad	Assignment
1–8	Switches the send bypass state (of the currently selected send) for the eight channel strips.
9–16	Switches the send position (pre/post fader) of the currently selected send, for the eight channel strips.

Effect edit mode

This mode is enabled by pressing SCENE and Pad 13. In Effect edit mode, the channel strip encoders control the parameters of the currently selected effect. The Pads remain in the currently selected mode.

- *Effect Edit Overlay:* Press SETTING while the encoders are in Effect Edit mode to change the operation of the Pads in Effect edit mode.

Pad	Assignment
1–8	Switches the effect bypass state (of the currently selected Insert slot) for the eight channel strips.

microKONTROL and KONTROL49 main controls

The main LCD shows information on the current mode of the encoders.

Display text	Meaning
<Instrument name>	Encoders edit instrument parameters.
<Plug-in name>	Encoders edit effect parameters (the currently selected Insert slot number is indicated on the display).
Automatn	Encoders set the automation mode.
Ins. x	(SETTING held down) Main encoder chooses the Insert slot number.
ModePad	Displayed while SCENE button is held down.
Pan	Encoders control pan.
Send x	Encoders control send level of send x.
User 6	Channel Strip User Mode 6. Encoders are initially unassigned.
User 7	Channel Strip User Mode 7. Encoders are initially unassigned.
User 8	Channel Strip User Mode 8. Encoders are initially unassigned.

The LCD backlight is red while recording, and green at other times.

The controls in the main section have the following meaning:

Control	Assignment
Main encoder	Controls the playhead in one of three modes. (See Pads 1–3 in Transport mode on page 153.)
SETTING	Held down in Send mode: • Main encoder chooses the current send. • Pads have special meaning—see Send mode on page 154. • LCDs display send destinations. • Encoders choose send destinations. Held down in Effect Edit mode: • Main encoder chooses the current Insert slot. • Pads have special meaning—see Effect edit mode on page 155. • LCDs display effect names for all eight channels.
MESSAGE	Enables or disables Duplicate Flip mode. When enabled, both the faders and encoders control the parameter displayed in the LCDs.
SCENE	While held down, Pads switch between Pad functions and channel views. See microKONTROL and KONTROL49 Pads overview on page 153.
EXIT	—
HEX LOCK	Shifts fader bank to the previous eight channels. (LED is on if previous channels exist.) Shifts fader bank to the previous eight parameters in Effect Edit or Instrument Edit view.
ENTER	Shifts fader bank to the next eight channels. (LED is on if subsequent channels exist.) Shifts fader bank to the next eight parameters in Effect Edit or Instrument Edit view.
<	Octave Shift Down
>	Octave Shift Up

microKONTROL and KONTROL49 channel strips

There are several modes for the encoders, enabled with SCENE and Pad 9–16.

Control	Assignment
LCD	Shows the parameter controlled by the encoder. The current name/value is displayed for a few seconds when you move an encoder or a fader. When the encoders are in a Mixer view (Pan, Send, Send Setup), the background color indicates the channel automation mode: • Green: Off or Read • Yellow: Touch or Latch • Red: Write
Encoder	Controls the parameter shown directly above the encoder in the LCD.
Fader	Controls volume. Because the faders don't offer feedback, Pickup mode is used (if enabled in the Control Surfaces preferences). This means that the fader must reach ("pick up") the current parameter value before the value starts to change.

microKONTROL and KONTROL49 external input

The table outlines the external input controls and their assignments:

Control	Assignment
Foot Switch	Starts and stops playback.
Pedal	Controls the master fader.

Mackie Baby HUI 13

Set up your Baby HUI

Baby HUI control surface units do not support automatic scanning. You need to manually add these devices to your setup. When you add a device in this way, you need to specify the MIDI In and Out port parameters.

Set up Mackie Baby HUI units

1. Make sure that your Baby HUI units are connected bidirectionally with the computer, using a MIDI interface.
2. Choose Logic Pro > Control Surfaces > Setup.
3. Choose New > Install in the Setup window.
4. Select the Baby HUI in the Install window.
5. Click the Add button.
6. Select the added device in the Setup window, then assign the MIDI Input and MIDI Out parameters as appropriate.

Baby HUI assignments

Baby HUI assignments overview

Assignments of Mackie Baby HUI interface elements to Logic functions are covered in the following sections:

Baby HUI channel strips

The table outlines the channel strip controls and their assignments.

Note: If SHIFT is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Rotary encoder		Adjusts the parameter selected in the Encoder Assignment section.
Rotary encoder push button		Selects a channel strip.
	SHIFT	Turns Record Enable button of selected channel on/off.
Signal indicator		Illuminates when a signal is present in the channel. It also indicates channel selection.
SOLO		Enables or disables Solo.
MUTE		Enables or disables Mute.
Fader		Adjusts volume.

Baby HUI encoder assignment controls

The table outlines the encoder assignment controls and their assignments:

Control	Assignment
PAN	Assigns pan to rotary encoders.
SEND 1	Assigns Send 1 level to rotary encoders.
SEND 2	Assigns Send 2 level to rotary encoders.
SEND 3	Assigns Send 3 level to rotary encoders.
SEND 4	Assigns Send 4 level to rotary encoders.

Baby HUI automation controls

The table outlines the automation controls and their assignments.

Note: If SHIFT is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
BYPASS/OFF		Sets selected channel to Off automation mode.
	SHIFT	Enables or disables playback and recording of level (volume) automation.
READ		Sets selected channel to Read automation mode.
	SHIFT	Enables or disables playback and recording of mute automation.
WRITE		Sets selected channel to Write automation mode.
	SHIFT	Enables or disables playback and recording of pan automation.
TOUCH		Sets selected channel to Touch automation mode.
	SHIFT	Enables or disables playback and recording of send level automation.

Baby HUI display controls

The table outlines the display controls and their assignments:

Control	Assignment
TRANSPORT	Opens or closes the Control bar window.
MEM–LOC	Opens or closes the Marker List.
MIXER	Opens or closes the Mixer.
EDIT	Opens or closes the Tracks window.

Baby HUI utility controls

The table outlines the utility controls and their assignments:

Control	Assignment
UNDO	Undoes the last editing step.
SHIFT	Shifts to alternate use of some buttons.

Baby HUI navigation controls

The table outlines the navigation controls and their assignments.

Note: If SHIFT is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
RTZ		Navigates to the left locator.
	SHIFT	Sets the punch in locator (at current playhead position).
END		Navigates to the right locator.
	SHIFT	Sets the punch out locator (at current playhead position).
BANK SELECT Left		Shifts channel strips by one bank to the left.
	SHIFT	Shifts channel strips by one channel to the left.
BANK SELECT Right		Shifts channel strips by one bank to the right.
	SHIFT	Shifts channel strips by one channel to the right.

Baby HUI transport controls

The table outlines the transport controls and their assignments:

Control	Assignment
REWIND	Shuttles backward.
FAST FWD	Shuttles forward.
STOP	Stop
PLAY	Play
RECORD	Record

Mackie HUI

14

Set up your HUI

HUI control surface devices don't support automatic scanning. You need to manually add these devices to your setup. When you add a device in this way, you need to assign the MIDI In and Out port parameters.

Important: There are a number of control surfaces—not mentioned in this guide—that can emulate the HUI. Such devices are not supported by Apple, nor are they guaranteed to work with Logic Pro in HUI emulation mode.

If the unit emulates a single HUI device, proceed as if using a HUI.

If you experience problems in the DSP Edit display, install the unit as a DM2000. See Set up your DM2000 on page 266.

If the unit emulates more than one HUI, add the required number of additional devices in the Setup window. If the unit is limited to support of only one HUI DSP Edit section, choose "HUI Channel Strips only" as the model name for these additional units. This ensures that scrolling in the DSP Edit section is limited to four parameters.

If you want to know more about button assignments, refer to HUI assignments overview on page 163 and the user manual for the device.

Set up Mackie HUI devices

1. Make sure that your HUI devices are connected bidirectionally with the computer, using a MIDI interface.
2. Choose Logic Pro > Control Surfaces > Setup.
3. Choose New > Install in the Setup window.
4. Select HUI in the Install window.
5. Click the Add button.
6. Select the added device in the Setup window, then set the MIDI In and MIDI Out parameters as appropriate.

HUI assignments

HUI assignments overview

The following sections outline the assignment of Mackie HUI interface elements to Logic functions.

HUI assign controls

The table outlines the controls in the ASSIGN section and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
SEND A		Assigns Send 1 level to V-Pots, and Send 1 to 4 levels to DSP V-Pots. While SEND A is held down, the scribble strips show the current Send 1 destination (a bus number).
	SHIFT/ADD	As above, for Send 6
SEND B		As above, for Send 2
	SHIFT/ADD	As above, for Send 7
SEND C		As above, for Send 3
	SHIFT/ADD	As above, for Send 8
SEND D		As above, for Send 4
SEND E		As above, for Send 5
PAN		Assigns Pan to V-Pots, and the selected (surround) channel strip's pan/surround parameters to DSP V-Pots. You must confirm any changes made with the DSP V-Pots by pressing the corresponding V-Select button.
INPUT		Assigns channel strip input to V-Pots. While held down, the scribble strips show the current channel strip input assignment. The four DSP V-Pots control the following parameters of the selected channel strip: format, input, output, and automation mode. You must confirm any changes made with the V-Pots or DSP V-Pots by pressing the corresponding V-Select button.
OUTPUT		Assigns channel strip output to V-Pots. While held down, the scribble strips show the current channel strip output assignment. The four DSP V-Pots control the following parameters of the selected channel strip: format, input, output, and automation mode. You must confirm any changes made with the V-Pots or DSP V-Pots by pressing the corresponding V-Select button.
REC/RDY ALL		Disables Record Enable button of all channel strips.

Control	Modifier	Assignment
BYPASS		Switches the INSERT buttons between Insert Select and Insert Bypass modes. See the Insert entry in the table on HUI channel strips on page 167.
MUTE		Switches the V-Select buttons between Send Position and Send Mute modes.
SHIFT		Enables or disables Flip mode.
SELECT-ASSIGN		Displays the V-Pot assignment as follows: Pan, Snd1 to Snd8, S1As to S8As, In, Out.
SUSPEND		—
DEFAULT		Hold down this button to switch the V-Select buttons between standard operation and setting default values.
ASSIGN		When V-Pots display a send level, the ASSIGN button switches them to Send Destination Assignment mode (choosing a bus, in other words). Press the V-Select to confirm the assignment. The DSP V-Pots display the assignments of Send slots 1–4 or Send slots 5–8. Confirm any changes by pressing the V-Select button or all changes will be lost when you leave Send Destination Assignment mode, or press the Assign button a second time.

HUI fader bank buttons

The table outlines the fader bank controls and their assignments:

Control	Assignment
Bank Left	Shifts channel strips by one bank (a group of channel strips or parameters) to the left.
Bank Right	Shifts channel strips by one bank to the right.
Channel Left	Shifts channel strips by one channel (or parameter) to the left.
Channel Right	Shifts channel strips by one channel to the right.

HUI window controls

The table outlines the window controls and their assignments:

Control	Assignment
TRANSPORT	Opens or closes the control bar window.
EDIT	Opens or closes the Tracks window.
MIX	Opens or closes the Mixer.
ALT	Opens or closes the Sample Editor.
STATUS	Opens or closes the Audio Bin.
MEM-LOC	Opens or closes the Marker List.

HUI keyboard shortcuts

The table outlines the keyboard shortcut controls and their assignments:

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
UNDO		Undoes last editing operation.
	SHIFT/ADD	Redoes last editing operation.
	OPTION/ALL	Opens Undo History window.
SAVE		Saves the project.
	OPTION/ALL	Performs Save As function, allowing you to save the project with a different name.
EDIT MODE		—
EDIT TOOL		Selects the next tool. While held down, numerical buttons select a specific tool.
SHIFT/ADD		Shifts to alternate mode/use for some buttons. See descriptions of other buttons.
OPTION/ALL		While held down, value change mode is set to relative. This switches between a minimum, default, or maximum value for the edited parameter. Also see description of other buttons.
CTRL/CLUTCH		While held down, the Group Clutch is engaged. (All groups are disabled.)
CMD/ALT/FINE		While held down, Value Change mode is set to Fine. All value changes work at maximum resolution. Also see descriptions of other buttons.

HUI channel strips

The table outlines the channel strip controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Level meters		Displays momentary and peak levels.
REC/RDY		Activates or deactivates the Record Enable button.
	OPTION/ALL	Disables the Record Enable buttons of all channel strips.
INSERT		• BYPASS button OFF (see Insert Select mode in HUI assign controls on page 164): selects channel strip for plug-in selection. • BYPASS button ON: Enables or disables bypass of currently selected Insert slot.
V-SEL		• PAN button ON: sets Pan parameter to center position if DEFAULT button is on. • Send 1 to 8 selected: edits Send Pre/Post, turns Send Mute on or off, or sets Send Level to default value. • In Send Destination Assignment mode, Channel Strip Input or Channel Strip Output Assignment mode: the V-SEL buttons confirm your selection.
V-Pot		Adjusts parameter selected in the ASSIGN section.
AUTO		Cycles through automation modes. If you hold down an automation mode button, pressing AUTO sets this mode.
SOLO		Enables or disables the Solo button.
	OPTION/ALL	Disables the Solo buttons of all channel strips.
MUTE		Enables or disables the Mute button.
	OPTION/ALL	Disables the Mute buttons of all channel strips.
Scribble strip		Displays the channel strip name or send, input, or output assignment.
SELECT		Selects the channel strip.
	SHIFT/ADD	Sets volume to unity level.

Control	Modifier	Assignment
DEFAULT		Sets volume to unity level.
Fader		Adjusts volume, or duplicates the V-Pot assignment in Flip mode.

HUI DSP controls

The table outlines the DSP controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
ASSIGN		—
COMPARE		Switches DSP display between "track name/parameter name" and "parameter name/parameter value" modes.
BYPASS		Switches the bypass state of the plug-in being edited.
DSP Select 1 to 4		• Assignment Pan mode: DSP Select 1 resets pan or surround angle. DSP Select 2 resets surround diversity. DSP Select 3 resets surround LFE (level). DSP Select 4 resets the Spread parameter. • Assignment Send mode: Activates or deactivates Sends 1 to 4, or mutes 5 to 8. • Effect Assign mode: Confirms Insert 1 to 4 or 5 to 8 effect selection, selects this Insert slot, and enters Effect Edit mode, showing the parameters of the chosen effect. • Effect Edit mode: Sets parameter to the default value, or turns "switching" parameters on/off.
DSP V-Pots		• Assignment Pan mode: DSP V-Pot 1 controls pan or surround angle. DSP V-Pot 2 controls surround diversity. DSP V-Pot 3 controls surround LFE (level). DSP V-Pot 4 controls the Spread parameter. • Assignment Send mode: Controls Send 1 to 4, or 5 to 8 Levels. • Effect Assign mode: Assigns effects to Insert slots 1 through 4, or 5 to 8. • Effect Edit mode: Controls the selected effect parameter.

Control	Modifier	Assignment
INSERT/PARAM		Switches between Effect Assign and Effect Edit modes.
SCROLL		Effect Edit mode: Shifts parameter display by the number of DSP V-Pots in the control surface group (usually four).
	CMD/ALT/FINE	Effect Edit mode: Shifts parameter display by one (parameter).

HUI function keys

The table outlines the function keys and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
F1		Clears Overload LEDs.
	SHIFT/ADD	Switches to Mixer view, and displays MIDI channel strips.
	CMD/ALT/FINE	Opens or closes Tracks window.
F2		Recalls screenset 2.
	SHIFT/ADD	Switches to Mixer view, and displays input channel strips.
	CMD/ALT/FINE	Opens or closes Mixer.
F3		Recalls screenset 3.
	SHIFT/ADD	Switches to Mixer view, and displays audio channel strips.
	SHIFT/ADD	Opens or closes Event List.
F4		Recalls screenset 4.
	SHIFT/ADD	Switches to Mixer view, and displays software instrument channel strips.
	CMD/ALT/FINE	Opens or closes Score Editor.
F5		Recalls screenset 5.
	SHIFT/ADD	Switches to Mixer view, and displays aux channel strips.
	CMD/ALT/FINE	Opens or closes Step Editor.
F6		Recalls screenset 6.
	SHIFT/ADD	Switches to Mixer view, and displays bus channel strips.
	CMD/ALT/FINE	Opens or closes Piano Roll Editor.
F7		Switches counter display format between SMPTE and bars/beats/divisions/ticks.
	SHIFT/ADD	Switches to Mixer view, and displays the master and output channel strips.
	CMD/ALT/FINE	Opens or closes Control bar window.
F8/ESC		Default: exits folder. Go to Marker mode: cancels dialog.
	CMD/ALT/FINE	Opens or closes the Audio Bin.

HUI global controls

The table outlines the global controls and their assignments:

Control	Assignment
FADER	Activates or deactivates the recording of volume automation.
PAN	Activates or deactivates the recording of pan automation.
PLUG IN	Activates or deactivates the recording of plug-in parameter automation.
MUTE	Activates or deactivates the recording of mute automation.
SEND	Activates or deactivates the recording of send level automation.
SEND MUTE	—

HUI automation controls

The table outlines the automation controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
READ		Sets selected channel to Read automation mode. While held down, pressing the channel strip AUTO button sets the automation mode to Read.
	OPTION/ALL	Sets all channels to Read automation mode.
LATCH		Sets selected channel to Latch automation mode. While held down, press the channel strip AUTO button to set automation mode to Latch.
	OPTION/ALL	Sets all channels to Latch automation mode.
TRIM		—
TOUCH		Sets selected channel to Touch automation mode. While held down, press the channel strip AUTO button to set automation mode to Touch.
	OPTION/ALL	Sets all channels to Touch automation mode.
WRITE		Sets selected channel to Write automation mode. While held down, press the channel strip AUTO button to set automation mode to Write.
	OPTION/ALL	Sets all channels to Write automation mode.
OFF		Sets selected channel to Off automation mode. While held down, press the channel strip AUTO button to set automation mode to Off.
	OPTION/ALL	Sets all channels to Off automation mode.

HUI status/group controls

The table outlines the status/group controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
AUTO		While held down, the scribble strips display the automation mode of all channels.
MONITOR		—
PHASE—SHIFT		Switches to Single view.
GROUP		Enters Group Edit mode: • The upper line (in the DSP Edit section) displays the number and name of the group being edited. • DSP Select buttons 1 to 4 switch between the properties of the group being edited. The group name is shown in the lower line. • When the INSERT/PARAM button is off, the DSP Edit V-Pots scroll through the group properties. If the INSERT/PARAM button is on, the DSP EDIT V-Pots select the group that you want to edit. • The SELECT buttons enable/disable group membership of the channel.
	SHIFT/ADD	Switches to Channel view.
CREATE		Creates a new group and enters Group Edit mode (see above).
	SHIFT/ADD	Switches to Mixer view.
SUSPEND		Activates or deactivates the Group Clutch.
	SHIFT/ADD	Switches to Tracks view.

HUI editing controls

The table outlines the editing controls and their assignments:

Control	Assignment
CAPTURE	—
SEPARATE	—
CUT	Cuts the selection (of regions or events).
COPY	Copies the selection.
PASTE	Pastes the Clipboard contents.
DELETE	Deletes the selection.

HUI time display

The table outlines the time display controls and their assignments:

Control	Assignment
TIME CODE	Lit if counter is displaying SMPTE timecode.
FEET	Not assigned
BEATS	Lit if counter is displaying bars/beats/divisions/ticks.
Time display	Switches between a SMPTE timecode or bars/beats/divisions/ticks display.
RUDE SOLO LIGHT	Flashes if any channel is soloed.

HUI numeric keypad controls

The table outlines the numeric keypad controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
CLR		Deletes current marker.
=		Creates a marker at the current playhead position.
/		Equivalent to (but independent of) computer keyboard / key.
*		Equivalent to (but independent of) computer keyboard * key.
–		Equivalent to (but independent of) computer keyboard – key.
+		Equivalent to (but independent of) computer keyboard + key.
0 to 9		• Normal: 1 to 9 recalls markers 1 to 9. • If in Go to Marker dialog: equivalent to (but independent of) computer keyboard keys 0 to 9.
	SHIFT/ADD	Switches to Mixer view, and displays: • 1: MIDI channel strips • 2: Input channel strips • 3: Audio channel strips • 4: Software instrument channel strips • 5: Aux channel strips • 6: Bus channel strips • 7: Master and output channel strips

Control	Modifier	Assignment
	EDIT TOOL	Selects tool (if applicable to window with key focus): • 1: Pointer • 2: Pencil • 3: Eraser • 4: Text tool • 5: Scissors • 6: Glue • 7: Solo tool • 8: Mute tool • 9: Zoom tool
0		If in Go to Marker dialog: equivalent to computer keyboard 0 key.
.		• If *not in* Go to Marker dialog: enters Go to Marker dialog. • In *in* Go to Marker dialog: equivalent to computer keyboard Period key.
ENTER		• If *not in* Go to Marker dialog: enters folder of selected track. • If *in* Go to Marker dialog: confirms marker number that you entered.

HUI transport controls

The table outlines the transport controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
AUDITION		—
PRE		Sets left locator (at current playhead position).
IN		Sets punch in locator (at current playhead position).
OUT		Sets punch out locator (at current playhead position).
POST		Sets right locator (at current playhead position).
RTZ		Moves playhead to the left locator position.
END		Moves playhead to the right locator position.
ON LINE		Switches between internal and external sync.
LOOP		Enables or disables Cycle mode.
QUICK PUNCH		Enables or disables Autopunch mode.
REWIND		Shuttles backward.
FAST FWD		Shuttles forward.
STOP		Stops playback.
PLAY		Starts playback.
	SHIFT/ADD	Pauses playback (or recording).
RECORD		Record

HUI cursor buttons

The table outlines the cursor controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Cursor Up		• Cursor mode: equivalent to computer keyboard Up Arrow key. • Zoom mode: zooms in vertically (in the window with key focus).
	SHIFT/ADD	Zoom mode: individual track zoom (zooms in).
	CMD/ALT/FINE	Page up.
	OPTION/ALL + CMD/ALT/FINE	Scroll to top.
Cursor Down		• Cursor mode: equivalent to computer keyboard Down Arrow key. • Zoom mode: zooms out vertically (in the window with key focus).
	SHIFT/ADD	Zoom mode: individual track zoom (zooms out).
	CMD/ALT/FINE	Page down.
	OPTION/ALL + CMD/ALT/FINE	Scroll to bottom (of window/list with key focus).
Cursor Left		• Cursor mode: equivalent to computer keyboard Left Arrow key. • Zoom mode: zooms out horizontally (in the window with key focus).
	SHIFT/ADD	Zoom mode: individual track zoom reset (of tracks of the same type).
	CMD/ALT/FINE	Page left.
	OPTION/ALL + CMD/ALT/FINE	Scroll to left border (of the window with key focus).
Cursor Right		• Cursor mode: equivalent to computer keyboard Right Arrow key. • Zoom mode: zooms in horizontally (in the window with key focus).
	SHIFT/ADD	Zoom mode: individual track zoom reset (of all tracks, regardless of type).
	CMD/ALT/FINE	Page right.
	OPTION/ALL + CMD/ALT/FINE	Scroll to right border (of the window with key focus).
MODE		Switches between Cursor and Zoom modes.

HUI Jog Wheel

The table outlines the Jog Wheel controls and their assignments:

Control	Assignment
Jog Wheel	• Default: Move playhead by one bar. • Scrub button lit: Scrub mode • Shuttle button lit: Shuttle mode
SCRUB	Activates or deactivates Scrub mode.
SHUTTLE	Activates or deactivates Shuttle mode.

HUI foot switches

The table outlines the foot switch controls and their assignments:

Control	Assignment
Foot Switch 1	Play or Stop
Foot Switch 2	Record On/Off

Mackie C4

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Set up of your C4

A connected and powered Mackie C4 unit will be detected automatically when you open Logic Pro. You can use the C4 in an independent control surface group (with other control surface icons placed above or below the C4 icon), or combined in a group with one or more control surfaces (such as the Mackie Control—place the icon to the right or left of the existing icons).

Although the C4 can be used independently, it is most useful when combined with other control surfaces, particularly the Mackie Control. In this scenario, the C4 adds eight channels in Mixer view. Using the C4 in its own control surface group allows you to edit instruments and effects independently, while performing mixing and other tasks on the Mackie Control or other control surface.

C4 V-Pots and V-Select buttons

The C4 provides 32 V-Pots, laid out in four horizontal rows.

- The top row (row 1) consists of V-Pots 1 to 8.
- Row 2 consists of V-Pots 9 to 16.
- Row 3 consists of V-Pots 17 to 24.
- The bottom row (row 4) consists of V-Pots 25 to 32.

Each V-Pot features an integrated V-Select button, which is activated by pressing the (V-Pot) knob top.

The function or parameter assigned to each V-Pot/V-Select button depends on the current View (see Use C4 views on page 181), and chosen overlay (see C4 Assignment buttons overview on page 187).

- *V-Pots and V-Selects 1 to 8*

  When no overlay is active, V-Pots 1 to 8 (the top row) normally perform in the same way as their counterparts on a Mackie Control or Mackie Control XT. See Mackie Control Assignment buttons overview on page 60.

- *V-Pots and V-Selects 9 to 32*

  These V-Pots have additional functionality in different Views.

  In Mixer (multichannel) views, the V-Pots in rows 2, 3, and 4 usually edit the parameter that follows the parameter edited on row 1. For example, in Pan/Surround Mixer view, row 1 edits the pan/surround angle, row 2 edits surround diversity, row 3 edits LFE level, and row 4 edits spread.

  In Channel view, all four rows represent a group of 32 editable parameters.

  In Effect and Instrument Edit views, the C4 can be split into two groups (8/24, 16/16, or 24/8 parameters). See C4 function buttons on page 186.

Use C4 views

The C4 provides a number of views that display a particular parameter type on the V-Pots/V-Select buttons.

Use Pan/Surround Mixer view

1. Hold down the CHAN STRIP button.

   The channel strip overlay labels appear on the C4 displays.

2. Press V-Select 18 (labeled Surrnd Mixer).

   In Pan/Surround Mixer view:

   - Row 1 edits pan/surround parameter 1.
   - Row 2 edits pan/surround parameter 2.
   - Row 3 edits pan/surround parameter 3.
   - Row 4 edits pan/surround parameter 4 (in this order: pan/angle, diversity, LFE, spread, X, Y).

   SINGLE Left/Right changes the parameter edited in row 1, thus affecting the parameters shown (and edited) in rows 2 to 4.

Use Pan/Surround Channel view

1. Hold down the CHAN STRIP button.

   The channel strip overlay labels appear on the C4 displays.

2. Press V-Select 26 (labeled Surrnd).

   In Pan/Surround Channel view, row 1 edits all eight surround parameters of a surround channel. If a stereo or mono channel is selected, V-Pot 1 edits the Pan (or Balance) parameter.

Use Channel Strip Mixer view

1. Hold down the CHAN STRIP button.

   The channel strip overlay labels appear on the C4 displays.

2. Press V-Select 17.

3. Press the BANK Left/BANK Right or SINGLE Left/SINGLE Right buttons to change the parameter shown, and edited, in row 4.

   The parameters shown in rows 1 to 3 are adjusted accordingly.

   In Channel Strip Mixer view, the row order is reversed, so that the lowest row edits parameter 1.

   V-Pot row 4 (bottom row) edits the currently chosen channel parameter. Row 3 edits channel parameter 2, row 2 edits channel parameter 3, and row 1 (at the top) edits channel parameter 4.

   The V-Pots edit the following channel parameters in this order: volume, pan/angle, input format, input assignment, output assignment, automation mode, group, displayed automation parameter.

Use EQ Mixer view

1. Hold down the CHAN STRIP button.

   The channel strip overlay labels appear on the C4 displays.

2. Press V-Select 19 (labeled EQ Mixer).

   In EQ Mixer view:

   - Row 1 sets the selected EQ band bypass state.
   - Row 2 edits the selected EQ band frequency.
   - Row 3 edits the selected EQ band gain/slope.
   - Row 4 edits the selected EQ band Q factor.
   - The SLOT UP and SLOT DOWN buttons select the EQ band (if a Channel or Linear Phase EQ is inserted in the selected channel strip).

Use EQ Channel view

1. Hold down the CHAN STRIP button.

   The channel strip overlay labels appear on the C4 displays.

2. Press V-Select 27 (labeled EQs).

   In EQ Channel view:

   - Row 1 edits the frequency of all eight bands.
   - Row 2 edits the gain/slope of all eight bands.
   - Row 3 edits the Q factor of all eight bands.
   - Row 4 sets the bypass state of all eight bands.

   If no Channel or Linear Phase EQ is present on the selected channel, a Channel EQ is automatically inserted when you enter EQ Channel view. The TRACK Left and TRACK Right buttons switch to the previous or next channel. If you switch to a channel with no Channel or Linear Phase EQ inserted, the C4 displays show "–", and the corresponding V-Pots do nothing.

Use Send Mixer view

1. Hold down the CHAN STRIP button.

   The channel strip overlay labels appear on the C4 displays.

2. Press V-Select 20 (labeled Sends Mixer).

   In Send Mixer view:

   - Row 1 edits the send destination of the selected Send slot (on the selected channel).
   - Row 2 edits the send level.
   - Row 3 edits the send position (pre/post fader).
   - Row 4 mutes/unmutes the send.
   - The SLOT UP/SLOT DOWN buttons select the Send slot.
   - The TRACK L and TRACK R buttons shift the fader bank (to the left or right) by the number of channel strips in the control surface group.

Use Send Channel view

1. Hold down the CHAN STRIP button.

   The channel strip overlay labels are shown on the C4 displays.

2. Press V-Select 28 (labeled Sends).

In Send Channel view:

- Row 1 edits the (first) eight send destinations of the selected channel strip.
- Row 2 edits the send level of sends 1 to 8.
- Row 3 edits send positions 1 to 8 (pre/post fader).
- Row 4 mutes/unmutes sends 1 to 8.
- TRACK L and TRACK R switch to the previous or next channel.

Use Effect Assign Mixer view

1 Hold down the CHAN STRIP button.

The channel strip overlay labels are shown on the C4 displays.

2 Press V-Select 21 (labeled PlugIn Mixer).

In Effect Assign Mixer view, the C4 displays the first four Insert slots of the eight selected channels.

- Turn a V-Pot to switch between effects. (This action lets you browse through the effects listed in the Effect menu, shown in Logic Pro mixer channels.)
- Press the respective V-Select to insert the chosen effect. This activates Effect Edit view, where you can directly edit effect parameters.
- The SLOT UP/SLOT DOWN buttons switch between Insert slots.
- TRACK L and TRACK R shift the fader bank by the number of channel strips in the control surface group.
- Holding down SHIFT and pressing a V-Select switches the bypass state of the respective Insert slot. Bypassed effects are denoted by an asterisk (*) that precedes the effect name.

Use Effect Edit view

1 Hold down the CHAN STRIP button.

The channel strip overlay labels are shown on the C4 displays.

2 Press V-Select 21 (labeled PlugIn Mixer).

3 Insert or select an effect. The C4 automatically switches to Effect Edit view.

In Effect Edit view:

- V-Pots 1 to 32 constitute a group of 32 parameters. Splitting is possible (see C4 function buttons on page 186).
- The SLOT UP/SLOT DOWN buttons select the Insert slot.
- BANK Left/BANK Right shifts the edited parameters by one page.
- In Split mode, the SLOT and BANK button behaviors apply to Split Upper.
- When holding down SHIFT, the SLOT and BANK button behaviors apply to Split Lower.
- SINGLE Left/SINGLE Right shifts the edited parameters by 1.
- In Split mode, the SINGLE button behaviors apply to Split Upper.
- When holding down SHIFT, the SINGLE button behaviors apply to Split Lower.

Use Instrument Assign Mixer view

1. Hold down the CHAN STRIP button.

   The channel strip overlay labels are shown on the C4 displays.

2. Press V-Select 22 (labeled Instru Mixer).

   In Instrument Assign Mixer view, the C4 displays the Instrument slots of the selected instrument channels.

   - Turn a V-Pot to select an instrument. (This action lets you browse through the software instruments listed in the Instrument Plug-in menu, shown in Logic Pro instrument channels.)
   - Press the respective V-Select to insert the chosen instrument. This enters Instrument Edit view, where you can edit instrument parameters.
   - The TRACK L and TRACK R buttons shift the fader bank by the number of channel strips in the control surface group.
   - Holding down SHIFT and pressing a V-Select switches the bypass state of the respective Instrument slot. An asterisk (*) precedes the name of bypassed instruments.

Use Instrument Edit view

1. Hold down the CHAN STRIP button.

   The channel strip overlay labels are shown on the C4 displays.

2. Press V-Select 22 (labeled Instru Mixer).
3. Insert or select an instrument, which automatically switches the C4 to Instrument Edit view.

   In Instrument Edit View:

   - V-Pots 1 to 32 constitute a group of 32 parameters. Splitting is possible (see C4 function buttons on page 186).
   - BANK Left/BANK Right shifts the edited parameters by one page.
   - In Split mode, the BANK button behaviors apply to Split Upper.
   - When holding down SHIFT, the BANK button behaviors apply to Split Lower.
   - SINGLE Left/SINGLE Right shifts the edited parameters by 1.
   - In Split mode, the SINGLE button behaviors apply to Split Upper.
   - When holding down SHIFT, the SINGLE button behaviors apply to Split Lower.

Use Cycle View

- Hold down the CHAN STRIP button, and press V-Select 31.

In Cycle view:

- V-Pot/V-Select 1 (labeled Cycle) shows and edits the current Cycle mode state (off or on).
- V-Select 2 (labeled BySet) matches the cycle area to selections made in the Tracks window (selected audio or MIDI regions).
- V-Pot 3 (labeled Move) moves the current cycle area by a bar with each click of the V-Pot, when turned.
- V-Pot 4 moves the current cycle area by a beat with each click of the V-Pot, when turned.
- The display shows the left and right locators above V-Pots 5 and 7.
- Pressing V-Select 5 picks up (uses) the current playhead position for the left locator.
- Turning V-Pot 5 changes the left locator position by bars.
- Turning V-Pot 6 changes the left locator position by beats (denominator steps).
- Pressing V-Select 7 picks up (uses) the current playhead position for the right locator.
- Turning V-Pot 7 changes the right locator position by bars.
- Turning V-Pot 8 changes the right locator position by beats (denominator steps).

Use Punch View

- Hold down the CHAN STRIP button, and press V-Select 32.

In Punch view:

- V-Pot/V-Select 1 shows and edits the current Autopunch state (off or on).
- V-Pot 3 (labeled Move) moves the current punch in locator by a bar with each click of the V-Pot, when turned.
- V-Pot 4 moves the current punch in locator by a beat with each click of the V-Pot, when turned.
- The display shows the punch in and punch out locators above V-Pots 5 and 7.
- Pressing V-Select 5 picks up (uses) the current playhead position for the punch in locator.
- Turning V-Pot 5 changes the punch in locator position by bars.
- Turning V-Pot 6 changes the punch in locator position by beats (denominator steps).
- Pressing V-Select 7 picks up (uses) the current playhead position for the punch out locator.
- Turning V-Pot 7 changes the punch out locator position by bars.
- Turning V-Pot 8 changes the punch out locator position by beats (denominator steps).

Note: Changing a punch locator position with the C4 automatically activates Autopunch mode.

C4 function buttons

This section outlines the FUNCTION buttons at the lower left of the C4 control surface.

- *SPLIT button:* Splits the C4 rows as follows: 4/0, 1/3, 2/2, and 3/1. This is known as a *Split Edit*, and allows you to simultaneously edit two separate sections of a plug-in, or even two different plug-ins.

  Split Edit is also possible across multiple C4 units. For example, with two C4 devices, pressing the SPLIT button offers the following split modes:

  - 1/7 (Split Upper is the top row of thefirst C4 unit; Split Lower is the bottom three rows of the first unit and all rows of the second C4 unit. LED 1/3 is lit.)
  - 2/6 (Split Upper is the top two rows of the first C4 unit; Split Lower is the bottom two rows of the first unit and all rows of second C4 unit. LED 2/1 is on.)
  - 3/5 (LED 3/1 is on.)
  - 4/4 (All three LEDs are on.)
  - 5/3 (All three LEDs are on.)
  - 6/2 (All three LEDs are on.)
  - 7/1 (All three LEDs are on.)
- *LOCK button:* Turns Track Lock on or off. When LOCK is enabled, selection of a different track in the Tracks window does *not* switch the current track/channel selection on the C4.
- *SPOT ERASE button:* Unassigned.

C4 Assignment buttons

C4 Assignment buttons overview

The Assignment buttons switch between "overlay" and normal Views. The parameters assigned to the V-Pots/V-Select buttons change accordingly when an overlay mode is activated.

- *MARKER button:* Switches between Marker overlay (see C4 Marker overlay on page 188) and normal Views (see Use C4 views on page 181).
- *TRACK button:* Switches between Track overlay (see C4 Track overlay on page 188) and normal Views (see Use C4 views on page 181).

  You can access alternate Mixer View options by holding down the TRACK button. This displays a further submenu in the lower LCD, allowing you to view particular channel types:

  - V-Select 25 switches to MIDI Channel view.
  - V-Select 26 switches to Input Channel view.
  - V-Select 27 switches to Audio Channel view.
  - V-Select 28 switches to Software Instrument Channel view.
  - V-Select 29 switches to Auxiliary Channel view.
  - V-Select 30 switches to Bus Channel view.
  - V-Select 31 switches to Output Channel view.
  - V-Select 32 switches to Master Channel view.

  Releasing the TRACK button without pressing a V-Select returns you to Mixer view.
- *CHAN STRIP button:* Switches between Channel Strip overlay (see C4 Channel Strip overlay on page 188) and normal Views (see Use C4 views on page 181).

  You can access alternate User View options by holding down the CHAN STRIP button, which displays a further submenu in the lower LCD.

  - V-Select 9 to 16 switches to one of eight user modes, where you can freely assign parameters to V-Pots or V-Select buttons.
  - V-Select 17 switches to Channel Strip Mixer view.
  - V-Select 18 switches to Pan/Surround Mixer view.
  - V-Select 19 switches to EQ Mixer view.
  - V-Select 20 switches to Send Mixer view.
  - V-Select 21 switches to Effect Assign Mixer view.
  - V-Select 22 switches to Instrument Select Mixer view.
  - V-Select 26 switches to Pan/Surround Channel view.
  - V-Select 27 switches to EQ Channel view.
  - V-Select 28 switches to Send Channel view.
  - V-Select 31 activates the Cycle view.
  - V-Select 32 activates the Drop view.
- *FUNCTION button:* Switches between "Function overlay" and normal Views (see Use C4 views on page 181). See C4 Function overlay on page 189 for details on this mode.

C4 Marker overlay

The Marker overlay is active when the MARKER button light is on.

- V-Selects 1 to 30 are assigned to markers 1 to 30. The upper LCD line shows the marker name; the lower line displays INSIDE when the playhead falls within marker boundaries.
- V-Select 31 creates a new marker.
- V-Select 32 deletes the current marker.

C4 Track overlay

The Track overlay is active when the TRACK button light is on.

Select a track/channel for Split Upper

- Press V-Select 1 to 32. When a track/channel is selected for Split Upper, the bottom LCD displays the word UPPER.
- BANK Left/BANK Right shifts the fader bank by the number of channels in the control surface group.
- SINGLE Left/SINGLE Right shifts the fader bank by one channel.

Select a track/channel for Split Lower

- Press V-Select 1 to 32. If a track/channel is selected for Split Lower, the word LOWER is shown in the bottom LCD.
- BANK Left/BANK Right shifts the fader bank by the number of channels in the control surface group.
- SINGLE Left/SINGLE Right shifts the fader bank by one channel.

C4 Channel Strip overlay

The Channel Strip overlay is active when the CHAN STRIP button light is on.

- V-Pot/V-Select row 1 (V-Pots 1 to 8) edits the frequency and gain of EQ bands 3 to 6 (the parametric bands), provided an EQ effect is inserted in the current channel strip.
- V-Pot/V-Select row 2 (V-Pots 9 to 16) switches to Effect Edit mode for Inserts 1 to 8, provided an effect is inserted in the respective Insert slot. If no effect is inserted, turn the respective V-Pot to select an effect, then press the V-Select, to insert it.
- V-Pot/V-Select row 3 (V-Pots 17 to 24) edits Send 1 to 8 Level, provided the current channel has active sends.
- V-Pot/V-Select 25 switches to Instrument Edit mode, provided the selected channel is routed to an instrument channel, and an instrument plug-in is inserted.
- V-Pot/V-Select 26 edits the channel output destination.
- V-Pot/V-Select 27 sets the automation mode.
- V-Pot/V-Select 28 edits group membership.
- V-Pot/V-Select 29 edits volume.
- V-Pot/V-Select 30 edits pan/surround angle (for surround channels).
- V-Pot/V-Select 31 edits surround diversity.
- V-Pot/V-Select 32 sets the channel input format.

C4 Function overlay

The Function overlay is active when the FUNCTION button light is on. The table below outlines the assignment of C4 controls to Logic functions.

Control	Assignment
1 (display: Inspct)	Enables or disables the Inspector of the window with key focus.
2 (Channel Strip)	Enables or disables the Lists area display in the Tracks window.
2 (Channel Strip)-Option	Enables or disables the Media area display in the Tracks window.
3 (Delay in ms)	Displays delays in milliseconds.
4 (Ruler: SMPTE)	Shows SMPTE display of ruler.
5 (Global Track)	Displays Global tracks.
6 (Arrang Grid)	Shows or hides the Tracks window grid.
7 (Event Float)	Displays the Event List.
8 (Name/Value)	Switches the display mode between Name and Value (identical to the NAME/VALUE button on the Mackie Control).
9 (Track Autom.)	Enables or disables display of track automation in the Tracks window.
10 (Trk>Rg Autom.)	Performs Move Current Track Automation Data to Region key command. With the OPTION button held down (display: Trk>Ob Au All), the Move All Track Automation Data to Region key command is executed.
11 (Rg>Trk Autom.)	Performs Move Current Region Data to Track Automation function. With the OPTION button held down (display: Ob>Trk Au All), the Move All Region Control Data to Track Automation key command is executed.
12 (Clear Autom.)	Performs Delete Currently Visible Automation Data of Current Track key command. With the OPTION button held down (display: Clear Au All), the Delete All Automation Data of Current Track function is performed.
13 (ClrAll Overld)	Resets the Level Meter Overload displays.
14 (ClrAll RecRdy)	Switches off Record Enable button of all channels.
15 (ClrAll Solo)	Switches off Solo for all channels.
16 (ClrAll Mute)	Switches off Mute for all channels.
17 (Tool: Pointr)	Selects the Pointer tool.
18 (Tool: Pencil)	Selects the Pencil tool.
19 (Tool: Scissr)	Selects the Scissors tool.
20 (Tool: Glue)	Selects the Glue tool.
21 (Tool: Text)	Selects the Text tool.
22 (Tool: Xfade)	Selects the Crossfade tool.
23 (Tool: Marque)	Selects the Marquee tool.

Control	Assignment
24 (Tool: Autom.)	Selects the Automation Select tool.
V-Pot 25 (WfZoom)	Edits the waveform zoom factor (if the main window has key focus).
V-Pot 26 (V.Zoom)	Edits the vertical zoom factor of the window with key focus.
V-Pot 27 (H.Zoom)	Edits the horizontal zoom factor of the window with key focus.
V-Pot 28 (Move Cycle)	Moves the cycle locators.
V-Pot 29 (Quantz)	Chooses the Quantize value. V-Select 29 performs Quantize Selected Events for the selected regions or events.
V-Pot 30 (Division)	Chooses the division value for clock display.
V-Select 31 (Prev SetEXS)	Performs Next Plug-in Setting or EXS Instrument key command.
V-Select 32 (Next SetEXS)	Performs Previous Plug-in Setting or EXS Instrument key command.

C4 modifier buttons

The four buttons in this area are similar to those found on your computer keyboard (but are independent of the keyboard modifiers). Many Logic Pro functions behave differently when one or more modifier keys are pressed in conjunction with another key or mouse click. This also applies to the C4 control surface.

Here is a generic description of the modifier button functions:

- *SHIFT:* Switches other buttons to an alternate function.
- *OPTION:* While held down, parameters are set to the minimum, default, or maximum value when edited with a V-Pot.
- *CTRL:* Disables the Group function.
- *CMD/ALT:* While held down, parameters are edited in Fine (high-resolution) mode when a V-Pot is turned.

C4 Parameter, Track, and Slot buttons

The buttons at the lower right of the C4 are used to access channel strips, channel strip elements, and parameters.

- *BANK Left and BANK Right buttons:* Shifts the parameter display by one page (a group of parameters) in particular views.
- *SINGLE Left and SINGLE Right buttons:* Shifts the parameter display by one parameter in particular views.
- *TRACK L and TRACK R buttons:* In Mixer view, TRACK L and TRACK R shift the fader bank left or right by the number of channel strips in the control surface group. For example, if you have two C4 units in a control surface group, the view shifts by 16 channels.

  Simultaneously pressing TRACK L or TRACK R and OPTION moves to the first or last group of channels in the project (or parameter pages, if in an edit mode). For example, if you are viewing the first 8 channels (of 64) in the fader bank, pressing OPTION and TRACK L or TRACK R will show the last 8 channels in the fader bank (channels 57 to 64).

  In Channel view, TRACK L and TRACK R select the previous or next channel.

  In Channel view, simultaneously pressing TRACK L or TRACK R and SHIFT moves to the first or last group of channels in the project (or parameter pages, if in an edit mode), but only affects the Split Lower group if Split mode is active.
- *SLOT UP and SLOT DOWN buttons:* Selects the required EQ, Send, or Insert slot.

Radikal Technologies SAC-2K 16

Set up your SAC-2K

Make sure that your control surface is connected bidirectionally with the computer, using either a MIDI interface or the unit's USB connector. If the units are connected via USB, ensure that the appropriate MIDI driver for the device is installed. Visit the manufacturer's website to download updated drivers, if necessary.

Set up SAC-2K units

1. Choose Logic Pro > Control Surfaces > Setup.
2. Choose Install from the New menu.
3. Select the SAC-2K in the Install window.
4. Click the Scan button.

SAC-2K assignments

SAC-2K assignments overview

This section outlines the assignment of the Radikal Technologies SAC-2K interface elements to Logic functions.

SAC-2K LCDs and encoders

The table outlines the LCDs and encoder controls and their assignments:

Control	Assignment
Left and middle LCDs	Upper row displays the channel number when in a Mixer (multichannel) view. The parameter name is shown when in a (single) Channel view. Lower row shows the parameter value of the corresponding encoder (the one directly below the display). Level meters are shown to the right.
Right LCD	Upper row displays the name of the parameter being edited with the corresponding encoder (the one below). Lower row displays the parameter value (assigned to the encoder below the display). The Master Output level meter is displayed at the far right.
Encoders	Edit the corresponding parameter shown in the LCD.
Encoder push buttons	Parameters with two values (On/Off): Switches between the two values. Parameters that access items (plug-in selection, for example): Confirms preselection. At other times, sets the parameter to its default value.

SAC-2K channel strips

The table outlines the channel strip controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Mute/Solo		Switches Mute/Solo 1 to 8 buttons between Mute and Solo modes. LED off: Mute/Solo buttons switch Mute state on/off. LED on: Mute/Solo buttons switch Solo state on/off. LED flashes: Mute/Solo buttons switch Record Enable state on/off.
	SHIFT	Sets Mute/Solo buttons to Record Enable mode.
Mute/Solo 1 to 8		Mute/Solo LED off: Enables or disables Mute; LED displays Mute state. Mute/Solo LED on: Enables or disables Solo; LED displays Solo state. Mute/Solo LED flashing: Enables or disables Record Enable; LED displays Record Enable (armed/disarmed) state.
SELECT 1 to 8 buttons		Selects channel. Exception: In Group mode, these buttons define group membership of the channel.
Master Select button		Switches Flip mode between Off and Duplicate.
Faders 1 to 8		Controls volume, or duplicates the parameter assigned to the encoder above (if Flip mode is enabled).
Master Fader		Controls the Master Level fader if it exists; if not, controls Output 1–2 level.
EQ button		Inserts a Channel EQ in the channel if no Channel or Linear Phase EQ is present.

SAC-2K Mixer view controls

The table outlines the Mixer view controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Pan		Switches to Mixer view (multichannel) pan editing. Encoders 9 to 12 edit Pan/Angle, Diversity, LFE, and Spread of selected channel (in Surround mode).
High, HiMid, LowMid, Low		Switches to Mixer view (multichannel) gain editing of a certain EQ band. Encoders 9 to 12 edit Frequency, Gain, Q factor, and On/Off for the selected channel. Pressing and releasing the button chooses a specific EQ band. While held down, you can use Encoder 9 to choose the EQ band that you want to edit (bands 1 to 8). The button's LED is lit when in Mixer view Gain Editing mode (of the selected channel EQ band). • Low: Band 3 (first parametric EQ band) • LowMid: Band 4 (second parametric EQ band) • HiMid: Band 5 (third parametric EQ band) • High: Band 6 (fourth parametric EQ band)
Snd/Ins		Switches the four Snd/Ins (1 to 4) buttons between Send and Insert modes. • LED off: Send mode • LED on: Insert mode

Control	Modifier	Assignment
Snd/Ins 1 to 4		• If in Send mode, switches to Mixer view (multichannel) send level editing of Sends 1 to 4. Encoders 9 to 12 edit Destination, Level, Pre/Post, and Mute of the selected channel. You must confirm the send destination by pushing the Encoder 9 button. While held down, use Encoder 9 to select the Send number (1 to 8). The button's LED is lit when in Mixer view Send Level Editing mode (of the selected channel Send slot). • If in Insert mode, switches to Mixer view plug-in selection for Inserts 1 to 4. Plug-in selection is confirmed by pressing the encoder's push button. While held down, use Encoder 9 to choose the Insert slot number (1 to 15). The button's LED is lit when in Plug-in Selection mode (of the corresponding channel Insert slot).
Audio		Switches to Mixer view, and displays audio channels.
	SHIFT	Switches to Mixer view.
MIDI		Switches to Mixer view, and displays MIDI channel strips.
	SHIFT	Switches to Tracks window view, and displays the channel strips of all tracks used in the Tracks window.
Input		Switches to Mixer view, and displays input channels.
	SHIFT	Switches to Mixer view, and displays the master and output channels.
Inst		Switches to Mixer view, and displays (software) instrument channels.
	SHIFT	Switches to Mixer view, and displays aux channels.
Bus		Switches to Mixer view, and displays bus channels.
	SHIFT	Switches to Single view.

Control	Modifier	Assignment
Group		Switches to Group editing mode: • Encoder 1 to 10 push buttons edit a group property. (The property is shown in the LCD's lower line.) • Encoder 11 scrolls through group properties. • Encoder 12 selects a group to edit. Its name is displayed in the lower LCD line, above Encoder 12. • Select buttons 1 to 8 activate/deactivate group membership of the channel.
1 to 8		Shifts the fader bank (a group of channels or parameters) to the left by one bank.
9 to 16		Shifts the fader bank to the right by one bank.
17 to 24		Shifts the fader bank to the left by one channel.
25 to 32		Shifts the fader bank to the right by one channel.

SAC-2K software navigation controls

The table outlines the software navigation controls and their assignments:

Control	Assignment
1	Num LED off: — Num LED on: Equivalent to 1 on computer keyboard.
2	Num LED off: Equivalent to Left Arrow key on computer keyboard. Num LED on: Equivalent to 2 on computer keyboard.
3	Num LED off: Equivalent to Up Arrow key on computer keyboard. Num LED on: Equivalent to 3 on computer keyboard.
4	Num LED off: Equivalent to Right Arrow key on computer keyboard. Num LED on: Equivalent to 4 on computer keyboard.
5	Num LED off: Performs Undo (of most recent editing operation). Num LED on: Equivalent to 5 on computer keyboard.
6	Num LED off: — Num LED on: Equivalent to 6 on computer keyboard.
7	Num LED off: Copies the selection (of regions or events). Num LED on: Equivalent to 7 on computer keyboard.
8	Num LED off: Equivalent to Down Arrow key on computer keyboard. Num LED on: Equivalent to 8 on computer keyboard.
9	Num LED off: Pastes the Clipboard contents. Num LED on: Equivalent to 9 on computer keyboard.
0	Num LED off: Saves the project. Num LED on: Equivalent to 0 on computer keyboard.
Num	Switches the numeric buttons between primary and secondary function (see above).
Enter	Equivalent to Enter key on the computer keyboard.

Note: All buttons that are equivalents of computer keyboard keys are independent of the computer keys. Either can be reassigned.

SAC-2K locator display

The locator display shows the current playhead position in bars/beats format, as defined in the project settings. A period separates display segments because the bars/beats format uses (up to) 14 characters in Logic Pro, and the SAC display is limited to 8 digits.

SAC-2K marker controls

The table outlines the marker controls and their assignments:

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
SHIFT		Shifts to secondary function of other buttons.
Scrub		Switches between three Jog Wheel modes: • LED off: Moves playhead by one bar. • LED on: Activates Scrub mode. • LED flashes: Activates Shuttle mode.
From		Sets left locator at the current playhead position.
	SHIFT	Moves the playhead to the left locator position.
Store Marker		Creates a marker at the current playhead position.
	SHIFT	Deletes the marker at the current playhead position.
To		Sets right locator at the current playhead position.
	SHIFT	Moves the playhead to the right locator position.
Recall Marker		Opens the Go to Marker dialog.
	SHIFT	Opens the Marker List.
Jog Wheel		Moves the playhead in one of three modes, depending on the state of the Scrub button (see above).

SAC-2K transport controls

The table outlines the transport controls and their assignments.

Note: A modifier button, such as SHIFT, below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
<<		Shuttles backward.
>>		Shuttles forward.
	SHIFT	Goes to next marker.
STOP		Stops playback (or recording).
PLAY		Starts playback.
	SHIFT	Enables or disables Cycle mode.
RECORD		Starts recording (to record-enabled tracks).
	SHIFT	Enables or disables Replace mode.

SAC-2K Channel view controls

The table outlines the Channel view controls and their assignments:

Control	Assignment
EQs	Enters Channel view EQ Edit mode. Pressing the button repeatedly cycles through all available EQ parameter pages.
Inserts/Sends	Enters Channel view Plug-in Edit mode and edits the effect plug-in inserted into the currently chosen Insert slot (of the selected channel). Pressing the button repeatedly cycles through all available effect plug-in parameter pages.
Dynamics	—
MIDI	—
Instrument	Enters Channel view Instrument Edit mode and edits the instrument plug-in inserted into the selected (Instrument) channel. Pressing the button repeatedly cycles through all available instrument plug-in parameter pages.

SAC-2K troubleshooting

This section may help you to resolve a few common problems.

- *Track or channel names are shorter than necessary, and the assignments don't work correctly*

  The SAC-2K is in an Emulation mode (Logic Control or HUI, for example). To resolve this issue, turn the SAC-2K power off, and then back on.

- *The faders don't work, and the locator display shows "00000000"*

  You have manually switched the SAC-2K to SLAVE mode. This has the unfortunate side effect of not initializing a number of settings required for proper communication. To resolve this issue, turn the SAC-2K power off, and then back on.

Recording Light 17

Set up Recording Light

The Recording Light control surface plug-in enables you to control an external light or sign, warning visitors not to enter the recording studio before or during recording. Logic Pro sends a MIDI signal to switch on the external device when a track is record-enabled or when recording starts. Logic Pro sends another MIDI signal to switch off the device when tracks are made record-safe or when recording stops.

Note: This control surface plug-in requires additional hardware that is not included with Logic Pro.

Recording Light needs to be manually added to your setup.

Set up Recording Light

1. Choose Logic Pro > Control Surfaces > Setup.
2. Choose Install from the New menu.
3. Select Recording Light from the list in the Install window.
4. Click the Add button.

Note: While Recording Light can be added anywhere, it is suggested that you use it in its own control surface group.

Recording Light parameters

Because Recording Light hardware is not actually a control surface but rather a simple MIDI-controlled display device, all changes to its behavior are made in the Device Parameter area at the left of the Setup window.

Recording Light parameters

- *Out Port:* Choose the MIDI output port from the pop-up menu.
- *Input:* Choose the MIDI input port from the pop-up menu.
- *Module:* Shows the name of the control surface plug-in (Recording Light), which cannot be changed.
- *Model:* Shows the model name of the control surface (Recording Light), which cannot be changed.
- *Version:* Shows the firmware version for some control surfaces. Not applicable to Recording Light.
- *Color:* Not applicable to Recording Light
- *MIDI Status:* Choose the type of MIDI message that is sent to the recording light device. Generally, this will be a "MIDI note on" message, but other data types can be transmitted.
- *MIDI Channel:* Specify the MIDI channel that data is sent on.

- *Data 1: Any Record Ready LED:* This value determines how the Recording Light device responds to a track being record-enabled in Logic Pro.
- *Data 1: Recording:* This value determines how the Recording Light device responds when the Record button is engaged in Logic Pro.
- *Data 2: On Value:* Choose the value for the MIDI event that is sent to turn on the Recording Light device. Typically this value is 127.

Roland SI-24

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Set up your SI-24

Follow the steps below before using your control surface with Logic Pro.

Use both the audio and MIDI controller features of the SI-24

- Ensure that your SI-24 units are connected to the RPC card with the (included) cable. This connector provides both digital audio and MIDI connections.
- Make sure that the appropriate driver software is installed and functioning correctly.

Note: The RPC card is a PCI device and is not compatible with (most) G5, and all Intel-based Mac computers, which only offer PCIe interfacing.

Use the SI-24 as a control surface

- Connect the unit bidirectionally with two free (not used by other devices) MIDI interface ports.

When used as a control surface, the SI-24 can be used with all Mac systems that are capable of running Logic Pro. You will require another device for audio input and output.

Scan for your Roland SI-24 unit

1. Choose Logic Pro > Control Surfaces > Setup.
2. Choose Install from the New menu.
3. Select Roland SI-24 in the Install window.
4. Click the Scan button.

Logic Pro scans for, and automatically installs, your control surface.

SI-24 assignments

SI-24 assignments overview

These sections outline the assignment of Roland SI-24 interface elements to Logic functions.

SI-24 channel strips

The table outlines the channel strip controls and their assignments.

Note: A modifier button (such as SHIFT) shown below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
EQ ON/OFF 1 to 4		In Pan mode: • Switches the bypass state of EQ bands 1–4. • Enters EQ/Send mode. If no Channel or Linear Phase EQ is present on the selected channel, a Channel EQ is automatically inserted. In EQ/Send mode: • Switches the bypass state of EQ bands 1–4. The button LED is lit when the EQ is enabled. In Plug-in mode: • Switches between Inserts 1–4. A lit button LED indicates the selected Insert slot. • If a plug-in window is open, it updates to reflect the plug-in parameters of the selected Insert slot.
	SHIFT	In EQ/Send mode: Enables or disables Send 1–4 Mute.
EQ/SEND		Switches Channel views between: • EQ/Send Edit mode (LED on). • Pan Edit mode (LED off).
PLUG-IN		Switches Channel views between: • Plug-in Edit mode (LED on). (Plug-in window opens.) • Pan Edit mode (LED off). Plug-in window closes when Plug-in Edit mode is exited.
	SHIFT	Switches Channel views between: • Instrument Edit mode (LED on). (Instrument window opens.) • Pan Edit mode (LED off). Instrument plug-in window closes when Instrument Edit mode is exited.

Control	Modifier	Assignment
PAN 1 to 12		In Pan Edit mode: • Controls channel strip Pan/ Balance (surround angle for channels in surround mode). In EQ/Send mode: • 1/3/5/7: Control the Gain parameter of EQ bands 1–4. • 2/4/6/8: Control the Frequency parameter of EQ bands 1–4. • 9–12: Control Send 1–4 levels. In Plug-in Edit mode: • 1–10: Edits plug-in parameter. • 11: Bypasses the plug-in. • 12: Shifts plug-in parameter page. (A page is a collection of parameters.) In Instrument mode: • 1–10: Edits Instrument parameter. • 11: Bypasses the instrument plug-in. • 12: Shifts Instrument parameter page.
	SHIFT	In EQ/Send mode: • 2/4/6/8: Control the Q-Factor of EQ bands 1–4. • 9–12: Determine Send 1–4 destinations.
CH SELECT 1 to 12		Selects track/channel.
STATUS 1 to 12		In Automation mode: Switches Automation mode between: • Off (LED off) • Read (green) • Latch (orange) • Write (red) In Record Ready mode: Turns Record Enable on or off. In Solo mode: Enables or disables Solo. In Mute mode: Enables or disables Mute.
Fader 1 to 12		Controls volume.
Master fader		Controls the master channel strip.

SI-24 status mode controls

The table outlines the status mode controls and their assignments.

Note: A modifier button (such as SHIFT) shown below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
AUTOMIX		Sets STATUS 1 to 12 buttons to Automation mode.
	SHIFT	Sets all tracks to Off, Read, Latch, or Write automation mode. Repeatedly press this button combination to cycle through automation modes.
REC/PLAY		Sets STATUS 1 to 12 buttons to Record Enable mode.
SOLO		Sets STATUS 1 to 12 buttons to Solo mode.
MUTE		Sets STATUS 1 to 12 buttons to Mute mode.

SI-24 channel assign controls

The table outlines the channel assign controls and their assignments.

Note: A modifier button (such as SHIFT) shown below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
INPUT		Shows the first 12 audio input channel strips.
	SHIFT	Shows the first 12 MIDI channel strips.
OUTPUT		Shows the first 12 output channel strips: • 1: Output 1–2 (default surround assignment: front) • 2: Output 3–4 (default surround assignment: rear) • 3: Output 5 (default surround assignment: center) • 4: Output 6 (default surround assignment: LFE) • 5: Output 7–8 (digital out)
	SHIFT	Shows the first 12 audio channels.
BUS		Shows the first 12 aux channels.
	SHIFT	Shows the first 12 instrument channels.
Tr 1 to 12		Switches to Tracks view and shows the first 12 channels.
Tr 13 to 24		Switches to Tracks view and displays channel 13 to 24.

SI-24 surround/pan controls

The table outlines the surround/pan controls and their assignments:

Control	Assignment
ON/OFF	Switches selected channel output between: • Surround (LED on) • Out 1–2 (LED off) Also shows/hides the Surround Pan window.
Joystick	Surround X/Y of selected channel

SI-24 numeric key controls

The table outlines the numeric key controls and their assignments.

Note: A modifier button (such as SHIFT) shown below a button description indicates that the button has an alternate use while the modifier is held down.

Control	Modifier	Assignment
SYSTEM		Switches SI-24 to System mode. See SI-24 user manual for details.
LOCATE		Switches numeric keys to Locate mode.
SHORT CUT		Switches numeric keys to Shortcut mode.
SCREEN SET		Switches numeric keys to Screenset mode.
0 to 9		System mode: See SI-24 user manual. Locate mode: • 1 to 9: Moves playhead to marker 1 to 9 positions. • 0: Creates marker at playhead position. Shortcut mode: • 1: Saves project. LED is lit if project has changed since last save. • 2: Performs Undo (of last editing operation). LED is on if a Redo is possible. • 3: Copies the selection (of regions or events). • 4: Pastes the Clipboard contents. • 5: Deletes the selection. • 6: Enables or disables Scrub mode. LED is on if Scrub mode is enabled. • 7: Enables or disables Cycle mode. LED is on if Cycle mode is enabled. • 8: Enables or disables Autopunch mode. LED is on if Autopunch mode is enabled. • 9: Switches Tracks window to Hyper Draw volume view. • 0: Switches Tracks window to Hyper Draw pan view. Screenset mode: • 1 to 9: Recall screensets 1 to 9. • 0: Enables or disables Lock Screenset command.

Control	Modifier	Assignment
	SHIFT	Locate mode: • 1 to 9: Moves playhead to marker 10 to 18 positions. • 0: Deletes marker at playhead position. Shortcut mode: • 1: Performs Save As. • 2: Performs Redo (reverses last Undo operation). • 3: Cuts selection. • 4: Pastes the Clipboard contents. Screenset mode: • 1: Opens or closes Tracks window. • 2: Opens or closes Mixer. • 3: Opens or closes Event Editor. • 4: Opens or closes Score Editor. • 5: Opens or closes Step Editor. • 6: Opens or closes Piano Roll Editor. • 7: Opens or closes Control bar window. • 8: Opens or closes Audio Bin window. • 9: Opens or closes Sample Editor.

SI-24 transport controls

The table outlines the transport controls and their assignments:

Control	Assignment
PAUSE	Pause
REW	Rewinds playhead in one-bar increments.
F FWD	Advances playhead by one bar.
STOP	Stops playback.
PLAY	Starts playback.
RECORD	Starts recording.
Jog Wheel	Scrub mode off: Moves playhead in one-bar increments. Scrub mode on: Scrubs (audio and MIDI).

Tascam FW-1884

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Set up FW-1884, FE-8, or FW-1082

The Tascam FW-1884, the FE-8 extension, and the FW-1082 can control Logic Pro. The Tascam FE-8 extension can be used to expand the FW-1884 with eight additional channel strips. Up to 15 FE-8 units can be added to the FW-1884 system. The Tascam FW-1082 is a stripped-down version of the FW-1884.

Note: This is an addendum to the Tascam user documentation and is limited to descriptions of features specific to Logic Pro. Refer to the Tascam documentation for more information about the individual control surfaces.

Follow the steps below to use your device with Logic Pro.

Set up your Tascam device with Logic Pro

1. Set up your device as described in the Tascam user documentation.
2. Install the latest OS X driver software and firmware on your computer. Visit the Tascam website to download the most recent versions, if necessary.
3. Open Logic Pro.

   Your control surface automatically connects to the application.

FW-1884 assignments

FW-1884 assignments overview

Assignments of Tascam FW-1884 interface elements to Logic functions are covered in these sections.

Note: The relevant devices are highlighted in the heading of each section.

Encoders (FW-1884, FE-8)

The table outlines the encoder controls and their assignments:

Control	Assignment
FLIP	Switches Flip mode between Off and Swap. In Swap mode, the parameter controlled by the fader and encoder of each channel strip is swapped.
PAN	Assigns Pan to encoders.
AUX 1	Assigns Send 1 level to encoders.
AUX 2	Assigns Send 2 level to encoders.
AUX 3	Assigns Send 3 level to encoders.
AUX 4	Assigns Send 4 level to encoders.
AUX 5	Assigns Send 5 level to encoders.
AUX 6	Assigns Send 6 level to encoders.
AUX 7	Assigns Send 7 level to encoders.
AUX 8	Assigns Send 8 level to encoders.

Shortcut controls (FW-1884 only)

The table outlines the shortcut controls and their assignments.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
SAVE/F1		Saves the active project. The button LED is lit when the project has been edited since the last Save operation.
REVERT/F2		Reverts to the most recently saved version of the project.
ALL SAFE/F3		Disables the Record Enable buttons of all channel strips.
CLR SOLO/F4		Switches Solo off for all channel strips.
	SHIFT	Switches Mute off for all channel strips.
MARKERS/F5		Creates a new marker at the current playhead position.
	SHIFT	Deletes the marker at the playhead position.
LOOP/F6		Enables or disables Cycle mode.
CUT		Cuts the current selection (of regions or events) and places it on the Clipboard.
DEL		Deletes the current selection.
COPY		Copies the current selection to the Clipboard.
PASTE		Pastes the Clipboard contents to the current playhead position.
ALT/CMD		Modifier for other buttons.
UNDO		Performs an Undo of the last editing operation. The button LED is lit when a Redo is possible.
	SHIFT	Performs a Redo (reverses an Undo operation).
SHIFT		Modifier for other buttons.
CTRL		Modifier for other buttons.

Channel strips (FW-1884, FE-8, FW-1082)

The table outlines the channel strip controls and their assignments.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
REC LEDs		These LEDs are lit when the corresponding channel strip is recording. The LEDs flash when the channel strip is in Record Enable mode (armed).
SEL		Selects the channel strip.
	SHIFT	Enables or disables Send bypass, when encoders are controlling a Send level.
	READ	Sets the track automation mode to Read.
	WRITE	Sets the track automation mode to Write.
	TCH	Sets the track automation mode to Touch.
	LATCH	Sets the track automation mode to Latch.
SOLO		Enables or disables the Solo state of the channel strip.
	SHIFT	Disables the Solo state for all channel strips (driver version 1.20 or later required).
MUTE		Enables or disables the Mute state of the channel strip.
	SHIFT	Disables the Mute state for all channel strips (driver version 1.20 or later required).
Encoder		Controls the parameter chosen with the ENCODERS section.
	SET	When encoders are controlling a Send level, this combination allows you to set the send destination.
Fader		Controls the channel strip volume.
Master fader		Controls the master volume. If no master channel exists, it controls Output 1/2.

EQ controls (FW-1884 only)

The EQ controls apply to a certain EQ band of the selected channel. A Channel or Linear Phase EQ is automatically inserted in the channel, if not already present.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Mode	Modifier	Assignment
REC		While REC is held down, the SEL buttons activate or deactivate Record Enable for the corresponding channel strip.
GAIN		Edits the Gain of the currently selected EQ band.
	SET	Selects the channel strip input.
FREQ		Edits the Frequency parameter of the currently selected EQ band.
	SET	Selects the channel strip output.
Q		Edits the Q Factor of the currently selected EQ band.
	SET	Selects the channel strip input format.
HIGH		Selects EQ band 6.
	SHIFT	Selects EQ band 8.
	REC	Switches the bypass state of EQ band 6 (driver version 1.20 or later required).
HI-MID		Selects EQ band 5.
	SHIFT	Selects EQ band 7.
	REC	Switches the bypass state of EQ band 5 (driver version 1.20 or later required).
LOW-MID		Selects EQ band 4.
	SHIFT	Selects EQ band 2.
	REC	Switches the bypass state of EQ band 4 (driver version 1.20 or later required).
LOW		Selects EQ band 3.
	SHIFT	Selects EQ band 1.
	REC	Switches the bypass state of EQ band 3 (driver version 1.20 or later required).

Encoders and controls (FW-1082 only)

The three buttons at the bottom of this control surface section determine the mode of other controls:

- *EQ/Pan mode:* The controls apply to a certain EQ band of the selected channel.
- *AUX 1–4 mode:* The controls apply to Sends 1–4.
- *AUX 5–8 mode:* The controls apply to Sends 5–8.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Mode	Modifier	Assignment
REC		While REC is held down, the SEL buttons activate or deactivate Record Enable for the channel strip.
EQ GAIN–AUX 1/5		• EQ/PAN mode: edits the Gain of the currently selected EQ band. • AUX 1–4 mode: controls Send 1 level. • AUX 5–8 mode: controls Send 5 level.
	SET	Selects the channel strip input.
EQ FREQ–AUX 2/6		• EQ/PAN mode: edits the Frequency of the currently selected EQ band. • AUX 1–4 mode: controls Send 2 level. • AUX 5–8 mode: controls Send 6 level.
	SET	Selects the channel strip output.
EQ Q–AUX 3/7		• EQ/PAN mode: edits the Q Factor of the currently selected EQ band. • AUX 1–4 mode: controls Send 3 level. • AUX 5–8 mode: controls Send 7 level.
	SET	Selects the channel strip input format.
PAN–AUX 4/8		• EQ/PAN mode: edits Pan. • AUX 1–4 mode: controls Send 4 level. • AUX 5–8 mode: controls Send 8 level.

Mode	Modifier	Assignment
EQ HI–AUX 1/5		• EQ/PAN mode: selects EQ band 6. • AUX 1–4 mode: switches Send 1 Mute on/off. • AUX 5–8 mode: switches Send 5 Mute on/off.
	SHIFT	• EQ/PAN mode: selects EQ band 8. • AUX 1–4 mode: switches Send 1 Position (pre/post). • AUX 5–8 mode: switches Send 5 Position (pre/post).
	REC	Switches bypass state of EQ band 6.
EQ HI MID–AUX 2/6		• EQ/PAN mode: selects EQ band 5. • AUX 1–4 mode: switches Send 2 Mute on/off. • AUX 5–8 mode: switches Send 6 Mute on/off.
	SHIFT	• EQ/PAN mode: selects EQ band 7. • AUX 1–4 mode: switches Send 2 Position (pre/post). • AUX 5–8 mode: switches Send 6 Position (pre/post).
	REC	Switches bypass state of EQ band 5.
EQ LO MID–AUX 3/7		• EQ/PAN mode: selects EQ band 4. • AUX 1–4 mode: switches Send 3 Mute on/off. • AUX 5–8 mode: switches Send 7 Mute on/off.
	SHIFT	• EQ/PAN mode: selects EQ band 2. • AUX 1–4 mode: switches Send 3 Position (pre/post). • AUX 5–8 mode: switches Send 7 Position (pre/post).
	REC	Switches bypass state of EQ band 4.

Mode	Modifier	Assignment
EQ LOW–AUX 4/8		• EQ/PAN mode: selects EQ band 3. • AUX 1–4 mode: switches Send 4 Mute on/off. • AUX 5–8 mode: switches Send 8 Mute on/off.
	SHIFT	• EQ/PAN mode: selects EQ band 1. • AUX 1–4 mode: switches Send 4 Position (pre/post). • AUX 5–8 mode: switches Send 8 Position (pre/post).
	REC	Switches bypass state of EQ band 3.
EQ/PAN		Chooses EQ/PAN mode.
	SHIFT	Enables or disables Flip mode. With Flip mode enabled, the faders control Pan.
AUX 1–4		Chooses AUX 1–4 mode.
AUX 5–8		Chooses AUX 5–8 mode.

Automation controls (FW-1884 only)

The table outlines the automation controls and their assignments:

Control	Assignment
READ	While READ is held down, SEL buttons are lit if a channel strip is in Read automation mode. Pressing the SEL button sets Read mode. Turning the encoder also edits the automation mode.
WRITE	While WRITE is held down, SEL buttons are lit if a channel strip is in Write automation mode. Pressing the SEL button sets Write mode. Turning the encoder also edits the automation mode.
TCH	While TCH is held down, SEL buttons are lit if a channel strip is in Touch automation mode. Pressing the SEL button sets Touch mode. Turning the encoder also edits the automation mode.
LATCH	While LATCH is held down, SEL buttons are lit if a channel strip is in Latch automation mode. Pressing the SEL button sets Latch mode. Turning the encoder also edits the automation mode.
F7	Switches encoders to editing of pan/surround parameters on selected channel strip. Surround parameters are shown as follows: angle, radius, LFE (level), Spread mode, X, Y, Center (level).
F8	Switches encoders to Channel view: EQ Edit mode for the selected channel strip. In this mode, the encoders are used to edit the EQ parameters, while the left/right cursors are used to shift the EQ parameter bank (parameter group).
F9	Switches encoders to Channel view: Plug-in Edit mode for the selected channel strip. In this mode, the left/right cursors are used to shift the plug-in parameter bank. The up/down cursors are used to choose the channel strip Insert slot for editing.
F10	Switches encoders to Channel view: Instrument Edit mode for the selected channel strip. In this mode, the left/right cursors are used to shift the instrument parameter bank.

Mode controls (FW-1082 only)

The table outlines the mode controls and their assignments:

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
F1		Saves the active project. The button LED is lit if the project has been edited since the last Save operation.
	SHIFT	Opens the Save As dialog.
F2		Performs an Undo of the last editing operation. The button LED is lit when a Redo is possible.
	SHIFT	Performs a Redo.
F3		Copies the current selection (of regions or events) to the Clipboard.
	SHIFT	Cuts the current selection and places it on the Clipboard.
F4		Pastes the Clipboard contents.
	SHIFT	Clears the current selection.

Master controls (FW-1884, FE-8, FW-1082)

The table outlines the master controls and their assignments.

Note: If a modifier button, such as SHIFT, is shown below a button description, it indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Cursor buttons		Identical to (but independent of) the computer keyboard arrow keys, except when encoders are in EQ, Plug-in, or Instrument Edit mode.
	SHIFT	Horizontally or vertically zoom in and out (of the window with key focus).
SHTL		Enables Shuttle mode for the wheel.
Wheel		Shuttle mode off: moves playhead by one bar. Shuttle mode on: shuttles playhead.
Bank LEDs		Shows currently selected fader bank. If you only have an FW-1884, a bank refers to eight channels. If you have FE-8 extensions added, a bank encompasses the total number of (physical) channel strips: 16, 24, and so on. If no LED is lit, bank 5 or higher is selected.

Control	Modifier	Assignment
< BANK		Shifts fader bank down by one bank.
	SHIFT	Shifts fader bank down by one channel.
	SET	Switches to Mixer (multichannel) view (driver version 1.20 or later required).
BANK >		Shifts fader bank up by one bank.
	SHIFT	Shifts fader bank up by one channel.
	SET	Switches to Mixer view and shows all Aux and Output channels (driver version 1.20 or later required).
<< LOCATE		Goes to previous marker.
	SET	Deletes the current marker (driver version 1.20 or later required).
LOCATE >>		Goes to next marker.
	SET	Creates a new marker at the playhead position (driver version 1.20 or later required).
NUDGE buttons		Nudges the selected event/region left or right (by the current nudge value).
	SET	Chooses the current nudge value: tick, division, denominator, bar, frame, 1/2 frame.
SET		Modifier for other buttons.
IN		Moves playhead to left locator position.
	SET	Sets left locator at current playhead position.
	SHIFT	Sets punch in locator at current playhead position.
OUT		Moves playhead to right locator position.
	SET	Sets right locator at current playhead position.
	SHIFT	Sets punch out locator at current playhead position.
REW		As per Rewind key command.
FFWD		As per Forward key command.
STOP		Stops playback.
PLAY		Starts playback.
REC		As per Record key command.

Tascam US-2400

20

Set up your US-2400

The US-2400 is capable of running in both native and Mackie Control emulation modes. If the unit is set up in Mackie Control emulation mode, and the native support plug-in is installed in the Logic Pro program bundle, Logic Pro detects a US-2400 native control surface *and* a Mackie Control, plus two Extender (XT) units.

To run the US-2400 in Mackie Control mode, remove the US-2400 plug-in from the Logic Pro application bundle. Logic Pro will then detect a Mackie Control plus two Extender (XT) units (the appropriate setup for the US-2400 in Mackie Control emulation mode) when you scan for control surfaces.

The button layout of the Mackie Control differs from that of the Tascam US-2400. When running the Tascam US-2400 in Mackie Control mode, certain controllers are not accessible (the Joystick, for example). Given these restrictions, use of the Tascam US-2400 in Mackie Control mode is not recommended. If you choose to do so, refer to the documentation supplied with the Tascam US-2400 for details.

Follow the steps below to use your Tascam US-2400 with Logic Pro.

Set up the Tascam US-2400 for use with Logic Pro

1. Make sure that your US-2400 control surfaces are connected to the computer via USB.
2. Ensure that the US-2400 is in native mode. Consult your US-2400 manual for more information on this setting.
3. Open Logic Pro.

   Your control surfaces are scanned for, and installed, automatically.

US-2400 assignments

US-2400 assignments overview

These sections outline the assignment of Tascam US-2400 interface elements to Logic functions.

US-2400 channel strips

The table outlines the channel strip controls and their assignments.

Note: A modifier button, such as SHIFT, below a control description indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Encoders		CHAN button on: see US-2400 encoders on page 223. CHAN button flashing: encoders control Instrument parameters. Also see Instrument Edit view on page 227. PAN button flashing: encoders control plug-in parameters. Also see Plug-in Edit view on page 227. Other modes: encoders control the parameters of the active mode.
	F-KEY	• If you are in Instrument Edit view (CHAN button flashing), pressing the F-Key enters the Instrument Assignment view. The encoders are used to choose an instrument plug-in from the list (of available software instrument plug-ins). • If you are in Plug-in Edit view (PAN button flashing), pressing the F-Key enters the Plug-in Assignment view. The encoders are used to choose an effect plug-in from the list (of available effect plug-ins). • If you are in Send view (AUX button LED flashes) and press the F-Key, the encoders are used to assign the send destination.
SEL buttons		Selects tracks/channels.
	SHIFT	In Pan view: sets volume to Unity (0 dB). In Send views: switches the Send mode (pre/post).
	F-KEY	Turns the Record Enable button of each channel on or off.
SOLO buttons		Enables or disables Solo.
MUTE buttons		Enables or disables Mute. In Send views with Flip mode enabled: mutes/unmutes the selected Send.
	SHIFT	In Send views: mutes/unmutes the selected Send.
Faders		Controls the volume of each channel (unless Duplicate or Swap Flip mode is active).

US-2400 encoders

In CHAN mode (CHAN button on), the encoders control these parameters on the selected channel:

Control	Assignment
Encoder 1 (AUX 1)	Controls Send 1 level.
Encoder 2 (AUX 2)	Controls Send 2 level.
Encoder 3 (AUX 3)	Controls Send 3 level.
Encoder 4 (AUX 4)	Controls Send 4 level.
Encoder 5 (AUX 5)	Controls Send 5 level.
Encoder 6 (AUX 6)	Controls Send 6 level.
Encoder 7	Controls Send 7 level.
Encoder 8	Controls Send 8 level.
Encoder 11 (GAIN 1)	Controls the Gain parameter of band 3, if a Channel or Linear Phase EQ is inserted.
Encoder 12 (FREQ 1)	Controls the Frequency parameter of band 3, if a Channel or Linear Phase EQ is inserted.
Encoder 13 (Q 1)	Controls the Q factor of band 3, if a Channel or Linear Phase is inserted.
Encoder 14 (GAIN 2)	Controls the Gain parameter of band 4, if a Channel or Linear Phase is inserted.
Encoder 15 (FREQ 2)	Controls the Frequency parameter of band 4, if a Channel or Linear Phase is inserted.
Encoder 16 (Q 2)	Controls the Q factor of band 4, if a Channel or Linear Phase EQ is inserted.
Encoder 17 (GAIN 3)	Controls the Gain parameter of band 5, if a Channel or Linear Phase EQ is inserted.
Encoder 18 (FREQ 3)	Controls the Frequency parameter of band 5, if a Channel or Linear Phase EQ is inserted.
Encoder 19 (Q 3)	Controls the Q factor of band 5, if a Channel or Linear Phase EQ is inserted.
Encoder 20 (GAIN 4)	Controls the Gain parameter of band 6, if a Channel or Linear Phase EQ is inserted.
Encoder 21 (FREQ 4)	Controls the Frequency parameter of band 6, if a Channel or Linear Phase EQ is inserted.
Encoder 22 (Q 4)	Controls the Q factor of band 6, if a Channel or Linear Phase EQ is inserted.
Encoder 24 (PAN)	Controls Panning.

In CHAN mode, with the SHIFT button held down, the encoders control the following parameters on the selected channel:

Control	Assignment
Encoder 1 (AUX 1)	Controls Pan/Surround Angle.
Encoder 2 (AUX 2)	Controls Surround Radius.
Encoder 3 (AUX 3)	Controls Surround LFE (level).
Encoder 4 (AUX 4)	Controls Surround Spread.
Encoder 5 (AUX 5)	Controls Surround X.
Encoder 6 (AUX 6)	Controls Surround Y.
Encoder 11 (GAIN 1)	Controls the Slope parameter of band 1, if a Channel or Linear Phase EQ is inserted.
Encoder 12 (FREQ 1)	Controls the Frequency parameter of band 1, if a Channel or Linear Phase EQ is inserted.
Encoder 13 (Q 1)	Controls the Q factor of band 1, if a Channel or Linear Phase EQ is inserted.
Encoder 14 (GAIN 2)	Controls the Gain parameter of band 2, if a Channel or Linear Phase EQ is inserted.
Encoder 15 (FREQ 2)	Controls the Frequency parameter of band 2, if a Channel or Linear Phase EQ is inserted.
Encoder 16 (Q 2)	Controls the Q factor of band 2, if a Channel or Linear Phase EQ is inserted.
Encoder 17 (GAIN 3)	Controls the Gain parameter of band 7, if a Channel or Linear Phase EQ is inserted.
Encoder 18 (FREQ 3)	Controls the Frequency parameter of band 7, if a Channel or Linear Phase EQ is inserted.
Encoder 19 (Q 3)	Controls the Q factor of band 7, if a Channel or Linear Phase EQ is inserted.
Encoder 20 (GAIN 4)	Controls the Slope parameter of band 8, if a Channel or Linear Phase EQ is inserted.
Encoder 21 (FREQ 4)	Controls the Frequency parameter of band 8, if a Channel or Linear Phase EQ is inserted.
Encoder 22 (Q 4)	Controls the Q factor of band 8, if a Channel or Linear Phase EQ is inserted.
Encoder 24 (PAN)	Controls Pan/Balance (of mono or stereo channels).

US-2400 master channel

The table outlines the master channel strip controls and their assignments:

Control		Assignment
SEL		Selects Master Output channel strip if it exists; if not, Output channel 1–2 is selected.
CLR SOLO		Disables Solo for all tracks/channels.
	SHIFT	Disables Mute for all tracks/channels.
	F-KEY	Disables the Record Enable buttons of all tracks/channels.
FLIP		Switches Flip mode between Off (LED off) and Duplicate (LED on). In this mode, the fader of each channel strip mirrors the encoder function.
	SHIFT	Sets Flip mode to Swap (LED flashing). In this mode, the parameters controlled by the fader and encoder are swapped.
	F-KEY	Sets Flip mode to Zero—fader motors are disabled (LED flashing).

US-2400 encoder assignments

US-2400 encoder assignments overview

The table below outlines the standard assignment of the encoders. Also see Instrument Edit view and Plug-in Edit view for information on alternate use of the encoders.

Note: A modifier button, such as SHIFT, below a control description indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
CHAN		Switches encoders to Channel view (see encoders' legend); CHAN button LED is lit.
	F-KEY	Switches encoders to Instrument Edit view; CHAN button LED flashes. See Instrument Edit view on page 227 for details.
PAN		Switches encoders to Mixer (multichannel) view of pan controls; PAN button LED is lit.
	F-KEY	Switches encoders to Plug-in Edit view; PAN button LED flashes. See Plug-in Edit view on page 227 for details.
AUX 1		Switches encoders to Mixer view of Send 1 level (for all channels).
	F-KEY	Opens or closes Tracks window.
AUX 2		Switches encoders to Mixer view of Send 2 level.
	F-KEY	Opens or closes Event List.
AUX 3		Switches encoders to Mixer view of Send 3 level.
	F-KEY	Opens or closes Score Editor.
AUX 4		Switches encoders to Mixer view of Send 4 level.
	F-KEY	Opens or closes Audio Bin.
AUX 5		Switches encoders to Mixer view of Send 5 level.
	F-KEY	Opens or closes Step Editor.
AUX 6		Switches encoders to Mixer view of Send 6 level.
	F-KEY	Opens or closes Piano Roll Editor.

Instrument Edit view

In Instrument Edit view, the following AUX buttons have special assignments:

Control	Assignment
AUX 1	Scrolls parameter fader bank left by 24 parameters.
AUX 2	Scrolls parameter fader bank right by 24 parameters.
AUX 4	Enables or disables Bypass button of the instrument being edited.

The AUX button LEDs show the currently selected parameter bank. AUX 2 LED is on if parameters 25 to 48 are shown on the encoders.

Plug-in Edit view

In Plug-in Edit view, the following AUX buttons have special assignments:

Control	Assignment
AUX 1	Scrolls parameter fader bank left by 24 parameters.
AUX 2	Scrolls parameter fader bank right by 24 parameters.
AUX 3	Increments Insert slot (chooses higher-numbered slot).
AUX 4	Enables or disables Bypass button of the plug-in being edited.
AUX 6	Decrements Insert slot (chooses lower-numbered slot).

The AUX button LEDs show the currently selected Insert slot. For example, AUX 2 LED is on if Insert slot 2 is being edited.

US-2400 master section controls

The table outlines the master section controls and their assignments.

Note: A modifier button, such as SHIFT, below a control description indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
MTR		Switches encoder LED ring display between two modes: • The value of the parameter (LED off) • Level/peak hold meters (LED on) In Level Meter mode, the LED below the encoder displays signal overloads (clipping).
F-KEY		Modifier key, used to switch the function of other controls (see "F-KEY" entries in center column).
NULL		Sets Surround x/y or Panning of selected channel to center position; LED is on if Surround X (or Panning) is centered.
	F-KEY	Resets overload display for level meters.
Jog Wheel		SCRUB off: moves playhead by bars. SCRUB on: scrubbing (of audio and MIDI). SCRUB flashing: Shuttle mode.
Joystick		Edits Surround x/y or Panning of selected channel.
SCRUB		Switches Jog Wheel between Move Playhead by Bars (LED off) and Scrubbing (LED on) modes.
	SHIFT	Sets Jog Wheel to Shuttle mode (LED flashes).
BANK –		Shifts fader bank to the left by one bank; LED is lit if the leftmost fader bank has not been reached.
	F-KEY	Shifts fader bank to the left by one channel.
BANK +		Shifts fader bank to the right by one bank; LED is lit if the rightmost fader bank has not been reached.
	F-KEY	Shifts fader bank to the right by one channel.

Control	Modifier	Assignment
IN		Sets punch in locator at the current playhead position.
	SHIFT	Moves playhead to left cycle locator position.
	F-KEY	Sets left cycle locator at the current playhead position.
OUT		Sets punch out locator at the current playhead position.
	SHIFT	Moves playhead to right cycle locator position.
	F-KEY	Sets right cycle locator at the current playhead position.
SHIFT		Modifier key, used to switch the function of other controls (see "SHIFT" entries in center column).
REW		Shuttles backward.
	SHIFT	Identical to (but independent of) Left Arrow key on computer keyboard.
F FWD		Shuttles forward.
	SHIFT	Identical to (but independent of) Right Arrow key on computer keyboard.
STOP		Stops playback.
	SHIFT	Identical to (but independent of) Down Arrow key on computer keyboard.
PLAY		Starts playback.
	SHIFT	Identical to (but independent of) Up Arrow key on computer keyboard.
RECORD		Enables or disables recording.

Tascam US-428 and US-224

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Set up your US-428 or US-224

Follow these steps to use your Tascam US-428 or US-224 control surface with Logic Pro.

Set up your Tascam US-428 or US-224 device in Logic Pro

1. Install the latest version of the driver software needed for the US-428 or US-224.
2. Ensure that your US-428 or US-224 units are connected to the computer via USB.
3. Open Logic Pro.

   The unit is scanned for, and installed, automatically.

US-428 and US-224 assignments

US-428 and US-224 assignments overview

These sections outline the assignment of Tascam US-428 and US-224 interface elements to Logic functions.

Note: The US-224 provides only four channel strips and transport controls and lacks the EQ and Master sections (excluding the NULL button and data wheel) of the US-428. Many operations listed in the linked sections are specific to the additional controls of the US-428 and cannot be performed with the US-224.

US-428 and US-224 channel strips

The table outlines the channel strip controls and their assignments.

Note: A modifier button (such as NULL) shown below a control description indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
MUTE 1 to 8		SOLO LED off: switches Mute on/off; LED displays Mute state. SOLO LED on: switches Solo on/off; LED displays Solo state.
REC 1 to 8 LEDs		Displays Record Enable state.
	NULL	On if fader is higher than actual channel volume (in Logic Pro).
SELECT 1 to 8 LEDs		Displays select status (of channel).
	NULL	On if fader is lower than actual channel volume (in Logic Pro).
SELECT 1 to 8 buttons		Selects channel.
	REC	Turns Record Enable on or off.
Fader 1 to 8		Controls channel volume.
	NULL	Allows you to update the fader position to match the actual volume (in Logic Pro).
Master fader		Controls Master volume fader (or Output 1 and 2, if no Master fader channel exists in the project).

US-428 and US-224 EQ controls

The table outlines the EQ controls and their assignments.

Note: A modifier button (such as NULL) shown below a control description indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
Gain		Controls the Gain of the currently selected EQ band (of chosen channel).
Freq		Controls the Frequency of the currently selected EQ band (of chosen channel).
Q		Controls the Q Factor of the currently selected EQ band (of chosen channel).
HIGH		Selects EQ band 3 (allowing use of Gain, Freq, and Q controls for this band).
	ASGN	Switches EQ band 3 bypass state.
HI-MID		Selects EQ band 4 (allowing use of Gain, Freq, and Q controls for this band).
	ASGN	Switches EQ band 4 bypass state.
LO-MID		Selects EQ band 5 (allowing use of Gain, Freq, and Q controls for this band).
	ASGN	Switches EQ band 5 bypass state.
LOW		Selects EQ band 6 (allowing use of Gain, Freq, and Q controls for this band).
	ASGN	Switches EQ band 6 bypass state.

US-428 and US-224 master controls

The table outlines the master controls and their assignments.

Note: A modifier button (such as NULL) shown below a control description indicates that the control has an alternate use while the modifier is held down.

Control	Modifier	Assignment
AUX 1		Switches data wheel between Transport/Scrub mode and Send 1 Level.
	ASGN	Switches Send 1 Mute state.
AUX 2		Switches data wheel between Transport/Scrub mode and Send 2 Level.
	ASGN	Switches Send 2 Mute state.
AUX 3		Switches data wheel between Transport/Scrub mode and Send 3 Level.
	ASGN	Switches Send 3 Mute state.
AUX 4		Switches data wheel between Transport/Scrub mode and Send 4 Level.
	ASGN	Switches Send 4 Mute state.
ASGN		Modifier for function of EQ controls, AUX 1 to 4 buttons, PAN knob, and data wheel.
F1		Enables or disables Cycle mode.
F2		Enables or disables Autopunch mode.
F3		Enables or disables Scrub mode.
PAN		Controls panning of selected channel.
	ASGN	Sets currently selected channel's input.
NULL		Modifier for NULL mode. NULL mode allows you to update the fader positions to match the actual volume (shown in Logic Pro).

Control	Modifier	Assignment
Data wheel		AUX 1 LED on: controls the Send 1 Level of the selected channel. AUX 2 LED on: controls the Send 2 Level of the selected channel. AUX 3 LED on: controls the Send 3 Level of the selected channel. AUX 4 LED on: controls the Send 4 Level of the selected channel. F3 LED on: data wheel is in Scrub mode. None of the above is lit: data wheel is in Transport mode, and moves the playhead in one-bar increments.
	ASGN	Sets currently selected channel's output.

US-428 and US-224 Locate controls

The table outlines the Locate controls and their assignments:

Control	Assignment
<< LOCATE	Moves playhead to previous marker position.
LOCATE >>	Moves playhead to next marker position.
SET	Creates a new marker at the current playhead position.

US-428 and US-224 Bank controls

The table outlines the BANK controls and their assignments:

Control	Assignment
< BANK	Shifts fader bank left by one bank. (A bank is a group of channels.) The LED is lit if the leftmost fader bank has not been reached.
BANK >	Shifts fader bank right by one bank. The LED is lit if the rightmost fader bank has not been reached.

US-428 and US-224 transport controls

The table outlines the transport controls and their assignments:

Control	Assignment
REW	Moves the playhead backward by one bar.
F FWD	Moves the playhead forward by one bar.
STOP	Stops playback.
PLAY	Starts playback.
RECORD	Begins recording.

Yamaha 01V96

22

Set up your 01V96

Follow the steps below before using your 01V96 with Logic Pro.

- Make sure that your 01V96 device is connected to the computer via USB.
- Make sure that the latest USB MIDI driver for the device is installed. Visit the manufacturer's website to download the most recent driver version, if necessary.

Set up your 01V96 with Logic Pro

1 On the 01V96 front panel, do the following:

- Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly, until the Setup > MIDI/Host page is visible.
- Use the cursor buttons to move the first DAW parameter box in the SPECIAL FUNCTIONS section, and rotate the parameter wheel to select USB and 1–2.
- Press the DISPLAY ACCESS [REMOTE] button repeatedly, until the Setup > Remote page is visible.
- Rotate the parameter wheel to choose General DAW as the TARGET parameter.
- Press the LAYER [REMOTE] button.

2 In Logic Pro:

When you open Logic Pro, the 01V96 device is installed automatically. You should see two 01V96 icons in the Setup window, aligned horizontally.

01V96 assignments

01V96 assignments overview

These sections outline the assignment of Yamaha 01V96 interface elements to Logic functions.

01V96 Display Access controls

The table outlines the DISPLAY ACCESS controls and their assignments.

Note: A modifier button (such as SHIFT/ADD) below a control description indicates that the control has an alternate use while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the control name.

Control	Modifier	Assignment
*DAW AUTO STATUS		While held down in Channel Display mode, the display shows the automation mode of the 16 channel strips in the current bank selection.
PAIR/GROUP		Enters Group Edit mode: • When a channel strip group is selected, channel strip membership is indicated by a lit SEL button. Use this button to enable/disable the channel strip's group membership. • Virtual encoders 1 to 4 display properties of the currently selected group. • Virtual encoder buttons 1 to 4 enable/disable properties of the currently selected group. • When INSERT/PARAM is set to PARAM, the left and right Tab Scroll buttons scroll through the group properties. When set to INSERT, the buttons scroll through the groups for editing.
	*DAW SHIFT/ADD	Switches the Mixer to show all channel strips that correspond to tracks used in the Tracks window, along with their signal flow.
EFFECT		Opens or closes the Sample Editor.

01V96 Fader Mode controls

The table outlines the FADER MODE controls and their assignments.

Note: A modifier button (such as SHIFT/ADD) below a control description indicates that the control has an alternate use while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the control name.

Control	Modifier	Assignment
AUX 1		In Insert Display mode: • Assigns Send 1 level of channel strips to encoders. • Assigns Send 1 level of the selected channel strip to virtual encoders. • Assigns Sends 1 to 4 of the selected channel strip to virtual encoders. Use the ENTER button to switch the bypass state of Sends 1 to 4. In Channel Display mode: • Assigns Send 1 level of channel strips to encoders and virtual encoders. • Shows current Send 1 destination assignment, when button is held down.
	*DAW SHIFT/ADD	Same as AUX 5, but for Send 6.
AUX 2		Same as AUX 1, but for Send 2.
	*DAW SHIFT/ADD	Same as AUX 5, but for Send 7.
AUX 3		Same as AUX 1, but for Send 3.
	*DAW SHIFT/ADD	Same as AUX 5, but for Send 8.
AUX 4		Same as AUX 1, but for Send 4.
AUX 5		In Insert Display mode: • Assigns Send 5 level of channel strips to encoders. • Assigns Send 5 level of the selected channel strip to virtual encoders. • Assigns Sends 5 to 8 of the selected channel strip to virtual encoders. Use the ENTER button to switch the bypass state of Sends 5 to 8. In Channel Display mode: • Assigns Send 5 level of channel strips to encoders and virtual encoders. • Shows current Send 5 destination assignment, when button is held down.

Control	Modifier	Assignment
AUX 6		Switches SEL buttons and encoder buttons between normal behavior and setting a parameter's default value. When the AUX 6 button is held down: • Pressing a channel strip's SEL button resets the channel strip's volume level. • Pressing a channel strip's encoder button resets the channel strip's pan/surround value (PAN also needs to be selected in ENCODER MODE section).
AUX 7		Assigns Pan to encoders; assigns selected channel strip's pan/surround parameters to virtual encoders.
AUX 8		Determines mode of channel strip SEL buttons: • AUX 8 indicator off: SEL button used for channel strip selection. • AUX 8 indicator on: SEL button used for Insert selection.
HOME		Enables or disables Flip mode.

01V96 LCD controls

The table outlines the LCD controls and their assignments.

Note: A modifier button (such as SHIFT/ADD) below a control description indicates that the control has an alternate use while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the control name.

Control	Modifier	Assignment
Left/Right buttons		Plug-in Edit mode: Shifts the parameter display to show the next/previous page of parameter controls (usually four) for the selected plug-in.
	*DAW ALT/FINE	Plug-in Edit mode: Shifts the parameter display up/down by one parameter for the selected plug-in.
F1		Clears overload LEDs.
	*DAW SHIFT/ADD	Switches the Mixer to the All view, displaying all channel strips that exist in your project.
	*DAW ALT/FINE	Opens or closes a second Tracks window.
F2		Selects Insert display mode.
F3		Selects Channel display mode.
F4		Selects Meter display mode.

01V96 LCD display modes

Insert display mode

Press the F2 button to select Insert display mode. In this mode, the LCD displays effect edit parameters. This mode also allows you to switch between different Insert slots, enabling each effect to be edited.

Display	Assignment
TIME CODE	Active if counter is displaying SMPTE timecode.
BEATS	Active if counter is displaying bars/beats/divisions/ticks.
Counter	Displays either SMPTE timecode or bars/beats/divisions/ticks.
SELECT ASSIGN	Displays the encoder assignment as follows: Pan, Snd1 to Snd8, S1As to S8As, In, Out.
COMPARE	Switches the display between "track name/parameter name" and "parameter name/parameter value" modes.
BYPASS	Switches the bypass state of plug-in currently being edited.
INSERT/PARAM	Switches between Plug-in Assign and Plug-in Edit modes.
Selecting virtual encoders 1 to 4 (Use cursor keys, and then press ENTER button.)	Pan Assignment mode: • Parameter control 1 button centers pan or surround angle. • Parameter control 2 button centers surround diversity. • Parameter control 3 button centers surround LFE level. • Parameter control 4 button resets spread. Send Assignment mode: • Enables or disables Sends 1 to 4 or 5 to 8. Plug-in Assignment mode: • Confirms the plug-in selection for Insert slots 1 to 4 or 5 to 8, and enters Plug-in Edit mode for the selected Insert slot. Plug-In Edit mode: • Sets value to default, or switches buttons with two states.
Moving virtual encoders 1 to 4 (Use cursor keys, and then rotate parameter wheel.)	Pan Assignment mode: • Parameter control 1 edits pan or surround angle. • Parameter control 2 edits surround diversity. • Parameter control 3 edits surround LFE level. • Parameter control 4 edits spread. Send Assignment mode: • Controls the Send level of Sends 1 to 4 or 5 to 8. Plug-in Assignment mode: • Chooses Insert slot 1 to 4 or 5 to 8. Plug-in Edit mode: • Sets value.

Channel display mode

Press the F3 button to select Channel display mode.

Control	Assignment
Moving virtual encoders 1 to 4 (Use cursor keys, and then rotate parameter wheel.)	Adjusts parameter selected in the ENCODER MODE and AUX SELECT sections.
Selecting virtual encoders 1 to 4 (Use cursor keys, and then press ENTER button.)	When Send 1 to 8 is selected: edits send pre/post fader position, enables or disables send mute, or sets send level to default value. Send, Input, or Output Assignment mode: confirms selection.

Meter display mode

Press the F4 button to select Meter display mode.

Control	Assignment
Level Meters	Display momentary and peak level.

01V96 Selected Channel control

The table outlines the SELECTED CHANNEL control and assignment:

Control	Assignment
Pan control	Adjusts the pan of the currently selected channel strip.

01V96 data entry controls

The table outlines the data entry controls and their assignments.

Note: A modifier button (such as SHIFT/ADD) below a control description indicates that the control has an alternate use while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the control name.

Control	Modifier	Assignment
Parameter wheel		Default: adjusts the value of the currently selected parameter.
	*DAW SHUTTLE	Switches the parameter wheel to Shuttle mode.
	*DAW SCRUB	Switches the parameter wheel to Scrub mode.
[DEC] button		Default: exits folder. In Go to Marker dialog: cancels dialog.
	*DAW ALT/FINE	Opens or closes the Audio Bin tab in the Media area.
[INC] button		Enters the selected folder.

01V96 channel strips

The table outlines the channel strip controls and their assignments.

Note: A modifier button (such as SHIFT/ADD) below a control description indicates that the control has an alternate use while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the control name.

Control	Modifier	Assignment
SEL		Using *DAW AUTO OFF: • FADER MODE [AUX 8] off: selects channel. • FADER MODE [AUX 8] on: selects channel for insert assignment, allowing you to insert effects. Using the *DAW AUTO automation modes (WRITE, TOUCH, LATCH, READ): • Cycles through automation modes. Sets the selected mode when an automation mode button is held down.
	*DAW SHIFT/ADD	Resets the volume level.
SOLO		Enables or disables the Solo button.
	*DAW OPTION/ALL	Disables the Solo button of all channel strips.
ON		Enables or disables the Mute button.
	*DAW OPTION/ALL	Unmutes all channel strips.
Fader		Adjusts volume, or duplicates encoder assignment in Flip mode.

01V96 assignable keys

These keys can be assigned to the following functions.

Note: A modifier button (such as SHIFT/ADD) below a control description indicates that the control has an alternate use while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the control name.

Control	Modifier	Assignment
DAW WIN STATUS		Opens or closes the Audio Bin tab in the Media area.
DAW REC/RDY 1 to 16		Enables or disables the Record Enable button of the specified channel strip.
DAW WIN TRANSPORT		Opens or closes the Control bar window.
DAW BANK –		Shifts channel strips by one bank to the left.
DAW BANK +		Shifts channel strips by one bank to the right.
DAW SHIFT/ADD		Enables a second function/use for some buttons.
DAW OPTION/ALL		While held down, Value Change mode is set to Full. Turning the encoder to the right sets the maximum value. Turning it to the left sets the minimum value. The encoder also stops at its default value. See description of other buttons.
DAW GROUP STATUS		Enters Group Edit mode: • When a channel strip group is selected, channel strip membership is indicated by a lit SEL button. Use this button to enable/disable the channel strip's group membership. • Virtual encoders 1 to 4 display properties of the currently selected group. • Virtual encoder buttons 1 to 4 enable/disable properties of the currently selected group. • When INSERT/PARAM is set to PARAM, the left and right Tab Scroll buttons scroll through the group properties. When set to INSERT, the buttons scroll through the groups for editing.
	DAW SHIFT/ADD	Switches the Mixer to show all channel strips that correspond to tracks used in the Tracks window, along with their signal flow.

Control	Modifier	Assignment
DAW SUSPEND GROUP		Enables or disables the Group Clutch.
	DAW SHIFT/ADD	Switches the Mixer to show all channel strips that correspond to tracks used in the Tracks window, along with their signal flow.
DAW CREATE GROUP		Creates a new group and enters Group Edit mode (see above).
	DAW SHIFT/ADD	Switches the Mixer to the All view, displaying all channel strips that exist in your project. The channel strips on your DM1000 device will also reflect the All Channel Strip view.
DAW WIN MIX/EDIT		Switches between the Tracks window and the Mixer.
DAW CHANNEL –		Shifts channel strips by one channel strip to the left.
DAW CHANNEL +		Shifts channel strips by one channel strip to the right.
DAW CTRL/CLUTCH		While held down, all groups are disabled.
DAW ALT/FINE		While held down, Value Change mode is set to Fine: value changes work at maximum resolution. Also see description of other buttons.
DAW MONI STATUS		—
DAW UNDO		Performs an Undo of the last editing operation.
	DAW SHIFT/ADD	Performs a Redo of the last Undo operation.
	DAW OPTION/ALL	Opens the Undo History window.
DAW SAVE		Saves the project.
	DAW OPTION/ALL	Performs a Save As operation, allowing you to save the project with a different name.
DAW WIN MEM-LOC		Opens or closes the Marker tab in the Lists area.
DAW EDIT TOOL		Selects the next tool. While held down, numerical buttons select a specific tool.
DAW WIN INSERT		Opens or closes the Sample Editor.
DAW REC/RDY ALL		Disables the Record Enable buttons of all channel strips.
DAW SCRUB		Enables or disables Scrub mode.
DAW SHUTTLE		Enables or disables Shuttle mode.
DAW REW		Shuttles backward.

Control	Modifier	Assignment
DAW FF		Shuttles forward.
DAW STOP		Stop
DAW PLAY		Play
	DAW SHIFT/ADD	Pause
DAW REC		Record
DAW PRE		Sets the left locator at current playhead position.
DAW IN		Sets the punch in locator at current playhead position.
DAW OUT		Sets the punch out locator at current playhead position.
DAW POST		Sets the right locator at current playhead position.
DAW RTZ		Moves the playhead to the left locator position.
DAW END		Moves the playhead to the right locator position.
DAW ONLINE		Activates or deactivates internal/external synchronization.
DAW QUICK PUNCH		Enables or disables Autopunch mode.
DAW AUTO FADER		Enables or disables volume automation playback and recording.
DAW AUTO PAN		Enables or disables pan automation playback and recording.
DAW AUTO PLUGIN		Enables or disables plug-in parameter automation playback and recording.
DAW AUTO MUTE		Enables or disables mute automation playback and recording.
DAW AUTO SEND		Enables or disables send level automation playback and recording.
DAW AUTO WRITE		Sets all channel strips to Write automation mode.
	DAW OPTION/ALL	Sets selected channel strip, or channel strip group, to Touch automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Touch.

Control	Modifier	Assignment
DAW AUTO TOUCH		Sets all channel strips to Touch automation mode.
	DAW OPTION/ALL	Sets selected channel strip, or channel strip group, to Latch automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Latch.
DAW AUTO LATCH		Sets all channel strips to Latch automation mode.
	DAW OPTION/ALL	Sets selected channel strip, or channel strip group, to Read automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Read.
DAW AUTO READ		Sets all channel strips to Read automation mode.
	DAW OPTION/ALL	Sets all channel strips to Write automation mode.
DAW AUTO OFF		Sets selected channel strip, or channel strip group, to Off automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Off.
	DAW OPTION/ALL	Sets all channel strips to Off automation mode.
DAW AUTO STATUS		While held down in Channel Display mode, the display shows the automation mode of the 16 channel strips in the current bank selection.

Yamaha 02R96

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Set up your 02R96

Follow the steps below before using your 02R96 with Logic Pro.

- Make sure that your 02R96 device is connected to the computer via USB.
- Make sure that the latest USB MIDI driver for the device is installed. Visit the manufacturer's website to download the most recent driver version, if necessary.

Set up your 02R96 with Logic Pro

1 On the 02R96 device, do the following:

- Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly, until the Setup > MIDI/Host page is visible.
- Use the cursor buttons to move to the first DAW parameter box in the SPECIAL FUNCTIONS section, and rotate the parameter wheel to select USB and 1–2.
- Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly, until the Setup > Remote page is visible.
- Rotate the parameter wheel to choose General DAW as the TARGET parameter.
- Press the LAYER [REMOTE] button.

2 In Logic Pro:

When you open Logic Pro, the 02R96 device is installed automatically. You should see three 02R96 (USB 1–3) icons in the Setup window, aligned horizontally.

02R96 assignments

02R96 assignments overview

These sections outline the assignment of Yamaha 02R96 interface elements to Logic functions.

02R96 Display Access control

The table outlines the DISPLAY ACCESS control assignment:

Control	Assignment
METER	Clears overload LEDs.

02R96 Aux Select controls

The table outlines the AUX SELECT controls and their assignments:

Control	Assignment
AUX 1	Assigns Send 1 level to encoders, and Send 1 to 4 levels to virtual encoders. While held down, the channel strip display shows the current Send 1 destination assignment.
AUX 2	Assigns Send 2 level to encoders, and Send 1 to 4 levels to virtual encoders. While held down, the channel strip display shows the current Send 2 destination assignment.
AUX 3	Assigns Send 3 level to encoders, and Send 1 to 4 levels to virtual encoders. While held down, the channel strip display shows the current Send 3 destination assignment.
AUX 4	Assigns Send 4 level to encoders, and Send 1 to 4 levels to virtual encoders. While held down, the channel strip display shows the current Send 4 destination assignment.
AUX 5	Assigns Send 5 level to encoders, and Send 5 to 8 levels to virtual encoders. While held down, the channel strip display shows the current Send 5 destination assignment.

02R96 Encoder and Fader Mode controls

The table outlines the ENCODER MODE and FADER MODE controls and their assignments:

Control	Assignment
PAN	Assigns pan to encoders; assigns selected channel strip's pan/surround parameters to virtual encoders.
AUX	Assigns Send 1 level to encoders, and Send 1 to 4 levels to virtual encoders. While held down, the channel strip display shows the current Send 1 destination assignment.
FADER	Enables or disables Flip mode.
AUX/MTRX	Enables or disables Flip mode.

02R96 Effect/Plug-in controls

The table outlines the EFFECT/PLUG-IN controls and their assignments:

Control	Assignment
Display	Opens or closes the Sample Editor.
PLUG-INS	Switches SEL buttons and encoder buttons between normal behavior and setting a parameter's default value.
CHANNEL INSERTS	Determines mode of channel strip SEL buttons: • Indicator off: SEL button used for channel strip selection • Indicator on: SEL button used for Insert selection
2	Switches the display between "track name/parameter name" and "parameter name/parameter value" modes.
3	Switches the bypass state of plug-in currently being edited.
4	Switches between Plug-in Assign and Plug-in Edit modes.
Parameter Up & Parameter Down	Plug-in Edit mode: shifts the parameter display to show the next/previous page of parameter controls (usually four) for the selected plug-in.
Selecting virtual encoders 1 to 4 (Use cursor keys, and then press ENTER button.)	Pan Assignment mode: • Parameter control 1 button centers pan or surround angle. • Parameter control 2 button centers surround diversity. • Parameter control 3 button resets surround LFE level. • Parameter control 4 button resets spread. Send Assignment mode: • Enables or disables Sends 1 to 4 or 5 to 8. Plug-in Assignment mode: • Confirms the plug-in selection for Insert slots 1 to 4 or 5 to 8, and enters Plug-in Edit mode for the selected Insert slot. Plug-in Edit mode: • Sets value to default, or switches buttons with two states.
Moving virtual encoders 1 to 4 (Use cursor keys, and then rotate parameter wheel.)	Pan Assignment mode: • Parameter control 1 edits pan or surround angle. • Parameter control 2 edits surround diversity. • Parameter control 3 edits surround LFE. • Parameter control 4 edits spread. Send Assignment mode: • Controls the Send level of Sends 1 to 4 or 5 to 8. Plug-in Assignment mode: • Chooses Insert slot 1 to 4 or 5 to 8. Plug-in Edit mode: • Sets value.

02R96 LCD

The LCD displays different data, depending on the page selected with the F2, F3, and F4 buttons:

- *INSERT ASSIGN/EDIT Display view:* Parameter details, plug-in selection, or plug-in parameters. Press F2 to select this view.
- *Channel view:* Encoder values and channel strip display. Press F3 to select this view.
- *Level meters view:* Press F4 to select this view.

The following assignments are available in all three views:

Display	Assignment
TIME CODE	Active if counter is displaying SMPTE timecode.
BEATS	Active if counter is displaying bars/beats/divisions/ticks.
Counter	Displays SMPTE timecode or bars/beats/divisions/ticks.
SELECT ASSIGN	Displays the Encoder assignment as follows: Pan, Snd1 to Snd8, S1As to S8As, In, Out.

02R96 assignable keys

The table outlines the USER-DEFINED KEY controls and their assignments:

Control	Assignment
Display	While held down, the display shows the automation mode of the channel strips in the current bank selection.
1	Switches between the Tracks window and the Mixer.
2	Enables or disables the Group Clutch.
3	Sets selected channel strip, or channel strip group, to Write automation mode.
4	Sets selected channel strip, or channel strip group, to Touch automation mode.
5	Sets selected channel strip, or channel strip group, to Latch automation mode.
6	Sets selected channel strip, or channel strip group, to Read automation mode.
8	Sets selected channel strip, or channel strip group, to Off automation mode.
9	Shifts channel strips by one bank to the left.
10	Shifts channel strips by one bank to the right.
11	Enables or disables volume automation playback and recording.
12	Enables or disables mute automation playback and recording.
13	Enables or disables pan automation playback and recording.
14	Enables or disables send level automation playback and recording.
16	Enables or disables plug-in parameter automation playback and recording.

02R96 channel strips

The table outlines the channel strip controls and their assignments:

Control	Assignment
Encoder	Adjusts parameter selected in the AUX SELECT section.
Encoder Select button	Pan selected: sets pan to center position. If EFFECTS/PLUG-INS [PLUG-INS] on Sends 1 to 8 is selected: edits Send Pre/Post, switches Send Mute state, or sets Send Level to default value. Send Assign, Input, or Output: confirms selection.
AUTO	Cycles through automation modes. When an automation mode button is held down, sets this automation mode.
SEL	If EFFECTS/PLUG-INS [CHANNEL INSERTS] is off: selects channel. If EFFECTS/PLUG-INS [CHANNEL INSERTS] is on: chooses channel for plug-in selection/insertion.
SOLO	Enables or disables Solo button.
ON	Enables or disables Mute button.
Fader	Adjusts volume, or duplicates Encoder in Flip mode.

02R96 Machine Control parameters

The table outlines the controls in the MACHINE CONTROL section and their assignments:

Control	Assignment
display	Opens or closes the Marker tab in the Lists area.
1 to 8	Recalls markers 1 to 8.
REW	Shuttles backward.
FF	Shuttles forward.
STOP	Stop
PLAY	Play
REC	Record

02R96 data entry controls

The table outlines the data entry controls and their assignments:

Control	Assignment
SCRUB	Enables or disables Scrub mode.
SHUTTLE	Enables or disables Shuttle mode.
Parameter Wheel	Default: adjusts the value of the currently selected parameter. Scrub: Scrub mode. Shuttle: Shuttle mode.
ENTER	Enters selected folder.
DEC	Exits folder.
INC	Switches between Cursor and Zoom modes.
Cursor Up	Cursor mode: equivalent to computer keyboard Up Arrow key. Zoom mode: zooms out vertically.
Cursor Down	Cursor mode: equivalent to computer keyboard Down Arrow key. Zoom mode: zooms out vertically.
Cursor Left	Cursor mode: equivalent to computer keyboard Left Arrow key. Zoom mode: zooms out horizontally.
Cursor Right	Cursor mode: equivalent to computer keyboard Right Arrow key. Zoom mode: zooms in horizontally.

Yamaha DM1000

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Set up your DM1000

Follow the steps below before using your DM1000 with Logic Pro.

- Make sure that your DM1000 device is connected to the computer via USB.
- Make sure that the latest USB MIDI driver for the device is installed. Visit the manufacturer's website to download the most recent driver version, if necessary.

Set up your DM1000 with Logic Pro

1 On the DM1000 device, do the following:

- Press the DISPLAY ACCESS [SETUP] button repeatedly, until the Setup > MIDI/Host page is visible.
- Use the cursor buttons to move to the DAW parameter box in the SPECIAL FUNCTIONS section, and rotate the parameter wheel to select USB and 1–3.
- Press the DISPLAY ACCESS [REMOTE] button, and then press the [F1] button. The Remote 1 page is displayed.
- Rotate the parameter wheel to choose General DAW as the TARGET parameter.
- Press the LAYER [REMOTE 1] button.

2 In Logic Pro:

When you open Logic Pro, the DM1000 device is installed automatically. You should see two DM1000 icons in the Setup window, aligned horizontally.

DM1000 assignments

DM1000 assignments overview

These sections outline the assignment of Yamaha DM1000 interface elements to Logic functions.

DM1000 Display Access controls

The table outlines the DISPLAY ACCESS controls and their assignments.

Note: A modifier button, such as SHIFT/ADD, shown below a control description indicates that the control has an alternate use while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
AUTOMIX		When AUTOMIX is held down in Channel Display mode, the display shows the automation mode of the 16 channel strips in the current bank selection.
PAIR/GROUP		Enters Group Edit mode: • When a channel strip group is selected, channel strip membership is indicated by a lit SEL button. Use this button to enable/disable the channel strip's group membership. • Virtual encoders 1 to 4 display properties of the currently selected group. • Virtual encoder buttons 1 to 4 enable/disable properties of the currently selected group. • When INSERT/PARAM is set to PARAM, the left and right Tab Scroll buttons scroll through the group properties. When set to INSERT, the buttons scroll through the groups for editing.
	*DAW SHIFT/ADD	Switches the Mixer to show all channel strips that correspond to tracks used in the Tracks window, along with their signal flow.
METER		Clears overload LEDs.
	*DAW SHIFT/ADD	Switches the Mixer to the All view, displaying all channel strips that exist in your project.
	*DAW ALT/FINE	Opens or closes a second Tracks window.
EFFECT		Opens or closes the Sample Editor.

DM1000 Aux Select controls

The table outlines tıhe AUX SELECT controls and their assignments.

Note: A modifier button, such as SHIFT/ADD, shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
AUX 1		In Insert Display mode: • Assigns Send 1 level of channel strips to encoders. • Assigns Send 1 level of the selected channel strip to virtual encoders. • Assigns Sends 1 to 4 of the selected channel strip to virtual encoders. Use the ENTER button to switch the bypass state of Sends 1 to 4. In Channel Display mode: • Assigns Send 1 level of channel strips to encoders and virtual encoders. • Shows current Send 1 destination assignment, when button is held down.
	*DAW SHIFT/ADD	Same as AUX 5, but for Send 6
AUX 2		Same as AUX 1, but for Send 2
	*DAW SHIFT/ADD	Same as AUX 5, but for Send 7
AUX 3		Same aıs AUX 1, but for Send 3
	*DAW SHIFT/ADD	Same as AUX 5, but for Send 8
AUX 4		Same as AUX 1, but for Send 4
AUX 5		In Insert Display mode: • Assigns Send 5 level of channel strips to encoders. • Assigns Send 5 level of the selected channel strip to virtual encoders. • Assigns Sends 5 to 8 of the selected channel strip to virtual encoders. Use the ENTER button to switch the bypass state of Sends 5 to 8. In Channel Display mode: • Assigns Send 5 level of channel strips to encoders and virtual encoders. • Shows current Send 5 destination assignment, when button is held down.

Control	Modifier	Assignment
AUX 6		Switches SEL buttons and encoder buttons between normal behavior and setting a parameter's default value. When the AUX 6 button is held down: • Pressing a channel strip's SEL button resets the channel strip's volume level. • Pressing a channel strip's encoder button resets the channel strip's pan/surround value. (PAN also needs to be selected in the ENCODER MODE section.)
AUX 8		Determines mode of channel strip SEL buttons when the STEREO section AUTO button is off: • AUX 8 indicator off: SEL button used for channel strip selection • AUX 8 indicator on: SEL button used for Insert selection

DM1000 Encoder and Fader Mode controls

The table outlines the ENCODER MODE and FADER MODE controls and their assignments:

Control	Assignment
PAN	• Assigns pan/surround control to encoders. • In Insert Display mode, assigns pan/surround parameters of the selected channel strip to virtual encoders. • In Channel Display mode, assigns pan/surround parameters of the 16 channel strips in current bank selection to virtual encoders.
AUX	• Assigns Send level control to encoders. • In Insert Display mode, assigns Send level parameter of the selected channel strip to virtual encoders. • In Channel Display mode, assigns Send level parameters of the 16 channel strips in current bank selection to virtual encoders.
FADER/AUX	Enables or disables Flip mode.

DM1000 LCD controls

The table outlines the LCD controls and their assignments.

Note: A modifier button, such as SHIFT/ADD, shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
Left & Right Tab Scroll buttons		Plug-in Edit mode: shifts the parameter display to show the next/previous page of parameter controls (usually four) for the selected plug-in.
	*DAW ALT/FINE	Plug-in Edit mode: shifts the parameter display up/down by one parameter for the selected plug-in.

DM1000 LCD display modes

DM1000 LCD display modes overview

The LCD display contents reflect the page selected with the F2, F3, and F4 buttons.

All display modes show a number of LCD common elements.

- Press the F2 button to select Insert display mode.
- Press the F3 button to select Channel display mode.
- Press the F4 button to select Meter display mode.

LCD common elements

The following elements are common across all pages in the LCD:

Display	Assignment
TIME CODE	Active if counter is displaying SMPTE timecode
BEATS	Active if counter is displaying bars/beats/divisions/ticks
Counter	Displays either SMPTE timecode or bars/beats/divisions/ticks.
SELECT ASSIGN	Displays the encoder assignment as follows: Pan, Snd1 to Snd8, S1As to S8As, In, Out.

Insert display mode

Press the F2 button to select Insert display mode. In this mode, the LCD displays parameters, allowing you to edit effects. This mode also allows you to switch between different Insert slots, enabling each effect to be edited.

Control	Assignment
COMPARE	Switches the display between "track name/parameter name" and "parameter name/parameter value" modes.
BYPASS	Switches the bypass state of plug-in currently being edited.
INSERT/PARAM	Switches between Plug-in Assign and Plug-in Edit modes.
Selecting virtual encoders 1 to 4 (Use cursor keys, and then press ENTER button.)	Pan Assignment mode: • Parameter control 1 button centers pan or surround angle. • Parameter control 2 button centers surround diversity. • Parameter control 3 button resets surround LFE level. • Parameter control 4 button resets spread. Send Assignment mode: • Enables or disables Sends 1 to 4 or 5 to 8. Plug-in Assignment mode: • Confirms the plug-in selection for Insert slots 1 to 4 or 5 to 8, and enters Plug-in Edit mode for the selected Insert slot. Plug-In Edit mode: • Sets value to default, or switches buttons with two states.
Moving virtual encoders 1 to 4 (Use cursor keys, and then rotate parameter wheel.)	Pan Assignment mode: • Parameter control 1 edits pan or surround angle. • Parameter control 2 edits surround diversity. • Parameter control 3 edits surround LFE level. • Parameter control 4 edits spread. Send Assignment mode: • Controls the Send level of Sends 1 to 4 or 5 to 8. Plug-in Assignment mode: • Chooses Insert slot 1 to 4 or 5 to 8. Plug-in Edit mode: • Sets value.

Channel display mode

Press the F3 button to select Channel display mode. In this mode, the parameter controls, such as pan and send level, for channel strips 1 to 16 are displayed.

Control	Assignment
Selecting virtual encoders 1 to 4 (Use cursor keys, and then press ENTER button.)	When Send 1 to 8 is selected: edits Send pre/post fader position, enables or disables Send mute, or sets Send level to default value. Send, Input, or Output Assignment mode: confirms selection.
Moving virtual encoders 1 to 4 (Use cursor keys, and then rotate parameter wheel.)	Adjusts parameter selected in the ENCODER MODE and AUX SELECT sections.

Meter display mode

Press the F4 button to select Meter display mode. In this mode, the level meters for channel strips 1 to 16 are displayed.

Control	Assignment
Level Meters	Display momentary and peak level.

DM1000 data entry controls

The table outlines the data entry controls and their assignments.

Note: A modifier button, such as SHIFT/ADD, shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
Parameter wheel		Default: adjusts the value of the currently selected parameter.
	* DAW SHUTTLE	Switches the parameter wheel to Shuttle mode.
	* DAW SCRUB	Switches the parameter wheel to Scrub mode.
[DEC] button		Default: exits folder. In Go to Marker dialog: cancels dialog.
	* DAW ALT/FINE	Opens or closes the Audio Bin tab in the Media area.
[INC] button		Enters the selected folder.

DM1000 channel strips

The table outlines the channel strip controls and their assignments.

Note: A modifier button, such as SHIFT/ADD, shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
Encoder		Adjusts parameter selected in the ENCODER MODE and AUX SELECT sections.
Encoder Select button		Pan selected: sets pan to center position. Send 1 to 8 selected: edits Send pre/post position, Send mute on or off, or sets Send level to default value. Send Assign, Input, or Output selected: confirms selection.
SEL		If AUTO off: • AUX 8 off: selects channel strip. • AUX 8 on: selects channel strip for insert assignment. If AUTO on: • Cycles through automation modes. With an automation mode button held down, sets this automation mode.
	*DAW SHIFT/ADD	Resets the volume level.
SOLO		Enables or disables the Solo button.
	*DAW OPTION/ALL	Disables Solo button of all channel strips.
ON		Enables or disables the Mute button.
	*DAW OPTION/ALL	Unmutes all channel strips.
Fader		Adjusts volume, or duplicates encoder assignment in Flip mode.

DM1000 stereo channel strip control

The table outlines the stereo channel strip control and its assignment:

Control	Assignment
AUTO	Switches channel strip SEL buttons between channel and insert selection duties.

DM1000 assignable keys

These keys can be assigned to the following functions.

Note: A modifier button, such as SHIFT/ADD, shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
DAW WIN STATUS		Opens or closes the Audio Bin tab in the Media area.
DAW REC/RDY 1 to 16		Enables or disables the Record Enable button of the specified channel strip.
DAW WIN TRANSPORT		Opens or closes the Control bar window.
DAW BANK –		Shifts channel strips by one bank to the left.
DAW BANK +		Shifts channel strips by one bank to the right.
DAW SHIFT/ADD		Enables a second function/use for some buttons.
DAW OPTION/ALL		While held down, Value Change mode is set to Full. Turning the encoder to the right sets the maximum value. Turning it to the left sets the minimum value. The encoder also stops at its default value. Also see description of other buttons.
DAW GROUP STATUS		Enters Group Edit mode: • When a channel strip group is selected, channel strip membership is indicated by a lit SEL button. Use this button to enable/disable the channel strip's group membership. • Virtual encoders 1 to 4 display properties of the currently selected group. • Virtual encoder buttons 1 to 4 enable/disable properties of the currently selected group. • When INSERT/PARAM is set to PARAM, the left and right Tab Scroll buttons scroll through the group properties. When set to INSERT, the buttons scroll through the groups for editing.
	*DAW SHIFT/ADD	Switches the Mixer to show all channel strips that correspond to tracks used in the Tracks window, along with their signal flow.

Control	Modifier	Assignment
DAW SUSPEND GRP		Enables or disables the Group Clutch.
	*DAW SHIFT/ADD	Switches the Mixer to show all channel strips that correspond to tracks used in the Tracks window, along with their signal flow.
DAW CREATE GROUP		Creates a new group and enters Group Edit mode (see above).
	*DAW SHIFT/ADD	Switches the Mixer to the All view, displaying all channel strips that exist in your project. The channel strips on your DM1000 device will also reflect the All Channel Strip view.
DAW WIN MIX/EDIT		Switches between the Tracks window and the Mixer.
DAW CHANNEL -		Shifts channel strips by one channel strip to the left.
DAW CHANNEL+		Shifts channel strips by one channel strip to the right.
DAW CTRL/CLUTCH		While held down, all groups are disabled.
DAW ALT/FINE		While held down, Value Change mode is set to Fine: value changes work at maximum resolution. Also see description of other buttons.
DAW MONI STATUS		—
DAW UNDO		Performs an Undo of the last editing operation.
	*DAW SHIFT/ADD	Performs a Redo of the last Undo operation.
	*DAW OPTION/ALL	Opens the Undo History window.
DAW SAVE		Saves the project.
	*DAW OPTION/ALL	Performs a Save As operation, allowing you to save the project with a different name.
DAW WIN MEM-LOC		Opens or closes the Marker tab in the Lists area.
DAW EDIT TOOL		Selects the next tool. While held down, numerical buttons select a specific tool.
DAW WIN INSERT		Opens or closes the Sample Editor.
DAW REC/RDY ALL		Disables the Record Enable buttons of all channel strips.
DAW SCRUB		Enables or disables Scrub mode.
DAW SHUTTLE		Enables or disables Shuttle mode.
DAW REW		Shuttles backward.

Control	Modifier	Assignment
DAW FF		Shuttles forward.
DAW STOP		Stop
DAW PLAY		Play
	*DAW SHIFT/ADD	Pause
DAW REC		Record
DAW PRE		Sets the left locator at current playhead position.
DAW IN		Sets the punch in locator at current playhead position.
DAW OUT		Sets the punch out locator at current playhead position.
DAW POST		Sets the right locator at current playhead position.
DAW RTZ		Moves the playhead to the left locator position.
DAW END		Moves the playhead to the right locator position.
DAW ONLINE		Activates or deactivates internal/external synchronization.
DAW QUICK PUNCH		Enables or disables Autopunch mode.
DAW AUTO FADER		Enables or disables volume automation playback and recording.
DAW AUTO PAN		Enables or disables pan automation playback and recording.
DAW AUTO PLUGIN		Enables or disables plug-in parameter automation playback and recording.
DAW AUTO MUTE		Enables or disables mute automation playback and recording.
DAW AUTO SEND		Enables or disables send level automation playback and recording.
DAW AUTO WRITE		Sets selected channel strip, or channel strip group, to Write automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Write.
	*DAW OPTION/ALL	Sets all channel strips to Write automation mode.

Control	Modifier	Assignment
DAW AUTO TOUCH		Sets selected channel strip, or channel strip group, to Touch automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Touch.
	*DAW OPTION/ALL	Sets all channel strips to Touch automation mode.
DAW AUTO LATCH		Sets selected channel strip, or channel strip group, to Latch automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Latch.
	*DAW OPTION/ALL	Sets all channel strips to Latch automation mode.
DAW AUTO READ		Sets selected channel strip, or channel strip group, to Read automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Read.
	*DAW OPTION/ALL	Sets all channel strips to Read automation mode.
DAW AUTO TRIM		—
DAW AUTO OFF		Sets selected channel strip, or channel strip group, to Off automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Off.
	*DAW OPTION/ALL	Sets all channel strips to Off automation mode.
DAW AUTO STATUS		While held down in Channel Display mode, the display shows the automation mode of the 16 channel strips in the current bank selection.

Yamaha DM2000

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Set up your DM2000

Follow the steps below before using your DM2000 with Logic Pro.

- Make sure that your DM2000 device is connected to the computer via USB.
- Make sure that the latest USB MIDI driver for the device is installed. Visit the manufacturer's website to download the most recent driver version, if necessary.

Set up your DM2000 with Logic Pro

1 On the DM2000 device, do the following:

- Press the DISPLAY ACCESS [SETUP] button repeatedly, until the Setup > MIDI/Host page is visible.
- Use the cursor buttons to move to the first DAW parameter box in the SPECIAL FUNCTIONS section, and rotate the parameter wheel to select USB and 1–3.
- Press the DISPLAY ACCESS [REMOTE] button, and then press the [F1] button. The Remote 1 page is displayed.
- Rotate the parameter wheel to choose General DAW as the TARGET parameter.
- Press the LAYER [REMOTE 1] button.

2 In Logic Pro:

When you open Logic Pro, the DM2000 device is installed automatically. You should see three DM2000 icons in the Setup window, aligned horizontally.

DM2000 assignments

DM2000 assignments overview

These sections outline the assignment of Yamaha DM2000 interface elements to Logic functions.

DM2000 Matrix Select controls

The table outlines the MATRIX SELECT controls and their assignments:

Control	Assignment
MATRIX 1	Switches SEL buttons and encoder buttons between normal behavior and setting a parameter's default value. When the AUX 6 button is held down: • Pressing a channel strip's SEL button resets the channel strip's volume level. • Pressing a channel strip's encoder button resets the channel strip's pan/surround value. (PAN also needs to be selected in the ENCODER MODE section.)
MATRIX 2	Switches the encoder buttons between Send Position and Send Mute mode.
MATRIX 4	If ENCODER MODE [ASSIGN 4] is on, switches the channel strip SEL buttons between Insert Select (indicator off) and Insert Bypass (indicator on) modes.

DM2000 Aux Select controls

The table outlines the AUX SELECT controls and their assignments.

Note: A modifier button (such as USER 4, preassigned to SHIFT/ADD) shown below a control description indicates that the control has an alternate use while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
AUX 1		In Insert Display mode: • Assigns Send 1 level of channel strips to encoders. • Assigns Send 1 level of the selected channel strip to virtual encoders. • Assigns Sends 1 to 4 of the selected channel strip to virtual encoders. Use the ENTER button to switch the bypass state of Sends 1 to 4. In Channel Display mode: • Assigns Send 1 level of channel strips to encoders and virtual encoders. Shows current Send 1 destination assignment, when button is held down.
	*USER 4	Same as AUX 5, but for Send 6
AUX 2		Same as AUX 1, but for Send 2
	*USER 4	Same as AUX 5, but for Send 7
AUX 3		Same as AUX 1, but for Send 3
	*USER 4	Same as AUX 5, but for Send 8
AUX 4		Same as AUX 1, but for Send 4
AUX 5		In Insert Display mode: • Assigns Send 5 level of channel strips to encoders. • Assigns Send 5 level of the selected channel strip to virtual encoders. • Assigns Sends 5 to 8 of the selected channel strip to virtual encoders. Use the ENTER button to switch the bypass state of Sends 5 to 8. In Channel Display mode: • Assigns Send 5 level of channel strips to encoders and virtual encoders. Shows current Send 5 destination assignment, when button is held down.

DM2000 Encoder and Fader Mode controls

The table outlines the ENCODER MODE and FADER MODE controls and their assignments:

Control	Assignment
PAN	• Assigns pan/surround control to encoders. • In Insert Display mode, assigns pan/surround parameters of the selected channel strip to virtual encoders. • In Channel Display mode, assigns pan/surround parameters of the 16 channel strips in current bank selection to virtual encoders.
AUX/MTRX	• Assigns Send level control to encoders. • In Insert Display mode, assigns Send level parameter of the selected channel strip to virtual encoders. • In Channel Display mode, assigns Send level parameters of the 16 channel strips in current bank selection to virtual encoders.
ASSIGN 1	Assigns channel strip input assignment to encoders. While held down, the channel strip display shows the current channel strip input assignment.
ASSIGN 2	Assigns channel strip output assignment to encoders. While held down, the channel strip display shows the current channel strip output assignment.
ASSIGN 3	When encoders display a Send level, switches them to Send Destination assignment mode. Press the encoder button (or ASSIGN 3 again) to confirm the assignment.
ASSIGN 4	Determines mode of channel strip SEL buttons: • Indicator off: SEL button used for channel strip selection • Indicator on: SEL button used for insert selection or insert bypass, depending on MATRIX SELECT [MATRIX 4]
FADER	Enables or disables Flip mode.
AUX/MTRX	Enables or disables Flip mode.

DM2000 Display Access controls

The table outlines the DISPLAY ACCESS controls and their assignments.

Note: A modifier button (such as USER 4, preassigned to SHIFT/ADD) shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
METER		Clears overload LEDs.
	*USER 4	Switches the Mixer to the All view, displaying all channel strips that exist in your project.
	*USER 13	Opens or closes a second Tracks window.

DM2000 Effect/Plug-in controls

The table outlines the EFFECT/PLUG-IN controls and their assignments.

Note: A modifier button (such as USER 4, preassigned to SHIFT/ADD) shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
Display		Opens or closes the Sample Editor.
6		Switches display between "track name/parameter name" and "parameter name/parameter value" modes.
7		Switches the bypass state of Insert slot that is currently being edited.
8		Switches between Plug-in Assignment and Plug-in Edit modes.
Parameter Up & Parameter Down		Plug-in Edit mode: shifts the parameter display to show the next/previous page of parameter controls (usually four) for the selected plug-in.
	*USER 13	Plug-in Edit mode: shifts the parameter display up/down by one parameter for the selected plug-in.
Selecting virtual encoders 1 to 4 (Use cursor keys, and then press ENTER button.)		Pan Assignment mode: • Parameter control 1 button centers pan or surround angle. • Parameter control 2 button centers surround diversity. • Parameter control 3 button resets surround LFE level. • Parameter control 4 button resets spread. Send Assignment mode: • Enables or disables Sends 1 to 4 or 5 to 8. Plug-in Assignment mode: • Confirms the plug-in selection for Insert slots 1 to 4 or 5 to 8, and enters Plug-in Edit mode for the selected Insert slot. Plug-In Edit mode: • Sets value to default, or switches buttons with two states.

Control	Modifier	Assignment
Moving virtual encoders 1 to 4 (Use cursor keys, and then rotate parameter wheel.)		Pan Assignment mode: • Parameter control 1 edits pan or surround angle. • Parameter control 2 edits surround diversity. • Parameter control 3 edits surround LFE level. • Parameter control 4 edits spread. Send Assignment mode: • Controls the Send level of Sends 1 to 4 or 5 to 8. Plug-in Assignment mode: • Chooses Insert slot 1 to 4 or 5 to 8. Plug-in Edit mode: • Sets value.

DM2000 LCD

The table outlines the LCD assignments:

Display	Assignment
TIME CODE	Active if counter is displaying SMPTE timecode.
BEATS	Active if counter is displaying bars/beats/divisions/ticks.
Counter	Displays SMPTE timecode or bars/beats/divisions/ticks.
SELECT ASSIGN	Displays the encoder assignment as follows: Pan, Snd1 to Snd8, S1As to S8As, In, Out.

DM2000 Track Arming controls

The table outlines the TRACK ARMING controls and their assignments.

Note: A modifier button (such as USER 4, preassigned to SHIFT/ADD) shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
1 to 24		Enables or disables the Record Enable button of the specified channel strip.
	*USER 5	Disables the Record Enable buttons of all channel strips.
MASTER		Disables the Record Enable buttons of all channel strips.

DM2000 Automix controls

The table outlines the AUTOMIX controls and their assignments.

Note: A modifier button (such as USER 4, preassigned to SHIFT/ADD) shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
DISPLAY		When DISPLAY is held down in Channel Display mode, the display shows the automation mode of the channel strips in the current bank selection.
REC		Sets selected channel strip, or channel strip group, to Write automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Write.
	*USER 5	Sets all channel strips to Write automation mode.
ABORT/UNDO		Sets selected channel strip, or channel strip group, to Touch automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Touch.
	*USER 5	Sets all channel strips to Touch automation mode.
AUTOREC		Sets selected channel strip, or channel strip group, to Latch automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Latch.
	*USER 5	Sets all channel strips to Latch automation mode.
RETURN		Sets selected channel strip, or channel strip group, to Read automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Read.
	*USER 5	Sets all channel strips to Read automation mode.

Control	Modifier	Assignment
TOUCH SENSE		Sets selected channel strip, or channel strip group, to Off automation mode. While held down, and with the STEREO channel strip AUTO button enabled, sets automation mode to Off.
	*USER 5	Sets all channel strips to Off automation mode.
OVERWRITE [FADER]		Enables or disables volume automation playback and recording.
OVERWRITE [PAN]		Enables or disables pan automation playback and recording.
OVERWRITE [EQ]		Enables or disables plug-in parameter automation playback and recording.
OVERWRITE [ON]		Enables or disables mute automation playback and recording.
OVERWRITE [AUX]		Enables or disables send level automation playback and recording.

DM2000 Locator controls

The table outlines the LOCATOR controls and their assignments.

Note: A modifier button (such as USER 4, preassigned to SHIFT/ADD) shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
DISPLAY		Opens or closes the Marker tab in the Lists area.
1 to 8		Recalls markers 1 to 8.
	*USER 4	Switches the Mixer to the All view, displaying all channel strips that exist in your project.
	DISPLAY HISTORY [FORWARD]	Selects tool: 1: Arrow 2: Pencil 3: Eraser 4: Text tool 5: Scissors 6: Glue tool 7: Solo tool 8: Mute tool
PRE		Sets the left locator at current playhead position.
IN		Sets the punch in locator at current playhead position.
OUT		Sets the punch out locator at current playhead position.
POST		Sets the right locator at current playhead position.
RETURN TO ZERO		Moves the playhead to the left locator position.
END		Moves the playhead to the right locator position.
ONLINE		Activates or deactivates internal/external synchronization.
QUICK PUNCH		Enables or disables Autopunch mode.

DM2000 transport and cursor controls

The table outlines the transport and cursor controls and their assignments.

Note: A modifier button (such as USER 4, preassigned to SHIFT/ADD) shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
REW		Shuttles backward.
FF		Shuttles forward.
STOP		Stop
PLAY		Play
	*USER 4	Pause
REC		Record
DISPLAYHISTORY [FORWARD]		Selects the next tool. While held down, numerical buttons select a specific tool.
SCRUB		Enables or disables Scrub mode.
SHUTTLE		Enables or disables Shuttle mode.
Parameter wheel		Default: adjusts the value of the currently selected parameter.
	*DAW SHUTTLE	Switches the parameter wheel to Shuttle mode.
	*DAW SCRUB	Switches the parameter wheel to Scrub mode.
DEC button		Default: exits folder. In Go to Marker dialog: cancels dialog.
	*USER 13	Opens or closes the Audio Bin tab in the Media area.
INC button		Switches between Cursor and Zoom mode.
Cursor Up		Cursor mode: equivalent to computer keyboard Up Arrow key. Zoom mode: zooms out vertically.
	*USER 4	Zoom mode: individual track zoom in.
	*USER 13	Page Up.
	*USER 5 + *USER 13	Scroll to top.

Control	Modifier	Assignment
Cursor Down		Cursor mode: equivalent to computer keyboard Down Arrow key. Zoom mode: zooms out vertically.
	*USER 4	Zoom mode: individual track zoom out.
	*USER 13	Page Down.
	*USER 5 + *USER 13	Scroll to bottom.
Cursor Left		Cursor mode: equivalent to computer keyboard Left Arrow key. Zoom mode: zooms out horizontally.
	*USER 4	Zoom mode: individual track zoom reset for tracks of the same type.
	*USER 13	Page Left.
	*USER 5 + *USER 13	Scroll to left border.
Cursor Right		Cursor mode: equivalent to computer keyboard Right Arrow key. Zoom mode: zooms in horizontally.
	*USER 4	Zoom mode: individual track zoom reset of all tracks.
	*USER 13	Page Right.
	*USER 5 + *USER 13	Scroll to right border (of window with key focus).
ENTER		Enters the selected folder.

DM2000 channel strips

The table outlines the channel strip controls and their assignments.

Note: A modifier button (such as USER 4, preassigned to SHIFT/ADD) shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
Encoder		Adjusts parameter selected in the ENCODER MODE and AUX SELECT sections.
Encoder Select button		Pan selected: sets pan to center position. If MATRIX 1 on Send 1 to 8 is selected: edits Send pre/post position, Send mute on or off, or sets Send level to default value. Send Assign, Input, or Output selected: confirms selection.
AUTO		Cycles through automation modes. With an automation mode button held down, sets this automation mode.
SEL		If ENCODER MODE [ASSIGN 4] off: selects channel strip. If ENCODER MODE [ASSIGN 4] on: • BYPASS off: selects channel strip for plug-in selection. • BYPASS on: switches bypass state of currently selected Insert slot.
	*USER 4	Resets the volume level.
MATRIX SELECT 1		Resets the volume level.
SOLO		Enables or disables the Solo button.
	*USER 5	Disables Solo button of all channel strips.
ON		Enables or disables the Mute button.
	*USER 5	Unmutes all channel strips.
Channel strip display		Displays channel strip name, or send, input, or output assignment.
Fader		Adjusts volume, or duplicates encoder assignment in Flip mode.

DM2000 assignable keys

The table outlines the USER-DEFINED KEY controls and their assignments.

Note: A modifier button (such as USER 4, preassigned to SHIFT/ADD) shown below a control description indicates that the control has an alternate function while the modifier is held down. Modifier buttons that need to be assigned manually by the user are shown with an asterisk (*) that precedes the button name.

Control	Modifier	Assignment
DISPLAY		Opens or closes the Audio Bin window.
1		Opens or closes the Control bar window.
2		Shifts channel strips by one bank to the left.
3		Shifts channel strips by one bank to the right.
4		Shifts to second function/use of some buttons. (See descriptions of other buttons.)
5		While held down, Value Change mode is set to Full. Turning the encoder to the right sets the maximum value. Turning it to the left sets the minimum value. The encoder also stops at its default value. Also see description of other buttons.
6		Enters Group Edit mode: • When a channel strip group is selected, channel strip membership is indicated by a lit SEL button. Use this button to enable/disable channel strip's group membership. • Virtual encoders 1 to 4 display properties of the currently selected group. • Virtual encoder buttons 1 to 4 enable/disable properties of the currently selected group. • When INSERT/PARAM is set to PARAM, the left and right Tab Scroll buttons scroll through the group properties. When set to INSERT, the buttons scroll through the groups for editing.
	*USER 4	Switches the Mixer to show all channel strips that correspond to tracks used in the Tracks window, along with their signal flow.

Control	Modifier	Assignment
7		Enables or disables the Group Clutch.
	*USER 4	Switches the Mixer to show all channel strips that correspond to tracks used in the Tracks window, along with their signal flow.
8		Creates a new group and enters Group Edit mode (see above).
	*USER 4	Switches Mixer to All view, displaying all channel strips that exist in your project. The DM2000 channel strips will also reflect the All Channel Strip view.
9		Switches between the Tracks window and the Mixer.
10		Shifts channel strips by one channel strip to the left.
11		Shifts channel strips by one channel strip to the right.
12		While held down, all groups are disabled.
13		While held down, Value Change mode is set to Fine: value changes work at maximum resolution. Also see descriptions of other buttons.
14		—
15		Performs an Undo of the last editing operation.
	*USER 4	Performs a Redo of the last Undo operation.
	*USER 5	Opens the Undo History window.
16		Saves the project.
	*USER 5	Performs Save As operation, allowing you to save the project with a different name.