

# **Pro Tools MIDI Controllers Guide**

## **Version 5.0 for Macintosh and Windows**

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# Working With MIDI Control Surfaces

Pro Tools allows you to use a MIDI control surface (or *MIDI controller*) to move multiple Pro Tools controls at once. For example, you can use a MIDI control surface to adjust on-screen faders and knobs, activate transport controls, or scrub and shuttle in Pro Tools.

---

## MIDI Controller Terms

Here are a few terms that apply to the use of a MIDI control surface with Pro Tools:

**Bank** A group of similar controls (such as faders, rotary controls, or switches) that are arranged in discrete channel strips. With a control surface, you can operate one bank of controls at a time.

**Bank Size or Bank Width** Corresponds to the number of controls on your MIDI control surface. For example, an MM-16 or DC-16 have 16 continuous-belt faders, while the HUI and the CS-10 each have eight faders. You can use more than one controller to have a wider bank (for example, you can have up to 64 channels using four Penny & Giles controllers).

**Bank Swap** The process by which Pro Tools lets you switch control from one on-screen bank of channel strip faders to another.

**Global Controls** Controls that perform single functions that never change. For example, the transport switches or the jog/shuttle wheel affect all tracks, and do not change when you switch banks.

Pro Tools allows you to mix MIDI controller types, and have them act as a single bank. For example, you could use a HUI, MM-16/DC-16, CS-10 and PC-1600 together at the same time, which would create a MIDI controller console that is 48 channels wide. If you bank swapped with this extended console, you would be switching 48 faders at a time.

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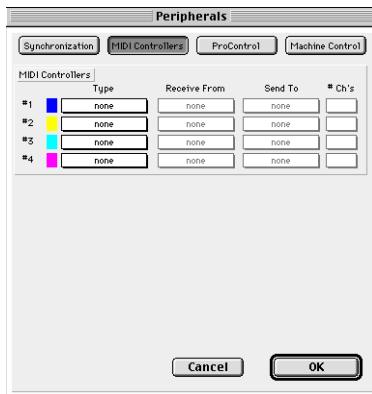
▲ Pro Tools supports use of multiple controllers of the same type, and allows you to duplicate controls from either control surface. However, only the controller assigned to the first MIDI Controller position (in the Peripherals dialog) can have access to Plug-In editing.

---

## MIDI Controller Personalities

*MIDI Controller Personalities* are files that allow Pro Tools to communicate with MIDI controllers such as the Mackie HUI™, any of the JL Cooper CS-10™ series, the Peavey PC-1600™, and the Penny & Giles MM-16™/DC-16™.

These files are installed in the Controllers folder within the DAE Folder. Pro Tools scans the MIDI Controller Personalities folder whenever you open the Peripherals dialog and assign a MIDI controller.



The MIDI Controllers page of the Peripherals dialog

---

## Configuring Your System for a MIDI Controller

### Windows

Connect and configure your MIDI interface according to the manufacturer's instructions. Your MIDI ports will appear in the Pro Tools pop-up menus for MIDI port source/destination.

### Macintosh

Before using a MIDI control surface with Pro Tools, you must first configure it as an OMS device and then enable it in the Pro Tools Peripherals dialog.

### Installing OMS

■ To install OMS on your system, refer to the *Pro Tools Hardware Installation Guide* for instructions, or refer to the OMS documentation included on the Pro Tools CD-ROM.

#### To connect your MIDI control surface to your MIDI interface:

- 1 Connect your MIDI Interface to a serial port on your computer. (Do not connect the MIDI interface to the DigiSerial Port on your Pro Tools system.)
- 2 Connect your MIDI control surface to your MIDI interface. If you have a multi-port MIDI interface, take note of which MIDI port the control surface is connected to.

The Apple Serial DMA driver option must be deselected for Pro Tools to properly communicate with MIDI devices.

#### To deselect Apple Serial DMA:

- 1 Launch the OMS Setup application. (You can also launch OMS Setup from within Pro Tools by choosing *Setups > OMS Studio Setup*.)
- 2 In OMS Setup, choose *Edit > Preferences*, and make sure the "Use Apple Serial DMA driver when available" option is deselected.
- 3 Click OK to close the Preferences dialog.

#### Configuring OMS for your MIDI control surface

The following are basic instructions for configuring OMS. If you are not familiar with OMS, OMS Devices, or how to configure OMS Setup, refer to the OMS documentation included on the Pro Tools CD-ROM.



**1** In OMS, create a new device for your control surface. Make sure Is Controller and Is Multitimbral are selected.

**2** Make sure Receives and Sends for MIDI Time Code, MIDI Beat Clock, and MIDI Machine Control are deselected.

**3** Under Receive Channels, select the channel for sending and receiving data from the MIDI controller. Refer to the table below for control surface channel requirements. If your MIDI controller is the only device connected to a port on a multi-port MIDI interface, you can leave all receive channels selected, since there will be no potential channel conflicts.

#### Channel requirements for Control Surfaces

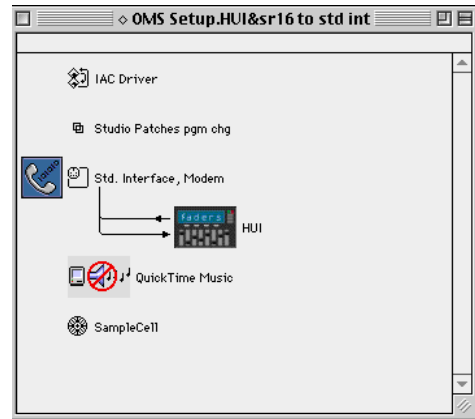
Control Surface	Channel
Mackie HUI	1
Penny & Giles (all)	16
JL Cooper CS-10	16
Peavey PC-1600	any

**4** Click OK.

**5** In the OMS Setup window, connect the MIDI controller to the correct OMS port location or MIDI interface. Drag the MIDI controller icon onto the icon for the desired port or MIDI interface. Arrows between the MIDI controller and the MIDI interface signify a connection has been made.

You can change the MIDI controller icon to match the visual look of your controller by clicking the icon and choosing the Device Icon command in the Studio menu.

**6** Save the changes to your current OMS Setup document.



*Connecting the MIDI Controller to the correct port or MIDI interface in the OMS Setup window*

Pro Tools supports use of up to four MIDI controllers at the same time. If you use multiple controllers, make sure that none of the controllers are assigned to the same MIDI port and channel.

#### Enabling Input Devices

On the Macintosh, you must enable the MIDI control surface as an input device.

##### To enable an input device:

- 1** Choose MIDI > Input Devices
- 2** Select the MIDI control surface and click OK.

When you add a device in OMS Setup while Pro Tools is running, it will be automatically enabled as an input device.

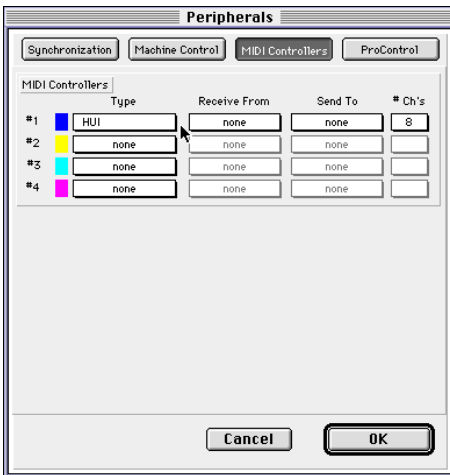
If you want to prevent MIDI data from a controller reaching Pro Tools, you can disable a controller as an input device.

☞ For more information on recording MIDI and enabling input devices, refer to the *Pro Tools Reference Guide*.

## Configuring Pro Tools

### (Windows and Macintosh)

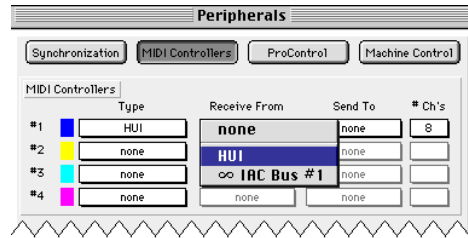
- 1 If you are using the Mackie HUI, make sure Active in Background is selected in the Pro Tools Operations menu.
- 2 Choose Setups > Peripherals and click MIDI Controllers.
- 3 In the MIDI Controllers field, choose your MIDI controller device name from the Type pop-up menu.



#### Choosing the type of MIDI controller

- 4 Choose the source and destination ports for your MIDI controller. These should correspond to the input and output ports to which your MIDI controller is connected.

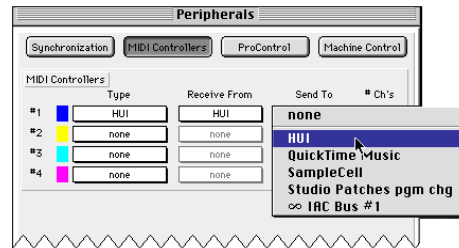
Choose the MIDI Controller's source port from the Receive From pop-up menu.



#### Choosing the source port for a MIDI controller

Additionally, if you are using the PC-1600, choose a MIDI channel in the source port submenu to receive data. Both the MM-16/DC-16 and the CS-10 main unit always transmit on MIDI channel #16, and the optional eight fader CS-10<sup>x</sup> expander units always transmit on MIDI channel #15.

- 5 Choose a destination port from the Send To pop-up menu.



#### Choosing the destination port for a MIDI controller

If you are using the PC-1600, choose a MIDI channel in the destination port submenu to transmit data. Both the MM-16/DC-16 and the CS-10 main unit always receive on MIDI channel #16, and the optional eight fader CS-10<sup>x</sup> expander units always receive on MIDI channel #15.

- 6 If your MIDI controller has more than eight channel strips (such as JL Cooper's CS-10<sup>2</sup> with additional CS-10<sup>x</sup> expansion

modules), or if you are using multiple devices of the same type in series, choose the appropriate number of channel strips from the pop menu under “# Ch’s.”

7 Click OK.

You can configure additional MIDI controllers (for a total of four) by repeating the above steps. Make sure that none of the controllers are assigned to the same MIDI source and destination ports or channels in the Pro Tools Peripherals dialog or in OMS.

### **Testing Connections**

Move a fader or knob on your MIDI controller, and the corresponding on-screen control should move. If your system does not seem to be responding correctly, repeat the installation and configuration steps, and check all MIDI connections and settings.

### **Pro Tools Display of Banks**

In the Pro Tools Mix window, the channel strips corresponding to a “bank width” of faders are highlighted in color. The number of faders in a bank will correspond to your controller type, and to the number of channels specified in the “#Ch’s” pop-up menu.

The blue outline appears because each controller choice in the Peripherals dialog has an identifying color associated with it. Pro Tools places a colored outline around the channel in any bank governed by your controller. If you enable additional controllers, Pro Tools will color code the faders with the color that corresponds to the numbered controller (#1-4) in the Peripherals dialog.

## **Overview of Control Surface Parameters**

In addition to on-screen fader and knob control, your MIDI controller can access basic Pro Tools commands for creating selections and regions, setting zoom views and memory locations, and enabling on-line/off-line status, along with some modifier key controls whose functions correspond to their computer keyboard equivalents. The switch functions for supported MIDI controllers are listed in the chapters for the respective controllers.

As long as your MIDI controller is enabled in the Peripherals dialog, Pro Tools will automatically scan the ports for your controller each time you launch the program. With the exception of the Mackie HUI, if enabled controllers are not found, Pro Tools will still behave as if they are connected. For example, bank outlines will still appear for your controller(s) on the appropriate fader channel strips.

---

## **Using the Mackie HUI with a Sequencer**

### **(Macintosh)**

If you plan to use HUI with an OMS-compatible sequencer, note that the HUI is defined as a device in your OMS studio setup, and some MIDI sequencers software may treat HUI as an instrument. This is because HUI continually sends out an active sensing-type message which would be recorded by the sequencer. (This will not occur if your sequencer software directly supports the Mackie HUI. Refer to your sequencer software documentation for details.)

To avoid this behavior, disable HUI as an input device in the sequencer's Options or Preference dialogs. In StudioVision, for example, select the Enable Input Devices command from the Setups menu, and deselect HUI.

## Removing a MIDI Controller

**To remove an enabled MIDI controller:**

- 1 Choose Setups > Peripherals and click MIDI Controllers.
- 2 Under MIDI Controllers, choose None from the Type pop-up menu for the controller you wish to remove.
- 3 Repeat as needed to remove additional controllers.
- 4 Click OK when you have finished.

---

## General Information for All MIDI Controllers

### MIDI Controller Width and Bank Swapping

In the Peripherals dialog, the “# Ch's” pop-up menu indicates the number of fader channels for your MIDI controller. Once this is set, bank swapping is optimized for the current controller configuration.

Pro Tools allows you to swap banks of 8 to 64 channel strips at a time (depending on the type of MIDI controller and total number of faders available), or shift the bank over one channel strip at a time. For example, the CS-10 can be identified as being 8, 16, 24, or 32 channel strips wide. Pro Tools shows which tracks are currently under re-

mote control by outlining the channel strip's name area in a particular color.

Each MIDI controller type has its own key commands for bank swapping. These commands are covered in the chapters for the respective controllers.

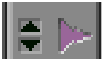
## Disengaging Faders from Mix Groups

The Control keys on both the computer keyboard and the MIDI controller serve as a clutch for disengaging a fader from a Mix group. However, the Control key on the computer keyboard and the Control key on the MIDI controller are not reciprocal. You must press the Control key on the controller to move a controller fader independently of its Mix group.

## “Pass Through Null” Fader Automation

If a MIDI controller does not have touch-sensitive controls, Pro Tools needs some way to know when a control is being moved, to avoid creating large discontinuities in automation recording. To do this, Pro Tools employs a “pass through null” function.

With a MIDI controller that does not have touch sensitive controls, the Touch and Latch automation modes will begin recording only when the fader or other control has matched or “passed through” the present automation playlist value. In these modes, the auto-matching LEDs on individual channels in the Mix window indicate which way a fader needs to be moved to match the current automation data.



*Triangular AutoMatch LEDs on a channel strip*

When fader position and data match, the track will begin writing automation and will stop writing automation when you stop moving the fader and the Touch Timeout has expired (Touch mode), or when playback stops (Latch mode). You do not have to manually “null” the fader to match the preexisting automation level at the punch-in point before playback begins.

This pass-through null feature does not apply to the Mackie HUI or the Penny & Giles MM-16/DC-16. The HUI has touch-sensitive faders that will overwrite automation data as soon as they are moved, and the MM-16/DC-16 use continuous belt controls, where the relative position of the faders always matches the automation playback level.

## **Automating Switched Controls**

When automating switched controls (such as mutes or Plug-In bypasses), automation data is written for as long as the switch or button for that control is pressed or touched.

For example, if you have just written a series of mute on/off states in quick succession on a channel, the manual method for clearing this automation data would require you to move to the Edit window, choose automation playlist for Mute, select the mute automation data, and delete it.

In Pro Tools, you don't have to perform all of these steps. Instead, you can perform an-

other automation pass on the track and hold down the Mute switch when it reaches the state you want to keep. As long as you keep the mute switch depressed, Pro Tools erases the underlying changes in mute state that occur until you press Stop.

## **Global Modifier Keys**

All modifier keys act in a reciprocal fashion, meaning the modifier can be held down on either the controller or the computer keyboard. Similarly, you can use the keyboard's modifier keys in conjunction with controller switches (such as mute/solo or record ready) for all keyboard modifier operations.

## **Transport Fast Forward/Rewind Settings**

When the Audio During Fast Forward/Rewind option is selected in the Operation Preferences, you will hear scanned audio during rewind and fast forward.

If the Audio During Fast Forward/Rewind option is not selected, you can continuously rewind/fast forward by holding down the corresponding switch. You can also rewind/fast forward incrementally by repeatedly clicking the corresponding switch. The size of these increments depends on which Display mode is currently selected:

- ◆ Bars/Beats: To start of previous/next bar
- ◆ Min/Sec: Moves in one-second steps
- ◆ Timecode: Moves in one-second steps
- ◆ Feet.Frames: Moves in one-foot steps
- ◆ Samples: Moves in one-second steps

If your system also includes an external transport video or audio tape machine, be sure to configure it in the Peripherals page of the Preferences dialog.

## Scrolling the Edit and Mix Windows from a Controller

### To scroll the Edit or Mix window:

- Hold down the Command key, then press an arrow key on any hardware controller. The arrow keys will then scroll the Edit or Mix window (whichever is front-most) one page in the direction specified by the arrow.

### To scroll to session start or end:

- Press Command-Option-Left Arrow to scroll to session start, or Command-Option-Right Arrow to scroll to session end.

## Controlling Plug-Ins

Pro Tools lets you control Plug-Ins from the first MIDI controller enabled in the Peripherals dialog. When editing Plug-In settings, the associated track name is outlined in red in the Pro Tools Mix window.

Since some Plug-Ins have more controls than a single MIDI controller, these Plug-Ins are controlled through a collection of control “pages.” The MIDI controller defines a “page size” based on its number of controls, and the Plug-In controls are grouped accordingly into pages of this size.

In many cases, there will be a one-to-one relationship between the number of controls and the number of pages. Some Plug-Ins have an odd number of controls, or have controls that don’t allow a page break

where controls would logically be grouped together. In these cases, there may be Plug-In pages that contain “blank” locations where a given control is not active.

The Plug-In parameters that a controller is able to access in the current page will be highlighted blue. Automatable Plug-In controls are shown in red when in any write automation mode (Auto Write, Auto Touch, or Auto Latch), and will turn green when in Auto Read.

Each MIDI controller type has its own key commands for moving through the Plug-In control pages. These commands are covered in the chapters for the respective controllers.

## Automating Plug-In Controls

Pro Tools allows you to automate any Plug-In control, as long as the Plug-In supports automation.

---

☞ For instructions on automating Plug-Ins, refer to the *Pro Tools Reference Guide*.

---

On all supported MIDI Controllers except the Mackie HUI, there is no distinction between continuous controls (which vary in level over many steps), and switched controls (which have only *on* and *off* states). On these controllers, you use faders or knobs to set values for switched controls on Plug-Ins.

Plug-In controls are generally mapped from the top left to the bottom right of the Plug-In. Some controls may be inactive for certain pages, but each control will appear over the range of pages supported for that Plug-In.

---

☞ Plug-In page tables for each of the Digidesign Plug-Ins are included in online format on the Pro Tools Installer CD-ROM.

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### **An Important Note About Third-Party Plug-Ins**

Plug-Ins from some of Digidesign's Development Partners may need to be updated for compatibility with the automation capabilities of Pro Tools, as well as controller-based Plug-In editing and Librarian functionality. Plug-In control paging behavior is determined by the Plug-In software, not by the Pro Tools application. Contact the manufacturer of your Plug-In for information about automation support in Pro Tools.





# Mackie HUI Controller

The Mackie HUI™ (Human User Interface) is a dedicated mixing and editing controller designed to interface seamlessly with Pro Tools. Dedicated HUI controls allow easy navigation through Pro Tools functions, including mixing, editing, grouping, Plug-In control, and automation.

Communication between HUI and Pro Tools is bidirectional, meaning controller movements from HUI are reflected on-screen in Pro Tools, and changes in Pro Tools are mirrored on HUI.

Key features of HUI include:

### Tactile and visual interfacing

- ◆ Eight motorized, touch-sensitive faders with fader bank and channel selectors
- ◆ Illuminated V-POTs (virtual rotary potentiometers) control channel routing, pans, sends, and other values
- ◆ Hi-resolution, LED scribble strip on each channel displays channel identification and assignments
- ◆ Stereo LED meters on each channel

### Dedicated Pro Tools functions

- ◆ Switches for window selection, groups, editing and transport control
- ◆ Dedicated modifier key switches for Macintosh and Windows
- ◆ Numeric keypad

### Navigation and cursor controls

- ◆ Scrub/Shuttle wheel with operation mode switches
- ◆ Zoom/Navigation/Selection cursor switch matrix
- ◆ Time Counter display

### Plug-In control

- Dedicated Plug-In section for assigning and editing DSP Plug-Ins
- High resolution 40x2 display for Plug-In parameters

### Studio integration

- ◆ Analog control room monitoring section, talkback control, mic preamps

For audio connections, control room functions, and information on the rear panel, refer to the Mackie HUI User's Guide.

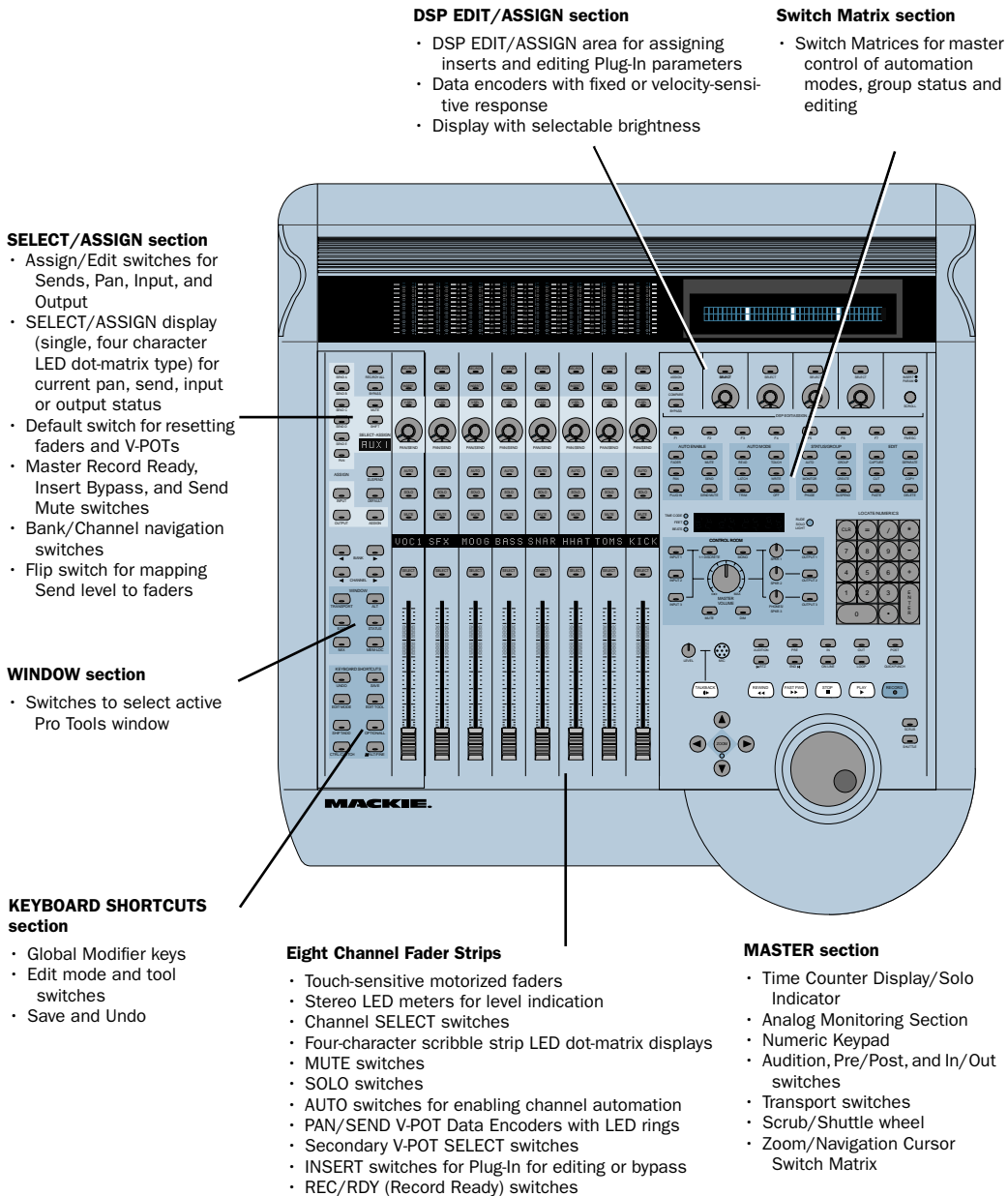


Figure 1. Mackie HUI

## Communication with HUI

Here are some general guidelines for communication between HUI and Pro Tools:

### Pro Tools On-screen Dialog Warnings

Certain dialog messages that appear on-screen in Pro Tools will also appear in the HUI display. You must close these dialogs before continuing work with the HUI.

### Pro Tools “Lost Communication” Message

If Pro Tools loses communication with the HUI, it will display “OFFLINE” in its Time Counter Display. If this occurs, turn off power to the HUI, wait a few seconds, and then turn on the HUI again. If communication problems persist, check connections to the HUI.

When Pro Tools has reestablished communications with the HUI, the far-right decimal point LED in the Time Code Display will flash, indicating that communication has been established and is valid.

If you are not using the HUI, deselect it in the MIDI Controllers field in the Peripherals dialog.

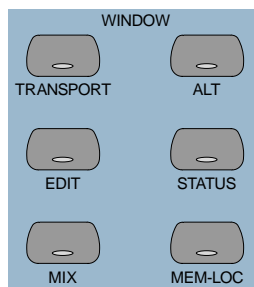
### Active in Background Message

In most setups, the Pro Tools Active in Background option should be selected in the Operations menu.

If this option is not selected and another application is brought to the foreground, a warning will appear in the HUI display. Select Operations > Active in Background, and HUI activity will be restored.

---

## WINDOW Switches



The WINDOW switches control the display of on-screen windows in Pro Tools:

**MIX and EDIT** Bring the window to the foreground. The switch LEDs light to indicate the currently active window.

**TRANSPORT** Opens/closes the Transport window.

**ALT** Opens/closes the Insert Editor for the currently selected Plug-In.

**STATUS** Opens/closes the Session Setup Display window.

**MEM LOC** Opens/closes the Memory Locations window.

The Transport, Memory Location, Session Setup and Inserts/Sends windows are all floating windows. The switches for these windows also bring an open window to the foreground. If a floating window is already in the foreground, then pressing its switch closes the window.

## Inserts/Sends Editor

The ALT switch opens/closes the Inserts/Sends Editor for the currently selected Plug-In, as indicated in the DSP/EDIT display by the flashing insert on the INSERTS view, or by the currently active Plug-In on the PARAM view. When a Plug-In is selected for editing on HUI, the corresponding Inserts/Sends Editor for the Plug-In also opens in Pro Tools. Only a single Plug-In can be opened and edited at a time.

If the Inserts/Sends Editor for the currently selected Plug-In is closed, you can still edit the Plug-In using the DSP EDIT/ASSIGN section on the HUI.

## Scrolling the Edit and Mix Windows

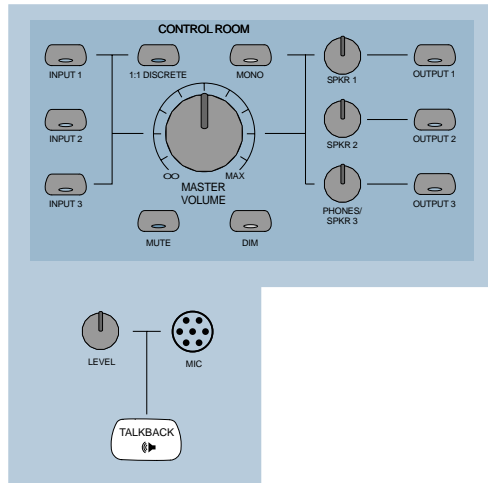
### To scroll the Edit or Mix window:

- Press  $\mathbb{A}$ ALT/FINE + Left or Right Arrow to scroll the frontmost window one page in either direction.


### To scroll to session start or end:

- Press  $\mathbb{A}$ ALT/FINE + OPTION/ALL + Left Arrow to scroll to session start.
- Press  $\mathbb{A}$ ALT/FINE + OPTION/ALL + Right Arrow to scroll to session end.

## Analog Monitoring Section

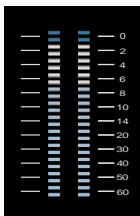


The analog monitoring section provides standard control room, studio cue, talkback, and alternate two-track source monitoring capability. Up to three stereo input sources, and output to any of three stereo destinations are supported. In addition, it can supply a special discrete surround mix monitor mode for 5.1 or LCRS surround mixing.

 To configure and use the analog monitoring section with the rest of your studio, refer to the Mackie HUI User's Guide.

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## Level Meters



The HUI has eight stereo, 12-segment LED ladders for output level indication of individual channels.

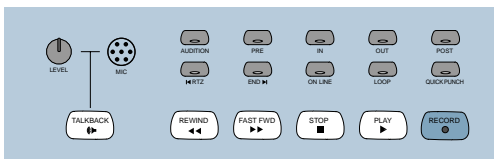
Meters match the peak reading features in Pro Tools (clip hold and separate peak hold). Press the F1 switch in the Function keys section to clear clipped meters and last held peaks indications.

Mono channels activate the left side of the meter pair only.

The HUI level meters follow the Pro Tools setting for Pre/Post Fader metering.

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## Transport Controls



### Transport Switches

The Transport switches correspond to transport functions in Pro Tools.

**RTZ (Return-To-Zero)** Sets playback cursor to the beginning of the session

**END (Go-To-End)** Sets playback cursor to the end of the session

**ONLINE** Places Pro Tools online/offline (LED is lit when Pro Tools is online)

**LOOP** Toggles Loop Playback mode (LED is lit when Loop Playback is enabled) in the Pro Tools Operations menu

**QUICKPUNCH** Toggles QuickPunch recording mode (LED is lit when QuickPunch is enabled) in the Pro Tools Operations menu

**REWIND** Rewinds the session from the current cursor position

**FAST FORWARD** Fast-forwards the session from the current cursor position

**STOP** Stops playback or recording

**PLAY** Begins playback from current cursor position

**RECORD** Arms Pro Tools for recording (LED flashes).

### Fast Forward/Rewind Settings

When the Audio During Fast Forward/Rewind option is selected in the Operation Preferences, you will hear scanned audio (as on a CD player) during rewind and fast forward.

If the Audio During Fast Forward/Rewind option is not selected, you can continuously rewind/fast forward by holding down the corresponding switch. You can also rewind/fast forward incrementally by repeatedly clicking the corresponding switch. The size of these increments depends on which Display mode is currently selected:

- ◆ Bars/Beats: To start of previous/next bar
- ◆ Min/Sec: Moves in one-second steps
- ◆ Timecode: Moves in one-second steps
- ◆ Feet.Frames: Moves in one-foot steps
- ◆ Samples: Moves in one-second steps

In addition, there are these shortcuts for transport functions:

- ◆ SHIFT/ADD-PLAY: Initiates half-speed playback
- ◆ SHIFT/ADD-STOP: Aborts the current record pass
- ◆ SHIFT/ADD-FAST FORWARD: Go-To-End
- ◆ SHIFT/ADD-REWIND: Return to zero
- ◆ CTRL/CLUTCH-RECORD: Cycles through record modes (normal, Quick-Punch, Loop)
- ◆ CTRL/CLUTCH-ONLINE: Cycles through available machine master choices, as displayed in the Transport window

### **Loop Record Mode**

To place Pro Tools into Loop Record Mode, press CTRL/CLUTCH + LOOP.

Loop Record mode is indicated by a loop graphic on the Record button in the Transport window.

### **Transport Control of External Devices**

The HUI can be used to control devices other than Pro Tools, such as the Alesis ADAT® via MIDI Machine Control, or serial (9-pin) machine control transports (using the MachineControl™ option for Pro Tools).

### **To cycle through available transport master types:**

- Hold down the CTRL/CLUTCH switch and press the ONLINE switch.

When Serial Machine is transport master, you can also jog or shuttle the deck by turning the Scrub/Shuttle wheel.

The HUI RECORD switch LED reflects the state of the device under control.

### **Footswitch Control**

There are two footswitch inputs on the HUI rear panel for transport control.

Footswitch #1 performs the following functions:

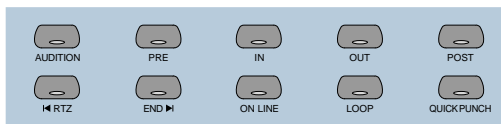
- ◆ If Pro Tools is playing back, press Footswitch #1 to stop.
- ◆ If Pro Tools is recording, press SHIFT/ADD and Footswitch #1 to abort the recording.
- ◆ If Pro Tools is stopped, press Footswitch #1 to start playback.
- ◆ Press SHIFT/ADD and Footswitch #1 to start half-speed playback.

Footswitch #2 performs the following functions:

- ◆ Press Footswitch #2 to toggle the Pro Tools record state on/off.
- ◆ Press CTRL/CLUTCH and Footswitch #2 to cycle through available record modes (destructive or nondestructive).

---

## AUDITION, PRE/POST, IN/OUT Switches



The AUDITION switch is used with the PRE/POST and IN/OUT switches to play currently selected audio. Playback continues until AUDITION is pressed again or until another transport button is pressed.

The PRE and POST switches activate pre-roll and post-roll. These switches also work with the AUDITION switch to audition around various edit areas.

The IN and OUT switches can be used to mark In and Out edit points during playback. These switches also work with the AUDITION switch to audition In/Out edit points.

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\* You can leave an audition mode at any time, and go to any other audition mode or transport command.

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### Setting Pre/Post Roll

**To enter a Pre- or Post-Roll time:**

- 1 Press  $\mathfrak{H}$ ALT/FINE and PRE or POST.
- 2 Enter values on the numeric keypad. This enters a pre- or post-roll time according to the Grid/Time Display value.
- 3 Press the Left and Right Arrows to cycle through the numeric fields in the Pre- or Post-Roll counters in the Pro Tools Trans-

port window. Press the Up and Down Arrows to increase or decrease the current numeric field value. Press CLR to clear the counters.

- 4 To confirm the entered time value, press ENTER. To enter the same value for both pre- and post-roll, press OPTION/ALL + ENTER.

– or –

- Press F8/ESC to abort numeric entry and leave the times unchanged.

**To manually enter selection start and end times:**

- 1 Press  $\mathfrak{H}$ ALT/FINE and IN or OUT in the Audition switch matrix.
- 2 Enter values on the numeric keypad. This enters a Start or End time according to the Grid/Time Display value used in Pro Tools.
- 3 Press the Left and Right Arrows to cycle through the numeric fields in the Start and End counters in the Pro Tools Transport window. Press the Up and Down Arrows to increase or decrease the current numeric field value. Press CLR to clear the counters.
- 4 To confirm the entered time value, press the ENTER switch. (To enter the same value for both Start and End times, press the OPTION/ALL + ENTER).

– or –

- Press the F8/ESC switch to abort numeric entry and leave the times unchanged.

## AUDITION Functions

To audition an edit point, press AUDITION and PRE, IN, OUT or POST.

Playback continues until AUDITION is pressed again or until another transport button is pressed.

**PRE** Plays audio starting at the pre-roll point up to the beginning of the selection.

**IN** Plays audio starting at the beginning of the selection and lasting the length of the post-roll amount.

**OUT** Plays audio starting before the selection end point by the pre-roll amount.

**POST** Plays audio starting at the end of a selection and lasting the length of the post-roll amount.

In addition, there are these shortcuts for audition functions:

- ◆ Press  $\text{⌘}$ ALT/FINE + OPTION/ALL, and PRE or IN to play audio starting at the pre-roll point, continuing through the selection start, and ending after the selection start point by the post-roll amount.
- ◆ Press  $\text{⌘}$ ALT/FINE + OPTION/ALL, and OUT or POST to play audio starting before the selection end point by the pre-roll amount, continuing through the selection end point, and ending after the selection end point by the post-roll amount.

## Time Counter Display & Rude Solo Light



This eight-character, seven-segment LED display shows the current session time position in standard formats, as selected in the Pro Tools software (you cannot select time formats with HUI).

Three LEDs positioned next to the display indicate the current time display mode:

- ◆ TIME CODE: SMPTE format
- ◆ FEET: Feet and Frames
- ◆ BEATS: Bars and Beats
- ◆ All indicator LEDs off: Minutes/Seconds or Samples (depending on the Time Display mode chosen)

### Host Communication Status LED

When Pro Tools is communicating properly with the HUI, the far-right decimal point LED in the Time Code Display will flash.

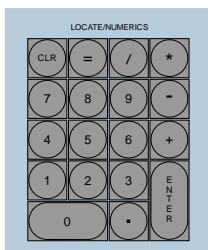
### Rude Solo Light

The Rude Solo Light flashes whenever there is at least one channel in the current session that is soloed.



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## Numeric Keypad



The Numeric Keypad is used for storing and recalling memory locations, data entry (such as counter values), and confirming an editing operation. It also supports all Numeric Keypad modes (Classic, Transport and Shuttle) in the Operation preferences.

☞ Refer to the *Pro Tools Reference Guide* for details on Numeric Keypad modes.

- ◆ For dialog messages, press ENTER for OK, and F8/ESC for Cancel.
- ◆ Press ENTER to enter numeric values into Pro Tools counters or displays. Press F8/ESC to cancel numeric entry and leave settings unchanged.
- ◆ Press Forward Slash ("/") to move between fields for Start/End/Length times in the Edit Window.

### To define a Memory Location/Marker:

- During playback or recording, press ENTER.

### To recall a Memory Location/Marker:

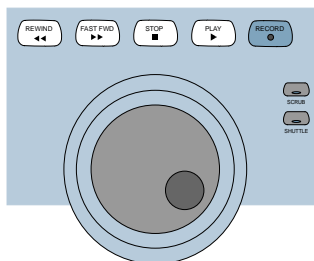
- Press the decimal key, then a Memory Location/Marker number, and press the decimal key again.

## Setting Pre/Post Roll

- ◆ You can set pre-/post-roll times by pressing ⌘ALT/FINE + PRE or POST, and entering values with the Numeric Keypad.

---

## Scrub/Shuttle Wheel



This wheel controls Scrub and Shuttle functions. Pressing the SCRUB and SHUTTLE switches next to the Scrub/Shuttle wheel enables each mode.

When used with the Zoom/Navigation/Selection switch quadrant, the Scrub/Shuttle wheel allows you to create and adjust region selections.

## Scrub Mode

The HUI Scrub wheel supports Pro Tools positional scrubbing.

### To enable Scrub mode:

- 1 Make sure playback in Pro Tools is stopped.
- 2 Press SCRUB.
- 3 Rotate the Scrub wheel clockwise to scrub forward and counterclockwise to scrub backward.

The start position for Scrubbing is the current selection start point, or current cursor position if there is no selection.

To begin scrubbing from the selection end point, press OPTION/ALL + SCRUB. At any time during scrubbing, press the Left or Right Arrow to move to the selection start/end.

Normal scrub resolution is dependent on the current zoom level. To get a fixed “fine scrub” resolution regardless of current zoom level, press ⌘ALT/FINE while scrubbing.

**To exit Scrub mode, do any of the following:**

- Press STOP or SCRUB
- Press the Spacebar
- Press Escape (F8/ESC)
- Press any other transport switch

## Shuttle Mode

**To enable Shuttle mode:**

- 1 Make sure playback in Pro Tools is stopped.
- 2 Press SHUTTLE.
- 3 Rotate the Shuttle wheel clockwise to shuttle forward and counterclockwise to shuttle backward.

The start position for Shuttling is the current selection start point, or current cursor position if there is no selection.

To begin shuttling from the selection end point, press OPTION/ALL + SHUTTLE. At any time during shuttling, pressing the Left or Right Arrow to move to the selection start/end.

**To exit Shuttle mode, do any of the following:**

- Press STOP or SHUTTLE
- Press the Spacebar
- Press Escape (F8/ESC)
- Press any other transport switch

## Shuttle Lock Mode

Press CTRL/CLUTCH and a number on the Numeric Keypad to place the HUI in Shuttle Lock mode. The SHUTTLE switch LED lights while in Shuttle Lock mode. This mode uses the Numeric Keypad to control shuttle speed (0-9; “0” is off), as well as the +/- switches to control the playback direction. The wheel can also be used to adjust these parameters while in Shuttle Lock. Press STOP or SHUTTLE to exit Shuttle Lock mode.

## Scrub/Shuttle “Lock Out” Behavior

When scrub or shuttle is engaged, only certain controls are available:

- ◆ Channel faders, Mute and Solo switches
- ◆ Scrub/Shuttle wheel and switches
- ◆ Any transport switch (disengages Scrub/Shuttle mode)
- ◆ ENTER (creates a Memory Location)

## Scrub/Shuttle Operation using Serial Machine Control

You can also use the SCRUB/SHUTTLE wheel to scrub (jog)/shuttle an external, serial machine control-capable deck if you are using the Digidesign MachineControl software option.

**When Serial Machine is transport master, you can do the following:**

- Press SCRUB and turn the wheel to jog the external machine.
- Press SHUTTLE and turn the wheel to shuttle the external machine.
- To leave either mode, press SCRUB or SHUTTLE again, or press any other transport switch.

## **Creating Selections Using the Scrub/Shuttle Wheel**

You can create and modify on-screen selections using the Scrub/Shuttle wheel.

**To create selections using the Scrub/Shuttle wheel:**

- Press SCRUB or SHUTTLE. The start position is the current selection's start point, or current location of the cursor if there is no selection.
- To SCRUB or SHUTTLE from the selection end point, press OPTION/ALL + SCRUB or SHUTTLE.
- You can navigate to the start or end of your selection at any time by pressing the Left/Right Arrow keys.

## **Insertion Follows Scrub/Shuttle Preference**

How you work with the SCRUB/SHUTTLE wheel depends on whether you select the "Edit Insertion Follows Scrub/Shuttle" Operation preference in Pro Tools.

**If "Insertion Follows Scrub/Shuttle" is selected:**

- Press SCRUB or SHUTTLE and move the wheel to clear the current selection and move the cursor.
- Hold down SHIFT/ADD before pressing SCRUB or SHUTTLE, or before moving the wheel, to keep the current selection. As you move the wheel, the selection is expanded or trimmed.

**If "Insertion Follows Scrub/Shuttle" is not selected:**

- Press SCRUB or SHUTTLE and turn the wheel to keep your current selection and move the cursor outside of the selection.
- Hold down SHIFT/ADD and turn the wheel to clear the current selection and create a new one. The new selection starts wherever you first press SHIFT/ADD.
- Release SHIFT/ADD to move the cursor outside the new selection.
- Press SHIFT/ADD additional times to trim the new selection as needed.

## **Scrub/Shuttle Tips**

- ◆ At any time during scrubbing/shuttling you can press the Left or Right Arrow to move the current scrub position to the selection start/end.
- ◆ You can freely move between scrub and shuttle modes. The current scrub/shuttle position is retained.
- ◆ If you enter scrub or shuttle but don't move the wheel or mouse, you can exit scrub/shuttle without affecting the current selection.

**To define a selection using a combination of scrub/shuttle functions:**

- 1 Press SHUTTLE to enter shuttle mode.
- 2 Shuttle along the timeline. When you get to roughly the selection in-point, hold down SHIFT/ADD.
- 3 Continue shuttling down the timeline. When you get to roughly the out-point, release SHIFT/ADD. Your “rough selection” is now defined.
- 4 Press SCRUB to enter scrub mode.
- 5 Press the Left Arrow key to move the scrub position to the selection start.
- 6 Hold down SHIFT/ADD (to retain the selection), and scrub the selection in-point until you reach the desired location.
- 7 Press the Right Arrow key to move the scrub out-point to the selection end.
- 8 Hold down SHIFT/ADD (to retain the selection), and scrub the selection out-point until you reach the desired location.

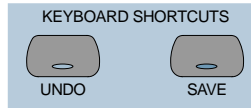
### **Capturing Memory Locations**

When working with scrub/shuttle, you can do the following:

- Memory locations can be captured at any time by pressing the ENTER key on the HUI numeric keypad.
- Press the Up Arrow to free the cursor without capturing a Memory Location.

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## **Keyboard Shortcuts Section**



### **Save and Undo Switches**

The UNDO switch allows Undo/Redo of the last edit operation. Its LED is lit when Undo is available for use after an operation. Its LED flashes when Redo is available.

The SAVE switch LED is lit if the session has changed from its currently saved state.

#### **To save the changes in a session:**

- 1 Press SAVE. The SAVE switch LED flashes when first pressed, indicating the Save process has been armed.
- 2 Do one of the following:
  - To complete the Save process, press the SAVE switch again.
  - To abort the Save process, press the F8/ESC switch.

## EDIT MODE and EDIT TOOL Switches

The EDIT MODE and EDIT TOOL switches access the primary Edit function modes and tools:

**EDIT MODE** Cycles through the four edit modes: Shuffle, Slip, Spot, and Grid.

**EDIT TOOL** Cycles through the main edit tools: Zoom, Trim, Select, Grabber, Smart Tool, Scrub, and Pencil.

**Smart Tool** Press EDIT TOOL + 7 (on the numeric keypad) to select the Smart Tool.

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☞ Refer to the *Pro Tools Reference Guide* for details on Edit Tool functions.

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You can directly select an Edit Tool or Edit Mode using key combinations with numbers on the HUI Numeric Keypad:

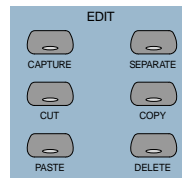
- EDIT MODE + 1: Shuffle mode
- EDIT MODE + 2: Slip mode
- EDIT MODE + 3: Spot mode
- EDIT MODE + 4: Grid mode
- EDIT TOOL + 1: Selects Zoom tool
- EDIT TOOL + 2: Selects Scrub tool
- EDIT TOOL + 3: Selects Trim tool
- EDIT TOOL + 4: Selects Select tool
- EDIT TOOL + 5: Selects Grabber tool
- EDIT TOOL + 6: Selects Pencil tool
- EDIT TOOL + 7: Selects Smart Tool

## Extending Region Selections

Pro Tools provides several key commands for changing or extending region selections in the Edit window. When the HUI arrow keys are in region navigation mode:

- ◆ Control-Left Arrow: Selects the previous region.
- ◆ Control-Right Arrow: Selects the next region.
- ◆ Control-Shift-Left Arrow: Extends the selection to include the previous region.
- ◆ Control-Shift-Right Arrow: Extends the selection to include the next region.

## EDIT Switches



Pro Tools edit functions are accessible from the HUI. These are CAPTURE, SEPARATE, CUT, COPY, PASTE and DELETE.

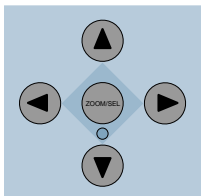
## Modifier Key Switches

At the bottom of the Keyboard Shortcuts section there are the global Modifier switches: SHIFT/ADD, OPTION/ALL, CTRL/CLUTCH and ⌘ALT/FINE. These modify the action of other switches. For example, you can hold down the OPTION/ALL switch and press the SOLO switch to solo all channels.

All modifier switches are reciprocal between the computer keyboard and the HUI.

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## Zoom Switch Quadrant



This switch group consists of four arrows plus the ZOOM/SEL switch, which allows the switch quadrant to change its function to one of three modes.

### Navigation Mode

In Navigation mode, the ZOOM switch LED is off. The switch quadrant acts as region/edit/track location selector.

#### To position the edit cursor:

- ◆ Left Arrow: Moves the edit cursor to previous region boundary or sync point.
- ◆ Right Arrow: Moves the edit cursor to next region boundary or sync point.

#### To extend the edit selection:

- ◆ Hold down SHIFT/ADD to extend the selection
- ◆ SHIFT/ADD + Left Arrow: Allows selection of preceding region boundaries
- ◆ SHIFT/ADD + Right Arrow: Allows selection of forward region boundaries

#### To center selection points on-screen:

- ◆ OPTION/ALL + Left Arrow (or the IN transport switch): Centers the left side of the current on-screen waveform selection in the Edit Window.

- ◆ OPTION/ALL + Right Arrow (or the OUT transport switch): Centers the right side of the on-screen waveform selection in the Edit Window.

### Marking In/Out

The Up and Down Arrows can be used as mark-in and mark-out controls. You can also do this with the HUI “In” and “Out” switches in the AUDITION switch row.

### Zoom Mode

#### To enter Zoom mode:

Press the Zoom switch once. The ZOOM switch LED lights to indicate Zoom mode. The switch quadrant controls the waveform zoom display.

#### To adjust the zoom view:

- ◆ Left Arrow: Decreases horizontal zoom
- ◆ Right Arrow: Increases horizontal zoom
- ◆ Up Arrow: Increases vertical zoom
- ◆ Down Arrow: Decreases vertical zoom

### Selection Mode

#### To enter Selection mode:

In Selection mode, the ZOOM switch LED flashes. When used with the Scrub/Shuttle Wheel, the switch quadrant allows waveform selections to be created and adjusted.

#### To make a selection:

- 1 Press the ZOOM/SEL switch until the center switch LED flashes.

**2** Hold down the Left Arrow switch and move the wheel to adjust the selection in-point.

**3** Hold down the Right Arrow switch and move the wheel to adjust the selection out-point.

You can you define on-screen selections for editing, or move your set selection length around the screen.

If you have defined a selection in which you want to perform a series of fader and pan moves, you can use the Pro Tools Loop Playback mode to rehearse them over selection.

### **Selection Tips**

These tips can also be helpful in making your selection:

- ◆ Hold down  $\text{⌘}$ ALT/FINE to scrub at a fixed fine resolution, regardless of the current zoom settings.
- ◆ Hold down SHIFT/ADD to make a new selection while scrubbing/shuttling. Release SHIFT/ADD to complete the selection.
- ◆ Hold down OPTION/ALL to begin scrubbing/shuttling from the end of a selection

Once you have finished making a selection, you can adjust it using the following keyboard shortcuts:

#### **To position the edit cursor at a selection's edge:**

- ◆ Double-click the Left Arrow to position the cursor at the current selection's left edge
- ◆ Double-click the Right Arrow to position the cursor at the current selection's right edge

#### **To move the edit selection:**

- ◆ Up Arrow: Moves the selection to the previous track
- ◆ Down Arrow: Moves the selection to the next track

#### **To adjust selection points:**

- ◆ Left Arrow + Scrub/Shuttle wheel adjusts the selection IN point
- ◆ Right Arrow + Scrub/Shuttle wheel adjusts the selection OUT point
- ◆ Left Arrow + Right Arrow + Scrub/Shuttle wheel adjusts the selection's time position while retaining its duration

#### **To extend the edit selection:**

- ◆ SHIFT/ADD + Up Arrow extends the selection to the previous track
- ◆ SHIFT/ADD + Down Arrow extends the selection to the next track
- ◆ OPTION/ALL + Up Arrow removes the selection from the topmost track
- ◆ OPTION/ALL + Down Arrow removes the selection from the bottommost track

## Navigating On-screen View of Pro Tools

The switch quadrant also allows for navigation of the Pro Tools on-screen view. The following switch functions apply to all three switch modes (Navigation mode, Zoom mode, and Selection mode):

### To scroll the session view one window at a time:

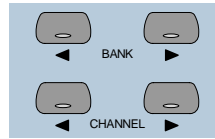
- ◆ ⌘ALT/FINE + Left Arrow: Scrolls the frontmost window to the left
- ◆ ⌘ALT/FINE + Right Arrow: Scrolls the frontmost window to the right
- ◆ ⌘ALT/FINE + Up Arrow: Scrolls the frontmost window upward
- ◆ ⌘ALT/FINE + Down Arrow: Scrolls the frontmost window downward

### To scroll to the beginning, end, top, or bottom of the session view:

- ◆ OPTION/ALL + ⌘ALT/FINE + Left Arrow: scrolls the frontmost window to the beginning of the session.
- ◆ OPTION/ALL + ⌘ALT/FINE + Right Arrow scrolls the frontmost window to the end of the session.
- ◆ OPTION/ALL + ⌘ALT/FINE + Up Arrow scrolls the frontmost window to the top of the session.
- ◆ OPTION/ALL + ⌘ALT/FINE + Down Arrow scrolls the frontmost window to the bottom of session.

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## Bank Swapping and Channel Scrolling



Bank-swapping and channel-scrolling behavior is mirrored in Pro Tools. Pro Tools channels are banked into view automatically (unless this function is disabled in Pro Tools Preferences). Bank members are shown on-screen with highlighted channel names.

### To scroll channels to the left/right one at a time:

- Press the left/right CHANNEL arrow switches

### To swap channels to the left/right eight at a time:

- Press the left/right BANK arrow switches

### To bank swap to the far-left or far-right bank position in a session:

- Press OPTION/ALL + left/right BANK or CHANNEL switch

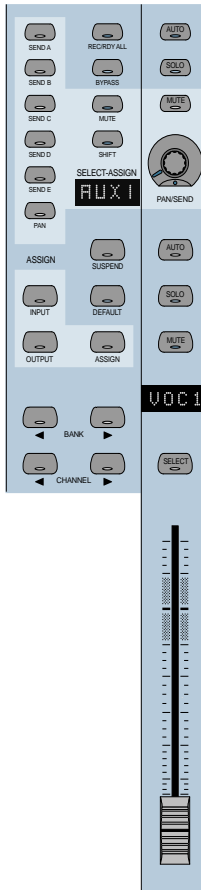
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## Channel Fader Strip and SELECT/ASSIGN Sections

The Channel Fader Strip section is used with the global SELECT/ASSIGN switch section located to the left of the channel strips.



## Channel Fader



The channel faders are used for level control of disk tracks, master faders, auxiliary inputs, and MIDI tracks. Gain calibration ranges from infinity (bottom of fader travel) to +6 dB (top of fader travel). The HUI channel fader tapering scheme provides resolution of 8.8 dB per MIDI value in the -60 to -70 dB range, and 2.5 dB per MIDI value in the -70 to -100 dB range. This results in smooth fade outs to silence at low level.

## CTRL/CLUTCH “Clutch” Mode with Faders

To disengage faders from any Mix groups, holding down the CTRL/CLUTCH switch. After releasing the CTRL/CLUTCH switch, the fader obeys group behavior again.

## Moving Grouped Faders

The first fader in a mix group touched in any single mix operation becomes the group master. When the group master is established, faders that are in the same mix group and not concurrently touched will also move in a relative fashion. However, faders that are in the same mix group and concurrently touched are temporarily disengaged from the group, and will move independently of the mix group. Once a fader that is temporarily disengaged is released, it will resume following the mix group master’s movements.

When the group master is released, if there are any faders in the mix group that are concurrently being touched, the fader that was touched earliest in time becomes the new group master. Subsequent moves of this new group master will cause all other untouched faders in the mix group to follow.

## Channel Scribble Strip LED Display

The scribble-strip LED display shows an abbreviated version of the channel name that appears in Pro Tools. In certain cases during edit operations, the scribble strip tem-

porarily displays a parameter name or value, and then reverts to the channel name.

The channel scribble strip also displays the following information:

**Automation Status** To display current automation mode for the channel, press the channel strip AUTO switch, or the master AUTO status switch in the STATUS/GROUP switch matrix.

**Group Membership Status** To display the Group ID for the channel, if any, press the GROUP switch in the STATUS/GROUP switch matrix.

**Global Disk Track Monitor Status** To display whether Pro Tools is in “Auto Input” or “Input Only” mode on all channel scribble strips, press the MONITOR switch in the STATUS/GROUP switch matrix.

**Channel Strip Input Source** To display the current input source for all channel strips, press the master INPUT switch in the SELECT/ASSIGN section.

**Channel Strip Output Destination** To display the current output source status for all channel strips, press the OUTPUT switch in the SELECT/ASSIGN section.

**Send Destination** To display send destination status for any send on all channel strips, press any master SEND switch (A-E) in the SELECT/ASSIGN section.

**Pre/Post Send Display** Displays the pre/post status of an individual send when changing it with the channel’s V-SEL switch.

**Level display** Displays level in dB on the when you press ⌘ALT/FINE and move a fader.

**Numeric PAN position** Displays numeric pan value when you press ⌘ALT/FINE and move the channel’s V-POT while in pan display mode.

## SELECT Switch



When a channel is selected, its SELECT switch LED lights. Selected channels remain selected even when not displayed in the current bank view.

### To select multiple channels:

- Hold down a channel’s SELECT switch, and press SELECT switches on additional channels.

### To deselect a single channel:

- Press SHIFT/ADD + the SELECT switch on the channel.

### To select/deselect multiple channels:

- Press SHIFT/ADD + SELECT switches on additional channels.

### To select/deselect all channels:

- Press OPTION/ALL + any SELECT switch.

### To change the SELECT state of a channel, and change all other channels to the opposite state:

- Press ⌘ALT/FINE + any lit SELECT switch.

## REC/RDY Switch



The REC/RDY (Record Ready) switch enables a track for recording. The REC/RDY switch LED flashes when engaged (Record-ready) and remains lit when Pro Tools begins recording (Record).

## MASTER REC/RDY Switch

This switch acts as a REC/RDY master for disk tracks. If no channels are record-enabled, this switch enables all tracks. If any disk track in the session is enabled for recording, the MASTER REC/RDY switch flashes. If any tracks are record-enabled, pressing the MASTER REC/RDY switch disables all tracks.

### To record enable all tracks:

- Press OPTION/ALL + any REC/RDY switch which is not record-enabled. This record-enables all tracks up to the maximum number of voices available for recording in your system.

### To disable all tracks for recording:

- Press OPTION/ALL + any REC/RDY switch which is already record-enabled.

### To toggle all enabled REC/RDY switches on and off:

- Press the Master REC/RDY ALL switch located in the SELECT/ASSIGN section.

### To record-enable selected tracks only:

- Press OPTION/ALL + SHIFT/ADD + the REC/RDY switch on any of the selected tracks.

## SOLO and MUTE Switches



When the MUTE and SOLO switches are enabled, their LEDs light.

Soloed channels flash the MUTE switch LEDs on all other channels that are not explicitly muted. The MUTE switch LEDs on channels that are explicitly muted when others are soloed are lit continuously.

### To enable Solo or Mute on multiple channels:

- ◆ OPTION/ALL + SOLO: Enables/clears Solos on all channels
- ◆ OPTION/ALL + SHIFT/ADD + SOLO: Enables/clears Solos on all selected channels
- ◆ OPTION/ALL + MUTE: Enables/clears Mutes on all channels
- ◆ OPTION/ALL + SHIFT/ADD + MUTE: Enables/clears Mutes on all selected channels

These keyboard shortcuts do not apply to Send Mutes when using the V-SEL switch.

## Pro Tools Solo and Mute Preferences

The following Pro Tools preferences are related to solo and mute behavior:

**Solo Safe** Locks out Solo Safe channels from implied mute state when other channels are soloed.

**Latch Solo Switches** Determines whether pressing the SOLO switch on additional channels adds to the current Solo selection (known as additive or latch on soloing), or only one channel may be soloed at a time. This is defined in the Pro Tools Operation Preferences.

**Solo/Mute Follow Mix Groups** Determines whether soloing or muting individual members of a mix group changes the status of the entire group, or only of the individual member. If this preference is enabled, an individual member can still be changed independently of its group by pressing the CTRL/CLUTCH switch. This is defined in the Pro Tools Automation Preferences.

## Solo Safe and Record Safe Modes

Channels can be placed into Solo or Record Safe modes so they are locked out from implied mute or record states. Solo Safe channels can still be muted.

### To enable/clear Solo or Record Safe on a channel:

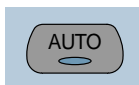
- Press ⌘ALT/FINE + the SOLO or REC/RDY switch on the channel.

The SOLO or REC/RDY switch on the HUI flashes briefly to indicate the channel is in Solo Safe or Record Safe mode. Pro Tools grays out the associated Solo or Record button on-screen.

### To enable/clear Solo or Record Safe status on a multiple channels:

- ◆ OPTION/ALL + ⌘ALT/FINE + SOLO or REC/RDY on any channel enables/clears Solo Safe or Record Safe status on all channels
- ◆ OPTION/ALL + ⌘ALT/FINE + REC/RDY ALL enables/clears Record Safe status on all channels
- ◆ SHIFT/ADD + OPTION/ALL + ⌘ALT/FINE + SOLO or REC/RDY on any channel enables/clears Solo Safe or Record Safe status on only selected channels

## AUTO and SUSPEND Switches



### AUTO Switch

The AUTO switch changes the channel's automation mode, when used in combination with the AUTO MODE section switches: WRITE, TOUCH, LATCH, TRIM, READ, and OFF.

The channel strip AUTO switch LED light s to indicate the various automation modes:

**Red (flashing)** Pro Tools is armed for automation in one of three modes: Write, Touch, or Latch.

**Red (lit continuously)** Pro Tools is writing automation in one of the three modes: Write, Touch, or Latch.

**Green (lit continuously)** Auto Read mode is enabled.

**Off** Automation playback is disabled.

Automation modes are abbreviated in the channel LED scribble strip as follows:

- Wrt: Auto Write
- Tch: Auto Touch
- Ltch: Auto Latch
- Trim: Auto Trim
- Read: Auto Read
- Off: Auto Off

## Selecting Automation Modes

There are three ways to change automation modes: on individual channels, on multiple channels across several banks, and on all channels.

### Individual Channels

This method is quickest for changing the automation mode of individual channels within the same bank.

#### To change automation mode on a channel:

- Hold down an AUTO MODE switch (WRITE, TOUCH, LATCH, TRIM, READ, or OFF) in the AUTO MODE section, and press AUTO on the channel.

### Multiple Channels

This method is quickest for changing the automation mode for a discontinuous selection of channels, or for channels that are on different banks.

#### To change automation mode on multiple channels:

- 1 Select multiple channels by pressing their SELECT switches. Using the BANK switches, you can select channels in other banks.

- 2 Press OPTION/ALL + SHIFT/ADD and an AUTO MODE switch (WRITE, TOUCH, LATCH, TRIM, READ, or OFF). All selected channels change to the selected mode.

---

▲ When you select channels, they still obey Mix group behavior. To suppress group behavior, hold down the CTL/CLUTCH switch, or suspend groups using the SUSPEND switch.

---

### All Channels

This method changes the automation mode of all channels on all banks.

#### To change automation mode on all channels:

- Hold down OPTION/ALL, and press an AUTO MODE switch.

### TRIM Mode

#### (TDM Systems Only)

Pro Tools TDM systems allow you to adjust (or *trim*) existing Track Volume and Send Level automation data in real time.

Trim mode works with the other automation modes (Auto Read, Auto Touch, Auto Latch, Auto Write) to affect how existing automation data is trimmed.

See “TRIM Automation Mode” on page 48 for details on using Trim mode with the HUI.

---

☞ Refer to the *Pro Tools Reference Guide* for more information on Trim mode.

---

## SUSPEND Switch



The SUSPEND switch in the SELECT/ASSIGN section globally suspends all automation recording and playback. When automation is suspended, the SUSPEND switch LED flashes.

---

▲ To suspend automation, the Pro Tools transport must be stopped.

---

## INSERT Switch



The INSERT switch allows you to do the following:

### To edit a single Plug-In:

- Press the INSERT switch on the corresponding channel to show it in the DSP EDIT/ASSIGN display. In this mode, only one insert may be accessed at a time.

### To bypass or enable all Plug-Ins on all inserts for a channel:

- Enable the Master BYPASS switch (so its LED is lit) and press the INSERT switch on that channel.

### To bypass Plug-Ins on all channels:

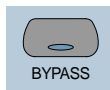
- Enable the Master BYPASS switch (so its LED is lit), and press OPTION/ALL + the INSERT switch on any channel.

---

▲ You cannot bypass Hardware I/O inserts from Pro Tools. To monitor playback without a hardware insert, either set the Insert Type Selector to “No Insert” or use a bypass switch on the hardware device itself.

---

## Master BYPASS Switch



The Master BYPASS switch in the SELECT/ASSIGN section globally changes the INSERT switches into BYPASS switches for all Plug-Ins on a channel, allowing you to bypass all Plug-In inserts for the selected channel in a single operation.

### To bypass all Plug-In inserts on a channel:

- 1 Press the master BYPASS switch in the SELECT/ASSIGN section (*not* the DSP EDIT/ASSIGN section). Its LED lights to indicate master bypass mode is enabled.
- 2 In Master Bypass mode, the INSERT switch for each channel in the current bank displays one of three bypass states:

**INSERT switch LED is unlit** None of the Plug-In inserts on the channel are currently bypassed.

**INSERT switch LED is lit** All of the Plug-In inserts on the channel are bypassed.

**INSERT switch LED flashes** Some but not all of the Plug-In inserts on the channel are bypassed.

**3** Do one of the following:

- ◆ To toggle the bypass status on/off for all Plug-In inserts on a channel, press any INSERT switch on that channel.

When only some of the Plug-In inserts on a channel are bypassed, pressing the INSERT switch for the first time *turns off* bypass on all Plug-In inserts for the channel. Pressing the INSERT switch a second time bypasses all Plug-Ins.

- ◆ To change the bypass status of all Plug-In inserts on all channels, press OPTION/ALL + any INSERT switch.

- ◆ To change the bypass status of all Plug-Ins on all selected channels, press OPTION/ALL + SHIFT/ADD and any INSERT switch.

---

▲ The Master BYPASS switch in the SELECT/ASSIGN section functions differently from the BYPASS switch in the DSP EDIT/ASSIGN section. See “BYPASS switch” on page 45.

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## V-SEL Switch



The V-SEL (“V-POT SELECT”) switch serves several functions:

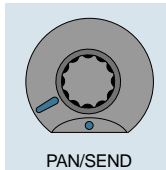
- ◆ Assigns Send or I/O routing for an individual channel

- ◆ Acts as a Send Mute switch when the Master MUTE switch in the SELECT/ASSIGN section is engaged (LED is lit)

- ◆ Selects pre/post status for the Send. While in FLIP mode, the V-SEL switch continues to control Send pre/post operation regardless of the current state of the master MUTE/PREPOST switch.

- ◆ Selects fader or V-POT to revert to default setting, when used with the DEFAULT (QuickMode) switch.

## PAN/SEND V-POT Encoder



When used with the switches in the SELECT/ASSIGN section, the PAN/SEND V-POT is used to edit channel pan, send levels and send pan settings (in FLIP mode, explained later in this chapter).

For fine adjustments, hold down the  $\text{ALT}$ /FINE switch while turning a channel V-POT.

The V-POT is also used to assign Send and I/O routing for individual channels. See “DSP SELECT switches and V-POT encoders” on page 42.

The V-POT acts as a virtual knob, with LED ring lights that represent the “knob value” for send levels and pan settings. When showing send levels, the V-POTs display a continuous series of LEDs.

When showing pan position, an individual LED from the ring lights to indicate relative pan position, while a special “6 o’clock” LED lights to indicate a centered pan position.

The V-POTs audibly click when assigning Send and I/O destinations, as well as when editing insert assignments and Plug-In parameters in the DSP EDIT/ASSIGN section. This audible click functionality can be enabled/disabled by pressing the F3 switch in the F-key switch section.

---

## Adjusting Channel Pan

**To edit pan positions on channels:**

- 1 Press the PAN switch in the SELECT/ASSIGN section.
- 2 When the PAN switch is first enabled, a stereo channel V-POT allows editing of the left-channel pan (or the single pan control on mono channels). The SELECT/ASSIGN LED displays “Pan.”
- 3 On stereo channels, press the PAN switch a second time to edit the right-channel pan. The SELECT/ASSIGN LED displays “PanR,” and the PAN switch LED flashes.

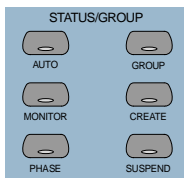
The V-POT LED collar indicates pan position with a single LED. The 6 o’clock LED in the collar of the V-POT encoder lights when the pan setting is centered. If there is no pan associated with a channel (such as a Master Fader), none of the collar LEDs on its V-POT will light.

The rotary encoders on the HUI channel strips (which are used for adjusting Send levels and Pan controls) are not velocity sensitive; they operate in fixed mode only.



---

## STATUS/GROUP Switches



These switches are used to show and change group status and carry out grouping functions, using the channel scribble strips.

### AUTO and GROUP Switches

The AUTO and GROUP switches allow you to show the current automation mode or grouping status of a bank of channels.

#### To view the Automation status of the current channel bank:

- Press the AUTO switch. The channel LED scribble strips display the automation mode for each channel.

#### To view the Group status of the current channel bank:

- Press the GROUP switch. The channel LED scribble strips display the Group ID letter. A lowercase letter indicates the channel is a member of one group; an uppercase letter indicates the channel is a member of multiple groups, with the topmost group ID displayed.

### PHASE Switch

Functionality for the PHASE switch has not been implemented.

### MONITOR Switch

The MONITOR switch allows you to show monitor assignment on the channel scribble strips. Monitor mode is changed in the Pro Tools Operations menu.

#### To view the Monitor status of the current bank:

- Press the MONITOR switch. The current monitor status of channels is displayed:
  - ◆ Auto: Auto Input mode
  - ◆ Inpt: Input Only mode
  - ◆ Aux: Channel is an Auxiliary Input
  - ◆ MIDI: Channel is a MIDI track
  - ◆ Mstr: Channel is a Master Fader

---

## Working with Groups

In addition to viewing channel status, you can create, enable, and suspend groups from the switch matrix.

### To create a group:

- 1 Select two or more channels by pressing SHIFT/ADD + the SELECT switches on the channels.
- 2 In the STATUS/GROUP switch matrix, press CREATE. The next available default group name is indicated.
- 3 Do one of the following:
  - ◆ Press ENTER on the HUI Numeric Keypad to accept the default group name and ID.
  - ◆ Type a name, select a different Group ID, or overwrite an existing group definition, and press ENTER.

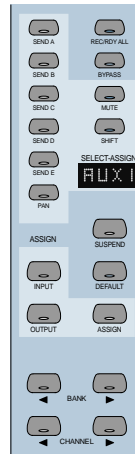
## SUSPEND (Groups) Switch

All Mix groups can be temporarily suspended by pressing SUSPEND in the STATUS/GROUP switch section. Pressing this switch again returns to the previous Group status. When SUSPEND is enabled, the SUSPEND switch LED flashes. When SUSPEND is disabled, the LED turns off.

- 
- ▲ The SUSPEND switch LED mirrors the state of the Mix groups, but ignores Edit groups.
- 

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## SELECT/ASSIGN Section: Pan, Input/Output, Sends



The SELECT/ASSIGN switch section allows you to choose the V-POT encoder function for all active channels or to change Send or I/O destinations. In addition, I/O destinations for individual channels can be shown in the SELECT/ASSIGN LED. Only one of the SELECT/ASSIGN switches can be active at a time.

---

## Working with Sends and Plug-Ins

### Send and I/O Assignment

The routing of Sends and I/Os can be assigned from HUI. Destinations can be assigned on a single channel or a group of channels at once.

---

▲ Assignments cannot be made when Pro Tools is playing back or recording. If you are in ASSIGN mode and start playback or recording in Pro Tools, the ASSIGN process is cancelled.

---

#### To assign Sends or I/Os on a single channel:

- 1 Press ASSIGN in the SELECT/ASSIGN section.
- 2 Press a SEND switch (A-E) or INPUT/OUTPUT switch.
- 3 Rotate the channel V-POT to cycle through a list of source (or destination) choices, which appear in the scribble strip display. The V-SEL switch flashes to indicate that the original assignment, if any, has been changed.
- 4 When a menu choice is reached, you can finalize the assignment in one of two ways:
  - ◆ Press ASSIGN to confirm all of your assignments at once.
    - or –
  - ◆ Press the channel's V-SEL switch. This confirms the assignment for that channel, and leaves you in ASSIGN mode.

You can cancel at any time by pressing the F8/Escape switch.

#### To assign the destinations of Sends or I/Os on all channels:

- 1 Press ASSIGN in the SELECT/ASSIGN section.
- 2 Press a SEND switch (A-E) or INPUT/OUTPUT switch.
- 3 Rotate a channel V-POT to cycle through a list of source (or destination) choices.
- 4 Press OPTION/ALL + ASSIGN or V-SEL to confirm the assignments for all channels.

You can cancel at any time by pressing the F8/Escape switch.

#### To assign the destinations of Sends or I/Os on a selection of channels:

- 1 Press ASSIGN in the SELECT/ASSIGN section.
- 2 Press a SEND switch (A-E) or INPUT/OUTPUT switch.
- 3 Rotate a channel V-POT to cycle through a list of source (or destination) choices.
- 4 Press OPTION/ALL + SHIFT/ADD + ASSIGN or V-SEL to confirm the assignments for all selected channels.

You can cancel at any time by pressing the F8/Escape switch.

---

▲ If a new Send or I/O choice has been made and a channel's V-SEL switch is flashing, you cannot swap banks or scroll channels. Once the new assignment has been confirmed or cancelled, you can then do this.

---

## About I/O and SampleCell Labels

Instead of using the default I/O Label names for your audio inputs, outputs, buses, or SampleCell II cards, you can change them in Pro Tools to 4 character names that work better on the HUI. The I/O labels that you create in Pro Tools are mirrored in the HUI display.

You can also save these names as your default labels by clicking the Save As Default button in the Pro Tools I/O Labels dialog.

---

☞ Refer to the *Pro Tools Reference Guide* for details on creating custom I/O Labels in Pro Tools.

---

## Pre/Post-Fader Switching for Sends

The V-POT V-SEL switch acts as a pre/post switch for the currently active send. As pre/post status is toggled, the channel's scribble strip indicate "PRE" or "POST" (as long as the V-SEL switch is held down). Newly-created sends default to post-fader (V-SEL switch LED is turned off).

This functionality is available while in FLIP mode. Pre/post switching is not available when HUI is in ASSIGN mode, or if the master MUTE switch is operating on the V-SEL switches, or while Pro Tools is playing or recording.

- ◆ To toggle a send pre-/post-fader, press the V-SEL switch on its channel.
- ◆ To toggle a send pre-/post-fader for all channels, press OPTION/ALL + V-SEL.
- ◆ To toggle a send pre-/post-fader for all selected channels, press OPTION/ALL + SHIFT/ADD + V-SEL.

---

## Selecting and Editing Inserts and Plug-Ins

There are three methods for selecting Plug-In or Hardware I/O inserts for editing: using the INSERT switch with the DSP EDIT/ASSIGN display, using the INSERT switch with the SEND A-E switches, and by double-clicking the INSERT switch.

### Selecting an Insert Using the DSP EDIT/ASSIGN Section

In this method, the INSERT switch is used to begin the process, but the Plug-In is selected in the DSP EDIT/ASSIGN section.

#### To select an insert using the DSP EDIT/ASSIGN display section menu:

- 1 Press a channel strip INSERT switch.
- 2 The names of the first four inserts for that channel appear in the DSP EDIT/ASSIGN display area. To access Insert #5, turn the SCROLL pot to go to the next page of inserts. The name of the last insert accessed during the current session flashes in the display. If no insert was accessed in the session, Insert #1 flashes.
- 3 To select a particular insert for editing, press the SELECT switch under an insert listed in the display.
- 4 If the insert is the currently flashing item in the display, double-click the channel's INSERT switch, or press the DSP EDIT/ASSIGN section's INSERT/PARAM switch to confirm the choice. To select an insert other than the currently flashing item, press the SELECT switch under the insert listed in the display.

**5** If you have selected an insert assigned to a Plug-In, its first page of parameters is displayed for editing. The INSERT/PARAM switch LED lights, indicating the display is in Parameter mode. Pressing the INSERT/PARAM switch toggles back to the Insert Display mode.

**6** To edit additional pages of parameters in Parameter mode, turn the SCROLL encoder pot to go to the next page.

The selected Plug-In remains displayed until another insert is selected.

To reassign the insert to a different Plug-In or Hardware I/O, refer to “Assigning Plug-Ins and Hardware I/O Inserts” on page 44.

## Selecting a Send Using the SEND A-E Switches

This method allows you to quickly access a send, using the INSERT switch with the SENDS A-E switches in the SELECT/ASSIGN section.

### To select a send:

- 1** Press a channel strip INSERT switch.
- 2** Press one of the SEND A-E switches in the SELECT/ASSIGN. The SENDS A-E switches correspond to Pro Tools Sends 1-5.
- 3** Send level and pre/post fader routing are now accessible for the send. Relative send levels are shown by the LED rings around each channel’s V-POT.

To reassign the send to a different output or bus, refer to “Send and I/O Assignment” on page 37.

## Selecting an Insert by Double-Clicking the INSERT Switch

Double-clicking an INSERT switch directly accesses the first assigned insert for editing. If the insert is assigned to a Plug-In, the first control parameter page of the Plug-In is displayed.

Plug-Ins that are engaged are shown in lowercase letters; Plug-Ins that are bypassed are shown in uppercase letters.

### To select an insert:

- Double-click a channel strip INSERT switch. The channel’s first assigned insert is accessed for editing.
  - or –

Double-click a channel strip INSERT switch multiple times to cycle through any inserts on the channel.

To assign a different Plug-In or Hardware I/O to the insert, refer to “Assigning Plug-Ins and Hardware I/O Inserts” on page 44.

## INSERT Switch Edit Focus and Bank Swapping

As channels are bank swapped using the Bank and Channel switches, the edit focus for the INSERT switches follows its original channel, even though it may not be part of the currently displayed bank of channel strips.

---

## Send Level Editing

There are five SEND switches (labeled A-E), a SHIFT (“flip”) switch and a PAN switch which let you edit channel pan, send level or send pan from the V-POT. The SEND A-E labels can apply to either the five sends or the five inserts, depending on function. The HUI SENDS view mirrors the on-screen sends view. If the current send is a stereo send, the scribble text for the send flashes.

### To edit send levels:

- 1 Press one of the five SEND switches. The switch’s LED lights, and the SELECT/ASSIGN LED display shows the name of the activated switch.
- 2 Adjust the V-POT on an individual channel to edit levels for the selected send (a send must already be assigned to the channel).
- 3 To show the destination of a particular send on all channels, press any master SEND switch (A-E) in the SELECT/ASSIGN section. The destinations appear in each channel’s scribble strip.

---

\* For an additional method of editing send level, send pan and send mute, see “Fader FLIP Mode” on page 40.

---

## Send Muting

When the master Mute switch is lit, the V-SEL switches act as mute switches for the currently active send. In this mode, if a send is muted, its channel V-SEL switch LED lights. If the send is not muted, or if there is no active send (no destination), the LED remains unlit.

---

▲ Keyboard shortcuts for ALL and ALL SELECTED channels using the shortcut modifier keys do not function on send mutes.

---

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## Fader FLIP Mode

Normally, the HUI channel faders control track volume while the rotary data encoders are used for pan, send level and send pan settings. In FLIP mode, these functions are remapped.

### To enter FLIP mode:

- Press SHIFT. The scribble strip displays “FLIP” and the SHIFT switch flashes.

For the currently selected SEND (A-E), Send levels are mapped to the faders, Send pan controls to the rotary encoders and Send mutes to the channel MUTE switches. The names of the current sends are displayed in the scribble strips.

### Send Pan in Flip mode

With stereo sends, the PAN switch lights when controlling left pan and flashes when controlling right send pan. To change which send pan is being controlled, press the PAN switch.

### Send Pre/Post in Flip mode

While in FLIP mode, the V-SEL switch controls Send pre/post operation (regardless of the current state of the master MUTE/PRE-POST switch).

---

## DEFAULT (QuickMode) switch



This switch returns a channel strip's faders and V-POTS to their default settings. The default settings for fader position is "0" (or unity) gain; for pan, the default is centered.

---

▲ The DEFAULT switch obeys grouped behavior. To temporarily disable grouped behavior, press CTRL/CLUTCH while pressing DEFAULT, or suspend groups.

---

### To return a channel strip fader to its default setting:

- Press DEFAULT + the channel strip's SELECT switch.

### To return all channel strip faders to their default settings:

- Press OPTION/ALL + DEFAULT + any channel strip's SELECT switch.

### To return all selected channel strip faders to their default settings:

- Press OPTION/ALL + SHIFT/ADD + DEFAULT + any selected channel strip's SELECT switch.

### To return a channel strip's send level or pan to its default setting:

- 1 Press a SEND (A-E) or PAN switch in the SELECT/ASSIGN section.
- 2 Press DEFAULT + any channel strip's V-SEL switch.

### To return all channel strip send levels or pans to their default settings:

- Press OPTION/ALL + DEFAULT + any channel strip's V-SEL switch

### To return all selected channel strip send levels or pans to their default settings:

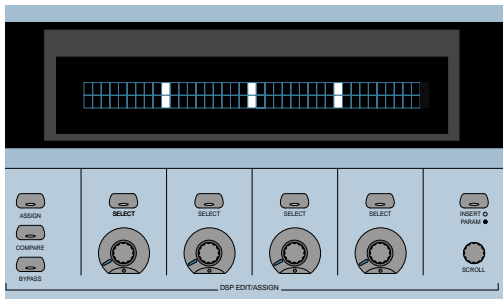
- Press OPTION/ALL + SHIFT/ADD + DEFAULT + any selected channel strip's V-SEL switch.

### To return a Plug-In to its default setting:

- Press DEFAULT + the COMPARE switch in the DSP EDIT/ASSIGN area.

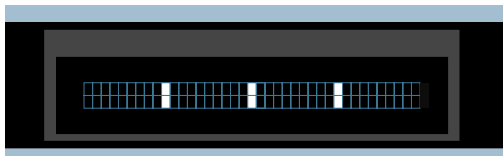
The Plug-in returns to either the Factory Setting or the User Setting default, depending upon which is selected in the "Settings Preference" in the Plug-In Librarian pop-up menu.

## Working with Plug-Ins: Using the DSP EDIT/ASSIGN Section



This section is used to assign Plug-ins and Hardware I/O inserts, and to edit Plug-In parameters.

### DSP EDIT/ASSIGN Display



The DSP EDIT/ASSIGN display is a two-line by 40-character vacuum fluorescent display. This display shows information about individual channel inserts, Plug-In parameters (for Plug-In editing), and messages about Pro Tools/HUI status.

When a channel is selected via its INSERT switch in the fader section of HUI, the display shows one of the following:

- ◆ The names of the current inserts (INSERT Display mode)

- ◆ Plug-In parameter pages for editing a Plug-In on that channel (PARAM display mode).

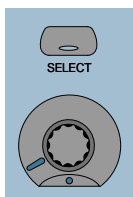
The display also shows special modal dialog messages. See “Troubleshooting & Diagnostics” on page 50 for details.

### Display Brightness

The HUI display brightness is adjustable in four levels. To toggle the display between these four brightness levels, hold OPT/ALL and then press INSERT/PARAM.

When HUI goes offline, it reverts to the lowest level to preserve its display.

### DSP SELECT switches and V-POT encoders



Under the HUI display, there are four sets of SELECT switches and V-POT encoders. The SELECT switch and V-POT encoder have different functions depending on whether the display is currently in INSERT display mode or PARAM display mode:

- ◆ In INSERT mode, the SELECT switch is used to select an insert for editing or assignment. The V-POT encoder is used in ASSIGN mode to choose from a list of Plug-Ins or Hardware I/O pairs for assignment.
- ◆ In PARAM mode, these controls are used for Plug-In editing. The four switches and



four encoders represent the controls in a Plug-In interface. Controls are mapped to *pages* (or logical groups) of controls. Generally, the switches control switched parameters (for example, EQ band in/out controls). The encoders control continuously variable parameters (such as gain), or parameters that contain several discrete choices (such as choosing different reverb algorithms in a reverb Plug-In).

### Rotary Knob Settings

Many of the rotary encoders on the HUI can operate in *fixed* or *velocity-sensitive* modes. In *fixed* mode, a single complete turn of the knob goes through the entire range of values, independent of how quickly you turn it. When moving rotary encoders in fixed mode, you can hold ⌘ALT/FINE for finer control of setting values. In *velocity-sensitive* mode, the speed at which you sweep through encoded values depends on how quickly you turn the knob.

The rotary encoders on the HUI channel strips (which are used for adjusting Send levels and Pan controls) operate in fixed mode only.

The rotary encoders in the DSP EDIT/AS-SIGN section can behave in a fixed or velocity-sensitive manner (the default setting is *velocity sensitive*). To toggle the rotary encoder mode, press the F5 switch.

### Automation Mode Indicator

If a Plug-In parameter is enabled for automation (Touch, Latch, or Write), the 6 o'clock position LED (located in the bottom center of the V-POT LED collar) flashes. If automation data for the Plug-In control is being recorded, the 6 o'clock LED lights.

### Touch Time-Out for V-POT Editing

Since V-POTs are not touch-sensitive, when you stop moving them, Pro Tools continues to write automation for the *Touch Timeout* period. After the Touch Timeout period, writing of automation stops and the automation data returns to its previous automation value.

In addition, you can stop the writing of automation by stopping the Pro Tools transport.

You may want to use Auto Latch mode to record Plug-In parameter automation changes using a V-POT. With Auto Latch, you can begin writing automation (by moving a V-POT) at any point during an automation pass, and the V-POT will not time out in the middle of the pass because you are not moving it.

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☞ Refer to the *Pro Tools Reference Guide* for details on automating Plug-Ins.

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# Assigning Plug-Ins and Hardware I/O Inserts

## ASSIGN Switch



The HUI allows you to assign Plug-Ins or Hardware I/O inserts.

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▲ Assignments cannot be made when Pro Tools is playing back or recording. If you are in ASSIGN mode and start playback or recording in Pro Tools, the ASSIGN process is cancelled.

---

### To assign a Plug-In or Hardware I/O on a single channel:

- 1 Press the INSERT switch on the channel. The INSERT switch LED lights, the associated track name is outlined in red in the Mix window.
- 2 Press the ASSIGN switch in the DSP EDIT/ASSIGN (*not* in the SELECT/ASSIGN section). The ASSIGN switch LED flashes.

---

▲ If you are in ASSIGN mode and you press the INSERT switch on another channel strip, the ASSIGN process is cancelled.

---

- 3 Under the insert that you want to assign, rotate the V-POT encoder to choose a Plug-In or Hardware I/O pairs.

When you rotate the V-POT encoder, its accompanying SELECT switch flashes, indicating the insert is being assigned or edited. (The switch will not flash if the assignment is unchanged.)

4 When a menu choice is reached, you can confirm the assignment in one of two ways:

- ◆ Press the ASSIGN switch to confirm all of your assignments at once.

– or –

- ◆ Press the SELECT switch beneath the insert in the display to confirm your choice. This confirms the assignment for that insert, and leaves you in ASSIGN mode.

- ◆ You can cancel at any time by pressing the F8/Escape switch.

5 Press the SELECT switch directly under a newly assigned Plug-In, and its first control parameter page appears in the display for editing. You can switch between viewing insert selections and parameter pages by pressing the INSERT/PARAM switch.

### To assign a Plug-In or Hardware I/O on all channels:

- 1 Follow steps #1-3 above.
- 2 Press OPTION/ALL + ASSIGN in the DSP EDIT/ASSIGN area (or the SELECT switch beneath the insert that you are editing).

### To assign a Plug-In or Hardware I/O on all selected channels:

- 1 Select channels by holding down SHIFT/ADD and pressing SELECT on the channels.
- 2 Press ASSIGN in the DSP EDIT/ASSIGN section.
- 3 Follow steps #1-3 above.
- 4 Press OPTION/ALL + SHIFT/ADD + ASSIGN in the DSP EDIT/ASSIGN section.

---

## Editing Plug-In Parameters

When a Plug-In insert is selected for editing, its first page of control parameters is shown in the HUI display. Individual parameters can then be edited using the switches and V-POTs in the DSP EDIT/AS-SIGN section.

When the HUI is used to edit Plug-In settings, the associated track name is outlined in red in the Pro Tools Mix window.

### To edit an assigned Plug-In on a channel:

**1** Select a Plug-In insert using one of the three methods described in “Selecting and Editing Inserts and Plug-Ins” on page 38. The INSERT/PARAM switch LED is lit, indicating the display is in Parameter mode.

– or –

If you just finished assigning a Plug-In on an insert, press the INSERT/PARAM switch LED to enable Parameter mode (LED is lit), if necessary.

**2** Rotate the SCROLL encoder pot to find the Plug-In parameter you want to edit.

**3** Do one of the following:

◆ If the parameter is a switched parameter press the SELECT switch under the parameter in the display to toggle its state.

◆ If the parameter is continuously variable, or has stepped values, rotate the V-POT encoder under the parameter in the display to adjust its setting. The LED ring around the V-POT indicates parameter settings or levels. Numeric parameter values are shown in the display. If a parameter amount exceeds four digits, the end of the parameter value string is truncated.

The rotary encoders in the DSP EDIT/AS-SIGN section can behave in a velocity-sensitive or fixed manner. To toggle the rotary encoder mode, press the F5 switch.

### DSP Parameter Value Display

When in parameters view, holding the Option key while changing a DSP parameter value via the encoder causes the value to be temporarily displayed as a full 9 character value in the DSP scribble display.

## COMPARE Switch



This switch allows you to compare edited Plug-In parameter settings to the original settings, and mirrors the Compare button in a Pro Tools Plug-In.

---

▲ The COMPARE switch will function only in Plug-Ins that are visible on-screen. Use the ALT switch to open the currently active Plug-In.

---

## BYPASS switch



The BYPASS switch in the DSP EDIT/AS-SIGN section serves two functions:

- ◆ In Insert Display mode, as a bypass switch for any Plug-In insert
- ◆ In Parameter Mode, as a Master Bypass for the currently selected Plug-In

---

▲ The BYPASS switch in the DSP EDIT/AS-SIGN section functions differently from the Master BYPASS switch in the SELECT/ASSIGN section. See “Master BYPASS Switch” on page 32.

---

### **Bypass of Individual Inserts in Insert Display Mode**

If Insert Display mode is enabled, you can bypass a Plug-In by holding down the BYPASS switch (in the DSP EDIT/ASSIGN section), and pressing the SELECT switch directly under the Plug-In insert in the display. When switching bypass status for individual Plug-Ins in this manner, the BYPASS switch LED will not light.

---

▲ You cannot bypass Hardware I/O inserts from Pro Tools. To monitor playback without a hardware insert, either set the Insert Type Selector to “No Insert” or use a bypass switch on the hardware device itself.

---

### **Bypass of Selected Plug-Ins in Parameter Mode**

If a Plug-In is selected for editing and Parameter mode is enabled, pressing the BYPASS switch (in the DSP EDIT/ASSIGN section) engages the Master Bypass control for the selected Plug-In. In this case, the BYPASS switch LED will light. When switching Plug-ins, the BYPASS switch LED will indicate the bypass state of the currently selected Plug-In.

## **SCROLL Encoder Pot and INSERT/PARAM Switch**

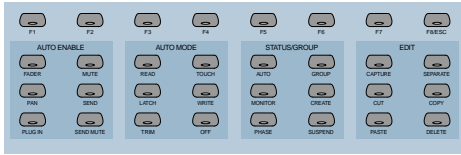


Pressing the INSERT/PARAM switch toggles the display between Insert Display mode (LED is off) which displays the Plug-In selection on an insert, and Parameter mode (LED is lit) which displays the Plug-In parameter pages for editing.

The SCROLL pot is used with the INSERT/PARAM switch. In INSERT display mode, turning the SCROLL pot toggles the display between Inserts #'s 1-4 and Insert #5 only. In PARAM display mode, rotating the SCROLL pot cycles through the control parameter pages for the currently active Plug-In. When scrolling through Plug-In parameter pages, the HUI will display which page is currently being viewed, and how many pages there are for the Plug-In.

---

# Automation

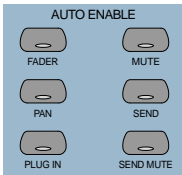


The Switch Matrix contains switches for global Automation Enabling, Automation Mode, group creation, querying status, and editing. The top row of F-keys (Function keys) are assigned to specific functions.

---

## AUTO ENABLE and AUTO MODE Switches

### AUTO ENABLE Switches



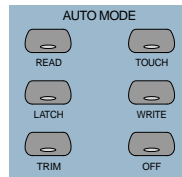
These switches globally enable automation for FADER, MUTE, PAN, SEND, SEND MUTE and PLUG-IN. These correspond to the same Automation Enable functions in Pro Tools.

MIDI track volume, pan and mute can be automated just like audio tracks. MIDI volume and pan automation is recorded as controller data. When automating Mute on a MIDI track, it is stored as Pro Tools automation data only.

### Keyboard Shortcuts

- ◆ Press OPTION/ALL + any of the AUTO ENABLE switches to toggle all parameters to the state of that switch.
- ◆ Press ⌘ALT/FINE + any enabled switch to change the state of the switch that is pressed and set the other five to the opposite state.

### AUTO MODE Switches



These switches are used for arming automation on individual or groups of channels. The switch modes are READ, TOUCH, LATCH, WRITE, and OFF.

#### To arm automation:

- Hold down the AUTO switch on the channel that you want to automate, and press an AUTO MODE switch.

The channel's AUTO switch LED will light for READ mode, and flash for WRITE, TOUCH or LATCH mode. The automation mode will also be briefly displayed on the selected channels.

#### To arm all channels for automation:

- Press OPTION/ALL + an AUTO MODE switch.

#### To arm all selected channels for automation:

- Press OPTION/ALL + SHIFT/ADD + an AUTO MODE switch.

---

▲ Changing automation mode obeys grouped behavior. To temporarily disable grouped behavior, press CTRL/CLUTCH when making the AUTO status change, or suspend groups.

---

## TRIM Automation Mode

(TDM Systems Only)

### Toggle On/Off

To toggle the TRIM mode on/off for a particular track, selection of tracks or group, hold down the track's AUTO switch and press the master TRIM switch.

### Displaying Trim values

To display trim delta value instead of the absolute parameter value while adjusting Volume or Send Level TRIM automation, hold down ⌘ALT/FINE while moving the control.

### Current Trim Mode Display

In TRIM automation mode, the scribble strips display the mode name with the letter T before it. For example, TRIM/Touch mode is "TTch."

When a track is trim-enabled, its AUTO LED color displays the automation state in the following manner:

- During TRIM recording, the LED lights solid orange.
- When in TRIM Read mode, the LED flashes green and orange.
- When in any recordable auto mode (i.e. Trim Write, Trim Latch, or Trim Touch), the LED flashes red and orange.

## Enabling Automation: Channel and Send Pan

Enabling pan automation from HUI will turn both channel and send pan on if both are currently disabled. If one or both automation parameters are disabled, pressing AUTO/ENABLE PAN switch will enable both. If both are on, pressing AUTO/ENABLE PAN will turn them both off.

## Write to Start, End or All

Pro Tools allows you to write current automation values from any insertion point forward (or backward) to the end (or beginning) of a selection or track, or to an entire selection or track during an automation pass. In the case of track volume and send levels, it is also possible to write trim delta values in the same manner.

Automation can only be written while Pro Tools is in play or half-speed play/record. You cannot write automation while Pro Tools is stopped, fast forwarding or rewinding.

- CTRL/CLUTCH-RTZ: Write to Start
- CTRL/CLUTCH-END: Write to End
- Control-Shift-RTZ or Control-Shift-END: Write to All.
- To suppress the warning dialog that appears with this command, press the OPTION/ALL switch while choosing the command.

## Switched Controls and Automation with Controllers

Pro Tools treats switched controls such as mutes and send mutes as touch sensitive controls. Automation data is written for as

long as the switch or button for that control is pressed or touched.

For example, if you have just written a series of mute on/off states on a channel in quick succession, the manual method for clearing this automation data would require you to move to the Edit window, choose automation playlist for Mute, select the mute automation data, and delete it.

In Pro Tools, you don't have to perform all of these steps. Instead, you can perform another automation pass on the track and hold down the Mute switch when it reaches the state you want to keep. As long as you hold down the mute switch, Pro Tools overwrites the underlying mute data on the track with the current state of the switch until you press Stop.

On the Mackie HUI, this behavior also applies to Plug-In switched controls (in the DSP Edit/Assign section of HUI). Any of these four switches will work in the same manner.

---

## Automating Plug-Ins

Selection of parameters for automation must be made in Pro Tools software.

### To record automation data for a Plug-In:

**1** Press the PLUG-IN switch in the AUTO ENABLE switch section (below the DSP EDIT/ASSIGN section). The PLUG-IN switch LED will light, indicating that automation for Plug-Ins is armed.

**2** The HUI does not support arming of Plug-In controls. You must arm controls on-screen in Pro Tools. Click the Automa-

tion button in the Plug-In Inserts/Sends Editor.

**3** Choose the Plug-In parameters that you want to automate and click Add. Only the parameters that you choose here will be automatable. Click OK to close this dialog.

**4** Press the AUTO switch on the channel containing the Plug-In, and select an automation mode in the AUTO MODE switch section. For an initial automation pass, you may wish to choose AUTO WRITE.

Once a parameter is armed for automation, the 6 o'clock position LED on the corresponding V-POT will flash if the channel is placed into any auto write mode (Write, Touch or Latch).

**5** Press Play to begin writing automation. Move the V-POTs and SELECT switches to change the Plug-In parameters.

**6** When you have finished, press Stop.

**7** Press the RETURN TO ZERO switch and then press PLAY to listen to your automation pass.

To add additional automation or augment your previous pass, follow the above procedure, choosing AUTO TOUCH mode. This will allow you to add new automation only when you actually move a control. It will not erase previous automation data unless you move the control at that point in the session.

---

## F-Keys (Function Keys)



Eight Function Key switches (labeled F1-F8/ESC) are available. Currently available assignments include:

- ◆ F1 clears clipped meters and last held peaks simultaneously.
- ◆ F2 activates/deactivates the Relay (GPO) outputs on the rear panel of HUI. (See the Mackie HUI User's Guide included with your HUI for information on how to use the Relay outputs.) Relay #1 is activated by pressing the transport PLAY switch. Relay #2 is activated by pressing the transport RECORD switch.
- ◆ F3 enables/disables the audible click indication for the HUI V-POT encoders."
- ◆ F4 displays the version number of the current HUI MIDI personality file installed on the host computer.
- ◆ F5 toggles the DSP EDIT/ASSIGN V-POTs between *fixed* and *velocity sensitive* response.
- ◆ F8/ESC serves as an Escape (ESC) switch to cancel out of any assignment mode or on-screen modal dialog.

---

## Troubleshooting & Diagnostics

HUI provides a built-in, comprehensive diagnostic test upon startup. You can confirm that your HUI is fully functional by running this test.

### Startup Test

As HUI initializes during startup, it goes through a series of diagnostics. Once these internal tests are complete, HUI displays a message and its current firmware version.

In addition, HUI has a series of built-in tests designed to let you confirm that it is working properly. HUI, Pro Tools, your MIDI interface and setup, OMS, and your computer all work together to create a unified system. These diagnostics allow you to confirm that HUI is operating properly.

### To place HUI in diagnostic mode:

- 1** Immediately after turning on the power switch, hold down the OPTION/ALL and SHIFT/ADD switches.
- 2** In diagnostic mode, all LEDs on the HUI control panel should be lit. Take notice of any LEDs that fail to illuminate.
- 3** Rotate the MASTER VOLUME pot in the Analog Monitoring section to control the speed of the channel fader travel. Make sure that the channel faders are responding to servo control.
- 4** Press Footswitch #2 to exit the test routine. If you do not have a footswitch connected, simply power down HUI, wait a few moments, and then power on HUI.



**5** Once the initial startup routine is successfully completed, HUI will display “Welcome to HUI” in its display.

With the comprehensive diagnostics included in your HUI, you can determine definitively whether or not HUI (on its own) is working properly.

- ◆ Contact Mackie Designs if your problem lies with your HUI hardware.

- ◆ Contact Digidesign if you have problems with Pro Tools software or MIDI services (such as MIDI interface or OMS connections).

When calling Mackie or Digidesign Customer Support, be sure to indicate that you are using a HUI with Pro Tools. Provide the technician with a report of your problems and results of the diagnostic tests.

### **MIDI Monitor Mode**

MIDI Monitor Mode allows the last several MIDI messages transmitted or received by HUI to be displayed in hexadecimal code on its display. To gain access to MIDI Monitor Mode, hold down the OPTION/ALL switch and press the F4 switch. To leave MIDI monitor mode, hold down the OPTION/ALL switch and press the F4 switch again.



## chapter 3

# JL Cooper CS-10 MIDI Controller

The JL Cooper CS-10 and CS-10<sup>2</sup> units are eight-fader controllers. The CS-10<sup>2</sup> can also accommodate up to seven CS-10<sup>x</sup> expander modules (each containing eight faders) for a total of 64 faders. Pro Tools supports a maximum of 32 faders using an expanded CS-10<sup>2</sup>/CS-10<sup>x</sup> configuration. The maximum configuration would be a single CS-10<sup>2</sup> and three CS-10<sup>x</sup> units.

---

\* While Pro Tools supports a maximum of 32 faders with these units, you can use the Left and Right Arrows on the CS-10<sup>2</sup>/CS-10<sup>x</sup> to easily bank swap the faders to control an entirely different set of tracks.

---

---

## Fader Switch Functions

The switches that appear directly above the fader strips control one of the following modes:

**Solo** Change solo state of tracks

**Mute** Change mute state of tracks

**Memory Location** Recall/set Memory Locations

**Track Selection** Choose which tracks are selected on-screen (for editing/deletion, etc.)

**Track Record Arming** Changes record status of tracks

Assigns a Target Track (for pan/send editing)

---

▲ When the fader switches control mutes, any track that is currently muted as a result of other track(s) being soloed will have its associated switch LED flash.

---

### To cycle through the different switch modes:

- Press the Master Status button (located directly above the vertical nulling LEDs).
  - or –
- Hold down the Option key (F5) and press the Master Status button to cycle through the switch modes in reverse.

## Fader Switch Status LEDs

Since the CS-10 was designed, some newer modes for the switches above the faders have been added to the MIDI Controller Personality file for the CS-10. These modes use status LEDs to indicate the current function for the row of switches. The status LEDs are next to the Master Status button.

◆ Track record-arming mode is indicated when both Solo and Select LEDs (the top and bottom status LEDs respectively) are lit.

◆ When target channel strip mode is enabled, all four LEDs will be lit. This mode allows you to choose which channel strip in a bank is affected when the pan and five sends knobs are moved. The target channel strip is indicated by a red outline around the channel strip name.

### Vertical Null LEDs

The position of the CS-10's faders may not correspond with Pro Tool's on-screen fader positions. When you move a fader, it will not actually affect the volume control until the fader has passed through the on-screen position, or *null point*. The vertical null LEDs on the CS-10 indicate which way the last touched fader must be moved in order to pass through the null. Alternatively, you can also watch the on-screen AutoMatch indicators.

---

## Additional Switch Functions

- ◆ F1: Sets selection start point
- ◆ F2: Sets selection end point
- ◆ F3: Capture region(s)
- ◆ F4: Separate region(s)
- ◆ F5: Option key
- ◆ F6: Control key
- ◆ F7: Command key
- ◆ F8: Cycles through selection of Edit tools
- ◆ F9: toggles Online/Offline status
- ◆ Left Arrow: Bank swaps channel strips to the left
- ◆ Right Arrow: Bank swaps channel strips to the right

- ◆ Option + Left Arrow: Scrolls bank to the left by a single channel strip
- ◆ Option + Right Arrow: Scrolls bank to the right by a single channel strip
- ◆ Shift + Left Arrow: Zooms out horizontal view (time axis)
- ◆ Shift + Right Arrow: Zooms in horizontal view (time axis)
- ◆ Shift + Up Arrow: Zooms in vertical view (amplitude axis)
- ◆ Shift + Down Arrow: Zooms out vertical view (amplitude axis)
- ◆ Option + Memory Location switches: Sets memory location points when the current active mode for the fader switches is "Memory Locations."
- ◆ Shift + Memory Location Switches: Extends the current selection when the current mode for the fader switches is "Memory Locations." (Same as Shift-click.)

---

\* To use Memory Locations, set Pro Tools Preferences so that memory locations are auto-named. This way when you create a memory location during playback or recording, you will not have to stop to name the location.

---

---

## Rotary Knob Functions

When controlling a TDM configuration, the six rotary knobs on the CS-10 main unit control:

- ◆ Pan and five Sends
  - or –
- ◆ Six Plug-In Controls in the active Plug-In window.

When in the top mapping page, the rotary knobs edit pan and five sends. The top page is indicated by the letters “PA” appearing in the two-character LED.

---

▲ While the CS-10 allows you to edit the various send levels using the rotary controls, you have no access to Send Mutes. You must control Send Muting using the mouse.

---

By holding down the Option switch (F5) and pressing the Up/Down Arrows, you can navigate through Plug-In control parameter pages, and use the rotary knobs to edit the various Plug-In parameters.

### To cycle through the Plug-In control pages:

- ◆ Up Arrow: Go to previous page
- ◆ Down Arrow: Go to next page
- ◆ Option (F5)-Up Arrow: Go to first page (LED will display “PS” for Pan + five Sends)
- ◆ Option (F5)-Down Arrow: Go to last page (LED will display “Fx,” where x = last page)

After changing pages, the two-character LED will show the current page symbol (“P1,” “P2,” and so on), until a fader is moved at which time the LED will revert to showing the fader’s current level in dB values.

## Editing Sends/Plug-Ins with the CS-10

On the JL Cooper CS-10 controller, the send and pan controls are in a center section and not on a per-track basis. As a result, the CS-10 uses the notion of the “focused” track. The focused track is the one that the send and pan controls will affect. This focused track is always within the currently selected bank.

When using the CS-10, the focused track is outlined in green in Pro Tools, while the target track for Plug-In editing is outlined in red. In the event a track is both the focus of send/pan editing *and* the target of Plug-In editing, the focus takes precedence and the outline will be green.

---

## Transport Switches

The CS-10 has five, standard transport control switches:

- ◆ Rewind
- ◆ Fast Forward
- ◆ Play
- ◆ Stop
- ◆ Record

Holding down the Control switch (F6) and pressing the Record switch cycles through the various recording modes (Loop Record, Destructive Record, and QuickPunch).

In addition, the following special modes are supported with modifier keys:

- ◆ Shift + Play: Half-speed playback
- ◆ Shift + Rewind: Return-to-Zero
- ◆ Shift + FF: Go-to-End
- ◆ Shift + Stop: Aborts recording pass
- ◆ Control (F6) + F9: Cycles thru master transport mode (Pro Tools, Serial Machine Control, or ADAT)

### **Fast Forward/Rewind Settings**

If the Audio During Fast Forward/Rewind option is not selected, you can continuously rewind/fast forward by holding down the corresponding switch. You can also rewind/fast forward incrementally by repeatedly clicking the corresponding switch.

The size of these increments depends on which Display mode is currently selected:

- ◆ Bars/Beats: To start of previous/next bar
- ◆ Min/Sec: Moves in one-second steps
- ◆ Timecode: Moves in one-second steps
- ◆ Feet.Frames: Moves in one-foot steps
- ◆ Samples: Moves in one-second steps

### **Transport Control of External Devices**

The CS-10 can be used to control devices other than Pro Tools, such as the Alesis ADAT® (via the ADAT Bridge and MMC) or serial (9-pin) machine control transports (using the MachineControl™ option for Pro Tools). If you have either of these installed, the following functions are available:

- ◆ To cycle through available transport master types (Pro Tools, Serial Machine, ADAT), hold down the Control switch (F6) and press the Online switch (F9).

- ◆ The RECORD switch LED mirrors the state of the device under control.

---

## **Scrolling the Edit and Mix windows**

### **To scroll the Edit or Mix window:**

- Hold down the Command key, and press an arrow key on any hardware controller to scroll the frontmost window one page in the indicated direction.

### **To scroll to the session start or end:**

- Command-Option-Left arrow scrolls to session start; Command-Option-Right arrow scrolls to session end.

---

## **Scrub and Shuttle Wheel**

With the CS-10 Scrub/Shuttle wheel, Pro Tools scrubs the current edit cursor position on the selected track or track pair.

If you are using a multiple track edit group, Pro Tools will scrub/shuttle the topmost track pair in the selected edit group (leftmost in the Mix window). To scrub/shuttle other tracks in an edit group, first disable the group (or use the Suspend Groups command), and position the edit cursor over the track or track pair before entering Scrub/Shuttle modes.

While in Scrub/Shuttle mode, all other screen activity is locked out, and the Edit Window status display area indicates “Scrub” or “Shuttle.”

## Keyboard Shortcuts

- ◆ Scrub switch located to the left of the Scrub/Shuttle wheel: toggles Scrub mode on/off
- ◆ Shuttle switch located to the right of the Scrub/Shuttle wheel: toggles Shuttle mode on/off
- ◆ Press the Transport's Stop button to exit Scrub or Shuttle mode
- ◆ Hold down the Command key (F7) to scrub at a fixed fine resolution, regardless of the current zoom settings.
- ◆ Hold down the Shift switch to make a new selection while scrubbing/shuttling; Release the Shift switch to finish the selection
- ◆ Hold down the Option switch to begin scrubbing/shuttling from the end of a selection

---

## Creating Selections Using the Scrub/Shuttle Wheel

You can create and modify on-screen selections using the Scrub/Shuttle wheel:

### To create selections using the Scrub/Shuttle wheel:

- Press the Scrub or Shuttle switch on the CS-10. The start position will be the current selection's start point, or current cursor position if there is no selection.
- To Scrub or Shuttle from the selection end point, hold down the Option switch when pressing the Scrub or Shuttle switch.
- You can navigate to the start or end of your selection at any time by pressing the Left/Right Arrow keys.

## Insertion Follows Scrub/Shuttle Preference

How you work with CS-10's Scrub/Shuttle wheel depends on whether you select the "Edit Insertion Follows Scrub/Shuttle" Operation preference in Pro Tools.

### If "Insertion Follows Scrub/Shuttle" is selected:

- Press the Scrub switch or the Shuttle switch and move the wheel to clear the current selection and move the cursor.
- Hold down the Shift switch before pressing the Scrub switch or the Shuttle switch, or before moving the wheel, to keep the current selection. As you move the wheel, the selection is expanded or trimmed.

### If "Insertion Follows Scrub/Shuttle" is not selected:

- Press the Scrub switch or the Shuttle switch and turn the wheel to keep your current selection and move the cursor outside of the selection.
- Hold down the Shift switch and turn the wheel to clear the current selection and create a new one. The new selection starts wherever you first hold down the Shift switch.
- Release Shift switch to move the cursor outside the new selection.
- Press the Shift switch additional times to trim the new selection as needed.

## Scrub/Shuttle Tips

- ◆ At any time during scrubbing/shuttling you can press the Left or Right Arrow to move the current scrub position to the selection start/end.

- ◆ You can freely move between scrub and shuttle modes. The current scrub/shuttle position is retained.
- ◆ If you enter scrub or shuttle but don't move the wheel or mouse, you can exit scrub/shuttle without affecting the current selection.

**To define a selection using a combination of scrub/shuttle functions:**

- 1** Press the Shuttle switch to enter shuttle mode.
- 2** Shuttle along the timeline. When you get to roughly the selection in-point, hold down the Shift switch.
- 3** Continue shuttling down the timeline. When you get to roughly the out-point, release the Shift key. Your “rough selection” is now defined.
- 4** Press the Scrub switch to enter scrub mode.
- 5** Press the Left Arrow key to move the scrub position to the selection start.
- 6** Hold down the Shift switch (to retain your selection), scrub the selection in-point until you reach the desired location.
- 7** Press the Right Arrow key to move the scrub out-point to the selection end.
- 8** Hold down the Shift switch (to retain your selection), and scrub the selection out-point until you reach the desired location.

---

\* To make selections in quick succession, define a selection using any of the techniques described above, press the Down Arrow to capture it as a Memory Location, and continue down the timeline to capture more selections.

---



## chapter 4

# Penny & Giles MM-16/DC-16 MIDI Controllers

The Penny & Giles MM-16 and DC-16 controllers work with Pro Tools as 16-channel strip controllers. There are separate Personalities for the MM-16 and DC-16.

These controllers have unique continuous fader belt controls, and ladder-styled LED displays embedded within each belt to indicate levels at all times. Working with the MM-16 or DC-16 is very similar to working on a touch-sensitive motorized-fader control surface. Also, you can reliably punch in automation data at any point in time, since you are always at your automation null point.

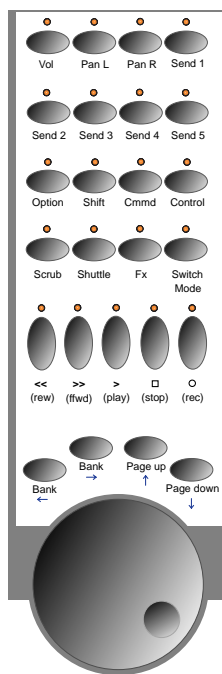
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▲ When connecting a Penny & Giles MM-16 or DC-16, be sure to use the MIDI ports on the rear panel labeled “Control In” and “Aux Out.”

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### DC-16

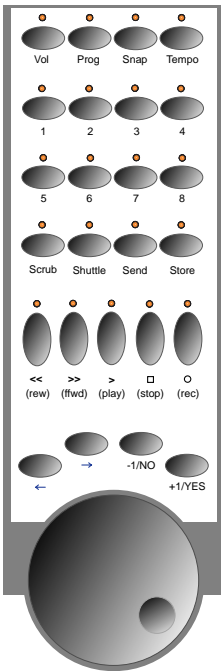
The DC-16 is a new version of the original MM-16 MIDI controller. An overlay is provided that allows you to place a label insert over the various controls. Penny & Giles has prepared a label insert for the DC-16 specifically for Pro Tools. Contact a Penny & Giles dealer or distributor to get a Pro Tools-specific insert.



*The DC-16 switch assignments for Pro Tools*

## MM-16

If you have an MM-16, you may require an updated firmware version from Penny & Giles to ensure that the various LEDs on the front panel light correctly when used with Pro Tools. A few of these LEDs have different MIDI system-exclusive codes from the DC-16, and some LEDs may not turn on/off unless you have installed the updated firmware.



*The MM-16 switch assignments for Pro Tools*

---

## Fader Belt Functions

The fader belts can control one of the following modes:

- ◆ Volume
- ◆ Pan Left
- ◆ Pan Right
- ◆ Send 1
- ◆ Send 2
- ◆ Send 3
- ◆ Send 4
- ◆ Send 5
- ◆ Plug-In Controls

There are dedicated switches to assign the fader belts to each of the modes:

- ◆ Vol: makes continuous fader belts control volume
- ◆ Pan L (labeled Prog on MM-16): makes continuous fader belts control pan left
- ◆ Pan R (labeled Snap on MM-16): makes continuous fader belts control pan right
- ◆ Send 1 (labeled Tempo on MM-16): makes continuous fader belts control Send #1 level
- ◆ Send 2 (labeled 1 on MM-16): makes continuous fader belts control Send #2
- ◆ Send 3 (labeled 2 on MM-16): makes continuous fader belts control Send #3
- ◆ Send 4 (labeled 3 on MM-16): makes continuous fader belts control Send #4
- ◆ Send 5 (labeled 4 on MM-16): makes continuous fader belts control Send #5
- ◆ FX switch (labeled Send on MM-16): makes continuous fader belts edit Plug-In parameters

When a belt is moved, its assigned control is identified on the bottom row of the two-line LCD.

---

▲ When the belts are controlling Send levels, the switches automatically control corresponding Send Mutes regardless of the current switch mode.

---

---

## Fader Belt Switch Functions

The 16 switches that correspond to the belts can control any one of the following modes:

- ◆ Solo: Switches change solo state of tracks
- ◆ Mute: Switches change mute state of tracks
- ◆ Memory Location: Recall/sets Memory Locations
- ◆ Track Selection: Chooses which tracks are selected on-screen
- ◆ Track Record-Arming: changes record status of tracks
- ◆ Name: Identifies the control currently assigned to the corresponding belt in the LCD

---

▲ When the fader belt switches control mutes, any track that is currently muted as a result of other tracks being soloed will have its associated switch LED flash.

---

---

▲ When the belts are controlling Plug-In parameters, fader belt switches automatically function in Name mode.

---

### To cycle through the switch modes:

- 1 Press the Switch Mode switch (labeled Send on the MM-16).
- 2 To cycle through the switch modes in reverse order, hold down the Option switch (5 on the MM-16) and press the Switch Mode switch (Send on the MM-16).

When a switch is pressed, its assigned control is identified on the top row of the two-line LCD.

---

\* To use Memory Locations, set Pro Tools Preferences so that memory locations are auto-named. This way when you create a memory location during playback or recording, you will not have to stop to name the location.

---

---

## Additional Switch Functions

- ◆ Shift + Memory Location Switches: Extends the current selection when the current active mode for the fader belt switches is “Memory Locations.” (Equivalent to Shift-clicking in Pro Tools.)
- ◆ Option + Memory Location Switches: Sets memory location points when the current active mode for the fader switches is “Memory Locations.”

### To swap banks or scroll channel strips:

- ◆ Bank Left (Left Arrow on MM-16): Bank swaps channel strips to the left
- ◆ Bank Right (Right Arrow on MM-16): Bank swaps channel strips to the right
- ◆ Option-Bank Left: Bank scrolls to the left by a single channel strip

- ◆ Option-Bank Right: Bank scrolls to the right by a single channel strip
- ◆ Shift-Bank Left (Left Arrow on MM-16): Zooms in horizontal view (time axis)
- ◆ Shift-Bank Right (Right Arrow on MM-16): Zooms out horizontal view (time axis)

**To move through Plug-In control pages:**

- ◆ Page Up (labeled -1/NO on MM-16): Go to previous Plug-In control page
- ◆ Page Down (labeled +1/YES on MM-16): Go to next Plug-In control page
- ◆ Option-Page Up (labeled -1/NO on MM-16): Go to first Plug-In control page
- ◆ Option-Page Down (labeled +1/YES on MM-16): Go to last Plug-In control page

---

▲ “FX” must be the current mode to edit Plug-Ins.

---

**To enable online status:**

- ◆ STOP on the MM-16 (located in the three-switch group “START/CONT/STOP“): Toggles Online/Offline status
- ◆ The Online switch on the DC-16 is the farthest right auxiliary button. The auxiliary buttons on the DC-16 are the row of eight switches on the top left of the unit.

**To use modifier keys:**

- ◆ Opt (labeled 5 on MM-16) = Option (Macintosh) or Alt (Windows) key; allows for editing of all switches of the same type
- ◆ Shift (labeled 6 on MM-16) = Shift key
- ◆ Command (labeled 7 on MM-16) = Command (Macintosh) or Start (Windows) key; allows for fine resolution when in Scrub mode

- ◆ Control (labeled 8 on MM-16) = Control (Macintosh) or Ctrl (Windows); provides temporary “clutch” for groups

---

▲ Not all of these modifier keys allow you to perform the same operations as their counterparts on the computer keyboard. For example, the Command (Macintosh) or Start (Windows) key does not allow fine control of Pro Tools on-screen levels from the MM-16/DC-16.

---

## Transport Switches

The MM-16 and DC-16 have five standard transport control switches:

- ◆ Rewind
- ◆ Fast Forward
- ◆ Play
- ◆ Record
- ◆ Stop

To cycle through the recording modes (Loop Record, Destructive Record, and QuickPunch), hold down the Control switch (labeled 8 on MM-16) and press the Record switch.

In addition, the following special transport modes can be enabled with modifier keys:

- ◆ Shift + Play: Half-speed Playback
- ◆ Shift + Rewind: Return-to-Zero
- ◆ Shift + FF: Go-to-End
- ◆ Shift + Stop: Aborts (cancels) recording pass
- ◆ Control (labeled 8 on MM-16) + Online (labeled STOP on the MM-16 in the three-switch group “START/CONT/STOP“): Cycles thru master transport mode (Pro Tools, Serial Machine Control, or ADAT)

## Transport Control of External Devices

The MM-16/DC-16 can be used to control devices other than Pro Tools, such as the Alesis ADAT® or serial (9-pin) machine control transports (using the MachineControl™ option for Pro Tools).

- ◆ To cycle through available transport master types (Pro Tools, Serial Machine, ADAT), hold down the Control switch (labeled 8 on MM-16) and press the Online switch (labeled STOP on the MM-16).
- ◆ The Record switch LED reflects the state of the device under control.

---

## Scrub and Shuttle Functions

Scrub and shuttle are supported on the MM-16 and DC-16, using the scrub/shuttle wheel. Pro Tools will always scrub the topmost track or track pair with the current edit cursor position or selection.

If you are using a multi-track edit group, Pro Tools will scrub/shuttle the topmost track pair in the edit group (left-most in the Mix window). To scrub/shuttle other tracks in an edit group, first disable the group (or use the Suspend Groups command), and position the edit cursor over the track or track pair you wish to scrub before entering Scrub/Shuttle modes on your controller.

While in Scrub or Shuttle mode with the MM-16/DC-16, all other screen activity is locked out, and the Edit Window status display area (lower-left corner of the window) will display “Scrub” or “Shuttle.”

## Keyboard Shortcuts

- ◆ Scrub (labeled Edit on MM-16): Enables Scrub mode
- ◆ Shuttle (labeled Util on MM-16): Enables Shuttle mode
- ◆ Press the Transport’s Stop button to exit Scrub or Shuttle mode
- ◆ Hold down the Command key (labeled 7 on the MM-16) to scrub at a fine resolution regardless of the current zoom settings.
- ◆ Hold down the Shift switch to make a new selection while scrubbing/shuttling; Release the Shift switch to finish the selection
- ◆ Hold down the Option switch to begin scrubbing/shuttling from the end of a selection

---

## Creating Selections Using the Scrub/Shuttle Wheel

You can create and modify on-screen selections using the Scrub/Shuttle wheel.

### To create selections using the Scrub/Shuttle wheel:

- Press the Scrub switch (labeled Edit on MM-16) or Shuttle switch (labeled Unit on MM-16) on the MM-16/DC-16. The start position is the current selection's start point, or current location of the cursor if there is no selection.
- To scrub or shuttle from the selection end point, hold down the Option switch when pressing the Scrub switch (labeled Edit on MM-16) or Shuttle switch (labeled Unit on MM-16).
- You can navigate to the start or end of your selection at any time by pressing the Left/Right Arrow keys.

### Insertion Follows Scrub/Shuttle Preference

How you work with MM-16/DC-16's Scrub/Shuttle wheel depends on whether you select the "Insertion Follows Scrub/Shuttle" Operation preference in Pro Tools.

#### If "Insertion Follows Scrub/Shuttle" is selected:

- Press the Scrub switch or the Shuttle switch and move the wheel to clear the current selection and move the cursor.
- Hold down the Shift switch before pressing the Scrub switch (labeled Edit on MM-16) or the Shuttle switch (labeled Unit on MM-16), or before moving the wheel, to

keep the current selection. As you move the wheel, the selection is expanded or trimmed.

#### If "Insertion Follows Scrub/Shuttle" is not selected:

- Press the Scrub switch (labeled Edit on MM-16) or the Shuttle switch (labeled Unit on MM-16) and turn the wheel to keep your current selection and move the cursor outside of the selection.
- Hold down the Shift switch and turn the wheel to clear the current selection and create a new one. The new selection starts wherever you first hold down the Shift switch.
- Release Shift switch to move the cursor outside the new selection.
- Press the Shift switch additional times to trim the new selection as needed.

### Scrub/Shuttle Tips

- ◆ At any time during scrubbing/shuttling you can press the Left or Right Arrow to move the current scrub position to the selection start/end.
- ◆ You can freely move between scrub and shuttle modes. The current scrub/shuttle position is retained.
- ◆ If you enter scrub or shuttle but don't move the wheel or mouse, you can exit scrub/shuttle without affecting the current selection.

#### To define a selection using a combination of scrub/shuttle functions:

- 1 Press the Shuttle switch (labeled Unit on MM-16) to enter shuttle mode.

**2** Shuttle along the timeline. When you get to roughly the selection in-point, hold down the Shift switch.

**3** Continue shuttling down the timeline. When you get to roughly the out-point, release the Shift key. Your “rough selection” is now defined.

**4** Press the Scrub switch (labeled Edit on MM-16) to enter scrub mode.

**5** Press the Left Arrow key to move the scrub position to the selection start.

**6** Hold down the Shift switch (to retain your selection), and scrub the selection in-point until you reach the desired location.

**7** Press the Right Arrow key to move the scrub out-point to the selection end.

**8** Hold down the Shift switch (to retain your selection), and scrub the selection out-point until you reach the desired location.

---

\* To make selections in quick succession, define a selection using any of the techniques described above, press the Down Arrow to capture it as a Memory Location, and continue down the timeline to capture more selections.

---

---

## **Resetting the Penny & Giles MM-16 or DC-16**

If power is interrupted, or if for some other reason your MM-16/DC-16 needs to be reset (powered off and on again), you should follow these steps:

### **To reset the MM-16/DC-16 with Pro Tools:**

- 1** Power down the controller.
- 2** Disable the MM-16/DC-16 in the Peripherals dialog, and close the dialog.
- 3** Power up the controller.
- 4** Reenable the controller in the Peripherals dialog.





# Peavey PC-1600 MIDI Controller

The Peavey PC-1600 is a fully programmable MIDI controller with 16 channel faders and 16 switches.

Although the PC-1600 has a data wheel, it currently can only send out controller values corresponding to one of the 16 faders. Therefore, Scrub and Shuttle functions are *not* supported on this controller.

---

## Preset Modes

For your convenience, there are seven, custom preset modes for the PC-1600 to control Pro Tools. These presets are automatically downloaded to the controller when enabled in the Peripherals dialog, overwriting any existing presets stored there. The LCD screen displays the name of the current preset.

Each preset defines specific functionality for each of 32 controls (16 faders and 16 switches). While there are 16 faders, the controller actually operates as a device with eight channel strips and with banks comprised of eight channels.

The preset modes for the PC-1600 are:

### **Eight Volumes + Eight Pans**

- ◆ Faders #1-8 control volume for the eight tracks in the current bank
- ◆ Faders #9-16 control the pans for the eight tracks in the current bank

### **Sixteen Plug-In Controls**

- ◆ Faders #1-16 control the 16 Plug-In controls in the currently active Plug-In parameter page

### **Eight Volume + Eight Send #1 Levels**

- ◆ Faders #1-8 control volume for the eight tracks in the current bank
- ◆ Faders #9-16 control the send #1 levels for the eight tracks in the current bank

### **Eight Volume + Eight Send #2 Levels**

- ◆ Faders #1-8 control volume for the eight tracks in the current bank
- ◆ Faders #9-16 control Send #2 levels for the eight tracks in the current bank

### **Eight Volume + Eight Send #3 Levels**

- ◆ Faders #1-8 control volume for the eight tracks in the current bank
- ◆ Faders #9-16 control Send #3 levels for the eight tracks in the current bank

### **Eight Volume + Eight Send #4 Levels**

- ◆ Faders #1-8 control volume for the eight tracks in the current bank
- ◆ Faders #9-16 control Send #4 levels for the eight tracks in the current bank

### **Eight Volume + Eight Send #5 Levels**

- ◆ Faders #1-8 control volume for the eight tracks in the current bank
- ◆ Faders #9-16 control Send #5 levels for the eight tracks in the current bank

---

## **Function Switches**

There are 16 switches positioned directly below each fader. Switches #1-8 control different functions depending on the active preset. Switches #9-16 have the same functionality for all presets.

### **Switch Mode Determines Functionality for Switches #1-8**

In all preset modes except “16 Plug-In Controls” (Preset #2), switches #1-8 control the function defined by one of the following switch modes:

**Mute** Switches change mute state of tracks

**Solo** Switches change solo state of tracks

**Track Record-Arming** Switches change record status of tracks

**Selection** Switches selects tracks for editing, deletion, and so on

**Memory Location** Switches recall/set Memory Locations

### **To cycle through the switch modes:**

- Press the Change Mode switch (Switch 16) to cycle through the switch modes.
- Hold down the Option switch (Switch 9) and press the Change Mode switch (Switch 16) to cycle through the switch modes in reverse order.

---

\* Since there are no switch LEDs on the PC-1600, there is no indication which switch mode is currently active.

---

### **“Sixteen Plug-In Controls” Preset Functionality for Switches #1-8**

In the “Sixteen Plug-In Controls” preset (Preset #2), the faders control Plug-In parameters, while the first eight switches control the following transport functions:

- ◆ Switch 1: Rewind
- ◆ Switch 2: Fast Forward
- ◆ Switch 3: Stop
- ◆ Switch 4: Play
- ◆ Switch 5: Record

---

\* Hold the Control switch (Switch 11) and press the Record switch to cycle through the various recording modes (Loop Record, Destructive Record, and QuickPunch).

---

- ◆ Switch 6: toggles Online/Offline status
- ◆ Switch 7: (Not Used)
- ◆ Switch 8: (Not Used)
- ◆ Shift (Switch 10)-Switch 1: Return-To-Zero
- ◆ Shift (Switch 10)-Switch 2: Go To-End
- ◆ Shift (Switch 10)-Switch 3: Abort Record
- ◆ Shift (Switch 10)-Switch 4: Half-Speed Playback

## Functionality for Switches #9-16

Switches #9-16 have the same functionality for all seven presets:

- ◆ Switch 9: Option
- ◆ Switch 10: Shift
- ◆ Switch 11: Control
- ◆ Switch 16: Cycles through the switch modes (Mute, Solo, Track Record-Arming, Selection, and Memory Location)

### When the Mix window is the current active window:

- ◆ Switch 12: Bank swaps eight channel strips to the left
- ◆ Switch 13: Bank swaps eight channel strips to the right
- ◆ Shift (Switch 10) + Switch 12: Bank scrolls to the left by a single channel strip
- ◆ Shift (Switch 10) + Switch 13: Bank scrolls to the right by a single channel strip
- ◆ Switch 14: go to prior Plug-In parameter page
- ◆ Switch 15: go to next Plug-In parameter page
- ◆ Shift (Switch 10) + Switch 14: Go to top Plug-In parameter page
- ◆ Shift (Switch 10) + Switch 15: Go to bottom Plug-In parameter page

### When the Edit window is the current active window:

- ◆ Shift (Switch 10) + Switch 12: Zooms out horizontal view (time axis)
- ◆ Shift (Switch 10) + Switch 13: Zooms in horizontal view (time axis)
- ◆ Shift (Switch 10) + Switch 14: Zooms in vertical view (amplitude axis)
- ◆ Shift (Switch 10) + Switch 15: Zooms out vertical view (amplitude axis)

---

## Transport Control of External Devices

The PC-1600 can be used to control devices other than Pro Tools, such as the Alesis ADAT® or serial (9-pin) machine control transports (using the MachineControl™ option for Pro Tools).

- ◆ To cycle through available transport master types (Pro Tools, Serial Machine, ADAT), hold down Switch 11 (Control) and press Switch 6 (Online).
- ◆ The RECORD switch LED reflects the state of the device under control.



## appendix a

# Using Other MIDI Controllers

If you do not have any of the currently supported MIDI controllers, you can use a third-party controller (such as the JL Cooper FaderMaster™) and program its controls to function like a JL Cooper CS-10. This allows you to use any MIDI controller that allows reprogramming of its MIDI protocol. You can then access Pro Tools with that MIDI protocol and adopt the CS-10's functional personality.

The following information assumes you have a familiarity with MIDI protocol, including MIDI System Exclusive (SysEx) messages.

---

☞ For details on reprogramming your controller, refer to its documentation, or contact the manufacturer for more information.

---

### Fader and Switch Data

The CS-10 uses standard MIDI protocol, and all of its controller commands are on MIDI channel 16. These messages are all of the form:

B Fh cc vv

where cc=switch or wheel number, and vv=value.

The following table gives values (vv) for each fader or switch.

### Wheel Data

Wheel data is in the form of “2's complement” with the 6th bit as the sign bit. Positive numbers are sent for clockwise rotation. These numbers represent the wheel counts accumulated since the last transmission (such as relative position count), similar to what a computer mouse transmits. The resolution is approximately 180 counts per revolution, and transmissions are sent at about 10 milliseconds intervals when the wheel is being turned.

#### Wheel Data

cc	Name	vv
00h	Mute switch 1	00=release, 7Fh=depressed
01h-07h	Mute switches 2-8	00=release, 7Fh=depressed
08h	Mode switch	00=release, 7Fh=depressed
09h	Shift switch	00=release, 7Fh=depressed
0Ah	F1 switch	00=release, 7Fh=depressed
0Bh	F2 switch	00=release, 7Fh=depressed
0Ch	F3 switch	00=release, 7Fh=depressed
0Dh	F4 switch	00=release, 7Fh=depressed

### Wheel Data

cc	Name	vv
0Eh	F5 switch	00=release, 7Fh=depressed
0Fh	F6 switch	00=release, 7Fh=depressed
10h	F7 switch	00=release, 7Fh=depressed
11h	F8 switch	00=release, 7Fh=depressed
12h	F9 switch	00=release, 7Fh=depressed
13h	REW switch	00=release, 7Fh=depressed
14h	FF switch	00=release, 7Fh=depressed
15h	Stop switch	00=release, 7Fh=depressed
16h	Play switch	00=release, 7Fh=depressed
17h	Record switch	00=release, 7Fh=depressed
18h	Left Wheel switch	00=release, 7Fh=depressed
19h	Right Wheel switch	00=release, 7Fh=depressed
1Ah	Up cursor switch	00=release, 7Fh=depressed
1Bh	Down cursor switch	00=release, 7Fh=depressed
1Ch	Left cursor switch	00=release, 7Fh=depressed
1Dh	Right cursor switch	00=release, 7Fh=depressed
1Eh	Footswitch	00=release, 7Fh=depressed
40h	Fader 1	Range 0 to 7Fh
41h-47h	Faders 2-8	Range 0 to 7Fh
48h	Boost/Cut	Range 0 to 7Fh

### Wheel Data

cc	Name	vv
49h	Frequency	Range 0 to 7Fh
4Ah	Bandwidth	Range 0 to 7Fh
4Bh	Send 1	Range 0 to 7Fh
4Ch	Send 2	Range 0 to 7Fh
4Dh	Pan	Range 0 to 7Fh
60h	Whee	2s complement / 7 bits data

### LED Data

All messages from the computer to the controller are transmitted using SysEx commands as follows:

F0h 15h 15h 00h cc vv F7h

where cc=LED number, and vv=value.

### LED Data

cc	Name	vv
00h	Mute LED 1	00=off, 7Fh=on
01h-07h	Mute LEDs 2-8	00=off, 7Fh=on
08h	Select Mode LED	00=off, 7Fh=on
09h	Locate Mode LED	00=off, 7Fh=on
0Ah	Mute Mode LED	00=off, 7Fh=on
0Bh	Solo Mode LED	00=off, 7Fh=on
0Ch	Down Null LED	00=off, 7Fh=on
0Dh	Up Null LED	00=off, 7Fh=on
0Eh	Left Wheel LED	00=off, 7Fh=on
0Fh	Right Wheel LED	00=off, 7Fh=on
10h	1s 7-Segment Digit	(see below)

**LED Data**

<b>cc</b>	<b>Name</b>	<b>vv</b>
11h	10s 7-Segment Digit	(see below)
12h	Record LED	00=off, 7Fh=on
13h	Decimal pt to right of 10s digit	00=off, 7Fh=on
14h	Decimal pt to right of 1s digit	00=off, 7Fh=on

For the 7-segment LEDs, Bit 0= segment a, Bit 1= segment b, and so on. In each case, a set bit turns the segment on.





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