CHAPTER 74   Mackie Control

The Mackie Control™ serves as a powerful, integrated control surface for Digital Performer. Mackie Control goes way beyond generic MIDI controllers by providing dedicated controls for the intricate workings of Digital Performer's most advanced features. Mackie Control's touch-sensitive motorized faders, unique V-POT™ rotary potentiometers, dedicated plug-in insert controls, and multiple automation modes provide seamless, tactile control over Digital Performer's entire virtual mixing environment.

MACKIE CONTROL FEATURE HIGHLIGHTS

■ Eight motorized, touch-sensitive faders with dedicated bank switching for easy control over projects with many more than eight tracks.

■ Illuminated V-POTs for pan, sends and other mix parameters. V-POTs combine the touch of a real mixing console with Digital Performer's instant recall and complete mix automation.

■ Dedicated buttons to open Digital Performer windows and bring them to the front.

■ Complete transport control, with dedicated transport buttons and jog/shuttle wheel.

■ Main time counter display with support for all four Digital Performer time formats (including SMPTE time and samples).

■ Backlit LCD display that shows details about effect plug-ins and their parameters.

■ Integrated support for both MIDI and audio tracks at the same time, including control over MIDI track inserts and MIDI plug-ins.

■ Expansion — add as many Control XT 8-fader expansion units as you wish for as many channel strips you would like.

MACKIE CONTROL QUICK REFERENCE

Channel strip mode switches

Bank swap/channel scroll buttons

Assignment Mode LED

Main Counter

Rude Solo LED

Backlit LCD Display

Display buttons

V-pots

Dialog OK/Cancel

Track group buttons

Record-enable

Record/Transport buttons

Solo/mute

Keyboard shortcut buttons

Select

Project management buttons

Flip

Automation modes

Motorized Faders

Transport section

Jog/shuttle

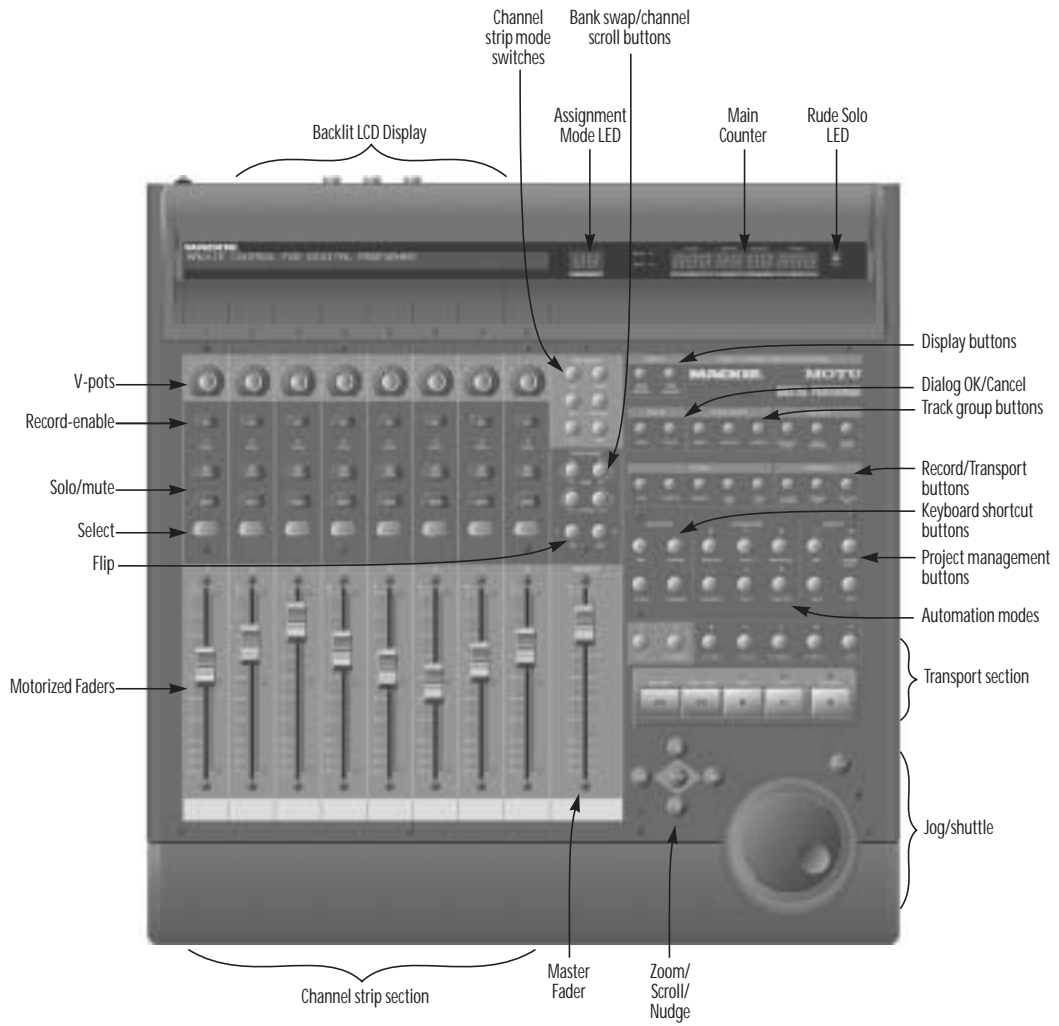Master Fader

Zoom/ Scroll/ Nudge

Channel strip section

Figure 74-1: Mackie Control overview.

Backlit LCD display: Displays track names, plug-in parameters and other information, depending on what mode the channel strip section is currently operating in.

Channel strip mode switches: Enable several different modes of operation in the channel strip section. When Mackie Control first establishes communication with Digital Performer, the channel strips operate in Pan mode, where they show normal mixing board functions (pan, volume, mute/solo, etc.) Other modes give you access to input/output assignments, send levels, and more.

Assignment mode LED: Provides a two-character indication of the current channel strip mode (such as "Pn" for Pan mode).

Bank swap/channel scroll buttons: If you have more tracks in your Digital Performer project than you have channels strips on Mackie Control (or expanded Mackie Control), these buttons let you scroll through all of your tracks either one back or one channel strip at a time.

Main Counter: Mirrors Digital Performer's main counter. Repeatedly press the *Time Format* button below it to cycle among Digital Performer's four time formats.

Rude solo LED: Flashes when solo mode is engaged. This is especially helpful when the track(s) currently being soloed are not currently being displayed by Mackie Control (they are scrolled to the left or right of the tracks currently being shown).

Display buttons: Press the *Level Meters* button to toggle the display of vertical level meters in the channel strip LCD. Repeatedly press the *Time Format* button to cycle among Digital Performer's four time formats.

Dialog OK/Cancel buttons: if a dialog box is currently shown on-screen, use the buttons to confirm it or dismiss it without making changes.

Track group buttons: use these buttons to group tracks, ungroup them, or temporarily suspend track grouping.

Record/transport buttons: Enable/disable their equivalent Digital Performer features.

Keyboard shortcut buttons: Can be used together with other buttons on the Mackie Control work surface to emulate their counterparts on the Macintosh keyboard. These keys are also used in combination with other Mackie Control buttons to access shortcuts and special features.

Project management buttons: Provide direct access to saving, undo/redo and audible mode.

Automation mode buttons: Let you choose an automation mode for each audio track: Overwrite, Touch, Latch, Trim Latch and Trim Touch.

Transport section: Control Digital Performer's main transport controls.

Jog/shuttle: Provides audio scrubbing and jog-wheel precision when making selections.

Zoom/scroll/nudge: Provides zooming, scrolling and nudging when a graphic editor is the front-most window.

Master fader: Provides control of the master fader in your project, independently of the other 8 faders, which are subject to the fader bank and channel scrolling buttons.

Channel strips: Let you view and control up to eight MIDI and/or audio tracks at a time in Digital Performer's Mixing Board. If your project has more than eight tracks, use the BANK swap and CHANNEL scrolling buttons (above the master

fader). Each channel strip provides volume fader, select button, mute/solo buttons, record-enable button and a V-POT for panning (and other functions). All types of Digital Performer tracks (except the Conductor track and master faders) can be displayed here, including MIDI tracks and aux tracks.

Flip button: Swaps the V-Pots with the faders, so that whatever was being controlled by the V-pots is now controlled by the faders, and vice versa. This can be convenient for automating plug-in parameters, as you may find it easier to move a fader in real time than the V-pot.

Select button: Press this button to select the track.

Solo/mute: Toggles solo mode and muting for the track.

Record-enable button: Arms the track for recording, just like the record-enable buttons for each track in Digital Performer.

READ THE MACKIE CONTROL MANUAL FIRST
This chapter assumes that you have a basic understanding of Mackie Control. The Mackie Control manual is a "quick read" and covers crucial information about what Mackie Control can do. As you read it, you'll begin to see how Mackie Control's features apply to Digital Performer, and this chapter will clarify some of the details.

THE DIGITAL PERFORMER LEXAN OVERLAY
The Mackie Control ships with a Lexan™ overlay that you place over the section of Mackie Control above the main transport buttons. Be sure to apply this overlay before you begin. If your Mackie Control did not include an overlay, contact your dealer, or Mackie Designs, Inc.
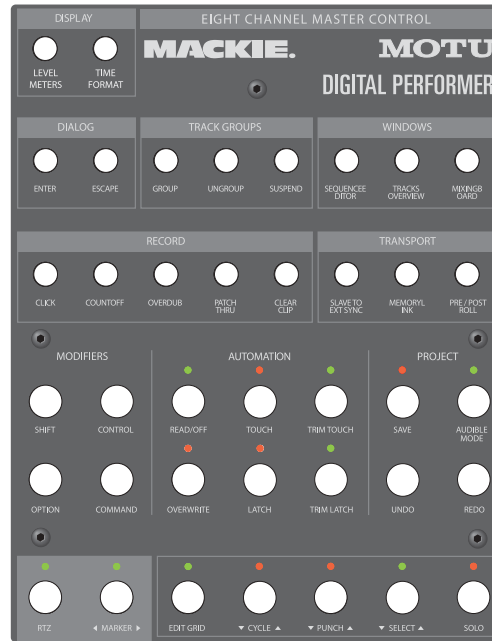

Figure 74-2: The Digital Performer Lexan overlay.

MACKIE CONTROL SETUP
To establish communication with Mackie Control, see chapter 73, "Control Surfaces" (page 825).

WORKING WITH AN EXPANDED SYSTEM
The Control XT expander adds 8 additional channel strips to a Mackie Control base unit. You can add as many expanders as you wish, and they operate as a seamless extension of the base unit. In other words, an expanded system works just like a base unit, except that you have 16, 24 or more channel strips instead of just 8. For instructions on setting up an expanded system, see "Working with multiple control surfaces" on page 826.

THIRD PARTY PLUG-IN SUPPORT
All of Digital Performer's included plug-ins respond to Mackie Control control. Plug-ins from other manufacturers, however, may need to be updated to support Digital Performer's automation features and remote control from Mackie Control. Please contact the plug-in developer for details.

TRANSPORT CONTROL

Mackie Control's main counter LED, transport buttons and jog wheel give you control over all of Digital Performer's primary transport features.

Time display LED

Mackie Control's time display LED matches Digital Performer's main counter in whatever time format is currently being used in the main counter. Press the TIME FORMAT button in the DISPLAY section to cycle among the available time formats. Here is a summary of the four available time formats:

Time format	Description
Mensural time	bars|beats|ticks
SMPTE time code	hrs:min:sec:frames
Real time	min:sec:hundredths
Samples	samples

Figure 74-3: The Mackie Control time display.

Opening the Large Counter and MMC window

Press SHIFT-TIME FORMAT (hold down the SHIFT button while pressing the TIME FORMAT button) to open the big counter; press CONTROL-TIME FORMAT to open the MIDI Machine Control window.

The RUDE SOLO LED

The RUDE SOLO LED, when flashing, informs you that at least one track is currently soloed. It may even be a track that is not currently being displayed in one of Mackie Control's eight channel strips.

The transport buttons

Mackie Control's transport controls are mapped to Digital Performer's transport features as shown below:
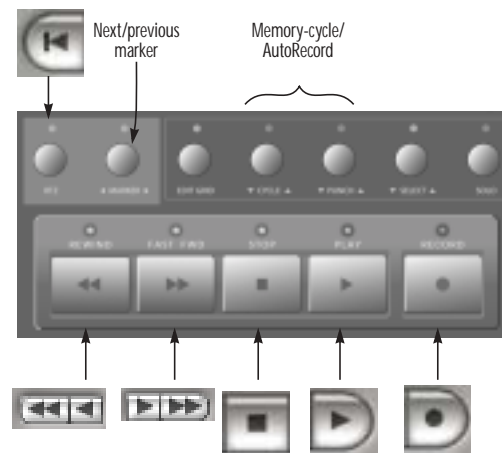
Figure 74-4: Mackie Control's transport controls are mapped to Digital Performer as shown here.

The REWIND and FAST FWD buttons
Press the REWIND and FAST FWD buttons once to engage Digital Performer's slow-forward or slow-rewind. Press them twice to engage fast-forward and fast-rewind. Continue to press them to toggle between these two modes. Press the STOP button to stop.

The RTZ button
The RTZ button rewinds to the beginning of the sequence.

The MARKER button
Press the MARKER button to illuminate the LED above it. When this LED is illuminated, the REWIND and FAST FWD buttons scroll to the previous and next marker, respectively.

Press SHIFT-MARKER to open the Markers window. Press CONTROL-MARKER to bring the Control Panel to the front.

Memory-cycle and AutoRecord

For the CYCLE and PUNCH buttons, pressing the button with no modifiers sets the start point. Add SHIFT to set the end point. Add CONTROL to toggle the mode. (For example, CONTROL-CYCLE turns Memory Cycle on or off.)

The TRANSPORT buttons

The TRANSPORT buttons enable or disable their corresponding features.

Figure 74-5: The TRANSPORT buttons.

Memory Link shortcuts

The MEMORY LINK button toggles both Memory Link modes together. Add OPTION to toggle just *Link Memory to Selection*. Add COMMAND to toggle just *Link Playback to Memory*.

Pre/Post roll shortcuts

The PRE/POST ROLL button toggles both pre and post roll (one of the above modes must be on). Add OPTION to toggle just pre-roll; add COMMAND to toggle just post-roll.

The jog wheel

The Jog wheel can scrub in any editor window with a wiper, any pop-edited soundbite, and the Waveform Editor. Press the SCRUB button to engage the jog wheel.

In scrub mode, the front-most window in Digital Performer determines what the jog wheel does.

Scrubbing MIDI

For the Tracks window, Graphic Editor, MIDI Notation Editor, or any other non-audio window that displays a playback wiper, the jog wheel in scrub mode moves the playback wiper, just like dragging it. If Audible Mode is enabled, MIDI tracks play back as you scrub, just like they do when you drag the wiper.

Scrubbing in the Sequence Editor

For the Sequence Editor, the jog wheel in scrub mode is also like dragging the wiper. But you can also scrub an individual soundbite. To do so:

1 Press the SCRUB button to put the jog wheel in in scrub mode.

2 Pop-edit the soundbite, or open its waveform editor.

3 Once the soundbite is pop-edited, or the editor window is open, use the jog wheel to scrub within the soundbite.

Scrubbing in the waveform editor

In Digital Performer's Waveform Editor window, scrubbing with Mackie Control's jog wheel operates just like the Waveform Editor's scrub tool.

Hi-resolution scrubbing

Scrubbing resolution is based on zoom resolution of the window in which you are currently scrubbing.

If you hold down the COMMAND button while scrubbing, you get hi-resolution scrubbing, regardless of zoom level.

Making a selection while scrubbing

When scrubbing a pop-edited soundbite or scrubbing in the Waveform Editor, you can make a selection while scrubbing as follows:

1 Scrub to one location.

2 Hold down the SHIFT button and scrub somewhere else to define the selection.

3 Continue holding down the SHIFT button while scrubbing to further extend the selection, if needed. Press the left and right arrow buttons to choose which edge of the selection you are adjusting.
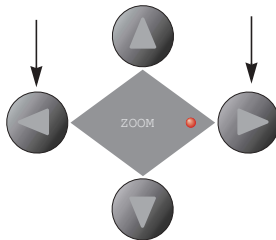

Figure 74-6: Use the left and right arrow buttons to control which edge of the selection you are scrubbing.

4 Refine your selection by bouncing back and forth between the edges of your selection using the Left/Right ARROW keys and continue to scrub holding the SHIFT key.

Exiting from scrub mode

To exit Scrub mode press the SCRUB button again. Pressing the STOP, PLAY or REC transport buttons also exit Scrub mode. Additionally, you can freely switch back and forth between Scrub and Shuttle modes.

☛ Exiting Scrub mode closes any pop-edited soundbites. You can use this feature to "pop out" of scrubbing a sound bite by pressing the SCRUB button twice. The first press closes the pop-edited sound bite, the second puts you back into Scrub mode, ready to locate to a new time.

THE CHANNEL STRIPS

Mackie Control provides eight channel strips (Figure 74-7), which can be used to view and control any of the tracks in your project. Each channel strip provides a motorized fader, a button for selecting the track for various assignment and

grouping tasks, dedicated mute/solo/record-enable buttons and a V-POT for controlling pan and other parameters.

Mackie Control's eight channels trips display every type of Digital Performer track (except for conductor tracks), including disk tracks, MIDI tracks, aux tracks, and master faders. Use the BANK and CHANNEL buttons (Figure 74-8 on page 834) to control which tracks are currently being displayed the eight channel strips.

Controls pan (or other parameters, depending on the current channel strip mode.

Record-enables the track.

Acts as a signal present LED.

The MUTE and SOLO buttons function exactly the same as their counterparts in Digital Performer.
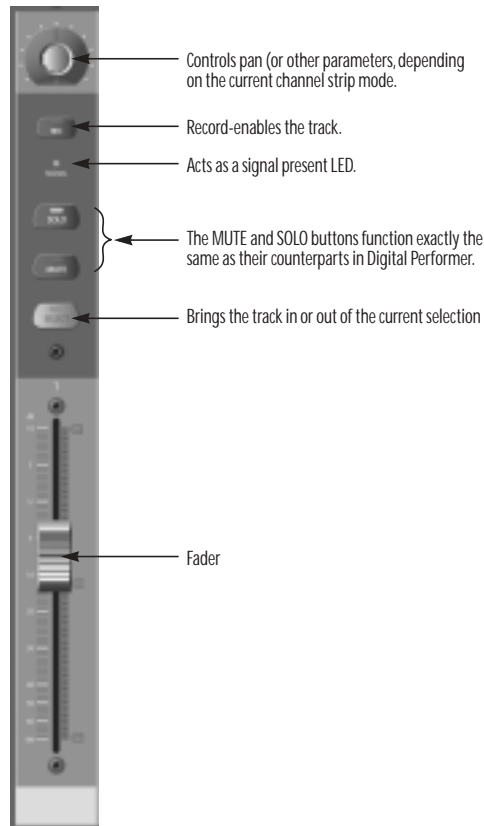
Brings the track in or out of the current selection

Fader

Figure 74-7: Mackie Control provides eight channel strips that can dynamically control any number of MIDI and audio tracks in Digital Performer.

BANK SWAPPING AND CHANNEL SCROLLING

If your Digital Performer project has more than eight tracks, use the BANK and CHANNEL buttons to control which tracks are currently being displayed in (and controlled by) Mackie Control's eight channel strips. The BANK arrow buttons scroll left and right eight tracks at a time; the CHANNEL arrow buttons scroll one track at a time.
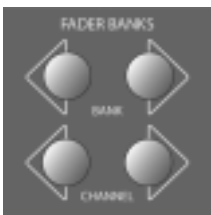

Figure 74-8: The BANK and CHANNEL buttons let you scroll Mackie Control's eight channel strips through any number of audio, MIDI, aux and master fader tracks in your Digital Performer project.

A bank/channel scrolling shortcut

To immediately scroll all the way left or right, hold down the SHIFT button while pressing one of the BANK or CHANNEL arrow buttons.

Scroll Synchronization

Mackie Control normally will try to keep the on-screen display in sync with the tracks scrolled into view in the track strips. The Track Overview, Sequence Editor and Mixing Board will all scroll and show and hide tracks as necessary to keep the on-screen view in sync with the tracks displayed in the Mackie Control track strips.

Track order (left to right)

Track order in Mackie Control's channel strips (left to right) always match their order in Digital Performer's Mixing Board window. If you drag a track left or right in the Mixing Board to change its position, the change is immediately reflected in Mackie Control. All tracks are displayed when

scrolling with the BANK and CHANNEL buttons, regardless of whether the tracks are currently being shown or hidden in the Mixing Board window.

FADERS

The 100 millimeter channel faders control the volume level of each track. The channel fader is a touch-sensitive, servo-controlled motorized fader that tracks any current volume automation in Digital Performer's corresponding track. As soon as you touch the fader, you "take over" its servo control and the fader immediately begins controlling track volume, even if you don't actually move it. If the track is currently set up to record automation, Mackie Control's fader begins to write new automation data into the track as soon as you touch it. When you release the fader, the result depends on the track's current automation mode. If it's in *Touch* mode, the Mackie Control fader will time-out after a brief moment and return to tracking existing automation in the track. In *Overwrite* or *Latch* modes, recording continues until you stop Digital Performer's transport.

Fader range

Mackie Control fader range (from bottom to top) matches the range of Digital Performer's virtual faders (-∞ to +6.02).

Fader resolution

Mackie Control provides a virtual resolution of 1024 steps over its 100mm physical range. Fader resolution varies across this range, but as you approach unity gain, the resolution is at its most accurate (around 0.03 dB).

Setting faders to unity gain

To set an audio track to unity gain, or to set a MIDI track to maximum volume (127), hold down the DEFAULT button and press the SELECT button.

The Master fader

The Master Fader always controls the master fader in your project, if you have one. If you have two or more master faders, it always controls the master fader that is highest in the list in the Tracks window or the Sequence Editor.

THE SELECT BUTTONS

The SELECT button (Figure 74-7 on page 833) selects the track for various purposes. For example, if you are making an edit across several MIDI and audio tracks in the Track Overview, the SELECT buttons control which tracks become selected for the edit. When the SELECT button LED is illuminated, the track is selected; when it is dark, the track is not selected.

Hold down the following KEYBOARD SHORTCUT buttons when pressing a track's SELECT button for the following track selection shortcuts:

Hold down this Mackie Control modifier key button:	To do this:
— none —	To select just one track (and clear all others)
SHIFT	To add the track to the current selection.
COMMAND	To deselect the track and select all others.
OPTION	To select all tracks.

For information about selecting a time range for editing, see "Selection techniques" on page 843 and "Selecting tracks" on page 843.

THE MUTE AND SOLO BUTTONS

The MUTE and SOLO buttons for each Mackie Control channel strip function exactly as their counterparts in Digital Performer's Mixing Board window.

See "Track button shortcuts" below for various shortcuts for the MUTE and SOLO buttons.

THE REC/RDY BUTTONS

The REC/RDY (Record/Ready) button at the top of each channel strip (Figure 74-7) arms the track for recording, just like clicking the Record button in the Mixing Board or the Record button in Digital Performer's Track List.

☞ If the track does not currently have an input assignment, the REC/RDY button (or the corresponding record-enable buttons in Digital Performer) will not be able to arm the track. If nothing happens when you press any of these buttons, make sure the track has an input assignment. You can not record enable Aux or Master Fader tracks.

See "Track button shortcuts" below for various shortcuts for the REC/RDY buttons.

Toggling Patch Thru

The PATCH THRU button in the RECORD section lets you toggle Digital Performer's global Audio Patch Thru feature (in the same manner as the headphone button in Digital Performer's Audio Monitor window, and the Audio Patch Thru item in the Studio menu).

TRACK BUTTON SHORTCUTS

Track buttons, including AUTOMATION assign, SELECT, SOLO, MUTE and REC/RDY (record-enable) can be modified as follows:

Hold down this Mackie Control modifier key button:	To do this:
OPTION	Applies the operation to all tracks.
SHIFT	Extends the current selection (applies only to the SELECT buttons).
OPTION+SHIFT	Applies the operation to all *selected* tracks.
CONTROL	Sets the track you press and clears all others.
COMMAND	Clears the track you press and sets all others.

PANNING WITH THE V-POTS

The V-POT™ rotary potentiometer in each channel strip is used for several purposes, including track panning, input/output assignments and send assignments. For panning, make sure that the ASSIGNMENT LED reads "Pn". If not, press the PAN button in the ASSIGNMENT section.

Jumping to pan center

To set the pan V-POT to pan center, press the V-pot.

THE CHANNEL STRIP LCD

Above the Mackie Control control surface is an LCD display that shows the track name. It displays many other types of information, discussed in the following sections.

Level Meters button

The LEVEL METERS button turns the Mackie Control level meters on and off. These level meters appear in the LCD display above each channel strip, to the right of the track name. Hold down the SHIFT button while pressing LEVEL METERS to open the Audio Monitor window. Hold down the CONTROL button to open the MIDI Monitor window.

Figure 74-9: The LEVEL METERS button.

THE ASSIGNMENT SECTION

The channel strip section of Mackie Control can function provides access to many track parameters by way of several different operational modes. Each mode changes what the V-pots control — as well as the buttons in the ASSIGNMENT section. When you first launch Digital Performer, the Mackie Control goes into PAN mode. In this mode, the faders adjust track volume, and the V-Pots along the top of unit adjust pan.

To switch between modes, press the top left button in the ASSIGNMENT section (the I/O Button). This clears the track name display, and then shows the following:

■ Pan

■ SndVal

■ SndOut

■ Input

■ Output

■ Effect

■ Prefs

The V-Pots double as buttons. To choose a mode, press the V-Pot under the label. For example, pressing the V-Pot under Effect would put you in Effect slot mode. To cancel the menu, press the I/O button again.

☞ In the ASSIGNMENT section, the PAN button is a shortcut for Pan mode, the SENDS button is a shortcut for Send Value mode, PLUG-INS is a shortcut for Effect mode.

Here's a brief description of what each of the modes does:

Mode	Description
Pan	The V-Pots control Pan.
SndVal	The V-Pots control Send Levels and Send Mute.
SndOut	The V-Pots select the output to which the sends are assigned.
Input	The V-Pots control track input.
Output	The V-Pots control track output.
Effect	The V-Pots select effects for slots in the mixing board, and choose presets.
Prefs	Accesses preferences for the Mackie Control.

The following buttons are modified by each of these modes:

Section	Button
ASSIGNMENT	DYN
ASSIGNMENT	EQ
FADER BANKS	BANK
FADER BANKS	CHANNEL
FADER BANKS	FLIP
FADER BANKS	EDIT

Figure 74-10: The Assignment section gives you access to plug-ins, I/ O assignments, sends, and other track parameters.

The following sections explain each mode and what these buttons do in each mode.

PANNING

You can jump to this mode at any time by pressing PAN in the ASSIGNMENT section. You will see "Pn" in the two character LED display above the ASSIGNMENT section to indicate that you are in Pan mode.

In PAN mode, the V-Pots control stereo panning for each audio and MIDI track. For surround audio tracks (audio tracks that have a surround panner), the V-Pots control the X parameter. To edit the rest of the parameters for a surround track, press the V-Pot button to enter effect edit mode for the panner. To exit, press the EDIT button.

The buttons in the ASSIGNMENT and FADER BANK sections have the following features in Pan mode:

Button	Feature
DYN	Puts the track SELECT buttons and V-Pot buttons into "Default Value Mode". When you hold this button down, those buttons will flash. Pressing a flashing button sets that fader or V-Pot to its default value (i.e. zero dB for a fader, pan center for a pan pot.)
FADER BANK	Scrolls the tracks in view.
FLIP	Puts the volume control on the V-Pots and the Pan control on the Faders.
EDIT	Allows you to pop edit a sound bite. Position the wiper over a soundbite, press the EDIT button, then press the SELECT button for the track containing the soundbite you wish to edit. Holding down the SHIFT button at the same time will open a stand alone Soundbite window to do destructive edits on the soundbite. Holding down the OPTION button will open a MIDI Edit window (if a MIDI track is selected). Holding down the CONTROL button opens an even list window for the selected track.

SEND VALUE

This mode is very similar to Pan mode. You can jump to Send Value mode at any time by pressing the SENDS button in the ASSIGNMENT section (Figure 74-10 on page 837). You will see "S1" in the two character LED display above the assignment section to indicate that you are working on Send 1. Use the up and down arrow buttons (next to the scrub wheel) to scroll to Send 2 ("S2"), Send 3 ("S3"), etc.
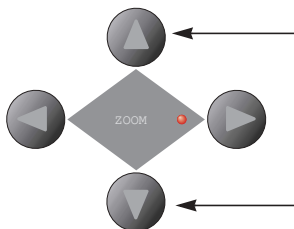

Figure 74-11: In Send Value or Send Output mode, scroll through the sends with the up/down arrow buttons.

In Send Value mode, pressing the V-Pot button mutes or unmutes the send.

The buttons in the ASSIGNMENT and FADER BANK sections have the following features in Send Value mode:

Button	Feature
DYN	Puts the track SELECT buttons and V-Pot buttons into "Default Value Mode". When you hold this button down, those buttons will flash. Pressing a flashing button sets that fader or V-Pot to its default value (i.e. zero dB for a fader, zero dB for a send V-pot.)
FADER BANK	Scrolls the tracks in view.
FLIP	Puts the volume control on the V-Pots and the send control on the Faders.
EDIT	Allows you to pop edit a sound bite. Position the wiper over a soundbite, press the EDIT button, then press the SELECT button for the track containing the soundbite you wish to edit. Holding down the SHIFT button at the same time will open a stand alone Soundbite window to do destructive edits on the soundbite. Holding down the OPTION button will open a MIDI Edit window (if a MIDI track is selected). Holding down the CONTROL button opens an even list window for the selected track.

SEND OUTPUT

To jump to Send Output mode, press the I/O button, and then press the V-Pot labeled 'SndOut'. In this mode, the V-Pots let you choose the input the send is sending to, i.e. what is connected to the send output.

Similar to Send Value mode, you will see "S.1" in the two character LED display above the assignment section to indicate that you are working on Send 1. The period between the S and the 1 indicates that you are in Send Output mode. Use the up and down arrow buttons (next to the scrub wheel) to scroll to Send 2 ("S.2"), Send 3 ("S.3"), etc.

Turn the V-Pot under the desired track to select a new input for its current send. The V-Pot indicator light (below the knob) will flash indicating a selection is in progress. Press the V-Pot knob to confirm the selection, or press the ESCAPE button to cancel the selection. The selection will auto-confirm after a few seconds.

When a selection is *not* in progress, pressing the V-Pot button selects between pre and post send. The V-Pot indicator light will be lit if the send is Post.

The buttons in the ASSIGNMENT and FADER BANK sections have the following features in Send Output mode:

Button	Feature
FADER BANK	Scrolls the tracks in view.
EDIT	Allows you to pop edit a sound bite. Position the wiper over a soundbite, press the EDIT button, then press the SELECT button for the track containing the soundbite you wish to edit. Holding down the SHIFT button at the same time will open a stand alone Soundbite window to do destructive edits on the soundbite. Holding down the OPTION button will open a MIDI Edit window (if a MIDI track is selected). Holding down the CONTROL button opens an even list window for the selected track.

INPUT
To jump to Input mode, press the I/O button, and then press the V-Pot labeled 'Input'. In this mode, you can set the track inputs by turning the V-Pots. Confirmation and canceling works as described in the previous section.

The buttons in the ASSIGNMENT and FADER BANK sections have the following features in Input mode:

Button	Feature
FADER BANK	Scrolls the tracks in view.
EDIT	Allows you to pop edit a sound bite. Position the wiper over a soundbite, press the EDIT button, then press the SELECT button for the track containing the soundbite you wish to edit. Holding down the SHIFT button at the same time will open a stand alone Soundbite window to do destructive edits on the soundbite. Holding down the OPTION button will open a MIDI Edit window (if a MIDI track is selected). Holding down the CONTROL button opens an even list window for the selected track.

OUTPUT
This operates the same way as input mode, except that it changes track outputs.

EFFECTS (PLUG-INS)
You can jump to Effect Mode at any time by pressing the PLUG-IN button in the ASSIGNMENT section. You will see "E1" in the two character LED display above the assignment section to indicate that you are working on Effect Insert 1. Use the up and down arrow buttons (next to the scrub wheel) to scroll to Effect Insert 2 ("E2"), Effect Insert 3 ("E3"), etc.

Adding or removing an effect plug-in
In this mode you can see one effect slot for each track. Use the V-Pots to choose what effect is in the selected slot. Confirmation/canceling works as described earlier in "Send Output" on page 838. Choose *None* to remove an effect.

Bypassing
When a selection is *not* in progress, pressing the V-Pot button bypasses or unbypasses the effect in question. The indicator light is lit if the effect is bypassed, and an X appears in the middle of the effect name.

The buttons in the ASSIGNMENT and FADER BANK sections have the following features in Send Output mode:

Button	Feature
DYN	Allows you to pick presets for the effects. Hold down the DYN button, then turn the V-Pot corresponding to the track you want to assign a preset to.
EQ	Hold down the EQ button, then press the V-Pot associated with a track to insert a ParaEQ effect in that slot.
FADER BANK	Scrolls the tracks in view.
EDIT	Enters Effect Editing Mode. Hold down the EDIT button, then press a V-Pot button to select that effect for editing.

EFFECT EDITING

This is a sub-mode of Effect Mode. In this mode you can edit the parameters for a single effect. The top row on the main display indicates the parameters, and the bottom row displays the value. Turn the V-Pots to change the value.

Change insert rows as described in the previous section. Use the left and right arrow buttons (Figure 74-6 on page 833) to jump between tracks. Between the up/down and left/right buttons, you can navigate to any effect slot in your sequence.

The buttons in the ASSIGNMENT and FADER BANK sections have the following features in Send Output mode:

Button	Feature
DYN	Allows you to compare your edits against the previously selected preset. The button will be off if you have not edited the effect, illuminated to indicate you have edited the effect, or flashing if you have pressed it and are comparing against a preset.
FADER BANK	Scrolls the tracks in view.
FLIP	Puts the effect parameters on the faders, and the volume on the V-Pots. This lets you set multiple effect parameters simultaneously.
EDIT	Exits effect editing mode.

PREFERENCES

This mode allows you to set your preference for the following:

Preference	Description
LvlMtr	Turns level meters on an off (same as pressing the LEVEL METERS button)
SrlTrks	Turns synchronized track scrolling on or off. When enabled, Digital Performer scrolls the mixing board to match the tracks currently in view on the Mackie Control.
FtSwtc	Ply/Rc or F5/F6. If Ply/Rc is chosen, then the foot switches directly access Digital Performers Play/Stop/Record functionality. If F5/F6 is chosen, then pressing pedal "A" Will send an F5 to Digital Performer, and "B" will send an F6. You can then rebind these buttons to perform whatever function you wish.

To toggle a setting, press its corresponding V-Pot below it.

To exit Preferences mode, select any other mode.

PROGRAMMING THE EXPRESSION PEDAL

You can choose any single parameter to be modified by the expression pedal input (the "External Control" jack on the back of the Mackie Control). To do this, hold down the OPTION and COMMAND buttons simultaneously, then press a track SELECT button to associate it with a track fader, or a V-Pot button to associate it with whatever that V-Pot is currently controlling. This setting is saved in the Mackie Controls preferences.

For example, to connect your external pedal to an EQ parameter:

1 Enter Effect Editing mode on the EQ.

2 While holding down OPTION and COMMAND, press the V-pot button of the parameter you want to control.

TRACK GROUPS

The TRACK GROUPS section lets you group and ungroup tracks.

Figure 74-12:

Creating a track group

To create a track group:

1 Select some tracks with SELECT buttons.

2 Press the GROUP button.

A new track group appears in the Track Groups window. It is a Custom track group that only groups the volume faders. If you wish to group the tracks in other ways, edit the group in the Track Groups window.

Controlling a track group

To control a track group, move any member fader.

Suspending a track group

To temporarily suspend a track group (without removing it altogether):

1 Hold down the SUSPEND button.

2 Press the SELECT BUTTON of any track in a non-suspended group.

3 The name will change to "----" and the grouped behavior of that set of faders will be suspended.

Un-suspending a fader group

To restore a temporarily suspended track group:

1 Hold down the SUSPEND button.

2 Press the SELECT BUTTON of any track in a suspended group.

3 The name will change back to actual group name, and the grouped behavior of that set of faders will be reinstated.

Ungrouping tracks

To ungroup tracks:

1 Hold down the UNGROUP button.

2 Press the SELECT BUTTON of any track in the group you wish to ungroup.

CHANGING A TRACK'S AUTOMATION MODE

Digital Performer supports five different automation modes independently for each track:

- Overwrite
- Touch
- Latch
- Trim Touch
- Trim Latch

For a complete explanation of these modes, see "The five automation modes" on page 652.

Mackie Control allows you to change a track's automation mode at any time using the buttons in the AUTO MODE section as shown below:

Figure 74-13: Change a track's automation mode with these buttons.

Automation modes

Holding down any of these buttons displays the current automation modes for the tracks. Pressing the track SELECT button sets the track to the selected mode. READ/OFF toggles between Read and off based on the first track you press. This lets you "glide" to turn all tracks on or off.

Automation mode shortcuts

See "Track button shortcuts" on page 835 for several shortcuts for setting automation modes.

THE WINDOW BUTTONS

The WINDOW buttons let you open various important windows, or bring them to the front, including the Sequence Graphic Editor, Tracks Overview and Mixing Board. You can also open many other windows with the following shortcuts:

Press this:	To open this:
SHIFT+ SEQUENCE EDITOR	Soundbites window
CONTROL+ SEQUENCE EDITOR	Movie window
SHIFT+ TRACKS OVERVIEW	Chunks window
SHIFT+ PLUG-INS (in the ASSIGNMENT section)	Effects window
OPTION+ any WINDOWS button	Pushes the front-most window to the back.
COMMAND+ any WINDOWS button	Closes the front-most window.

SCROLLING, ZOOMING AND NUDGING WITH THE ARROW BUTTONS

The arrow buttons to the left of Mackie Control's jog wheel provide scrolling, zooming, and nudging capabilities.
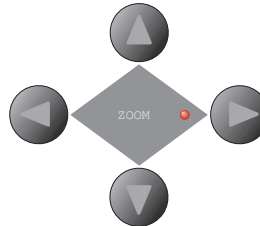

Figure 74-14: Zooming with the ARROW buttons.

The ARROW buttons operate in three different modes shown in the table below. You can cycle through the three modes by repeatedly pressing the ZOOM button in the center of the four ARROW buttons, or you can use the shortcuts below to go directly to each mode:

Mode	LED status
Scroll mode	Off (dark)
Zoom mode	Illuminated
Nudge mode	Flashing

Scrolling

To put the ARROW buttons into *Scroll* mode, press the center ZOOM button repeatedly until it is off (dark).

The ARROW buttons scroll the top-most Digital Performer window as follows:

Press this:	To do this:
Up ARROW	Scroll up
Down ARROW	Scroll down
Left ARROW	Scroll left
Right ARROW	Scroll right

Hold down the SHIFT key to scroll the window as far as it can go.

Hold down OPTION to "zoom back".

Hold down SHIFT + OPTION to "zoom normal".

Zooming

To put the ARROW buttons into *Zoom* mode, press the center ZOOM button repeatedly until it is illuminated.

The ARROW buttons zoom the top-most Digital Performer window as follows:

Press this:	To do this:
Up ARROW	Zoom in vertically
Down ARROW	Zoom out vertically
Left ARROW	Zoom out horizontally
Right ARROW	Zoom in horizontally

Hold down the SHIFT key to zoom the window as far as it can go.

Nudging

To put the ARROW buttons into *Nudge* mode, press the center Zoom button repeatedly until it flashes.

The left/right ARROW buttons nudge any currently selected data by the current nudge amount. Add the OPTION button to nudge by the current nudge unit value (which may match the nudge amount).

In Nudge mode, the up/down ARROW buttons modify the nudge value. Add the OPTION button to modify the nudge unit. Add the SHIFT key instead of OPTION to modify the edit grid size.

Edit Grid toggle and Set Nudge Amount

Pressing the GRID button toggles the Edit Grid. Add SHIFT to open the Nudge Amount window. You might find it helpful to open the Nudge Amount window because it allows you to see the current nudge amount.

TAKE MANAGEMENT WITH THE ARROW BUTTONS

The ARROW buttons provide access to Digital Performer's take management features (New Take, Next/Previous Take, etc.) To do so:

1 Record-enable the track or tracks you wish to work with.

2 Hold down the CONTROL button while pressing the ARROW buttons as follows:

Press this:	To do this:
CONTROL + UP ARROW	Previous Take
CONTROL + DOWN ARROW	Next Take
CONTROL + RIGHT ARROW	New Take
CONTROL + LEFT ARROW	Erase Take

The action is applied to all record enabled tracks.

SELECTION TECHNIQUES

Mackie Control provides several ways to select tracks and make time range selections within those tracks.

Selecting tracks

To include or exclude tracks from the current time-range selection, use their SELECT buttons. See "The SELECT buttons" on page 835. Selected tracks are included in the current time range selection, if any. You can select and deselect tracks at any time, before or after making a time range selection.

Selecting a time range

When you make a time range selection, it applies to all currently selected tracks, if any. You can change the time range selection at any time, before or after selecting tracks (as described in the previous section).

To make a time range selection:

1 Using any transport control features you wish, locate Digital Performer to the beginning or end of the time range.

2 Press the SELECT button (just above the main transports).

3 To define the other edge of the selection (before or after), locate somewhere else and press SHIFT SELECT.

4 If you haven't done so already, use the channel strip SELECT buttons to include or exclude tracks in the selection.

Selecting a time range during playback

Use the same procedure as described above to capture a selected region during playback: press CAPTURE at the beginning of the region and press SHIFT + CAPTURE at the end.

Using Digital Performer's selection shortcuts

As an alternative to the techniques just discussed, you can assign Digital Performer's selection shortcuts (in the Commands window) to Mackie Control's F-key shortcuts ("F Keys" on page 846) and use them instead of the SELECT button to load selection start and end times.

Selecting while scrubbing

You can use the SELECT and SHIFT + SELECT technique to select while scrubbing. For details, see "Making a selection while scrubbing" on page 832.

SELECTING WITH THE ARROW BUTTONS

To put the ARROW buttons into *Selection* mode, hold down the COMMAND button. Then use the selection techniques described in the following sections.

Selecting tracks

The ARROW buttons can be used to select tracks as follows when used with the modifier keys in the KEYBOARD SHORTCUTS section:

Press this:	To do this:
COMMAND + Up/Down ARROW	To change the currently selected track.
COMMAND + SHIFT + up/down ARROW	To add the next track above or below the current set of selected tracks.
COMMAND + OPTION + up/down ARROW	To remove the top or bottom track from the current set of selected tracks.

Modifying the current time range selection

The ARROW buttons can be used to modify the current time range selection as follows:

Press this:	To do this:
SHIFT + Left ARROW	Chooses the left side of the current selection as the edge to edit.
SHIFT + Right ARROW	Chooses the right side of the current selection as the edge to edit.
Left ARROW	To move the edge of the selection to the left by the Nudge amount.
Right ARROW	To move the edge of the selection to the right by the Nudge amount.
Left/Right ARROW	To move the insertion point by the Nudge amount.

Use the arrow keys to edit one edge of the selection, then jump to the other edge by holding SHIFT and pressing Right or Left.

MACKIE CONTROL AND MIDI TRACKS

MIDI tracks can be controlled from Mackie Control in much the same way as audio tracks. For example, MIDI track input and output assignments can be made from Mackie Control as

described earlier in this chapter. Also, Mackie Control channel strips work the same way for MIDI tracks as they do for audio tracks. The only real differences are fairly obvious. For example, MIDI tracks do not have sends, so there is no send control from Mackie Control, either. But MIDI tracks do have inserts and MIDI plug-ins, which can be controlled from Mackie Control.

WORKING WITH DIALOG BOXES

When a dialog box appears on-screen in Digital Performer, use the ENTER and ESCAPE buttons in the DIALOG section to confirm or dismiss the dialog.

USING WINDOW SETS WITH MACKIE CONTROL

Digital Performer's *Window Sets* feature works particularly well with Mackie Control because you can invoke pre-configured Digital Performer window layouts on-screen from Mackie Control's control surface.

Recommended window sets

Here are a few window sets you might find useful:

Window set	Description
Mixing	The Mixing Board is expanded to the full width of the screen, with inserts, sends and everything else displayed.
Plug-ins	The effects window is open and positioned on the left edge of the screen, just below the Control Panel (or covering it). When you change from one plug-in to another, this position ensures that you can see the entire plug-in. You might also want to include the Mixing Board or Audio Graphic Editor opened behind it.
Audio editing	Sequence Editor is expanded to the full width of the screen and top to bottom. Have the track selector open so you can see what tracks are currently visible.
MIDI/audio editing	The Tracks window is prominently displayed so you can see and edit both MIDI and audio tracks together.

Assigning window sets to F-key buttons

Assign window sets to the F-keys (F1 through F12) on your Macintosh keyboard. Doing so allows you to invoke the window sets directly from Mackie Control's F keys (see "F Keys" on page 846).

SAVING THE DIGITAL PERFORMER PROJECT

The SAVE button allows you to save your Digital Performer project at any time, just like choosing *Save* from Digital Performer's File menu. Because it is easy to accidentally press the SAVE button, the procedure for saving actually requires that you press the SAVE button twice: once to "arm" it and again to actually save. This procedure helps avoid accidentally saving a project at the wrong time.

The SAVE button LED

When you modify your Digital Performer project (in any way that would also activate the Save command in Digital Performer's File menu), the SAVE button LED illuminates to inform you that the project has been modified. (Accordingly, Digital Performer's Save command will similarly be activated.) You can then save the project from Mackie Control as described in the next section.

Saving a project

Once the SAVE button is illuminated (as described above), you can save the project as follows:

1 Press the illuminated SAVE button in the PROJECT section.

2 The SAVE button flashes to indicate that it is now armed for saving.

3 If you change your mind and decide that you wish to exist the save operation, press the ESCAPE button to cancel the save operation and not save the file.

4 If you wish to complete the save operation, press the SAVE button again.

At this point, the SAVE button LED will appear dark to indicate that the file has been saved. It will remain dark until the file is further modified.

F KEYS

The following buttons, when pressed together with *any* MODIFIER button, will send the F Keystroke listed. You can assign these F Keys to any command in Digital Performer's Commands window. This allows you to access just about any feature from the Mackie Control:

Button	F Key
Enter	F1
Escape	F2
Click	F3
Countoff	F4
Overdub	F5
Patch Thru	F6
Clear Clip	F7
Slave to Ext Sync	F8
Memory Link	F9
Pre/Post Roll	F10
Undo	F11
Redo	F12