

Where Is It?

Chapter 2

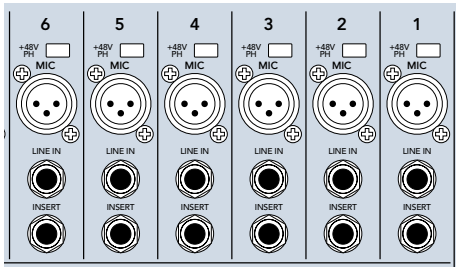
It's Time to Locate Everything...

No matter how fast you want—or need—to get started, take advantage of this simple map of the territory: it provides the Fast Track overview of the D8B. It's amazing how artistically supportive this console is. It's well worth your time to take a look at all the controls so you can put them to work efficiently.

Rear Panel Description

This section describes rear panel connector types, their functions, and associated signal buses.

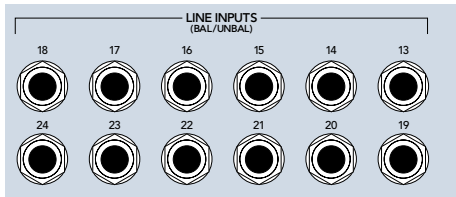
Channels 1–12 Inputs



Each channel contains:

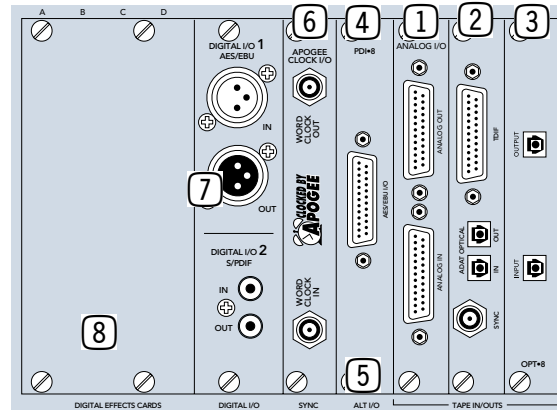
- XLR mic input. Be sure the MIC button is pressed down on the control surface channel strip.
- Phantom power On/Off button depending on mic requirements.
- 1/4" TRS line input—balanced or unbalanced. Be sure the MIC switch is in the up position on the control surface channel strip.
- 1/4" TRS channel insert/direct output jack.

Channels 13–24 Inputs



Channels 13 through 24 have 1/4" TRS (Tip/Ring/Sleeve) line input connectors that accept balanced and unbalanced signals.

Card Cage Section



This is where you plug in the optional I/O cards of your choosing, to customize the Digital 8•Bus for your own application.

There are three slots assigned as TAPE IN/OUTS. Each slot provides I/O for 8 channels, so you can add up to 24 tape sends and returns, or additional inputs and outputs.

- **TO TAPE (OUTPUT)** – The D8B can route any channel in Fader Banks 1, 2 and 3 to the multitrack through these connectors. In addition, the bus outputs in Fader Bank 4 (MASTERS) can be routed out the tape outputs.
- **FROM TAPE (INPUT)** – Multitrack outputs are fed back into channels 25–48 (Fader Bank 2) through these connectors. Depending on the specific I/O card, these inputs will receive any line-level analog or digital signal.

Each I/O card contains its own labeling protocol, but the fundamental concepts described above pertain to all.

1 Analog I/O (AIO•8)

- Each 25-pin D-sub connector handles 8 balanced analog channels.
- Top connectors send line-level outputs to the multitrack (or other line-level equipment).
- Bottom connectors receive line-level analog signal from the multitrack outputs (or other line-level equipment).
- Each card offers I/O for 8 channels.
- Connectors are compatible with TASCAM DA-88, 25-pin analog connectors.

2 Apogee Digital I/O (DIO•8)

- Two digital-format ins and outs: ADAT optical (fiber optic connections) and TASCAM TDIF (25-pin D-sub connections).
- Select one digital format at a time in the Setup screen.
- One BNC sync connector for master clock connection from the D8B to TASCAM clock recipient.
- Use the DIO•8 card as a format converter between either optical and/or TDIF.

3 ADAT Optical (OPT•8)

- Two digital ADAT optical (fiber optic) connections.
- Each card offers I/O for 8 channels.

4 AES/EBU (PDI•8)

- One 25-pin D-sub connector in digital AES/EBU format.
- Each card offers I/O for 8 channels.

5 ALT I/O Card Slot

- Separate input/output card slot offering 8 more ins and outs.
- Holds any card: AIO•8, DIO•8, OPT•8, or PDI•8.
- Inputs show up at RETURNS faders (channels 65–72).
- Outputs are assignable to either the 8 bus outputs (BUS 1–8), the 12 Aux Sends (AUX 1–12), or the MASTER L-R outputs.
- Assignments are made in the Digital I/O menu.

6 The Clock I/O Card

- Provides word clock in and out to connect with other digital equipment.
- For use as a master or slave clock source.
- Supports 48kHz and 44.1kHz internal sample rates, with vari-speed capabilities.
- Supports external sample rates between 32kHz and 50kHz.

Note: The Apogee Clock I/O card replaces the standard clock card that is shipped in the SYNC slot with the D8B.

7 The Digital I/O Card (2-track)

- AES/EBU digital I/O. Stereo interconnect for master record machine. Input is connected to DIGITAL 1 in the CONTROL ROOM monitor section.
- S/PDIF digital I/O. Input is connected to DIGITAL 2 in the CONTROL ROOM monitor section.
- Same source output as MASTER L-R.

8 Digital Effects Card Slots

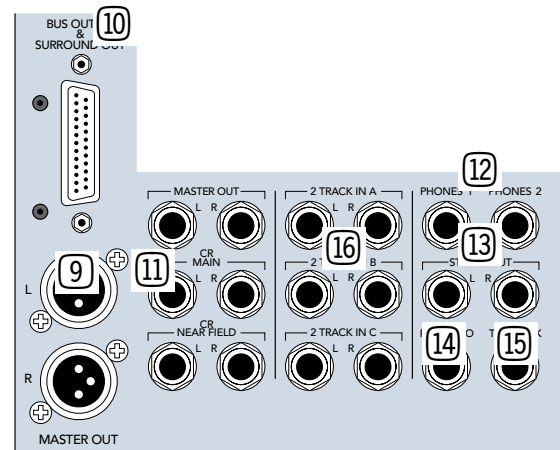
- Room for four separate effects cards.
- MFX – Mackie Effects card with two stereo processors.
- UFX – Universal DSP engine with functions dependent on specific plug-in effects. Each card is capable of four discrete mono, two stereo, or one stereo and two mono effects.

- L-R Mix, Channel Pre or Post Insert, Buses 1-8, and Plugin Chain, in addition to the Aux sends 1–12, internally route to the four card locations.
- Using the configurable plug-in architecture, insert plug-in capability is available for channels 1–48 (Pre- and Post-DSP), Buses 1-8, and Main Mix L-R.
- Effects return to the main L-R mix at Fader Bank 3 via FX 1–16.



Reminder: Power down the system before installing any cards!

Master Input/Output Section



9 MASTER OUTPUTS (1/4" TRS and XLR)

- Fed from the Master L/R fader on the console surface.
- Both sets deliver balanced line-level signals. However, the TRS Master Outputs also provide unbalanced line-level signals.
- Post fader, DSP, and D/A converter.

10 BUS OUT 1–8 (SURROUND OUT)

- 25-pin D-sub connector provides eight balanced line-level outputs.
- Any channel (1–48), internal effects return, or ALT IN can be assigned to one or more bus outputs.
- In Stereo Mode: Output level is controlled by the BUS 1–8 MASTERS (Fader Bank 4).
- In Surround Mode: Output level is controlled by the Surround Monitor Level controls in the Surround window.

11 CR MAIN and CR NEAR FIELD

- Pairs of 1/4" TRS stereo line-level outputs for sending signals to control room speakers.
- Both outputs carry the same signal (as selected in the Control Room section).
- Levels can be adjusted independently or linked together.
- Post-DSP, Master L/R fader, and D/A converter.
- The signal fed to these outputs is selected in the CONTROL ROOM section of the control surface.

12 PHONES 1 and 2

- Each jack carries an unbalanced stereo signal through a 1/4" TRS jack.
- Designed to connect to virtually any stereo headphones. Phones 1 and 2 V-Pots adjust to compensate for headphones with exceptionally high or low impedances.
- The signal at these outputs is determined by the PHONES/CUE MIX 1 and PHONES/CUE MIX 2 source selection on the control surface.
- Aux 9–10, Aux 11–12, or the CONTROL ROOM selection can feed either or both Phones/Cue outputs.
- The Master L/R mix can be copied to either or both Aux 9–10 or 11–12 Cue Mixes.

13 STUDIO OUT L-R

- Signal at these outputs is determined by the CONTROL ROOM source selection.
- Balanced analog stereo-paired outputs for sending signals to the studio.
- 1/4" TRS outputs can drive a balanced or unbalanced input.
- Level controlled by the V-Pot in the SOLO/STUDIO section of the control surface, when STUDIO LEVEL is selected.

14 PUNCH I/O

- A remote switch connection for activating the MMC master record function—to punch in or out of record.
- Use with a normally-open switch.

15 TALKBACK

- A remote switch connection for engaging the talkback function.
- Duplicates the Talkback switch in the CONTROL ROOM section.
- Use with a normally-open switch.

16 2 TRACK A, B, and C

- Balanced 1/4" TRS inputs for receiving line-level analog signals from a 2-track recorder.
- The separate left/right pairs feed the 2 TRACK A, B, and C buses in the control room monitoring section.
- Can accept balanced and unbalanced signals.

AUX OUT Section

- There are 12 Aux sends available.
- Auxes 1–8 provide mono 1/4" TRS analog line-level outputs.
- Auxes 9 and 10 are linked together as a stereo pair of 1/4" TRS analog line-level outputs.
- Auxes 11 and 12 are linked together as a stereo pair of 1/4" TRS analog line-level outputs.

Note: Auxes 1–12 simultaneously feed the analog Aux sends and the internal effects cards (by default).

Each MFX card handles two separate mono inputs, so auxes are paired. MFX effects returns are stereo, so each card, while receiving two discrete mono inputs, returns two sets of stereo outputs to the EFFECTS Bank. Internally, Aux 1 returns to FX 1/2; Aux 2 returns to FX 3/4; Aux 3 returns to FX 5/6; continuing through Aux 8, which returns at FX 15/16.

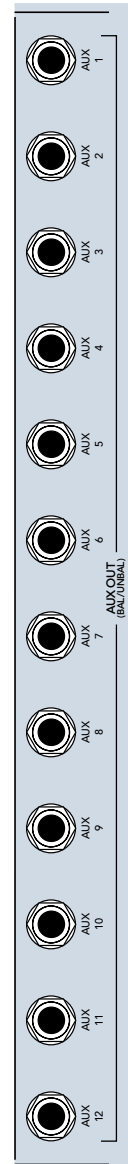
UFX cards handle 4 mono, two stereo, or one stereo and two mono inputs.

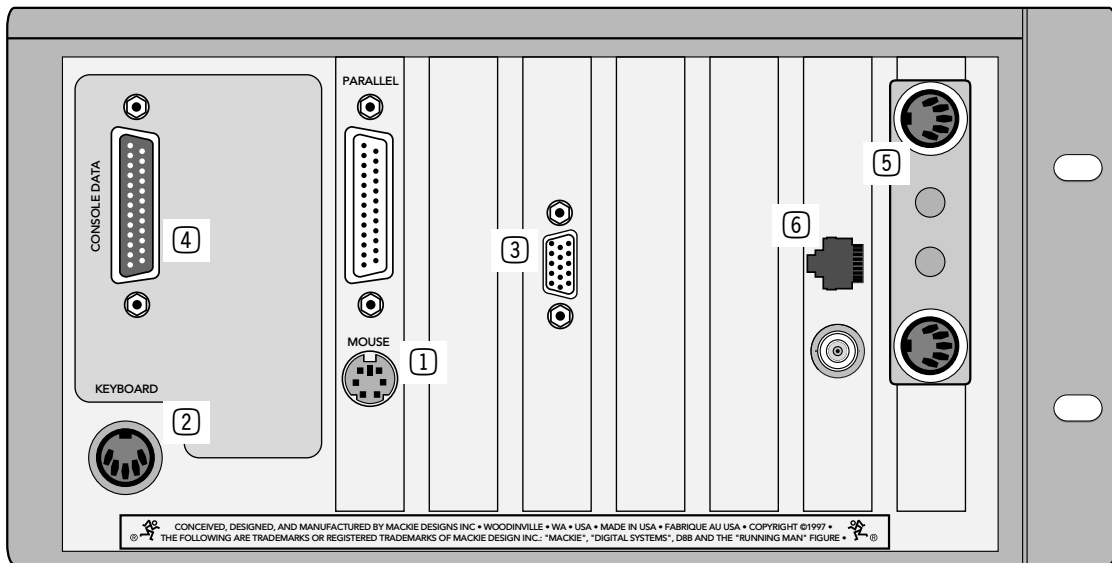
For each UFX card, no matter what the Aux input selection, returns appear at the FX faders numbered the same as their respective slots.

If all UFX effects are mono, each return correlates directly to the Slot number (9 to 9, 10 to 10, etc.)

- When stereo effects are selected, regardless of the Aux input selection, returns appear at the FX faders numbered the same as their respective slots. For stereo effects with mono inputs, the effects return at the respective slot numbered pair (input 9 returns at FX 9/10; input 11 returns at FX 11/12, etc.)

Note: Patching from an Aux output does not interrupt the internal sends to the FX Cards, so it's possible to run both internal and outboard effects at the same time.





Remote CPU Description

Data and Synchronization I/O

These connections are specifically pertinent to non-audio functions (or, in plain English, these aren't audio connections!).

Connecting a Mouse, Keyboard and SVGA Monitor

The Digital 8•Bus is designed to work as a stand-alone console. However, you'll increase your options and productivity by using a mouse, keyboard, and SVGA monitor. Simply connect them to the corresponding ports on the back of the Remote CPU for access to point-and-click commands with the mouse, as well as key commands and text entry from the keyboard.

① The Mouse Port

- Connect a PC-compatible mouse (PS/2 style).
- A two-button mouse is sufficient.

② The Keyboard

- Connect any PC-compatible keyboard (QWERTY style).
- Must have a 5-pin DIN connector. An adapter can be used for the 9-pin keyboard connector.



Note: Turn the Digital 8•Bus OFF before connecting these devices. The Digital 8•Bus must boot up with these peripheral devices connected in order for them to work properly.

③ The SVGA Monitor

- A hi-density 15-pin D-Sub connector is provided to connect an SVGA monitor.
- Use at least a 17" multisync SVGA monitor capable of 1024 X 768 resolution and a 72Hz refresh rate. Larger monitors provide greater viewing pleasure.
- Use of monitor provides graphic display and control of most console functions, including equalization, compression, gating, internal effects, automation editing, and file management.
- The SVGA monitor can be connected without turning off the Digital 8•Bus (hot-plugable).

Other Connections

④ Console Data

- A 25-pin D-sub connector connects the console to the Remote CPU using the cable supplied.

⑤ MIDI

- MIDI card in the remote CPU uses a 9-pin D-sub connector.
- Install the supplied 9-pin to dual 5-pin adapter to facilitate connection to your MIDI network using standard MIDI cables. This could be a plastic housing adapter or a rattail 9-pin split to 5-pin I/O connection.
- MIDI IN receives MTC, program changes, and controller, note, and poly aftertouch messages.
- MIDI OUT sends MMC commands, program changes, and controller, note, and poly aftertouch messages.
- The MIDI card can be replaced with the Serial•9 card, which provides both MIDI and Sony 9-Pin communication.

6 Ethernet Port

- Accepts an RJ45 telco connector.
- Connects to PC/Mac for FTP file transfer through a network or peer-to-peer.
- Can be used to make peer-to-peer connections with other Digital 8•Bus consoles.
- Use CAT5 for standard network FTP connections; use crossover CAT5 for peer-to-peer connections.

Control Surface Functions

We'll divide the D8B control surface into two sections, the Channel Strip section and the Master section.

Channel Strip Section

The channel strip on the Digital 8•Bus is very much like the channel strip on an analog mixer. Each channel offers the same set of controls, with a few exceptions. Even with a brief overview of each control, you'll find your understanding of the digital mixing concept closely related to what you already know about analog mixers—that's the beauty of this console design.

- There are 24 channel strips.
- There are four layers (Fader Banks) of feature sets: MIC/LINE (1–24), TAPE IN (25–48), EFFECTS (49–72), and MASTERS.
- Channels 1–12 have both mic and line input capabilities.
- Channels 13–24 have line input capabilities only.
- Channels 25–48 receive signal only from the I/O card inputs.

1 Trim Level

- At the top of each channel strip
- The Trim Level controls only input levels for channels 1–24.
- Regardless of bank selection, trims are active and available for channel inputs 1–24. This is handy for tweaking without having to switch banks.
- Used to adjust and optimize input levels.
- This control is one of the few not written in a snapshot.

Note: The TRIM levels at the top of each of the 24 channel strips and the MIC buttons at the top of the first 12 channel strips are not written into automation or snapshots. Careful notes as to their status should be manually archived—as in written down—for future reference. *However*, if TRIMs are all left at unity gain—or at least left untouched—throughout the entire session, the console is capable of perfect, total recall! We highly recommend this technique.

2 Mic/Line Button

- On channels 1–12 only.
- This button selects between the Mic Input (XLR) and the Line Input (1/4" TRS).
- Up position selects the line input (1/4" TRS).
- Down position selects the microphone input (XLR).

3 REC/RDY

- The Record Ready button arms the corresponding tape track to record.
- Communicates via MMC (MIDI Machine Control).

4 Assign

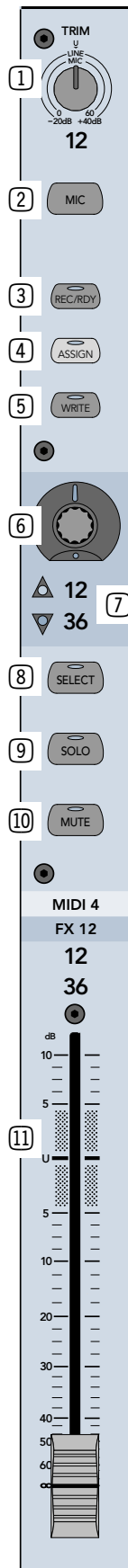
- Routes audio to output buses 1–8.
- Routes audio to the Master L-R bus.
- Assigns the selected channel to the channel strip's corresponding tape track for recording. For example, after selecting ROUTE TO TAPE in the ASSIGNMENT section, press SELECT on channel 2, then press the ASSIGN button on channel 12 to route the signal from channel 2 to tape track 12.

5 Write

- Manually enables a channel for recording to automation.
- Blinks when on standby; solid when active.
- Automatically lights when Auto Touch automation has been activated.

6 Channel V-Pot

- A multifunctional digital control and level display.
- Controls channel pan when PAN is selected in the Master V-Pot section (just to the right of channel 24).
- Controls Aux send levels when Aux 1–12 is selected in the AUX section (just above the Master V-Pot).
- Controls panning between stereo Auxes 9/10 and 11/12 when PAN is selected below either send.
- Controls channel Level to Tape and Digital Trim whenever they're selected (immediately above Aux 1 and 2 select buttons).
- Displays return fader levels (Bank 2) when Level to Tape follows faders.



7 Fader Bank Select LEDs

- Just below the channel V-Pots.
- When the green LEDs are on, Fader Bank 1 is selected (MIC/LINE).
- When the red LEDs are on, Fader Bank 2 is selected (TAPE IN).
- When both LEDs are on, Fader Bank 3 is selected (EFFECTS).
- When neither LED is on, Fader Bank 4 is selected (MASTERS).
- When flashing, the selected channels are in Punch Run mode (see “Punch Run” on page 56 for more info).

8 Select

- Chooses a channel to be edited.
- Enables onboard or on-screen Fat Channel control over the selected channel.
- Operative for copying and pasting data between channel strips.
- Part of the grouping and linking procedures.
- Double-clicking the SELECT button opens and closes the strip’s on-screen Fat Channel.
- Pressing and holding opens a channels preferences page in the VFD, which controls basic channel parameters.
- Pressing and holding two SELECT buttons at once opens a Link options page in the VFD.

9 Solo

- Pressing Solo on any channel lets you hear only the soloed channel.
- Mackie’s exclusive Rude Solo Light flashes incessantly whenever any channel is soloed.
- There are three different types of soloing available: PFL, AFL, and Mixdown.
- **PFL** (Pre-Fader Listen) solos the signal before it gets to the fader. PFL is a monitor function only and has no effect on the Master L-R mix send. Any channel is soloed in mono, regardless of pan position. PFL solo level is unaffected by fader changes.
- **AFL** (After-Fader Listen) solos the signal after the fader in the signal path. Therefore, solo level is affected by fader movement. AFL solos the accurate pan positioning and, like PFL, is only a monitor function not affecting the Master L-R mix.
- **Mixdown Solo** is a post-fader, pan-accurate solo that overrides the Master L-R mix.
- **Clear Solo**, in the Solo/Studio section, releases any solo selections. This is particularly useful when working with solos across multiple fader banks.

- **Aux Solo** is accomplished by selecting an aux bus, then pressing the SOLO button by the Master V-Pot. When this solo light is on, the Master V-Pot adjusts the solo level.
- **Soloing multiple channels** is accomplished by holding the shift key (onboard or keyboard) while pressing the solo buttons on all desired channels or, by holding one solo down while pressing others. Also, selecting “Solo Latch” in Setup > Mix Options keeps solos selected until they’re manually switched off.
- **Solo Isolate** mode is accomplished by holding down the Alt key on the keyboard or control surface while pressing a channel’s solo(s). A solo isolated channel is always active to the solo bus and therefore will not mute when other channels are soloed. Only PFL solo mode overrides Solo Isolate mode.

10 Mute

- Mutes the signal after the channel fader.
- Prior to the L-R output bus.
- Prior to Bus 1–8 outputs.
- Does not affect the Direct Out to Tape unless console is configured for Faders to Tape mode.

11 Channel Fader

- Controls the signal level from the channel to the bus or buses it is assigned to (typically the L/R Master Fader and the Bus 1–8 output).
- Doesn’t affect the signal level to the Tape Outputs unless specifically routed to do so, or if console is configured for Faders to Tape mode.

Channel Meters

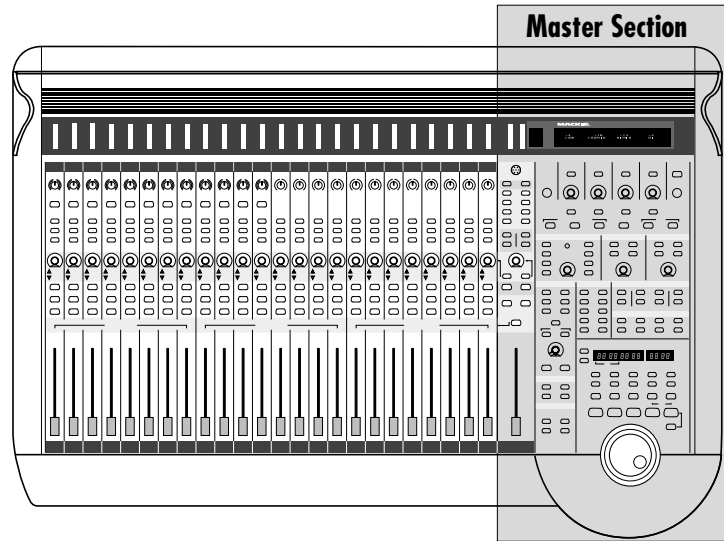
- Indicate post-EQ, pre-fader levels.
- The audio level display is scaled in digital dBFS (decibels full-scale).
- 0 dBFS = +20 dBu (clipping occurs at +22 dBu).
- –15 dBFS = +5 dBu
- The minimum displayed level is –50 dBFS.
- Markings next to the LED ladders are denoted as –50 dBFS to OL; they are similar in function to those of digital recorders. Each LED-segment is accurate within ± 1 dB.

Note: Typically, in digital recording devices such as MDMs, HDRs, or DATs, there is a built-in overhead of 3–4 dB above the 0 dBFS mark to match the typical maximum unbalanced analog console bus output value of +22 dBu. The OL LED lights at +22 dBu.

Master Section Description

The Master Section—everything to the right of channel strip 24—is divided into 13 subsections. They are:

- Master Fader/Bank Select Section
- Master V-Pot Section
- V-Pot Assign Section
- Fat Channel Section
- Studio/Solo Section
- Phones/Cue Mix Section
- Control Room Section
- Clipboard Section
- Master Fader/Shortcuts Section
- Bus Assignment Section
- Automation Section
- Session Setup Section
- Transport Section



Master Fader/Bank Select Section

This section consists of:

- The four buttons used to select the four Fader Banks.
- The SHIFT button, which is primarily used to select and deselect multiple channels.
- The Master L/R Fader, which controls the signal level going to the L-R stereo bus.

All 96 channels are always active. However only 24 are available at a time from the control surface (up to 48 are available through the on-screen interface). The buttons used to select the active fader set are:

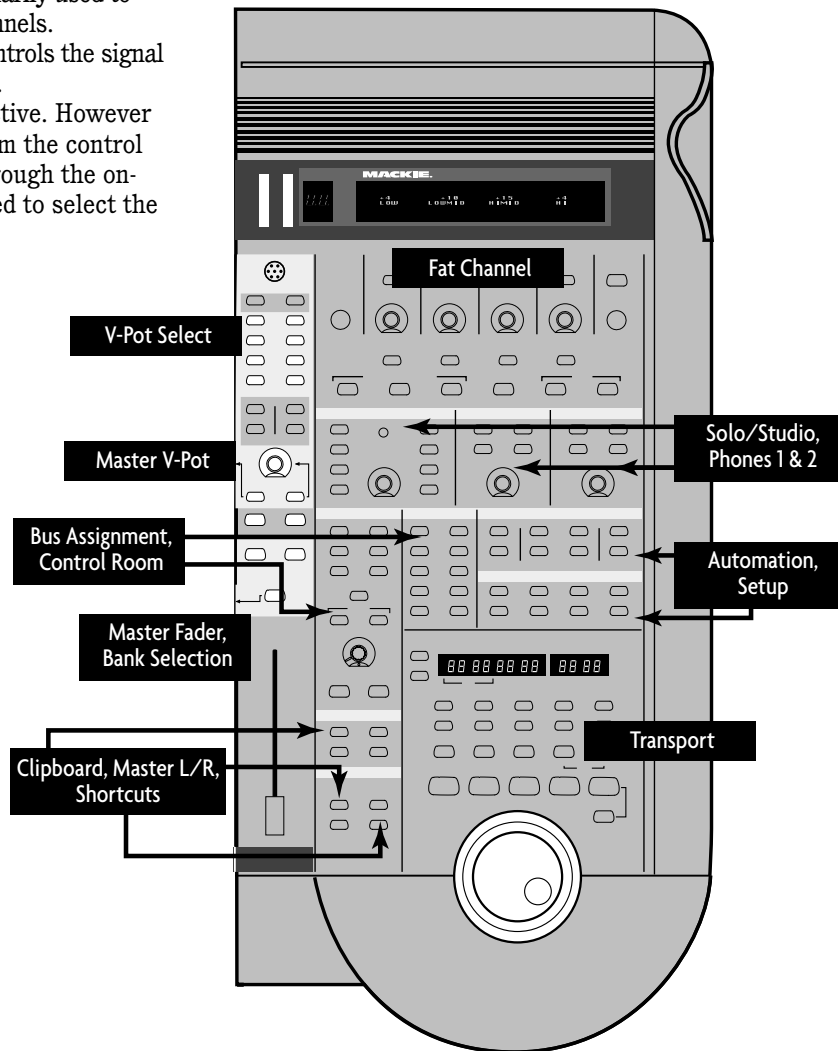
- MIC/LINE (TRACK)
- TAPE IN (MONITOR)
- EFFECTS
- MASTERS

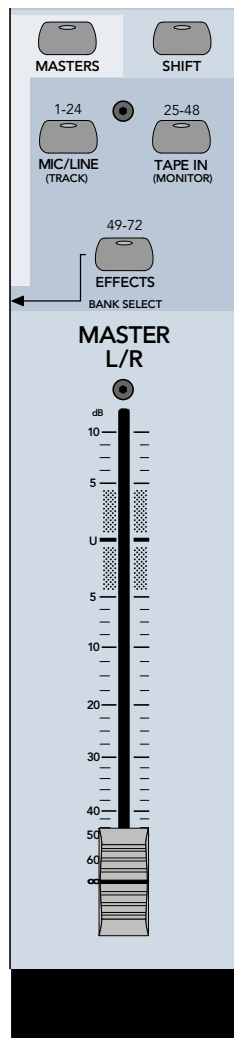
MIC/LINE (TRACK)

- Fader Bank 1.
- Selects channels 1–24.
- Combination of Microphone inputs 1–12 and line inputs 1–24.

TAPE IN (MONITOR)

- Fader Bank 2.
- Selects channels 25–48.
- Requires 1–3 Tape I/O cards installed in the card cage for input signals.





SHIFT Button

The SHIFT button serves multiple functions. It provides a way to select multiple channels and multiple solo buttons. It also serves as a fine-tune selector for Aux levels and Pan adjustments. Try adjusting an Aux level with and without the SHIFT button depressed—notice the difference in numerical scrolling speed.

- Use to access the HUI layer when HUI mode is active (SHIFT+MASTERS).
- Allows more than one channel SELECT button to be engaged simultaneously.
- Allows more than one SOLO button to be engaged simultaneously.
- Allows fine-tuning of Aux send levels and pan adjustments.
- Allows independent control of channel parameters with linked channels.
- Double-clicking selects all channels on the active fader bank.

Master L/R Fader

- 100mm logarithmically-tapered fader for smooth fades.
- Remotely controls level via DSP—doesn't pass audio like a traditional fader.
- dB level ranges from +10 dB (fully on) to $-\infty$ (fully off).
- Mixdown Solo level control.
- Provides level adjustment to tape outputs (if desired).

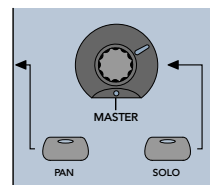
EFFECTS

- Fader Bank 3.
- Selects channels 49–72.
- Effects bank controls sixteen internal effects returns and eight ALT I/O returns.

MASTERS

- Fader Bank 4.
- Selects channels 73–96.
- Faders 1–8 control the virtual group levels.
- Faders 9–16 are assignable MIDI controllers.
- Faders 17–24 control the eight bus or surround outputs (BUS 1–8), which are output via the 25-pin D-sub connector labeled BUS OUT 1–8 & SURROUND OUT on the rear of the console. The BUS 1–8 outputs can also be assigned to the 24 tape outputs, or the ALT I/O slot.

Master V-Pot Section



MASTER V-Pot

- Acts as the Master level control for the currently selected Aux bus.
- In all surround mode settings, the MASTER V-Pot acts as the front/rear pan control for the selected channel (provided the PAN button is lit). When used along with the channel pan V-Pot, the D8B acts like an audio rendition of the family favorite Etch-A-Sketch®!

MASTER PAN

- Assigns all applicable channel V-Pots to act as pan controls (channels 1–72 and 81–88).
- Stays lit continuously until an Aux Select, Level to Tape, or Digital Trim button is engaged.

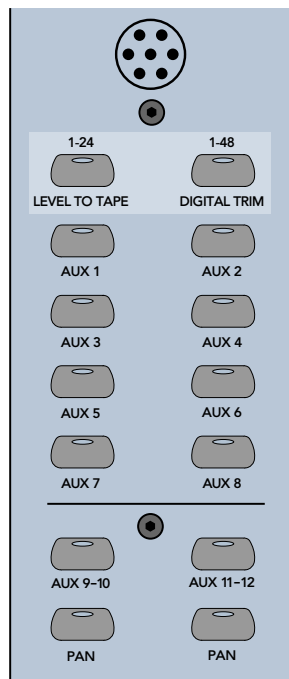
MASTER SOLO (Aux)

- Solos the currently selected Aux.
- Only one Aux can be soloed at a time.
- Master solo can be active at the same time a channel is soloed.
- Aux bus remains soloed until it is manually disengaged or until the CLEAR SOLO button is pressed.
- Solo level is post the MASTER V-Pot.
- Master Solo is not affected by the PFL or AFL Solo status selected in the Studio/Solo section.

V-Pot Assign Section

These buttons:

- Assign the channel V-Pots to control individual aux send levels.
- Assign the channel V-Pots to control individual channel trim or tracking output levels.



AUX 1–8 Buttons (Default Operation)

This description highlights the default configuration for aux sends and effects returns. Keep in mind that the new D8B plug-in architecture provides maximum flexibility and awesome creative capabilities with respect to plug-ins, aux sends, and returns.

- Pressing any Aux 1–8 assigns channel V-Pots to control individual send levels to AUX 1–8 output.
- Each Aux 1–8 is simultaneously routed to the corresponding 1/4" jack on the rear of the console and to an internal effects processor.
- Patching from the Aux 1–8 jacks does not interrupt the signal flow to the internal processors.
- Each Aux 1–8 acts as a mono send to a stereo internal effects processor (MFX card only). UFX cards offer complete flexibility.
- Auxes patched to the IVL Vocal Studio effects return to four channels, either in stereo pairs (second pair is the reverb return) or as four separate channels.

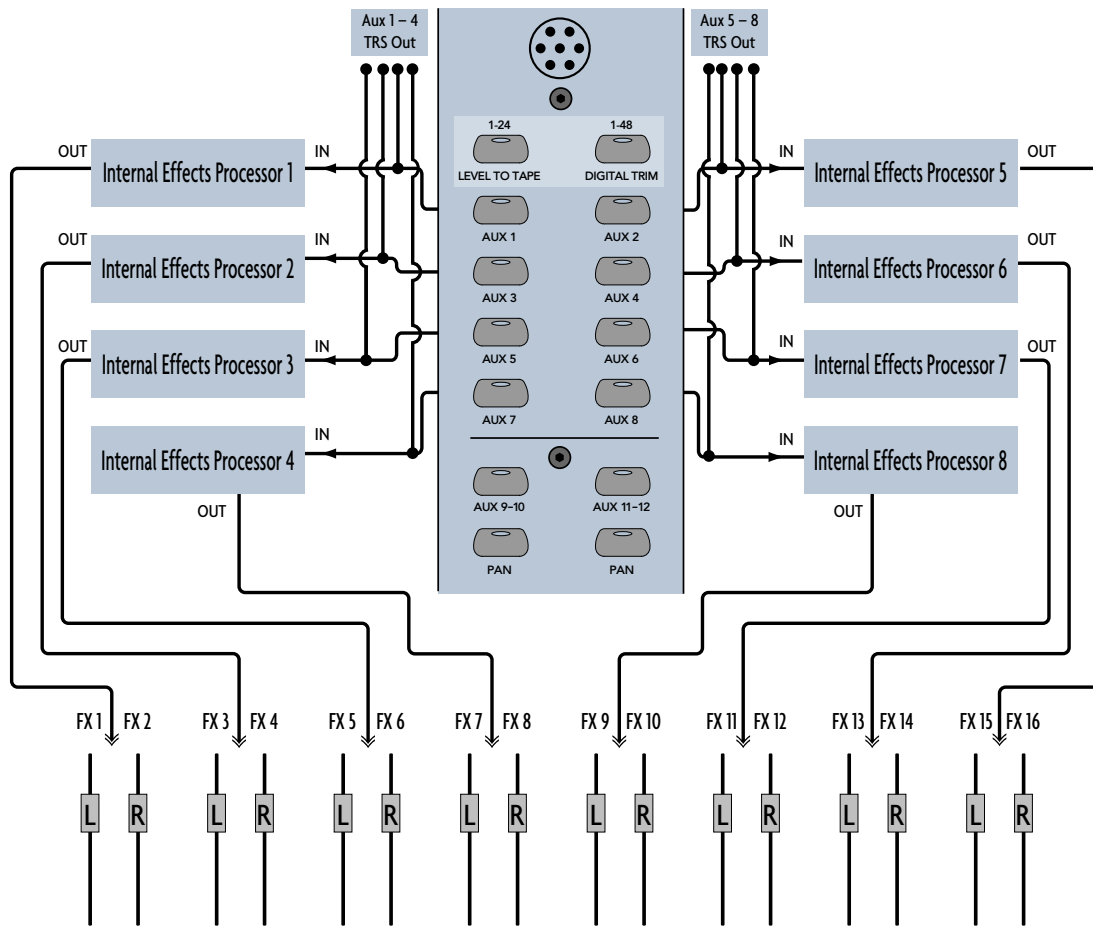
AUX 9–10 and 11–12

- Configured differently than Auxes 1–8.
- Each channel has a stereo pair of controls: one level and one pan. This is ideal for phones/cue mixes or for an additional recording feed in a live setting.
- Pressing Aux 9–10 assigns the channel V-Pot to control the send level for the stereo pair.
- Pressing Pan under Aux 9–10 assigns the channel V-Pot to adjust pan positioning between the stereo pair.
- Aux 9–10 are not routed to the internal effects processor by default, but may be assigned as such in the plug-in configuration window.
- Aux 11–12 operates identically to Aux 9–10.

LEVEL TO TAPE

- Level to Tape assigns the channel V-Pots as tape output level controls via the I/O cards.
- This control is post channel DSP and pre-fader. Fader adjustments don't affect tape output levels.
- Facilitates optimizing the gain structure from the beginning to the end of the signal path, when used correctly.
- When **Faders to Tape** is active (in the Options menu), the level to tape is controlled by the source channel faders.

Figure 2-1 Aux Sends 1-8 (Default – Mackie Stereo Effects [4 MFX Cards])



Eight mono aux sends, each returning a stereo effect

DIGITAL TRIM

- Pressing the DIGITAL TRIM button assigns the channel V-Pots to become digital trim (digital input level) controls.
- Functionally located immediately after the A/D converter in the signal path for channels 1–48.
- When using digital I/O cards, for channels 25–48, there is no A/D converter, so the digital trim is simply the first control in the signal path after the card.
- Digital Trim is a recallable function, unlike the analog Trim control. It can be automated or stored in a snapshot.
- Digital Trim is the only input trim control for channel inputs 25–48.

Talkback Mic

- Located just above the LEVEL TO TAPE and DIGITAL TRIM buttons.

- The Talkback mic is activated two different ways: 1) by pressing Talkback in the Control Room section, 2) by pressing a foot pedal connected to the Talkback jack in the rear of the console.
- Talkback audio is sent to the Phones/Cue Mixes when pressing Talkback or depressing the foot pedal, or to the Studio monitor system when pressing Talkback to Studio.

Left/Right LED Ladders (Master Meters)

- Located above the Talkback Mic.
- Indicates the signal level of whatever is selected in the Control Room section.
- When Solo is selected, the Master Meters indicate the level of the combined soloed channels.
- When Mono is selected in the Control Room section, both Left and Right meters indicate the mono level.

CHANNEL Select Display

- Just to the right of the L-R Meters.
- Numeric readout indicates the selected channel —the currently editable channel in the VFD.



Fat Channel Section

The onboard Fat Channel provides access to all those really cool dynamics and EQ functions. It also provides for configuring Setup parameters, loading, and saving patch information.

The on-screen Fat Channel is an amazing interface that provides the look and feel of a vintage tool as well as precision control and recall.

Fat Channel Display

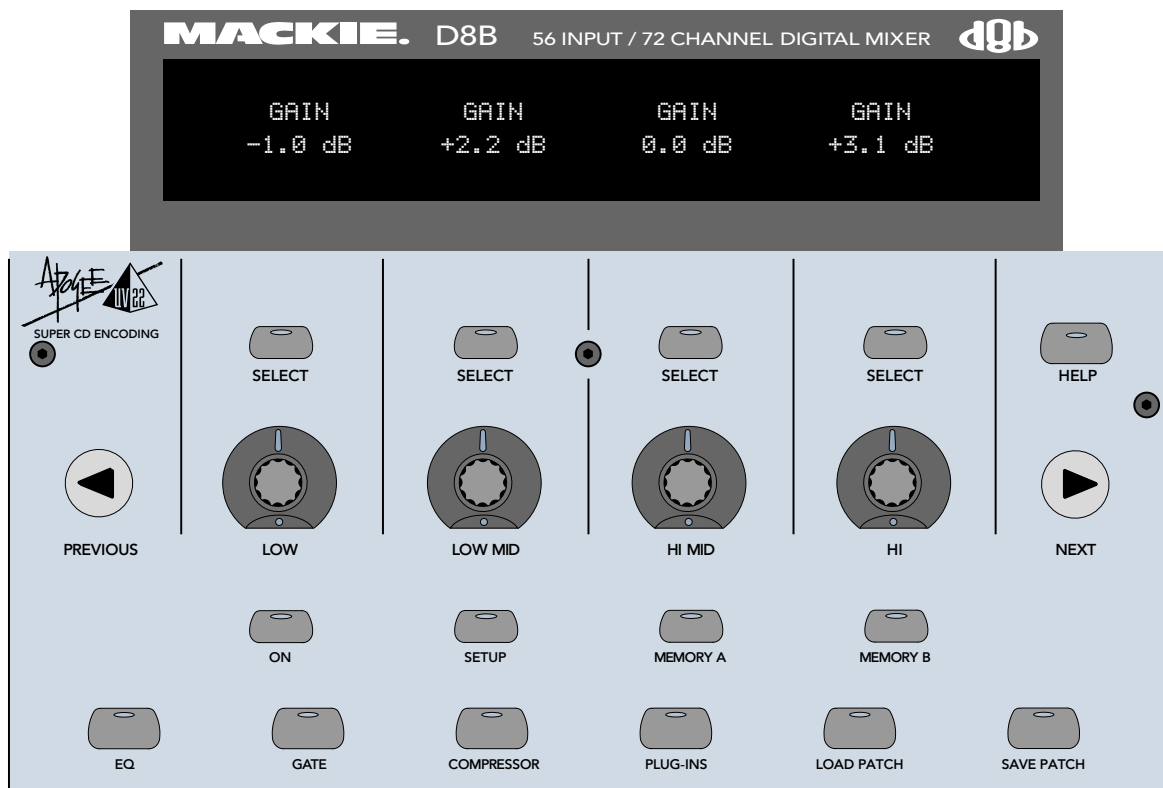
- VFD Vacuum Fluorescent Display.
- Provides a text interface to console operation. Nearly all static functions and controls are accessible.

V-Pots and SELECT buttons

- Four Select buttons and V-Pots used to select and adjust options that show up in the Fat Channel VFD.
- Pressing Select above a Fat Channel V-Pot lets the user adjust or scroll through the pertinent options.
- V-Pots rotate 360° and display the relative adjustment positions as provided by eleven discrete LEDs.

PREVIOUS and NEXT arrows

- Pages the VFD to more parameters whenever more than four adjustments can be made.
- The PREVIOUS button scrolls the VFD to the left.
- The NEXT button scrolls the VFD to the right.
- An arrow on the left-hand side of the VFD, pointing left, indicates a previous page is available.
- An arrow on the right-hand side of the VFD, pointing right, indicates the next page is available.



The Fat Channel

ON button

Toggles the selected Fat Channel DSP control parameters on and off in bypass fashion.

SETUP button

When EQ is selected in the Fat channel, the Setup button lets you select the type of equalization and activate the “EQ to Dynamics” mode.

MEMORY A and B buttons

- Each channel has two memory locations for EQ, compressor, gate, plug-ins, and surround parameter comparisons.
- Any changes to the above controls are temporarily stored in the selected Memory A or B buffers.
- Simply press Memory A to instantly recall the settings you developed while Memory A was selected. Press Memory B to instantly switch to alternate settings.
- Automation of the parameters will overwrite the buffers unless bypassed.

EQ button

Press this button to see EQ parameters for the selected channel in the onboard Fat Channel display.

GATE button

Press this button to see Gate parameters for the selected channel in the onboard Fat Channel display.

COMPRESSOR button

Press this button to see Compressor parameters for the selected channel in the Fat Channel display.

Note: Fat Channel SELECT and page (PREVIOUS and NEXT) buttons are used as additional view tools.

PLUG-INS button

- Press this button and use the prompts from the VFD to select and navigate through the various plug-in specific parameters.
- Use the “Next” and “Previous” buttons to page through all available parameters.

Onboard control of plug-ins is intuitive for basic functionality. Refer to the individual Plug-ins Manual for details regarding the use of each plug-in via the control surface or on screen.

LOAD PATCH button

Press this button to load an individual EQ, compressor, or gate patch (saved settings) into the currently selected channel. Plug-in settings previously stored in the onboard library can be loaded into an FX card. DSP type must be selected first.

SAVE PATCH button

Press this button to store an individual EQ, compressor, gate, or plug-in setting to the onboard library of user presets. You must choose EQ, Gate, Compressor, or a plug-in before trying to save a patch.

HELP button

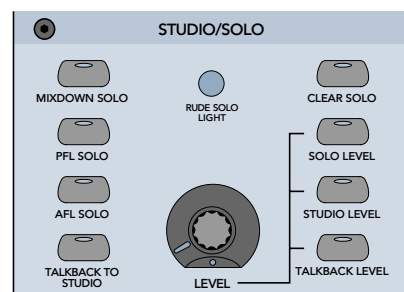
Press this button to open the on-screen help window. Click a topic from the Table of Contents to jump to the selected topic.

Studio/Solo Section

This section contains a V-Pot to control Studio, Solo, and Talkback levels, along with buttons to select various solo functions and talkback to the studio monitor system.

MIXDOWN SOLO button

- This solo status interrupts the L-R Main outputs to front-of-house speakers or 2-track recorders. It is the destructive solo.
- Use this mode whenever you want the soloed track(s) to be the complete mix—a rhythm breakdown is a good example of this.
- Mixdown Solo is post-fader and DSP. Level to tape (e.g., 2-track mixdown recorders) is controlled by the Master L/R fader.



PFL SOLO button

- Activates Pre-Fader Listen on the solo bus.
- Accesses the signal before it gets to the fader, so the fader has no effect on the soloed signal.
- This is a mono-centered solo feature. Pan has no control over this solo feature.

AFL SOLO button

- Activates After-Fader Listen on the solo bus.
- Accesses the signal after the fader, so fader moves do affect the soloed signal.
- This is a stereo bus (post-pan) soloed channels are heard in their correct pan position.

Note: PFL/AFL only affects channel soloing and has no effect on aux send soloing.

TALKBACK TO STUDIO button

Routes sound arriving at the in-panel Talkback mic to the Studio outputs.

Note: Make sure the speakers that are connected to the Studio Outs are located in another room to avoid feedback when the TALKBACK TO STUDIO button is depressed.

CLEAR SOLO button

Disengages all engaged solo buttons throughout the entire console. This is especially convenient considering sections may be soloed across multiple fader banks.

SOLO LEVEL button

Assigns the V-Pot in the Studio/Solo section to adjust the solo level being fed to the Control Room outputs. Not applicable to mixdown solo (use L/R fader to adjust mixdown solo level).

STUDIO LEVEL button

Assigns the V-Pot in the Studio/Solo section to adjust the output level being fed to the Studio monitor system.

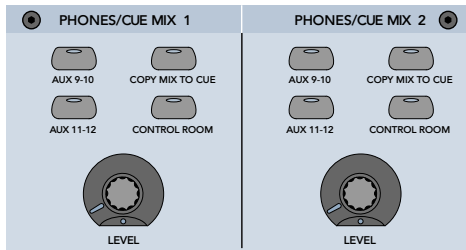
TALKBACK LEVEL button

Assigns the V-Pot in the Studio/Solo section to control the preamp level for the in-panel Talkback Mic.

RUDE SOLO LIGHT

Blinks whenever a Solo button is engaged.

Phones/Cue Mix Section



Phones/Cue Mix 1 and 2 select the sources and sets levels for the Phones outputs.

AUX 9-10

Assigns the Aux 9-10 mix to the Phones output.

AUX 11-12

Assigns the Aux 11-12 mix to the Phones output.

COPY MIX TO CUE button

Pressing this causes all channel settings to be copied to the channel V-Pots for the selected CUE MIX 1 (Aux 9-10), CUE MIX 2 (Aux 11-12), or aux pair (Aux 1-2, 3-4, 5-6, or 7-8). This is a very quick way to copy the MASTER L-R mix, including effects, to the phones output, which can then be easily fine-tuned.

CONTROL ROOM button

Assigns whatever is selected in the Control Room section to the Phones output. Solos are also routed to the Phones output when Control Room is selected.

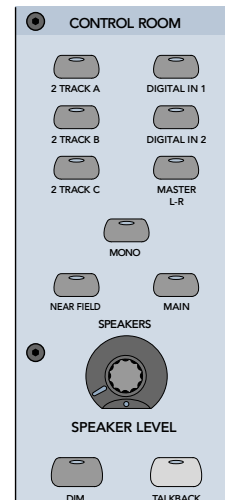
LEVEL V-Pot

Adjusts the Phones output level.

Control Room Section

These buttons:

- Select the source for the control room outputs.
- Select Main or Nearfield control room outputs.
- Adjust the listening level.



2 TRACK A, B, and C buttons

- Selects the signal at the 2 Track A, B, or C input as the Control Room source.
- These inputs can be selected independently or together for simultaneous playback along with the MASTER L-R button.

Note: When DIGITAL IN 1 or DIGITAL IN 2 are selected, MASTER L-R and 2-TRACK inputs are unavailable.

DIGITAL IN 1 button

Selects the AES/EBU digital input as the Control Room source (when AES/EBU is the Stereo I/O Digital In selection in the Digital I/O Setup window).

DIGITAL IN 2 button

Selects the S/PDIF digital input as the Control Room source (when S/PDIF is the Stereo I/O Digital In selection in the Digital I/O Setup window).

MASTER L-R button

Selects the main L-R output bus as the Control Room source.

MONO button

Combines the left and right channels to a monaural signal and sends it to the left and right Control Room outputs (Near Field or Main). This provides for a quick check on the sound of the mix in mono.

NEAR FIELD button

Turns on the Control Room Near Field output.

MAIN button

Turns on the Control Room Main output.

Note: The Near Field and Main speaker selections cannot both be on at the same time.

SPEAKER LEVEL V-Pot

- Adjusts the individual level of the selected Control Room output (Near Field or Main).
- This control does not affect the level sent to the Phones/Cue, or Master L-R mix outputs.
- Near Field and Main levels are completely independent of one another unless linked together in the Mix Options of the on-screen Setup window (Link Speakers).
- When linked, the level control is identical for Near Field and Main. The link can be temporarily broken by pressing the Shift key and adjusting the Speaker Level V-Pot. This is an excellent way to set a fixed level offset between monitor sets.
- Controls the Master Surround Monitor output when in Surround mode.

DIM button

Quickly attenuates the control room monitors. This is very useful for phone calls or visits from the neighborhood volume cop.

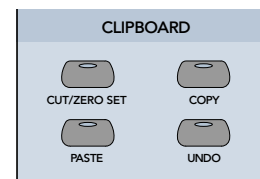
Note: The amount of attenuation for the DIM button can be changed in the GUI by selecting Mix Opt. in the Setup window. Selection choices include -20 dB, -30 dB, -40 dB, and $-\infty$ dB (Cut).

TALKBACK button

Routes the signal arriving at the in-panel Talkback Mic to Phones/Cue Mixes 1 and 2 (and to Studio Out if Talkback to Studio is selected). DIM is engaged automatically while the TALKBACK button is pressed.

Clipboard Section

Provides cut, copy, paste, and undo functions for specific fader operations, channel parameters, and automation events.



CUT/ZERO SET button

- Deletes edited parameters from the currently selected channel(s) and returns them to their default settings.
- Static or automated options are selected in the Fat Channel display.
- The parameter settings are placed on the clipboard for desired paste operations.

COPY button

- Copies parameters from the currently selected channel(s).
- Static or automated options are selected in the Fat Channel display.
- The parameter settings are placed on the clipboard for desired paste operations.

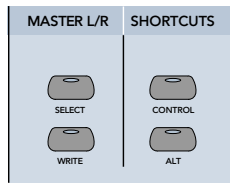
PASTE button

Pastes copied parameters to the currently selected channels.

UNDO button

- Reverts the currently selected channels to their previous status, before a cut, copy, or paste.
- Multiple Undo and Redo operations are available by pressing UNDO in the Clipboard section then Undo and Redo in the control surface Fat Channel VFD.

Master L-R/Shortcuts Section



SELECT button

Selects the Master Fader and Aux Master for edit operations.

WRITE button

Displays automation status and engages the Master Fader and Aux Master to record automation events—dependent on the automation mode.

CONTROL button

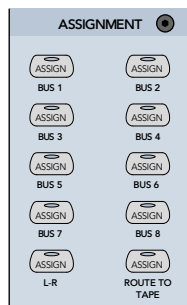
Used in combination with other buttons as a modifier key. See Shortcuts (Appendix D) for a list of applications.

ALT button

Used in combination with other buttons as a modifier key. See Shortcuts (Appendix D) for a list of applications.

Bus Assignment Section

This is a quick and easy way to assign, or tell what's been assigned to, Bus 1–8 or the Master L-R bus.



BUS 1–8 buttons

- Only one bus may be selected in the assignment section at a time.
- Bus assigns are used along with the individual channel Assign buttons.
- Press any Bus 1–8 button. Any channel that's assigned to the selected bus will have its Assign button lit on the individual channel strip (on the currently selected bank).
- Pressing the channel Assign button so the light stays on will assign that channel to the selected bus. Pressing Assign so the light goes off removes the assignment.

L-R button

- When L-R is selected, the individual channels can be assigned or removed from the Master L-R bus.
- Mic, Line, FX, and Returns (Channels 1–72) can all be assigned in this way to the L-R Master bus.

ROUTE TO TAPE button

- Assigns a selected channel to any or all of the 24 tape outputs.
- Any of the 48 channels, as well as any internal FX returns, Alt I/O return, or Bus 1–8 can be assigned to one or more, or all (24) Tape Outputs.
- When ROUTE TO TAPE is selected, press the SELECT button on the channel you want to route to tape, then press ASSIGN on the channel strip that corresponds to the desired Tape Output.
- No two channels can be assigned to the same tape output (you can assign two or more channels to a bus, and route the bus to tape). As soon as a channel is assigned to a previously assigned output, it takes over the output, thus removing the previous assignment.

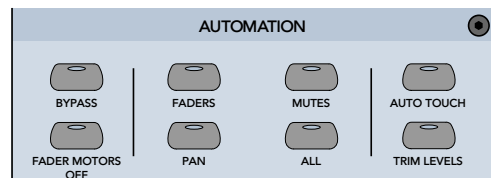
Note: Great care should be taken whenever a channel is assigned to its own tape track. Beware the dreaded feedback loop. Ouch!

Automation Section

What Is Automation All About?

Even if you've never worked with an automation system, you'll find the controls in the Mackie Real Time OS intuitive and powerful. Spend a little time grasping the concepts, then start mixing.

If you've worked with other automation systems you'll find the Mackie OS incredibly quick and easy to master. A complete digital system that's been designed well is amazingly powerful and easy to use. Have fun!



BYPASS button

- Bypasses the playback of all currently written automation moves.

- This button must be turned off before any automation can be recorded or played back.
- Toggling Bypass doesn't affect the automation filter LEDs (Faders, Mutes, Pan, All). However, when Bypass is on no automation data will be recorded.

FADER MOTORS OFF button

- Pressing this button (so the yellow light is on) disengages fader motors, which prevents any automated fader movement during automated playback.
- When the button is engaged, all faders snap to off.
- Turning fader motors off does not affect changes that have been recorded during automation record passes. All automated levels still play back even though the faders don't move.
- The on-screen faders still show movement even when the physical faders are off. Fader moves may still be written to automation using the mouse.

FADERS button

Allows writing of Fader moves during an automation pass. When FADERS is activated, all fader moves on write-enabled channels are written into automation. Can be used in conjunction with MUTES, PAN, and ALL.

MUTES button

Allows writing of mutes during an automation pass. When MUTES is activated, all mutes on write-enabled channels are written into automation. Can be used in conjunction with FADERS, PAN, and ALL.

PAN button

Allows writing of Pan moves (stereo and surround) during an automation pass. When PAN is activated, all pan changes on write-enabled channels are written into automation. Can be used in conjunction with FADERS, MUTES, and ALL.

ALL button

- Allows writing of all automation parameters *other* than faders, mutes, and pan.
- In order to record an automation pass, recording every automatable parameter, FADERS, MUTES, PAN, and ALL must be activated.
- Parameters selected by the ALL button are Aux 1–12 levels, Aux 9–12 pans, Master Aux levels, Digital Trim, all channel DSP functions (EQ and Dynamics), plus Plug-in/Effects parameters, bus assignments, surround panning, etc.

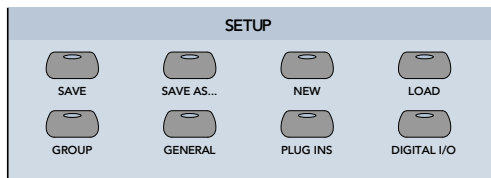
AUTO TOUCH Mode

- Activates Auto Touch write mode for automation data.
- All activated automation control points become write-enabled and enter automation record mode at the instant they're modified from their current state.
- It's not necessary to engage individual channel WRITE buttons in this mode. Manually engaging WRITE in this mode only affects fader, mute, and pan writing (if they're activated in the Automation section).
- The channel WRITE button illuminates as soon as a channel function is manually adjusted (and the corresponding filter is activated).
- One or more of the automation buttons (FADERS, MUTES, PAN, or ALL) must be activated or nothing will be written to automation.
Note: Fader, mute, and pan data may be overwritten if these filters are activated and the channel is write-engaged. See page 137, "Using Basic Automation" for more information.

TRIM LEVELS button

- Activates Trim Level automation on all write-enabled channels. This refers to trimming automated moves up or down, not to analog or digital level trim controls.
- All faders move to unity (U) and fader motors are turned off.
- Previously recorded automation remains intact. However, fader and V-Pot changes are simply added to or subtracted from existing data.
- This is a good way to edit parts of an automation track. See "Modify Levels" on page 55 for level-adjusting an entire track.

Session Setup Section



Buttons in this section are used for file maintenance and for setting up system functions such as Virtual Groups, Digital I/O, meter assignment, and MIDI parameters.

SAVE button

- Saves the currently active session to the internal hard drive or floppy drive. We recommend using the floppy only for backup.
- Saves all snapshot and automation data as well as the status of all digital parameters at the time of saving.

SAVE AS... button

- Saves the currently active session under a new name.
- Uses the V-Pots and SELECT buttons in the Fat Channel display to rename and complete the operation.
- To finish the SAVE AS... either press Select beneath SAVE in the onboard Fat Channel display or simply press SAVE AS... a second time.
- To quick-save the proposed file name, simply double-click SAVE AS...

NEW button

- Press this button to start a new session. This is the same as New Session... in the on-screen File menu.
- The New Session menu appears in the onboard Fat Channel.
- All Template preferences are loaded at the beginning of a New session.

LOAD button

- Brings up the LOAD menu in the onboard Fat Channel display. This is the same as Open Session... in the on-screen File menu.
- Facilitates the loading of previously saved session files from the hard drive or floppy disk.
- Sessions can be scanned in the Fat Channel display by pressing the first two SELECT buttons on the left or by turning the far left V-Pot.

GROUP button

- Brings up the Group menu in the Fat Channel display.
- This is a virtual group function where faders and mutes are linked to one master fader, solo, and mute button in the Master fader bank.
- After pressing GROUP, press the SELECT buttons on each channel strip to be included in the group, then press Exit to complete the action.
- Control the group from the Master fader bank, where faders strips 1–8 control groups 1–8.

GENERAL button

Brings up the General menu in the Fat Channel display. Provides access to:

- Solo settings
- The surround sound matrix
- MIDI Machine Control settings
- Console layout (channel reassignment)
- Record Safe and Write Ready status settings
- VFD display brightness
- Network cascading and Alt I/O assignments
- One-button record status
- About current OS version

PLUG-INS button

Brings up the Plug-In menu in the Fat Channel display for selecting the effects package to load into the internal FX card. Refer to the individual Plug-ins manuals for specific implementation.

DIGITAL I/O button

- Brings up the Digital I/O configuration menu in the Fat Channel display.
- For selecting Tape I/O, Alt I/O, and Stereo I/O settings.
- For selecting and setting the internal sample rate or assigning the console to sync to external word clock.

Transport Section

This section provides control for external recorder transports, time display, snapshots, locates, and loops.

POSITION display

- Shows the numeric representation of SMPTE or MIDI Time Code (Hours: Minutes: Seconds: Frames) or a musically referenced display (Bars: Beats: Ticks).
- When the console is receiving time code, this display continually updates according to the time code position.
- Displays entered values for Locate storage.

RANGE display

- Shows the snapshot number in Snapshot mode.
- Shows the most recently entered MMC locate point when in Locator mode.
- When looping it shows the beginning (FROM) and ending (TO) locate points for the loop.

SET TIME button

- Press this button to enter a new time in the Position Display (in Hours: Minutes: Seconds: Frames or Bars: Beats: Ticks)
- The number buttons are used to enter the time.
- Press ENTER to complete the action. This sends an MMC locate command.

SMPTE VIEW button

This button toggles between SMPTE/MTC time and BBT (Bars/Beats/Ticks) in the Position display.

Number Buttons 0–9

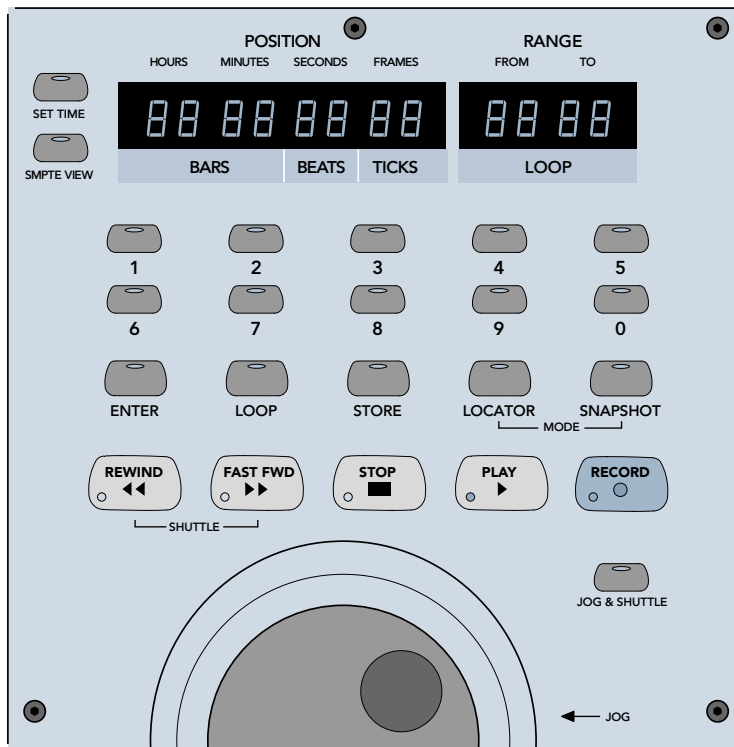
- Used to numerically enter Snapshot, Locate, and Loop points in the Range display, and time values in the Position display.
- When numeric buttons are used to enter data, you must press ENTER to complete the action.
- Pressing the number keys while holding CONTROL scrolls through the on-screen interface windows.

ENTER button

- Initiates numeric changes that have been typed into the snapshot, locate, position, or range display from the console number buttons (or standard IBM-style keyboard connected to the console).
- Pressing CONTROL and ENTER increases the SNAPSHOT or LOCATOR selection (control surface only).
- Pressing ALT and ENTER decreases the SNAPSHOT or LOCATOR selection (control surface only).

LOCATOR button

- Allows the number buttons to be used for entering specific location numbers.



- Each location number (00 – 99) may represent a specific time during an MTC-referenced playback or recording, if previously stored.

• When in this mode, the left two digits in the Range display indicate the locate point number.

- Locate points can be captured while tape is moving. Simply hit STORE, the Locate number, and then ENTER at the instant you wish to store a location.

LOOP button

- Used to set the start and end Locate points in a Loop.
- To loop a segment, first enter the locate start point using the numeric buttons (onboard or computer keyboard), then press ENTER.
- Next, press LOOP, enter the ending locate point number, then press ENTER.

STORE button

This button is used to save locate points and console automation snapshots to the currently displayed number or a user-entered number.

SNAPSHOT button

- Allows the number buttons to be used for entering snapshot numbers.
- When in this mode, the left two digits in the Range display indicate snapshot numbers.
- Onboard snapshot range is from 00–99, equivalent to MIDI program changes 00–99.
- More snapshots are available from the on-screen interface.

Transport Controls

- These buttons control external devices that respond to MIDI Machine Control (MMC). MMC is transmitted from the MIDI output port on the rear panel of the remote CPU to MMC-compatible devices.
- Transport controls can be programmed to export specific MIDI messages other than standard MMC protocol. See MIDI Mapping on page 85 for more details.

Note: MMC is not bidirectional. The D8B sends out MMC commands to your tape recorder(s), but if you arm tracks or operate transport controls from the tape recorders, the activity is not transmitted back to the D8B via MMC. You can, however, press Play on your recorder and, as soon as time code is received by the D8B, it reverts to PLAY mode.

REWIND button

Engages external machine to fast rewind with no given locate point.

FAST FWD button

Engages external machine to fast forward with no given locate point.

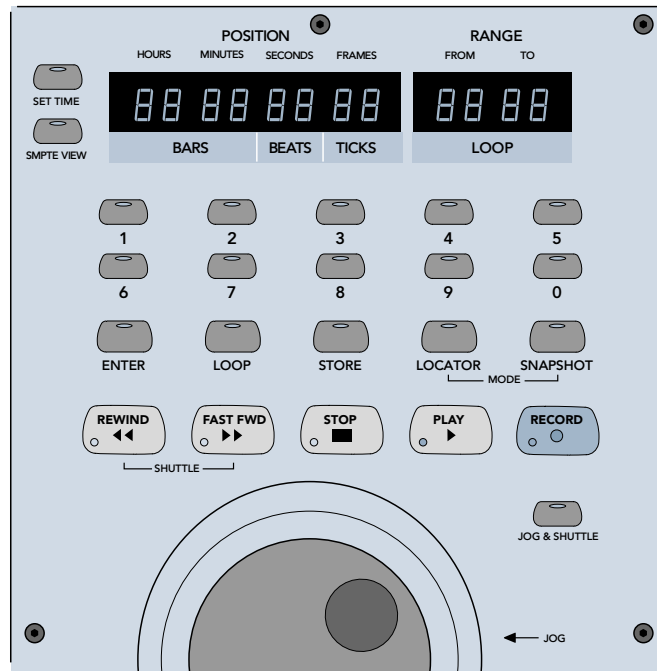
STOP button

Stops external machines at the current position.

Note: The STOP button lights when time code is not being received by the D8B.

PLAY button

Engages external machine to play at normal speeds from the current location.



Note: The PLAY button lights when time code is being received. It flashes when you press it and no MTC is received.

RECORD button

- Engages Master record function on external machines and Write Ready engaged automation channels.
- Must be pressed with PLAY to engage record mode unless One Button Punch mode is active.
- One Button Punch allows punching into record without hitting PLAY (see “Mix Options” on page 66).
- Pressing any transport button takes the D8B and peripherals out of record status.

JOG & SHUTTLE button

Engages the rotary dial (below the REWIND, FAST FWD, STOP, and PLAY buttons) to advance external machines forward or backward with single-frame accuracy when using MMC.

When Jog & Shuttle is enabled, the REWIND and FAST FWD transport buttons send out MMC shuttle commands, usually corresponding to fixed speed increments (i.e., 1/4x, 1/2x, 2x, etc.).

Rotary Dial Encoder

This multifunction dial enables the scrub function.