D-Show™ Profile Guide

Version 2.5 for VENUE Systems

digidesign

WARNING

This product contains chemicals, including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

Communications & Safety Regulation Information

Compliance Statement

The models D-Show Profile, D-Show FOH Rack, and D-Show Stage Rack comply with the following standards regulating emissions and immunity:

- FCC Part 15 Class B
- EN55103 – 1, environment E3
- EN55103 – 2, environment E3
- AS/NZS 3548 Class B
- CISPR 22 Class B
- ICES-003 Class B

Canadian Compliance Statement:

This Class B digital apparatus complies with Canadian ICES-003
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

CE Compliance Statement:

Digidesign is authorized to apply the CE (Conformité Europénne) mark on this compliant equipment thereby declaring conformity to EMC Directive 89/336/EEC and Low Voltage Directive 73/23/EEC.

Australian Compliance:

ACN 069 650 120

Radio and Television Interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

Communications Statement

This equipment has been tested to comply with the limits for a Class B digital device. Changes or modifications to this product not authorized by Digidesign, Inc., could void the Certification and negate your authority to operate the product. This product was tested for CISPR compliance under conditions that included the use of peripheral devices and shielded cables and connectors between system components. Digidesign recommends the use of shielded cables and connectors between system components to reduce the possibility of causing interference to radios, television sets, and other electronic devices.

Safety Statement

This equipment has been tested to comply with USA and Canadian safety certification in accordance with the specifications of UL Standards: UL60065 7th /IEC 60065 7th and Canadian CAN/CSA C22.2 60065:03. Digidesign Inc., has been authorized to apply the appropriate UL & CUL mark on its compliant equipment.

Warning

Important Safety Instructions

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use caution when replacing the Lithium battery in the FOH Rack unit. There is danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Contents

Part I   Overview and Installation

Part II   System Description

Part III   Signal Routing

Part IV   Processing

Part V   Shows

Part VI   Specifications

Part I: Overview and Installation

Chapter 1: D-Show Profile System Introduction

Welcome to the D-Show™ Profile live sound mixing console from Digidesign®. D-Show Profile is part of Digidesign's modular VENUE live sound environment.

D-Show Profile offers an intuitive console layout, and supports the same flexible I/O scheme, powerful digital processing, and expansion options for integrated Pro Tools recording and artist-controlled monitor mixing as other D-Show system.

D-Show Profile Features

Control Features

- 24 bankable input channel strips, each with a touch-sensitive fader and one multi-purpose assignable rotary encoder
- Built-In High-Pass Filter, Dynamics and EQ processors on each input channel strip
- Level meters on each input channel strip
- Assignable Channel Sections with dedicated Bus Assign, Aux Send, Direct Output, EQ and Dynamics controls
- 8 multi-purpose Output encoders
- 8 multi-purpose, touch-sensitive Output faders, with solo, mute and select controls
- 1 Mains fader
- Up to 24 31-band Graphic EQs available for use on Output busses
- Main Busses configurable as Left–Center–Right or Left–Right+Mono

I/O Features

Stage Rack

- Up to 48 analog or digital inputs on each Stage Rack, with remotely controllable mic preamps and individually selectable Phantom Power
- Up to 48 analog or digital outputs on each Stage Rack
- Redundant power supply

FOH Rack

- 8 channels of analog I/O for connecting outboard equipment
- 2-channel analog/digital I/O for 2-track feed or playback
- 2-channel analog near-field monitor system outputs
- Intercom mic input
- 16 channels of MIDI I/O
- Word clock I/O for integrating external digital devices
- Redundant power supply

D-Show Profile

- Talkback mic input
- Headphone output
- USB inputs for keyboard, mouse, iLok USB Smart Keys, and USB storage devices
- VGA monitor output for software screen display
- 8 GPI inputs and 8 GPI outputs

D-Show System Components

Included Components

A D-Show Profile system includes the following components:

D-Show Profile

- D-Show Profile control surface
- Two (2) IEC power cables, North American standard
- Monitor mount (for VGA screen)
- Trackball mount (trackball not included)
- VENUE Mouse Pad
- *D-Show Profile Guide*
- Two (2) Console lights

FOH Rack

- FOH Rack unit with 2 Mix Engine cards
- Two (2) IEC power cables, North American standard
- FOH Link cable for connection to D-Show Profile
- iLok USB Smart Key (for storing plug-in authorizations)

Stage Rack

- Stage Rack unit with 6 SRI (Stage Rack Input) cards and 1 SRO (Stage Rack Output) card.
- Two (2) IEC power cables, North American standard

Software CDs

- System Restore CD
- Standalone Software Installer CD

Additional Required Components

The following components must be purchased separately:

- Digital Snake cable: This cable can be purchased directly from Digidesign or assembled by your preferred vendor.
- Video Display (15-inch or greater flat-panel TFT display recommended; 1024x768 minimum resolution)
- USB keyboard and trackball/mouse (Windows compatible)

Optional Components

The following components are optional, and must be purchased separately:

- USB flash disk (or other portable USB storage device for transfer of Show data; 512 MB or larger recommended)
- Near-Field monitor speakers (for FOH monitoring)
- Headphones with 1/4-inch jack (for FOH monitoring)
- Dynamic or condenser microphone and XLR mic cable (for Talkback)
- Footswitches (up to 2)
- MIDI cables (for connecting external MIDI devices to the MIDI ports on D-Show)
- BNC cables (for connecting word clock between the FOH Rack and external digital devices)
- 25-pin D-Sub cables (for connecting to GPI devices)

D-Show Expansion Options

The following options can be added to a D-Show Profile system. For details on D-Show expansion and customization options, visit the Digidesign website (www.digidesign.com).

Stage Rack Options

Expanded Stage Rack I/O Each Stage Rack can be expanded up to 6 input cards and 6 output cards, for a total of up to 48 inputs and up to 48 outputs (analog or digital).

Additional Stage Rack A second Stage Rack can be added for a total of up to 96 inputs or up to 96 outputs. (A second Stage Rack requires an additional Snake card be installed in the FOH Rack.)

Redundant Digital Snake An optional redundant Digital Snake cable can be run between the FOH Rack and each Stage Rack. This redundant Snake automatically takes over communication if the primary Snake fails.

☼ *D-Show Profile does not support console expansion via D-Show Sidecar units.*

FOH Rack Options

Mix Engine Cards Additional Mix Engine cards can be added to the FOH Rack (up to a maximum of 5 Mix Engine cards) for increased mixer and plug-in processing capacity.

FOH IOx Card An FOH Input/Output (IOx) card can be added to the FOH Rack, providing an additional 8 channels of analog I/O and 8 channels of AES/EBU Digital I/O for connecting outboard equipment.

Snake Card If a second Stage Rack is added, an additional Snake card is required in the FOH Rack. This additional Snake card supports the connection of a redundant Digital Snake cable to the second Stage Rack.

Record Options

FWx Record/Playback Option This FireWire-based option lets you record or play back up to 18 channels of audio directly from D-Show with a Pro Tools LE™ system.

HDx Record/Playback Option This option lets you record or play back up to 128 channels of audio directly from D-Show with a Pro Tools|HD® system.

Personal Q Monitoring Option

The Personal Q (PQ) monitoring system lets performers adjust their monitor mix being sent from D-Show, using a PQ Controller unit. D-Show can accommodate one PQ Rack and up to 8 PQ Controllers.

Ethernet Expansion Option

The Ethernet Expansion card allows remote control of all console functions using a standard wired or wireless Ethernet connection. This option lets you make EQ or mix adjustments from almost any location.

Operational Requirements

Temperature and Ventilation

D-Show units should be operated away from heat sources and with adequate ventilation.

💡 *D-Show provides hardware monitoring and automatic warning for temperature, power and other factors. For more information, see "Hardware Monitoring Window" on page 232.*

Storage

D-Show should be stored and transported at temperatures not lower than 0 degrees F (–18 degrees C) and not exceeding 140 degrees F (60 degrees C).

Operation

D-Show should be operated at temperatures not lower than 40 degrees F (4 degrees C) and not exceeding 104 degrees F (40 degrees C).

During operation, the front and back panels of D-Show Profile should be exposed to ambient air. Do not block the ventilation holes on any D-Show component.

Water and Moisture

D-Show units should be operated away from sources of direct moisture and should be kept clear of liquids that might spill into the units. If condensation is present on the unit, leave the unit to dry in ambient air for at least one hour before powering the unit on.

Humidity ranges for storage and operation

Storage humidity range	5% to 95%, non-condensing
Operating humidity range	20% to 80%, non-condensing

Cleaning and Maintenance

If you need to clean the D-Show top surface, use a dry cloth. Do not apply any cleaning solutions, spray cleaners, or abrasives to the surface.

Connection Requirements

Power Connections

Each D-Show unit (D-Show Profile, FOH Rack, Stage Rack, and PQ Rack (if any)) requires its own power connections for primary and redundant power.

Make sure your power source is correctly rated for the number of units you are connecting. A surge-protected power source (not included) is highly recommended.

When using an uninterruptable power supply (UPS) it is recommended to connect one of the console power supplies to the UPS and the other directly to house power.

Both D-Show Profile power supplies are capable of operating at 50 to 60 Hz across a voltage range of 100 to 240 V.

FOH Link Connection

Connection between the D-Show Profile console and the FOH Rack is made with the provided FOH Link cable. For replacement cables, contact Digidesign Customer Service or your VENUE dealer.

📖 *See Chapter 30, "FOH Rack Reference."*

Digital Snake Connections

Connection between the FOH Rack and the Stage Rack is made with the Digital Snake cable (not included). Cables can be purchased directly from Digidesign or assembled by your preferred vendor. For Snake cable specifications and requirements, refer to the Digidesign website (www.digidesign.com).

Audio Connections

All D-Show external analog audio inputs and outputs are balanced XLR or balanced 1/4-inch connections. All D-Show external digital audio inputs and outputs are AES/EBU, ADAT or S/PDIF connections.

📖 *For more information on audio connectors and specifications, see Chapter 26, "Audio Specifications."*

Chapter 2: Configuring and Connecting D-Show

The chapter shows how to connect the components of your D-Show system.

Unpacking and Assembling D-Show Profile

◆ Remove all components from the shipping packaging.

◆ Place the D-Show Profile control surface on a table or other stable surface that leaves full access to the front and back panel connectors and mounts.

◆ Make sure all components are free of any bags, padding or other materials.

◆ Keep cables and other included items organized, making sure to keep them with their associated component after unpacking.

Assembling and Attaching the Video Monitor Mount to D-Show Profile

D-Show Profile includes a Video Monitor Mount for your VGA monitor. Follow the instructions in this section to attach your video monitor to the mounting hardware.

Assembling the Video Monitor Mount requires the following items:

- A VGA flat panel display with 100mm or 75mm mounting compatibility
- A medium sized Phillips screwdriver
- A table or similar clear, flat area with a towel or other padded surface (big enough to safely lay your video monitor face down)

Assembling the Video Monitor Mount

The Video Monitor Mount is assembled by attaching a flat panel VGA monitor to the mounting arm. Both the 100mm and 75mm VESA (FDMI) video mounting standards are supported.

To assemble the Video Monitor Mount:

1 Remove the Video Monitor Mount components from their packaging. Components include two T-bolts, two knurled locking nuts, the mounting arm, a U bracket, an additional mounting plate (for 100mm monitors only), and screws.
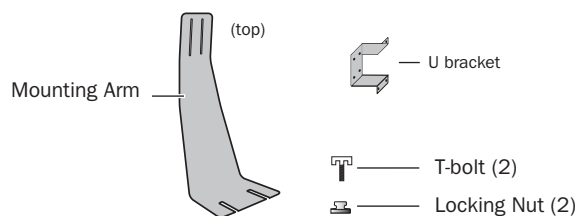
Components of the Video Monitor Mount

2 Make sure your video monitor is powered off and disconnected, and lay it face down on a padded table.

3 Attach your monitor to the Video Monitor Mount by doing either of the following, as appropriate for your video monitor:

100mm (MIS-D100) Attach the U bracket to the included mounting plate using the provided hardware. To complete the assembly, remove the 4 mounting screws from the back of the video monitor, line up the holes of the mounting plate, and use the screws you removed to secure the plate to the back of your monitor.
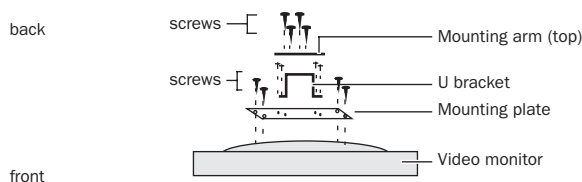
Attaching a 100mm VGA monitor to the mounting plate, U bracket and mounting arm, viewed from the top edge of the monitor

75mm (MIS-D 75) Use the included U bracket. Remove the appropriate screws from the back of your monitor and use them to secure the U bracket to the back of the monitor.
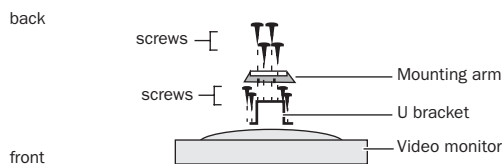
Attaching a 75 VGA monitor to the U bracket and mounting arm, viewed from the top edge of the monitor

4 Hold the mounting arm face down so that the narrow (top) end is against the back of the U bracket. Make sure the arm is facing the correct way, and attach the arm to the U bracket using the four screws provided.

5 Make sure all screws are tightened securely before attaching the assembled video mount to the console.

Attaching the Video Monitor Mount to D-Show Profile

To attach the Video Monitor Mount to the console:

1 From the back of the console, locate the Video Mount slot below the edge of the outermost back panel extrusion.

2 Take one of the T-bolts included with the Video Mount and insert it into the wider opening at the far left end of the Video Mount slot. Slide the T-bolt to the right along the slot until it stays in the track.
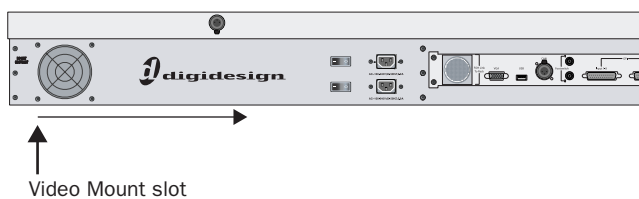
Video Mount slot

Location of the Video Mount slot

3 Take the second T-bolt, insert it into the opening at the left and slide it to be a few inches away from the first T-bolt.

4 Take the two silver lock nuts (thumb nuts) and thread them loosely onto the T-bolts (do not tighten them).

5 Pick up the assembled Video Monitor Mount and hold it at the bottom of the VGA monitor, so you can balance the unit with one hand.

6 Position the base of the video mount under the back panel extrusion and feed the T-bolts through the two slots on the front edge of the arm assembly. Loosen the lock nuts if necessary.

7 Tighten the lock nuts thumb nuts to secure the Video Monitor Mount in position.

To move the monitor left or right:

1 Loosen the thumb nuts slightly.

2 Slide the Video Monitor Mount to the left or right, being carefully not to twist it off either of the T-bolts. (If the mount comes off the T-bolts, simply reattach it and resume).

3 When in the desired position, tighten the lock nuts.

To adjust the height of the monitor:

1 Determine the desired height and mark the location on the mounting arm.

2 Detach the Video Monitor Mount from the console (see "Removing and Attaching the Video Monitor Mount" on page 8).

3 Loosen the screws holding monitor (or the U bracket) to the mounting arm, and slide it down or up to the desired height.

4 Tighten all screws to secure the monitor in its new position.

Removing and Attaching the Video Monitor Mount

To remove the Video Monitor Mount:

1 Stand at the back of the console.

2 Holding the VGA screen in one hand, loosen the lock nuts that secure the Video Monitor Mount to the extrusion on the back of the console.

3 Slide the Video Monitor Mount straight back off the T-bolts.

4 Tighten the lock nuts to secure the T-bolts and locking nuts in place.

To attach the assembled Video Monitor Mount to the console:

1 Loosen the two lock nuts securing the T-bolts in place, along the extrusion at the back of the console.

2 Position the Video Monitor Mount so that its base slots line up with the T-bolts, and slide the Video Monitor Mount into position.

3 Tighten the lock nuts to secure the mount into place.

Assembling and Attaching the Trackball Mount to D-Show Profile

The Trackball Mount can be placed anywhere along the front edge of the console to provide a tray for your trackball or a mouse that accommodates left- or right-handed operation. A small hook underneath the Trackball mount lets you hang a pair of headphones.

Assembling the Trackball Mount

To attach the Trackball Mount

1 Unpack the Trackball Mount and components from their packaging.

2 Make sure to unplug any USB or headphone connections at the front of the console.

3 From the front of the console, locate the slot for the Trackball mount (located below the extrusion).

4 Take one of the T-bolts included with the Trackball Mount and insert it into the opening at the right end of the Trackball Mount slot. Slide the T-bolt to the left along the slot until it is just to the left of the front panel USB and headphone ports.

5 Take the second T-bolt, insert it into the opening at the right and slide it into place a few inches away from the first T-bolt.

6 Take the two silver lock nuts (thumb nuts) and thread them loosely onto the T-bolts (do not tighten them).

7 Place the Trackball Mount in position so that you can feed the T-bolts through the two slots on the lip of the Trackball Mount.

8 Move the Mount and T-bolts left or right to line up the opening in the mount with the front panel USB and Headphone ports.

9 Tighten the lock nuts to secure the assembled Trackball Mount to the console.

10 Reconnect USB and headphones to the front panel ports.

Removing and Attaching the Trackball Mount

The Trackball Mount can be removed quickly before packing or storing the console.

⚠ *Always disconnect USB and headphones from the front panel ports before removing or attaching the Trackball Mount.*

To remove the Video Monitor Mount:

1 Holding the Trackball Mount in one hand, loosen the lock nuts that secure it to the front of the console.

2 Drop the Trackball Mount off track to remove the entire assembly from the console.

3 Replace the lock nuts onto the T-bolts and tighten them down, to secure them in place.

To attach the assembled Trackball Mount to the console:

1 Loosen the two lock nuts securing the T-bolts in place, along the extrusion at the front of the console.

2 Position the Trackball Mount so that its base slots line up with the T-bolts, and slide the Trackball Mount into position.

3 Tighten the lock nuts to secure the mount into place.

Back Panel Connectors
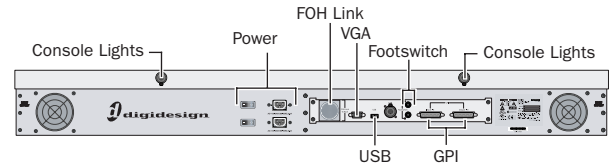
D-Show Profile back panel and connectors

FOH Link

FOH Link connects D-Show Profile to the FOH Rack. One FOH Link cable is included with each FOH Rack.

VGA

A single, female VGA connector is provided for driving a compatible video display (not included).

CAN Bus

This XLR3-M connector is not functional.

Footswitch 1 and 2

Two female 1/4-inch TS footswitch jacks are provided for switch input. Footswitches can be normally open or normally closed, latching or momentary. Functions are assigned to these jacks on-screen in the Options > Events page.

GPI Input Port

A 25-pin, female D-Sub connector that provides a total of 8 General Purpose Interface (GPI) Inputs.

GPI Output Port

A 25-pin, male D-Sub connector that provides a total of 8 General Purpose Interface (GPI) Outputs.

📋 *For specifications, wiring diagrams and pinouts, see Chapter 29, "Control Surface Reference."*

USB Port

A single USB 1.1 Type A port is provided on the back panel for interfacing with iLoks, keyboards, pointing devices or key disks.

Console Lights

Two XLR3-F jacks to connect to the included console lights.

Power

Two male, 3-pin IEC power sockets with cable retaining clips are provided, one for each of the internal power supplies. Two North American standard IEC power cables are provided with each D-Show Profile console.

Connecting D-Show Components

D-Show Profile

FOH Link Cable

FOH Rack (Front)

FOH Rack (Back)

Digital Snake Cables

Stage Rack (Front)

Primary Snake

Redundant Snake
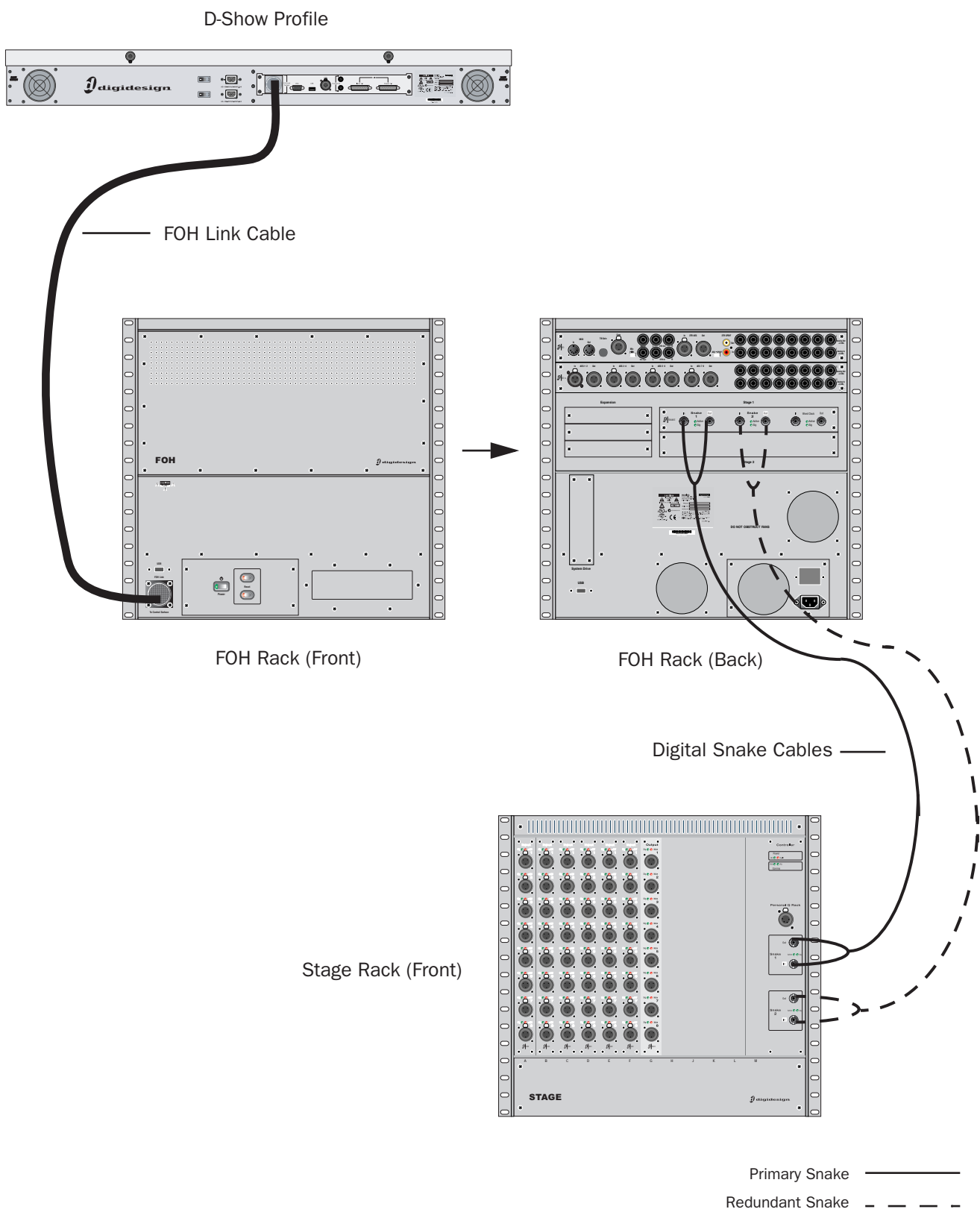
Figure 1. D-Show system component connections

Connecting D-Show Profile to the FOH Rack

The D-Show Profile control surface is connected to the FOH Rack with the provided FOH Link cable.

To connect the control surface and the FOH Rack:

■ Connect one end of the FOH Link cable to the FOH Link port on the back panel of the D-Show Profile control surface. Connect the other end of the FOH Link cable to the FOH Link port on the front panel FOH Rack. On each end, be sure to align the notch in the connector housing with the slot in the plug, and to rotate the collar until the connector is fully latched.
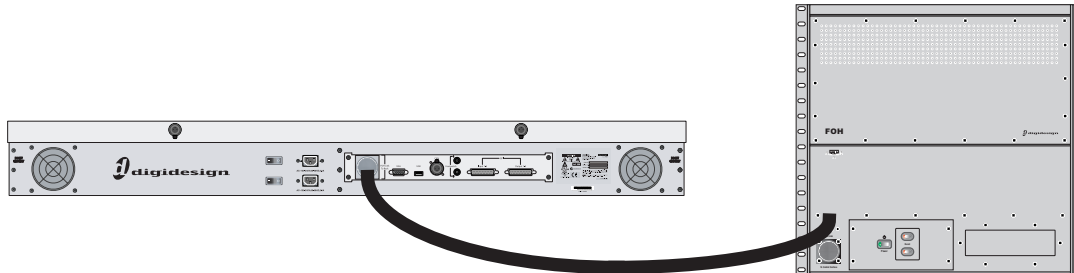
Figure 2. FOH Link connection between D-Show Profile (left) and FOH Rack (right)

Connecting the Stage Rack to the FOH Rack

The Stage Rack is connected to the FOH Rack with the Digital Snake cable (purchased separately).

To connect the Stage Rack to the FOH Rack:

1 On the Stage Rack, connect the Digital Snake cable lead with the white connector sleeve to the Snake 1 In port (this port label is outlined in white), and the Digital Snake cable lead with the red connector sleeve to the Snake 1 Out port.

2 On the FOH Rack, connect the Digital Snake cable lead with the white connector sleeve to the to the Snake 1 Out port (this port label is outlined in white), and the Digital Snake cable lead with the red connector sleeve to the Snake 1 In port.

3 If you are using a second, redundant Digital Snake, connect it to the Snake 2 ports on each unit in the same manner, matching the white connector sleeves to the ports whose labels are outlined in white.

⚠️ *The redundant Digital Snake must be the same length as the primary Digital Snake for each Stage Rack.*

When the units are turned on, the Snake Signal LEDs (marked "Sig") on the FOH Rack and the Stage Rack light solid to indicate the Snake connection. If the Snake Signal LEDs flash, a Snake connection has not been established.

💡 *If there are problems with the Snake connection, double check that all the BNC connectors are fully secured. If the problem persists, try reversing the red and white connectors on one end.*
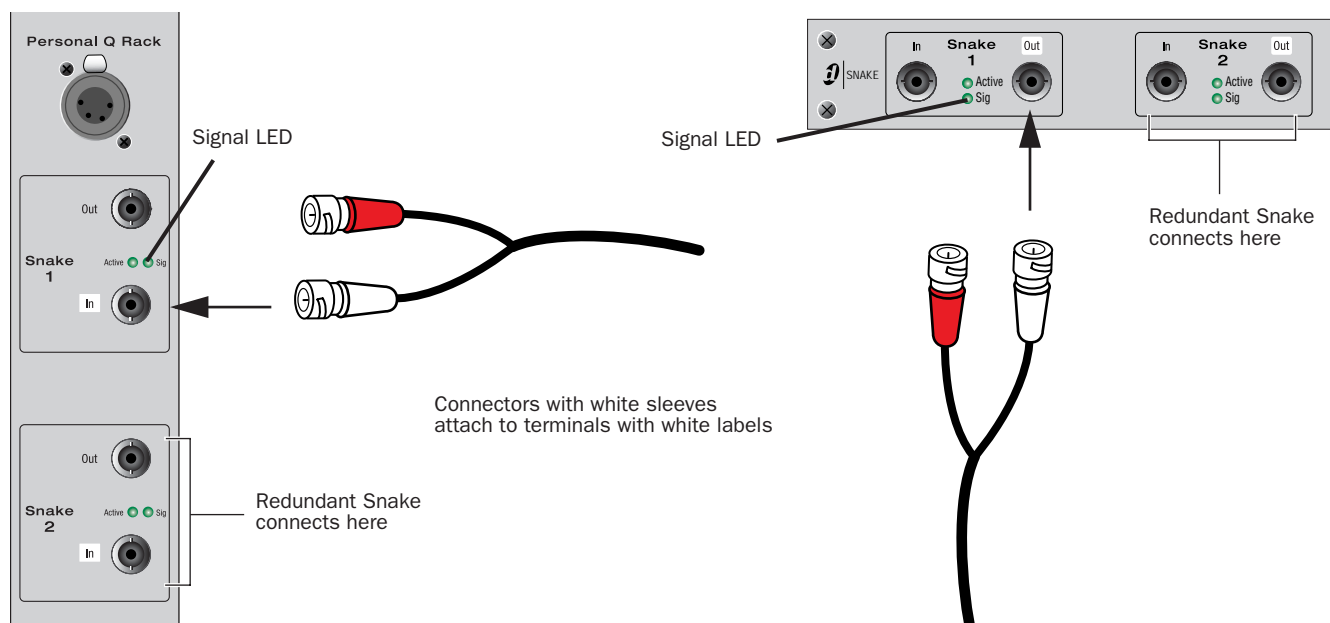
Figure 3. Detail of Digital Snake cable connection between Stage Rack (left) and FOH Rack (right)

💡 *If a second Stage Rack is used, an additional Snake Card must be installed in the FOH Rack. Follow the above instructions to connect the second Stage Rack to its corresponding Snake card.*

Connecting a Second Stage Rack

Before connecting a second stage rack to a D-Show system, a second Snake card (purchased separately) must first be installed in the FOH Rack.

To connect a second Stage Rack:

1 Install a second Snake card in the FOH Rack. See the documentation that came with the Snake card.

2 Using a BNC cable (included with the additional Snake card), connect the Word Clock Out port on the first Snake card to the Word Clock In port on the second Snake card.

Word Clock connection between Snake cards

3 Connect the second Stage Rack to the FOH Rack with a Digital Snake cable. See "Connecting the Stage Rack to the FOH Rack" on page 12.

⚠ *The redundant Digital Snake must be the same length as the primary Digital Snake for each Stage Rack.*
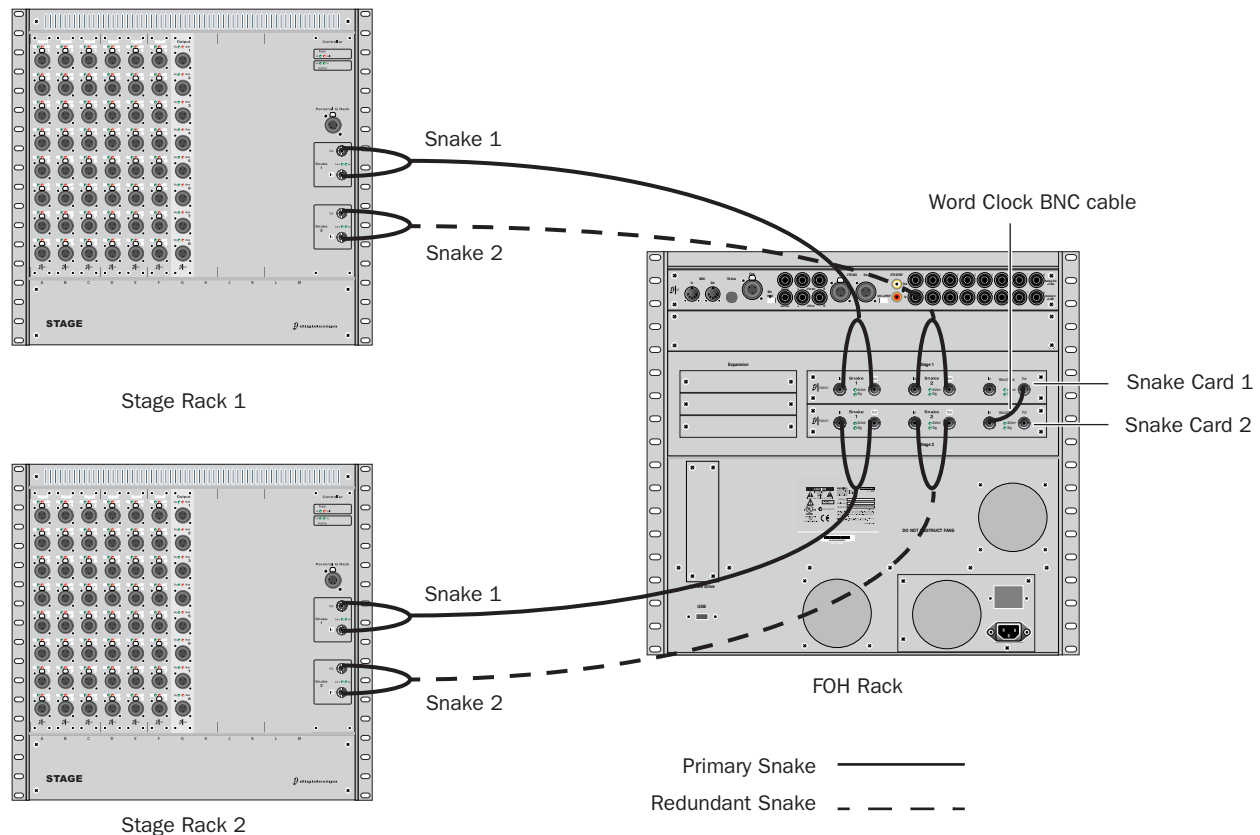
Figure 4. Digital Snake cable and word clock connections for fully redundant system with 2 Stage Racks

Power Connections

Each power supply in the D-Show Profile control surface, the FOH Rack, and the Stage Rack requires its own power connection. (Units that include a redundant power supply require two dedicated power connections.) Each power supply is auto voltage-selecting (100V to 240V). A modular IEC power cable is provided for each power supply in the unit.

Audio and MIDI Connections

Stage Rack Connections
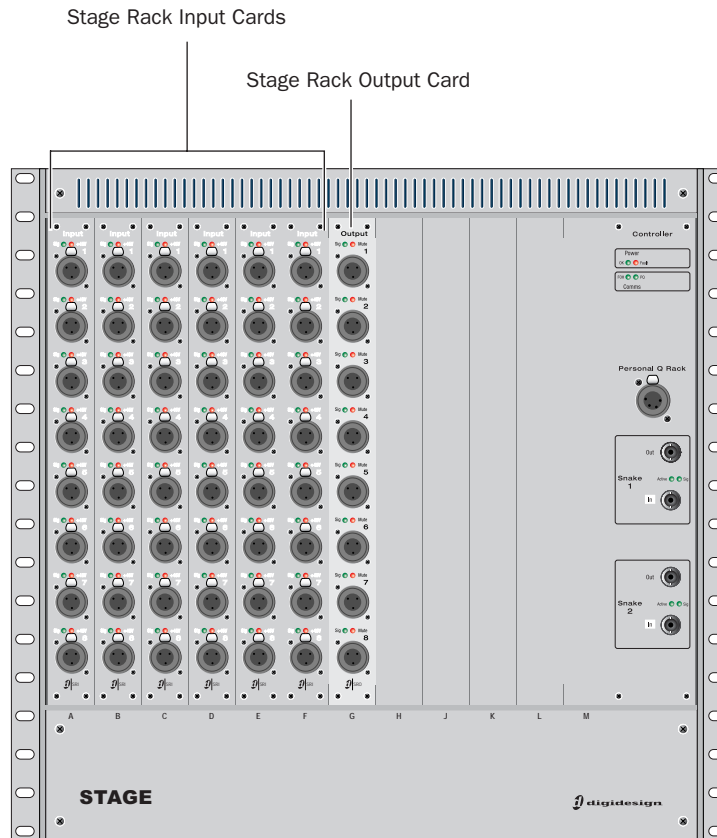
Figure 5. Audio connectors on Stage Rack

Analog Audio Inputs

(Balanced Female XLR Connectors)

◆ Connect analog mic-level or line-level input sources to any of the input connectors on any SRI Card.

Applying Phantom Power to Stage Rack Inputs

Each SRI Card input has available standard 48V phantom power.

⚠ *Before connecting or disconnecting a microphone on any Stage Rack Input, make sure phantom power is turned off for that input.*

To apply phantom power to a Stage Rack input source:

1 Target a channel in the ACS section of the control surface.

2 Press the +48V switch in the ACS Input section.

The corresponding channel's "+48V" LED on the Stage Rack Input Card lights to indicate phantom power is on.

Analog Audio Outputs

(Balanced Male XLR Connectors)

◆ Connect analog line-level output destinations (such as power amplifiers, crossovers, or speakers) to any of the output connectors on any SRO Card.

Digital Audio Inputs (Optional DSI Card)

AES

(XLR3-F Connectors)

• Connect digital AES sources to any of the input connectors on any DSI card. (See also "Digital Inputs and Sample Rate Conversion" on page 15.)

ADAT Optical

(TOSLink)

• Connect ADAT (optical) sources to the optical input connector on any DSI card.

Choosing the Digital Source (AES or ADAT)

To configure a digital input for AES or ADAT:

1 In the Patchbay, route a DSI input to a D-Show input channel.

2 Click the Inputs tab and navigate to the input channel being fed from the DSI input.

3 Click the ADAT button on-screen, in the channel Input controls section. When lit, ADAT input is active; when unlit, AES input is active.

The corresponding channel's Source LED on the Stage Rack DSI Card lights to indicate AES or ADAT.

Digital Outputs (Optional DSO Card)

AES

(XLR3-M Connectors)

• Connect digital AES devices to any of the output connectors on any DSO card.

ADAT Optical

(TOSLink)

• Connect optical (ADAT) or other TOSLink devices to the optical output connector on any DSO card.

Digital Inputs and Sample Rate Conversion

The DSI card operates at the D-Show system sample rate of 48 kHz. The DSI card provides auto-detection and sample rate conversion on input, letting you connect a wide variety of digital sources without having to be concerned with synchronization and clock connections.

Sample Rate Conversion Latency

When sample rate conversion is enabled on DSI inputs, input signal paths will incur a small amount of latency. The following table illustrates the sample rate conversion processing delay at various sample rates.

Minimum Additional Latency due to Sample Rate Conversion

External Sample Rate	SRC Process Delay
32 kHz	1.50 ms
44.1 kHz	1.09 ms
48 kHz	1.00 ms
88.2 kHz	0.848 ms
96 kHz	0.833 ms

Sample rate conversion (SRC) can also be disabled. This provides the lowest possible input path latency, but requires that care be taken to synchronize the source and other devices accordingly (see "Synchronizing External Digital Source Devices" on page 16).

Even when SRC is disabled, connecting an unsynchronized device to a DSI input causes SRC to automatically be re-enabled. This lets audio continue passing without interruption.

To manually disable Sample Rate Conversion:

1 Click the Inputs tab and navigate to the input channel being fed from a DSI input.

2 Click the channel's SRC OFF button until it turns off.

Auto-Detecting

The DSI card automatically detects whether an external device connected to a DSI input is synchronized to the D-Show system. Here, "synchronized" means the device is running at 48 kHz, and is clocked to D-Show (see "Synchronizing External Digital Source Devices" on page 16). In this case, no sample rate conversion is required on input.

If the external device is not synchronized, D-Show automatically engages sample rate conversion on those inputs *even if sample rate conversion was manually defeated*. The SRC LED flashes on the DSI card, and a message appears on-screen to indicate this condition.

💡 *SRC status is not affected when an input channel is reset via right-click "Reset Strip" commands.*

Sample rate conversion can be enabled or disabled manually for digital inputs, as follows:

◆ When using AES inputs on DSI cards, sample rate conversion can be enabled or disabled for each pair of inputs.

◆ When using ADAT (Optical) inputs on DSI cards, sample rate conversion can be enabled or disabled for all 8 channels. Enabling or disabling SRC on any ADAT channel enables or disables all other ADAT channels on that DSI card.

Switching input Source between AES and ADAT (Optical) ports retains the last sample rate conversion setting for that input type and channel (AES channel pairs only).

💡 *Automatic detection and enabling of sample rate conversion is always in effect and will engage sample rate conversion whenever a mismatch is detected at a DSI input, even when sample rate conversion is manually defeated for that input.*

Synchronizing External Digital Source Devices

When an external device is running at 48 kHz and clocked to D-Show, disabling sample rate conversion on those digital inputs provides the lowest possible input path latency.

Before sample rate conversion is defeated on any input connected to a digital source, that source device must be synchronized (clocked) at 48 kHz in one of the following ways:

Using Word Clock Out from the Stage Rack (DSI Card)

◆ Connect the Word Clock Out provided on the DSI card to the corresponding digital device. Set the external device to slave to the incoming word clock signal.
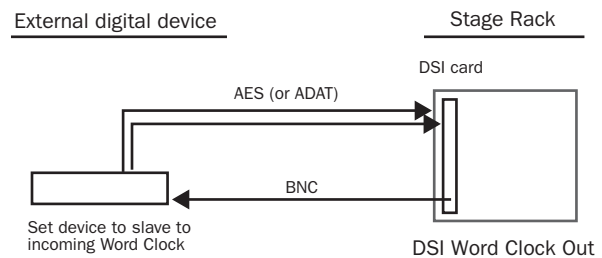
Using word clock from the DSI card to clock an external device

Using D-Show Digital Audio Outputs

◆ Connect any D-Show digital output to a digital input of the external device: Use digital outputs on the Stage Rack (if the system also includes a DSO card) or any digital output on the FOH Rack. Set the external device to slave to its digital input.
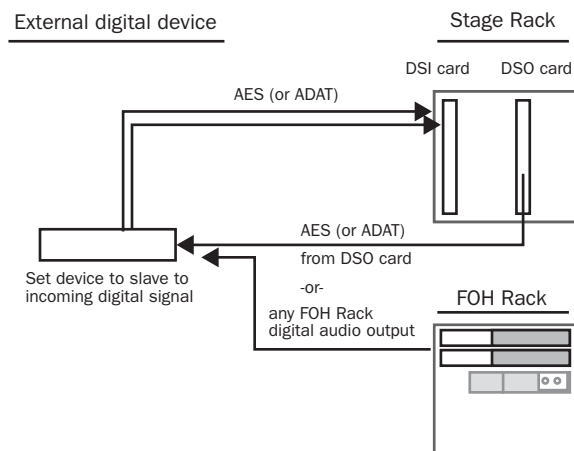
Using a D-Show digital output to provide clock to an external device

Using House Clock

◆ Connect a "house" or other external master clock signal to the Word Clock In on the FOH Rack. Distribute the same house clock to the external digital device, and set it to slave to the incoming house word clock signal.
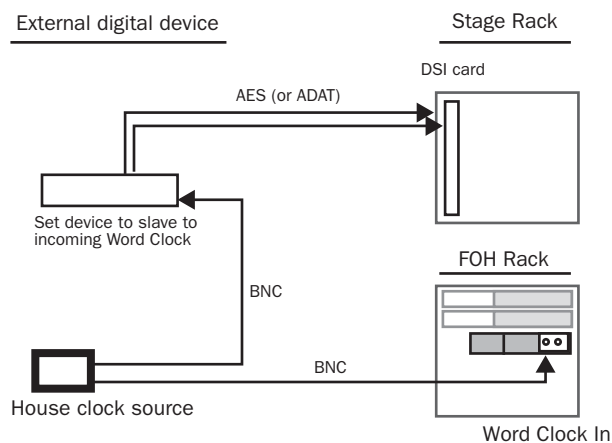
Using a distributed house (master) to clock D-Show and an external device

Using Word Clock Out from the FOH Rack

◆ Connect the Word Clock Out on the FOH Rack to the corresponding digital device. Set the external device to slave to the incoming word clock signal.
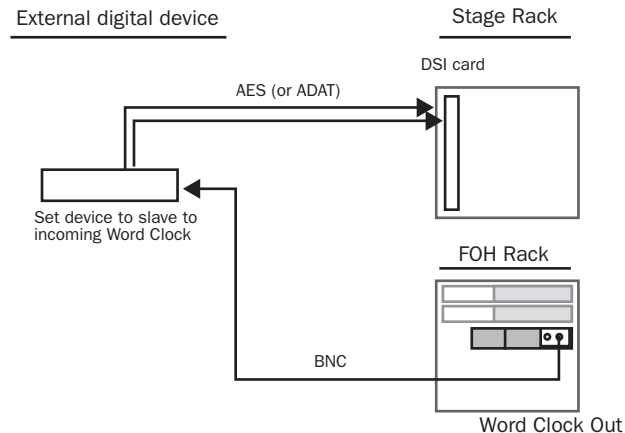
Using word clock from the FOH Rack to clock an external device

Digital Gain and HDx

In D-Show systems that include DSI digital input and the HDx Pro Tools Recording option, channel gain is maintained when switching input channels between available digital sources (from DSI to HDx, or vice versa).

As you adjust gain for channels that are sourced from one or the other digital source (DSI or HDx), any changes you make to channel gain are tracked by D-Show. Those changes can then be transferred and applied when that channel is switched from an HDx source to a DSI input using the Apply HDx Gain Changes command. Alternatively, you can choose to discard changes and revert to the stored gain value for that input source.

◆ If you choose to apply HDx gain levels when switching that channel to a Stage Rack DSI input, those levels will be transferred and applied directly to the new source. For example, if an HDx source has a gain setting +3dB, switching that source to a DSI input and choosing to apply gain changes will result in the DSI input being set identically to +3dB.

◆ If you choose to discard gain settings when switching that channel the DSI input will revert to its previous Stage Rack gain setting. The system remembers the type of each Stage input card upon entering HDx mode.

D-Show retains Stage Rack input gain settings as part of the HDx configuration for as long as the card is present in the system.

⚠ *When exiting HDx mode and returning to input from a Stage Rack (analog or digital card), if a given Stage input card type has changed (such as Analog to Digital or vice versa), any gain changes made to inputs on that card while in HDx mode are discarded even if you choose to apply gain changes.*

Analog Gain Reminder

Relative gain changes will still be applied when switching from HDx to an analog input source in order to preserve gain structure. For more information, see the *HDx TDM Record/Playback Option Guide*.

Digital and Analog Settings

D-Show automatically detects when a Stage Rack has been reconfigured with the addition (or removal) of any analog or digital I/O card. When this occurs, D-Show will apply the last known settings (or default settings if no previous settings are available) for each card type.

FOH Rack Connections
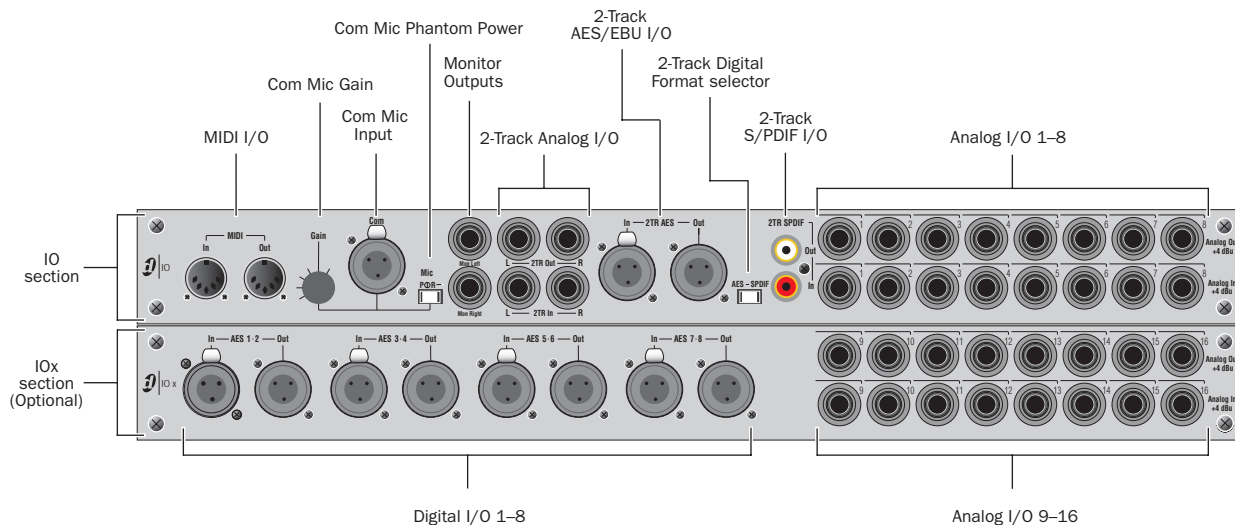
Figure 6. Audio connectors on FOH Rack, showing standard IO connectors (top) and optional IOx connectors (bottom)

Audio Inputs and Outputs

Analog Inputs and Outputs

(Balanced 1/4-inch TRS Connectors)

◆ Connect the analog inputs and outputs of external processors to any of these 8 analog output and input pairs. (16 inputs and output pairs are available if the IOx option is installed.)

◆ Connect any analog output destination (such as a recording device or broadcast feed) to any of the outputs in this section.

◆ Connect any analog sound sources (such as a CD player) to any of the inputs in this section.

Digital Inputs and Outputs - IOx Option only

(AES/EBU Connectors)

◆ Connect the two-channel digital inputs and outputs of external processors to any of the 4 AES/EBU digital output and input connectors in this section.

◆ These connectors support 24-bit, 48 kHz digital signals. Input signals with other sample rates are sample-rate converted to 48 kHz.

2-Track Inputs and Outputs

2-Track Analog Inputs and Outputs

(Balanced 1/4-inch TRS Connectors)

◆ Connect a 2-track analog playback source to the 2-Track analog inputs.

◆ Connect a 2-track analog recording device to the 2-Track analog outputs.

2-Track Digital Inputs and Outputs

(AES/EBU and S/PDIF Connectors)

◆ Switch the 2-Track digital I/O between AES/EBU and S/PDIF by moving the 2-Track Digital Format selector switch to the corresponding position. Only one of these digital formats may be active at a time.

◆ Connect a 2-channel digital playback source to the 2-Track AES/EBU or S/PDIF input.

◆ Connect a 2-channel digital recording device to the 2-Track AES/EBU or S/PDIF output.

◆ These connectors support 24-bit, 48 kHz digital signals. Input signals with other sample rates are sample-rate converted to 48 kHz.

Monitor Outputs

(Balanced 1/4-inch TRS Connectors)

◆ Connect a monitor amplifier or powered monitors to the Monitor Output connectors.

◆ The Monitor Outputs and the Headphone Output on the front of the console are fed by the Solo/Monitor bus

Com Mic Input

Com Mic Connector

◆ Plug a dynamic or condenser microphone, or any compatible intercom system microphone into this connector.

Applying Phantom Power to the Com Mic

The Com Mic input has available 15V phantom power.

To apply phantom power to the Com Mic:

■ Move the Mic Power switch to the right.

Com Mic Gain

◆ Turn the Com Mic knob to adjust overall Com Mic gain.

MIDI Input and Output

◆ Connect a compatible MIDI device to the MIDI In and MIDI Out ports. D-Show Snapshots receive and send MIDI commands, and generate and respond to MIDI Time Code.

Word Clock

If you are integrating digital devices with D-Show, make the necessary Word clock connections and settings. For details, see "Synchronizing External Digital Source Devices" on page 16.

Control Surface Connections

Talkback Mic

Talkback Mic Connector

◆ Plug a dynamic or condenser talkback microphone into this connector.
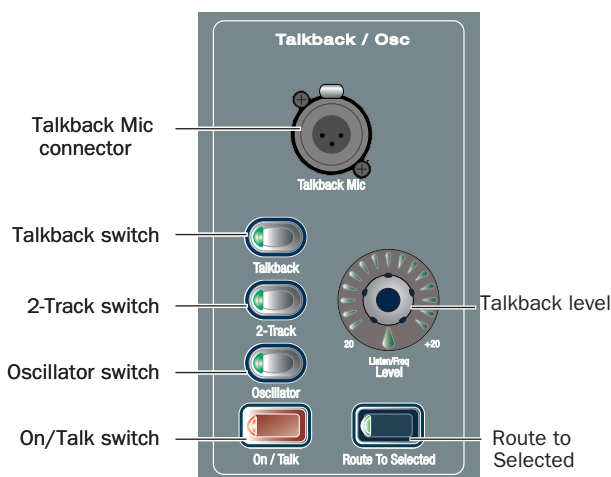
Talkback microphone connector and controls

Talkback Level

◆ The talkback gain for this connector is fixed at 20 dB.

◆ Adjust talkback send level by pressing the Talkback switch in the Talkback/Osc section and turning the level knob.

Talkback Switch

◆ Activate talkback by pressing the On/Talk switch.

VGA Display

◆ Plug a compatible VGA display into this connector.
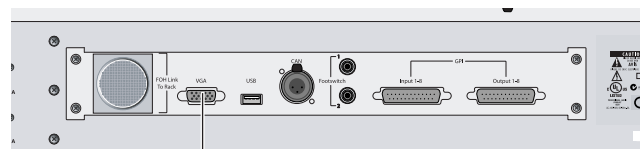
VGA Display connector

VGA display connector on back panel of D-Show Profile

USB Keyboard and Trackball

◆ Plug a compatible USB keyboard and Trackball (or mouse) into the two available USB connectors on the front the control surface (just below the faders for inputs 17–24).

Other USB Devices

D-Show Profile provides USB ports on the top panel (near the meters) and on the back panel. Use these ports to connect iLok Smart Keys, USB flash disks or other compatible USB devices.
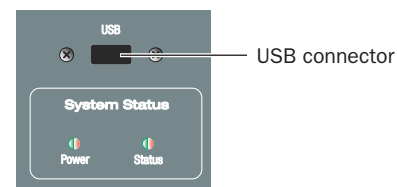
USB connector

USB connector on top panel
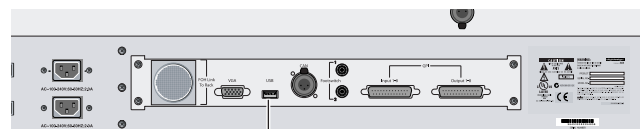
USB connector

USB connector on back panel t

💡 *D-Show Profile provides USB 1.1 ports. For best performance, use the faster USB 2.0 ports on the FOH Rack to connect USB flash disks for data transfer.*

GPI Connections

D-Show Profile provides 8 channels of GPI input and output through separate 25-pin D-Sub connectors on the back panel.

📄 *For specifications, wiring diagrams and pinouts, see Chapter 29, "Control Surface Reference."*

GPI Applications

GPI inputs are connected to the outputs of a variety of switching devices such as footswitches, momentary or latching push-button switches, or logic outputs of a larger show control system. Example applications of GPI inputs include remote toggling of a console function such as Talkback, muting a channel, or recalling a specific snapshot.

GPI outputs connect to compatible inputs found on a variety of external devices such as LEDs, small relays, power sequencers, and logic inputs on show control systems.

Example applications of GPI outputs include the following:

- Triggering a sound effects playback machine when a specific D-Show snapshot is recalled.
- Lighting a tally light whenever a fader is raised above a minimum threshold.
- Flashing or lighting a custom beacon or LED as a reminder of vital console mode, such as Solo in Place.
- Initiating power up of amplifiers and other down-stream systems when D-Show Profile is started up or shut down.

GPI functions, as well as footswitch assignment, are managed using the Events List in the Options > Events window. For more information, see Chapter 22, "Events."

To connect GPI devices as triggering devices to D-Show Profile:

1 Connect one end of a 25-pin D-Sub cable (not included) to the GPI IN port on the back panel of D-Show Profile.

2 Connect the other end to the appropriate GPI output port on the external device.

To connect GPI devices to be triggered by D-Show Profile:

1 Connect one end of a 25-pin D-Sub cable to the GPI OUT port on the back panel of D-Show Profile.

2 Connect the other end to the appropriate GPI input on the external device.

Powering Up the System

⚠️ *Faders move when power is turned on. Before powering up the system, make sure all fader paths are clear of obstructions.*

Power up the system in the following sequence:

1 D-Show Profile

2 Stage Rack

3 FOH Rack

4 Any connected computers for recording/playback options

5 Audio monitoring system

💡 *On units with redundant power supplies, each power supply has a separate power switch.*

Powering Down the System

Power down the system in the following sequence:

1 Audio monitoring system

2 Any connected computers for recording/playback options

3 Front of House Rack

4 Stage Rack

5 D-Show Profile

Restarting the System

If at any time during setup or performance it becomes necessary to restart the system, you can restart the entire system or reset individual hardware devices.

📄 *For more information on restarting D-Show and resetting system hardware, see Chapter 28, "Troubleshooting."*

Setting the System Clock

When you first work with a D-Show system, make sure the system clock time, date and time zone are set appropriately. The system clock setting can affect data synchronization with portable storage devices. See "Synchronizing Settings, Shows and Presets" on page 167.

The system clock time can be shown in the Status bar for constant time-of-day display. For more information, see "System Clock" on page 54.

⚠️ *Changing the system clock while using a timed iLok license (for a plug-in with a demo period, or for a plug-in rental) may expire the plug-in authorization.*

Enabling a Second Stage Rack

To enable and confirm communication with the second Stage Rack:

1 Put D-Show in Config mode.

2 Go to the Options page and click the System Config tab.

3 Click Edit.

4 Select Enable Stage 2, and click Apply. D-Show restarts.
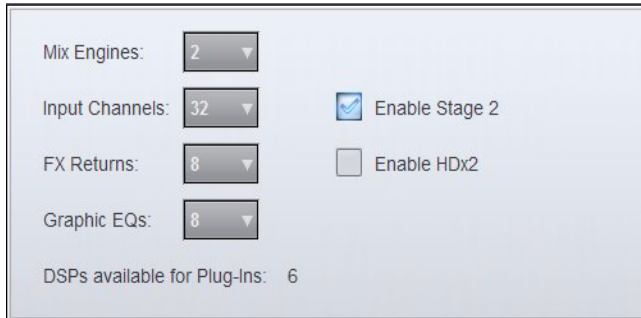
Enabling the second Stage Rack

5 Go to Options > Devices to view D-Show hardware status. The connection to the second Stage Rack should be displayed in the FOH Rack graphic.
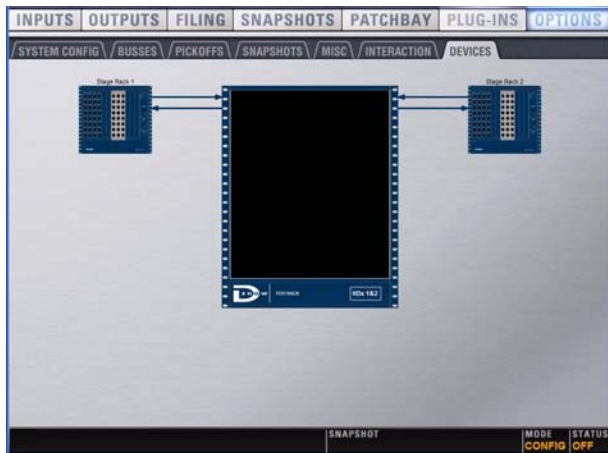
Detail of Devices page showing connection to second Stage Rack

💡 *The second Stage Rack must be enabled for the Devices tab to display the correct number of SRI (Stage Rack Input) and SRO (Stage Rack Output) cards in that unit.*

Part II: System Description

Chapter 3: D-Show Profile Control Overview

D-Show Profile Top Panel

The following figure identifies the main sections of the D-Show Profile control surface:

A Input Channels 1–16 and 17–24
B Assignable Channel Sections (ACS)
C Output Masters Section
D Master and Global Controls
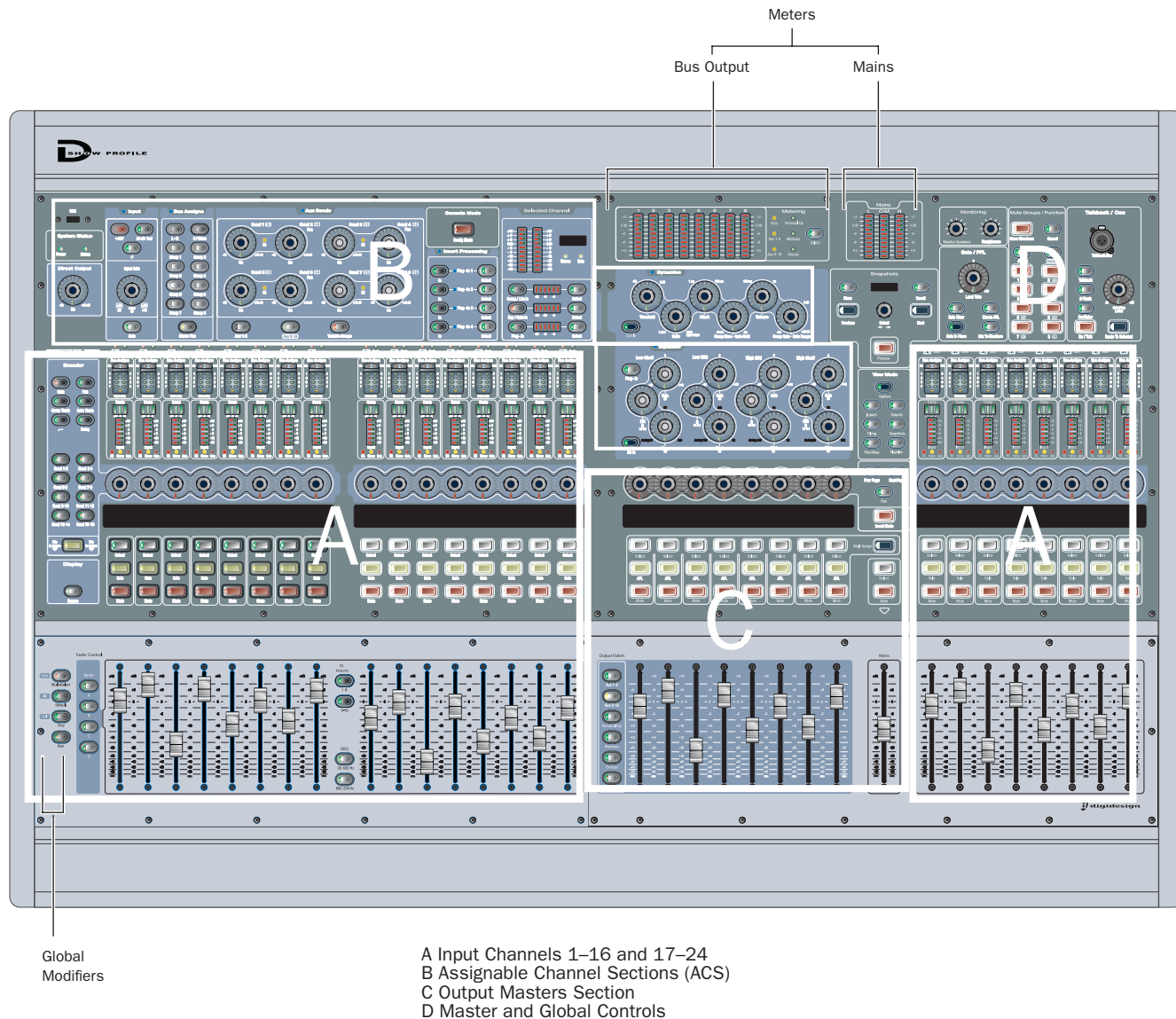
Figure 7. D-Show Profile control surface

D-Show Profile provides 24 bankable input channel strips in *Input Channel* sections, the *Assignable Channel Section* (ACS), eight bankable output channel strips plus a Mains fader in the *Output Masters* section, as well as global controls and comprehensive metering.

Input Channels and Faders

Input sections provide 24 faders and other controls for Input Channel and FX Returns. Input channels are arranged in two sections: Input channel strips 1–16 are to the left of the Output Master Section, while Input strips 17–24 are to the right. Additional channels are banked to the 24 faders using the Bank A, B, C and D switches. All 24 input channels bank together.

💡 *Input faders 1–16 can also be assigned to control FX Returns 1–8 or 9–16, or the output EQ (graphic EQ).*

Each input channel strip includes a channel fader, channel Select, Mute and Solo switches, a rotary encoder, LCD display area and meters for channel level and gain reduction. The encoders and associated assignment switches access Gain, Pan, HPF, Compressor and Gate thresholds and Aux sends. Each bank of eight input channels provides a two-row LCD display that shows channel name, parameter names, values and other data as appropriate for the current action.

Additional input parameters are controlled by selecting one or more channels to make them the target of the ACS.
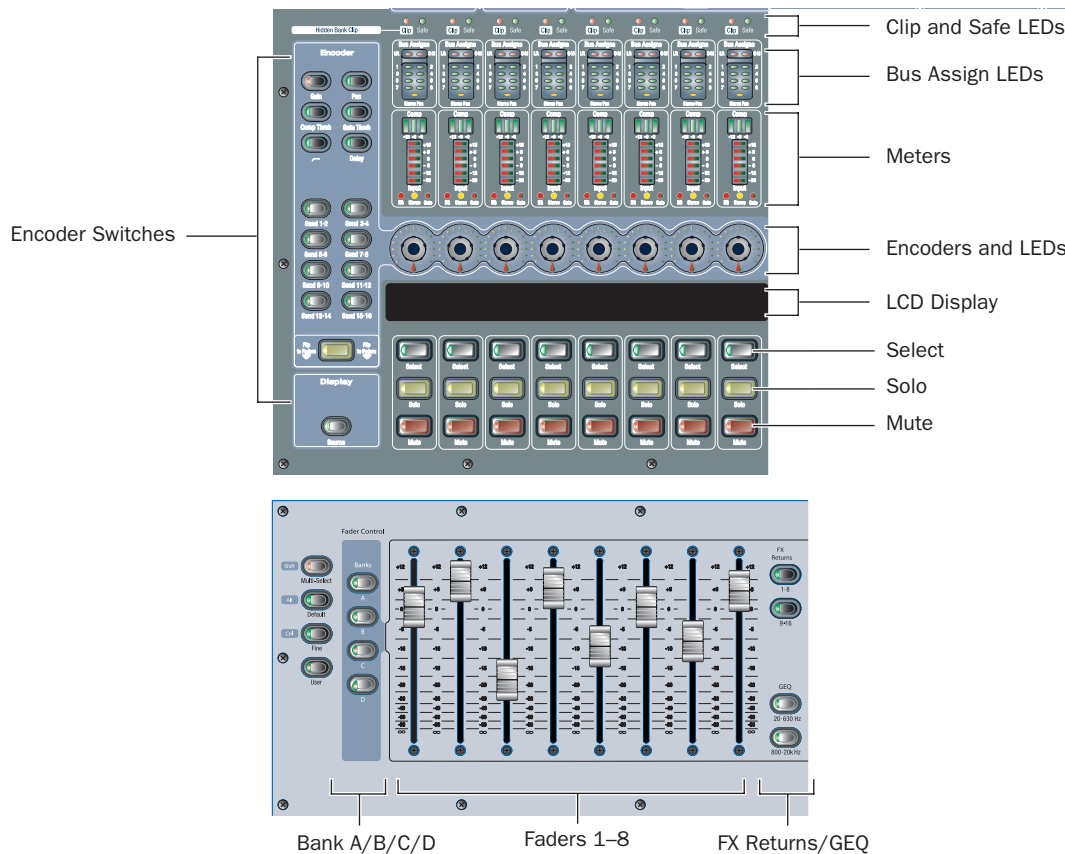
Figure 8. Input controls (Input Channels 1–8 shown)

Clip LED

The Bank Clip Indicator lights to indicate a meter clip on an Input Channel or FX Return at the corresponding position in an alternate bank of channels. This indicator obeys the same clipping threshold display rules as the Input Channel meters (as set in the Options > Interaction page). It gives you an indication of extreme signal level in a currently hidden ("off-bank") layer.

Safe LED

Automation Safe or Solo Safe

The Safe LED indicates either an input strip's Automation safe status or Solo safe status, depending on the current Input Safe Switch setting. See "Input Safe Switches" on page 56.

Auto Safe Mode If the Safe LED is lit, the channel will not respond to Snapshot-driven changes. If the LED is off, that channel will respond to any applicable changes driven by Snapshots (subject to the current Recall Safe settings, if Recall Safe is enabled).

Solo Safe Mode If the Safe LED is flashing, the channel will not respond to solo commands (it will not be muted if another channel's solo button is pressed). If the LED is off, that channel will be silenced when soloing another channel.

Pressing a channel Safe switch for the Selected Channel toggles the current state of that channel.

Bus Assignment Indicators

These green LEDs indicate Group bus assignments, and can also show VCA or Mute Group membership for each channel. By default, Group bus assignment is displayed.
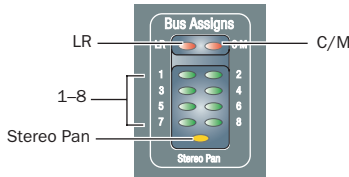
Bus Assign indicator LEDs on an Input Channel

Group Bus Assignment

◆ If the LR LED is lit, the input channel feeds the Left and Right Main busses in either L–R or L–C–R panning mode (regardless of the Stereo Pan LED status).

◆ If the C/M LED is lit, the input channel feeds the C (center) bus from the pan in L–C–R mode, or the M (mono) bus before the pan. Stereo channels are summed to the mono bus.

◆ If a bus LED (1–8) is lit, the channel is feeding the corresponding Group(s). If an LED is off, the channel is not feeding that Group. The Bus Indicators can also show VCA and Mute Group membership.

🔅 *Use the Bus Assign switches to route and assign the currently selected channels to busses (see "Assignable Channel Section" on page 30).*

VCA Membership

◆ When VCA Show Members mode is enabled, Group indicators flash to indicate VCA membership.

Mute Groups

◆ When the Mute Groups Show Members switch is pressed, the Group indicators flash to indicate Mute Group assignments. A flashing LED indicates that the channel is assigned to the corresponding Mute Group (1–8).

Stereo Pan LED

This LED indicates when the channel is assigned to a stereo Groups bus.

Input Channel Metering

Each Input Channel provides a gain reduction meter, input level meter, and LEDs to indicate EQ, Gate, and stereo status.

Comp Gain Reduction Meter

A 3-segment meter displays gain reduction for the channel compressor/limiter. Green LEDs are used for all segments.
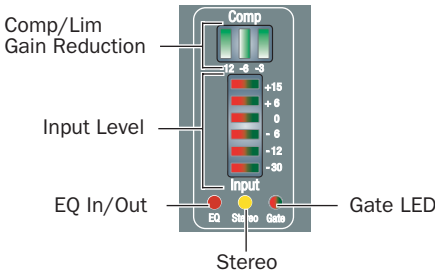
Input channel meters and LEDs

Input Level Meter

A 6-segment meter displays input level and indicates clipping. Bi-color LEDs are used for all segments, as shown in the following table. Clipping is indicated when all LEDs light red.

📄 *For meter scales, see "Channel Meters" on page 107.*

EQ Status LED

A single red LED indicates EQ In/Out status as shown in the following table.

Color	EQ Status
(none)	Not in circuit
Red	In circuit

Stereo Channel LED

A single yellow LED indicates a stereo input channel. The stereo channel LED flashes if a 10 dB or greater offset is detected between left and right inputs.

Color	Channel Status
(none)	Mono
Yellow	Stereo

Gate Status LED

A single bi-color LED shows the current Expander or Gate status. For LED scales, see "Gate Status LED" on page 107.

Input Encoders and Assignment Controls

Each input channel features one assignable input encoder that can be assigned to control a variety of channel functions such as input gain, HPF corner frequency, pan/balance/width, and specific parameters of built-in Dynamics processes.

The Encoder Assignment switches, located to the left of the row of encoders, determine the function of the encoders on Input Channels. The LCD displays the current function (see "Input Channel LCD Display" on page 29).
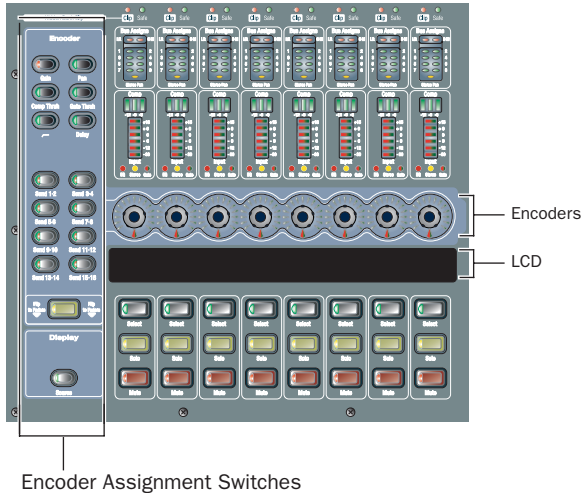
Input encoders, assignment switches, and LCD

Rotary and Switch Functionality

D-Show rotary encoders are dual-function controls that provide rotary and switch functions. In addition to adjusting parameters by turning the encoder, you can toggle parameters (such as taking the high-pass filter in or out of circuit) by pressing the encoder knob.

Encoder LEDs

Two types of LEDs surround each encoder:

◆ The LED ring around the encoder displays the relative position of its currently assigned parameter.

◆ Below each encoder is an indicator LED, which indicates parameter status (in/out), default setting, or other conditions related to the current encoder function.

Switches in the Encoder section assign each of the following parameters to the Input encoders:

Gain

Gain assigns the encoders to control input gain according to the range available for this input (head amp gain for analog inputs, digital gain for digital or line inputs). Pressing and holding the encoder initiates Gain Guess, in which D-Show automatically sets a nominal input gain level based on the incoming signal.

Pan

Pan assigns the encoders to control channel Pan if the channel is mono, or stereo channel balance if a stereo. The indicator LED lights when the pan is at center.

Comp Thrsh

Comp Thrsh assigns the encoders to control the Threshold for the built-in Compressor/Limiter. Pressing the encoder toggles the effect in and out of circuit. If the LED is lit the effect is in circuit.

Gate Thrsh

Gate Thrsh assigns the encoders to control the Threshold for the built-in Expander/Gate. Pressing the encoder toggles the effect in and out of circuit. If the LED is lit the effect is in circuit.

HPF

HPF assigns the encoders to control the HPF corner frequency. Pressing the encoder toggles the built-in HPF in and out of circuit. If the LED is lit, the filter is in circuit.

Delay

The Delay switch assigns the encoders to control the amount of delay in the channel. Pressing the encoder toggles the Delay in and out of circuit. If the LED is lit, the delay is in circuit.

Send 1–2 to Send 15–16

These switches let you select one of two Aux sends in odd/even pairs (Send 1–2 through Send 15–16) or Variable Group sends in odd/even pairs (Send 1–2 through Send 7–8 only).

◆ With mono sends, the first press of the switch selects the odd numbered send (1, 3, 5, or 7) and the second press selects the even numbered send (2, 4, 6, or 8). The switch lights green for the odd-numbered selection, or yellow for the even-numbered selection.

◆ With stereo-linked sends, the first press of the switch controls level for the bus pair, and the second press controls pan for the bus pair. The switch lights green for level control, or yellow for pan control.

Pressing an encoder toggles the send on or off. When the send level is shown on the LED ring and the send is off, a single LED lights. When the send is on, all LEDs light in a clockwise sequence from the lower left to the send level.

Flip to Faders

When enabled, the current encoder parameter is mapped to the channel faders. It can still be controlled from the encoder row, so the channel fader mirrors the setting. When Flip is engaged, all channel name display backlights turn yellow, the same color as the flip switch. Channel name is displayed in the upper row of the LCD, with the flipped parameter displayed in the lower row (mirroring the effect of Flip to Faders).

💡 *Flip to Faders provides a special mode when working with stereo Aux sends. For information, see Chapter 10, "Auxes and Variable Groups."*

Input Channel LCD Display

There are a total of three Input Channel LCD displays, one each for Inputs 1–8, 9–16 and 17–24.

Each LCD provides two rows of data with six characters per row, per input channel. The upper and lower rows let you see more than one type of channel data simultaneously, such as channel name in the lower row and fader dB level in the upper row while you adjust the fader. Data display depends on the current encoder assignment.

Input Encoder Assignments and Values

The current encoder assignment, parameter or value is displayed in the top row of the input displays. There are two states the top row can be in: Parameter Value mode and Parameter Name mode.

When necessary, the display abbreviates displayed functions as shown in the following table.

Table 4. Encoder Assignment Displays

Switch	Display
Gain	Input Gain
Pan	Input Pan
Comp Thresh	Compressor Threshold
Gate Thresh	Gate Threshold
⌐	HPF Frequency
Delay	Input Delay
Send (n)	Aux (n) Level Aux (n) Pan (stereo-linked sends only) Variable Group (n) Level Variable Group (n) Pan (stereo-linked sends only
Flip to Faders	Aux (n) Level and Pan (stereo-linked sends only)

Source Switch

The Source switch in the Display section changes the Channel Name display to show the source input which is feeding each channel. For example, "S1 17" indicates the channel source is Stage Rack 1, Input 17.

Select Switch

The Select switch on each channel is used to target the channel in the Selected Channel sections, and to include the channel in Multi-Select and Multi-Assign functions. A lit Select switch indicates the channel is selected. The name of the currently selected channel is displayed in the Channel Name display and in the Selected Channel display. When multiple channels are selected, the Channel Name display indicates which channel is the ACS target.

Solo Switch

The Solo switch toggles the solo state of that channel. When enabled, the Solo switch LED is lit. When the channel is in Solo Safe mode, the Solo switch LED flashes. Channel Solo latches on a momentary press, and automatically releases if held for 2 seconds or more and released.

Mute Switch

The Mute switch mutes the channel at the (pre-fader) mute point. Channel pre-fader pickoff is post-mute.

Input Faders and Banking

Each channel fader is a 100mm motorized, touch-sensitive fader.

The Options > Interaction screen lets you enable touch-sensitive channel selection. When enabled, touching a channel fader automatically selects that channel and makes it the Selected Channel

💡 *The faders on D-Show can be moved even when they do not sense a touch. This allows use of the faders while wearing gloves. It also lets you "throw" a fader and have it stay where it lands, and not snap back to the point it was last touched.*

Fader Banking Controls

Bank A–D Banks the Input strips. Up to four banks (A through D) can be used to access up to 96 inputs from the 24 Input Channel faders. Bank A is channels 1–24, Bank B is channels 25–48, and so on.

FX Returns Banks FX Return channels 1–8 to Input faders 1–8, or FX Returns 9–16 to Input faders 9–16.

Graphic EQ Banks bands of graphic EQ to the faders. Graphic EQs can be used on D-Show outputs only. For more information, see Chapter 17, "EQ."
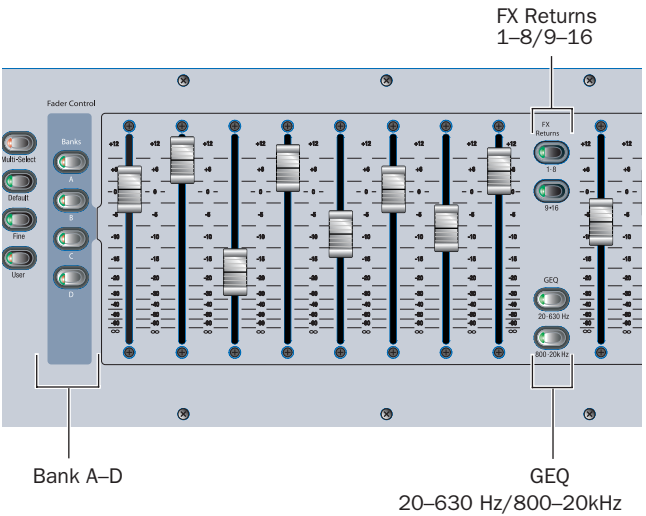
Input fader banking and assignment switches

Global Modifier Switches

To the left of the Bank A–D switches are the global modifier switches. See "Global Modifier Switches" on page 36.

Multi-Select (Shift) Lets you select multiple input channels, and lets you select multiple items in lists.

Default (Alt) Lets you reset a parameter, section, or channel to default values. This switch also enables certain modes such as Show VCA Members mode.

Fine (Ctrl) Lets you select non-adjacent items in lists, or adjust rotary encoders with greater resolution for finer control.

User This switch is currently not implemented.

Assignable Channel Section

The Assignable Channel Section provides dedicated routing, EQ, Dynamics, and insert controls for the currently selected channel. ACS sections include the Input, Bus Assign, Direct Out, Aux Sends and Inserts sections, the Selected Channel Meters and display, and the Dynamics and EQ sections.

The ACS sections feature a light colored background color, and each section features a blue LED which, when lit, indicates that section applies to the selected channel.

Input

This section provides a channel Clip LED, and controls for channel phantom power, input pad, polarity (phase), Gain and Safe status.
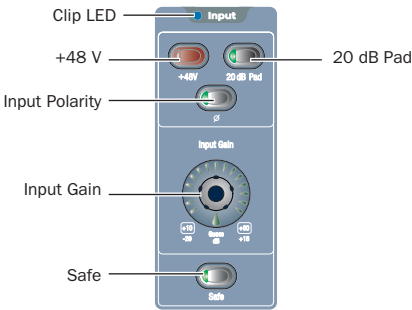
Input controls

Direct Output

The Direct Output section provides level and in/out control for the channel direct output.

Direct Output

Bus Assigns

The Bus Assigns switches are the primary routing controls for the currently selected channel, letting you bus it directly to the Mains (L–R) bus or to any other mono or stereo group.
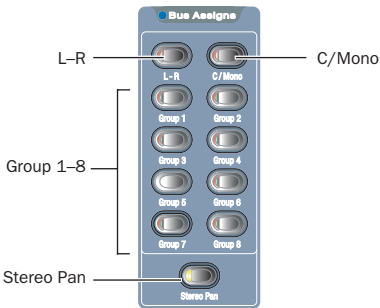
Bus assign switches

Aux Sends

The Aux Sends section provides in/out and level control to route the currently selected channel to any available mono or stereo-linked Aux bus. The Aux Sends section is banked using the Aux 1–8 or Aux 9–16 switches.

The Variable Groups switch accesses Variable Groups mode. When D-Show is in Variable Groups mode, the controls for Aux 1–2 through Aux 7–8 route to Variable Groups 1–2 through 7–8 respectively. The Variable Groups switch also automatically toggles the input encoders to Variable Groups 1–8 (instead of Auxes 1–8).
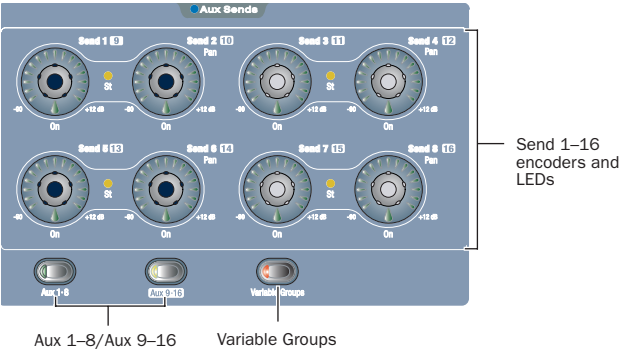
Aux send controls

Insert Processing

The Insert Processing section provides controls to bypass and select plug-ins on the currently selected channel.
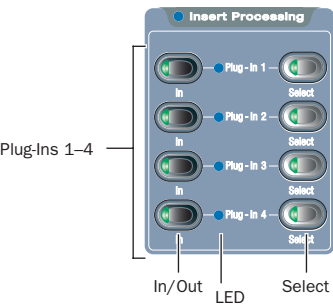
Insert Processing controls

Selected Channel Meter, Display and LEDs

The Selected Channel display section include two 10-segment Selected Channel meters, a 6-character LCD display and LEDS for Status and Solo state.
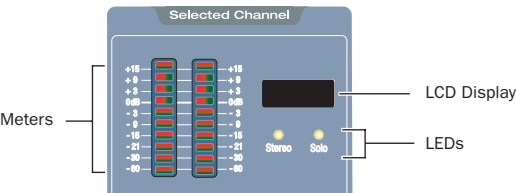
Selected Channel meters, displays and LEDs

The 6-character Selected Channel display shows the name of the currently selected channel. The Selected Channel display temporarily reverts to a parameter display mode any time an encoder is adjusted on the selected channel.

The Stereo LED lights solid when a stereo input or output is targeted. The Solo LED flashes any time a channel is in PFL, AFL or Solo in Place mode.

The dual, 10-segment, bi-color LED meters indicate input level and clip status for the currently targeted or Soloed channel.

📖 *For Selected Channel metering scale, see "Selected Channel Level Meters" on page 108.*

Dynamics

The Dynamics section provides dedicated controls and metering for built-in and plug-in dynamics processors, including a comprehensive set of Compressor/Limiter and Expander/Gate controls.
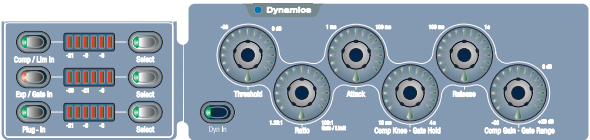
Dynamics section and controls

📖 *See Chapter 16, "Dynamics."*

EQ

The EQ section provides dedicated controls for all built-in and compatible plug-in EQ parameters including band in/out, frequency, Q, and mode.
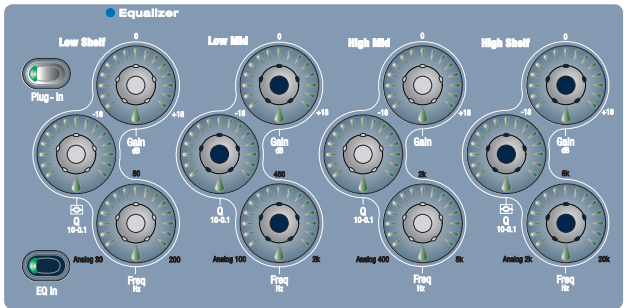
EQ section and controls

📖 *See Chapter 17, "EQ."*

Output Masters

The Output Masters section includes eight bankable output channel strips, each with a fader, encoder and channel switches. The Mains fader provides master level control over the Mains (house) output.
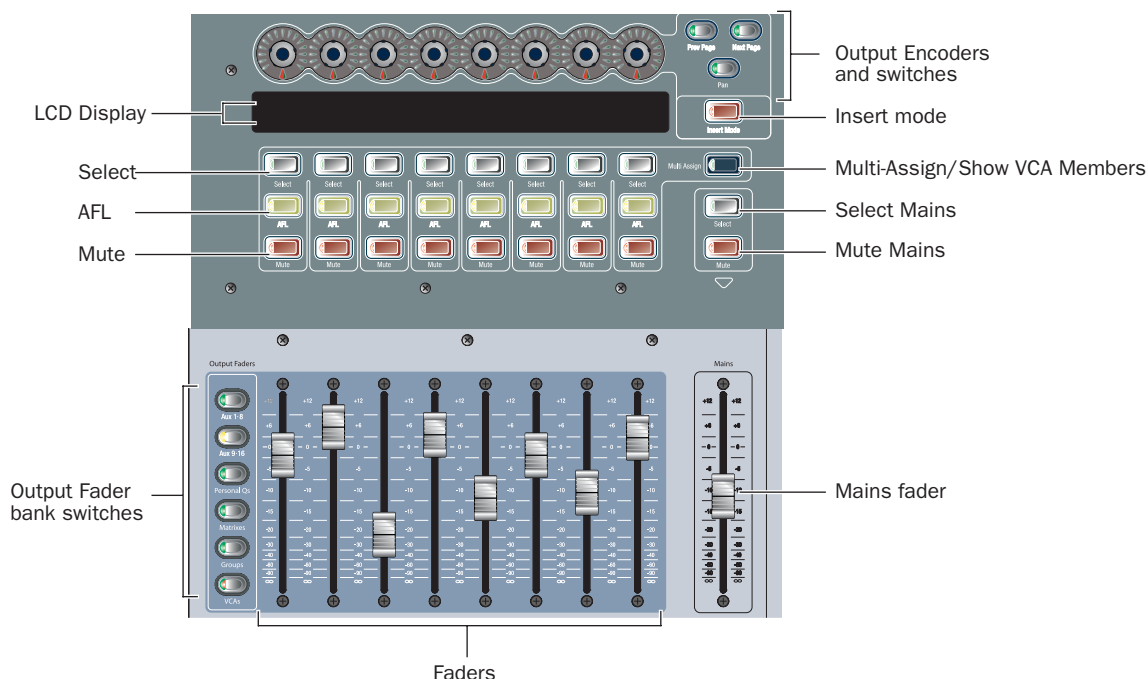
Figure 9. Input controls (Input Channels 1–8 shown)

Mains Fader

The Mains fader provides a single level control for the current Mains output.

Output Faders

The eight Output Faders control level for Aux 1–8, Aux 9–16, Personal Q, Matrix and Group busses, and VCAs.

Output Fader Bank Switches

The Output faders and encoders are banked to the desired bus using the Output Faders switches.

Aux 1–8 Assigns the Output Faders to control Aux 1–8 levels.

Aux 9–16 Assigns the Output Faders to control Aux 9–16 levels.

Personal Q's Assigns the Output Faders to control PQ mixer output levels.

Matrixes Assigns the Output Faders to control Matrix mixer output levels.

Groups Assigns the Output Faders to control Group levels. When D-Show is in Variable Groups mode, this switch assigns the Output Faders to control Variable Groups.

VCAs Assigns the Output Faders to control VCAs.

Mute, AFL and Select Switches

Above the faders are the Mute, AFL and Select switches, which mute, solo, and select Auxes or Groups assigned to the Output section.

Output Encoders and Display

The eight Output Encoders adjust additional Output bus controls such as Group pan, Matrix source and PQ source level, as well as plug-in parameters (when in Inserts mode).

The Output Masters LCD display is a two-row display that is capable of showing 6 characters in each row, per output bus. The display shows the name, parameter or value currently being controlled in the Output Masters section.

The Prev Page and Next Page switches light to indicate additional functions depending on the selected output or plug-in parameter. When lit, pressing either switch scrolls the Output Encoders to the previous or next output or plug-in parameters. The Inserts Mode switch puts the encoders in Inserts mode, in which the Output encoders select and adjust plug-ins.

Master and Global Controls

Global and master controls are located in sections with a dark background, and include the Snapshot, View Modes, Console Config, Mute Groups/Function, Monitoring and Talk-back/Osc sections in the upper right quadrant of the control surface. In addition, the global Modifier switches for Multi-Select, Default and Fine are located next to input faders 1–16.

Global Modifiers

The Modifiers section is located to the left of Input faders 1–8, and provides the Multi-Select, Default, Fine and User switches.

Snapshots

The Snapshots section provides Store, Recall, Previous, Next, and Preview mode switches, along with a Select encoder and a 6-character Snapshot LCD display.
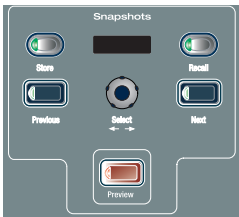
Snapshots

📖 *For more information, see Chapter 21, "Snapshots."*

View Modes

The View Mode switches (Inputs, Outputs, Filing, Snapshots, Patchbay, Plug-ins) display the corresponding pages on-screen. Pressing a View Mode switch repeatedly cycles through the individual tabs of that page. For example, pressing the Patchbay switch once displays the Patchbay page. Pressing Patchbay again cycles through various tabs within the Patchbay page.
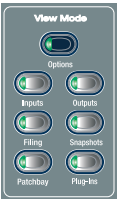
View Modes

Console Mode

The Config Mode switch toggles the system between Config and Show modes.

Console Mode

Talkback/Osc

The controls in this section provide comprehensive and flexible communication control, including a top-mounted Talkback input (XLR), Assign switches, and level control.
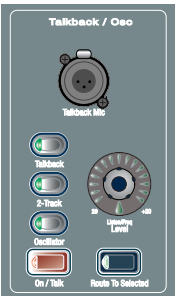
Talkback/Osc

Mute Groups/Function

Provides Mute Group assignment and selection in default Mute Groups mode, or can be switched to provide eight Function switches (F keys) in Function mode. The global Cancel switch is also located in this section.
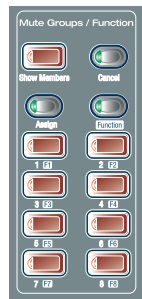
Mute Groups/Function section

Mute Groups

Mute Groups let you quickly mute multiple channels at the same time. You can create and recall up to eight Mute Groups comprising one or more channels.

📖 *See Chapter 15, "Muting and Mute Groups."*

Function Switches

In Function mode, this section provides eight Main Function switches. The default assignments for the first four Function switches include Preview mode on/off (F1), Variable Groups (F2), Copy (F3) and Paste (F4).

Function switches can be assigned to perform any number of actions using the Events window. For more information, see Chapter 22, "Events."

Cancel

This switch cancels the current operation, such as Multi-Select or Multi-Assign modes.

Monitoring

The Monitoring section provides level encoders for the Monitor (near field monitors) and Headphone outputs.

Monitoring controls

Monitor bus delay can be set on-screen in the Options > Busses page.

USB Port and System Status LEDs

These LEDs indicate power and system status. These controls are located in the upper left corner of the control surface.

Top panel USB port and status LEDs

For more information, see Chapter 28, "Troubleshooting."

Meters

The Meter section includes the following:
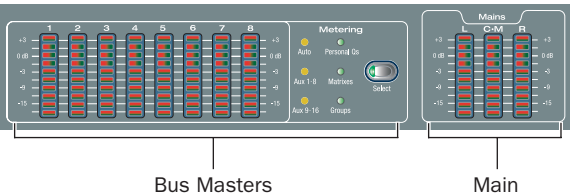
Bus Masters   Main
Meters

Bus Output Meters

Eight Bus Output meters provide selectable metering of Output busses.

Main

The Mains meters provide constant level indication of the house (Mains) output.

For more information, see Chapter 13, "Metering."

Chapter 4: Basic Commands and Modes

Control Overview

Most D-Show features and controls that are used during a performance are available from both the control surface and on-screen. Changes made on one are immediately reflected in the other, letting you use almost any combination of control surface and screen controls to mix.

The software screen is not required in order to mix a performance, as all essential mixing controls are provided on the control surface. However, the screen is essential when setting up and configuring the system before a performance.

Software-Only Controls and Displays

Many configuration settings and options are only available on-screen. These controls include hardware configuration settings, bus options, plug-in installation, and system diagnostics. For more information, see "System" on page 49.

Software Screen Banner Display

The software screen provides a banner display in the lower left corner. This display is provided to maintain line-of-sight mixing by showing the currently adjusted parameter (such as fader level or compression threshold) as you make changes to the parameter. The banner display also provides Tool Tip text and status messages.

Tool Tips

With the mouse or a trackball, place the cursor over a screen item to display a brief explanation of that item in the banner display.
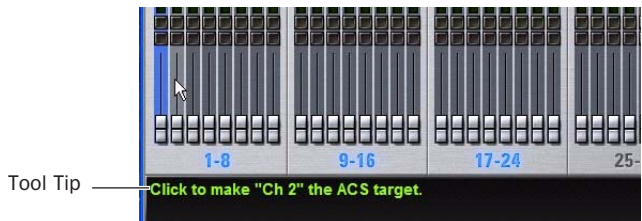
Status bar showing Tool Tip

Status Messages

The banner display alerts you to certain operating conditions such as Multi-Select and Multi-Assign modes.

Banner display   Mode display

Banner display showing current state of the system

Control Surface and Software Screen Linking

The software screen is linked to control surface actions by default. For example, touching an input channel fader on the control surface changes the screen to the Inputs page, and touching an output bus fader changes the screen to the Outputs page. You can customize how D-Show targets channels to best match your working style. For more information, see "Interaction" on page 55.

Config Mode and Show Mode

D-Show has two main operating modes, Config Mode and Show Mode. Use Config mode to set up your system and options; use Show mode to mix your performance.

Config Mode

Config mode provides access to the configuration settings that are typically performed as part of system setup (before mixing). For example, you must be in Config mode to do any of the following:

- Choose a Main mix format (L–R+M, or L–C–R)
- Designate the number and mono/stereo format of available auxes and groups, combine two mono channels into one stereo input channel, or split a stereo input channel into two mono channels.
- Install plug-ins
- Assign plug-ins in the D-Show software racks
- Route side-chain inputs to plug-ins
- Initialize (or reset) hardware devices and options
- Change Matrix and PQ Source pickoff points
- Change Master Insert points
- Customize control surface and software interaction
- Move channels to different fader strips
- Perform system tests and diagnostics

⚠ *Some Config mode operations interrupt audio throughput.*

Show Mode

Show mode is the main operating mode for D-Show. All mixing and routing features are available, based on your settings for Config mode options.

Toggling D-Show Between Config Mode and Show Mode

To toggle D-Show between Config mode and Show mode, do one of the following:

■ Press the Console Config switch (located near the top center of the console, above the Insert Processing section).

– or –

■ Double-click the Mode display in the Status Bar, located in lower-right hand corner of the screen.

Global Modifier Switches

D-Show provides a set of global modifier switches, located to the left of the input faders: Multi-Select (Shift), Default (Alt), Fine (Ctrl) and User.
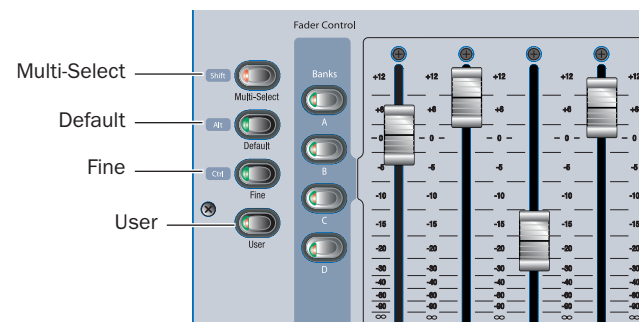
Global modifiers

These switches provide frequently used shortcuts that can be applied to control surface actions and software screen interactions.

Multi-Select Switch

The Multi-Select (Shift) switch lets you select multiple Input Channels and then apply an action to all selected channels. Multi-Select is useful for batch routing and assignment of input channels.

Most channel functions support Multi-Select (or Multi-Assign) as noted throughout this guide. For details on how to select one or more channels, see "Selecting and Targeting Channels" on page 42.

Default Switch

The Default (Alt) switch provides a quick way to reset a control to its default setting (or "zero" the setting). It is equivalent to, and interchangeable with, the Alt key on the keyboard.

Examples of Using Default

To reset a fader to 0 dB:

1 Press and hold the Default switch.

2 Press the Select switch on the channel you want to reset.

To reset all EQ parameters on a channel:

1 Press and hold the Default switch.

2 Press the EQ In switch in the Selected Channel section if the channel is the current target, or on-screen in the Inputs page.

To reset a single EQ parameter:

■ Hold the Default switch and press the encoder or switch for that parameter.

To reset Threshold on-screen:

1 Select an input or output channel on-screen.

2 Do one of the following:

- Right-click the Threshold encoder on-screen and choose Reset.

– or –

- Hold the Default switch on the control surface and click the Threshold encoder on-screen.

SHIFT *To reset a parameter using only the keyboard and trackball, press Alt+the on-screen control.*

Fine Switch

The Fine (Ctrl) switch lets you adjust controls (except for faders) on the control surface or on-screen with maximum resolution. For example, if by default a controls adjusts a parameter in units of 1 dB, the Fine switch lets you adjust in units of 0.1 dB.

To adjust a control with fine resolution:

■ Press and hold the Fine switch while moving a control. The display associated with the adjusted control will show the values changes at the corresponding resolution.

Momentary and Latching Modes

The Fine switch supports momentary and latching operation.

Momentary In momentary mode, the Fine switch stays in effect for as long as you hold down that modifier switch.

Latching In latching mode, the Fine switch stays in effect until you explicitly clear its active state.

To use the Fine switch in Momentary mode:

1 Press and hold the Fine switch.

2 Adjust a channel, parameter, or processor.

3 Release the Fine switch.

To use the Fine switch in latching mode:

1 Double-press the Fine switch. The switch LED lights.

2 Select or adjust one or more channels, parameters, or processors.

3 Press the Fine switch again to exit latching mode.

User

The User switch is reserved for future use.

Software Screen Pages and Tabs

Viewing Pages

To view a page, do one of the following:

■ Press a View Mode switch.

– or –

■ Click the page name at the top of the screen.

When additional tabs are available for a page, go to those tabs by pressing the corresponding View Mode switch again to cycle through the tabs on that page, or by clicking their names on-screen.

Click page name to display
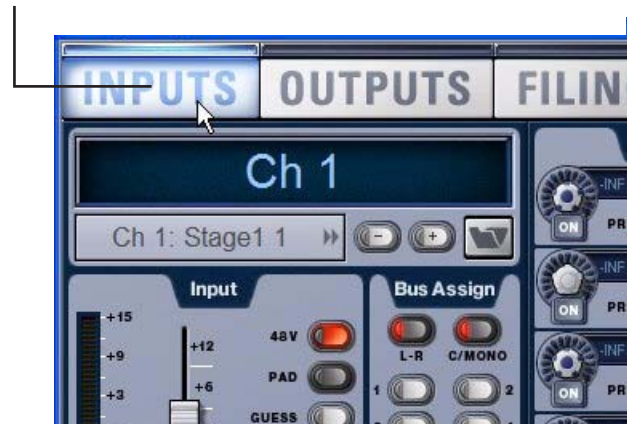
Viewing pages

Overview of Software Pages

The software screen provides the following pages and tabs.

Inputs

Select, name, configure, and adjust parameters for input channels and FX Returns.

Inputs page (analog input shown)

    📖 *See Chapter 7, "Inputs and Input Routing."*

Outputs

Select, name, configure, and adjust parameters for outputs.

Outputs page

    📖 *See Chapter 8, "Outputs and Output Routing."*

Filing

Load, save, and transfer shows and presets.
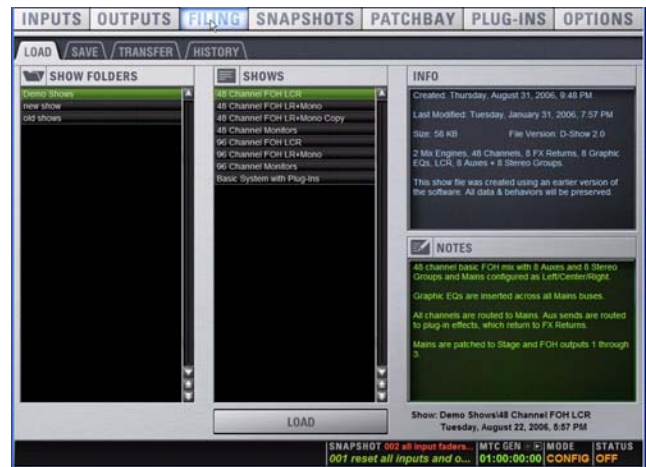
Filing (Load tab)

    📖 *See Chapter 20, "Shows and File Management."*

Snapshots

Store and recall snapshots.

Snapshots page

    📖 *See Chapter 21, "Snapshots."*

Patchbay

Route and name physical inputs and outputs to control surface channels.

Patchbay (Outputs tab)

📋 *See Chapter 12, "Patchbay."*

Plug-Ins

Configure and arrange plug-in racks by assigning plug-ins; patch/route and manage plug-ins.

Plug-In page

📋 *See Chapter 19, "Plug-Ins."*

Options

Configure system, routing and metering options, set interaction, hardware and general preferences, install plug-ins, and access the Events window.
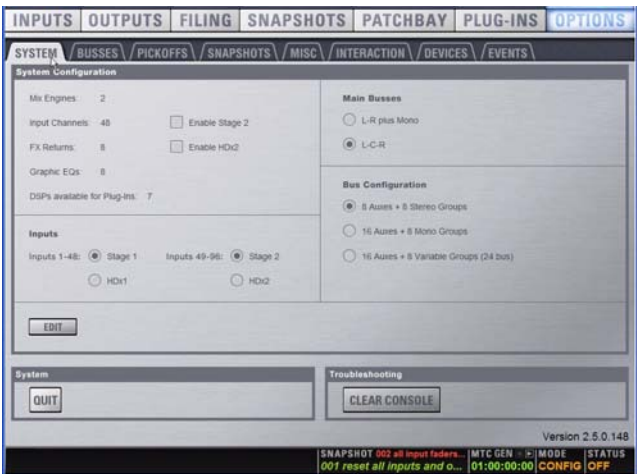
Options page (System tab)

📋 *See Chapter 6, "Options."*

Chapter 5: Navigating and Selecting Channels

Banking Input Channels and FX Returns

Many D-Show configurations utilize more physical inputs than input faders. To navigate to channels beyond the number of physical faders, and to access other channel types from the faders, D-Show provides channel *banking* controls.

The Bank switches move the display of input channels on the control surface through other available banks.

- Input Channels are banked using the Bank A, B, C, and D switches, located to the left of the input faders.
- FX Returns are banked using the FX Returns switches, located between input faders 1–8 and 9–16.

Input Channel Banking

D-Show Profile input fader banking is global across all input faders.

FX Returns
1–8/9–16

Bank A–D

GEQ
20–630 Hz/800–20kHz
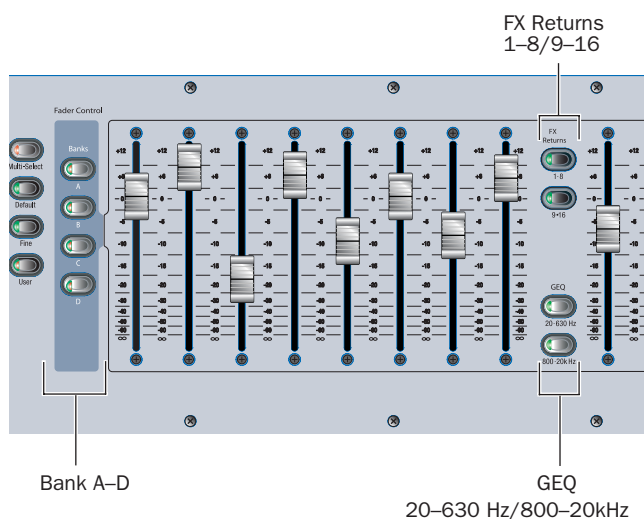
Input fader banking and assignment switches

To bank Input Channels to the input faders:

■ Press the appropriate Bank switch (A, B, C, or D).

FX Returns Banking

The FX Returns 1–8 or and FX Returns 9–16 switches bank those FX Return channels to input faders 1–8 or 9–16, respectively. You can bank FX Returns 1-8 only, FX Returns 9-16 only, or FX Returns 1–8 and 9–16 simultaneously.

When only one FX Return bank is selected, other input faders remain banked on their current input channels. For example, pressing FX Return 1–8 banks faders 1–8 to FX Returns 1–8; faders 9–16 and 17–4 remain in control of channels 9–16and 17–24 in the currently selected input bank A, B, C or D. The Input bank button flashes to indicate which bank is currently assigned to these channels.

To bank FX Returns:

■ Press an FX Returns switch (FX Returns 1–8, or FX Returns 9–16).

The corresponding FX Returns are banked to the input faders. Bank switch A, B, C or D flashes in order to indicate the current bank assignment of other input faders.

To bank Input Channels while keeping FX Return channels on the input faders:

■ Press any unlit Bank switch (A, B, C, D).

To return input faders to Input Channel banking, do one of the following:

■ Press a lit FX Returns switch (1–8 or 9–16).

– or –

■ Press the flashing Bank switch (A, B, C, D).

Banking Graphic EQ Frequency Bands

When a built-in Graphic EQ is inserted on a currently targeted output or bus, its frequency bands can be selected using the Graphic EQ switches. This replaces Inputs 1–16 with either bank of EQ bands shown for each Graphic EQ bank switch (20-630 Hz, 800-20 kHz).

📖 *See Chapter 17, "EQ."*

Banking the Output Section

Outputs can be targeted and banked to the Output faders and Encoders. These can target Auxes, Groups (or Variable Groups), Matrix mixer outputs, PQ mixer outputs, or VCAs.

The Mains fader provides constant access to the house output (Mains) bus, and does not follow Output fader banking.

To assign Aux, Group (or Variable Group), Matrix, PQ, or VCA controls to the Output faders:

■ Press the corresponding switch in the Output Faders section. Choices are Aux 1–8, Aux 9–16, Personal Q, Matrixes, Groups, and VCAs.

Select

Press to assign faders
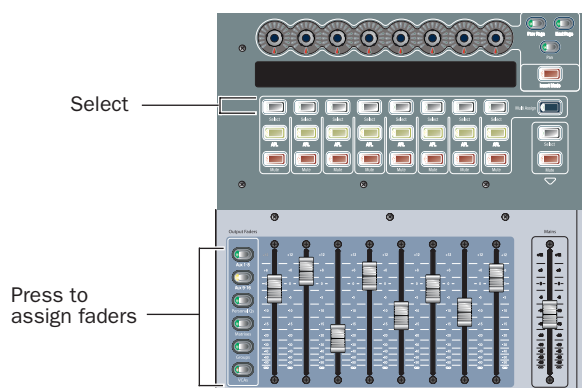
Bank switches for Output channels

Selecting and Targeting Channels

Each D-Show channel strip has a channel Select switch. The Select switch targets that channel for routing or processing assignment. When a single channel is selected it becomes the targeted channel, which can be adjusted from the ACS or on-screen. Channels can also be selected by clicking their fader strips on-screen.

To select a channel, do one of the following:

■ Press the Select switch on the control surface channel strip.

– or –

■ Click anywhere in the on-screen channel fader strip, except on the fader, mute, solo or safe buttons.

Click to select channel
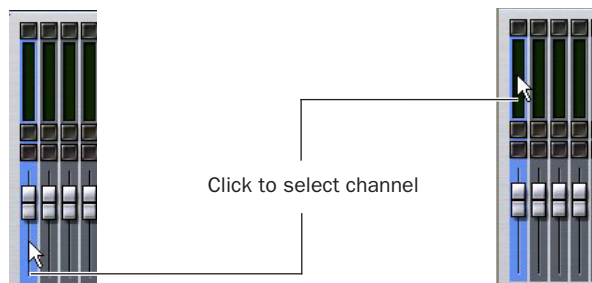
Clicking on-screen to select a channel

Multi-Select (Shift)

Multi-Select lets you select multiple channels in order to apply an action to them in one step.

💡 *Multi-Select is equivalent to the Shift key on the keyboard, letting you select multiple adjacent items in the Snapshots, Events, and similar lists.*

To select multiple channels from the control surface:

1 Press and hold the Multi-Select switch (located next to the input Bank switches). The switch flashes to indicate Multi–Select mode.

2 Press Select on each channel you want to include in the selection.

3 Release the Multi-Select switch.

4 Perform a routing assignment or other function (for example, press a Bus Assign switch on one of the included channels). The operation is applied to all selected channels.

⌨ *You can use the Shift key on the keyboard or the Multi-Select (Shift) switch to select multiple channels.*

To exit Multi-Select mode, do one of the following:

■ Press Cancel.

– or –

■ Press the Select switch on a channel that is currently not selected.

To select multiple channels on-screen:

■ Press and hold the Multi-Select switch (or hold Shift on the keyboard) and click the fader strips on-screen.

To select an 8-channel bank on-screen:

■ Click the bank name below the on-screen fader strips. Shift-click to select additional banks or channels.

Click to select banks of 8
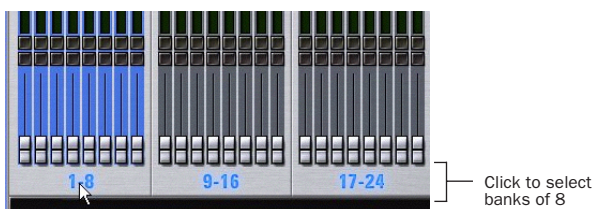
Clicking a bank display to select multiple channels on-screen

To select all input channels or all output channels on-screen:

■ Double-click any bank name below the on-screen fader strips in the Input or Outputs screen.

To remove a channel from a selection:

■ Control-click (or Fine-click) a highlighted channel.

💡 *See "Screen Controls and Shortcuts" on page 44 for additional on-screen features.*

Multi-Assign

The Multi-Assign switch in the Output Masters section is used to route multiple channels to the selected output bus.

To assign one or more channels to an Aux, Group (or Variable Group), or VCA:

1 Press one of the following switches in the Output Fader assignment section:

- Aux 1–8
- Aux 9–16
- Groups
- VCAs

2 Press the Multi-Assign switch near the Output encoders. The flashing Multi-Assign switch and the banner display at the lower left of the screen indicate Multi-Assign mode is enabled.

3 Press the Select switches on the channels you want to assign to the Aux, Group (or Variable Group) or VCA.

4 Select any other output to confirm the previous assignment and proceed to assigning channels to the new selection. To confirm the assignment and exit Multi-Assign mode, press the flashing Multi-Assign switch.

5 To cancel the assignment do either of the following:

- Press the Cancel switch (in the Mute Groups/Function section), or press the ESC key on your keyboard.

– or –

- Click Cancel in the on-screen Multi-Assign dialog box.

📖 *See Chapter 8, "Outputs and Output Routing."*

Type Text Search

Type Text search lets you use the keyboard for fast navigation to a channel, or to quickly go to a specific snapshot or event. You can enter the first characters of a channel name or the absolute channel number to target that channel on the ACS. (See also "Selecting and Targeting Channels" on page 42.)

To search for and select a channel by name:

1 Go to the Inputs, Outputs, or Patchbay page.

2 Type the first few letters, channel number, or full name of the channel. For example, type "s" to go to the first channel beginning with the letter s (such as Snare).

3 Press the Tab key to cycle through and select any other channels beginning with that letter (such as *Snare Top*, *Snare Bottom*, or *Strings*).

To search for and select a list item by name (or number):

1 Go to the Snapshots, Events or Filing page. Or, click to open any Presets window (built-in Dynamics or EQ presets, Input Channel presets, or Scope Sets).

2 Type the first few letters or number of the desired item.

3 Press the Tab key to cycle through and select any other items that begin with the same letters.

Channel Numbers and Names

D-Show channel numbers are "absolute" channel numbers. Renaming changes the displayed name associated with each channel, but the absolute channel number remains fixed.

To search for and select a channel by absolute number:

■ Type a number on the keyboard to select the corresponding channel.

💡 *Type Text search can also be used to select snapshots and events.*

Targeting Plug-In Inserts

Selecting a single channel targets that channel in the ACS. This lets you enable Inserts Mode to use the Output encoders to adjust plug-ins inserted on that channel.

📖 *For more information, see See Chapter 19, "Plug-Ins."*

Screen Controls and Shortcuts

Adjusting On-Screen Faders

You can move on-screen faders independently or in ganged fashion.

To adjust a single fader on-screen, do one of the following:

■ Drag a fader in the on-screen channel strip section at the bottom of the screen.

– or –

■ Select a channel and move its fader in the on-screen selected channel controls.

Fader in selected channel section

Fader in channel strip section
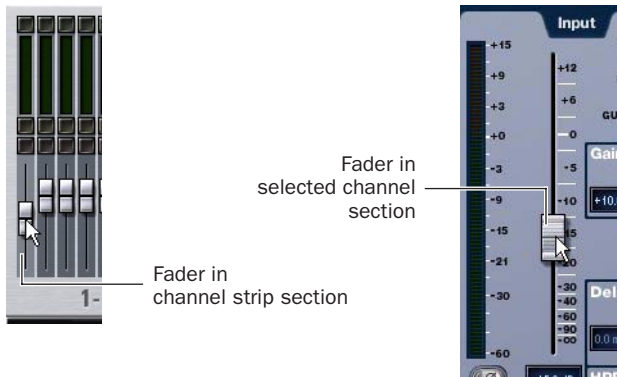
Dragging a fader on-screen

To move multiple faders on-screen in ganged fashion:

1 Select multiple channels on-screen by Shift-clicking.

2 Move the fader on one of the selected channels.

The faders on the selected channels will move in ganged fashion. Any offset between the faders is maintained until at least one of the faders is minimized (moved to –INF) or maximized (set to +12 dB).

Selected channels
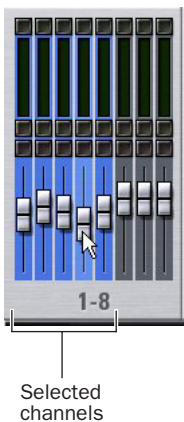
Dragging multiple faders on-screen

Adjusting On-Screen Encoders

You can adjust on-screen rotary encoders by dragging directly over the on-screen knob.

To adjust an on-screen rotary encoder:

1 Click on the knob so that it is highlighted.

2 Drag up to turn the encoder clockwise; drag down to turn the encoder counter-clockwise.

Dragging over an encoder on-screen

Adjusting Values On-Screen

In addition to typing numeric values in text boxes, you can adjust parameter values and numeric option settings on-screen by dragging directly over the corresponding text box.

To adjust a value on-screen by dragging:

1 Click in the text box to select the value.

2 Drag up to increase the value; drag down to decrease the value.

Adjusting a parameter value by dragging over its text box

Fader Shortcuts

The on-screen Fader display provides the following right-click shortcuts.
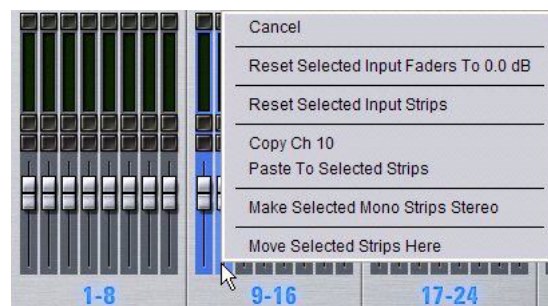
Right-clicking a fader on-screen

Reset Fader

Resets the fader position to zero.

Reset

Resets every parameter on the selected channel(s) to default settings.

Copy and Paste Channel

Channel settings can be copied in their entirety from one channel and pasted to one or more channels from the console or on-screen.

You can also store and load settings as Input Channel Presets. For information, see "Input Channel Presets" on page 46.

By default, Function switches 3 and 4 (F3 and F4) are programmed for Copy and Paste, respectively.

Using the Events List, Copy and Paste can be assigned to any trigger. For more information, see Chapter 22, "Events."

To copy and paste channel settings from the control surface:

1 Press the Select switch on the channel you want to copy.

2 Press F3 to copy.

3 Press the Select switch on one or more destination channels (the channel or channels to which you want to paste the copied settings).

4 Press F4 to paste. The status displays shows a message confirming the Paste operation.

To copy and paste channel settings on-screen:

1 Do one of the following:
- Right-click on a channel fader in the fader display across the lower half of the screen and choose Copy.

– or –
- Right-click within the upper channel display and choose Copy.

You do not need to select the channel before copying its settings on-screen.

2 Select one or more destination channels. You can only paste to selected channels.

3 Right-click on the lower fader strip on-screen, or on any non-control area of the destination channel, and choose Paste to Selected Strip(s). The status displays shows a message confirming the Paste operation.

Pasting channel settings

Parameters and Channel Types

Input channels can only be copied or pasted to other Input channels. Output channels can only be copied or pasted to other channels of the same type (such as Aux, Group, PQ, Matrix). When pasting channel settings:
- Settings common to the source and destination channel are always pasted.
- Copied settings with no corresponding parameter in the destination channel are ignored.
- Settings in the destination channel with no corresponding parameters are left unchanged.

Copying and Pasting Mono and Stereo Channel Settings

You can copy a mono channel and paste its settings to one or more stereo channels. Mono settings are applied equally to the left and right channels of the stereo destination. The stereo destination channel retains its current balance and width settings.

You can also copy a stereo channel and paste its settings to one or more mono channels. The left channel settings of the stereo source are applied to the mono channel(s). The mono destination channel retains its current pan setting.

Settings Excluded from Copy and Paste

Input Channels The following Input channel parameters are not copied or pasted (the current settings of the destination channels are retained):
- Patchbay assignments, including Direct Outs
- Channel Name
- Hardware and software insert (plug-ins) assignments and in/out state.

Output Channels The following Output channel parameters are not copied or pasted (the current settings of the destination channels are retained):

- Patchbay assignments, including Direct Outs
- Channel Name
- Hardware and software insert (plug-in) assignments and in/out status
- GEQ settings
- Output membership (the assignment of channels to an Aux, Group VCA, Matrix or PQ).

💡 *To copy GEQ settings, use the copy/paste GEQ shortcut or use GEQ Presets. Use the Replace with Mix (members) From command to replace output membership for an Aux, Group, VCA, Matrix or PQ.*

Make Selected Mono Strips Stereo/Make Selected Stereo Strip Mono

Combines two selected mono channels into a single stereo channel, or splits a selected stereo channel into two mono channels. D-Show must be in Config mode to change the stereo status of a channel.

Move Selected Strip

Moves a selected strip from its current position to a new location. When you move a channel strip, other channels are moved (and renumbered) lower or higher to accommodate the moved channel.

D-Show must be in Config mode to move channel strips.

To move a fader strip:

1 Put D-Show in Config mode.

2 Select the channel you want to move.

3 On-screen, right-click on the destination strip (where you want to move the selected channel).

4 Choose Move Selected Strip Here from the pop-up menu.

⚠ *Snapshots cannot store and recall custom console channel position.*

Channel Control Shortcuts

The on-screen channel faders and encoders provide the following right-click shortcuts to reset individual parameters and channel strips.

Right-clicking channel strip controls on-screen

Reset Parameter

To reset an on-screen fader or encoder to its default value, do one of the following:

■ Right-click the control and choose Reset.

– or –

■ Alt-click the control.

Reset Channel

To reset an entire channel strip to its default settings:

■ Right-click the on-screen channel fader and choose Reset Strip.

Input Channel Presets

Input channel configuration (input name, gain, fader levels, send levels and bus routing) can be stored and recalled as Input Channel Presets. Input Channel Presets can be previewed, recalled and transferred just like other D-Show preset files, letting you quickly configure channels from among a library of favorite setups.

When an Input Channel is stored or recalled as a preset, all parameters are affected except the following:

- Patchbay assignments, including Direct Outs
- Hardware and software insert (plug-in) assignments and in/out state.

To store a channel as an Input Channel Preset:

1 Configure an Input Channel as desired.

2 Click the Channel Presets icon (the folder icon located to the right of the Channel Routing indicator and +/– buttons).
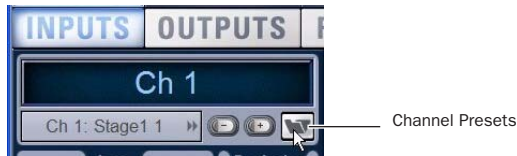
Channel Presets icon in the Inputs page

3 Specify a folder in which to save the preset, if the currently selected folder is not appropriate, by clicking the Folder selector and selecting a different folder.

4 Click New.
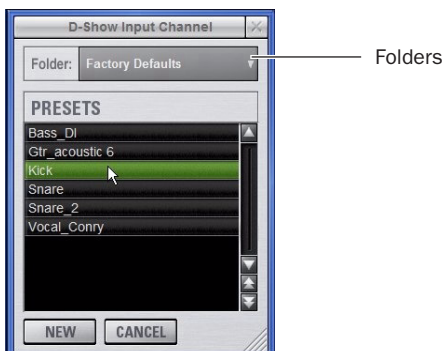
Input Channel Presets window

To preview and recall a saved Channel Preset:

1 Navigate to the Inputs page for the desired channel. Channel Presets can only be loaded into a single channel at a time.

2 Click the Channel Presets icon.

3 If necessary, click the Folders icon and select the appropriate Channel Presets folder from the pop-up menu.

4 Do any of the following:

⚠️ *Selecting a channel preset automatically loads the saved settings into the selected channel. Depending on the stored settings this may dramatically change channel level and signal routing. Use caution when previewing Input Channel Presets with a live source.*

- To preview an existing Channel Preset, click its name in the Channel Presets window.
- To load the currently selected Channel Preset, press Enter or click the Close box (X) in the Channel Presets window title bar.
- To cancel without changing settings, click Cancel.

To rename, duplicate, overwrite or delete a Channel Preset:

■ Right-click the preset name in the Channel Preset window and choose Rename, Duplicate, Delete, or Overwrite.

Channel Compatibility and Input Channel Presets

The following describe how different types of channel data is handled when storing or loading Input Channel Presets.

Channel Names and Presets

New presets automatically inherit the current Input Channel Name, or you can give them a custom name in the Presets window. The default channel number (such as "Ch 16") is used for the preset name if the channel has an empty (null) name.

Loading Mono and Stereo Channel Presets

You can load mono Channel Presets into stereo channels, and stereo Channel Presets into mono channels.

Loading Mono to Stereo Mono settings are applied equally to the left and right channels of the stereo destination. The stereo destination channel retains its current balance and width settings.

Loading Stereo to Mono When loading a stereo preset into a mono Input Channel, the left channel settings in the stereo preset are applied to the mono destination channel. The mono destination channel retains its current pan setting.

Channel Compatibility

When storing and loading Input Channel presets, remember the following:

◆ Group bus assignments are not applied if the settings in the preset do not match the current console Bus Configuration

◆ Aux send level or pan settings for individual aux pairs are not applied if the stored stereo link/unlink state does not match the current link/unlink state. For example, assume the stored preset has Aux 1–2 linked, but the current console configuration has these Auxes unlinked. When the preset is recalled Aux 1 and Aux 2 will retain their current settings (they will not be updated), while all other Auxes are updated to the preset settings.

Transferring Input Channel Presets

Input Channel Presets are available as Built-In Presets in the Transfer tab of the Filing page. This lets you transfer your Channel Presets to a USB key disk or other storage device for backup and transfer to other systems.

Input Channel Presets are supported on all systems running D-Show 2.5 or later, including the D-Show Standalone software.

📖 *For more information, see Chapter 20, "Shows and File Management."*

Chapter 6: Options

Overview of Options

The Options page provides the following tabs:

- System (see "System" on page 49)
- Busses (see "Busses" on page 52)
- Pickoffs (see "Pickoffs" on page 53)
- Snapshots (see"Snapshots" on page 53)
- Miscellaneous (see "Misc" on page 54)
- Interaction (see "Interaction" on page 55)
- Devices (see "Devices" on page 51)
- Events (see Chapter 22, "Events.")
- Plug-Ins (see "Installing and Authorizing Plug-Ins" on page 145)

To display the Options page, do one of the following:

■ Press the Options switch in the View Mode section.

– or –

■ Click the Options tab on-screen.

To display different tabs of the Options page:

■ Press the Options switch repeatedly to cycle through available tabs.

– or –

Click the desired tab button at the top of the Options page (System, Busses, Pickoffs, Snapshots, Misc, Interaction, Devices, Events or Plug-Ins).

The Plug-Ins tab is not available in D-Show Standalone software.

The System screen provides the primary tools by which you configure D-Show mixing, routing, and processing options. The Devices screen provides status for system components.

System

(System Configuration)

The System page lets you allocate DSP resources used for routing and processing, configure the Main and Aux/Group busses, clear the console, and quit (shut down D-Show).

To access the System Config page:

■ Go to the Options page and click the System tab.

Editing System Config Settings

Settings available in the System Config screen can only be edited while in Config mode.

⚠ *Changing the system configuration will restart the D-Show software and may interrupt audio.*

In Config mode, the Edit button becomes available to let you change settings. When a System Config setting is changed, the Apply button becomes available at the right of the screen to let you confirm and apply changes.
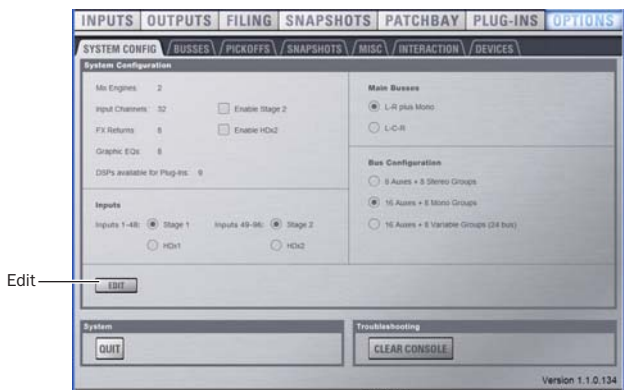
System Configuration tab of the Options page

In Show mode, the Edit button is unavailable. This protects these settings from being changed during a performance (since changes to these settings can interrupt audio).

System Configuration settings on a standard D-Show system

Input Channels	FX Returns	Graphic EQs
32, 48, 64, or 96	8 or 16	0, 8, 16, or 24

To change a System Config option:

1 Put D-Show in Config mode.

2 Go to the Options page and click the System Config tab.

3 Click Edit.

4 Change a System Config, Main Bus, Inputs or Bus Configuration option.

5 Click Apply to confirm and apply your new settings.

System Configuration Settings

The System Configuration section shows DSP and other resources currently available. Available configurations depend on the number of Mix Engine cards in your system (see "Devices" on page 51).

In Show mode, the System Config area is display-only. In Config mode, you can allocate resources for mixing, routing, and processing.

To change a System Configuration setting:

1 Put D-Show in Config mode.

2 Click the Edit button on-screen.

3 Choose a new setting for Mix Engines, Channels, FX Returns, or Graphic EQs.

4 Click Apply to confirm the settings.
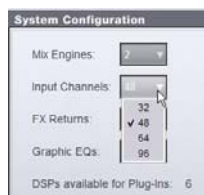
Designating the number of Input Channels

Mix Engines

On a complete D-Show system, the Mix Engine setting is determined by the number of DSP Engine Cards detected and cannot be changed.

💡 *Mix Engine allocation can be edited in the D-Show Standalone software, letting you pre-configure a Show file off-line then transfer the Show to a D-Show system. See Chapter 24, "Using the D-Show Standalone Software."*

Channels

Choose the total number of Input Channels you need. This number represents mono channels; each stereo channel uses two mono channels.

Available choices will vary depending on the number of Mix Engine cards and resources available on your system. With a standard system containing two Mix Engine cards, you can choose 32, 48, 64, or 96 Input Channels.

Choosing a lower number of Input Channels leaves more DSP for plug-ins; choosing a higher number reduces the amount of DSP available for plug-ins.

FX Returns

Choose the number of FX Return channels you need. You can choose to have 8 or 16 stereo FX Return channels. Choosing the lower number leaves more DSP for plug-ins; choosing the higher number reduces the amount of DSP available for plug-ins.

Graphic EQs

Choose the number of Graphic EQs you will need for output processing. You can choose to have 0, 8, 16, or 24 Graphic EQs. Choosing a lower number leaves more DSP for plug-ins; choosing a higher number reduces the amount of DSP available for plug-ins.

DSPs Available for Plug-Ins

The amount of DSP available for plug-ins depends on your other System Config settings, and cannot be changed directly. To change the amount of DSP available for plug-ins, adjust other System Configuration settings:

To maximize the DSP available for plug-ins:

■ Reduce the number of Channels, FX Returns, or Graphic EQs.

To increase the total amount of DSP available on your system:

■ Add Mix Engine cards, disable the second Stage Rack, or reduce the number of Channels, FX Returns, or Graphic EQs.

Enable Stage 2

Lets you enable an (optional) second Stage Rack to increase the I/O capacity of the D-Show system.

Enable HDx2

Lets you enable an (optional) second HDx card to increase the I/O capacity of the TDM Record/Playback Option.

Input Settings

With the HDx TDM Record/Playback Option, you can replace Stage Rack inputs with fixed HDx card inputs from Pro Tools|HD. On systems with 2 Stage Racks and 2 HDx cards, you can replace the inputs from each Stage Rack independently.
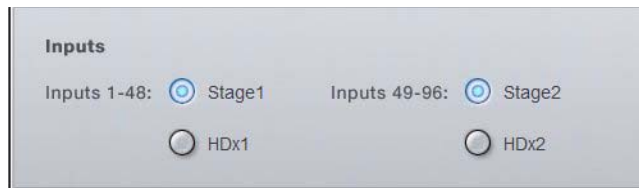
Input source selectors in the System Config page

See the HDx TDM Record/Playback Option Guide.

Main Bus Settings

The Main Bus Settings let you configure the Main mix bus. See "Configuring the Main Busses" on page 70.
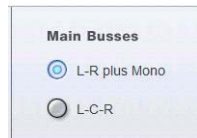
Main Busses options in the System Config page

L–R plus Mono

This default setting provides a stereo bus, plus one mono bus.

L–C–R

This setting enables L–C–R mode, which lets you mix in "3-across-the-front" mode.

⚠ *Changing the Main Bus mode will restart the D-Show software and may interrupt audio.*

To change the Main Bus configuration:

1 Put D-Show in Config mode.

2 Go to the Options page and click the System Config tab.

3 Click Edit.

4 Click to choose a Main Bus mode.

5 Click Apply. D-Show restarts.

Bus Configuration Settings

The Bus Configuration Settings let you choose the D-Show Aux and Group busses configuration. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

Bus Configuration in Config/Edit mode

To change the Aux/Group/Variable Group Bus Configuration:

1 Put D-Show in Config mode.

2 Click the Edit button on-screen.

3 Click to select a Bus Configuration option.

4 Click Apply. D-Show restarts.

Devices

The Devices page lets you view system connections, troubleshoot hardware and reset D-Show system components.

To display the Devices tab:

■ Click Options > Devices.
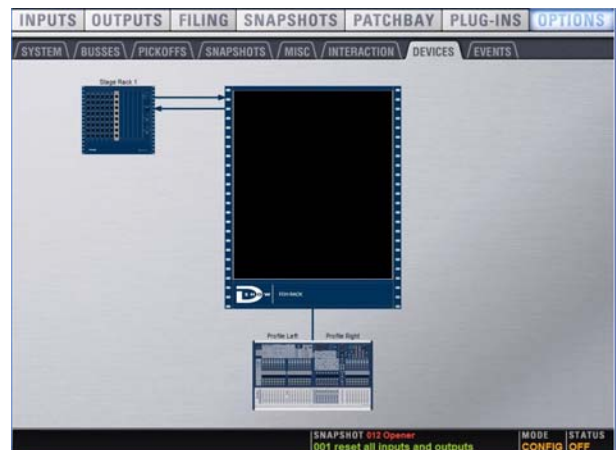
Devices tab of the Options page

On the D-Show system, you can use this page to view component status after diagnostics or troubleshooting.

To reset D-Show system hardware components:

1 Put D-Show in Config mode.

2 Go to the Options page and click the Devices tab.

3 Right-click any of the following hardware components:
- Console sections
- Sidecar
- Stage Rack

4 Choose Reset.

Simulating a D-Show Configuration with the Standalone Software

With the D-Show Standalone software, you can use the Devices page to simulate a D-Show system of any size, and utilizing either D-Show Profile or D-Show Main and Sidecar units, for purposes of preparing shows. See "Simulating a D-Show Configuration" on page 214.

Other D-Show Options

Busses

The Busses page lets you customize characteristics for the Aux, Variable Group, Solo, and Main busses.
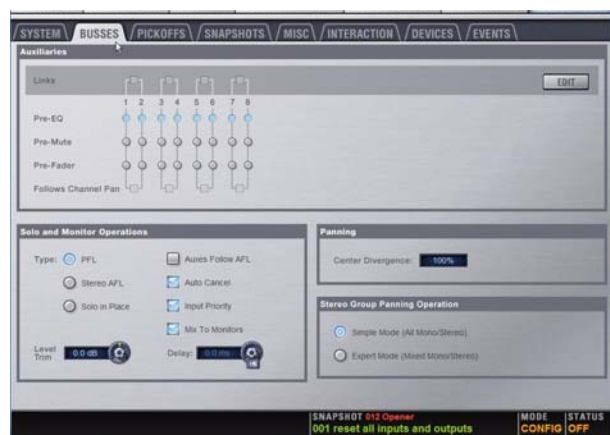
Busses tab of the Options page

Auxiliaries & Variable Groups

These options let you designate bus link status, pick off source, and stereo pan behavior.

📖 *For more information, see Chapter 10, "Auxes and Variable Groups."*

Links When enabled, this option links the corresponding mono Aux or Variable Group busses into bus pairs. Control changes affect both mono Aux busses, and the Follows Channel Pan option becomes available.

Pickoff These options let you designate the pre-fader pickoff point feeding each Aux or Variable Group bus. Choices include pre-EQ, pre-mute, and pre-fader (post-mute).

Follows Channel Pan Each channel can be panned independently within each linked Aux or Variable Group bus pair, or configured to follow the channel pan by enabling the Follows Channel Pan option.

To change the Aux bus or Variable Group bus configuration:

1 Put D-Show in Config mode.

2 Go to the Options page and click the Busses tab.

3 Click Edit.

4 Configure the following settings:
- To link two mono Aux busses or Variable Group busses into a bus pair, select the Link option for the corresponding pair.
- Specify the panning for channels routed to Aux or Variable Group bus pairs by selecting or deselecting the Follows Channel Pan option.
- Click to select the pickoff point for each bus (Pre-EQ, Pre-Mute, or Pre-Fader).

5 Click Apply to reconfigure the system.

– or –

Click Cancel to exit without changing system settings.

Solo and Monitor Operations

These settings customize Solo and Monitor bus mode and operation.

📖 *See Chapter 14, "Solo and Monitor Busses."*

Type Solo mode choices include PFL (Pre-Fader Listen), Stereo AFL (After-Fader Listen), and Solo-In-Place.

Auxes/Var Groups Follow AFL Causes the controls for an Aux Send or Variable Group Send to be automatically displayed on the Input Channel encoders whenever the AFL switch is pressed on the corresponding output bus.

Auto Cancel Soloing a channel strip automatically takes any currently soloed channels out of solo.

Input Priority Makes soloed inputs temporarily replace soloed output busses on the AFL/PFL bus.

Mix to Monitors Mirrors the functionality of the Mix to Monitors switch on the control surface.

Level Trim Mirrors the functionality of the Solo/PFL level control on the control surface

Monitor Bus Delay Sets a delay for the signal feeding the FOH Monitor outputs and headphones, for time-aligning near-field monitors and headphones to the house system.

Solo controls in the Options > Busses page

To configure Solo settings on-screen:

1 Go to the Options page and click the Busses tab.

2 Configure settings as needed:

To adjust Monitor Bus Delay, do one of the following:

■ Adjust the Delay encoder on-screen.

■ Click the Delay value shown on-screen, and manually enter a new value.

To toggle Delay on or off:

■ Click to toggle the Delay In switch on-screen.

Delay settings are retained when toggled off or on.

Panning/Center Divergence

The Panning section provides control over center channel divergence when the Main Bus is set to L–C–R mode. See "Main Bus Center Divergence Options" on page 75.

To set Center Divergence:

■ Enter a value or drag in the Center Divergence text box and press Enter.

Stereo Group Panning Operation

(Not Available in Variable Groups Mode)

The Stereo Group Panning Operation options provide different levels of flexibility for how channels can be routed to Groups.

To change Stereo Group Panning Operation:

1 Put D-Show in Config mode.

2 Click to select Simple or Expert mode.

For more information on these options, see "Simple and Expert Operational Modes" on page 82.

Pickoffs

The Pickoffs page lets you control the bus pickoff point on input strips, as well as specify source and insert points for output busses. The Pickoffs page also provides master control for D-Show Delay Compensation.
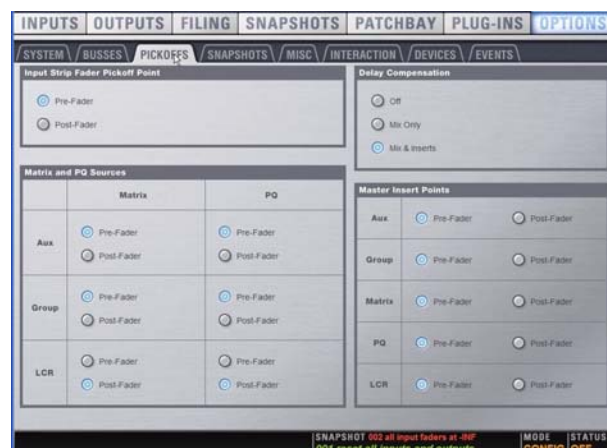
Pickoffs tab of the Options page

Throughout this guide, Pickoff options are explained where relevant.

Snapshots

The Snapshots page provides several snapshot preference settings to optimize D-Show Snapshot operation.
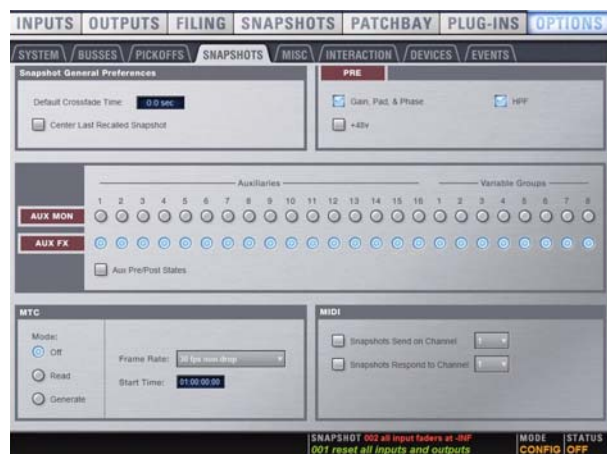
Snapshots tab of the Options page

Snapshot General Preferences

The following settings are available in the Snapshots page.

📄 *See Chapter 21, "Snapshots."*

Default Crossfade Time Defines the length of time it takes D-Show to crossfade between fader levels when recalling snapshots. Maximum crossfade time is 99.9 seconds.

Center Last Recalled Snapshot Manages the display of the Snapshots list so that the last recalled snapshot is always centered vertically, letting you maintain display of adjacent snapshots in the list.

PRE

The options in the PRE section let you specify which parameters are recalled with Snapshots whose scope includes Pre settings. Click to toggle whether recalled Input snapshot data includes the following:

- Gain, Pad, and Phase
- +48V (phantom power)
- HPF

💡 *Delay is stored as a unique (discrete) data type for each channel.*

Aux Mon and Aux FX

These settings let you classify individual Aux Sends or Variable Group Sends (or linked bus pairs) as monitor sends ("Mon") or as effects sends ("FX"), which lets you scope each type separately from the Snapshots page.

This option is for organizing Aux Sends and Variable Group Sends for snapshot control only, and does not directly affect Aux bus or Variable Group bus operation.

MTC (MIDI Time Code)

The MIDI Time Code options let you control MTC operational modes, frame rate, and Start Time.

Modes Available MTC modes are MTC Off, MTC Read (slave), and MTC Generate (master).

Frame Rate This option sets the frame rate that is used when generating MTC.

Start Time This option sets the start time that is used when generating MTC.

MIDI

Designates the channel on which snapshots send or receive MIDI Bank Select and Program Change information.

📄 *See Chapter 23, "Synchronization."*

Snapshots Send on Channel This option sets snapshots to send Bank Select and Program Change commands on a selected MIDI channel. This provides a quick and easy way to send a MIDI command every time a snapshot is fired, without having to embed a MIDI program change within each snapshot.

Snapshot Send on Channel does not need to be turned on in order to send other types of MIDI data that *are* embedded in snapshots, such as note on/off or MMC.

Snapshots Respond to Channel This option sets snapshots to respond to incoming Bank Select and Program Change commands on the selected MIDI channel.

MIDI Snapshot Output Safe Safes (shuts off) D-Show MIDI output when snapshots are recalled. This does not affect sending of Bank Select and Program Change commands with the Snapshots Send on Channel option.

Misc

The Miscellaneous page provides utility and other settings.

Misc tab of the Options page

Oscillator

Lets you choose the tone, frequency, and level for the built-in oscillator.

While the Oscillator is set to Variable Sine, pressing the Osc encoder momentarily changes the Osc encoder function from level to frequency.

System Clock

Sets the date and time for the system.

Time of Day in Status Display

You can choose to show time of day in the lower right corner of the screen in the Status display area. This optional display can be configured for either 12 hour (AM/PM) or 24 hour format as follows:

To show time of day in the Status area:

1 Go to the Options > Misc page.

2 In the System Clock section, enable the Show Time in Status Area option.

3 Select a format for the displayed time: 12 hour (AM/PM) or 24 hour.

Time of day is shown whenever the status of the plug-in racks is OK; plug-in rack status messages (if any) temporarily replace time of day display to alert you to plug-in rack status.

Talkback

Talkback Level Lets you activate Talkback and set Talkback input level.

Talkback Dim Level Sets the dim level, or amount of attenuation applied to the mix on the output bus when Talkback is activated.

2-Track

2-Track Level Lets you activate 2-Track input and set 2-Track input level.

2-Track Input Selects which 2-Track input (analog, or digital) is fed to the monitors and output busses.

Delay Units

Lets you set the display units on all applicable input and output delay controls. This makes it possible to set the delay based on any of the following:

- delay time (in milliseconds)
- distance to the source (in feet or meters)
- number of samples of delay

Pointer Speed and Mouse L/R Settings

You can customize the response speed for the trackball (or mouse) and on-screen cursor, and reverse the left/right assignment of the Trackball buttons, from the Options > Misc page.

To customize Pointer Speed:

1 Go to the Options > Misc page.

2 Do any of the following:

- To adjust cursor speed, click the Pointer Speed pop-up menu and choose a higher value for faster response, or a lower value for a slower response.
- To reverse the left/right assignment of the two Trackball buttons, click to enable "Switch Buttons."

Interaction

The Interaction page lets you configure the Assignable Channel Selection, Input Safe Switches, Lights, Meter, and LCD Display options.
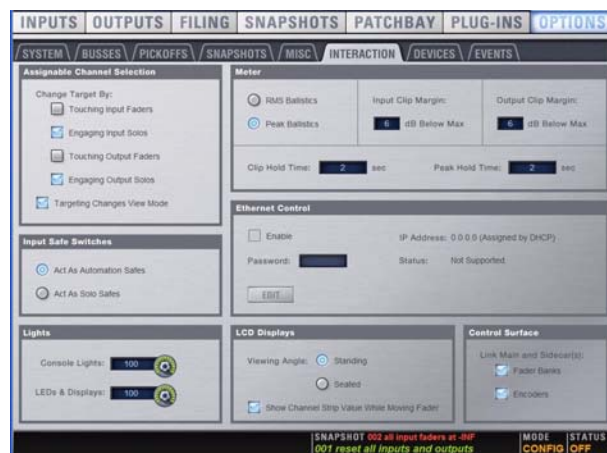
Interaction tab of the Options page

Assignable Channel Selection

Options in this section set the mechanism by which channels are targeted on the ACS.

To customize D-Show control surface and screen interaction:

1 Go to the Options page and click the Interaction tab.

2 Set the following Assignable Channel Selection options:

Change Target By

The Change Target By options let you specify whether the following actions target the affected channel on the ACS. More than one option can be selected simultaneously.

- Touching Input Faders
- Engaging Input Solos
- Touching Output Faders
- Engaging Output Solos

Targeting Changes View Mode

The Targeting Changes View Mode option updates the on-screen display to show the page for the channel targeted in the ACS. When this option is deselected, the on-screen display does not update when a channel is targeted on the ACS.

Meter

Metering settings provide the following options for meter ballistics, peak, and clip indication.

Ballistics This option lets you choose RMS or Peak ballistics for the control surface and on-screen meters.

Input Clip Margin and Output Clip Margin These options set the level, relative to the maximum (full scale) level, at which a clip is reported on a channel. When a clip is detected, the entire channel meter turns red.

To set Input or Output clip margin:

1 Click in the "dB Below Max" edit box for Input Clip Margin or Output Clip Margin.

2 Enter a value or drag to change the value and press Enter.

The entered value is interpreted as a relative dB value from the maximum (where "Max" is considered +20 dBVU). For example, with the Input Clip Margin set to 6 dB below max (the default), peak levels within 6 dB of maximum level will trigger a clip indication

Clip Hold Time and Peak Hold Time These options specify how long clips and peaks are held. Default is 2 seconds for both Clip and Peak hold.

Input Safe Switches

The Input Safe Switches let you control two independent Safe functions: Automation Safe and Solo Safe. Only one of these Safe functions can be viewed and controlled at a time.

Act as Automation Safes When selected, this option sets the Safe switches (on the control surface Input Channels and FX Returns) and Safe buttons (on all on-screen channels) to toggle the Automation Safe status of the corresponding channel. You can also use Safe Selected mode to toggle the Automation Safe status of any channel. See "Automation Safing Channels" on page 181.

Act as Solo Safes Solo Safe applies only to Input Channels and FX Returns. When selected, this option sets the Safe switches (on the control surface and on-screen) to toggle the Solo Safe status of the corresponding channel. See "Solo Bus Operation" on page 113.

Ethernet Control

Ethernet Control settings let you configure the D-Show ECx Ethernet Control option (purchased separately) to allow remote control of D-Show over a wireless Ethernet network.

📖 *See the ECx Ethernet Control Option Guide.*

Lights

Console and LED/Display settings let you adjust the brightness of the following items:

Console Lights Adjust brightness of external lights connected to the Console Lights connectors on the back panel.

LEDs and Displays Adjust brightness of LED and LCD displays on the control surface.

LCD Displays

These options let you customize the behavior of the control surface LCDs.

Viewing Angle This option lets you configure the Selected Channel and Snapshots LCD displays for optimum viewing.

Show Channel Strip Value While Moving Fader This option determines what is displayed in the Channel Name display when a fader is adjusted.

When selected (default), the Channel Name display switches from showing channel name to showing the value (level) when a fader is adjusted. When deselected, the Channel Name displays do not show values when a fader is adjusted.

Control Surface

(D-Show Main Unit and Sidecars Only)

These options let you link or unlink faders and encoders across Main and Sidecar units. On D-Show Profile systems, these options are unavailable.

Events

The Events tab of the Options page lets you use the Event List to customize D-Show buttons, footswitches and General Purpose Interface (GPI)-connected devices. For information, see Chapter 22, "Events."

Options > Events page

Plug-Ins

The Plug-Ins tab of the Options page is used to install plug-ins on the D-Show system. The Plug-Ins tab is available on complete D-Show systems only. It is not available in the D-Show Standalone software. See "Installing and Authorizing Plug-Ins" on page 145.

Part III: Signal Routing

Chapter 7: Inputs and Input Routing

Configuring Inputs

Types of Inputs

Two types of inputs are available: Input Channels and FX Returns.

Input Channels

Input Channels are used to control inputs from the Stage Rack, FOH Rack, or Pro Tools playback options. (Bus-fed plug-ins can also be routed to Input Channels.) Input Channels can be mono or stereo. Each mono channel controls one input, and each stereo channel controls two inputs in tandem. Input Channels can appear on any of the input channel strips.

Input Channels are displayed in banks on the 24 control surface input channel strips.

FX Returns

Effects Return channels (or *FX Returns*) are used to control return signals from bus-fed plug-ins, or from hardware inputs on the Stage Rack, FOH Rack, or Pro Tools playback options. FX Returns are always stereo, and appear on the input channel strips 1–8 and 9–16.

Up to 16 stereo FX Returns are available, depending on how the system inputs are configured.

FX Returns are displayed in banks of 8 on input channel strips 1–8 and/or 9–16.

Configuring Input Channels

Depending on the number of Mix Engines installed in the system, D-Show can be configured to have 32, 48, 64, or 96 available Input Channels. (This number represents mono channels; each stereo channel uses use two mono channels.)

To set the number of available Input Channels:

1 Put D-Show into Config mode.

2 Go to the Options page and click the System Config tab.

3 Click Edit.

4 Choose the number of Input Channels from the Channels pop-up menu.
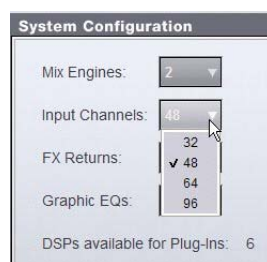
Setting the number of Input Channels

5 Click Apply. D-Show restarts with the new Input Channel configuration.

⚠ *Audio may be interrupted or may change levels when this configuration change is applied.*

Configuring FX Returns

Depending on the number of Mix Engines installed in the system, you can set D-Show to have either 8 or 16 available FX Returns. FX Returns are always stereo channels.

To set the number of available FX Returns:

1 Put D-Show into Config mode.

2 Go to the Options page and click the System Config tab.

3 Click Edit.

4 Choose the number of FX Return channels from the FX Returns pop-up menu.
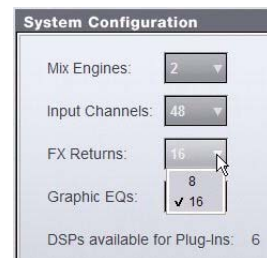
Setting the number of FX Returns

5 Click Apply. D-Show restarts with the new FX Return configuration.

⚠ *Audio may be interrupted or may change levels when this configuration change is applied.*

Combining Input Channels (Make Stereo)

Pairs of mono Input Channels can be combined to make stereo channels, whose left and right sides are then controlled by one input channel strip.

Stereo Input Channel in the Inputs page

Combined Input Channels are shown in the patchbay as left and right sides of the Input Channel name. FX Returns are always stereo, so they cannot be combined or split.

Stereo Input Channel in the Patchbay Input page

To combine pairs of mono D-Show Profile input channels and make them stereo:

1 Put D-Show into Config mode.

2 Press the Select switches, or click on the mono channel pairs on-screen, that you want to combine. The channels do not need to be contiguous.

3 Right-click either of the selected mono channels and choose Make Selected Mono Strips Stereo.

Each selected channel is combined with the next-highest selected channel, even if the selected channels are not contiguous. Channel order on the control surface is rearranged to accommodate the new stereo channels. All parameter values from the leftmost channel of each pair are applied to both channels.

The input meter lights to indicate that a channel is a stereo channel.

To split stereo channels and make them mono:

1 Put D-Show into Config mode.

2 Select the stereo channel you want to split into mono channels.

3 Right-click the selected channel and choose Split Selected Stereo Strip to Mono.

Each selected stereo channel is split, placing the channels next to each other on the control surface and in the Patchbay. Channel order on the control surface is rearranged to accommodate the new mono channels.

Naming Channels

Input Channel and FX Return channel names can be changed from the Inputs page or from the Patchbay.

To change the name of an Input Channel or FX Return channel:

1 Go to the Inputs page or the Patchbay page.

2 Target the channel whose name you want to change by pressing its Select switch or selecting it on-screen.

3 Double-click the channel name.

Changing the name of an Input Channel in the Inputs page

4 Type a new name and press Enter on the computer keyboard.

When naming channels in the Patchbay, press Tab on the keyboard to go to the next channel and Shift+Tab to go to the previous channel.

Assigning Inputs to Channels

Available input sources for Input Channels or FX Returns include:

- Stage Rack inputs
- FOH Rack inputs
- Pro Tools playback option outputs
- Plug-In outputs

Assigning Inputs from the Patchbay

Inputs from the Stage Rack, FOH Rack and any Pro Tools playback options are routed to Input Channels or FX Returns from the Patchbay.

To assign an input source to an Input Channel or FX Return from the Patchbay:

1 Go to the Patchbay page and click the Inputs tab.

2 To the left of the channel grid, click the Channels tab or the FX Returns tab.

3 Click in the channel grid to assign an input source (listed across the top) to an Input Channel or FX Return (listed on the left).

Assigning an input source in the Patchbay Inputs page

The Patchbay Inputs page shows the name of the input source and its destination. The input source is also displayed below the channel name in the Inputs page and Patchbay Inputs page.

Input source and destination in the Patchbay Inputs page

A single input source may be assigned to multiple Input Channels or FX Returns (you can split or fan out the source to multiple channels). If a Stage Rack input is assigned to multiple channels, gain control, phantom power and pad settings are linked across those channels.

Each Input Channel or FX Return may be fed by only one input source (multiple sources cannot be routed to a single channel).

Assigning Inputs from Bus-Fed Plug-Ins

Bus-fed plug-ins can be routed to Input Channels and FX Returns from the Plug-In Rack. For more information on routing signals to plug-ins, see "Using Plug-Ins as a Bus Processors" on page 154.

Routing Channels To Busses

Input Channels and FX Returns can be routed to the Mains, Groups and Auxes. The following sections explain how to use the channel strip and ACS controls for signal routing of the selected channel.

You can also configure signal routing from the Output section by targeting an Output bus and then multi-assigning Input and FX Return channels as bus input sources. For more information, see Chapter 8, "Outputs and Output Routing."

Routing Channels to the Main and Groups Busses

Input Channels and FX Returns can be routed to the Mains and Groups busses using the Bus Assigns section of the ACS.

To route a channel to Mains and Groups busses:

1 Target the channel by pressing its Select switch.

2 Do any of the following:
- To route to Mains, press the L–R (left and right) or C/Mono (center/mono) switch in the Bus Assigns section so that is lit.
- To route to a Group bus, press a Groups 1–8 switch.

The L–R, C/M, and 1–8 Bus Assign LEDs on the channel light to indicate its routing to the corresponding bus.
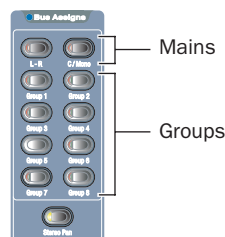
Channel Bus Assign switches

To route multiple channels to Mains and Groups busses:

1 Target the first channel you want to route by pressing its Select switch.

2 Press the Multi-Select switch next the input faders.

3 Press the Select switches on the other channels you want to route to the Main busses.

4 In the Bus Assigns section, press the Bus Assign L–R (left and right), C/Mono (center/mono) and Group 1–8 switches to route the selected channels to those busses.

The L–R, C/M and 1–8 Bus Assign LEDs on each channel light to indicate routing to the corresponding busses.

Configuring Mains and Groups Busses

The Main busses can be configured to operate as L–R plus Mono (Left–Right stereo plus a Mono channel), or as L–C–R (Left–Center–Right). See "Configuring the Main Busses" on page 70.

D-Show has 8 Group busses that can be configured to be mono or stereo as part of the overall Aux/Group bus configuration. For more information on configuring Group busses, see "Configuring Aux, Group, and Variable Group Busses" on page 70. For more information on using Group busses, see Chapter 9, "Groups."

Routing Channels to Auxes

Input Channels and FX Returns can be routed to Aux sends using the input encoders (in Send mode) and using the Aux Sends controls of the ACS.

To route one or more channels to an Aux send using the Input Encoders:

1 Target the first channel you want to route by pressing its Select switch. Press the Multi-Select switch and then select additional channels to route multiple channels at once.

2 Press a Send (1–2 through 15–16) switch in the Encoder Assign section.

3 Press an input encoder to enable the selected Aux send on the corresponding channel.

4 Rotate the encoder to adjust send level.

To route one or more channels to an Aux send using the ACS:

1 Target the first channel you want to route by pressing its Select switch.

2 Press the Multi-Select switch next the input faders.

3 Press the Select switches on the other channels you want to route to the Auxes.

4 In the Aux Sends section, press the Aux 1–8 or 9–16 switch to bank the ACS to the corresponding pairs of Aux sends.

5 Press an Aux Sends encoder (1/9 or 8/16) to enable that send.

6 Rotate the encoder to adjust send level.

Configuring Aux Busses

D-Show can be configured to have 8 or 16 available Aux busses as part of the overall Aux/Group bus configuration. Mono Aux buses can be linked in odd/even pairs to function in stereo. For more information on linking Aux busses, see "Configuring Aux Busses and Variable Group Busses" on page 85.

Routing Channels to Variable Groups

To access Variable Group sends 1–8:

1 Make sure the system is configured for Variable Groups mode.

2 Select an input channel to target it in the ACS.

3 Press the Variable Groups switch in the ACS Aux Sends section. Or, click the Var Groups switch in the on-screen Bus Assign section (on the Inputs page for the selected channel). Variable Groups 1–8 are now available in the ACS Aux Send section, and from the assignable input encoder Sends 1–8.

4 Press an input encoder (1–8) to enable the selected Variable Group on the corresponding channel.

5 Rotate the encoder to adjust send level.

For more information on using Aux busses, see Chapter 10, "Auxes and Variable Groups."

Assigning Channels to VCAs

D-Show channels and output busses can be assigned to VCAs for consolidated control of multiple channels and signals.

To assign one or more channels to a VCA:

1 Press the VCA switch to bank the Output Fader to VCAs.

2 Press the Select switch in the Output strip for the VCA (1–8) to which you want to assign channels or busses.

3 Press the Multi Assign switch near the Output encoders. While engaged, the Multi Assign and output Select switch LEDs flash.

4 Press the Select switch on the inputs or outputs you want assigned to the currently targeted VCA. Use the Input and Output Fader bank switches to access the desired channel strips.

5 Press the Multi Assign switch again to confirm the action.

   – or –

Select another VCA to confirm the current assignment but remain in Multi Assign mode for the newly targeted bus or VCA.

Routing Channels to Matrix and PQ Busses

Matrix and PQ source assignments determine input signal routing to each of the Matrix and PQ mixers. Matrix and PQ source inputs can include up to 12 inputs per mixer.

Matrix and PQ signal routing is performed from the Matrix and PQ tabs of the Outputs page. For information, see Chapter 11, "Matrix Mixers and PQ Mixers."

Routing Inputs to Direct Outputs

All Input Channels and FX Returns have Direct Output capability. Direct Outputs from Input and FX Return channels can be routed to hardware outputs and used as inputs to bus-fed plug-ins. For more information on routing and assigning Direct Outputs, see "Direct Outputs" on page 76.

To enable and adjust Direct Output?

1 Select the input or FX return channel.

2 Press the Direct Output encoder to toggle it in and out on the selected channel.

3 Rotate the Direct Output encoder to adjust the output level.

Direct Output encoder

Using Built-In Dynamics and EQ

Each Input Channel has built-in Dynamics processors, a High-Pass Filter and a 4-band EQ; each FX Return has a built-in 2-band EQ. If the channel is a stereo channel, the processor controls are linked and apply to both the left and right sides of the channel.

Using Dynamics on Channels

A built-in Compressor/Limiter and Expander/Gate are available on each Input Channel. Modular controls for all of the built-in dynamics processors are in the ACS Dynamics section, and an input/output curve appears on-screen.

📖 *See Chapter 16, "Dynamics."*

Compressor/Limiter

To engage the built-in Compressor/Limiter on the selected channel:

■ Press the Comp/Lim In switch in the ACS Dynamics section.

To engage the built-in Compressor/Limiter on any input channel:

1 Bank to the desired channels.

2 Press the Comp Thrs switch to assign the input encoders to the built-in Compressor/Limiter.

3 Push the assignable encoder on each channel you want the built-in Compressor/Limiter engaged.

To adjust the Compressor/Limiter threshold from a channel:

1 In the Encoder Assignment section, press the Comp Thrsh switch.

2 Turn the assigned rotary encoder to set the Compressor/Limiter threshold value.

To adjust Compressor/Limiter controls from the ACS:

1 Target a channel by pressing its Select switch.

2 Press the Select switch next to the Comp/Lim In switch in the ACS Dynamics section. The switch lights to indicate control of the Compressor/Limiter.

Expander/Gate

To engage the built-in Expander/Gate on the selected channel:

■ Press the Exp/Gate In switch in the ACS Dynamics section.

To engage the built-in Expander/Gate on any input channel:

1 Bank to the desired channels.

2 Press the Gate Thrs switch to assign the input encoders to the built-in Expander/Gate.

3 Push the assignable encoder on each channel you want the built-in Expander/Gate engaged.

To adjust the Expander/Gate threshold from a channel:

1 In the Encoder Assignment section, press the Gate Thrsh switch.

2 Turn the assigned rotary encoder to set the Expander/Gate threshold value.

To adjust Expander/Gate controls from the ACS:

1 Target a channel by pressing its Select switch.

2 Press the Select switch next to the Exp/Gate In switch and meter in the ACS Dynamics section. The switch lights to indicate control of the Expander/Gate, and indicator LEDs below each encoder light red to show that these controls are mapped to Exp/Gate functions.

Using EQ on Channels

A built-in High-Pass Filter and 4-band EQ are available on each Input Channel and a 2-band EQ is available on each FX Return. Modular controls for all of the built-in EQ processors are in the ACS EQ section, and an EQ response curve appears on-screen.

One of two EQ types can be selected for the built-in EQ, on a per-channel basis: a full-spectrum parametric digital EQ or an analog-modeled EQ.

📖 *See Chapter 17, "EQ."*

To use the built-in EQ on a channel, do one of the following:

1 Target the channel by pressing its Select switch.

2 Do any of the following:

- To engage the channel High-Pass Filter, press the HPF switch in the Encoder Assignment section. Toggle HPF in/out on each channel by pressing its encoder; adjust HPF frequency by rotating its encoder.

- To engage the built-in 4-band or 2-band EQ, press the EQ In switch at the bottom of the ACS Equalizer section.

Using Inserts on Channels

You can use software plug-in inserts or hardware inserts on any Input Channel or FX Return.

Using Plug-In Inserts on Channels

Plug-Ins are arranged in virtual racks, which allow signals to be sent to and from each plug-in as if it were an external processor. Plug-Ins can be used in two ways: as inserts, or as effects in a Send/Return arrangement.

Insert The plug-in is patched in at the insert point on an Input Channel or FX Return. Each Input Channel may have up to four plug-in inserts.

Send/Return Signal is sent to the plug-in over any of the system busses (usually an Aux Send) and routed back to an Input Channel or FX Return.

For more information on using plug-ins in a Send/Return arrangement, see "Using Plug-Ins as a Bus Processors" on page 154.

Inserting Plug-Ins on Channels

You can insert plug-ins on Input Channels and FX Returns directly from the Inputs page or from the Plug-In Rack.

📖 See Chapter 19, "Plug-Ins."

To insert a plug-in on a channel:

1 Go to the Inputs page and target the channel where you want to insert the plug-in.

2 In the Inserts section of the Inputs page, do one of the following:

- Click one of the four Plug-In Insert pop-up menus and choose a plug-in directly from one of the Plug-In Rack submenus.

– or –

- Click one of the four Plug-In Insert buttons to go to the Plug-In Rack, and route the signal to the plug-in using Plug-In Rack controls.

Assigning a plug-in insert in the Inputs page

The name of the plug-in insert appears in the on-screen Plug-In Insert display.

Using Hardware Inserts on Channels

D-Show lets you insert external processors in the signal chain of Input Channels and FX Returns.

💡 *Outputs also provide hardware inserts. For more information, see "Using Inserts on Output Busses" on page 72.*

Assigning Hardware Inserts to Inputs

You can assign hardware inserts to Input Channels and FX Returns directly from the Inputs page or from the Patchbay.

To assign a hardware insert to an input:

1 Go to the Inputs page and target the channel where you want to assign the hardware insert.

2 In the Inserts section of the Inputs page, do one of the following:

- Click the Hardware Insert pop-up menu and choose an insert destination directly from the menu.

– or –

- Click the Hardware Insert button to go to the Inserts page of the Patchbay, and assign the insert from the Patchbay.
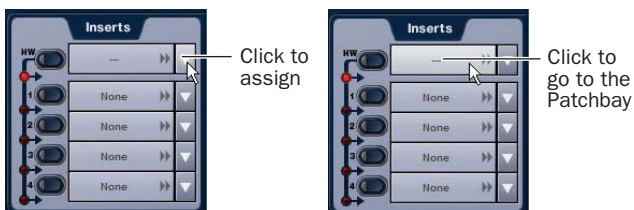
Assigning a hardware insert in the Inputs page

The name of the hardware insert destination appears in the on-screen Hardware Insert button.

Setting the Hardware Insert Location

You can choose the location of the hardware insert in the signal path, relative to the four plug-in inserts, for each channel. A hardware insert does not need to be currently assigned to do this.

To set the hardware insert location:

1 Go to the Inputs page and target the channel where you want to set the hardware insert location.

2 In the Inserts section of the Inputs page, click the hardware insert indicator so that it lights red.
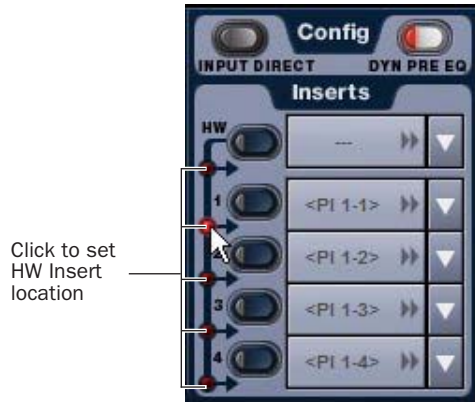
Setting a hardware insert location in the Inputs page

Activating and Bypassing Inserts

After hardware and plug-in inserts are assigned, they can be activated and bypassed from the from the ACS section or the corresponding Input page controls.

To activate or bypass a plug-in insert from the ACS section:

1 Target the channel by pressing its Select switch.

2 Press any of the Plug-In switches in the Insert Processing section to activate or bypass the corresponding Insert. The switch lights when the insert is activated.

To activate or bypass a hardware insert from an Input Channel or FX Return:

1 Go to the Inputs page and target the channel.

2 Click the In/Out switch for the HW insert (at the top of the Inserts section) on the channel. The switch lights when the insert is in-circuit.

Using Input Direct

Input Direct mode lets you completely bypass the built-in dynamics and EQ processing, and all inserts on Input Channels and FX Returns. This mode routes the input signal directly from the Top of Channel pickoff to the channel fader.

Input Channels Input Direct bypasses the HPF, built-in dynamics and EQ, plug-in inserts, and the hardware insert point on Input Channels.

FX Returns Input Direct bypasses the built-in EQ, plug-in inserts, and the hardware insert point on FX Returns.

To bypass all processing on an input channel:

1 Target the channel by pressing its Select switch.

2 Click the Input Direct button in the Config section of the Inputs page for the selected channel. The button flashes to indicate Input Direct mode is active.

Setting a hardware insert location in the Inputs page

Adjusting Input Controls

Input Gain

Input Gain is adjustable from the rotary encoders on each Input Channel and FX Return. Mic inputs have a gain range from +10 dB to +60 dB. Analog line inputs and digital inputs have a gain range from –20 dB to +18 dB.

Gain Guess Feature

An automated Gain Guess function can be used to set a nominal level for a channel based on its incoming signal. When you press and hold the rotary encoder assigned to control gain (either the input encoders or the Input Gain encoder in the ACS section), the system samples incoming signals and automatically sets the channel gain and pad for a 0 dB reference when the encoder is released. Gain Guess follows the current Meter mode (Peak or RMS).

Gain Indicators

When Gain is displayed on the input encoders, the encoder's indicator LED lights to indicate that the gain is set to the default value (+10 dB for analog inputs, and 0 dB for digital inputs). Gain change is indicated by the encoder ring LEDs, and gain value is shown in the channel display.

Setting Input Gain

Gain can be controlled from individual channel strips or from the ACS section.
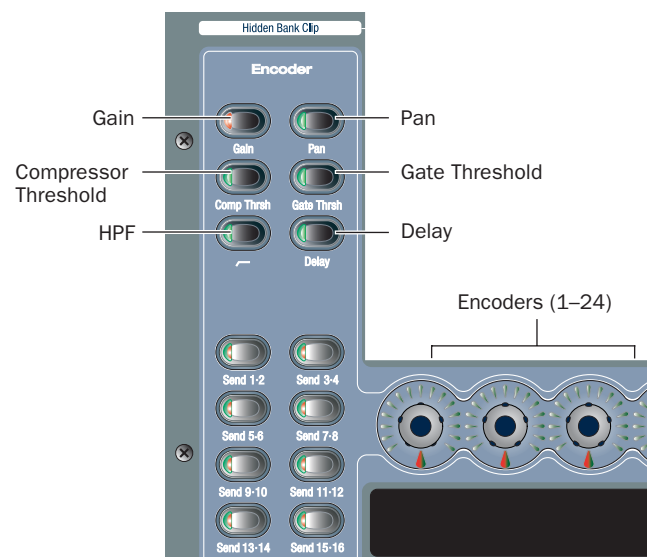
Input control assignment switches for input channel encoders
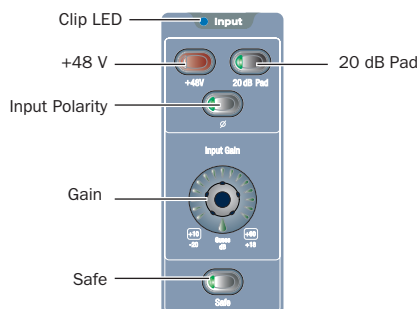
Input controls in the ACS

To adjust input gain for a channel:

1 Do one of the following:
- In the Encoder Assignment section, press the Gain switch to assign gain control to the rotary encoders.

– or –
- Target the channel by pressing its Select switch. Gain control for the channel is assigned to the Gain rotary encoder in the ACS Input section.

2 Adjust the gain by turning the assigned rotary encoder.

To adjust input gain using the Gain Guess feature:

1 Press and hold the assigned rotary encoder while the channel is receiving input signal. The LED flashes to indicate level sampling.

2 Release the rotary encoder to the current gain guess. Gain will be set so the incoming signal reaches 0 dB peak (if Peak mode is selected) or 0 dB RMS (if RMS mode is selected).

Setting Right Offset on Stereo Channels

On stereo Input Channels and FX Returns, the Gain control affects both the left and right channels. The Right Offset feature lets you offset the gain of the right channel relative to the left channel by –20 dB to +20 dB, within the overall gain limits.

To adjust channel gain offset for a stereo channel:

1 Go to the Inputs page and target the stereo channel.

2 Adjust the right channel gain using the on-screen Right Offset encoder. offset by turning the assigned rotary encoder.

Stereo Level Offset Indication

The Stereo LED below the channel meter flashes when the difference in signal level between the left and right channels is 12 dB or greater.

Pan

Pan adjusts channel pan (for mono Input Channels) and stereo balance (for stereo Input Channels and FX Returns), allowing you to control panning of signal to Groups or to Mains.

To adjust channel pan/balance:

1 In the Encoder Assignment section, press the Pan switch to assign pan/balance control to the rotary encoders.

2 Adjust the channel pan/balance by turning the assigned rotary encoder.

Width

Width adjusts the stereo image of stereo Input Channels and FX Returns by controlling ganged pan positions of the left and right channels, in opposite directions.

Width can be adjusted from full L–R, to mono, to full reversed L–R. Width controls are not available on mono channels.

To adjust width of a stereo channel:

1 Go to the Inputs page and target the stereo channel.

2 Adjust width by turning the on-screen Width rotary encoder. Turning the encoder clockwise moves the width to full stereo, and counter-clockwise moves the width to reverse stereo. The center position represents mono.

High-Pass Filter

A built-in 4th-order High-Pass Filter can be engaged on each Input Channel. The HPF corner frequency range is from 20 Hz to 500 Hz.

To engage the built-in HPF on an Insert Channel:

1 In the Encoder Assignment section, press the HPF switch to assign HPF control to the rotary encoders.

2 Press a channel rotary encoder to insert the filter in that channel. The rotary encoder "On" indicator LED lights when the HPF is in circuit.

3 Adjust the HPF corner frequency by turning the assigned rotary encoder.

Delay

A variable delay can be applied to any Input Channel or FX Return. The delay range is from 0 to 250 milliseconds.

To apply delay to a channel:

1 In the Encoder Assignment section, press the Delay switch to assign delay control to the rotary encoders.

2 Press the assigned rotary encoder to apply the delay to the channel. The rotary encoder "On" indicator LED lights when delay is applied.

3 Adjust the delay value by turning the assigned rotary encoder.

Phantom Power

48V phantom power can be applied to any analog Stage Rack input assigned to an Input Channel or FX Return.

To apply phantom power to a Stage Rack input:

1 Assign a Stage Rack input to a channel. See "Assigning Inputs to Channels" on page 60.

2 Target the channel by pressing its Select switch.

3 Press the +48V switch in the ACS Input section. The switch lights when phantom power is applied to the Stage Rack input. The corresponding channel's "+48V" LED on the Stage Rack Input Card also lights.

If an input is moved to a different channel, the phantom power setting will move with the input.

20 dB Pad

A 20 dB pad can be applied to any analog Stage Rack input assigned to an Input Channel or FX Return.

To apply a 20 dB pad to a Stage Rack input:

1 Target the channel by pressing its Select switch.

2 Press the 20 dB Pad switch in the ACS Input section. The switch lights when the pad is applied to the Stage Rack input.

The Gain Guess feature may turn the Pad on or off to accommodate incoming signal level

Input Polarity (Phase) Invert

The polarity of any Input Channel or FX Return signal can be inverted. With stereo channels, only the left channel is inverted.

To invert the polarity of a channel:

1 Target the channel by pressing its Select switch.

2 Press the polarity inversion (Ø) switch in the ACS Input section. The switch lights when the polarity is inverted.

Safe

The Safe switch toggles Automation Safe or Solo Safe on/off. The current function of the ACS Safe switch (as Automation or Solo safe) is determined by the current Input Safe switch assignment in the Options > Interaction page.

Channels can be both Automation and Solo safed at the same time; the Safe Switch assignment set in the Option > Interaction page only determines the function of the Safe switch, not the availability of one or the other Safe modes.

When either Safe mode is enabled for the currently selected channel, the ACS Safe switch lights. Channel Automation or Solo safe status is also indicated by the lit or unlit state of each channel strip Safe LED.

To toggle the current Safe state of a channel:

1 Target the channel by pressing its Select switch.

2 Press the Safe switch in the ACS Input section. The switch lights sole when the current channel is Automation Safe, and flashes when the channel is Solo Safe.

Digital Input Sources

On systems that include a DSI (Digital Stage Input) card, the following additional settings and displays are provided.

Input controls for a DSI channel

Lock LED Indicates lock status for the channel, and mirrors the same LED on the DSI card.

SRC Off Toggles Sample Rate Conversion on or off for that channel, and mirrors the same LED on the DSI card. A lit SRC Off switch indicates that SRC is disabled.

ADAT (Source) Enables the ADAT Optical port as the active input source on the DSI card. When lit, the DSI card is clocking and listening to corresponding ADAT input; when dark, the channel is receiving input from the corresponding AES input.

Direct Outs are also available on DSI-fed channels, and their pickoff point can be specified in the patchbay.

Channel Solo

Three Solo modes are available: Solo In Place (SIP), Pre-Fader Listen (PFL), and After-Fader Listen (AFL), and several options are available for configuring Solo bus operation. Channels can also be implicitly soloed as part of a VCA.

📖 *See Chapter 14, "Solo and Monitor Busses."*

To solo a channel:

■ Press the channel's Solo switch so that the Solo switch is lit.

Channel Mute

Channels can be muted in three ways: explicitly with the channel mute switch; implicitly as a result of another channel being soloed, and as a member of a Mute Group or VCA.

📖 *See Chapter 15, "Muting and Mute Groups."*

To explicitly mute a channel:

■ Press the Mute switch on the channel. The mute switch lights solid to indicate the channel is explicitly muted.

Channel Faders

Channel Faders provide channel level control from –∞ (–INF) to +12 dB.

Fader Banking Controls

Input Channels are displayed in banks on the control surface channel strips.

📖 *For more information on input and output fader banking, see Chapter 5, "Navigating and Selecting Channels."*

Chapter 8: Outputs and Output Routing

Configuring Outputs

Types of Outputs

The following types of output busses are available: Mains, Groups (or Variable Groups), Auxes, Matrixes, and Personal Qs.

In addition, VCA-style control of channel strips is available.

Mains

The Main busses can be configured in L–R+M or L–C–R formats. For more information, see "Configuring the Main Busses" on page 70.

The Main busses are controlled from the dedicated Mains controls and fader in the Output section.

Groups

Eight Group busses are available. These Group busses can be globally configured to be mono or stereo as part of the overall Aux/Group bus configuration. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

Group outputs can be controlled from the faders and encoders in the Output section.

📖 *See Chapter 9, "Groups."*

Auxes

Up to 16 Aux busses are available. The number of available Aux busses is set as part of the overall Aux/Group bus configuration. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

Aux bus outputs can be controlled from the Output faders.

📖 *For more information, see Chapter 10, "Auxes and Variable Groups."*

Variable Groups

When D-Show is in Variable Groups mode, the 8 Group busses operate in much the same way as Aux busses. This bus configuration mode lets you send independently controllable signals to all 24 busses in the system.

When set to Variable Groups mode, the D-Show Output section has 16 available Aux busses and 8 available Variable Group busses.

Variable Groups mode is set as part of the Aux/Group bus configuration. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

Matrixes and Personal Qs

Eight Matrix mixers and 8 Personal Q mixers are available. Each Matrix mixer is a discrete 12-in/1-out (mono) submixer, and each PQ mixer is a discrete 12-in/2-out (stereo) submixer. Matrixes and Personal Qs function independently and can have separate input sources.

Matrix mixer and Personal Q mixer input sources can include up to 12 inputs, selectable from any combination of Aux, Group or Mains busses plus up to 8 unique Input Channels, FX Returns or hardware inputs.

💡 *Keep in mind that User Source inputs are maintained as either Matrix or PQ mixer settings, and that the two mixer types provide discrete User Source input resources. User Source input assignments are stored in Snapshots as part of their distinct Matrix or PQ data type.*

Pre- and post-fader tap for Matrix and PQ sources are assigned in the Pickoffs tab of the Options page.

Matrix mixer outputs and Personal Q mixer outputs can be controlled from the Output faders and encoders.

📖 *See Chapter 11, "Matrix Mixers and PQ Mixers."*

Configuring the Main Busses

The Main busses can be configured to operate in the following ways:

L–R Plus Mono Pans signals between the left and right channels to the L–R bus, and sums signals to a separate mono bus.

L–C–R Pans signals across left, center and right channels.

⚠ *Audio may be interrupted or may change levels during this configuration procedure.*

To configure the Main busses:

1 Put D-Show into Config mode.

2 Go to the Options page and click the System Config tab.

3 Click Edit.
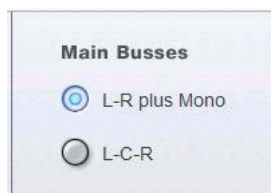
Setting the Main bus configuration

4 Select the configuration for the Main Busses.

5 Click Apply. D-Show restarts with the new Main bus configuration.

Configuring Aux, Group, and Variable Group Busses

Auxes and Groups (or Variable Groups) share the available system busses. Configuration options include the following:

16 Auxes + 8 Mono Groups Divides the available system busses between 16 mono Aux busses and 8 mono Group busses.

8 Auxes + 8 Stereo Groups Divides the available system busses between 8 mono Aux busses and 8 stereo Group busses.

16 Auxes + 8 Variable Groups (24 Bus) Divides the available system busses between 16 mono Aux busses and 8 mono Variable Group busses (Variable Groups mode).

⚠ *Audio may be interrupted or may change levels during this configuration procedure*

To configure the Aux/Group/Variable Group busses:

1 Put D-Show into Config mode.

2 Go to the Options page and click the System Config tab.

3 Click Edit.

4 Select a bus configuration.

Selecting a bus configuration

5 Click Apply. D-Show restarts with the new bus configuration.

Data Cleared When Changing Bus Configurations

When the bus configuration is changed, the following settings are cleared (or set to default) from the current console settings and from all stored snapshots, for all Groups (or Variable Groups):

- Group Bus Output levels
- Group Bus Plug-In routing
- Group Bus Graphic EQ assignments
- Group Bus Direct Output assignments
- Snapshot references to Groups
- Input channel routing to Groups
- Group Pan (mono) and Balance/Width (stereo) settings
- Group assignments to Mains

Linking Aux Busses and Variable Group Busses

When working with Aux busses or Variable Group busses, you can link odd/even bus pairs and pan input signals into those bus pairs. Aux bus pairs and Variable Group bus pairs are linked on a global basis, and appear as linked on all channels.

For more information on linking Auxes and Variable Groups, see "Linking Aux Busses and Variable Group Busses for Stereo Operation" on page 86.

Naming Channels

Output channel names can be changed from the Outputs page or from the Patchbay.

To change the name of an Output channel:

1 Go to the Outputs page or the Patchbay page.

2 Target the channel whose name you want to change by pressing its Select switch or selecting it on-screen.

3 Double-click the channel name.

Changing the name of an Output channel in the Outputs page

4 Type a new name and press Enter on the computer keyboard.

💡 *When naming channels in the Patchbay, press Tab on the keyboard to go to the next channel and Shift+Tab to go to the previous channel.*

Routing Busses to Hardware Outputs

Mains, Groups (or Variable Groups), Auxes, Matrix mixer outputs and PQ mixer outputs can be routed to any hardware output on the system. Available output destinations include:

- Stage Rack outputs
- FOH Rack outputs
- Pro Tools recording option inputs

Busses and mixer outputs are routed to system outputs from the Patchbay.

To assign a bus or mixer output to a system output from the Patchbay:

1 Go to the Patchbay page and click the Outputs tab.

2 To the left of the channel grid, click the Mains, PQ, Matrix, Aux or Group tab.

3 Click in the channel grid to assign a bus or Matrix/PQ mixer output (listed on the left) to a hardware output (listed across the top).

Assigning an output in the Patchbay Outputs page

The Patchbay Outputs page shows the name of the bus or mixer and its destination. The destination is also displayed below the channel name in the Outputs page and Patchbay Outputs page.

Output name and destination in the Patchbay Outputs page

Routing Group Outputs to the Main Busses

You can route Group outputs to the Main busses on-screen or from the ACS.

💡 *Variable Groups cannot be routed to the Main busses.*

To route a Group output to the Main busses on-screen:

1 Go to the Outputs page and select the channel fader strip tor the Group you want to route to the Main busses.

2 Click the Bus Assign buttons on-screen to toggle the bus assignment for the selected Group.

Assigning a Group output to the Main busses from the Output page

To route a Group output to the Main busses from the ACS:

1 Press the Groups switch in the Output Fader assignment section to assign control of Group levels to the faders.

Groups switch

Assigning Groups to the Output faders

2 Select each Group that you want to assign to the Main busses by pressing their Select switches.

3 In the ACS Bus Assigns section, press the L–R (left and right) or C/Mono (center/mono) switch so that it is lit.

Left–Right Main bus Assign switch

Center/Mono Main bus Assign switch

Assigning a Group output to the Main busses from the ACS

4 Move the channel's fader to set the Group output level.

Group Routing Indication on Output Encoders

When Groups are assigned to the Output encoders, the encoder indicator LEDs indicate Main bus assignments as follows:

Off Group routing to Mains is turned off.

Yellow Group output is routed to the Mains L–R bus.

Green Group output is routed to the Mains C/M bus.

Red Group output is routed to both the Mains L–R bus and the Mains C/M bus.

Using Inserts on Output Busses

You can use software plug-in inserts or hardware inserts on any of the following Output bus types: Mains, Groups (or Variable Groups), Auxes, Matrixes, and Personal Qs.

Using Plug-In Inserts on Output Busses

You can insert plug-ins on Output busses directly from the Outputs page.

📖 *See Chapter 19, "Plug-Ins."*

To insert a plug-in on an output bus:

1 Go to the Outputs page and target the bus where you want to insert the plug-in.

2 In the Inserts section of the Outputs page, do one of the following:

- Click one of the four Plug-In Insert pop-up menus and choose a plug-in directly from one of the Plug-In Rack submenus.

– or –

- Click one of the four Plug-In Insert buttons to go to the Plug-In Rack, and route the signal to the plug-in using Plug-In Rack controls.

Click to assign

Click to go to the Plug-In Rack

Assigning a Plug-In Insert in the Outputs page

The name of the plug-in insert appears in the on-screen Plug-In Insert button.

Using Hardware Inserts on Output Busses

D-Show lets you insert external processors in the signal chain of Output busses. Signals from these sources are routed to and from analog or digital I/O connectors on the FOH Rack.

Assigning Hardware Inserts to Outputs

You can assign hardware inserts to Output busses directly from the Outputs page or from the Patchbay.

To assign a hardware insert to a bus:

1 Go to the Outputs page and target the bus where you want to assign the hardware insert.

2 In the Inserts section of the Outputs page, do one of the following:

- Click the Hardware Insert pop-up menu and choose an insert destination directly from the menu.

– or –

- Click the Hardware Insert button to go to the Inserts page of the Patchbay, and assign the insert from the Patchbay.

Click to assign

Click to go to the Patchbay

Assigning a hardware insert in the Outputs page

The name of the hardware insert destination appears in the on-screen Hardware Insert button.

Setting the Hardware Insert Location

You can choose the location of the hardware insert in the signal path, relative to the four plug-in inserts, for each channel. A hardware insert does not need to be currently assigned to do this.

To set the hardware insert location:

1 Go to the Outputs page and select the channel where you want to set the hardware insert location.

2 In the Inserts section of the Outputs page, click the hardware insert indicator so that it lights red.

Setting a hardware insert location in the Inputs page

Activating and Bypassing Inserts

After hardware and plug-in inserts are assigned to an Output bus, they can be activated and bypassed from the console or the corresponding Output page controls.

To activate or bypass an Output bus insert:

1 Target the bus by pressing its Select switch.

2 Press any of the Plug-In switches, or click the HW in/out switch on-screen, to activate or bypass the corresponding Insert. The switch lights when the Insert is activated. (Hardware inserts cannot be bypassed from D-Show Profile; use the on-screen control instead.

Inserting the Built-In Graphic EQ on Output Busses

A built-in 31-band Graphic EQ can be inserted on any of the following Output bus types: Mains, Groups (or Variable Groups), Auxes, Matrixes, and PQs. A maximum of 24 Graphic EQs are available, depending on the how they are configured in the System Configuration Options.

For more information on configuring and using Graphic EQs, see "Graphic EQ for Outputs" on page 139.

To insert a Graphic EQ on an Output bus:

1 Target the bus by pressing its Select switch.

2 In the Outputs page, click the Graphic EQ tab.

3 Click the Graphic EQ pop-up menu and choose an available mono or stereo Graphic EQ. The entire Graphic EQ is displayed on-screen.
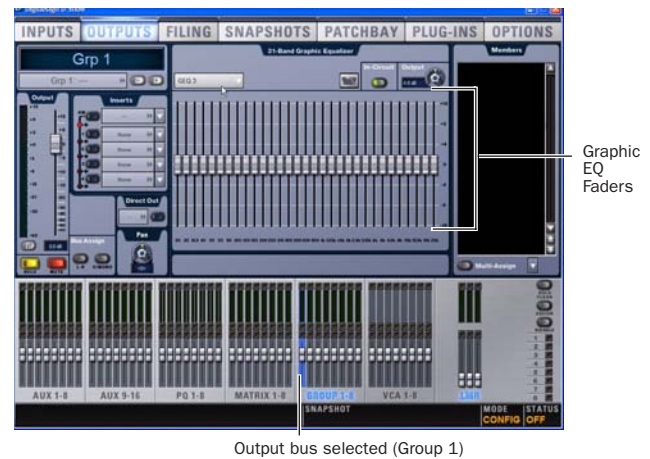
Graphic EQ displayed in the Outputs page

Adjusting Output Controls

Different types of outputs can be controlled from the Output faders, encoders and switches.

Output Levels

To control output levels from the Output faders:

1 Press one of the following switches in the Output Fader assignment section:

- Aux 1–8
- Aux 9–16
- Personal Qs
- Matrixes
- Groups
- VCA

Output Fader assignment switches —
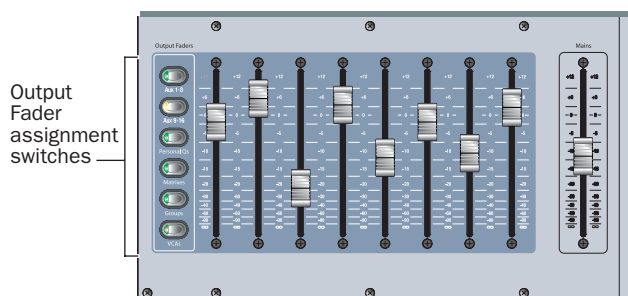
Output Fader controls

2 Move a fader to change the level of its assigned output.

To create a level offset between linked Aux bus or Variable Group bus output faders:

1 Press one of the following switches in the Output Fader assignment section:

- Aux 1–8
- Aux 9–16
- Groups (when in Variable Groups mode)

2 Do one of the following:

- Touch one linked bus output fader while moving the other.
- Hold the Start (Win) key on the keyboard and move one linked Aux bus fader on-screen.

The offset between the faders is maintained until the offset causes a fader to reach its maximum or minimum value.

Output Polarity (Phase) Invert

The polarity of any output bus signal can be inverted. With stereo outputs (Personal Q outputs and stereo Group busses) only the left channel is inverted.

To invert the polarity of an output bus:

1 Target the bus by pressing its Select switch.

2 Press the polarity inversion (Ø) switch in the ACS Input section. The switch lights when the polarity is inverted.

Output Solo

To control the solo status of an output bus:

1 Press one of the following switches in the Output section:

- Aux 1–8
- Aux 9–16
- Personal Qs
- Matrixes
- Groups (assigns Variable Groups when in Variable Groups mode)

2 In the Output section, press an AFL switch to toggle the solo status of the corresponding output bus.

For more information on Solo bus operation, see Chapter 14, "Solo and Monitor Busses."

Output Mute

To control the mute status of an output bus:

1 Press one of the following switches in the Output section:

- Aux 1–8
- Aux 9–16
- Personal Qs
- Matrixes
- Groups (assigns Variable Groups when in Variable Groups mode)

2 Press a Mute switch to toggle the mute status of the corresponding output bus.

For more information on Mute operation, see Chapter 15, "Muting and Mute Groups."

Output Delay

A variable delay (0–250 ms) can be applied to any of the Main busses (L, R and C/M), Aux bus outputs and Matrix bus outputs. Variable Group outputs do not have this variable delay feature.

To apply delay to an Aux bus:

1 Target the Aux bus by pressing its Select switch.

2 Press the ACS Delay rotary encoder to apply the delay to the bus.

3 Adjust the delay value by turning the Delay rotary encoder.

Adjusting Main Bus Controls

Main Bus Output Levels

The Main bus output levels are controlled from the single Mains Fader located to the right of the Output faders.
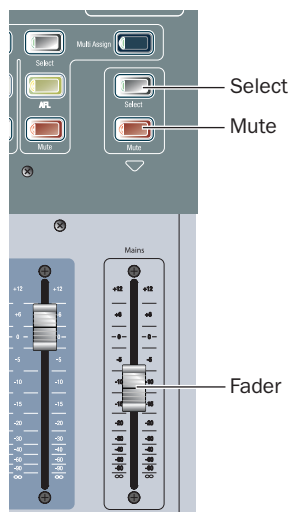
Mains Fader and controls in the Output section

The Left, Right, and Center/Mono busses can be controlled independently or in tandem. You can create an offset between any of the Main bus levels, and it will be preserved when controlling any combination of the Main busses. The offset between the busses is maintained until at least one of the busses is minimized or maximized.

Linking Mains

You can link any of the three Mains faders for grouped-control of level, mute and solo.

To control the Main bus output levels:

1 In the Outputs page, click the on-screen channel Link buttons for any combination of Left, Right, or Center/Mono output strips to assign control of the corresponding busses to the Mains Fader.
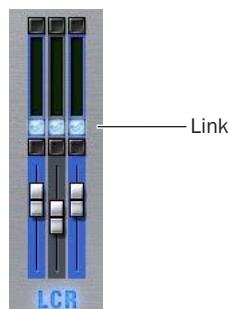
Mains fader Link selectors in the Outputs page

2 Move the Mains fader to change the level of the assigned busses.

Main Bus Mute

The mute status of the Main busses is controlled from the Mute switch located above the Mains Fader. When at least one of the Main busses is not muted, the Mains mute switch flashes.

To control the mute status of the Main busses:

1 In the Outputs page, click the on-screen channel Link buttons for any combination of Left, Right, or Center/Mono output strips to assign control of the corresponding busses to the Mains Fader.

2 Press the Mute switch to toggle the mute status of the assigned busses.

Main Bus Delay

A variable delay (from 0 to 500 ms) can be applied to any of the Main busses.

To apply delay to a Main bus:

1 Target the Main bus where you want to apply delay by repeatedly pressing the Select switch in the Mains section, or by selecting it on-screen.

2 Adjust the Delay value by turning the on-screen Delay rotary encoder.

Main Bus Center Divergence Options

When the Main busses are set to L–C–R (Left-Center-Right) mode, the Center Divergence setting determines amount of center-panned signal sent to the center output.

◆ When Center Divergence is set to 100%, a channel panned to center is sent to the center output only.

◆ When Center Divergence is set to 0%, a channel panned to center is sent equally to the left and right outputs only (phantom center).

◆ A Center Divergence setting between 0% and 100% sends a center-panned channel to the left, center, and right outputs with the center channel more prominent as the value increases towards 100%.

To set Center Divergence:

■ Enter a value or drag in the Center Divergence text box and press Return.

Main Bus Automatic Delay Compensation

D-Show automatically compensates for delays incurred by the use of Groups and insertion of plug-ins in the signal path to the Main busses. Delays are automatically applied to signals arriving at the Main busses from multiple destinations to maintain the proper time alignment.

Monitoring the Main Mix

You can send the Main mix (the signal present on the Main busses) to the Monitor bus for routing to near-field monitors or headphones. See "Sending the Main Mix to the Monitor Bus" on page 115.

Direct Outputs

The following types of channels or busses have Direct Output capability: Input Channels, FX Returns, Main busses, Group (or Variable Group) busses, Aux busses, Matrix busses and PQ busses.

Available destinations for Direct Outputs include:

- Stage Rack outputs
- FOH Rack outputs
- Pro Tools recording option inputs

Each output destination may be fed by only one Direct Output signal (multiple Direct Output signals cannot be routed to a single output).

To route a channel or bus to a Direct Output:

1 Target the channel or bus you want to route to a Direct Output by pressing its Select switch.

2 In the Directs page of the Patchbay, click the tab for the channel or bus type you are routing.

3 Click in the channel grid to route the channel or bus (listed on the left) to an available output (listed across the top).

Assigning a Direct Output in the Patchbay Directs page

4 Select the pickoff point for the Direct Output by clicking the letter to the right of the channel or bus name and choosing from the pop-up menu.
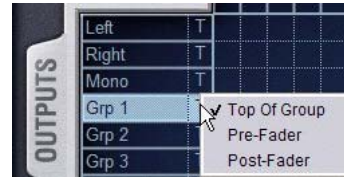
Selecting a Direct Output pickoff point in the Patchbay Directs page

5 In the ACS section, press the Direct Output rotary encoder knob so that its "On" indicator LED lights.

6 Turn the Direct Output rotary encoder knob to set the Direct Output level.

Up to 12 dB of gain can be added to the Direct Output signal. Direct Output level is displayed in the Selected Channel display.

Direct Output Pickoff Points

The pickoff points for the Direct Output signal are selected in the Directs page of the Patchbay. The following pickoff points that are available for each type of channel or bus:

Input Channels

- Top of channel
- Insert return
- Pre/post fader

FX Returns

- Top of return
- Pre/post fader

Outputs

- Top of bus
- Pre-fader
- Post-fader

Configuring Direct Output Pickoff Points

Input Channels and FX Returns can be globally configured to have either a pre-fader or post-fader pickoff point for Direct Outputs. These pickoff points can be pre-mute or post-mute, depending on the channel or bus type.

On Input Channels and FX Returns, channel mute is pre-fader. On Output busses, channel mute is post-fader.

To configure the Direct Output pickoff point for Inputs:

1 Go to the Options page and click the Pickoffs tab.

2 Under "Input Strip Fader Pickoff Point," click Pre-Fader or Post-Fader.

Matrix Mixers

Eight Matrix mixers are available for sending up to eight mono mixes of input channels and busses to any available hardware output or bus-fed plug-in. Each Matrix is a 12-in/1-out mono mixer with assignable input sources including Group busses or Aux busses, the 3 Main busses (L–C–R or L–R+M) and any of up to 8 user-selectable channels.

Matrix input levels are controlled from the Output encoders. Adjacent Matrix inputs can be linked or unlinked. The master output of each Matrix mixer is controlled from the Output faders.

📖 *See Chapter 11, "Matrix Mixers and PQ Mixers."*

Personal Q Mixers

Eight Personal Q (PQ) mixers are available for sending up to eight discrete stereo mixes of input channels or busses to any available hardware output or bus-fed plug-in. Each PQ is a 12 x 2 mixer with assignable input sources including Group busses or Aux busses, the 3 Main busses (L–C–R or L–R+M) and any of up to 8 user-selectable channels.

Each of these PQ mixers can be remotely controllable by optional PQ Controller units, which allow adjustment of PQ mixer levels from the stage.

💡 *If no PQ Controllers are used, the PQ mixers are still available for use as stereo Matrix mixers at the console.*

PQ input levels and PQ input pan are controlled from the Output encoders. Adjacent PQ inputs can be linked or unlinked. The master output of each PQ mixer is controlled from the Output faders.

📖 *See Chapter 11, "Matrix Mixers and PQ Mixers."*

Assigning and Using VCAs

D-Show VCA controls emulate the operation of traditional Voltage Controlled Amplifiers (VCAs). Up to eight VCA faders are available for remote control of Input Channel and FX Return, or Output channel fader gain.

💡 *VCAs control level of the assigned channels only. They do not act as a summing output bus.*

VCAs remotely control the fader gain of each channel assigned to the VCA fader, but do not change the position of the faders on those channels. The accumulated gain of a channel belonging to several VCAs is limited to +12 dB.

To assign channels to VCAs:

1 Press the VCAs switch in the Output faders section.

2 Select one or more VCAs to target for membership assignment.

3 Press the Multi-Assign switch to the right of the Output section.

4 Press the Select switches on the Input Channels, FX Returns, or Output channels you want to assign to the VCA.

5 Press the flashing Multi-Assign switch to confirm the assignment, or press the Cancel switch to cancel the assignment.

Viewing Members of a VCA

To view the members of a VCA:

■ Go to the Outputs page and select a VCA channel. A list of VCA members appears on the right side of the screen.

To view which Input Channels are members of a VCA:

1 Select a VCA channel in the Output section.

2 Hold the Default switch (in the Modifiers section) and press the Multi-Assign switch in the Outputs section.

The Bus Assign LEDs 1–8 at the top of each channel flash to indicate which Input Channels are members of the VCA.The Multi-Assign switch stays lit (not flashing) to differentiate this mode from Multi-Assign mode.

The following output section operations are available while Show VCA Members mode is active:

- Banking outputs
- Targeting or selecting an output, including Multi-Select

Show VCA Members mode must first be exited before proceeding with a Multi-Assign operation.

To exit Show VCA Members mode:

■ Press the Multi Assign switch.

Using VCAs

To adjust the levels of VCA members:

1 Press the VCAs switch to assign control of the VCAs to the Output faders.

2 Move the fader for the VCA whose members you want to adjust.

To solo the members of a VCA:

■ Press the Solo switch on the VCA channels whose members you want to solo so that the Solo switch is lit.

To mute the members of a VCA:

■ Press the Mute switch on the VCA channels whose members you want to mute. The Mute LEDs on channels contained in the VCA flash to indicate they are implicitly muted by the VCA.

Chapter 9: Groups

The D-Show Output section has 8 available Group busses. Groups busses can fed by Input Channels and FX Returns. Group outputs can be assigned to the Main Output busses, to available bus-fed plug-ins, and to any hardware outputs on the system. Group outputs can also be sources for Matrix and PQ mixers.

Configuring Group Busses

Group busses can be globally configured to be mono or stereo as part of the Aux/Group bus configuration. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

Assigning Inputs to Group Busses

To assign multiple channels to a single Group at a time:

1 Press the Groups switch to bank the Output faders to the Groups busses.

2 Press the Select switch in the Output strip for the Group (1–8) to which you want to assign channels.

3 Press the Multi-Assign switch near the Output encoders. While engaged, the Multi Assign and output Select switches flash.

4 Press the Select switch on the channels you want routed to the selected Group.

5 Press the Multi Assign switch again to confirm the action.

– or –

■ Select another Group to confirm the current assignment but remain in Multi Assign mode, to continue assigning channels to the newly targeted bus.

To route channels to any number of Group busses:

1 Target the first channel you want to route to the Group busses by pressing its Select switch.

2 Press the Multi-Assign switch in the Output section.

3 Press the Select switches on the other channels you want to route to a Group bus.

4 In the ACS Bus Assigns section, press any of the Group switches so that they are lit.

Routing Group Outputs to the Main Busses

You can route Group outputs to the Main busses on-screen or from the ACS.

Variable Groups cannot be routed to the Main busses.

To route a Group output to the Main busses on-screen:

1 Go to the Outputs page and select the channel fader strip tor the Group you want to route to the Main busses.

2 Click the Bus Assign buttons on-screen to toggle the bus assignment for the selected Group.

Assigning a Group output to the Main busses from the Output page

To route a Group output to the Main busses from the ACS:

1 Press the Groups switch in the Output Fader assignment section to assign control of Group levels to the faders.

Groups switch

Assigning Groups to the Output faders

2 Select each Group that you want to assign to the Main busses by pressing their Select switches.

3 In the ACS Bus Assigns section, press the L–R (left and right) or C/Mono (center/mono) switch so that it is lit.

Left–Right Main bus Assign switch

Center/Mono Main bus Assign switch

Assigning a Group output to the Main busses from the ACS

4 Move the channel's fader to set the Group output level.

Group Routing Indication on Output Encoders

When Groups are assigned to the Output encoders, the encoder indicator LEDs indicate Main bus assignments as follows:

Off Group routing to Mains is turned off.

Yellow Group output is routed to the Mains L–R bus.

Green Group output is routed to the Mains C/M bus.

Red Group output is routed to both the Mains L–R bus and the Mains C/M bus.

Routing Group Busses

Group busses can be routed to hardware outputs, and to available bus-fed plug-ins. Group busses also provide Direct Outs, inserts and built-in Graphic EQ capabilities.

Using Direct Outputs on Group Busses See "Direct Outputs" on page 76.

Using Inserts on Group Busses You can insert D-Show software plug-ins or hardware inserts on Group bus outputs. For more information, see "Using Inserts on Output Busses" on page 72.

Inserting the Built-In Graphic EQ on Group Bus Outputs A built-in 31-band Graphic EQ can be inserted on Group bus outputs. For more information, see "Inserting the Built-In Graphic EQ on Output Busses" on page 73.

Managing Group Bus Assignments

Viewing Group Bus Assignments

You can view Group bus assignments from the Input section of the control surface or from an on-screen list of Group members.

Viewing Group Bus Assignments from the Input Section

The Bus Assign LEDs 1–8 on Input Channels and FX Return channel strips light to indicate that a channel is routed to the corresponding Group busses. The Stereo Pan LED lights when at least one bus is being fed as a stereo-linked pair or in true stereo.
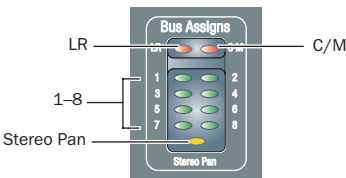
Bus Assign indicator LEDs on an Input Channel

Viewing Group Bus Assignments On-Screen

When a Group bus channel is targeted on-screen, its members are shown in a list on the right side of the Outputs page.

Currently selected output (Group)
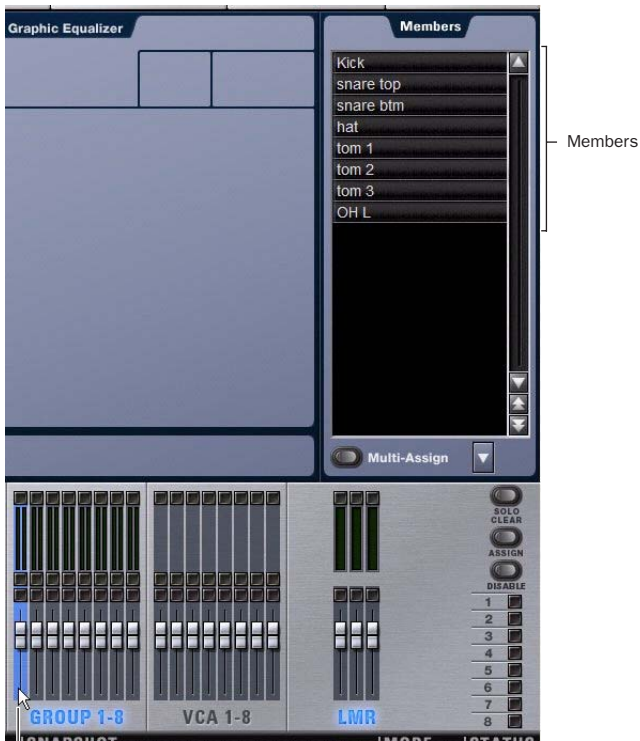
Group members shown in the Outputs page

Resetting Group Bus Assignments

You can remove input assignments from a Group bus on-screen.

To remove an input assignment from a Group bus:

1 Select the Group bus you want to change so that its members are displayed on-screen.

2 In the list of Group bus members, right-click the input assignment you want to remove and choose Unassign.

To remove all input assignments from a Group bus:

1 Select the Group bus you want to change so that its members are displayed on-screen.

2 Click the pop-up menu at the bottom of the Members list and choose Reset Mix.

Group Bus Signal Flow Options

Routing Signals to a Mono Group Bus Configuration

When configured as mono busses, the eight Groups can be fed as 8 unlinked mono busses or up to 4 linked odd/even bus pairs.

Unlinked Mono Busses

To use unlinked mono Group busses:

1 Make sure the Group busses are configured as mono busses. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

2 While routing channels to Group busses, make sure the Stereo Pan switch is off.

The Group switches in the ACS Bus Assigns section light green to indicate mono operation. In this configuration, input signals are handled as follows:

Mono Input Signals Contributing mono signals are summed to the mono Group bus. Any pan information from mono input channels feeding the bus is ignored.

Stereo Input Signals Contributing stereo signals are summed to the mono Group bus with no attenuation. The balance and width information from each stereo input channel is ignored.

Linked Odd/Even Bus Pairs

To use linked mono Group bus pairs:

1 Make sure the Group busses are configured as mono busses. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

2 While routing channels to Group busses, press the Stereo Pan switch so that it lights yellow.

The Group switches in the ACS Bus Assigns section and the Stereo Pan LED in the channel's Bus Assign indicator light yellow to indicate stereo operation. In this configuration, input signals are handled as follows:

Mono Input Signals Contributing mono signals are panned across the linked odd/even Group bus pair. Pan information from each mono input channel determines its pan position in the bus pair.

Stereo Input Signals Contributing stereo signals are panned across the linked odd/even Group bus pair. Balance and width information from each stereo input channel determines its contribution to the odd and even sides of the bus pair.

Routing Signals to a Stereo Group Bus Configuration

When configured as stereo busses, the eight Groups can be fed as 8 true stereo busses or (in Expert mode only) as 8 dual mono busses.

Stereo Busses

To use stereo Group busses:

1 Make sure the Group busses are configured as stereo busses. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

2 When routing channels to any of the Group busses, make sure the Stereo Pan switch is lit yellow.

When working with stereo Groups in Simple Mode, the Stereo Pan switch is always lit to indicate all Groups operate in true stereo.

Dual Mono Busses

Dual mono busses may only be used in Expert Mode. See "Simple and Expert Operational Modes" on page 82.

Adjusting Group Bus Output Controls

Group Bus Output Levels

See "Adjusting Output Controls" on page 74.

Group Bus Output Pan

Group bus output pan is controlled from the Output encoders.

Groups-to-Mains assignment is displayed by the indicator LED for each Output encoder, when Groups are banked to the Output faders. The Output encoder Pan switch cycles the encoders and LCD to pan, balance and width parameters.

The pan controls adjust pan (when in mono Groups configuration) or stereo balance and width (when in stereo Groups configuration) of the Group output to the Main busses only. The Group outputs in the Patchbay are distinct left and right channels.

To control mono Group output pan:

1 Bank the Output faders to Groups.

2 Press the Pan switch in the Output encoder section once to assign control of Group pan to the Output encoders.

3 Turn a rotary encoder to adjust the pan for the corresponding mono Group.

To control stereo Group output balance and width:

1 Press the Pan switch in the Output encoder section.

2 Turn a rotary encoder to adjust the balance for the corresponding stereo Group.

3 Press the Group Pan switch in the Output Encoder assignment section an additional time to assign Group width control to the Output encoders.

4 Turn a rotary encoder to adjust the width for the corresponding stereo Group.

Group Bus Output Polarity (Phase) Invert

See "Output Polarity (Phase) Invert" on page 74.

Group Bus Output Solo

See "Output Solo" on page 74.

Group Bus Output Mute

See "Output Mute" on page 74.

Simple and Expert Operational Modes

When configuring Group busses, you can choose between two operational modes that provide different levels of flexibility: *Simple mode* and *Expert mode*.

Setting the Operational Mode

To switch between Simple mode and Expert mode:

1 Put D-Show into Config mode.

2 Go to the Options page and click the Busses tab.

3 Under Stereo Group Panning Operation, select the mode you want to use (Simple or Expert).
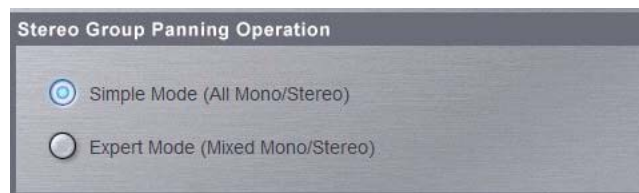
Setting the Group bus operational mode

Working with Mono Group Busses

When configured as mono busses, Groups can operate in the following modes:

Simple Mode

In Simple mode, either all Groups on a channel are mono, or all Groups on a channel act as bus pairs.

Expert Mode

In Expert mode, any of the 4 bus pairs can be stereo linked individually while leaving the other busses as mono, on a per channel basis.

To set the link status of individual mono Group busses on a channel (Expert Mode only):

1 Make sure Stereo Group Panning is set to Expert Mode.

2 Select an Input Channel or FX Return whose signal you want to send to a Group bus. To select multiple channels, use the Multi-Select switch next to the input faders.

3 In the ACS Bus Assigns section, press the Stereo Pan switch. The switch flashes yellow to indicate bus link mode.

4 Press any of the Group switches to link or unlink the bus pairs (1–2, 3–4, 5–6, or 7–8). The Group switch pairs flash yellow to indicate stereo linked, or flash green to indicate mono.

5 Press the flashing Stereo Pan switch to confirm the bus link status for the selected channels.

Working with Stereo Group Busses

When configured as stereo busses, Groups can operate in the following modes:

Simple Mode

In Simple Mode, all 8 Group busses function only as true stereo busses.

Expert Mode

In Expert Mode, any of the 8 stereo Group busses can be set to act as true stereo or as dual mono busses, on a per channel basis.

To set the link status of individual stereo Group busses for a channel (Expert Mode only):

1 Make sure Stereo Group Panning is set to Expert Mode.

2 Select an Input Channel or FX Return whose signal you want to route to a Group bus. To select multiple channels, use the Multi-Select switch next to the input faders.

3 In the ACS Bus Assigns section, press the Stereo Pan switch. The switch flashes yellow to indicate bus link mode.

4 Press any of the Group switches (1–8) to set the corresponding bus to stereo or dual mono. The Group switches flash yellow to indicate stereo, or flash green to indicate dual mono.

5 Press the flashing Stereo Pan switch to confirm the bus link status for the selected channels.

To use dual mono Group busses (Expert Mode only):

1 Make sure the Group busses are configured as stereo busses. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

2 Make sure the link status of the Group busses you want to use is set to dual mono.

When routing channels to a dual mono Group bus, the Stereo Pan switch will be off and the Group switch will light green to indicate dual mono operation.

Chapter 10: Auxes and Variable Groups

The D-Show Output section has up to 16 available Aux busses, and when set to Variable Groups mode, the 8 Group busses are replaced by *Variable Group* busses. Aux busses and Variable Group busses can be fed by Input Channels and FX Returns, which are routed to Auxes from the encoders or from the ACS Aux Sends section.

Configuring Aux Busses and Variable Group Busses

Aux Busses

Up to 16 Aux busses are available. The number of available Aux busses is set as part of the overall Aux/Group bus configuration. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

Variable Group Busses

Variable Groups mode replaces the 8 Group busses with *Variable Group* busses, which operate in much the same way as Aux busses. When set to Variable Groups mode, the D-Show Output section has 16 available Aux busses and 8 available Variable Group busses for a total of 24 busses.

Variable Groups mode is set as part of the Aux/Group bus configuration. See "Configuring Aux, Group, and Variable Group Busses" on page 70.

Labeling of Variable Groups

Variable Groups retain the "Groups" label in the D-Show Patchbay page, in the Options > Pickoffs page, and in the rotary encoder displays on the D-Show control surface.

Variable Groups are labeled as "Var Groups" in the D-Show Inputs page.

Displaying Variable Group Controls

When D-Show is in Variable Group mode, Variable Group controls are displayed in the following locations:

On-Screen Variable Group Send controls replace the Aux Send controls.

On the Control Surface Variable Group Sends are displayed on the ACS controls for Aux Sends 1–8. Variable Group controls also replace Aux controls in the Input encoder row and Encoder assignment controls.

To display Variable Group controls from on-screen:

1 Select one or more input channels.

2 Click the Var Groups button in the Bus Assign section. The Var Groups button flashes to indicate display of Variable Group controls.

Variable Group controls displayed in the Inputs page

To display Variable Group controls from the control surface:

1 Target an Input Channel or FX Return by pressing its Select switch.

2 Do one of the following:

- Press the Variable Groups switch in the ACS Aux Sends section.
- Press the F2 switch in the Function section.

💡 *F2 is mapped to Variable Groups mode by default. You can customize this and other functions in the Events window. For more information, see Chapter 22, "Events."*

The Variable Groups and F2 switches flash to indicate display of Variable Group controls.
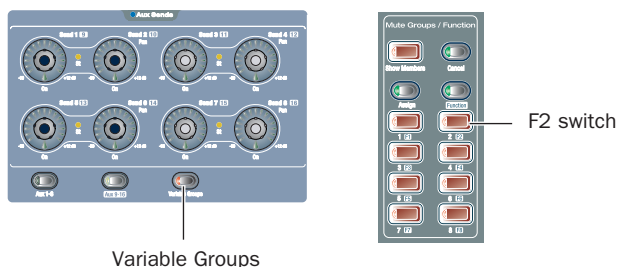
Controls in Aux Sends (left) and Mute Groups/Function for displaying *Variable Groups*

To change display back to Aux Sends, do one of the following:

▪ Click the flashing Var Groups button on-screen.

– or –

▪ Press the flashing Variable Groups switch or F2 switch on the control surface.

Linking Aux Busses and Variable Group Busses for Stereo Operation

When working with Aux busses or Variable Group busses, you can link odd/even bus pairs and pan input signals into those bus pairs. Aux bus pairs and Variable Group bus pairs are linked on a global basis, and appear as linked on all channels.

To link Aux bus pairs or Variable Group bus pairs:

1 Put D-Show into Config mode.

2 Go to the Options page and click the Busses tab.

Linking bus pairs in the Options > Busses page

3 Click Edit.

4 Click the checkboxes above any of the bus pairs to link or unlink each pair.

Linking a Variable Group bus pair

5 Click Apply.

The checked Aux bus or Variable Group bus pairs appear as linked on all channels.

When an Aux bus pair or Variable Group bus pair is linked, the corresponding Stereo LED (marked "St") lights in the ACS Aux Sends section.

With linked Aux bus or Variable Group bus pairs, the following controls operate in tandem, affecting both sides of the bus pair:

- Output faders
- Solo switches
- Mute switches
- Direct Output controls
- Delay Controls (Aux bus pairs only)
- Graphic EQ controls

Selecting Aux Send and Variable Group Send Pickoff Points

D-Show lets you set the pickoff point on Input Channels or FX Returns channels for Aux Sends and Variable Group Sends. The default pickoff point is Post-Fader, but can be switched to any of the following from the Options > Busses page.

Pre Pickoff points are set for each Aux bus or Variable Group bus independently. If any Aux busses or Variable Group busses are linked, the pickoff point is set for the linked bus pair.

The following Pre pickoff points are available for activation with the Aux Pre switch on the control surface:

Pre-EQ This pickoff point is post-HPF and pre-EQ, Dynamics and Channel Inserts, pre-Mute, and pre-Fader. The Aux or Variable Group Send is not affected by the channel mute.

Pre-Mute This pickoff point is post-HPF, post-EQ, Dynamics, and Channel Inserts, pre-Mute, and pre-Fader. The Aux or Variable Group Send is not affected by the channel mute.

Pre-Fader This pickoff point is post-HPF, post-EQ Dynamics, and Channel Inserts, post-Mute, and pre-Fader. The Aux or Variable Group Send is affected by the channel mute.

To set the Pre pickoff point for an Aux or Variable Group Send:

1 Go to the Options page and click the Busses tab.
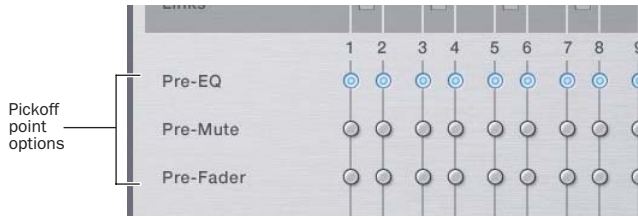
Setting Aux bus pickoff points

2 Select a Pre pickoff point for any of the busses or linked bus pairs by clicking the Pre-EQ, Pre-Mute, or Pre-Fader button.

To activate a Pre pickoff point for an Aux Send or Variable Group Send on-screen:

1 Go to the Inputs page and target the channel with the pickoff point you want to activate by clicking its on-screen channel fader strip.

2 Do any of the following:
- To activate an Aux Send Pre pickoff, click the corresponding Pre button in the Aux Sends section.

– or –

- To activate a Variable Group Pre pickoff, click the Var Groups button in the Bus Assign section to display Var Groups, then click the corresponding Pre button in the Var Groups section.

When the Pre button is lit, the selected Pre pickoff point is used. When the Pre button is off, the pickoff point is Post-Fader.

Classifying Auxes and Variable Groups for Snapshots

You can classify Aux Sends and Variable Group Sends as *monitor sends* ("Mon") or as *effects sends* ("FX") for the purposes of scoping and safing each type separately in snapshots. See "Classifying Auxes and Variable Groups" on page 192.

Assigning Inputs to Aux Busses and Variable Group Busses

You can send signals from any Input Channel or FX Return to any number of Aux busses or Variable Groups simultaneously. Aux Send and Variable Group Send level controls provide a gain range of –INF to +12 dB.

To assign one or more channels to an Aux send or Variable Group bus:

1 Press the Auxes 1–8 or Auxes 9–16 switch to bank the Output faders to those Aux busses. For Variable Groups, press the Groups switch.

2 Press the Select switch in the Output strip for the Aux (1–8, or 9–16) or Variable Group (1–8) to which you want to assign.

3 Press the Multi Assign switch near the Output encoders. While engaged, the Multi Assign and output Select switch LEDs flash.

4 Press the Select switch on the channels you want routed to the selected Aux send.

5 Press the Multi Assign switch again to confirm the action.

– or –

■ Select another Aux to confirm the current assignment but remain in Multi Assign mode for the newly targeted bus.

Routing Signals to Mono Aux and Variable Group Busses

To route channels to an unlinked (mono) Aux bus or Variable Group bus from the Input section:

1 Do one of the following to select input channels:
- Target the channel you want to send to an Aux bus by pressing its Select switch.

– or –

- Hold the Multi Select switch, then press the Select switches on each of the channels you want to send to an Aux bus.

2 Do one of the following:
- Press an Encoder assign Send switch 1–2 through 15–16 to display Aux Sends on the input channels.

– or –

- Press the Var Groups switch in the ACS Bus Assigns section. This displays Variable Group Sends on the input channel encoders and the ACS Aux Send controls.

3 In the Input Encoder Assignment section, press a Send switch to assign control of the designated bus to the rotary encoders.

- The first press of an Aux Send switch assigns level control of the odd-numbered send. The switch lights green to indicate an odd-numbered selection.
- The second press of an Aux Send switch assigns level control of the even-numbered send. The switch lights yellow to indicate an even-numbered selection.

4 On each of the channels you want to send to the designated Aux bus or Variable Group bus, press the rotary encoder knob so that its "On" indicator LED lights.

5 Turn the rotary encoder knob on each channel to set the Aux Send or Variable Group Send level.

When Aux busses or Variable Group busses are not linked, they are fed as true mono busses. In this configuration, input signals are handled as follows:

Mono Input Signals Contributing mono signals are sent to the mono Aux or Variable Group bus. Any pan information from mono input channels feeding the bus is ignored.

Stereo Input Signals Contributing stereo signals are summed to the mono Aux or Variable Group bus. The balance and width information from each stereo input channel is ignored.

Routing Signals to Linked Aux and Variable Group Bus Pairs

To route channels to a linked (stereo) Aux bus pair or Variable Group bus pair from the Input section:

1 Do one of the following to select input channels:

- Target the channel you want to send to an Aux bus by pressing its Select switch.

– or –

- Hold the Multi Select switch, then press the Select switches on each of the channels you want to send to an Aux bus.

2 Do one of the following:

- Press an Encoder assign Send switch 1–2 through 15–16 to display Aux Sends on the input channels.
- Press the Var Groups switch in the ACS Bus Assigns section. This displays Variable Group Sends on the input channel encoders and the ACS Aux Send controls.

3 In the Input Encoder Assignment section, press a Send switch to assign control of the designated bus to the rotary encoders.

- The first press of an Aux switch assigns level control of the linked sends.
- The second press assigns pan control of the linked sends. The switch lights yellow to indicate pan control.

4 On each of the channels you want to send to the designated bus pair, press the rotary encoder knob so that its "On" indicator LED lights.

5 Turn the rotary encoder knob on each channel to set the send level or pan.

When Aux busses are linked, input signals are handled as follows:

Mono Input Signals Contributing mono signals are panned across the linked odd/even Aux or Variable Group bus pair.

- When the Follows Channels Pan option is off, panning of the mono signal to the bus pair is controlled by the Aux Pan control (the even-numbered send).
- When the Follows Channels Pan option is on, the pan information from each mono input channel determines its pan position in the bus pair.

Stereo Input Signals Contributing stereo signals are panned across the linked odd/even Aux or Variable Group bus pair. Stereo width information from the input channel is applied to the bus signal.

- When the Follows Channels Pan option is off, balance of the stereo signal to the bus pair is controlled by the Aux Pan control.
- When the Follows Channels Pan option is on, the balance from each stereo input channel determines its contribution to the odd and even sides of the bus pair.

Routing Aux and Variable Group Busses to Outputs and Plug-Ins

Aux and Variable Group busses can be routed to hardware outputs, and to available bus-fed plug-ins. Aux and Variable Aux and Variable Group busses also provide Direct Outs, inserts and built-in Graphic EQ capabilities.

Routing Aux and Variable Group Busses to Direct Outputs See "Direct Outputs" on page 76.

Using Inserts on Aux and Variable Group Busses See "Using Inserts on Output Busses" on page 72.

Using the Built-In Graphic EQ on Auxes and Variable Groups See "Inserting the Built-In Graphic EQ on Output Busses" on page 73.

Adjusting Aux and Variable Group Output Controls

Controlling Aux Send and Variable Group Send Pan

When Aux busses or Variable Group busses are linked, input signals are panned across the bus pair. Panning can be controlled from the Input encoders or from the ACS Aux Sends section.

To control panning of Aux bus or Variable Group bus pairs from the Input section:

1 Do one of the following:

- Press an Encoder assign Send switch to bank that Send to the input encoders.

- Press the Var Groups switch in the ACS Bus Assign section to bank Variable Group Sends on the input channels.

2 In the Input Encoder Assignment section, press the Send switch (1–16) for the bus pair you want to pan. If you banked to Variable Groups, press a Send switch 1–8.

- The first press of the Aux switch assigns control of the send level to the encoder. The switch lights green and the encoder display shows the odd-numbered send.

- The second press of the Aux switch assigns control of the send pan to the encoder. The switch lights yellow and the display shows a "P" before the odd-numbered send.

3 With the Aux switch lit, turn the rotary encoder on each Input Channel or FX Return to adjust the send pan.

To control panning of Aux bus or Variable Group bus pairs from the ACS Aux Sends section:

1 Bank the Output faders to the Aux 1–8 or Aux 9–16 (for Auxes) or Groups (for Variable Groups).

1 Target the bus you want to pan by pressing its Select switch. In a linked bus pair, the ACS Aux Send controls show the following:

- Odd-numbered rotary encoders control send level

- Even-numbered rotary encoders control send pan

2 Use the Aux 1–8, Aux 9–16 and Var Groups switches to target the desired send busses. A lit switch LED indicates the current selection.

3 Turn the even-numbered rotary encoders in the Aux Sends section to adjust the corresponding send pan.

☼ *You can link the ACS Aux Sends section to follow AFL, letting you immediately access send controls for Auxes and Variable Groups by soloing any Aux or Group output strip. For more information, see "Auxes/Variable Groups Follow AFL" on page 112.*

Using Flip to Faders to Access Send Level and Pan Simultaneously

You can use Flip to Faders mode to spill Aux or Variable Group level control to the input faders while retaining control of Send pan from the input encoders.

To access Send level and pan simultaneously:

1 Assign the input encoders to Aux Sends or Variable Groups by doing either of the following:

- Press a Send switch in the Input Encoder Assignment section to assign the encoders to control level for the selected send.

- Target an Aux or Variable Group bus by selecting it in the Output section.

2 Press the Flip to Faders switch, at the bottom of the Input Encoder Assignment section. The input faders now control and display level for the selected send, and the encoders display and control Send pan.

Setting Aux Send Pan and Variable Group Send Pan to Follow Channel Pan

Panning of the input signal can be set to follow the pan or balance values of the Input Channel or FX Return feeding the Aux bus or Variable Group bus.

To set the Aux Send or Variable Group pan to follow Channel pan:

1 Go to the Options page and click the Busses tab.

2 On any linked bus pairs, select the Follows Channel Pan option. This setting is applied globally to the corresponding Aux Send or Variable Group Send.

Adjusting Other Aux Bus and Variable Group Bus Output Controls

Auxes and Variable Groups can be banked to the Output section using the Aux 1–8, Aux 9–16, and Groups switches. Once banked, Auxes and Variable Group controls can be adjusted using the available output controls. See "Adjusting Output Controls" on page 74.

Managing Aux Bus and Variable Group Bus Assignments

Viewing Aux Bus and Variable Group Bus Assignments

When an Aux bus or Variable Group bus output channel is targeted on-screen, its members are shown in a list on the right side of the Outputs page.

To view input assignments to an Aux bus or Variable Group bus:

1 Go to the Outputs page.

2 Target an Aux bus or Variable Group bus output channel by selecting its on-screen channel fader strip. Variable Group channels are labeled "Groups" in the channel display.

Input channels routed to the selected bus are displayed in the Members list on the right side of the page.

To go to any assigned input channel from the Outputs page:

■ Click the name of the input channel in the Members list.
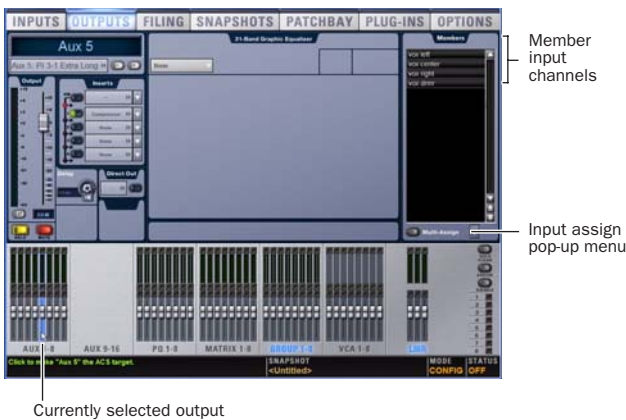
Aux bus assignments shown in the Outputs page

Resetting Aux Bus and Variable Group Bus Assignments

You can remove input assignments from Aux bus or Variable Group bus output channels on-screen.

To remove an input assignment from an Aux bus or Variable Group:

1 Target the Aux bus or Variable Group bus output channel you want to change by selecting its on-screen channel strip. Variable Group channels are labeled "Groups" in the channel display.

2 In the list of member input channel assignments, right-click the input assignment you want to remove and choose Unassign.

To remove all input assignments from an Aux bus or Variable Group bus:

1 Target the Aux bus or Variable Group bus output channel you want to change by selecting its on-screen channel strip. Variable Group channels are labeled "Groups" in the channel display.

2 Click the pop-up menu at the bottom of the Members list and choose Reset Mix.

Copying Assignments Between Aux Busses and Variable Group Busses

You can copy the current input assignments from one Aux bus or Variable Group bus (or Mains) to another bus of either type. If the busses are linked, assignments can be copied from other linked busses. This lets you quickly duplicate monitor mixes.

⚠ *Copying Aux or Variable Group bus assignments overwrites all the assignments on the destination Aux or Variable Group bus.*

To copy input assignments between Aux/Variable Group busses:

1 Target the Aux bus or Variable Group bus that you want to be the destination of the copied assignments by selecting its on-screen channel strip.

2 Click the Input Assign pop-up menu at the bottom of the Members list, choose Replace With Mix From, then choose the Aux bus or Variable Group bus whose assignments you want to copy to the currently selected bus.

3 Click the Input Assign pop-up menu at the bottom of the Members list, choose Replace With Mix From, then choose the Aux bus or Variable Group bus whose assignments you want to copy to the currently selected bus.
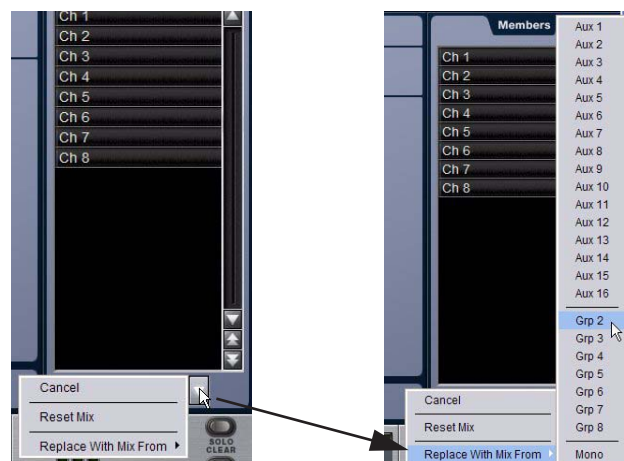
Copying input assignments between Aux busses

Copying Mains Assignments to Aux Busses and Variable Group Busses

You can copy the current Main bus assignments to Aux busses and Variable Group busses, which lets you base monitor mixes from a main mix. Assignments to the Main Left/ Right busses can be copied to linked Aux or Variable Group busses, and assignments to the Center/Mono bus can be copied to mono Aux or Variable Group busses.

To copy bus assignments from the Mains to Auxes or Variable Groups:

1 Target the Aux bus or Variable Group bus that you want to be the destination of the copied assignments by selecting its on-screen channel strip.

2 Click the Input Assign pop-up menu at the bottom of the Members list, choose Replace With Mix From, then choose the available Main bus (Left-Right or Mono) whose assignments you want to copy to the currently selected bus.

The state of the Aux or Variable Group controls follows the state of the corresponding controls on the Input Channels assigned to the Mains: Channel Mute maps to Bus Send, Channel Pan maps to Bus Pan, and Channel Fader level maps to Bus Send level.

Chapter 11: Matrix Mixers and PQ Mixers

The D-Show Outputs section offers 8 mono Matrix mixers and 8 stereo Personal Q (PQ) mixers for setting up alternate mixes, fill and delay tower feeds, and cue, monitor or press mixes.

Inputs

Matrix mixers and PQ mixers can be configured independently to have different input sources. Matrix and PQ input sources can be controlled from the Output section and on-screen.

Outputs

Matrix mixers have mono outputs and PQ Mixers have stereo outputs. Matrix and PQ outputs can be controlled from the Output Faders or on-screen.

Remote Control of PQ Mixers (Optional)

With optional PQ Controllers, PQ sources and outputs can be controlled remotely. If no PQ Controllers are used, the PQ mixers are still available for use as stereo matrix mixers controllable from the main console.

Matrix Mixers

Each of the 8 available Matrix mixers can receive up to 12 channels of input. Input sources can be any combination of Auxes, Groups or Mains busses, or any of the eight available Matrix User Sends. Each Matrix mixer has a mono output.

Matrix Mixer in Outputs page

Personal Q Mixers

Each of the 8 available Personal Q ("PQ") mixers can receive up to 12 channels of input. Input sources can be any combination of Auxes, Groups or Mains busses, or any of the eight available PQ User Sends. Each Personal Q mixer has a stereo output.
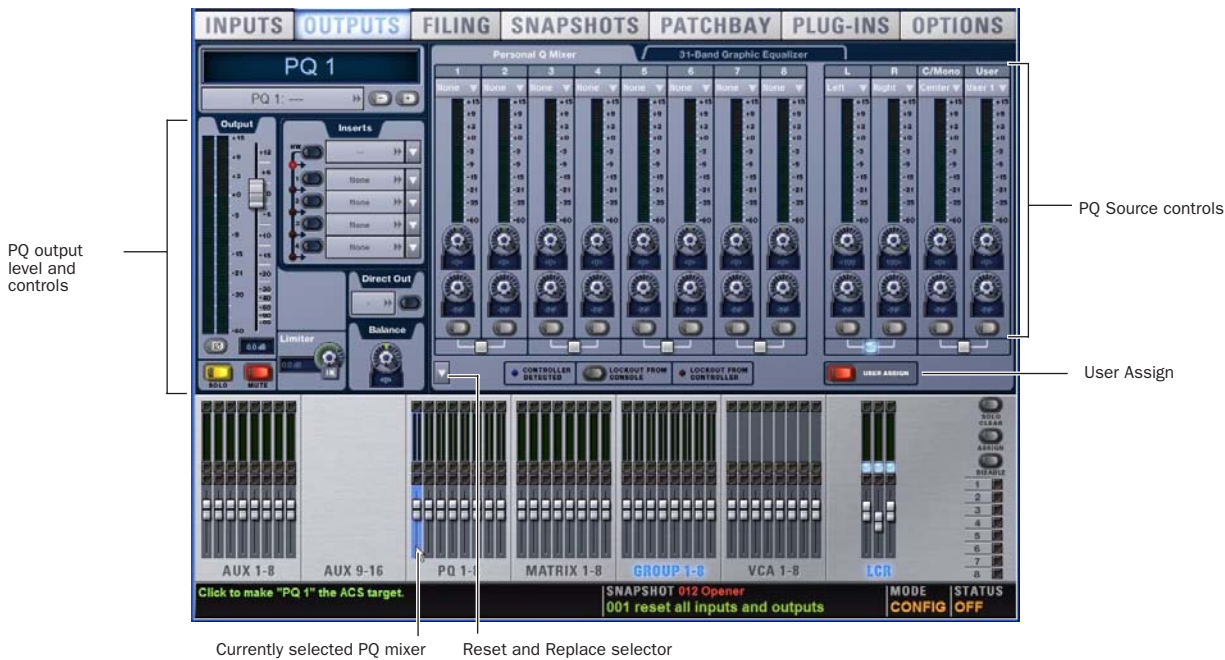
Personal Q Mixer in Outputs page

Personal Q Controller System

With the optional Personal Q Controller system, performers can adjust the controls in the Personal Q mixer from a remote location. See the *Personal Q Guide* for details.

💡 *If no PQ Controllers are used, the PQ mixers are still available for use as stereo Matrix mixers controllable from the console.*

Configuring Matrix and PQ Mixers

The 12 Inputs for each Matrix and PQ mixer can be any combination of the 35 potential sources:

- 24 shared Aux and Group sources
- 3 Mains sources (LCR or LR+M)
- 8 User Input sources

User Inputs can be input channels, FX Returns, physical Stage Rack inputs, physical FOH Rack inputs, or inputs from a Pro Tools Recording/Playback option (HDx or FWx)

- One or more of the 8 available user inputs can be sent to one or more Matrix or PQ mixers.
- Input source assignment and user input assignment can be stored on a per-snapshot basis.

- The input sources for Matrix mixers and PQ mixers are configured as Pre- or Post-Fader in the Pickoffs tab of the Options page.
- Input labels (1–8, Left, Right, C/Mono and User) are only intended as a guide, to help you navigate the controls on D-Show. In use, any input source can be assigned to any mixer input (for example, Left doesn't always have to be assigned to the Left input of a PQ mixer).

Configuring Aux, Group and Mains Pickoffs

To configure Groups, Auxes, and Mains pickoffs for the Matrix and PQ mixers:

1 Enable Config mode.

⚠ *Configuring pickoff points may cause a momentary loss of audio, and therefore cannot be changed in Show mode.*

2 Go to the Options page and click the Pickoffs tab.

3 Under Matrix and PQ Sources, configure Aux, Groups and Mains (LCR or LR+M) as pre- or post-fader.

Configuring User Inputs

You can assign up to eight User Inputs to be available globally to the Matrix mixers and, separately, up to eight User Inputs to be available globally to the PQ mixers.

Any of the eight User Inputs defined for the Matrix or for the PQ can be assigned to any mixer input (Matrix or PQ, respectively).

User Inputs are assigned for the Matrix and PQ mixers from the User Assign panel of the Matrix or PQ main page.
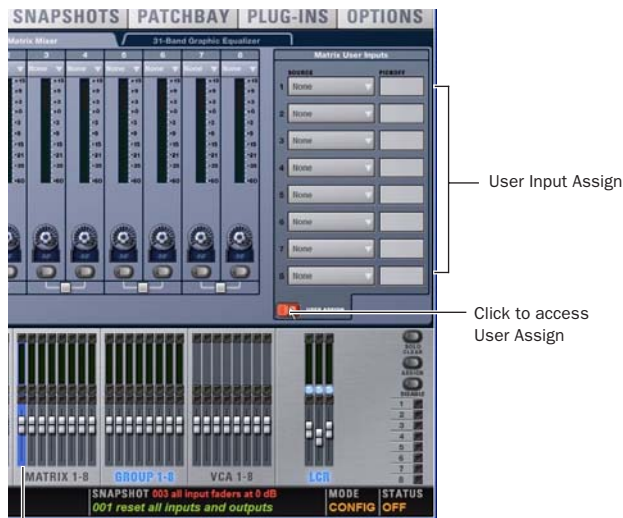
User Input panel showing assignments for a Matrix mixer

To configure the User Inputs for a Matrix or PQ mixer:

1 Go to the Outputs page and click a Matrix or PQ mixer to navigate to that mixer page.

2 Click the User Assign button to display the User Assign panel.

3 For any of the eight available User Inputs, click the on-screen Source pop-up menu and select an available source. Choices include Channels, FX Returns, Stage 1, Stage 2, FOH Rack and Pro Tools Record/Playback options.

4 For any assigned User Inputs, click the Pickoff pop-up menu and choose the desired pickoff for that User Input source. Choices include Top of Channel, Insert Return, and Pre/Post-Fader (for Input Channels) or Top of FX Return and Pre/Post-Fader (for FX Returns). The Input Channel Fader Pickoff setting on the Options > Pickoffs page determines globally whether the fader pickoff points are pre- or post-fader.

5 Click the User Assign button again to return to the main Matrix or PQ screen.

⚠️ *User Inputs are stored separately for Matrix and PQ mixers. Changing any one of the User Inputs affects any other Matrix mix, or PQ mix, but not both types.*

Assigning Input Sources

To assign input sources to a Matrix or PQ mixer:

1 Go to the Outputs page and click to select a Matrix or PQ mixer.

2 Click the Input Source selector at the top of each Matrix or PQ channel and select the desired input source. Choices include Auxes, Groups, Mains and any of the 8 available User Inputs.
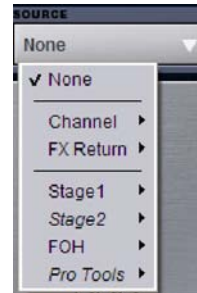
Choosing an Input Source for a mixer

💡 *To use Input or FX Return channels in a Matrix or PQ mixer, assign them as User Inputs, then assign those User Inputs as input sources. For more information, see "Configuring User Inputs" on page 95*

Assigning Sources to Multiple Mixers

You can select multiple Matrix and/or PQ mixers simultaneously and assign sources to all selected mixers at the same time.

- Common sources (all except User Inputs) can be applied across selections that include both Matrix and PQ mixers simultaneously.
- User Inputs can be applied across selections that include both matrix and PQ mixers. In this case, be sure the User Input assignments (1–8) are the same for both Matrix and PQ User Sends.

To assign input sources to more than one Matrix mixer, or more than one PQ mixer at a time:

1 Go to the Outputs page and use Multi-Select (or the Shift key) to select two or more Matrix mixers, or two or more PQ mixers in the fader display at the bottom of the screen.

2 Click the Source selector at the top of a mixer channel (1–8, Left, Right, C/Mono, or User) and select the desired source.

Adjusting Matrix Mixer and PQ Mixer Input Controls

Matrix and PQ Mixer Input Levels

The levels for the first eight input sources (or "sends") of a Matrix or PQ mixer are controlled by the Output Encoders.

The eight Output Encoders on D-Show Profile control the input levels of the currently selected Matrix mixer or PQ mixer input sources. The Prev Page and Next Page switches bank the Output Encoders between inputs 1–8, and inputs 9–12 (Left, Right, C/Mono and User).

Press to access Matrix
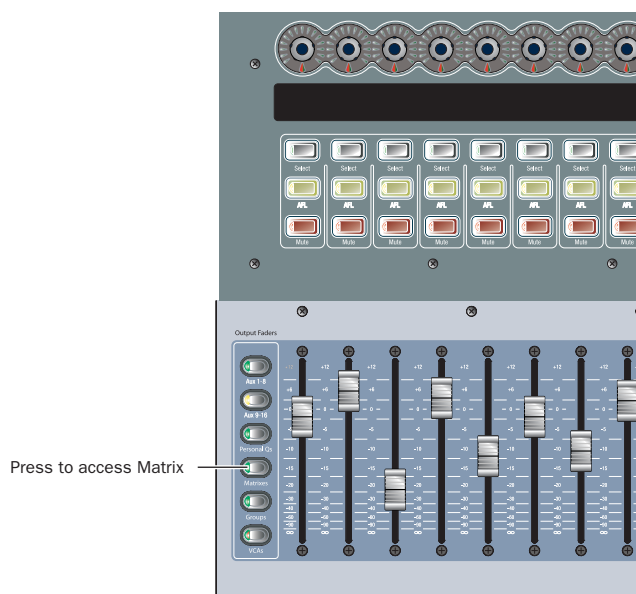
Matrix and PQ controls on D-Show Profile

To control mixer input source ("send") levels on D-Show Profile:

1 Press the Matrixes switch or the Personal Qs switch in the Output Fader assignment controls to bank Matrix or PQ mixers to the Output Masters section.

2 Press a Select switch for a Matrix or PQ to select that mixer and view its inputs. Input parameters are shown on the top row of the Output LCD. Input source levels are controlled by the encoders, and output levels are controlled by the faders.

3 Press the encoder to turn that mixer input source on or off.

4 Turn the Output encoders 1–8 to set the level for the first eight input sources assigned to the currently banked Matrix or PQ mixer.

5 To adjust source inputs 9–12, press the Next Page switch to bank those sources to Output Encoders 5–8. To return to sources 1–8, press the Prev Page switch.

PQ Mixer Input Pan

The PQ mixer input (or "send") pan controls adjust the panning of each PQ mixer input across the stereo outputs of the PQ mixer. (Matrix mixers have mono outputs, so they do not have pan controls.)

To control PQ send pan on D-Show Profile:

1 Press the Personal Qs switch in the Output fader assign section.

2 Press an Output channel Select switch to select a PQ mix.

3 Press the Pan switch located below the Prev Page and Next Page switches.

4 Adjust the Output Encoder 1–8 to adjust pan on PQ inputs 1–8. To access inputs 9–12 for the current PQ mixer, press the Next Page switch.

1 Do one of the following to select input channels:
- Target the channel you want to send to an Aux bus by pressing its Select switch.

  – or –
- Hold the Multi Select switch, then press the Select switches on each of the channels you want to send to an Aux bus.

Linking and Unlinking Adjacent Matrix and PQ Inputs

Adjacent inputs to Matrix and PQ mixers can be linked or unlinked on a per input pair basis. Link status can be specified on a per PQ or Matrix basis (for example, inputs 1 and 2 can be linked for PQ 1, but unlinked for PQ 2). This gives you the ability to control inputs as either a stereo-linked pair or as independent mono inputs.

◆ When linked, level and source on/off controls are linked.

◆ When unlinked, discrete level and on/off controls affect each individual channel.

Stereo inputs (such as stereo groups, Mains LR, and stereo-linked auxes) are linked by default, such as after a Clear Console operation. Adjacent inputs can be linked or unlinked at any time, in Config or Show mode.

To link or unlink inputs to Matrix or PQ mixers:

1 Go to the Outputs page, and click to display the Matrix or PQ mixer.

2 Click the checkboxes below any adjacent inputs to link or unlink them. A check mark in the checkbox indicates a linked input source; an empty checkbox indicates unlinked sources.
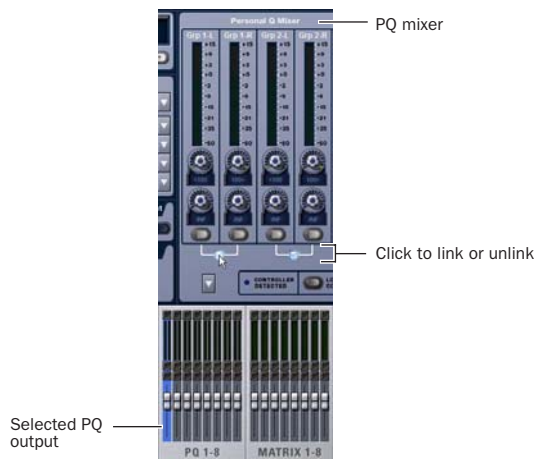
Link controls in the PQ page

Relinking and Offsets

When inputs are relinked, their level and on/off state will change as follows:

Level Each channel maintains any offset between the two channels. This offset is not maintained if both linked controls are adjusted beyond their maximum or minimum.

On/Off Each channel maintains its discrete on/off state at the time the sources are relinked. For example, if one channel is on and the other is off the stereo input will maintain these settings after relinking, thus providing a stereo source with one channel on, and the other off. Toggling one channel from Off to On results in both channels switching On; toggling one of the linked channels from On to Off results in both channels switching Off.

Resetting Matrix Mixer and PQ Mixer Input Controls

You can reset level, pan and stereo link settings for any matrix or PQ mixer. Input source assignments persist.

To reset a Matrix mixer or PQ mixer parameter to its default value:

1 Select one or more Matrix or PQ mixers you want to change.

2 Right-click the encoder on-screen and choose Reset.

To reset all Matrix mixer or PQ mixer parameters to their default values:

1 Select one or more Matrix or PQ mixers you want to change.

2 Click the pop-up menu at the bottom of the mixer area and choose Reset Mix.

Resetting a mix by right-clicking

Clearing Matrix Mixer and PQ Mixer Settings

You can clear mixer input assignments to quickly set all the input sources to None.

To clear Matrix or PQ mixer input assignments:

1 Select one or more Matrix mixers or PQ mixers you want to clear.

2 Click the pop-up menu at the bottom of the mixer area and choose Clear Mix Sources.

Copying Matrix Mixer and PQ Mixer Input Settings

You can copy mixer settings from one Matrix mixer or PQ mixer to another mixer of the same type. This lets you quickly duplicate monitor mixes or other signal feeds.

⚠ *Copying mixer settings overwrites all the settings on the destination mixer.*

To copy settings between mixers:

1 Select the Matrix mixer or PQ mixer that you want to be the destination of the copied settings so that it is displayed on-screen.

2 Click the pop-up menu at the bottom of the mixer area, choose Replace With Mix and Mix Sources From, then choose the mixer whose settings you want to copy to the current mixer.

Adjusting Matrix Mixer and PQ Mixer Output Controls

Matrix and PQ Mixer Output Levels

Matrix and PQ mixer output levels are controlled by the Output faders.

To control mixer output levels:

1 Press the Matrixes switch or the Personal Qs switch to bank Matrix or PQ mixers to the Output Masters section.

2 Adjust the fader corresponding to the output level you want to change.

PQ Mixer Output Limiter

A limiter can be applied to the output of PQ mixers. PQ output limiter controls appear on-screen only. (Matrix mixers do not have output limiters.)

To use a limiter on the output of a PQ mixer:

1 Go to the Outputs page.

2 Select a PQ channel to display the mixer you want to configure.

3 Click the on-screen Limiter In button to engage the limiter.

4 Drag the on-screen Limiter knob to set the limiter threshold.

PQ Mixer Output Balance

PQ Mixers provide a balance control for controlling the balance of the mixer output signal across its stereo outputs. (Matrix mixers have mono outputs, so they do not have Balance controls.)

D-Show Profile does not provide a PQ mixer output balance control. Use the on-screen Balance encoder in the Outputs page of all PQ mixers instead.

To control PQ mixer output balance on D-Show Profile:

1 Target the PQ mixer output channel by pressing its Select switch in the Output Faders section.

2 Click and adjust the on-screen Balance encoder in the Outputs page for the targeted PQ mixer.

Matrix Mixer Output Delay

A variable delay (0–500 ms) can be applied to the output of Matrix mixers. (PQ mixers do not offer delay. A delay plug-in can be inserted on a PQ output if delay is needed.) For instructions, see "Output Delay" on page 74.

Delay Compensation with Matrix and PQ Mixers

D-Show automatically compensates for the delay offsets that can arise when combining different signal paths within a Matrix or PQ mixer.

Additional Information about Delay Compensation

- The overall latency through a Matrix or PQ mixer is determined by the path with the highest latency.
- All inputs within a Matrix or PQ mix are guaranteed to be phase accurate, but mixes are not necessarily aligned to each other. This ensures that all mixes are not penalized in the case of one or more exceptionally high-latency signal paths.
- Delay compensation only accounts for a channel's post-insert pickoff. Channels that feed User Inputs and Auxes (pre-insert) will not be fully compensated for.

Settings for Delay Compensation

The Options > Busses page provides three settings for Delay Compensation: Off, Mix Only, and Mix and Inserts.

Off No Delay Compensation is applied.

Mix Only D-Show automatically compensates for delays incurred by the use of Groups routed to the Mains busses.

Mix and Inserts D-Show automatically compensates for delays incurred by the use of plug-ins as well as those incurred by the use of Groups routed to the Mains busses.

Adjusting Other Matrix and PQ Output Controls

Matrix and PQ Output busses provide standard Output channel controls (Polarity, Solo and Mute), Direct Outs, inserts and built-in Graphic EQ capabilities.

Matrix and PQ Mixer Output Polarity, Solo and Mute See "Adjusting Output Controls" on page 74.

Matrix and PQ Mixer Direct Output See "Direct Outputs" on page 76.

Using Inserts on Matrix and PQ Mixer Outputs For more information, see "Using Inserts on Output Busses" on page 72.

Inserting the Built-In Graphic EQ on Matrix and PQ Mixer Outputs See "Inserting the Built-In Graphic EQ on Output Busses" on page 73.

Working with a PQ Controller

When an optional Personal Q remote control system is connected to D-Show, it can be used to adjust the controls in the Personal Q mixers from a remote location.

For complete instructions on connecting and using PQ Controllers, refer to the *Personal Q Controller Guide*, included with the PQ Controller system.

Controller Detection

When a PQ Controller is detected, the Controller Detected indicator lights in the corresponding Personal Q mixer on-screen window.

PQ Controller Detected indicator in PQ mixer

Controller Lockout

Lockout From Console The PQ Controller can be locked out by clicking the on-screen Lockout From Console button in any of the PQ mixers. When this Lockout button is engaged, the PQ Controller cannot adjust PQ mixer controls. The performer using the PQ Controller cannot override this lockout from the controller.

Lockout From Controller Users can lock their PQ Controllers to prevent inadvertent changes to controller settings. When this is done, the on-screen Lockout From Controller indicator lights in the corresponding PQ mixer. This function does not lock out control of the PQ mixer from the console.

Calling the Console Operator from the PQ Controller

To call the console operator from a Personal Q Controller:

■ Press the Master Volume encoder knob.

A call message appears on the D-Show console display that identifies which PQ Controller is calling. The Call LED on the PQ Controller flashes until the message is cleared from the console display.

Snapshot Data and Parameters for Matrix and PQ Mixers

Snapshots can store and recall all source assignments (of each matrix and PQ mixer) when the Matrix ("Mtx") or PQ data types are scoped. In addition, all User Input assignments are stored, letting you reconfigure Matrix or PQ mixers and User Input assignments on a per snapshot basis, if desired.

The following table describes what can be stored and recalled in each snapshot when the MTX and PQ data types are scoped.

Table 12. Snapshot data types and parameters for Matrix and PQ mixers

Snapshot Data Type	Included Parameters (for Each Scoped Channel Strip)
MTX	Mixer Input Sources, User Input Assignments (global to all Matrixes), and pickoffs; Mixer Input level, Mixer Input on/off state and Mixer Input Link state
PQ	Mixer Input Sources, User Input Assignments (global to all PQs) and pickoffs; Mixer Input level, pan, and on/off state, Mixer Input Link state, Limiter threshold and Limiter in/out.

The Recall Safe tab of the Snapshots page provides two data "Mix" data types that let you discretely "safe" source and/or user input assignments to prevent them from being changed with a snapshot recall.

For complete information on D-Show snapshots, see Chapter 21, "Snapshots."

Chapter 12: Patchbay

Accessing the Patchbay

To show the Patchbay screen:

■ Press the Patchbay switch, located in the View Modes section, or click the Patchbay page name on-screen.

Jump to Patchbay from Inputs and Outputs Screens

The Inputs and Outputs screens provide a shortcut for accessing the Patchbay. By clicking on the channel routing indicator, the screen automatically jumps to the corresponding Patchbay screen (whether an input, output, or bus).

Jump to Patchbay
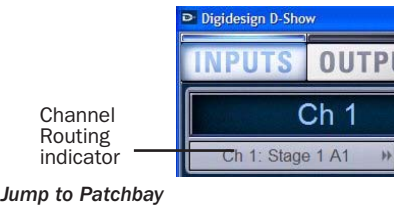
Overview of the Patchbay

The Patchbay screen lets you patch hardware I/O to D-Show input and output channels.
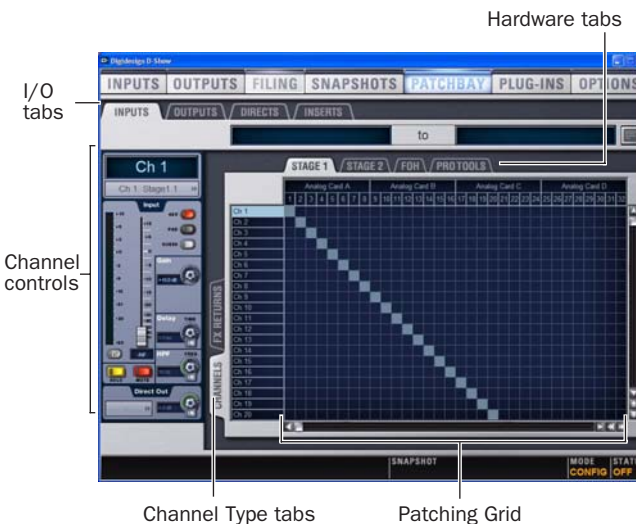
Patchbay page (Inputs tab shown)

The main tools and sections of the Patchbay screen are the following:

Tabs

The Patchbay is navigated using the following tabs.

I/O Tabs

Click to display and patch D-Show Inputs, Outputs, Directs, or Inserts. Other options in the Patchbay screen change to reflect the currently selected I/O tab.

Channel Type Tabs

Click these tabs to select specific types of D-Show Channels, as available for the currently selected I/O. The following table shows the available Channel Types for the current I/O.

I/O tab	Channel Types available
Inputs	Channels, FX Returns
Outputs	Groups, Auxes, Matrix, PQ, Mains
Directs	Channels, FX Returns, Outputs
Inserts	Channels, FX Returns, Outputs

Hardware Tabs

Click these tabs to display the hardware inputs and outputs available for the current I/O and Channel Type. These represent the physical inputs and outputs of the system.

Choices include Stage Rack 1, Stage Rack 2, FOH, and any Pro Tools recording/playback options, displaying available analog and digital inputs. Available hardware inputs and outputs are based on channel type selection, system configuration and hardware device status. See "Unavailable I/O" on page 102.

Patching Grid

The Patching Grid shows hardware I/O across the top, and D-Show channels down the left side for the currently selected I/O and Channel type. The grid squares represent patch points between hardware I/O and D-Show channels.

You can customize the routing of hardware I/O to D-Show channels by clicking and dragging in the corresponding squares in the grid. For complete patching instructions see "Routing Channels in the Patchbay" on page 104.

By default, inputs are routed in a 1-to-1 pattern to D-Show input channels resulting in Stage Rack inputs 1–48 appearing on D-Show Input Channels 1–24 (Bank A) and 25–48 (Bank B).

Channel Controls

These controls mirror the controls for the currently selected channel. For example, when showing Inputs, the Channel controls let you adjust Input Channel gain, polarity, phantom power, HPF, and basic level without leaving the Patchbay.

Channel Direct Outs

The channel area in the Patchbay provides access to all Direct Out controls.

To adjust Direct Output level from the Patchbay:

1 In the Inputs or Outputs page, select a channel.

2 Click the Direct Out routing selector to go to the Patchbay.

3 In the Patchbay channel controls, adjust the on-screen Direct Output encoder.

Adjusting Direct Output level from the Patchbay

Visual Indicators and Displays

The Patchbay uses the following visual display conventions in all its pages and tabs.

Unavailable I/O

The Patchbay displays hardware tabs for all possible configurations, even if your system does not include any expansion options.

The Patchbay indicates I/O that is offline or unavailable by graying out the columns beneath that device.
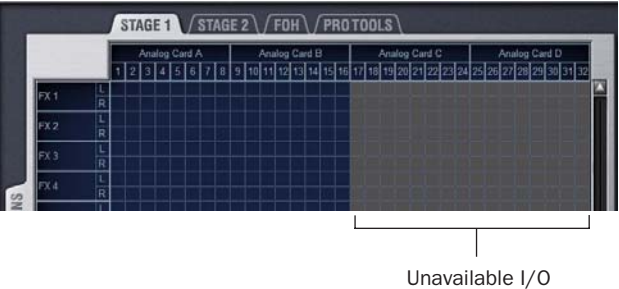
Unavailable I/O

Unavailable I/O (grayed columns)

Hardware I/O channels appear as unavailable whenever the required hardware is not present or offline. Hardware includes Stage Racks, FOH Racks, and audio cards installed in them. A hardware device is offline if it is not powered on, not communicating with the system, or it represents an expansion option that is not installed.

Even if hardware is unavailable, you can still assign routing from or to it in the Patchbay. Unavailable I/O appears *italicized* in all routing pop-up lists (such as the Inputs and Outputs screens).

Hardware I/O availability is saved with Show files, which store the status of hardware at the time of the last save performed at the system.

The D-Show Standalone software provides additional display options for hardware I/O (including unavailable I/O).

See Chapter 24, "Using the D-Show Standalone Software."

Assigned I/O

When a hardware I/O channel is assigned, its channel number is darkened in all Patchbay screens. This lets you see which hardware channels are in use without having to switch back and forth between Patchbay screens. You can also use the dimmed column number indicator to jump to the Patchbay tab for the existing assignment (for more information, see "Shortcut for Locating Assignments" on page 106).

Text Display of Patch Source and Destination

Above the grid tabs, there are "from" and "to" text display fields that display the full text names of hardware I/O and D-Show channels.

To view full names of a patch source and destination:

■ Place the cursor over a Channel Name. If the channel is already routed, its source and destination assignment appear directly above the Patching Grid, as shown below.
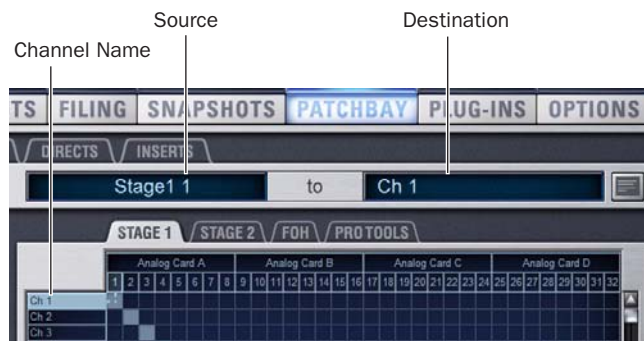
Channel source and destination display

An asterisk at the end of a destination name indicates a multiple output assignment. See "Multiple Input and Output Assignments in the Patchbay" on page 105.

Naming Channels from the Patchbay

Channel names can be changed from the Patchbay. Channel names can be up to 32 characters in length. When displayed on the control surface, names are abbreviated to fit the display.

To name or rename a channel from the Patchbay:

1 Double-click the channel name.

2 Type a new name and press Enter on the computer keyboard.

🞧 *When naming channels in the Patchbay, press Tab on the keyboard to go to the next channel and Shift+Tab to go to the previous channel.*

Type Text Search

Type Text search lets you use the keyboard for fast navigation to a channel. You can enter the first characters of a channel name or the absolute channel number to target that channel on the ACS.

To search for and select a channel:

1 Type the first few letters, full name, or channel number of the channel. For example, type "s" to go to the first channel beginning with the letter *s* (such as *Snare*).

2 Press the Tab key to cycle through and select any other channels beginning with that letter (such as *Snare Top*, *Snare Bottom*, or *Strings*).

🞧 *Avoid giving channels names that begin with numbers different from the absolute channel number. When you type a number, D-Show navigates to absolute channel numbers regardless of the channel name.*

Navigating the Patchbay

Navigating to Channel Types

The Patchbay uses multiple tabs to access different hardware I/O and channel types. For example, the Inputs screen provides Channels and FX Returns tabs for you to patch these different channel types independently.

To show Inputs:

■ Go to the Patchbay page and click the Inputs tab.

To show a specific type of Input:

■ In the Patchbay page, click the Channels tab, or the FX Returns tab. Shift-Click to select and show multiple types at once.

To show Outputs:

■ In the Patchbay page, click the Outputs tab.

To show a specific type of Output:

■ In the Patchbay, click an output Channel Type tab (Groups, Auxes, Matrix, PQ, or Mains).

Use these same techniques to access Directs (direct outs) and Inserts.

Navigating to Hardware Sources

To navigate to a different hardware source:

■ Click the appropriate Hardware tab across the top of the Patching Grid.

Scrolling in the Patchbay

To scroll through the channel list (vertically):

1 Move the cursor over a channel name at the left of the Patching Grid.

2 Press the Up or Down Arrow keys on the keyboard.

To scroll through the hardware I/O list (horizontally):

1 Move the cursor over a hardware I/O channel at the top of the Patching Grid.

2 Press the Left or Right Arrow keys on the keyboard.

To scroll the Patching Grid, do one of the following:

■ Click the up/down or left/right Patching Grid scroll arrows to move square by square.

■ Click the up or down Patching Grid double arrows to move screen by screen.

■ Right-click in the Patching Grid and drag in any direction.

Scrolling the Patching Grid by right-clicking and dragging

Routing Channels in the Patchbay

To route channels in the Patchbay:

1 Go to a patchbay page by clicking the appropriate I/O tab, Channel Type tab, and Hardware tab.

2 Place the cursor over the Patching Grid. The cursor changes to a crosshair, and lines extend above and to the left of the current cursor location to identify the column and row in which it is located.

3 Click in the row for the channel and in the column for the hardware I/O source. For example, to route Stage Rack analog input 4 to D-Show Input Channel 4, click in row 4, column 4 as shown below.

Routing a hardware input to an Input Channel

4 Click and drag vertically, horizontally, or at an angle to assign multiple patch points in a single action.

5 Repeat as needed.

Patchbay Click and Drag

You can quickly select a range of crosspoints in the Patchbay grid in one operation with a left-click and drag of the cursor. You can click and drag horizontally, vertically, and at 45 degree angles in any direction.

⚠ *You cannot undo changes to the Patchbay grid.*

To use click and drag in the Patchbay grid:

1 Left-click on the crosspoint defining the start of the range.

2 Continue to hold the left-click button, then drag horizontally (to populate a row), vertically (to populate a column), or horizontally and vertically (a 45 degree angle).

3 Release the left-click button when the destination crosspoint is reached. All crosspoints along the path are filled in.

The destination crosspoint sets the targeted channel. If the new assignments steal any previous assignments, a warning dialog will ask you to confirm or cancel the reassignment.

▣ *To suppress the reassignment warning dialog, hold Default (on the control surface) or Alt (on the computer keyboard) while clicking in the patch grid. For more information, see "Warning when Stealing Inputs or Outputs in the Patchbay" on page 106.*

Using the Arrow Keys to Route Channels

You can also use the Arrow keys instead of the trackball to assign routing.

To route channels using the Arrow Keys on the keyboard:

1 Place the cursor over the Patching Grid so that the cursor changes to the crosshair.

2 Press the Left or Right Arrow keys to move the crosshair to the next or previous hardware I/O column; press the Down or Up Arrow keys to move the cursor to the next or previous D-Show channel.

3 When the crosshair is over the correct square in the grid, press Enter to assign the patch.

Multiple Input and Output Assignments in the Patchbay

Input sources can be routed to multiple Input Channels in the Patchbay. In addition, Output busses can be routed to multiple hardware outputs.

Stage Rack inputs routed to multiple channels share a common preamp gain. Adjusting one channel's gain automatically adjusts all other channels. All other channel functions (such as EQ, dynamics, and panning) remain independent.

To route a hardware input source to multiple Input Channels or FX Returns:

1 Go to the appropriate Input display in the Patchbay.

2 Click in the Patching Grid to route the source to the first Input Channel or FX Return.

3 Click additional grid squares in the same column to route the source to additional channels. The selected hardware input is routed to each of the assigned Input Channels or FX Returns.

A hardware input routed to multiple Input Channels

To route a D-Show Output bus to multiple hardware outputs:

1 Go the appropriate Output display in the Patchbay.

2 Click in the Patching Grid to route the Output bus to the first hardware output.

3 Click additional grid squares in the same row to route the same Output bus to additional hardware outputs. The selected bus is routed to all the assigned hardware outputs. An asterisk (*) appears at the end of the displayed destination to indicate the multiple routing.
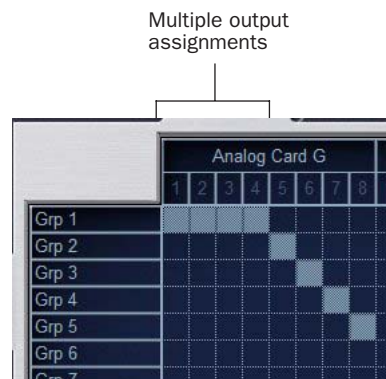
An Output bus routed to multiple hardware outputs

Direct Outputs and Routing in the Patchbay

A maximum of 32 Direct Outputs can be active at one time. You can specify the pickoff point for Direct Outputs directly from the Patchbay. For more information, see "Direct Outputs" on page 76.

Direct Output Pickoff Points

D-Show lets you specify the pickoff point from which Direct Outputs are sourced.

To specify a Direct Out pickoff point:

1 Navigate the Patchbay to the Outputs > Directs screen.

2 For each Direct Out, click in the Pickoff column located between the channel names and the Patching Grid, then choose a pickoff point.

Specifying the source for a Direct Out channel

Inserts and Routing in the Patchbay

Hardware inserts are available on all D-Show channels to incorporate external hardware processing. D-Show inserts can only be routed to and from the FOH Rack.

Inserts patching uses the same techniques as other Patchbay routing.

📖 *See Chapter 18, "Hardware Inserts."*

To use a hardware insert on a D-Show channel:

1 Connect the hardware device to D-Show FOH Rack Insert connectors.

2 In the Patchbay, route the channel to the FOH Rack I/O to which the hardware device is connected.

💡 *Input and Output routing can be stored and recalled using Snapshots. For more information, see Chapter 21, "Snapshots."*

Warning when Stealing Inputs or Outputs in the Patchbay

The Patchbay indicates hardware outputs that are already in use by dimming the column number for that physical output. In addition, a dialog is shown if the patch will steal a hardware input *or* output that is already in use, asking you to confirm or cancel the reassignment.

To confirm a reassignment, do one of the following:

■ Click Assign when prompted to confirm the reassignment.

– or –

■ Click again on the same patch point.

To cancel a reassignment:

■ Click Cancel to cancel the reassignment and leave the patchpoint unchanged.

– or –

■ Click any other point in the grid (the Patchbay grid remains active, even when the Confirm Assignment dialog is open on-screen).
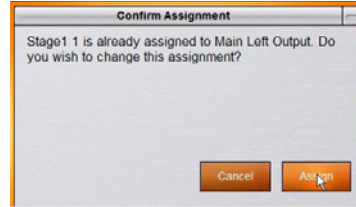
Warning when reassigning an output that is already in use

⌨ *To suppress the reassignment warning dialog, hold Default (on the control surface) or Alt (on the computer keyboard) while clicking in the patch grid to change the assignment.*

Shortcut for Locating Assignments

Before reassigning in the Patchbay, you may want to double-check the existing assignment to the desired hardware output. This can be done quickly from within the Patchbay, as follows:

To identify the bus or channels currently assigned to a hardware output:

■ Click on any dimmed (already assigned) column number at the top of the Patchbay. The Outputs tab containing the assignment is automatically revealed.

Column numbers to "go to" the current assignment

Chapter 13: Metering

D-Show provides signal metering on the control surface channels and meter bridge, and on-screen.

Channel Meters

Input and FX Return channels provide an input level meter, a compressor/limiter gain reduction meter, and indicator LEDs for EQ, stereo, and gate status.
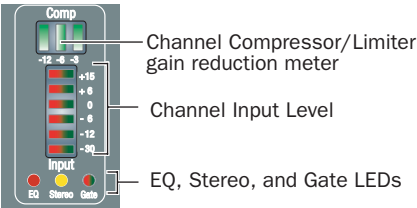
Channel Compressor/Limiter meter

All control surface channel meters have on-screen equivalents that appear in both the targeted channel controls and above the faders in the channel overview.

Meter ballistics and clip margin can be set for channel meters. For more information, see "Metering Options" on page 110.

Input Channels and FX Returns

Input Level Meters

Each Input Channel and FX Return channel strip has a 6-segment bi-color Input Level meter that shows input levels from bottom to top, according to the following scale:

LED	Level	Color
1 (top)	+15 dB	Yellow
2	+6 dB	Yellow
3	0 dB	Green
4	–6 dB	Green
5	–12 dB	Green
6 (bottom)	–30 dB	Green

Compressor/Limiter Gain Reduction Meter

The LEDs in the Compressor/Limiter meter show the amount of gain reduction being applied to the input channel by the built-in Compressor/limiter from right to left, according to the following scale:

Channel Compressor/Limiter gain reduction meter scale

LED	Gain Reduction	Color
none	0 dB	Off
1 (right)	<= 3 dB	Green
2	<= 6 dB	Green
3 (left)	<= 12 dB	Green

EQ Status LED

A single red LED indicates EQ In/Out status as shown in the following table.

Color	EQ Status
(none)	Not in circuit
Red	In circuit

Stereo Channel LED

A single yellow LED indicates a stereo input channel. The stereo channel LED flashes if a 12 dB or greater offset is detected between left and right inputs.

Color	Channel Status
(none)	Mono
Yellow	Stereo

Gate Status LED

A single bi-color LED shows the current Expander or Gate status, as shown in the following table.

Color	Expander Status	Gate Status
(none)	Not in circuit	Not in circuit
Green	3 dB gain reduction	Gate Open & Hold
Yellow	21 dB gain reduction	Gate Release
Red	> 21 dB gain reduction	Gate Closed

Bank Clip Indicators

The Clip LED at the top of Input Channel and FX Return channels lights when clipping occurs on a hidden fader bank. The channel position of the Clip indication corresponds to the position of the off-bank channel. The Clip LED flashes to indicate momentary clips, and lights solid for sustained clipping.

To locate the clipped channel:

■ Press the Bank switches until the Channel Input Level meters show clipping.

For more information on clip indication, see "Metering Options" on page 110.

ACS Input and Dynamics Meters

Selected Channel Level Meters

The Selected Channel meters in the ACS include two 10-segment bi-color level meters:
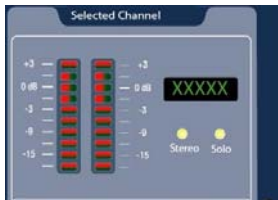
Selected Channel meters

These meters show mono or stereo levels on the selected channel. The dual, 10-segment, bi-color LED meters indicate input level for the currently targeted or Solo'ed channel.

Selected Channel Meter Scale

LED	Level	Color
1 (top)	+15 dB	Yellow
2	+9 dB	Yellow
3	+3 dB	Yellow
4	0 dB	Green
5	-3 dB	Green
6	-9 dB	Green
7	-15 dB	Green
8	-21 dB	Green
9	-30 dB	Green
10 (bottom)	-60 dB	Green

Selected Channel Gain Reduction Meters

The three dynamics gain reduction meters in the ACS section show gain reduction for the built-in Compressor/Limiter, the built-in Expander/Gate, and any applicable Dynamics plug-in on the selected channel.
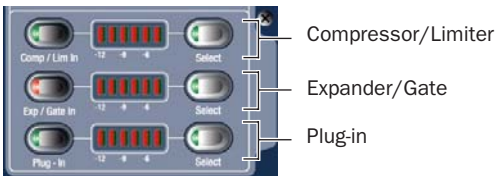
ACS dynamics gain reduction meters and controls

Compressor/Limiter and Plug-In Gain Reduction Meters

On the ACS Comp/Lim and Plug-In gain reduction meters, the 6 LEDs show dynamics gain reduction from right to left, according to the following scales

ACS gain reduction meter scale

LED	Gain Reduction	Color
(none)	0 dB	(none)
1 (right)	1.5 dB	Green
2	3 dB	Green
3	6 dB	Green
4	9 dB	Green
5	15 dB	Yellow
6 (left)	21 dB	Yellow

Expander/Gate Gain Reduction Meter

On the ACS Exp/Gate gain reduction meter, the 6 LEDs show dynamics gain reduction from right to left, according to the following scales

ACS gain reduction meter scale

LED	Gain Reduction	Color
(none)	0 dB	(none)
1 (right)	3 dB	Green
2	6 dB	Green
3	12 dB	Green
4	21 dB	Green
5	36 dB	Yellow
6 (left)	60 dB	Yellow

Meter Bridge

The D-Show Profile meter bridge includes Bus and Main Outputs meters.
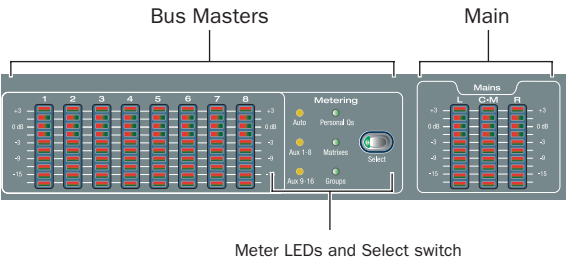
Meters, LEDs and controls in the meter bridge

All of the 10-segment meters in the meter bridge show levels according to the following scale:

Table 14. Meter bridge 10-segment meter scale

LED	Level
1 (top)	+15 dB
2	+9 dB
3	+3 dB
4	0 dB
5	–3 dB
6	–9 dB
7	–15 dB
8	–21 dB
9	–30 dB
10 (bottom)	–60 dB

Bus Output Meters

The eight output level meters in the meter bridge are assignable as a unit for metering of any of the following output types: Groups, Auxes, Matrixes, and Personal Qs.

The Bus Output meters can automatically follow the current Output fader bank assignment (indicating level for the currently selected Output bus), or be assigned to a bus output for persistent bus level indication.

Stereo Output Metering

With stereo Groups and Personal Qs (which are always stereo), the output level meters in the meter bridge show level for only the highest of the left and right channels.

To see level for both the left and right channels of a stereo output, refer to the on-screen meters, or target the channel on the ACS and use the Selected Channel Level Meters.

The 10 bi-color LEDs show input levels from bottom to top, according to the scale shown in Table 14 on page 109.

Selecting Output Meter Display

To select an output type for metering:

■ Press the Select switch in the meter bridge to cycle through available choices (Auto, Aux 1–8, Aux 9–16, Personal Qs, matrixes or Groups). The currently assigned bus is indicated by its Meter LED lighting.

To set metering to follow the Output faders:

■ Press the Meter Select switch repeatedly so that the Auto LED is lit.
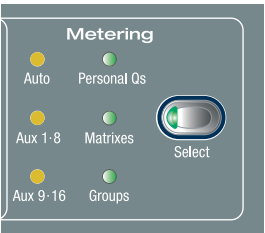
Bus output LEDs and Select switch

Main Output Meters

The three Main output meters in the meter bridge show output levels for the three Main outputs (either in L–C–R or in L–R+M format).
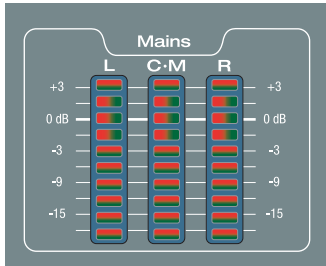
Main output level meters in the meter bridge

The 10 bi-color LEDs show input levels from bottom to top, according to the scale shown in Table 14 on page 109.

Metering on the Solo Bus

Metering Soloed Channels

Solo bus metering depends on the type of channel being soloed.

Single Channels

In PFL, AFL, or SIP modes, a single soloed channel is metered in the same way as if the channel were targeted on the ACS.

Multiple Channels

In PFL or AFL mode, when multiple channels are soloed, the left and right channels of the Solo bus are metered on the Selected Channel meters, pre-Solo Trim control.

In SIP mode, when multiple channels are soloed, the Left and Right Main bus meters are mirrored on the Selected Channel meters.

Dynamics Key Listen

When Key Listen is activated, the left and right channels of the Solo bus are metered on the Selected Channel meters, pre-Solo Trim control.

Solo Clip Indication

When the Selected Channel meters are showing levels of a single soloed channel, the clipping information on the meter bridge LEDs mirrors that on the channel itself.

When the Selected Channel meters in the meter bridge are showing Solo bus levels, the meter LEDs turn red to indicate clipping on the Solo bus.

Metering Options

Meter Display

The following display options can be configured for D-Show meters. These options affect all meters on the control surface, including input, output, and ACS meters, as well as all on-screen meters.

Metering options in the Interactions tab of the Options page

Meter Ballistics

Meters can be set to operate in the following modes:

RMS Mode (Default mode.) Meters follow the characteristics of a damped analog meter. In this mode, the meter response and decay is slower than in Peak mode, providing an average reading of the metered signal. A single LED shows the peak level for the designated Peak Hold Time.

Peak Mode Meters follow the characteristics of a standard peak meter. In this mode, the meter response is instantaneous, showing the true peak level of the metered signal.

Peak Hold Time

Peak Hold Time can be set within a range of 0–20 seconds.

To set the Peak Hold Time:

1 Go to the Options page and click the Interactions tab.

2 Under Meter, enter a value for the Peak Hold Time.

3 Press Enter on the keyboard.

Clipping Indication

D-Show meter clip indicators are proximity warnings that show when an input or output signal reaches or exceeds the configured Clip Margin.

Clipping is indicated by all of a meter's LED segments turning red. The LEDs stay red for the designated Clip Hold Time.

Clipping can occur at several points throughout the signal chain. A clip at any one of these points is indicated on the meter. For more information on the location of D-Show clip detect points, refer to Chapter 26, "Signal Flow Diagrams."

Clip Margin

The Clip Margin setting lets you configure the amount of headroom you want before clipping indication begins. Clip Margin is expressed as *dB below maximum* (where maximum is a peak level of +20 dBVU).

Clip Margin can be set within a range of 0 dB to 30 dB below maximum, and is configured separately for inputs and outputs.

To set the Clip Margin:

1 Go to the Options page and click the Interaction tab.

2 Under Meter, enter values for Input Clip Margin and Output Clip Margin.

3 Press Enter to confirm the setting.

Clip Hold Time

The Clip Hold Time determines how long a clip indication lasts after the last clipped signal. Clip Hold Time can be set within a range of 0–20 seconds.

To set the Clip Hold Time:

1 Go to the Options page and click the Interaction tab.

2 Under Meter, enter a value for the Clip Hold Time.

3 Press Enter to confirm the setting.

Chapter 14: Solo and Monitor Busses

Solo Bus Modes

D-Show offers three modes for soloing channels in the system: Pre-Fader Listen (PFL), After-Fader Listen (AFL) and Solo In Place (SIP).

◆ In AFL or PFL mode, soloing only affects what you hear on the dedicated stereo AFL/PFL Solo bus, which feeds the Monitor Bus.

◆ In Solo In Place mode, soloing only affects what you hear in the Main busses.

Pre-Fader Listen (PFL)

PFL Solo mode sends the signal from explicitly soloed Input Channels and FX Returns to the AFL/PFL Solo bus. The signal is post-insert, pre-fader and pre-mute.

Mono input signals are sent to both sides of the Solo bus, and the left and right sides of stereo input signals are sent to the corresponding sides of the Solo bus.

PFL is the default Solo mode.

After-Fader Listen (AFL)

AFL Solo mode sends the signal from explicitly soloed channels and solo-safe inputs to the AFL/PFL Solo bus. Soloing of output busses is always AFL.

In AFL Solo mode, both input and output signals are sent to the Solo bus post-fader and post-pan/balance, and are always panned to stereo even if the Main busses are configured in L–C–R mode.

Monitoring Aux busses and Variable Group busses with AFL

Linked Aux busses and Variable Group busses use true stereo AFL. When you solo a linked Aux bus, the two busses are heard as a stereo pair on the Solo bus.

Mono Aux busses and Variable Group busses are heard as dual mono on the Solo bus.

Option for AFL to Bank Auxes

You can set D-Show to automatically display Aux or Variable Group send controls on the Input Channel Encoders when the corresponding Aux or Variable Group output bus is soloed. See "Auxes/Variable Groups Follow AFL" on page 112.

Solo In Place (SIP)

SIP Solo mode applies to Input Channels and FX Returns only. Solo In Place sends the signal from the soloed channel to the Main busses. No signal is sent to the Solo busses. Signal is sent post-pan/balance.

⚠ *In SIP Solo mode, audio is sent directly to the Main busses. Use this feature with caution.*

To enter Solo In Place mode:

■ Press and hold the Solo in Place switch for 2 seconds. The SIP switch lights to indicate SIP mode is active.

To exit Solo in Place mode:

■ Press the Solo in Place or Cancel switch to exit SIP mode.

Selecting a Solo Mode

The Solo mode can be selected from the Solo/PFL section or on-screen.

To select the Solo mode from the Solo/PFL section, do one of the following:

• Press the Stereo AFL switch to enter AFL Solo mode.

• Press and hold the Solo In Place switch for at least 2 seconds to enter SIP mode.

• Press a lit Solo mode switch to turn it off. When no switch is lit in the Solo/PFL section, the system is in PFL mode.
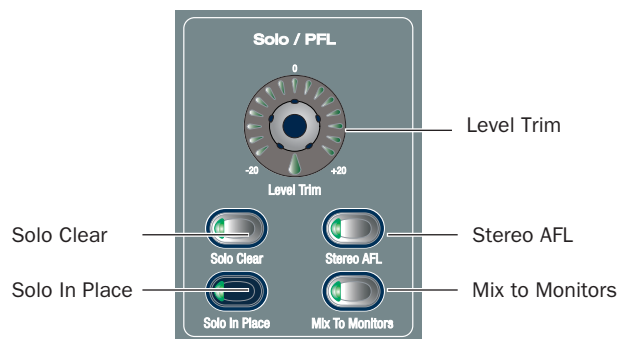
Solo bus controls

To select the Solo mode on-screen:

1 Go to the Options page and click the Busses tab.

2 Under Solo and Monitor Operations, select the Solo mode.

Solo and Monitor Operations options

Solo States and Modes when Loading Shows

Channel Solo States

When you load a Show file, all solos are cleared. Solo states are not saved with Show files.

Solo Mode

Show files do not open in SIP mode. If you save a Show file while in SIP, when you reopen the Show file, it will open in AFL Solo mode.

Solo Operation Options

Momentary or Latching Switch Operation

Channel solo switches can operate with either momentary or latching behavior.

To engage momentary solo on a channel:

■ Hold the solo switch for more than one second. Release the solo switch to unsolo the channel.

To latch solo on a channel:

■ Press and release the solo switch. Press the switch a second time to unsolo the channel.

Auxes/Variable Groups Follow AFL

The "Auxes/Variable Groups Follow AFL" option is especially useful for monitor mixing, because it provides instant access to any mix by the soloing the mix output (in AFL mode).

When this option is selected, soloing an Aux output bus or Variable Group output bus (by pressing its AFL switch) assigns the Send level and pan controls for that bus to be displayed on the Input Channel Encoder rows.

◆ Soloing a Variable Group bus automatically toggles display of Variable Groups on the Input Encoders.

◆ With mono Aux or Variable Group busses, Send level is assigned to the Input Encoders.

◆ With stereo (linked) Aux or Variable Group busses, Send level is assigned to the encoders. When Flip to Faders is pressed, send level is flipped to the faders and send pan for the Aux (even numbered send) is automatically mapped to the input encoders. The pan button flashes while this mode is enabled.

If the encoders were already flipped to the faders, flipped status is maintained when an Aux or Variable Group bus is soloed.

To set Auxes and Variable Groups to display send controls when soloed:

1 Go to the Options page and click the Busses tab.

2 Under Solo and Monitor Operation, select the "Auxes Follow AFL" or "Auxes/Variable Groups Follow AFL" option.

3 Solo an Aux or Variable Group output bus by pressing its AFL switch.

To cancel display of Aux and Variable Group send controls:

■ Unsolo the Aux or Variable Group output bus. The Input Encoder rows return to the previous display.

– or –

■ Select any other parameter for the Input Channel encoders to override the Aux follows AFL display. The encoders display the selected parameter until another output is soloed.

Auto Cancel and Input Priority

The Auto Cancel option determines whether Solo switches cancel other soloed channels or are additive (latching). The Input Priority option determines whether soloed inputs replaced soloed outputs on the AFL/PFL Solo bus.

To set Solo switch operation:

1 Go to the Options page and click the Busses tab.

2 Under Solo and Monitor Operation, select the options in any of the following combinations:

Auto Cancel On, Input Priority Off A solo cancels all other solos (inputs and outputs)

Auto Cancel On, Input Priority On An input solo cancels all other soloed inputs; an output solo cancels all other output solos; soloed inputs temporarily replace soloed outputs

Auto Cancel Off, Input Priority Off Solos are additive, and soloed inputs and outputs are heard together

Auto Cancel Off, Input Priority On Solos are additive, and soloed inputs temporarily replace soloed outputs.

Solo Bus Operation

Soloing Channels

Solo operation depends on the type of channel being soloed, and on any selected Solo switch options. In all modes, a channel's solo switch lights to indicate that the channel is soloed.

Input Channels

Pressing a Solo switch on an Input Channel or FX Return sends signal to the Solo bus (when in PFL or AFL modes) or to the Main bus (when in SIP mode).

In SIP mode only, when a channel is soloed, all other channels that are not soloed or solo safe are implicitly muted. Implicit mutes are indicated by a flashing mute switch.

Output Busses

When the AFL switch in the Output section is pressed, signal is sent to the AFL/PFL Solo bus. This applies to Groups, Auxes, Matrixes, and Personal Qs. Outputs are always AFL.

Soloing Single Channels

To solo a single channel, do one of the following:

■ Press the channel's solo switch so it is lit. The solo switch latches on a momentary press.

– or –

■ Hold the channel solo switch for more than one second for momentary solo. The channel will automatically unsolo when you release the switch.

Soloing Multiple Channels

To solo multiple channels, do one of the following:

■ With the Auto Cancel option enabled, press the Solo switches on multiple channels simultaneously.

■ Hold Multi-Select (Shift) and press the Solo switches on one or more channels.

– or –

■ With the Auto Cancel option disabled, press Solo switches on multiple channels in any sequence. The Solo switches latch on.

Toggling the Solo Status of Multiple Channels

To toggle the Solo status of multiple channels, do one of the following:

■ With the Auto Cancel option enabled, hold the Multi Select switch while pressing the Solo switches on channels you want to toggle.

– or –

■ With the Auto Cancel option disabled, press Solo switches in any sequence. The Solo switches latch on and off.

Soloing VCAs

When you solo a VCA, its member channels are soloed. If the VCA members include a combination of input and output channels, their solo status follows any Solo switch options. See "Solo Operation Options" on page 112.

To solo the members of a VCA:

■ Press the Solo switch on the VCA channels whose members you want to solo so that the Solo switch is lit.

Clearing Solos

If any channel is soloed on the console, the Solo Clear switch in the Solo/PFL section flashes.
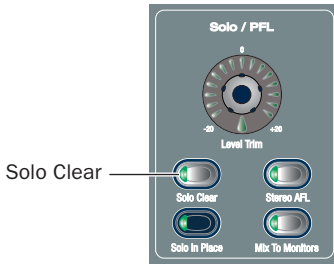
Solo Clear

To clear all solos on the console:

■ Press the flashing Solo Clear switch.

Solo Bus Metering

When a channel or dynamics key input is sent to the Solo bus, its signal is metered on the Selected Channel meters on the meter bridge, temporarily replacing the metering for any currently targeted channel.

For more information, see "Metering on the Solo Bus" on page 109.

Solo Safing Channels

Only Input Channels and FX Returns can be made solo safe. Solo safed channels are automatically added to any explicitly soloed channels.

Solo Safe only applies to SIP and AFL mode. Solo safe status is ignored in PFL mode.

To toggle the solo safe status of Input Channels and FX Returns, the Safe switches must be set to control the Solo Safe function.

To set Safe switches to control the Solo Safe function:

1 Go to the Options page and click the Interaction tab.

2 Under Input Safe Switches, select "Act as Solo Safes."

To toggle the solo safe status of a channel, do one of the following:

■ Select one or more channels, then press the Safe switch in the Selected Channel Input section.

– or –

■ Click the on-screen Solo Safe button for the channel.
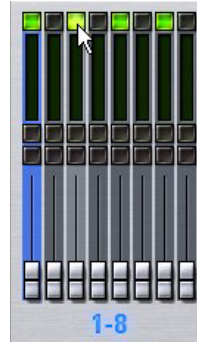
On-screen Solo Safe button

The Safe switch and button flash to indicate the channel is solo safe. When a channel is soloed because of its Solo Safe status, its Solo switch flashes.

Monitor Bus Operation

The Monitor bus outputs signal to both the near-field monitor output (on the FOH Rack) and headphone output (on the front of the D-Show console). The Monitor bus outputs can also be routed to D-Show hardware outputs and to bus-fed plug-ins.

Monitor Bus Switching

The following signals can feed the Monitor bus, listed below in order of priority: Key Listen, Solo bus, 2-Track return, COM input, and the Main mix.

Dynamics Key Listen

Pressing the Key Listen switch in the ACS section sends the key signal from the targeted channel's built-in dynamics processor to the Monitor bus.

Key Listen temporarily overrides the currently enabled Solo bus operation (PFL or AFL), and replaces any other signal on the Monitor bus with the mono key signal.

AFL/PFL Solo Bus

In AFL or PFL mode, signal from any soloed channels is sent to the Monitor bus. When any channel is soloed, the Solo bus overrides the 2-Track return if it is enabled, or the Main mix if it is currently being sent to the monitors.

2-Track Return

If 2-Track input is enabled, any signal from those inputs is sent to the Monitor bus. If Mix to Monitors is enabled, the 2-Track input overrides it so you can monitor the 2-Track return without having to disable Mix to Monitors.

Mix to Monitors

The Main mix (the signal present on the Main busses) can be sent to the Monitor bus.

Assignable Monitor Output

The Monitor bus can be routed to hardware outputs and to bus-fed plug-ins.

⚠ *These feeds are in addition to the existing, dedicated Monitor outputs on the FOH Rack, and are taken post-Monitor Speakers control and post-Monitor bus Delay.*

Hardware Outputs For routing to hardware outputs, the Monitor (Solo) bus outputs are available in the Mains tab of the Patchbay Outputs page. Monitor bus outputs are assignable to any number of physical outputs on the Stage Rack or FOH Rack in addition to the dedicated Monitor outputs on the FOH Rack. Use this capability to route monitor outputs to multiple cue stations (in-ear mix and wedge mix), or to an outboard analyzer.

Bus-Fed Plug-Ins For routing to bus-fed plug-ins, the Monitor bus appears as a choice in the plug-in routing selector. This lets you route the Monitor bus to a bus-fed stereo plug-in such as an onboard analyzer. Plug-ins can not be inserted on the Monitor bus.

Routing the Monitor Bus to Additional Outputs

To route the Monitor bus to additional outputs:

1 Go to the Outputs page and click the Mains tab.

2 Click in the grid to assign the Monitor output to the desired destination.

💡 *Solo In Place, when engaged, is simultaneously routed to the Mains and Monitor busses.*

Routing the Monitor Bus to Plug-Ins

To route Monitor output to a bus-fed plug-in:

1 Go to the Plug-Ins screen.

2 Make sure the desired stereo plug-in is installed and assigned to a rack slot.

3 Click the Plug-In Input selector at the top of the corresponding rack slot, and choose Bus Outs > Mains > Monitor - stereo.

Assigning monitor output to a bus-fed plug-in

Sending the Main Mix to the Monitor Bus

Monitor Output from an L-C-R Main Mix

The stereo Mix to Monitors signal is derived from the L–C–R Main mix by adding a –3 dB signal from the Center channel to the Left and Right monitor channels.

Monitor Output from an L–R+M Main Mix

In a L–R+M Main mix, only the Left and Right channels are heard in the Solo bus.

To send the Main mix to the monitors:

1 Do one of the following:
- Press the Mix to Monitors switch in the Mains section.

– or –
- Go to the Options > Busses tab and select the Mix to Monitors option.

2 Turn the Monitor Speakers knob or the Headphones knob to adjust the corresponding output level.

Adjusting Solo Bus Level

Solo bus monitoring levels are controlled by the Level Trim knob in the Solo/PFL section, and the on-screen Level Trim control. The trim amount is adjustable over a range of –20 dB to +20 dB.

To trim the Solo bus level:

1 Solo a channel or press a Key Listen switch.

2 Do one of the following:
- Turn the Level Trim knob to control the amount of signal sent to the Monitor bus.

– or –
- Go to the Options > Busses tab and adjust the Level Trim setting in the Solo and Monitor Operations section.

Adjusting Monitoring Level

Output levels for the near-field monitors and the headphones are controlled by the corresponding volume knobs in the Monitoring section.
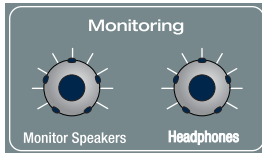
Monitoring controls

Adjusting Monitor Delay

You can apply an adjustable delay to the monitor outputs and headphone outputs to match the acoustic delay from the main speaker system.

To adjust monitor output delay:

1 Go to the Options > Busses tab.

2 Adjust the Delay setting in the Solo and Monitor Operations section. Be sure to click the In button beneath the on-screen encoder to enable Delay. When lit, the Delay setting is applied to the monitor output.

Talkback, 2-Track and Oscillator Controls

You can route D-Show Talkback microphone input, Intercom microphone input, or 2-Track source input to any Input Channel or FX Return from the Patchbay.

In addition, you can route Talkback microphone input, 2-Track source input and built-in Oscillator output directly to any output busses from the D-show control surface.

You can also route any Output bus or Direct Output to the 2-Track output on the FOH rack.

Talkback, 2-Track and Oscillator States When Loading Shows

When you load a Show file, Talkback, 2-Track and Oscillator are controls are set to off (deactivated), regardless of their state when the Show was last saved.

Using Talkback

The Talkback input on the top panel of the D-Show console can accept signal from any dynamic or condenser microphone.

Routing Talkback Microphone Input

To route Talkback microphone input to any D-Show Input Channel or FX Return:

1 Go to the Patchbay and click the Inputs tab.

2 To the left of the channel grid, click the Channels tab or the FX Returns tab.

3 At the top of the channel grid, click the FOH tab.

4 Click in the channel grid to assign the "Talk" input source (at the top right of the grid) to an Input Channel or FX Return (listed on the left).
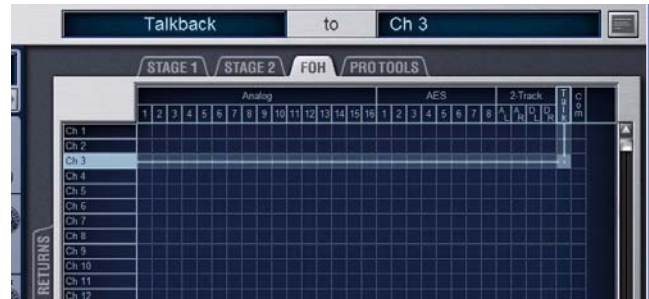
Routing Talkback input in the Patchbay

To route Talkback microphone input to any D-Show output bus:

1 Press the Talkback switch in the Talkback/Osc section so that it is lit.

2 Press the Route to Selected switch. The switch flashes to indicate Route to Selected mode.

3 Press the Select switch on each of the output busses (Auxes. Groups, PQs, Matrixes, or Mains) where you want to route Talkback signal. The Select switches flash to indicate Talkback assignment.

4 Press the flashing Route to Selected switch to confirm the assignment, or press the Cancel switch to cancel the assignment.
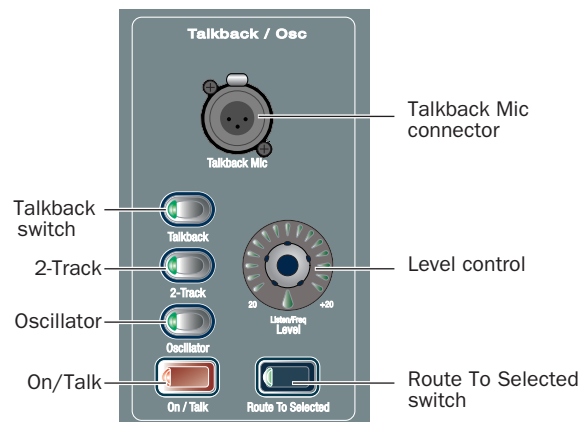
Talkback controls in the Talkback/Osc section

Activating Talkback Input and Setting Level

To activate and set the level for Talkback input:

1 Press the Talkback switch in the Talkback/Osc section so that it is lit.

2 Activate Talkback by doing one of the following:

- Press the On/Talk switch in the Talkback/Osc section.
- Click the on-screen "In" button in the Talkback section of the Options > Misc page.

3 Set the Talkback input level by doing one of the following:

- Turn the Level knob in the Talkback/Osc section.

– or –

- Drag the on-screen Level knob in the Talkback section of the Options > Misc page.
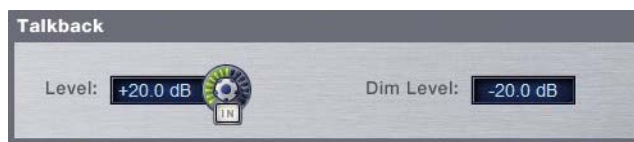
Talkback controls in the Options > Misc page

Talkback Switch Selectable between Momentary or Latching

Talkback response can be engaged to follow momentary or latching control. By default, the Talkback switch is momentary. You can change Talkback response between momentary and latching at any time.

To enable momentary Talkback:

■ Press and hold the Talkback switch. In this mode, Talkback is active only while the Talkback switch is held.

To latch Talkback On:

1 Double-press the Talkback switch.

2 To turn off Talkback, press the Talkback switch again.

💡 *You can also designate either footswitch for momentary or latched behavior, or program other triggers to affect Talkback using the new Event List features. For more information, see Chapter 22, "Events."*

Setting Talkback Dim Level

When a Talkback signal is sent to an Output bus, the gain on the corresponding bus is automatically reduced by the amount specified in the Dim Level setting.

To set the Talkback Dim Level:

1 Go to the Options page and click the Misc tab.

2 In the Talkback section, double-click the Dim Level text box and enter a Dim Level value in the range –60 dB (maximum gain reduction) to 0 dB (no gain reduction).

Setting Talkback Dim Level in the Options > Misc page

Using the Intercom ("Com")

The Intercom ("Com") input on the back panel of the FOH Rack can accept input from any compatible dynamic or condenser microphone.
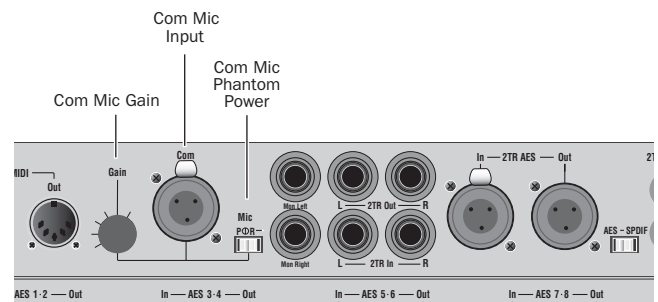
Intercom controls on the rear panel of the FOH Rack

When activated, the Intercom signal is mixed into the Monitor bus after the source selectors in the Solo/PFL selection, so is audible no matter what source (AFL/PFL, 2-Track, or Main Mix) is sent to the Monitor bus.

The Intercom signal can also be routed to any D-Show Input Channel or FX Return.

Routing Intercom Input

To route Intercom input to any Input Channel or FX Return:

1 Go to the Patchbay and click the Inputs tab.

2 To the left of the channel grid, click the Channels tab or the FX Returns tab.

3 At the top of the channel grid, click the FOH tab.

4 Click in the channel grid to assign the "Com" input source (at the top right of the grid) to an Input Channel or FX Return (listed on the left).

Routing Intercom input in the Patchbay

Activating Intercom Input

To activate the Com input so it is mixed with the Monitor bus:

1 Route the Intercom input as described in the previous section ("Routing Intercom Input" on page 117).

2 Press the Talkback button in the Talkback/Osc section and press the Level encoder to turn COM on/off (its LED ring lights).

Activating Phantom Power for Intercom Input

The "Com" input on the back panel of the FOH Rack has available 15V phantom power for using a condenser microphone.

To apply phantom power to the Intercom microphone:

■ On the back panel of the FOH Rack, move the Com Mic Phantom Power switch to the right.

To set the Intercom microphone input level:

■ On the back panel of the FOH Rack, turn the Com Mic Gain knob.

Using 2-Track Inputs and Outputs

Analog and Digital 2-Track Inputs and Outputs are available on the rear panel of the FOH Rack.

Routing 2-Track Input

To route the 2-Track inputs to any D-Show Input Channel or FX Return:

1 Go to the Patchbay and click the Inputs tab.

2 To the left of the channel grid, click the Channels tab or the FX Returns tab.

3 At the top of the channel grid, click the FOH tab.

4 Click in the channel grid to assign any of the following 2-Track input sources (listed at the top right of the grid) to an Input Channel or FX Return (listed on the left):

- AL (Analog Left)
- AR (Analog Right)
- DL (Digital Left)
- DR (Digital Right)

Routing 2-Track input in the Patchbay

To route the 2-Track inputs to any D-Show output bus:

1 Go to the Options page and click the Misc tab.

2 In the 2-Track section, select "Analog 2-Track" or "Digital 2-Track" to set the input source for the Output busses.

2-Track input source selector in the Options > Misc page

3 Press the 2-Track switch in the Talkback/Osc section so that it is lit.

4 Press the Route to Selected switch. The switch flashes to indicate Route to Selected mode.

5 Press the Select switch on each of the output channels (Auxes. Groups, PQs, Matrixes, or Mains) where you want to route 2-Track signal. The Select switches flash to indicate 2-Track assignment.

6 Press the flashing Route to Selected switch to confirm the assignment, or press the Cancel switch to cancel the assignment.
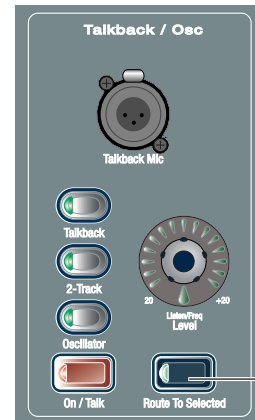
Route to Selected controls in the Talkback/Osc section

Activating 2-Track Input and Setting Level

To activate and set the general level for 2-Track Input:

1 Press the 2-Track switch in the Talkback/Osc section so that it is lit.

2 Activate 2-Track input by doing one of the following:
- Press the On/Talk switch in the Talkback/Osc section.

– or –
- Click the on-screen "In" button in the 2-Track section of the Options > Misc page.

3 Set the 2-Track input level by doing one of the following:
- Turn the Level knob in the Talkback/Osc section.

– or –
- Drag the on-screen Level knob in the 2-Track section of the Options > Misc page.

2-Track controls in the Options > Misc page

Routing 2-Track Output

You can route any output bus or Direct Output to the 2-Track output on the FOH rack.

⚠ *Signals are routed to output busses post-mute and post fader.*

To route any D-Show Output bus to the 2-Track outputs:

1 Go to the Patchbay and click the Outputs tab.

2 To the left of the channel grid, click the tab for an Output bus (Auxes, Groups, PQs, Matrixes, or Mains).

3 At the top of the channel grid, click the FOH tab.

4 Click in the channel grid to assign an Output bus (listed on the left) to any of the following 2-Track output sources (listed at the top right of the grid):
- AL (Analog Left)
- AR (Analog Right)
- DL (Digital Left)
- DR (Digital Right)

To route any D-Show Direct Output to the 2-Track outputs:

1 Go to the Patchbay and click the Directs tab.

2 To the left of the channel grid, click the tab for a channel source (Channels, FX Returns, or Outputs).

3 At the top of the channel grid, click the FOH tab.

4 Click in the channel grid to assign a channel source (listed on the left) to any of the following 2-Track output sources (listed at the top right of the grid):
- AL (Analog Left)
- AR (Analog Right)
- DL (Digital Left)
- DR (Digital Right)

Routing 2-Track output in the Patchbay

Previewing 2-Track Output on the Monitor Bus

You can route the 2-Track output signal directly to the Monitor bus. You do not have to have the "On/Talk" switch on for this routing to be active.

To preview 2-Track output on the Monitor bus:

■ In the Talkback/Osc section, press the Level encoder. The encoder's indicator LED lights when 2-Track routing is activated.

Routing Oscillator Output

The output of the D-Show internal oscillator can be routed to any of the output busses.

⚠ *Signals are routed to output busses post-mute and post fader.*

To route oscillator signal to any D-Show output bus:

1 Go to the Options page and click the Misc tab.

2 In the Oscillator section, select from the following signal types:

- 100 Hz Sine
- 1 kHz Sine
- 10 kHz Sine
- Variable Sine
- Pink Noise
- White Noise

3 If you select Variable Sine, you can set the sine wave frequency with the on-screen frequency control (directly to the right of the Variable Sine option).

Oscillator controls in the Options > Misc page

4 Press the Oscillator switch in the Talkback/Osc section so that it is lit.

5 Press the Route to Selected switch. The switch flashes to indicate Route to Selected mode.

6 Press the Select switch on each of the output busses (Auxes. Groups, PQs, Matrixes, or Mains) where you want to route Oscillator signal. The Select switches flash to indicate Oscillator assignment.

7 Press the flashing Route to Selected switch to confirm the assignment, or press the Cancel switch to cancel the assignment.

Activating the Oscillator and Setting Level

To activate and set the level for the oscillator:

1 Press the Oscillator switch in the Talkback/Osc section so that it is lit.

2 Activate the oscillator by doing one of the following:

- Press the On/Talk switch in the Talkback/Osc section.

– or –

- Click the on-screen "In" button in the Oscillator section of the Options > Misc page.

3 Set the oscillator level by doing one of the following:

- Turn the Level knob in the Talkback/Osc section.

– or –

- Drag the on-screen Level knob in the Oscillator section of the Options > Misc page.

Chapter 15: Muting and Mute Groups

Muting

Channels can be muted in three ways: explicitly (lit solid), with the channel mute switch; implicitly (flashing), as a result of another channel being soloed, and as a member of a Mute Group or VCA (flashing).

Mute switches always behave in additive (latched) fashion. Channels can be muted in any sequence, and they will remain muted until they are unmuted.

Muting Input Channels and FX Returns

Channel mute is pre-fader on Input Channels and FX Returns.

To control the mute status of an Input Channel or FX Return:

■ Press the Mute switch on the channel to toggle its mute status. The Mute switch lights solid to indicate the channel is explicitly muted.
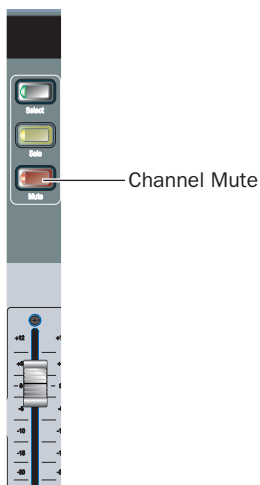
Channel Mute switch

Muting Output Busses

Mute operation is post-fader on all types of Output busses.

To control the mute status of an output bus:

1 Press one of the following switches in the Output assignment section to assign control of the corresponding busses:

- Aux 1–8
- Aux 9–16
- Personal Qs
- Matrixes
- Groups

2 Press a Mute switch in the assigned section to toggle the mute status of the corresponding output bus.

Muting VCAs

When you mute a VCA, its member channels are muted. The member channel Mute switches flash to indicate they are muted as part of a VCA.

To mute the members of a VCA:

■ Press the Mute switch on the VCA channel whose members you want to mute so that the Mute switch is lit.

Muting the Main Busses

The mute status of the Main busses is controlled from the Mute switch above the Mains Fader.

To control the mute status of the Main busses:

■ Press the Mute switch above the Mains fader.

Only the linked Mains busses are muted. The Mains Mute switch flashes to indicate not all Mains are muted. For information on linking Mains, see "Linking Mains" on page 75.

Flashing Mute Indication

A flashing Mute switch indicates the channel is implicitly muted as a result of a Solo or Mute Group activation.

Solo In Solo In Place mode, when a channel is soloed, all other channels that are not soloed or solo safe are implicitly muted.

Mute Group Members of a mute group are implicitly muted and flash when the mute group is active.

Mute Groups

D-Show lets you assign channels to any of 8 available Mute Groups. Mute Groups let you mute and unmute multiple channels simultaneously by pressing a single switch.

Any type of channel, including all Input Channels and all Output channels, except VCAs, can be assigned to Mute Groups.

Mute Groups only affect the status of channel Mute switches, and do not affect the on/off status of Aux Sends, output of the Talkback/Oscillator section, or the routing of signals to the monitor outputs.
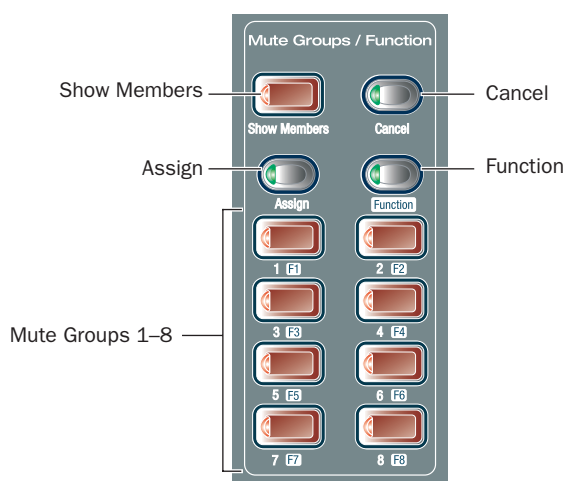
Mute Groups section

Defining Mute Groups

Mute Groups can be defined from the Mute Groups section on the control surface or from on-screen. Any mixture of channel types can be assigned to a Mute Group. Channels can be assigned to more than one Mute Group.

To assign channels or remove channels from a Mute Group:

1 Make sure the Mute Groups / Function section is in Mute Groups mode. If the Function switch is lit, press it so that it turns off (indicating Mute Groups mode).

2 Press the Assign switch in the Mute Groups section. The Assign switch flashes to indicate Assign mode.

3 Press the Mute Group switch (1–8) for the group where you want to assign or remove a channel. This switch flashes to indicate the group is targeted for assignment.

4 Press the Select switch for each channel you want to assign or remove from the Mute Group. The Select switches on the selected channels flash.

5 Do one of the following:
- To confirm the Mute Group definition, press the flashing Assign switch or the flashing Mute Group switch (1–8).

– or –

- To cancel the Mute Group definition, press the Cancel switch in the Function section.

Viewing Members of Mute Groups

You can view Mute Group members in Input Channels and FX Returns

To view the members of Mute Groups in the Inputs section:

■ Press the Show Members switch in the Mute Groups section.

The Bus Assign LEDs 1–8 at the top of each input channel strip flash in each channel to indicate membership in the corresponding Mute Group.

Activating Mute Groups

Mute Groups are activated from the Mute Groups section on the control surface or from the Mute Group controls on-screen (in the Inputs and Outputs pages).

To activate a Mute Group:

1 Make sure the Mute Groups / Function section is in Mute Groups mode. If the Function switch is lit, press it so that it turns off (indicating Mute Groups mode).

2 Press a Mute Groups switch 1–8 to mute the members of the corresponding group. The Mute switches of the Mute Group members flash to indicate they are implicitly muted.

To activate multiple Mute Groups:

■ Press any number of Mute Group switches 1–8 in any sequence. Mute Groups function in an additive fashion.

To deactivate a Mute Group:

■ Press a lit Mute Group switch.

Mute Groups and Explicit Mutes

After activating a Mute Group, the explicit mute status of individual channels can be toggled by pressing their Mute switches at any time.

Any channels that are explicitly muted (before or after a Mute Group is activated) will remain muted when the Mute Group is deactivated.

Disabling Mute Groups

You can temporarily disable all Mute Group functions. When Mute Groups are disabled, all channels implicitly muted as a result of Mute Group activation are unmuted.

Channels can still be explicitly muted when Mute Groups are disabled. Mute Group assignments are preserved and made available again when Mute Groups are re-enabled.

To disable Mute Groups:

1 Go to the Inputs or Outputs pages.

2 Click the Disable button on-screen in the Mute Groups section. The Disable switch flashes to indicated disabled state.

To re-enable Mute Groups:

■ Click the flashing Disable button in the Mute Groups section.
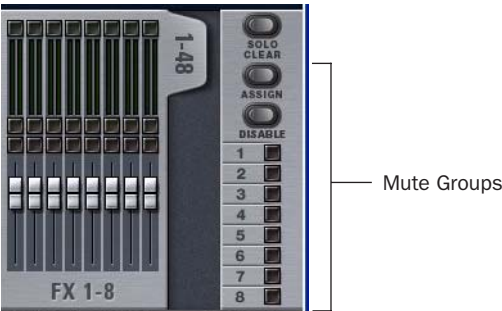
Mute Group A controls on-screen

Function Switches

D-Show Profile provides 8 Function switches (F keys).
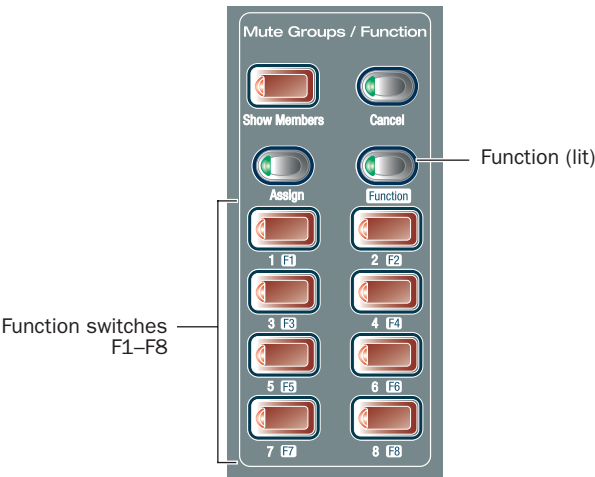
Function switches in the Mute Groups/Function section

By default, Function switches 1–4 are mapped to Preview mode, Variable Groups mode, channel copy and channel paste, respectively.

The function and behavior of each Function switch can be customized in the Event List. For more information, see Chapter 22, "Events."

To access the Function switches:

1 Press the Function switch in the Mute Groups section. When in Function mode, the Function switch LED lights.

2 To return to Mute Groups mode, press the Function switch again.

Part IV: Processing

Chapter 16: Dynamics

D-Show provides the following dynamics features:

- A built-in Compressor/Limiter and Expander/Gate is available on each Input Channel.

- Dynamics plug-ins can be used on input and output channels.

- All channels let you insert hardware dynamics processors.

- All built-in and most plug-in dynamic processors support side-chain keying with key filtering.

Built-In Dynamics

Each Input Channel provides a built-in Compressor/Limiter, and an Expander/Gate. Built-in dynamics are not limited by DSP resources, and can be configured as pre- or post the built-in EQ per channel. Built-in Comp/Lim Threshold can be adjusted from the input encoders. All other built-in dynamics parameters are adjusted using dedicated Dynamics controls in the ACS or on-screen.

Plug-Ins

Dynamics plug-ins can be used on input and output channels. When assigned in the plug-in racks, Dynamics plug-ins can be inserted on individual mono or stereo channels or fed by D-Show busses. Dynamics plug-ins can be adjusted using the dedicated Dynamics controls in the ACS, or from the on-screen Plug-Ins page. In addition, plug-in presets can be stored and loaded.

🔆 *The Dynamics controls in the ACS provide a unified, consistent set of controls for both built-in and plug-in dynamics processing.*

Hardware Inserts

D-Show lets you insert a hardware dynamics processor and control its routing and in/out state on-screen.

📖 *See Chapter 18, "Hardware Inserts."*

Built-In Compressor/Limiter

One built-in Compressor/Limiter is available on each Input Channel. The Compressor/Limiter defaults to compression, or can be switched to a limiter by setting the Ratio to its maximum setting. Mono and stereo processing are supported.

Compressor/Limiter Parameters

The Comp/Lim Threshold can be controlled by the assignable input encoders by pressing the Comp Thrsh switch. All other built-in Dynamics parameters are adjusted using the Dynamics controls of the ACS, or on-screen.

Threshold Increases or decreases the threshold level for the built-in Compressor/Limiter. Threshold can be adjusted using the encoders on the input channel strip, the ACS Threshold encoder, on-screen using the Comp/Lim Threshold encoder, or by dragging the Threshold handle in the on-screen Dynamics Graph display.

Ratio Increases or decreases the ratio for the built-in Compressor/Limiter. The most extreme clockwise setting (100:1) switches the process into Limiting mode. Ratio can be adjusted using the ACS Ratio encoder, the on-screen Comp/Lim Ratio encoder, or by dragging the Ratio handle in the on-screen Dynamics Graph display.

Attack Increases or decreases the attack time for the built-in Compressor/Limiter. Attack can be adjusted using the ACS Attack encoder or the on-screen Comp/Lim Attack encoder.

Comp Knee Increases or decreases the knee width for the built-in Compressor/Limiter. A knee value of 0 provides a hard knee setting; 100 provides a soft knee. Knee width can be adjusted using the ACS Comp Knee encoder or the on-screen Comp/Lim Knee encoder.

Release Increases or decreases the release time for the built-in Compressor/Limiter. Release can be adjusted using the ACS Release encoder or the on-screen Comp/Lim Release encoder.

Make-Up Gain Increases or decreases the make-up gain applied by the built-in Compressor/Limiter. Make-Up Gain can be adjusted using the ACS Comp Gain encoder or the on-screen Comp/Lim Gain encoder.

In/Out Takes the built-in Compressor/Limiter in or out of circuit (bypass). The Compressor/Limiter can be taken in or out of circuit using the ACS Comp/Lim In switch, by clicking the input encoder when Comp Thrs is enabled, or by clicking the Comp/Lim button on-screen.

Dyn In Takes the currently targeted dynamics processor in or out of circuit (this switch mirrors the In/Out switch found in each built-in dynamics processor as well as in dynamics plug-ins.

💡 *Dynamics plug-ins can be taken in/out of circuit from the the ACS Dyn In switch and software screen.*

Side-Chain Keying Provides side-chain and key listen. For details, see "Side-Chain Keys and Filters" on page 132.

Compressor/Limiter Gain Reduction Meters

Three-segment gain reduction meters for built-in Comp/Lim are located in each input fader strip. These provide constant display of gain reduction being applied on all currently banked Input Channels by the built-in Compressor/limiter from right to left, according to the following scale:

Channel Compressor/Limiter gain reduction meter scale

LED	Gain Reduction	Color
none	0 dB	Off
1 (right)	<= 3 dB	Green
2	<= 6 dB	Green
3 (left)	<= 12 dB	Green

Six-segment gain reduction meters are provided in the ACS for higher resolution metering of the currently selected channel or Dynamics plug-ins.

📖 *See Chapter 13, "Metering."*

Compressor/Limiter Defaults and Ranges

The following table lists the default values and ranges for the built-in Compressor/Limiter:

Comp/Lim (defaults to Compressor mode)

Parameter	Default	Minimum	Maximum
Threshold	0 dB	–40 dB	+20 dB
Attack	10 ms	100 us	200 ms
Release	100 ms	10 ms	4 sec
Ratio	2:1	1.25:1	100:1
Knee	0 (hard)	0	100
Makeup Gain	0 dB	–40 dB	+20 dB

Built-In Expander/Gate

One built-in Expander/Gate is available on each Input Channel. The Expander/Gate defaults to expansion, or can be switched to a gate by setting the Ratio to its maximum setting. Mono and stereo processing are supported.

Expander/Gate Parameters

The Exp/Gate Threshold can be controlled by the assignable input encoders by pressing the Gate Thrsh switch. All other built-in Dynamics parameters are adjusted using the Dynamics controls of the ACS, or on-screen.

The built-in Expander/Gate has the following parameters, adjustable from the ACS Dynamics section or on-screen:

Threshold Increases or decreases the threshold level for the built-in Expander/Gate. Threshold can be adjusted using the input encoders (in Gate Thrsh mode), the ACS Threshold encoder, on-screen using the Exp/Gate Threshold encoder, or by dragging the Threshold handle in the on-screen Dynamics Graph display.

Ratio Increases or decreases the ratio for the built-in Expander/Gate. The most extreme clockwise setting (100:1) switches the process into Gate mode. Ratio can be adjusted using the ACS Ratio encoder, the on-screen Exp/Gate Ratio encoder, or by dragging the Ratio handle in the on-screen Dynamics Graph display.

Attack Increases or decreases the attack time for the built-in Expander/Gate. Attack can be adjusted using the ACS Attack encoder or the on-screen Exp/Gate Attack encoder.

Gate Hold Increases or decreases the time the built-in gate holds. Gate hold can be adjusted using the ACS Comp Knee encoder or the on-screen Exp/Gate Hold encoder.

Release Increases or decreases the release time for the built-in Expander/Gate. Release can be adjusted using the ACS Release encoder or the on-screen Exp/Gate Release encoder.

Gate Range Increases or decreases the maximum range or depth of attenuation of the gate on that channel. Minimum gate depth is 0 dB. Gate Range can be adjusted using the ACS Gate Range encoder or the on-screen Exp/Gate Range encoder.

In/Out Takes the built-in Expander/Gate in or out of circuit (bypass). The Expander/Gate can be taken in or out of circuit using the ACS Exp/Gate In switch, by pressing the input encoder when Gate Thrs is enabled, or by clicking the Exp/Gate button on-screen.

Dyn In Takes the currently targeted dynamics processor in or out of circuit (this switch mirrors the In/Out switch found in each built-in dynamics processor as well as in dynamics plug-ins.

Side-Chain Keying The Expander/Gate supports side-chain and key listen. For details, see "Side-Chain Keys and Filters" on page 132.

Expander/Gate Gain Reduction Meters

A single bi-color Gate LED on each input channel indicates Exp/Gate activity, as shown in the following table.

Color	Expander Status	Gate Status
(none)	Not in circuit	Not in circuit
Green	3 dB gain reduction	Gate Open & Hold
Yellow	21 dB gain reduction	Gate Release
Red	> 21 dB gain reduction	Gate Closed

Six-segment gain reduction meters are provided in the ACS for metering of the Expander/Gate on the currently selected channel.

📖 *See Chapter 13, "Metering."*

Expander/Gate Defaults and Ranges

The following table lists the default values for the Expander/Gate:

Exp/Gate Defaults (defaults to Gate mode)

Parameter	Default	Minimum	Maximum
Threshold	0 dB	–60 dB	+20 dB
Attack	1 ms	20 us	500 ms
Release	250 ms	10 ms	4 sec
Ratio	100:1 (Gate mode)	1.25:1	100:1
Gate Hold	100 ms	10 ms	4 sec
Gate Range	–20 dB	–80 dB	0 dB

Channel Modes Affecting Dynamics

The following features affect operation of built-in Dynamics.

Dyn Pre EQ

By default, built-in Dynamics processing occurs before built-in EQ processing in the signal chain of Input Channels. This can be changed on a per-channel basis by toggling the channel's Dyn Pre EQ setting.

To toggle the Dyn Pre EQ setting of an Input Channel:

1 Target the Input Channel whose Dyn Pre EQ mode you want to change by pressing its Select switch.

2 In the Channel Config section, press the Dyn Pre EQ switch. When enabled, the Dyn Pre EQ switch LED lights.

Input Direct Mode

Input Direct mode lets you completely bypass the built-in dynamics and EQ processing, and all inserts on Input Channels and FX Returns. For more information, see "Using Input Direct" on page 65.

Adjusting Dynamics

D-Show provides Dynamics controls in input channel strips, the ACS, and on-screen.

Input Fader Strip Dynamics Controls

All Input fader strips provide Threshold level control for built-in Dynamics.

Compressor and Gate Threshold Assign for Encoders
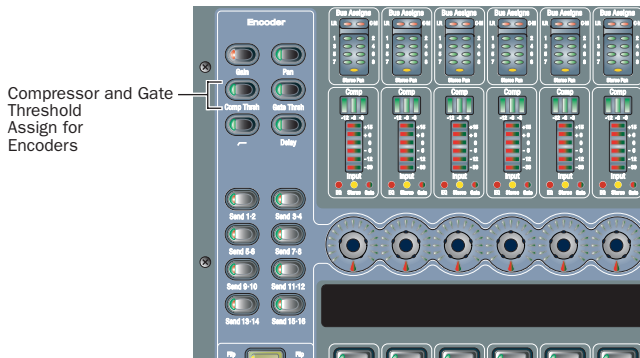
Input Encoder assignment switches for built-in Dynamics

To adjust Threshold from an input strip:

1 Press an Encoder Assign switch (Comp/Lim, or Exp/Gate).

2 Rotate a channel encoder to adjust Threshold.

ACS Dynamics Section

The Dynamics controls in the ACS provide a unified, consistent set of controls for both built-in and plug-in dynamics processing for the targeted channel. Its six dual-purpose rotary/switch encoders, three In/Out switches, three Select switches, and dedicated high-resolution gain reduction meters provide a familiar way to adjust and view any type of Dynamics parameters and their settings.

All D-Show-compatible Dynamics plug-ins map their controls to the appropriate ACS encoders and switches.
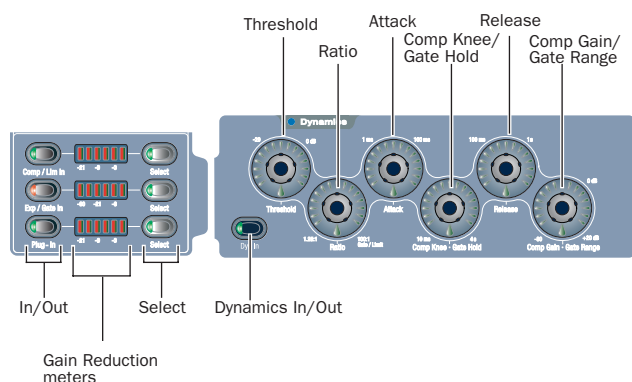
Dynamics section and controls

LED indication of Dynamics Processing

The LEDs beneath each Dynamics encoder light green when the Dynamics section is controlling Comp/Lim or plug-in dynamics parameters, and light red to indicate Exp/Gate mode.

To adjust Dynamics parameters from the ACS:

1 Target a channel by pressing its Select switch.

2 Press the Dynamics Select switch for the corresponding process:

- For the built-in Compressor/Limiter, press the Comp/Lim Select switch.
- For the built-in Expander/Gate, press the Exp/Gate Select switch.
- For a Dynamics plug-in, press the Plug-In Select switch.

**3** Adjust the appropriate Dynamics parameter.

To take the process in/out of circuit:

■ Press the appropriate In/Out switch in the ACS Dynamics section (Comp/Lim, Exp/Gate, or Plug-In).

– or –

• Press the Dyn In switch to in the ACS Dynamics section to toggle the currently targeted dynamics processor in or out.

Software Screen Dynamics Controls

The software screen lets you adjust built-in or plug-in dynamics on-screen, with simultaneous access to Comp/Lim and Exp/Gate parameters (including their side-chain settings).

The D-Show screen also provides the Dynamics Graph display. The Dynamics Graph displays a composite response of the compressor and gate that you can use to view and edit built-in Dynamics parameters.
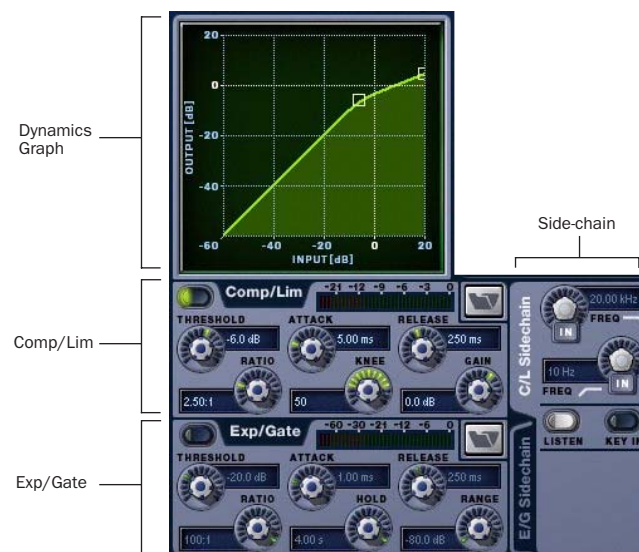
Dynamics controls in the software screen

To adjust Dynamics parameters on-screen:

1 Select a channel on-screen.

2 Adjust the on-screen controls as needed:
- For the built-in comp/lim or exp/gate, adjust the parameter on-screen.
- For plug-ins, click the Insert slot displaying the Dynamics plug-in to go to the Plug-Ins page.

See Chapter 19, "Plug-Ins."

To reset an on-screen Dynamics parameter to its default value, do one of the following:

■ Alt-click the control.

– or –

■ Right-click the control and choose Reset.

**To reset an entire Dynamics section to its default settings:**

■ Hold the Default switch while pressing the Comp/Lim or Exp/Gate Select switches in the ACS Dynamics section.

– or –

■ Right-click anywhere on the Compressor/Limiter or Expander/Gate sections (but not directly on an encoder or button) and choose Reset.

Using the Dynamics Graph Display

In addition to the on-screen encoders and buttons, you can adjust Dynamics parameters using the Dynamics Graph.

To adjust Dynamics parameters on-screen using the Graph display:

1 Select a channel on-screen.

2 Make sure the Compressor/Limiter or the Expander/Gate is in circuit, and targeted in the Dynamics Graph.

Drag to adjust
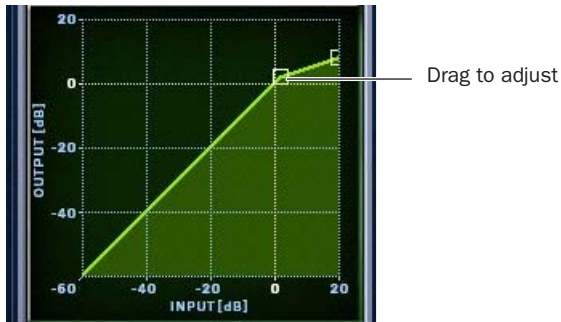
Dragging a handle in the Dynamics graph

☀ *If the channel EQ is currently the target of the Dynamics Graph, click anywhere in the on-screen Compressor/Limiter or Expander/Gate sections to change the display.*

3 Drag handles in the on-screen Dynamics Graph to adjust Threshold and Ratio.

☀ *The Dynamics Graph does not support Fine adjust mode using the Fine switch.*

Resetting (Default) and Fine Adjust for Dynamics Parameters

Dynamics parameters support D-Show Default and Fine Adjust modes using the control surface or the software screen.

📖 *See Chapter 4, "Basic Commands and Modes."*

Plug-In Mapping of Dynamics Controls

D-Show-compatible Dynamics plug-ins map their primary controls to the corresponding controls in the ACS. (Dynamics controls in Input strips can only control built-in dynamics processors.)

☀ *If more than one Dynamics plug-in is inserted on a channel, only the first Compressor/Limiter and the first Expander/Gate will map to the ACS. You can use the Output section in Insert mode to control any additional Dynamics plug-ins on the channel.*

To adjust a Dynamics plug-in from the control surface:

1 Target the channel with the plug-in by pressing the channel Select switch.

2 Press the plug-in Select switch (located next to the ACS gain reduction meters in the Dynamics section).

3 Adjust plug-in parameters by pressing or turning the corresponding ACS Dynamics encoders.

When a plug-in provides more parameters than can map to the dedicated dynamics encoders, you can use the Output encoders in Insert Mode, along with the Previous/Next switches, to control the additional parameters.

📖 *See Chapter 19, "Plug-Ins."*

Dynamics Settings and Presets

Built-in Dynamics settings can be copied and pasted between Input Channels. Settings can also be stored and loaded as D-Show Presets to archive and transfer settings.

Copying and Pasting Dynamics Settings

To copy and paste dynamics settings:

1 Right-click anywhere in the Comp/Lim or Exp/Gate areas of the on-screen Dynamics section and choose Copy Comp/Lim Settings, or Copy Exp/Gate Settings.

Copying dynamics settings

2 Go to the channel where you want to paste the settings.

3 Right-click in the Comp/Lim or Exp/Gate areas of the on-screen Dynamics section and choose Paste Comp/Lim Settings or Paste Exp/Gate Settings.

To copy and paste all of a channel's built-in Dynamics settings:

1 Right-click in the on-screen Dynamics Graph and choose Copy Dynamics Settings.

2 Select the Input Channel where you want to paste the settings.

3 Right-click in the on-screen Dynamics Graph of the new channel and choose Paste Dynamics Settings.

Presets for Built-In Dynamics

D-Show lets you store and load dynamics settings as presets for built-in and plug-in dynamics processors. Presets can be accessed from the control surface or on-screen.

To save or load a preset:

1 Adjust EQ settings on a channel (if saving a preset), or select an Input Channel or FX Return (to load a preset).

2 Click the EQ Presets icon on-screen. (The Presets icon is available in the Inputs screen Dynamics section.)

Presets Comp/Lim

Presets Exp/Gate

Built-in dynamics Presets buttons

3 If necessary, select the appropriate Presets folder by clicking and selecting it from the Folder selector.

Presets Folder selector
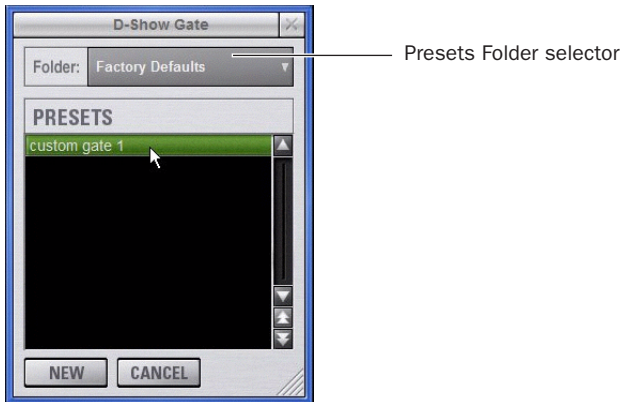
Previewing a preset in the Presets window

4 Do one of the following:
- To preview an existing preset, click its name in the Presets window.
- To load the currently selected preset, press Enter or click the Close box (X) in the Presets window title bar.
- To save the current dynamics settings as a new preset, click New and enter a name for the preset file.
- To cancel without changing settings, click Cancel.

Side-Chain Keys and Filters

The built-in Compressor/Limiter and Expander/Gate support side-chain triggering.

Key In/Out

The Key In switch toggles the key signal in or out of circuit for the built-in Compressor/Limiter or Expander/Gate.

To toggle the side-chain key signal in or out of circuit, do one of the following:

■ Click the Key In button in the side-chain controls of the on-screen Dynamics section.

When the Compressor/Limiter key is in, it uses its own source channel (Self) as the key source signal.

When the Expander/Gate key is in, it can be self-keyed or use any other available D-Show channel.

Key Assign

The on-screen Key Assign selectors lets you select the side-chain source for a gate (compressors are always keyed by the channel signal) and its pickoff. The Key Source selector is provided in the Expander/Gate controls.

Key Sources

The Compressor/Limiter is self-keyed. The Expander/Gate can be self-keyed or use any available input channel, FX return or hardware input as the key signal with a selectable source pick-off point.

You can use any of the following as the key source for the Expander/Gate:
- Self
- Any Input (Channel or FX Returns)
- Any hardware input or output
- You can also specify the pickoff source for the key signal for input and output channels.

To select the key signal for the Gate on-screen:

1 Go to the Input Channel.

2 Click the E/G Side-Chain tab in the Dynamics section to select the gate.

3 Click the Key Source selector and choose an available channel or bus.

Choosing a Key Source

To select a pickoff point for the key source signal:

■ Click the Source Pickoff selector and choose a pickoff source for the selected key signal:

Key Listen

The Key Listen button toggles the key onto the Main Solo bus, replacing the signal there. This happens regardless of whether the key is the channel signal or the external key, or whether it has been side-chain filtered.

Key Listen always overrides the Solo bus. If soloed channels are already on the Solo bus, they are suppressed until Key Listen is cleared. If additional channels are soloed while Key Listen is on, they will be added but suppressed.

The Key Listen solo is also exclusive to itself. If one is active and you press Key Listen on a different processor or channel, the first Key Listen is turned off and the new Key Listen takes over.

⚠ *Key Listen on a Dynamics plug-in does not route the signal to the solo bus, but to the plug-in output. Use caution when using the Key Listen with a plug-in dynamics processor.*

To engage Key Listen:

■ Click the Listen button in the on-screen Exp/Gate controls.

To disengage Key Listen:

■ Click Listen again. The Solo bus reverts to its previous signal (soloed channels, or none). You can also press Solo Clear once to turn off the any currently engaged Key Listen. Press Solo Clear a second time to clear channel solos, if any.
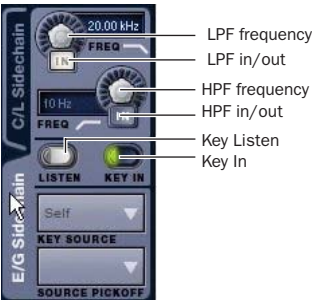
Side-Chain Filters

Both the Compressor/Limiter and the Expander/Gate side-chains provide two bands of EQ to band-limit the range of frequencies in the key signal.

To enable a side-chain EQ on-screen:

■ Click the LPF or HPF encoder.

To enable a side-chain filter on-screen:

■ Click the side-chain filter In buttons on-screen.

Side-Chain controls in the software screen (Expander/Gate shown)

To adjust a side-chain EQ:

■ Turn the HPF or LPF encoder to adjust the frequency (each filter ranges from 10 Hz to 20 kHz). On-screen, the LEDs around the encoder light, and the current frequency value is displayed on-screen.

Dynamics side-chain EQ defaults and ranges

Filter	Default	Minimum	Maximum
HPF	10 Hz, Off	10 Hz	20 kHz
LPF	20 kHz, Off	10 Hz	20 kHz

Side-Chain Limitations

Up to 32 side-chain Key signals can be routed from the following sources:

- Channel pre/post fader pickoff
- FX Return pre/post-fader pickoff
- Channel Insert return (when the channel does not have a hardware insert assigned).

There are no limits to the number of side-chain Key signals that can be routed from hardware inputs, Input Channel or FX Return top-of-channel pickoffs, or channel insert returns.

⚠ *Side-chain level may vary dramatically depending on where the Key signal is sourced. The top of channel pickoff can be as much as 18 dB louder than other pickoff points and sources.*

Chapter 17: EQ

D-Show provides the following EQ features:

- A built-in EQ is available on each Input Channel and FX Return.
- Graphic EQs are available for use on output channels.
- EQ plug-ins can be used on input and output channels.
- All channels let you insert hardware EQ processors.

Built-In EQ

D-Show provides different types of built-in EQ for Input Channels, FX Returns, and outputs.

Input Channels Each Input Channel provides a high-pass filter plus a built-in four-band parametric EQ. EQ can be set for digital or analog mode. In digital mode only, the four-band EQ provides selectable Bell/Shelf shapes for the Hi and Lo bands. Input Channel EQ can be configured as pre- or post-Dynamics on a per-channel basis.

FX Returns Each FX Return provides a built-in two-band EQ. FX Return EQ can be used in digital or analog mode; in digital mode, the bands can be individually configured for Bell or Shelf modes.

Output Busses Output busses can have a built-in Graphic EQ assigned to them.

EQ control for a stereo channel is linked to a single set of EQ controls. EQ settings are able to be stored and recalled through D-Show Snapshots and through D-Show presets.

Plug-Ins

EQ plug-ins can be used on input and output channels. When assigned in the plug-in racks, EQ plug-ins can be inserted on individual mono or stereo channels or fed by D-Show busses. EQ plug-ins can be adjusted using the dedicated EQ controls in the ACS, using the Output encoders (in Inserts mode), or from the on-screen Plug-Ins page. In addition, plug-in presets can be saved and loaded.

☼ *The EQ controls in the ACS provide a unified, consistent set of controls for both built-in and plug-in EQ processing.*

Hardware Inserts

D-Show lets you insert a hardware EQ processor and control its in/out state and insert position on-screen.

📖 *See Chapter 18, "Hardware Inserts."*

Built-In EQ Parameters

HPF

Each Input Channel provides a fourth-order high-pass filter (HPF) with adjustable corner frequency and in/out control. The input HPF defaults to 20 Hz, out-of-circuit.

You can adjust HPF frequency and in/out state from each input strip, from the ACS, or on-screen.

Input Parametric EQ

Input Channels and FX Returns provide built-in parametric EQ. Input Channels provide four bands: Hi, Hi-Mid, Lo-Mid, and Lo. FX Returns provide two bands: Hi, and Lo.

The following parameters are available in the built-in EQ, and can be adjusted using the EQ controls in the ACS.:

EQ In

EQ In toggles the built-in EQ processor (all bands) in or out of circuit on the selected channels. EQ In/Out can be controlled from the ACS or on-screen.

EQ Status LED

The (red) channel EQ In LED indicates EQ in/out status as shown in the following table.

Color	EQ Status
(none)	Not in circuit
Red	In circuit

Analog and Digital EQ Modes

The Analog/Digital button toggles the built-in parametric EQ between digital mode and analog mode, on a per-channel basis. Analog/digital mode switching is available on-screen.

Digital Mode A standard digital parametric EQ. Frequency range of 20 Hz to 20 kHz and gain range of 18 dB are available on all four bands. Digital Q is expressed in Q factor terms in the range 10 (left, a narrow band) to 0.1 (right, a wide band). Digital Mode is the default EQ mode.

Analog Mode An EQ with a response modeled on that of an analog console renowned for its EQ section. Frequency range is limited to match, and the outer bands provide shelving only. Analog Q is expressed in octaves of *bandwidth* in the range 0.1 (left, a tenth of an octave) to 2 (right, two octaves.)

The HPF does not change when the EQ is switched between Digital and Analog mode.

Gain, Frequency, and Q/Bandwidth

Each band of built-in parametric EQ provides the following parameters, as available on Input Channels or FX Returns:

Gain Boosts or cuts the corresponding band. The LEDs around the Gain encoder light from the center-point to the right (boost), or from the center-point to the left (cut) to illustrate current Gain.

Freq Sets the center or corner frequency for each band, as follows:

- Freq sets the center frequency for the Hi-Mid and Lo-Mid bands, and for the Hi and Lo filters when in Bell mode.
- Freq sets the corner frequency for the Hi and Lo filters when in Shelf mode. (See "Bell and Shelf Modes for Hi and Lo Filters" on page 136.)

Turning the encoder clockwise increases the frequency for that band; turning it counter-clockwise decreases the frequency. A single LED around the encoder illustrates the current encoder setting. The available range of each band depends on the EQ mode (Digital or Analog). See "Control Ranges for Built-In Parametric EQ (All Modes)" on page 142.

Q (Q/Bandwidth) Controls Q (in digital mode) or bandwidth (analog mode).

◆ In Digital mode, Q determines Q factor. When the Hi or Lo filters are in Shelf mode, the Q knob determines the Q of the shelf.

◆ In Analog mode, this control changes to a bandwidth control which performs essentially the same function.

Band In/Out Each of the available EQ bands can be taken in or out (bypassed) using the band In/Out control. In the ACS EQ section, the Gain knob for each band serves as the in/out control by pushing the encoder. The indicator LED lights to indicate band In. On-screen, a dedicated In/Out switch is located just below each Gain knob.

Bell and Shelf Modes for Hi and Lo Filters

In digital EQ mode, the Hi and Lo filters on Input Channels and FX Returns can be toggled between Bell and Shelf modes.

When in Bell mode, the Hi or Lo filters function as a parametric EQ with variable Q. When in Shelf mode, the Hi module is a high-shelf EQ, and the Lo module is a low-shelf EQ. For instructions on configuring these bands for Bell or Shelf mode, see "Adjusting EQ" on page 137.

Channel Modes Affecting EQ

The following features affect operation of built-in EQ.

Dyn Pre EQ

By default, built-in Dynamics processing occurs before built-in EQ processing in the signal chain of Input Channels. This can be changed on a per-channel basis by toggling the channel's Dyn Pre EQ setting.

To toggle the Dyn Pre EQ setting of an Input Channel:

1 Target the Input Channel whose Dyn Pre EQ mode you want to change by pressing its Select switch.

2 In the on-screen Channel Config section, click the Dyn Pre EQ switch. When enabled, the Dyn Pre EQ switch LED lights.

Input Direct Mode

Input Direct mode lets you bypass the built-in dynamics and EQ processing, and all inserts on Input Channels and FX Returns. For more information, see "Using Input Direct" on page 65.
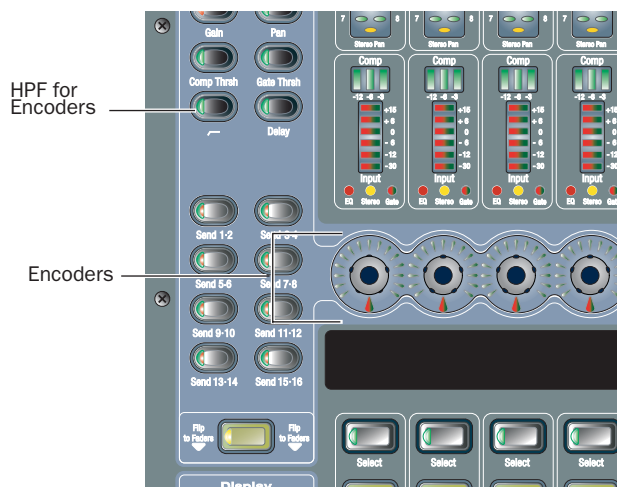
Adjusting EQ

D-Show provides EQ controls in input fader strips, the ACS, and on-screen.

Input Fader Strip HPF Controls

Each input strip provides HPF frequency control.

◆ HPF can be adjusted on each Input Channel using the Encoder HPF assignment switch and row of encoders.

HPF controls for Input Channels

To adjust HPF from an input strip:

1 Bank to the channel on the control surface.

2 Press the HPF Encoder Assign switch.

3 Rotate the appropriate channel Encoder to adjust HPF frequency. Press the appropriate encoder shaft switch to toggle HPF in or out.

💡 *HPF can also be adjusted on-screen.*

To bypass the built-in parametric EQ (all bands):

1 Bank to the channel on the control surface.

2 Press the EQ In switch in the ACS EQ section. The EQ In and channel EQ In LEDs light when EQ is in-circuit.

ACS EQ Controls

The EQ controls in the ACS provide a unified, consistent set of controls for both built-in and plug-in EQ processing for the targeted channel. Twelve dual-purpose rotary/switch encoders control EQ parameters and their settings.

D-Show-compatible EQ plug-ins can map their controls to the ACS EQ section, and all plug-ins can be controlled using the Output encoders in Insert mode.
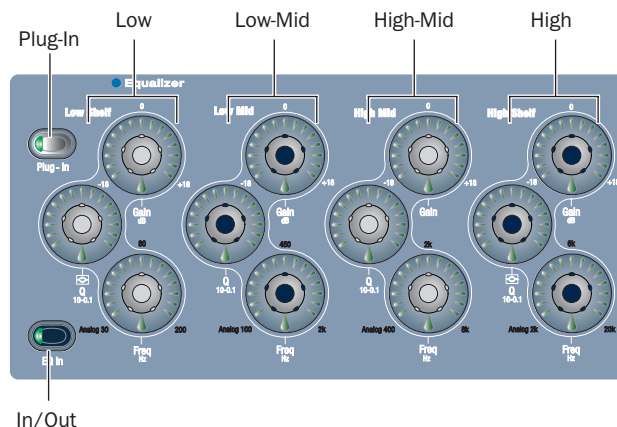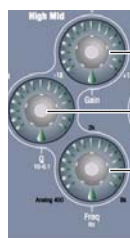

EQ controls in the ACS

FX Returns provide two bands of EQ (Hi and Lo) which can be toggled between Bell and Shelf modes.
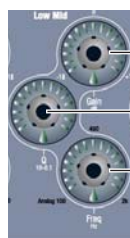
To adjust EQ parameters from the ACS:

1 Target a channel by pressing its Select switch.

2 Press the EQ In switch to enable built-in EQ on that chan-
nel. The channel EQ In LED lights to indicate the EQ is en-
gaged.)

3 Adjust the appropriate EQ encoder for High, Hi-Mid,
Lo-Mid, or Low bands.

High EQ controls in the ACS

Hi-Mid EQ controls in the ACS

Lo-Mid EQ controls in the ACS

Low EQ controls in the ACS

To toggle all bands in or out:

■ Press the EQ In switch.

To reset an EQ parameter to its default value:

■ Hold the Default switch and adjust the control.

To reset the entire EQ section (all bands) on a channel:

■ Hold the Default switch and press the EQ In switch.

Software Screen EQ Controls

You can adjust the built-in EQ using dedicated on-screen but-
tons for band in/out and bell/shelf toggling.

The D-Show software screen also provides the EQ Graph dis-
play to adjust frequency and gain simultaneously.
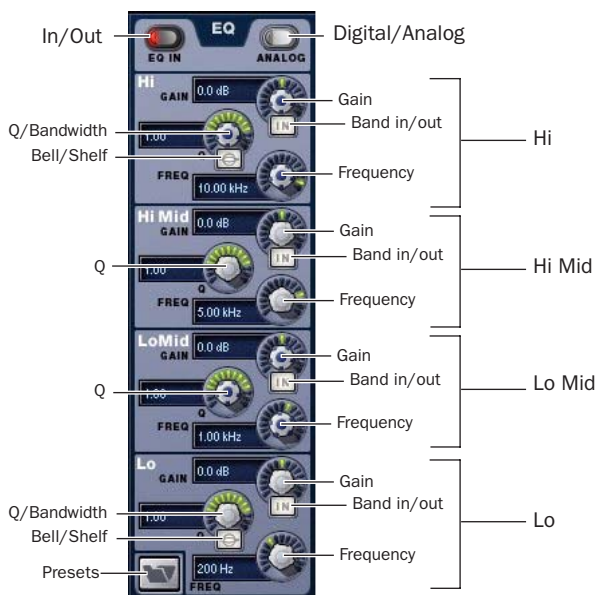
EQ controls in the software screen (4-band Input Channel EQ shown)

To adjust parametric EQ parameters on-screen:

1 Select a channel on-screen.

2 Click the EQ In switch to put the EQ in circuit.

3 Adjust the on-screen controls by doing one of the following:

• Turn an on-screen knob (Gain, Q/Bandwidth, or Fre-
quency) for each frequency band.

• Click to toggle any on-screen EQ switch (EQ in/out, band
in/out, or bell/shelf).

• Click a displayed value and type a new value.

• Drag up or down in a value display to increase or decrease
the value.

**To reset an on-screen EQ parameter to its default value, do one
of the following:**

■ Alt-click the control.

– or –

■ Right-click the control and choose Reset.

To reset the entire EQ section (all bands) on a channel:

■ Right-click anywhere in the EQ section on-screen (but not
directly on an encoder or button) and choose Reset EQ Sec-
tion.

Using the EQ Graph Display

The on-screen EQ graph lets you use the trackball to adjust frequency and gain for any available EQ band.
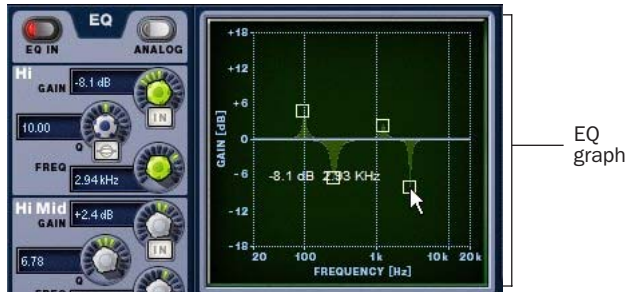
Dragging handles in the EQ graph display

To adjust EQ on-screen using the Graph display:

1 Select a channel on-screen.

2 Click the EQ In switch to put the EQ in circuit.

3 Drag the handles in the on-screen EQ graph display for each EQ band (Lo, Lo-Mid, Hi-Mid, or Hi), as follows:

- Drag a handle right or left to increase or decrease frequency.
- Drag a handle up or down to increase or decrease gain.

Graphic EQ for Outputs

A built-in 31-band Graphic EQ can be inserted on any of the following Output bus types: Mains, Groups, Auxes, Matrixes, and PQs. The Graphic EQ provides +/– 12 dB of gain and constant Q.

Assigning a Graphic EQ to a mono channel uses one available Graphic EQ. Assigning a Graphic EQ to a stereo channel uses two available Graphic EQs.

Graphic EQs can be adjusted on-screen, or using the input faders, which provide access to two banks of 16 frequency bands each.

Configuring Graphic EQs

To configure the number of Graphic EQs:

1 Put D-Show into Config mode.

2 Go to the Options page and click the System Config tab.

3 Click the Edit button on-screen.

4 Choose the number of Graphic EQs from the pop-up menu. You can choose to have 0, 8, 16, or 24 Graphic EQs.
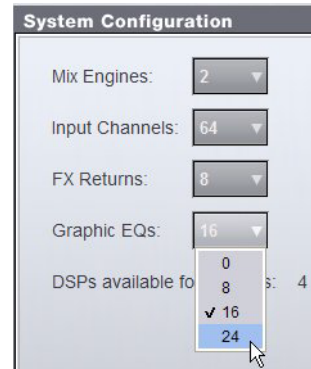
Configuring the number of Graphic EQs
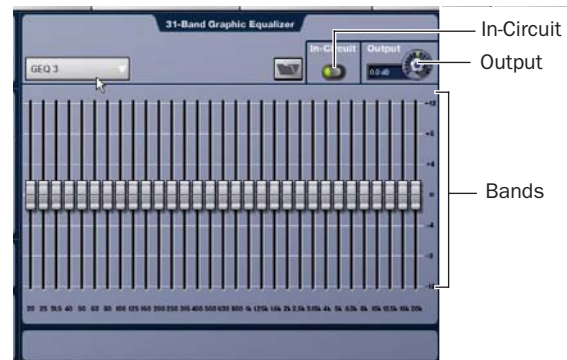
Inserting Graphics EQs on Outputs

To insert a Graphic EQ on an Output bus:

1 Target the bus by pressing its Select switch.

2 In the Outputs page, click the Graphic EQ tab.

3 Click the Graphic EQ pop-up menu and choose an available mono or stereo Graphic EQ.

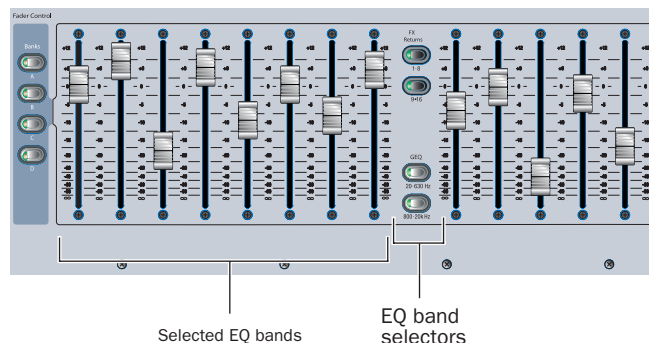*Assigning a graphic EQ (mono)*

The 31-Band Graphic EQ appears on-screen.

31-band graphic EQ

Graphic EQ Controls

The Input Faders provide control of Graphic EQ frequency bands. You can also use on-screen controls to adjust graphic EQ parameters.

Selected EQ bands | EQ band selectors

Graphic EQ controls on the control surface

To enable the graphic EQ:

1 Target an Output bus with a graphic EQ assigned. If no graphic EQ is assigned, display the 31-Band Graphic Equalizer tab in the Outputs page and assign one using the Graphic EQ pop-up menu.

2 Click the In button on-screen to toggle in/out status. When enabled, the In/Out switch LED lights.

To set a graphic EQ curve:

1 Press the Graphic EQ band switch or click on-screen to select the appropriate bank of graphic EQ bands: (20 to 630 Hz, 800 Hz to 20 kHz). Inputs 1–16 are temporarily replaced with frequency fader controls.

2 Adjust one of the 16 faders controlling the selected graphic EQ bands.

3 Press another Graphic EQ band switch or click on-screen to select another bank of graphic EQ bands and adjust as needed.

To adjust graphic EQ gain:

■ Use the on-screen Output control.

Resetting Graphic EQ Parameters

To reset a band to its default setting, do one of the following:

■ Hold the Default switch and press the Select switch on the fader corresponding to the graphic EQ band.

■ Right-click the individual band fader on-screen and choose Reset.

■ Alt-click the band on-screen.

To reset the entire graphic EQ to flat:

■ Right-click anywhere in the Graphic EQ section on-screen (but not directly on a fader) and choose Reset GEQ Section.

Adjusting EQ Plug-Ins

D-Show compatible EQ plug-ins can map their gain, frequency, and Q/bandwidth controls to corresponding encoders on the control surface.

When a plug-in provides additional parameters beyond those that map to the dedicated EQ encoders, you can use the Output encoders in Insert Mode and the Previous/Next switches.

☆ *All plug-ins, including EQ plug-ins that do not map directly to dedicated D-Show EQ encoders, can be controlled using the Output encoders in Insert mode.*

To adjust an EQ plug-in from the control surface:

1 Target the channel with the plug-in by pressing the channel Select switch.

2 Press the plug-in Select switch in the ACS section.

3 Do one of the following:

• If the EQ plug-in maps correctly, adjust parameters by pressing or turning the corresponding ACS EQ encoders.

– or –

• If the EQ plug-in does not map to the ACS controls, press the Insert Mode switch in the Output section. Use the Output encoders to adjust parameters, and use the Previous Page and Next Page switches to access other pages, bands and parameters.

📖 *For more information, see Chapter 19, "Plug-Ins."*

EQ Settings and Presets

Built-in parametric and graphic EQ settings can be copied and pasted between channels. EQ presets can also be saved and loaded to archive and transfer settings.

Copying and Pasting EQ Settings

To copy and paste an EQ setting:

1 Do one of the following:

• To copy a parametric EQ setting, right-click the on-screen EQ section or EQ graph (not on an encoder) and choose Copy EQ Settings.

– or –

• To copy a graphic EQ setting, right-click the graphic EQ display (not on a fader) and choose Copy GEQ Settings.

EQ Reset/Copy/Paste pop-up menu

2 Go to the channel where you want to paste the settings.

3 Do one of the following:

- To paste a parametric EQ setting, right-click in the new channel's EQ section or graph and choose Paste EQ Settings.

– or –

- To paste a Graphic EQ setting, right-click in the new channel's Graphic EQ section and choose Paste GEQ Settings.

Presets for Built-In and Graphic EQ

D-Show lets you store and load EQ settings to disk as Preset files. Presets can be used with built-in and plug-in EQ processors, including the graphic EQ. Preset files can be moved between systems and used for other Shows. Presets can be accessed from the control surface or on-screen.

To save or load a preset:

1 Adjust EQ parameters as needed.

2 Click the EQ Presets icon on-screen. (The Presets icon is available in the Inputs screen EQ section, and in the graphic EQ screen for an output channel).

3 Choose a Presets folder in the Folder display at the top of the Presets window. If necessary, choose the appropriate Presets folder by clicking and selecting it from the Folder pop-up menu.

Check the Factory Presets folder for preconfigured settings.

For information about creating and transferring folders and files, see Chapter 20, "Shows and File Management."

Presets window   Presets icon

EQ Presets window

4 Do any of the following:

- To preview an existing preset, click its name in the Presets window.
- To load the currently selected preset, press Enter or click the Close box in the Presets window title bar.
- To load a preset and close the Presets window, double-click the preset.
- To save the current EQ settings as a new preset, click New and enter a name for the preset file.
- To cancel without changing settings, click Cancel.

To save or load a preset for the Graphic EQ:

1 Go to the Outputs page for the channel on which the graphic EQ is assigned. If necessary, click the 31-Band Graphic Equalizer tab to display the graphic EQ on that channel.

2 Click the graphic EQ Presets icon (above the EQ bands, next to the In-Circuit button).

3 Choose a Presets folder in the Folder display at the top of the Presets window. If necessary, choose the appropriate Presets folder by clicking and selecting it from the Folder pop-up menu.

4 Do any of the following:

- To preview an existing preset, click its name in the Presets window.
- To load the currently selected preset, press Enter or click the Close box in the Presets window title bar.
- To load a preset and close the Presets window, double-click the preset.
- To save the current graphic EQ settings as a new preset, click New and enter a name for the preset file.
- To cancel without changing settings, click Cancel.

Control Ranges for Built-In Parametric EQ (All Modes)

Table 18. Control ranges for built-in parametric EQ

Band	Control	Range (Digital)	Defaults (Digital)	Range (Analog)	Defaults (Analog)
High (Bell/Shelf)	Frequency	20 Hz to 20 kHz	10 kHz	2 kHz to 20 kHz	6 kHz
	Gain	±18 dB	0 dB	±15 dB	0 dB
	Q/Bandwidth	10 to 0.1	1.0	Shelf only	none
High-Mid	Frequency	20 Hz to 20 kHz	5 kHz	400 Hz to 8 kHz	2 kHz
	Gain	±18 dB	0 dB	±15 dB	0 dB
	Q/Bandwidth	10 to 0.1	1.0	0.1 to 2.0 octaves	0.2
Low-Mid	Frequency	20 Hz to 20 kHz	1 kHz	100 Hz to 2 kHz	450 Hz
	Gain	±18 dB	0 dB	±15 dB	0 dB
	Q/Bandwidth	10 to 0.1	1.0	0.1 to 2.0 octaves	0.2
Low (Bell/Shelf)	Frequency	20 Hz to 20 kHz	200 Hz	30 Hz to 200 Hz	80 Hz
	Gain	±18 dB	0 dB	±15 dB	0 dB
	Q/Bandwidth	10 to 0.5	1.0	Shelf only	none

D-Show Profile Fader Banks and Graphic EQ Frequency Bands

D-Show Fader Banks and Graphic EQ Frequency Bands

	Fader and Band	Fader and Band	Fader and Band	Fader and Band	Fader and Band	Fader and Band	Fader and Band	Fader and Band
Bank 1 (20 to 630 Hz)								
Fader Number	1	2	3	4	5	6	7	8
Freq band	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz
Fader Number	9	10	11	12	13	14	15	16
Freq band	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
Bank 2 (800 Hz to 20 kH)								
Fader Number	1	2	3	4	5	6	7	8
Freq band	800 Hz	1000 Hz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz
Fader Number	9	10	11	12	13	14	15	16
Freq band	5 kHz	6.3 kHz	8 kHz	10 kHz	12.5 kHz	16 kHz	20 kHz	n/a

Chapter 18: Hardware Inserts

D-Show lets you route signal to and from external devices as hardware inserts. Hardware inserts may be used on Input Channels, FX Returns, Groups, Auxes, Matrixes, Personal Qs, and the Main busses.

Up to 16 analog and 8 digital hardware inserts may be used at one time, depending on the I/O configuration of the FOH Rack.

Connecting External Effects Units

Outboard gear is made available to the system by connecting its inputs and outputs to connectors on the FOH Rack. The gear is then inserted in the signal path using on-screen controls.

To connect outboard gear for use as a hardware insert:

1 Connect the external device inputs to appropriate analog or digital output connectors (Analog 1–16 or AES 1–8) on the rear panel of the FOH Rack.

2 Connect the external device outputs to the corresponding input connectors on the rear panel of the FOH Rack (for example, signal taken from FOH Output 1 returns to FOH Input 1).
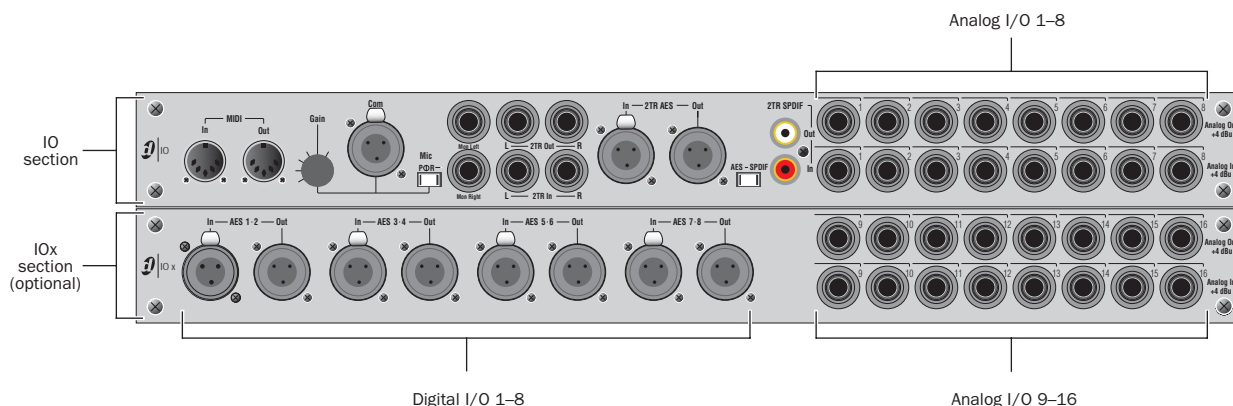

Figure 10. Hardware insert patch points on FOH Rack, showing standard IO connectors (top) and optional IOx connectors (bottom)
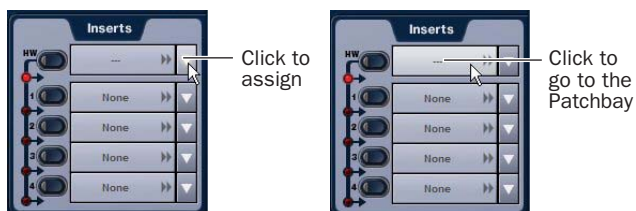
Assigning Hardware Inserts to Channels

You can assign hardware inserts directly from the Inputs page or Outputs page. You can also make hardware insert assignments from the Patchbay.

📄 *See Chapter 12, "Patchbay."*

To assign a hardware insert to a channel or bus:

1 Go to the Inputs or the Outputs page and target the channel where you want to assign the hardware insert by pressing the channel Select switch.

2 In the Inserts section, do one of the following:

- Click the Hardware Insert pop-up menu and choose an insert destination directly from the menu. The name of the hardware insert destination appears in the on-screen Hardware Insert button.

– or –

- Click the Hardware Insert button to go to the Inserts page of the Patchbay, and assign the insert from the Patchbay.

Assigning a hardware insert in the Outputs page

To assign a hardware insert from the Patchbay:

1 Go to the Patchbay and click the Inserts tab. The Hardware Tab for the FOH Rack is shown.

2 Click the Channels, FX Returns, and Outputs tabs to show the desired channel types in the grid. If you jumped to the patchbay from the Inputs or Outputs page, the appropriate Channel Type tabs are automatically enabled.

3 Click in the channel grid to assign the insert input/output number (listed across the top) to the channel where you want to assign the insert (listed on the left).

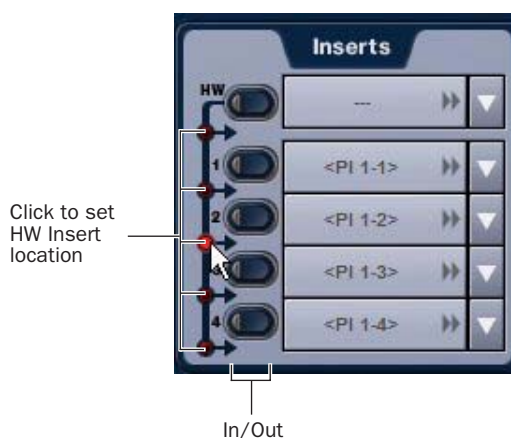*Assigning a hardware insert in the Patchbay Inserts page*

The Patchbay Inserts page shows the name of the channel and its destination at the current cursor location. The Insert location is also displayed in the Inserts section in the Inputs or Outputs page.

Setting the Hardware Insert Location

You can choose the location of the hardware insert in the signal path, relative to the four plug-in inserts, for each channel. A hardware insert does not need to be currently assigned to do this.

To set the hardware insert location:

1 Go to the Outputs page and select the channel where you want to set the hardware insert location.

2 In the Inserts section of the Outputs page, click the hardware insert indicator so that it lights red.

Setting a hardware insert location in the Inputs page

Activating and Bypassing Hardware Inserts

The controls for activating and bypassing hardware inserts are available on-screen in the Inserts sections of the Inputs and Outputs pages.

To activate or bypass a hardware insert:

1 Target the channel where you want to activate or bypass the insert by pressing the channel Select switch.

2 Click the In/Out button for the HW insert. The button lights when the insert is activated (in circuit).

Chapter 19: Plug-Ins

This chapter explains how to configure plug-ins before a performance, and how to use plug-ins during a performance. Plug-Ins can be inserted on all channels and bus outputs, or used as bus processors for effects such as reverb and delay.

For complete information on D-Show compatible plug-ins, visit the Digidesign website (www.digidesign.com).

Plug-Ins Quick Start

Before a performance, enable Config mode and do any of the following:

- Install plug-ins (see "Installing and Authorizing Plug-Ins" on page 145).

- Assign plug-ins to racks and rack slots (see "Plug-In Racks" on page 149).

- Assign plug-in input and output routing, including side-chain routing (see "Assigning and Routing Plug-Ins" on page 152).

- View and adjust plug-ins using the control surface or software screen (see "Adjusting Plug-Ins" on page 155).

- Save and load plug-in settings as Presets, or with D-Show snapshots (see "Plug-In Presets and Snapshots" on page 158).

During a performance, do all of the following:

- Enable Show mode to "safe" (lock out) plug-in rack assignments and other plug-in rack operations that could interrupt a performance.

- Patch channels and busses to available plug-ins, re-assign plug-in routing, or re-assign existing side-chain routing.

- Adjust plug-in parameters from the ACS, Assignable Output Encoders, or on-screen.

- Save and load plug-in settings as Presets, or within D-Show snapshots.

Using Config and Show Modes for Plug-Ins

The current Console mode status (Config or Show mode) determines which plug-in functions are available.

Config mode is required to install plug-ins, assign them to rack slots, and to establish side-chain routing. When in Show mode, any operations that might interrupt audio throughput are locked out and unavailable.

Plug-In actions that interrupt audio require Config mode. For more information, see "Config Mode and Show Mode" on page 36.

Installing and Authorizing Plug-Ins

Plug-ins can be installed on D-Show systems but not on the Standalone software.

Because installing plug-ins can interrupt audio throughput, always install plug-ins before a performance.

Installing Plug-Ins

To install a plug-in:

1 Put D-Show into Config mode.

2 If installing from a CD-ROM, insert the installer disc into the CD-ROM drive in the D-Show FOH Rack.

3 Go to the Options page and click the Plug-Ins tab. The following two lists are shown:

Plug-Ins to Install This list shows available plug-in installers. At the top of the list is the Device selector, which provides a pop-up menu of available media sources. Plug-In installers are stored locally after plug-in installation, and appear as available items when Previous Installs is selected from the Device selector. This lets you re-install plug-ins without the original CD-ROM or other media.

Installed Plug-Ins This list shows all plug-ins already installed on the system. The plug-ins shown in plain text are available to process audio. Plug-Ins listed in italics are disabled and unavailable (see "Enabling and Disabling Installed Plug-Ins" on page 148).
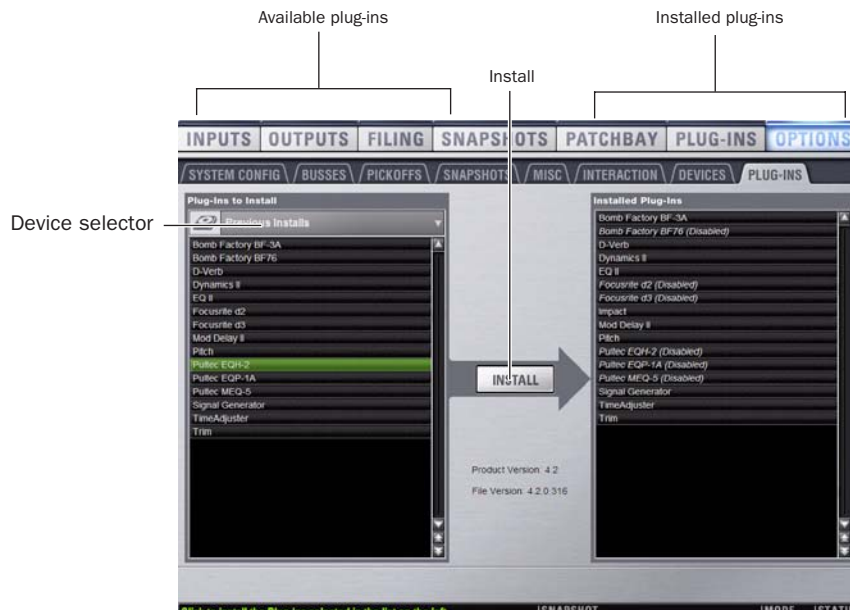
Available plug-ins

Installed plug-ins

Install

Device selector

Figure 11. Options > Plug-Ins screen

4 Click the Device Selector pop-up menu and do one of the following:

- Choose Previous Installs to access any plug-in installers after a system update.
- Choose Console to access all factory-installed plug-in installers. after a system update or a full system restore.
- Choose an external storage device, as available, to access plug-in installers loaded in the FOH Rack CD-ROM drive.

Device selector

Choosing a Device

5 Select a plug-in from the Plug-Ins to Install list on the left by doing any of the following:

- Click to select a single installer.
- Shift-click to select multiple contiguous installers.
- Control-click to select or deselect installers one at a time.

6 Click Install to install the selected plug-ins. Once installed, the plug-in appears in the Installed Plug-Ins list on the right.

7 Repeat as necessary to re-install all plug-ins needed on the system.

Removing Plug-Ins

Uninstalling a plug-in removes the plug-in from the racks but the installer remains in the Previous Installs cache, making it easier to reinstall the plug-in at a later time without requiring the installer CD or other media. In order to completely remove and delete a plug-in and its installer, you must explicitly Delete the plug-in, as described in the following sections.

Installing, uninstalling, and deleting plug-ins are not supported using the Standalone software.

To uninstall a plug-in from the system but leave its installer available:

1 Put D-Show in Config mode.

2 Go to the Options page and click the Plug-Ins tab.

3 Right-click the specific plug-in name from the right-hand list and choose the Uninstall option for the selected plug-in.

Right-click
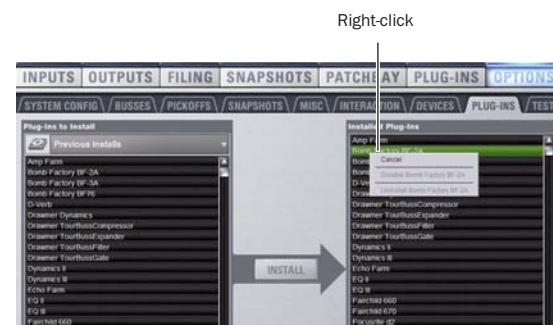
Uninstalling a plug-in

To reinstall a removed plug-in:

1 Put D-Show in Config mode.

2 Go to the Options page and click the Plug-Ins tab.

3 Click the Device selector and choose Previous Installs.

Choosing a Device

4 Select the plug-in and choose Install. If the desired plug-in is not listed, it must be re-installed from the original CD-ROM or other media.

Deleting Uninstalled Plug-Ins

Once a plug-in is uninstalled, its installer can be deleted from the system. (Plug-ins which are currently installed cannot be deleted).

To completely remove a plug-in and its installer:

1 Put D-Show in Config mode.

2 Go to the Options page and click the Plug-Ins tab.

3 Select Previous Installs from the Device selector.

4 Right-click the plug-in name and choose the Delete option for the selected plug-ins. The plug-in is removed from the system, and the stored plug-in installer is removed from the Previous Installs list.

Installing Plug-Ins Manually

If a plug-in does not appear in the Plug-Ins to Install list, it may not have a fully compatible D-Show installer and must be manually installed. This is required the first time you install the plug-in, and whenever you need to re-install a plug-in (such as after using the D-Show System Restore CD to update or reset the system).

☼ *A plug-in without a D-Show installer may still be compatible with D-Show. Consult the plug-in manufacturer for compatibility information.*

To install a plug-in manually:

1 Make sure all sound systems are shut down or muted.

2 Insert the plug-in installer disc into the CD-ROM drive on the FOH Rack.

3 Go to the Options page and click the System Config tab.

4 Hold the Ctrl key and click Shutdown Console on-screen. Follow on-screen directions to exit to the Desktop.

5 Copy the plug-in installer to the partition named User Data.

6 Launch the plug-in installer application and follow any on-screen directions. If prompted, do not restart the system from a plug-in installer. (Doing so will not harm the system, but will take longer, especially if you have multiple plug-ins to install manually.)

7 Quit the installer application and eject the installer disc.

8 Click the Return to D-Show shortcut on the desktop to re-launch D-Show.

9 Go to the Options page and click the Plug-Ins tab. Verify that the manually installed plug-in appears in the Console list of available plug-ins.

Authorizing Plug-Ins

After installing a plug-in, the system re-creates the list of available plug-ins. Whenever the racks initialize, the system checks authorizations for all installed plug-ins. If no previous authorization for a plug-in is recognized, you will be prompted to try a demo version, or authorize the full version of the plug-in.

D-Show supports challenge/response and iLok USB Smart Key authorization, including pre-authorized iLoks and iLok Authorization cards.

Challenge/Response Challenge/response authorization is only valid for the D-Show system the plug-in is currently installed on. Challenge/response codes can be communicated using any computer with Internet access.

⚠ *It is not possible to connect D-Show to the Internet directly.*

iLok USB Smart Key Plug-Ins supporting web authorizations through iLok.com can be authorized for your iLok Smart Key from any computer with Internet access. This lets you take your iLok and your plug-in authorizations anywhere, to use plug-ins installed on any system.

📄 *For more information on using iLoks, refer to the iLok Usage Guide on the Standalone Software CD or at the Digidesign website (www.digidesign.com).*

To authorize a plug-in:

1 When a plug-in authorization dialog appears, do one of the following:

• To try a demo of the plug-in, click Try.

– or –

• To have the system recognize the required authorization on your iLok, click Authorize. Insert your iLok Smart Key into any available USB port on D-Show when prompted.

⚠ *Do not choose Internet Activation. Use Challenge/Response or an already authorized iLok USB Smart Key for plug-in authorization.*

2 Follow the instructions on-screen to complete the software authorization process.

USB Ports for iLoks

D-Show Profile provides three USB ports on the control surface and three on the FOH Rack, any of which can be used to connect an iLok. Multiple iLoks can connected at one time.

💡 *The FOH Rack provides a total of three USB 2.0 ports (one on the front panel, one on the back panel, and another inside the rack). Because the USB ports on the FOH Rack are the faster USB 2.0 version, it is recommended that you use the external USB port for large transfers to and from USB storage devices; use the internal USB port to attach and secure an iLok USB Smart key.*

To access the internal USB port and attach an iLok:

1 Remove the front panel of the FOH Rack.

2 Identify the USB port location at the lower left.

3 Insert the iLok and use a cable tie to secure the iLok to the interior support post.

4 Re-attach the front panel.

Enabling and Disabling Installed Plug-Ins

The Installed Plug-Ins list shows Disabled plug-ins in *italics*. Plug-Ins can be manually disabled and enabled to manage DSP resources, troubleshoot possible conflicts, and to manage plug-in availability.

To globally disable or enable a plug-in:

1 Click to select the plug-in name in the Installed Plug-Ins list, at the right of the Options > Plug-Ins screen.

2 Right-click the plug-in and select whether to disable or enable the selected plug-in.

If assigned to any rack slots, the plug-in will be displayed as unavailable and inactive.

Overview of Plug-Ins

The Plug-Ins screen displays the plug-in Racks, where the majority of plug-in set up features are located.

To access the Plug-Ins page:

■ Press the Plug-Ins switch in the View Mode section (or click the Plug-Ins tab). By default, the Plug-Ins page displays all four racks, which are empty until plug-ins have been assigned. (See also ""Jump To" Plug-Ins" on page 157.)

Plug-In racks (no plug-ins assigned)

You populate the racks by *assigning* plug-ins in rack slots.

The following diagram shows an example of the racks with plug-ins assigned.

Plug-In racks with plug-ins assigned to rack slots

During a performance, plug-ins assigned in the racks can be inserted and routed on-screen and their parameters adjusted from the control surface or on-screen.

Plug-In Racks

The Plug-Ins page provides four plug-in racks. Each of the four racks has 25 slots into which you can load a plug-in. The four different racks can be viewed all at once, individually, and in varying zoom levels.

Figure 12. Plug-In racks and rack slots, Main view, with custom rack names shown.

Naming Plug-In Racks

By default, the racks are named Rack 1, Rack 2, Rack 3, and Rack 4. You can rename each rack as needed.

To rename a plug-in rack:

1 Double-click the rack name to highlight it on-screen.

2 Type a new name and press Enter. To return a rack to its default name, leave the name blank and press Enter.

Plug-Ins can be placed in any rack slot. Use the four different racks to organize processing functions such as Dynamics, Vocal FX, Reverb, or Group Inserts.

Rack Views

The Plug-Ins page can be displayed in Full or Zoom views, with the option to display either view in Mini-view mode.

Full View

The default view of the rack screen is Full view, in which all four racks are shown (see Figure 12). This screen provides access to all rack slot controls and shows an icon representing each assigned plug-in. This lets you quickly see what plug-ins are available, and adjust their routing.
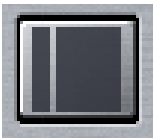
Zoom View (Plug-In View Mode)

In Zoom view, a single rack remains on-screen to the left, and the rest of the screen displays the targeted plug-in.

Zoom view, with a plug-in window open on-screen

To toggle Full or Zoom view modes, do one of the following:

■ Press the Plug-Ins switch (in the View Modes section), or click the View toggle switch (upper right corner of the rack).

Zoom/Full view toggle

– or –

■ Double-click a plug-in icon in any rack view to open that plug-in window in Zoom view.

💡 *D-Show provides other ways to jump to a plug-in view. For more information, see ""Jump To" Plug-Ins" on page 157.*

Mini-View Mode

Mini-view mode is an option available in Full and Zoom modes in which the rack slot displays are minimized and plug-in icons are hidden, to let you see more of the racks at one time. You can bypass, route, and work with plug-in snapshot controls in Mini-view mode.

To toggle mini-view on or off:

■ Click the Mini-view icon (upper left corner of the rack view).

Mini-view

Identifying Rack Slots

The racks indicate which plug-in is currently targeted by high-lighting its rack slot controls in blue.

Highlighted rack slot indicating targeted plug-in

Within each rack slot, color outlines appear around each plug-in to indicate the type of plug-in currently targeted on the control surface. The following colors are used:

Outline Color Coding of Rack Slots

Color Outline	Indication
Yellow	A Dynamics plug-in, mapped to the ACS Dynamics section
Green	An EQ plug-in, mapped to the ACS EQ section
Red	The plug-in is mapped to more than one control surface section. For example, an EQ plug-in that is currently mapped to both the ACS EQ controls and the Assignable Output Encoders.
Blue	A plug-in mapped to the Assignable Output Encoders

Display of Unavailable or Inactive Plug-Ins

It is possible for a plug-in to be displayed in a rack slot but be unavailable for channel and bus processing. This can occur in any of the following circumstances:

• There are not enough DSP resources available for the plug-in.

• The assigned plug-in is part of the show file but is not installed on the current system.

• The plug-in has been disabled manually.

💡 *Place the cursor over the Tool Tips icon to see an explanation of why the plug-in is not available. To view DSP resource allocation, see "DSPs Available for Plug-Ins" on page 50.*

Unavailable Plug-Ins

When a plug-in cannot be used because of insufficient DSP resources, because it is disabled, or because it is not installed on the system, a warning icon is shown in front of the affected plug-in. The plug-in icon is greyed out, and the rack slot Power switch displays a yellow switch LED.


Unavailable plug-in

Indication of an unavailable plug-in

For more information, see "Installing and Authorizing Plug-Ins" on page 145.

Inactive Plug-Ins

When a plug-in has been manually made inactive, the plug-in icon is greyed out. Plug-Ins can be made inactive manually, letting you retain their assignment and settings in the rack while freeing up their DSP resources for other tasks.
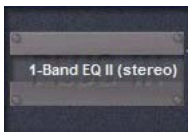
Indication of an inactive plug-in

For more information, see "Active and Inactive Plug-Ins" on page 153.

Scope Indication in the Plug-Ins Page

The Plug-In Rack provides visual indication whenever a plug-in is scoped in the currently targeted snapshot. The Snapshot pop-up menu turns red whenever that plug-in is scoped by the currently targeted snapshot.
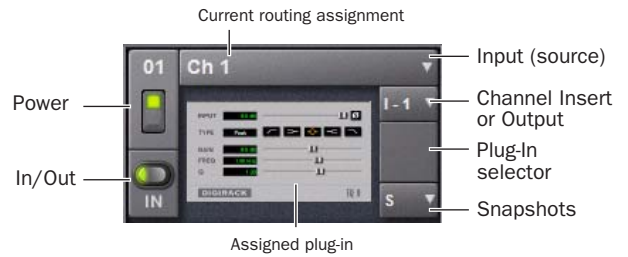

Scoped (Snapshot menu red)

Indication of a scoped plug-in

For more information, see "Plug-In Presets and Snapshots" on page 158.

Rack Slots

Each rack provides 25 plug-in slots. You can assign any installed plug-in to any available rack slot.

A rack slot and its controls, with an assigned plug-in shown

Each rack slot provides the following controls to select and manage plug-ins:

Power (Config Mode Only)

Power turns the rack slot on or off. When off, the plug-in consumes no DSP.

In/Out (bypass)

The In/Out switch takes the rack slot in or out of circuit (bypasses the slot and any plug-in assigned to it).

Input

The Input pop-up menu determines plug-in input (source). Use this menu to designate the plug-in as a channel insert or a bus processor by choosing from the Inserts or Bus sub-menus. For more information, see "Routing Plug-Ins" on page 153.

Once a plug-in has been routed, its input source is displayed in the Input area of each rack slot, as follows:

- If the plug-in is being used as an insert, the channel or bus name and number is shown, for example, *Kick (Ch 1)* or *Aux (1–2)*. The Channel Insert/Bus Output selector automatically switches to Channel Insert mode, showing the insert point occupied by the plug-in.
- If the plug-in is on a bus, the selected bus source is shown in the Input selector, for example, *Aux 1* or *Grp 1*. The Channel Insert/Bus Output selector can be used to assign the output routing of the plug-in to a channel or bus.

Channel Insert or Bus Output

The Channel Insert/Bus Output pop-up menu displays different choices depending on whether the plug-in is being used as a channel insert, or as a bus processor, as follows:

- If the plug-in is being used as a channel insert, the Channel Insert selector shows the four insert points on that channel (1–4). The letter "I" is shown before the insert number (for example, I–1 indicates the current plug-in is inserted into the first insert position on its channel).

- If the plug-in is being used as a bus processor, the menu becomes the Output selector used to select the destination for plug-in output.

Channel Insert   Bus Output

A mono plug-in inserted on a channel (at left) and a stereo plug-in assigned as a bus processor (at right)

Plug-In Selector

The Plug-In selector displays a list of available plug-ins to load into that rack slot. Plug-Ins are arranged by process type (such as EQ, Dynamics, and Delay). For more information, see "Assigning and Routing Plug-Ins" on page 152.

Snapshots Menu

The Snapshots menu provides tools to manage snapshot-related plug-in features from within the Plug-Ins screen. Using the Snapshots menu, you can quickly check to see which existing snapshots refer to the current plug-in, as well as create, update, or remove snapshots.

Side-Chain Selector

The Side-Chain selector appears near the top of the Rack view when you select a plug-in that supports side-chain or "key" input. In Config mode, the Side-Chain selector lets you establish a side-chain routing to the plug-in. Once established, you can route and re-route side-chain signals in both Config and Show mode. For more information about side-chain signals, see "Side-Chain Routing" on page 155.

# Assigning and Routing Plug-Ins

Before a plug-in can be used to process audio, it must be assigned to a rack slot. Once assigned, you can use the plug-in as a channel insert or bus processor.

Before a plug-in can be assigned, it must be installed. See "Installing and Authorizing Plug-Ins" on page 145.

Assigning Plug-Ins to Rack Slots

To assign a plug-in:

1 Put D-Show in to Config mode.

2 Go to the Plug-Ins page.

3 Click the Plug-In selector on an empty rack slot. (You can also use an already assigned rack slot to change a plug-in assignment.)

4 Choose an available plug-in from the Plug-In selector sub-menus. Only plug-ins that are installed will be available.
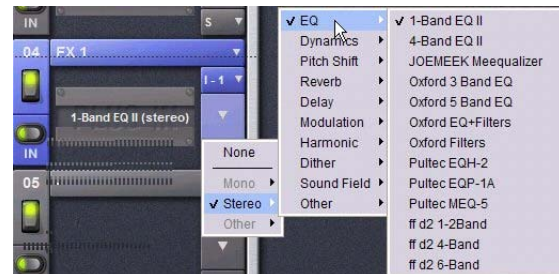
Plug-In selector menus

If the plug-in is not installed or there are insufficient DSP resources available, the plug-in will appear as unavailable, or inactive.

Place the cursor over the plug-in to display a Tool Tip that explains why the plug-in is unavailable or inactive.

Plug-In Formats

Plug-Ins inserted on channels must be symmetrical (in other words, mono in/out or stereo in/out). Plug-Ins on busses can be asymmetrical (mono-in/stereo or multichannel out).

Mono Can be used as inserts only in mono strips or mono Auxes, mono Groups, or Matrix busses or on the C/M bus.

Stereo Can be used as inserts in stereo strips, stereo-linked Auxes, stereo Groups, PQ busses (which are always stereo) and across the L–R busses.

Other (Mono In/Stereo Out) Can be used on busses for delay, reverb, and similar processing.

Moving and Copying Plug-Ins

(Config Mode Only)

To move or copy a plug-in in the rack, drag the plug-in icon to a new rack slot. A pop-up menu appears offering three choices: "Cancel," "Copy Plug-In Here," or "Move Plug-In Here."

Moving a Plug-In

When you move a plug-in from one rack slot to another, the plug-in type, in/out state, power on/off, current plug-in settings, and routing are maintained. In addition, all associated snapshots are updated to reflect the new rack position.

Copying a Plug-In

When you copy a plug-in to a new rack slot, the source plug-in type, in-circuit state, active state, and current plug-in settings are copied to the destination rack slot. However, the source plug-in routing is not copied. In addition, plug-in snapshots are not copied.

Overwriting An Existing Plug-In

When either moving or copying, if there is an existing plug-in in the destination rack slot, that plug-in is deleted. When the plug-in in the destination rack is deleted, any routing or references to the deleted plug-in in existing snapshots will be automatically cleared.

Active and Inactive Plug-Ins

To toggle the active/inactive state of a plug-in:

■ Click the appropriate rack slot Power switch. When active, the Power switch is lit green. When a plug-in is unavailable (and inactive), the Power switch is lit yellow.

Indication of an inactive plug-in

Routing Plug-Ins

After a plug-in has been assigned to a rack slot, you can specify its routing. Plug-In routing determines whether the plug-in is used as a channel insert or as a bus processor.

Using Plug-Ins as Channel Inserts

Each D-Show channel provides four slots for channel inserts (as well as one hardware insert slot). Signal from the channel is routed to the insert and returned to the same channel.

You can assign plug-ins to specific channel insert points from the Plug-Ins screen or from the Input screen.
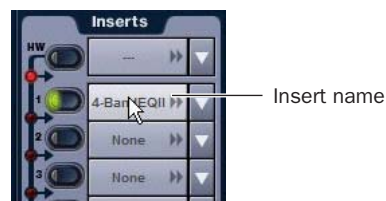
To insert a plug-in on a channel from the Inputs or Outputs page:

1 Go to the Input or Output screen.

2 Click the first available Channel Insert selector and choose an available plug-in from the rack sub-menus. All currently available plug-ins of a compatible mono/stereo format are listed in the sub-menus. Plug-Ins that are unavailable are listed in italics. Plug-Ins that are already assigned as channel inserts are shown with their insert assignment.
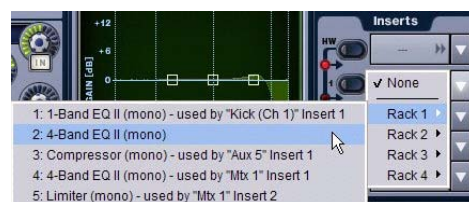
Inserting a plug-in on an input channel from the Inputs page

3 The selected plug-in appears in the Inserts list for that channel.

An assigned channel insert

4 To open the window for an inserted plug-in, click its name in the channel Inserts list.

To insert a plug-in on a channel from the Plug-Ins page:

1 Make sure the plug-in is already assigned to a rack slot. (For more information, see "Assigning and Routing Plug-Ins" on page 152.)

2 Click the Input (source) selector in the rack slot and choose a channel from its Inserts sub-menu.

Inserting a rack slot on a channel from the Plug-Ins page

The rack slot automatically identifies and connects to the first available insert slot (1–4) on the selected channel. The Channel Insert selector shows the current insert position.

Channel Insert selector for a plug-in rack

If no insert slots are available on the channel, the selector displays a question mark.

Using Plug-Ins as a Bus Processors

Plug-Ins can be used on busses for send-and-return processing with effects such as reverb and delay. A plug-in is configured for bus processing by assigning an Aux, Group, Matrix, PQ, or Main bus (including Monitor output) as the plug-in input source, then assigning the output of the plug-in to a D-Show Input Channel or FX Return, or to a hardware output, as follows:

- Return bus-fed plug-ins to an input or FX Return to establish an effects send-and-return path.
- Route bus-fed plug-ins to a hardware output for specialized processing needs (such as feeding an external crossover).

Input channel Direct Outs can also be routed to bus-fed plug-ins.

You assign plug-ins for bus processing from the Plug-Ins screen.

To use a plug-in as a bus processor:

1 Go to the Plug-Ins screen.

2 Make sure the plug-in is installed and assigned to a rack slot.

3 Click the Plug-In Input selector at the top of the corresponding rack slot, and choose an available D-Show bus from the Input sub-menus.

Assigning plug-in Input source to a Group bus

4 Click the Bus Output selector and choose an input, FX Return or hardware output.
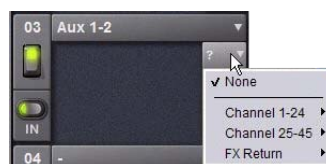
Assigning plug-in output to an FX Return

Routing Channel Direct Outs to Plug-Ins

You can route the Input channel Direct Outs to plug-ins. This lets you directly feed plug-ins from individual channels to preserve Aux busses for other uses, with control over send level using the channel Direct Out level control.

Routing a channel Direct Out to a plug-in in the Plug-Ins page

When a channel Direct Out is routed to a plug-in, it follows the one global pickoff setting for that specific Direct Out (as set in the Patchbay), and is applied in addition to any other assignment made for that Direct Out. This makes it possible to use a channel's Direct Out to route that channel to both a Pro Tools recording option and to a plug-in. For more information, see "Direct Outputs and Routing in the Patchbay" on page 105.

⚠ *If you do use a Direct Out to feed both a hardware output such as a Pro Tools recording option as well as a plug-in, be aware that any adjustments to that Direct Out affect both the output signal and the signal fed to the plug-in.*

Side-Chain Routing

D-Show supports side-chain (key) processing for plug-ins that support side-chain triggering.

⚠ *Side-chain routing is not stored in snapshots.*

The Side-Chain selectors appear across the top of the plug-ins screen. You must be in Config mode to establish or remove a side-chain assignment. Once established, side-chain routing can be changed (but not added or removed) in Show mode.

Click to select Key (side-chain) source

Click to specify side-chain pickoff
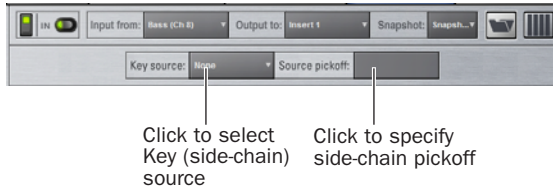
Side-Chain controls

To assign side-chain routing to a plug-in:

1 Select a plug-in that supports side-chain processing.

2 Put D-Show in to Config mode to display the Side-chain tools.

3 Choose the side-chain source signal from the Key Source pop-up menu.

4 Choose the pickoff point (tap) for the side-chain signal from the Source Pickoff pop-up menu.

Adjusting Plug-Ins

Plug-Ins can be adjusted from the console or on-screen.

D-Show Profile provides plug-in controls in the ACS and Output encoder sections for real-time interaction with plug-ins.
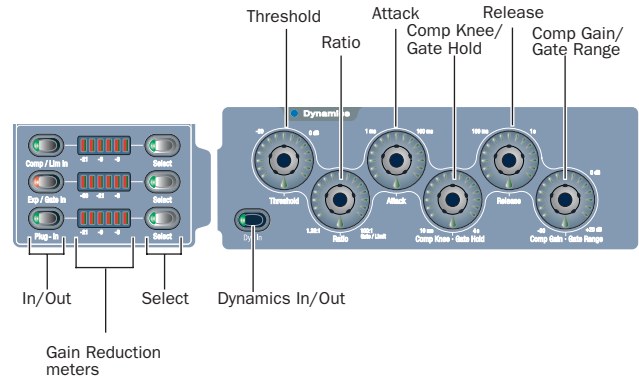
Control Surface

Insert Processing

The Insert Processing section of the ACS provides switches to bypass, select, and target plug-ins inserted on the currently selected channel.

Plug-Ins 1–4

In/Out   LED   Select
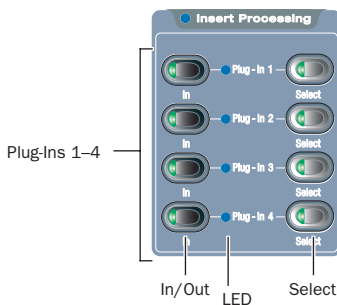
*ACS Insert Processing section*

Dynamics

Dynamics plug-ins can be selected and adjusted with the dedicated controls in the Dynamics section in the ACS. (Dynamics and EQ plug-ins can be targeted on the ACS and Output encoders simultaneously).

Threshold   Ratio   Attack   Comp Knee/Gate Hold   Release   Comp Gain/Gate Range

In/Out   Select   Dynamics In/Out

Gain Reduction meters

ACS Dynamics section and controls

Equalizer

EQ plug-ins can be selected and adjusted with the dedicated controls in the EQ section in the ACS. (EQ and Dynamics plug-ins can be targeted on the Output encoders and ACS simultaneously.

Plug-In   Low   Low-Mid   High-Mid   High

In/Out
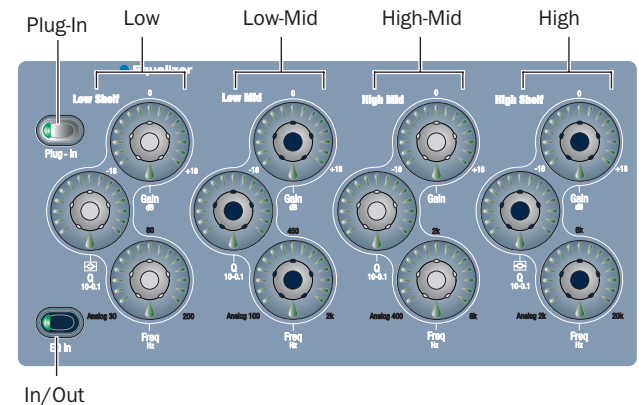
ACS EQ controls

Output Encoders

The Output encoders can be placed into Insert mode to adjust any selected plug-in. Plug-in parameters map to the eight encoders and their switches; additional parameters are accessed with the Previous Page and Next Page switches.
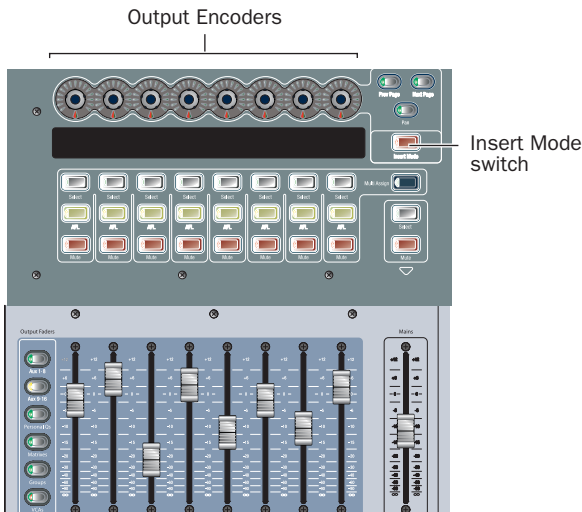
Encoders and Insert mode switch in the Output section

To adjust a plug-in from the control surface:

1 Select the channel or bus on which the plug-in is inserted. To select a bus processing plug-in, bank to and select the FX Return or other channel assigned as the plug-in output.

2 In the Insert Processing section of the ACS, press the Select switch for the plug-in so that its switch is lit.

3 Press the Insert Mode switch, located near the Output encoders. The first page of plug-in parameters is mapped to the eight Output encoders.

4 To reset a parameter to its default value, hold the Alt key while rotating or pushing an encoder.

5 To adjust with greater resolution, hold the Ctrl key while rotating an encoder.

6 Press Previous Page or Next Page to bank to other plug-in parameters.

⚠️ *Some delay plug-ins include automatic beat clock and tempo controls (such as the Tempo Sync feature in the Digidesign Mod Delay plug-in). These types of plug-in controls default to On, or active. Be sure to manually deactivate Tempo Sync or the equivalent in these plug-ins.*

Display of Plug-Ins in Insert Mode

While in Insert Mode, the Output LCD displays the value and name of the 8 currently banked plug-in parameters in the upper and lower row, respectively, for each parameter.

In this default Insert Mode view, adjusting an Output fader temporarily shows fader level in the lower row of the Output LCD for that channel, replacing the parameter name display.

Alternate Insert Mode View

You can use an alternate view to have Insert Mode display parameter values in the upper row and the associated bus name in the lower row.

To view values and bus names for the Output encoders in Insert Mode:

■ Press Alt (or Default)+Insert Mode.

Using the Source Switch

The Source switch toggles Input displays to show the names of bus-fed plug-ins routed to a channel. Use the Source switch to quickly identify which FX Returns or other channels are being used as plug-in returns.

To view encoder values and bus names for Input or FX Return channels:

■ Press the Source switch, to the left of the Input LCD.

Bypassing Plug-Ins

To bypass a plug-in:

1 Select the channel on which the plug-in is inserted.

2 In the Insert Processing section of the ACS, press the In/Out switch for the plug-in to toggle between in-circuit/out-of-circuit. When the switch LED is lit, it indicates that the plug-in is in-circuit. When unlit, the plug-in is out-of-circuit (bypassed).
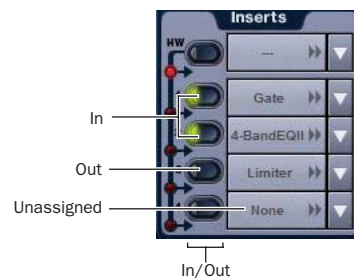
LED indication of in circuit and out of circuit (bypassed) inserts

Software Screen

The software screen can also be used to patch, route, or re-route plug-ins during a performance, even while in Show mode.

📖 *Plug-Ins must already be installed on the D-Show system, and assigned to a rack slot, to be available while mixing. See "Assigning Plug-Ins to Rack Slots" on page 152.*

"Jump To" Plug-Ins

The Input and Output screens let you "jump to" a specific plug-in insert to adjust it on-screen.

To jump to a plug-in insert from the Inputs or Outputs screen:

1 Select a channel to display it in the Inputs or Outputs screen.

2 Click the plug-in name shown in the channel Insert section.

Jumping to a plug-in on a channel insert

To jump to a plug-in on a bus:

1 Bank to the FX Return or other channel type assigned as the plug-in output, or bank to the output feeding the plug-in.

2 Select the channel to display it in the Inputs or Outputs screen.

3 Click the routing displayed beneath the Channel Name.

Jumping to a plug-in on an FX Return

Plug-Ins Screens and Channel Selection

When jumping to a plug-in, display depends on the type of plug-in routing, as follows:

Channel Inserts If the Plug-Ins screen is in Zoom view while you select a channel, the last selected plug-in for that channel is automatically selected and displayed in the Plug-Ins screen.

Bus-Fed Plug-Ins If no plug-ins are inserted on a channel (such as when returning a bus-fed plug-in to an FX Return) the plug-in feeding that FX Return is displayed.

Pinning a Plug-In View

It is possible to decouple the plug-in view from the console for consistent and constant access to a single plug-in on-screen, while still being able to select and adjust other plug-ins from the console. This capability is useful any time you want to always display an important plug-in (such as an analysis plug-in or primary EQ).

To pin a plug-in view:

1 Bring the desired plug-in into the main plug-in view (use the channel Select and Insert Mode switches, or double-click the desired plug-in in the rack).

2 Click the Push-Pin icon in the upper-right of the screen (the icon is located just to the left of the Presets and View Toggle icons.

- When enabled, the Push-Pin icon appears lit. This indicates that the current plug-in will remain on-screen and will not lose focus, even if another channel is targeted.
- When not enabled, the Push-Pin icon appears unlit. Plug-in view follows control surface selections.

Push-Pin plug-in view icon

Adjusting EQ and Dynamics Plug-Ins from the ACS

Many D-Show compatible EQ and Dynamics plug-ins map to the dedicated EQ and Dynamics controls in the ACS. Parameters map identically to those for the built-in EQ and dynamics, providing consistent location and control of these critical effects.

Plug-Ins that do not map to the ACS can be adjusted using the Assignable Output Encoders, as explained in "Adjusting Plug-Ins" on page 155.

Adjusting EQ Plug-Ins

To adjust an EQ plug-in using the ACS EQ section:

1 Target the channel with the plug-in by pressing the channel Select switch.

2 Press the plug-in Select switch (located at the top of the ACS EQ section).

3 Adjust plug-in parameters by pressing or turning the corresponding ACS EQ encoders.

4 Toggle the plug-in in and out using by pressing the EQ In switch.

Five-Band EQs

When a plug-in has more than four bands, some controls will be unavailable in the ACS EQ section. Use the Output encoders to access and adjust additional controls.

When a plug-in contains more than one filter type for a particular band (for example, EQ II's 1-band EQ with hi/lo pass, peak), pressing the Q encoder cycles through the various selections. The indicator LED only lights when a bell (peaking) filter type is selected.

Not all EQ plug-in parameters will map precisely to the values printed on the control surface.

📖 *See Chapter 17, "EQ."*

Adjusting Dynamics Plug-Ins

To adjust a compressor, limiter, expander, or gate plug-in using the ACS Dynamics section:

1 Target the channel with the plug-in by pressing the channel Select switch.

2 Press the plug-in Select switch (located next to the ACS gain reduction meters in the Dynamics section).

3 Adjust plug-in parameters by pressing or turning the corresponding ACS Dynamics encoders.

When a plug-in provides additional parameters beyond those that map to the dedicated dynamics encoders, you can use the Assignable Output Encoders and the Previous Page/Next Page switches in the ACS (or on-screen).

If more than one Dynamics plug-in is inserted on a channel, the lowest-numbered insert is mapped first to the Dynamics section. In some cases, this can be the same plug-in if the plug-in has both a Comp/Lim section and Exp/Gate section. When there is both a mappable compressor and gate, the Comp or Gate select button flashes to indicate whether a compressor or gate is currently controlled by the encoders. Press the Plug-In switch to toggle focus between the two dynamics inserts.

Not all Dynamics plug-in parameters will map precisely to the values printed on the control surface.

📖 *For additional information about the dynamics controls in the ACS, see Chapter 16, "Dynamics."*

Plug-In Presets and Snapshots

D-Show lets you save and load plug-in Presets files to import, export, and transfer plug-in settings files.

Snapshots can also be used to automate changes to plug-in routing and settings.

💡 *Presets can be applied to multiple Shows, while snapshots apply only to the Show file in which they are stored.*

Presets

D-Show lets you save, load, and transfer plug-in Preset files. Presets are files that you can create to archive and transfer custom plug-in settings. You can then create your own Preset folders to organize Preset files. Preset folders and files can be transferred using the Filing Page.

To create a custom Presets folder:

1 Go to the Filing page and click the Transfer tab.

2 Click the Preset Folders icon.

3 Click the New button at the left of the screen.

4 Do one of the following:
- To leave the folder at its default name, press Enter.

– or –
- Type a new name and press Enter.

To save a Preset:

1 Adjust the plug-in parameters as desired.

2 Press the Presets switch in the ACS (to the left of the Insert 1–4 rows), or click the Presets icon in the Plug-Ins screen.

3 In the Presets window, click New.

4 Enter a custom name for the Preset.

To load a Preset into a plug-in:

1 Make sure the presets are already transferred and available on the current system. (Many plug-ins come with factory presets that will be installed along with the plug-in.)

2 Select the channel containing the plug-in.

3 Press Select in the Insert Processing section of the ACS to select the plug-in.

4 Press the Presets switch, to the left of the Insert 1–4 rows, or click the Presets icon in the Plug-Ins screen.

5 Do one of the following:

- From the control surface, use the Presets and Snapshots displays and controls to scroll through, select, load, and save plug-in presets. Scrolling through the list using the ACS Select knob or Arrow keys automatically previews each preset.

– or –

- From the software screen, single-click a preset name in the Presets list to preview it. Click Cancel to close the Presets list without changing settings. To load a preset and close the Presets list, double-click a name in the Presets list.

6 Click Cancel at any time to close the Presets list and revert to the previous settings.

Snapshots

Snapshots can automate plug-in settings, including routing, and in/out state. (Side-chain routing is not supported in Snapshots.)

💡 *Snapshots do not store or recall Presets. Snapshots store plug-in settings as they were when the Snapshot was created or saved.*

Each rack slot in the Plug-Ins screen provides a Snapshot menu, with shortcuts for common snapshot-related tasks:

- Create a new snapshot
- Add one or more plug-ins to the MIDI/Plug-Ins list, and automatically re-scope the snapshot to include plug-ins.
- Remove plug-ins from one or more snapshots

Snapshots Containing this Plug-In Lists all currently loaded snapshots referencing the plug-in, in sequential order. Choose a snapshot to load it. (This menu option is useful for targeting snapshots while editing plug-in racks.)

Create New Snapshot Containing this Plug-In Adds a new snapshot to the snapshot list in which only plug-ins are scoped. This snapshot is inserted immediately after the currently targeted snapshot, which may not necessarily be the last snapshot. The snapshot is named to reflect the plug-in rack position, for example: "PI 1-1: Reverb One" is a Reverb One plug-in assigned to rack 1, slot 1.

Add (or Update) this Plug-In to Snapshot Adds a plug-in reference, with current settings, if the currently targeted snapshot does not already reference this plug-in. If the currently targeted snapshot already references this plug-in, the choice is Update (see next). If multiple snapshots are selected, this command changes to "Add Plug-In to Selected Snapshots" for batch-assignment.

Update this Plug-In in Snapshots Updates snapshots with current settings, if the currently targeted snapshot (or currently selected snapshots) already references this plug-in.

Remove this Plug-In in Snapshot Removes reference to this plug-in in the currently targeted snapshot, or from all currently selected snapshots.

📖 *See Chapter 21, "Snapshots."*

Plug-Ins and D-Show Standalone Software

You can use D-Show Standalone software to preconfigure plug-in routing and in/out state, with the following limitations:

- Plug-Ins cannot be installed in the Standalone Software.
- A Show file must be transferred from a console on which plug-ins were previously installed.

Once a Show file containing plug-ins has been transferred to the standalone software, the following rules apply:

- Plug-Ins can be placed in racks and routed in Standalone mode.
- Snapshots can be created, loaded, and stored.
- Plug-In settings cannot be adjusted.
- Plug-In Presets cannot be saved or loaded.

Plug-In DSP Usage

Plug-Ins utilize DSP resources when they are assigned to a rack slot, and that rack slot is powered on. You can turn off unused plug-ins to reclaim their DSP by making them inactive, or by removing them from the system.

Plug-In availability is limited to the available DSP resources. Additional DSP can be added to D-Show by purchasing and installing Mix Engine cards.

The amount of DSP available for plug-ins also varies with the current system configuration settings for Input Channels, FX Returns, and graphic EQs. Higher number of Input Channels leave fewer DSP resources for plug-ins, as shown in the Options > System Config screen.

Initializing the Plug-In Racks

The racks are initialized (or re-initialized) whenever the system is first powered on, whenever the FOH Rack is restarted, after installing a plug-in, and after disabling or re-enabling a plug-in.

While the racks are initializing, they are offline and do not process audio. Avoid performing any Filing or Transfer functions until the racks are finished initializing. Rack status is displayed on-screen in the banner display.

Plug-In Levels

D-Show displays its levels in meters in dBVU, with
0 dBVU =+4dBu analog out = –20dBFS.

Internally, D-Show provides up to 48-bit processing for
built-in EQ and dynamics. Plug-Ins provide up to 24-bit pro-
cessing, with level matching circuitry and logic ensuring max-
imum fidelity and sonic performance throughout the entire
signal path. Due to variances in how plug-in metering is im-
plemented by different manufacturers, performance may vary
with regard to plug-in gain reduction meters and their relative
levels.

When using side-chain routing, be aware of potential level dif-
ferences between Input Channel pickoff points. For more in-
formation, see "Side-Chain Keys and Filters" on page 132.

Plug-In Latency and Processing Delay

Plug-In latency includes processing delay of the plug-in itself
plus routing delay, as follows:

- Instance delay: (2 samples per plug-in)
- DSP chip delay (3 samples)

Viewing Plug-In Latency

Cumulative channel processing delay can be viewed by
right-clicking the Inserts area of the selected channel. The cu-
mulative delay includes latency reported by all inserted
plug-ins, signal routing and the known hardware insert delay,
if applicable.
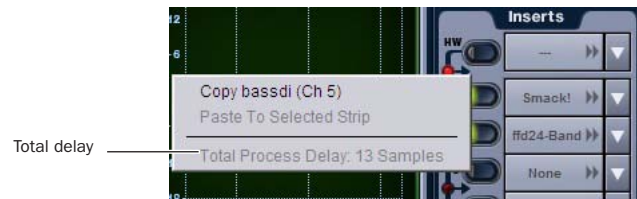
Viewing cumulative delay by right-clicking the Inserts section

Individual plug-In processing delay can be seen by right-click-
ing the plug-in icon in the rack. Use the number reported
when calculating latency for manual delay compensation.

Examples

◆ If there is only one plug-in on a channel, the total delay will
be the amount of plug-in latency + 2 + 3. (2 samples for the
one plug-in instance, plus 3 samples for the DSP routing to the
racks and back.)

◆ If you have two plug-ins on a channel or bus, the delay will
be plug-in #1 latency + 2 + plug-in #2 latency + 2 + 3. If plug-in
#1 has 12 samples of latency, and plug-in #2 has 15, total la-
tency will be 34 samples (12 + 2 + 15 + 2 + 3).

Part V: Shows

Chapter 20: Shows and File Management

D-Show lets you store, recall and transfer D-Show system settings. There are three types of information files that can be managed separately, as follows:

Show Files These files are used to store, recall and transfer D-Show system settings, snapshot, and events.

Preset Files These files are used to store settings for built-in processors and plug-ins, and Recall Safe Scope Sets.

Console Setting Files These files are used to transfer or back up the current state of the D-Show system.

⚠ *D-Show does not need to be in Config mode to carry out file management tasks. However, many file management operations, including loading Shows, may interrupt audio throughput. Make sure to perform all file management tasks before a performance.*

Creating Shows

A Show file contains all console settings, including configuration, signal routing, mixer settings, plug-in information, snapshots, and other operational settings. Shows are grouped together in Show Folders.

Show Folders

Show Folders contain Show files. You can create and manage Show Folders from the Save tab of the Filing page.
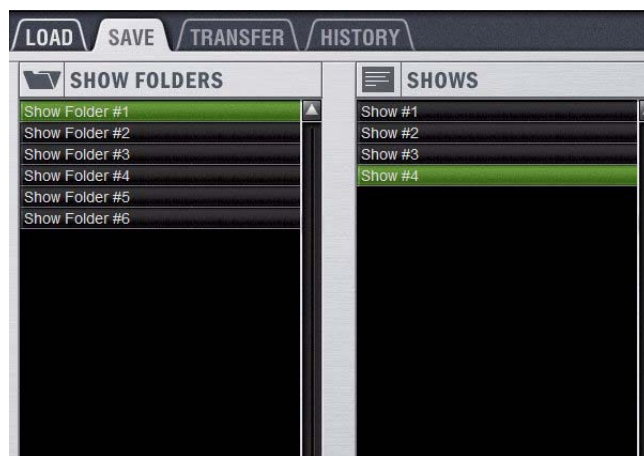
Show Folders and Show files in the Save tab of the Filing page

Creating Show Folders

To create a new Show Folder:

1 Go to the Filing page and click the Save tab.

2 In the Show Folders column, click the New button.

3 Type a name for the Show Folder and press Enter.

Duplicating Show Folders

To duplicate a Show Folders:

1 In the Show Folders column, click a Show Folder name to select the folder.

2 Click the Duplicate button.

The folder and all of the Show files it contains are duplicated.

🔲 *You can also duplicate folders by right-clicking a Show Folder name and choosing Duplicate.*

Renaming Show Folders

To rename a Show Folder:

1 In the Show Folders column, click a Show Folder name to select the folder.

2 Click the Rename button.

🔲 *You can also rename Show Folders by right-clicking a Show Folder name and choosing Rename, or by double-clicking a Show Folder name.*

3 Type a new name for the Show Folder and press Enter.

Deleting Show Folders

When you delete a Show Folder, all Show files contained in that folder are also deleted.

To delete a Show Folder:

1 In the Show Folders column, click a Show Folder name to select the folder.

2 Click the Delete button.

🔲 *You can also right-click a Show Folder name and choose Delete to delete the folder.*

Show Files

Creating and Saving Show Files

When you create a new Show file, it captures the current state of the D-Show system. Show files are automatically saved when they are created or overwritten.

To create a new Show file:

1 Go to the Filing page and click the Save tab.

2 In the Show Folders column, select the Show folder where you want to save the Show.

3 In the Shows column, click the New button. The new Show file captures the current state of the system.

4 Type a name for the Show file and press Enter.

5 Double-click in the Notes field for the Show and type any comments you want to save with the Show.

Information about the Show file is shown in the Info area of the Filing page.

Show files are automatically saved when they are created; no further action is required to save them.

To update or overwrite an existing Show file:

■ In the Shows column, right-click the Show file name you want to overwrite, and choose Overwrite from the pop-up menu. The current state of the system is saved to the selected Show file.

Right-clicking a Show file name in the Shows column

Duplicating Show Files

To duplicate a Show file:

1 In the Shows column, click a Show file name to select the file.

2 In the Shows column, click the Duplicate button.

You can also right-click a Show file name and choose Duplicate to duplicate the file.

Renaming Show Files

To rename a Show file:

1 In the Shows column, click a Show file name to select the file.

2 In the Shows column, click the Rename button.

You can also right-click a Show file name and choose Rename, or double-click the Show file name to rename the file.

3 Type a new name for the Show file and press Enter.

Deleting Show Files

To delete a Show file:

1 In the Shows column, click a Show file name to select the file.

**2** In the Shows column, click the Delete button.

You can also right-click a Show file name and choose Delete to delete the file.

Loading Shows

You can load Show files into the D-Show system from the Load tab of the Filing page.

Shows cannot be loaded onto the destination D-Show system directly from the portable storage device, but must first be transferred to the system before loading.

Loading a show automatically replaces the current console settings with those of the loaded show, and may interrupt audio throughput.
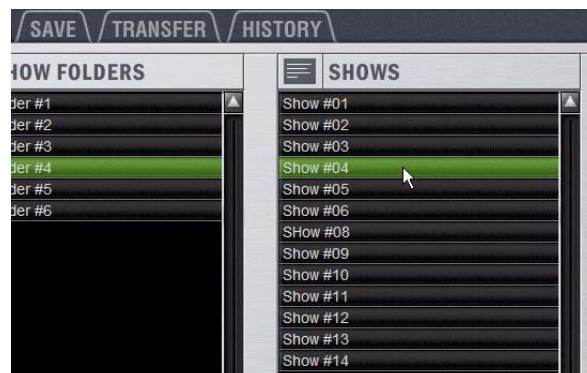
Show Folders and Show files in the Load tab of the Filing Page

To load a Show file:

1 Go to the Filing page and click the Load tab.

2 In the Show Folders column, click a Show Folder name to select the folder. Any Show files in the folder are displayed in the Shows column.

3 In the Shows column, click a Show file name to select the file.

4 Click the Load button.

D-Show loads the new Show file, replacing the current system configuration, routing, and control settings with those contained in the new file.

System Configurations and Loading Shows

Show files include D-Show system configuration settings (such as the type of D-Show console (D-Show Profile, or a D-Show Main and Sidecars); the number of Mix Engines; Number of Input Channels, FX Returns, and EQs; Aux and Group Bus configurations).

• If a Show file includes the same system configuration settings as the current configuration, the configuration information appears in blue text in the Info area.

• If a Show file differs from the current configuration, but can be loaded on the system, the relevant configuration changes appear in orange text in the Info area. When the Show file is loaded, D-Show restarts in the new configuration.

• If a Show file differs from the current configuration and cannot be loaded on the system in its entirety, the configuration information appears in red text in the Info area.

If a Show configuration is too large for the current system, mix elements are dropped in following order:

1 Plug-Ins are deactivated

2 Graphics EQs are dropped

3 Input Channels are dropped

Working with Presets

Preset files are used to store, recall and transfer factory or user-defined presets. Preset files are grouped in the following types of Preset Folders:

   • Built-in Compressor/Limiter, Expander/Gate, 4-band EQ, 2-band EQ, 31-band Graphic EQ
   • Plug-ins Settings Files
   • Scope Sets
   • Input Channel Presets

📖 *For information on saving, previewing and loading built-in dynamics and EQ presets, see Chapter 16, "Dynamics" and Chapter 17, "EQ." For plug-in settings, see Chapter 19, "Plug-Ins." For Scope Sets, see Chapter 21, "Snapshots." For Input Channel Presets, seeChapter 5, "Navigating and Selecting Channels",*

Preset Folders

Preset Folders contain Preset files. Each of the built-in D-Show processors (Compressor/Limiter, Expander/Gate, 4-band EQ, 31-band Graphic EQ) and each plug-in has its own Factory Defaults folder. Additional folders are provided for Scope Sets.

You can create additional Preset Folders for each processor or plug-in and store new Presets in them. These folders can then be transferred to a portable storage device for transfer to other D-Show systems.

Creating Preset Folders

To create a new Preset Folder:

1 Go to the Filing page and click the Transfer tab.

2 Click the Preset Folders icon. A list of Preset Folders appears in the left column.

Preset Folders icon in the Transfer tab of the Filing page

3 In the left column, click the New button.

4 Type a name for the Preset Folder and press Enter.

The new Preset Folder is available in the Preset window for each processor or plug-in.

Duplicating Preset Folders

To duplicate a Preset Folder:

1 In the left column, click a Preset Folder name to select the folder.

2 Click the Duplicate button.

The folder and all of the Preset files it contains are duplicated.

🔳 *You can also right-click a Preset Folder name and choose Duplicate to duplicate the folder.*

Renaming Preset Folders

To rename a Preset Folder:

1 In the left column, click a Preset Folder name to select the folder.

2 Click the Rename button.

[SHIFT] *You can also right-click a Preset Folder name and choose Rename, or double-click a Preset Folder name to rename the folder.*

3 Type a new name for the Preset Folder and press Enter.

Deleting Preset Folders

When you delete a Preset Folder, all Presets contained in that folder are also deleted.

To delete a Preset Folder:

1 In the left column, click a Preset Folder name to select the folder.

2 Click the Delete button.

[SHIFT] *You can also right-click a Preset Folder name and choose Delete to delete the folder.*

Preset Files

You can manage Preset files from the Transfer tab of the Filing page. You cannot create Preset files from the Filing page. Preset files are created from the Presets window of the channel, processor or plug-in; Scope Sets are created from the Scope Sets window of the Recall Safe page.

Duplicating Presets

To duplicate a Preset file:

1 Go to the Filing page and click the Transfer tab.

2 Click the Built-In or Plug-In icon and choose a processor or plug-in from the pop-up menu. The available Preset Folders for the processor or plug-in appear in a pop-up menu above the left column.

Built-In EQ in the Transfer tab of the Filing Page

3 Click the Preset Folder name and choose a Preset Folder from the pop-up menu. Any Presets in the folder appear in the left column.

Preset Folder names at the top of the Presets column

4 Click a Preset file name to select the file.

5 Click the Duplicate button.

[SHIFT] *You can also right-click a Preset file name and choose Duplicate to duplicate the Preset.*

Renaming Presets

To rename a Preset file:

1 In the left column, click a Preset file name to select the file.

2 Click the Rename button.

[SHIFT] *You can also right-click a Preset file name and choose Rename, or double-click a Preset file name to rename the Preset.*

3 Type a new name for the Preset file and press Enter.

Deleting Presets

To delete a Preset file:

1 In the left column, click a Preset file name to select the Preset.

2 Click the Delete button.

[SHIFT] *You can also right-click a Preset file name and choose Delete to delete the Preset.*

Transferring Settings, Shows and Presets

You can copy Console Settings, Shows, and Presets to and from a portable storage device (such as a USB key disk) for backup, transfer from standalone software, and transfer between D-Show systems.

Settings, Shows and Presets cannot be loaded onto the destination D-Show system directly from the portable storage device, but must first be transferred to the system before loading.

Transfer of Settings files, Show files, and Preset files is managed from the Transfer tab of the Filing page. The Transfer tab shows the D-Show system files in the left column and the contents of the portable storage device in the right column. Items are selected for transfer in the center.

File transfer controls

To transfer Settings, Shows or Presets between D-Show and a portable storage device:

1 Go to the Filing page and click the Transfer tab.

2 Connect a portable storage device (such as a USB key disk) to D-Show. The device appears above the right column.

3 Do one of the following to select the type of data to transfer:

• To transfer all data, click the Console icon.

• To transfer Console Settings, click the Settings icon.

• To transfer Show Folders, click the Show Folders icon.

• To transfer individual Shows, click the Shows icon.

• To transfer Preset Folders, click the Preset Folders icon.

• To transfer Presets for individual items, click the Built-In or Plug-In icon and choose a D-Show processor or plug-in, or Input Channel from the pop-up menu.

• To transfer Scope Sets for Recall Safe, click the Scope Sets icon.

4 Do one of the following to select the items to transfer:

• In the left column, select the items you want to transfer from D-Show to the portable storage device.

– or –

• In the right column, select the items you want to transfer from the portable storage device to D-Show.

Show files selected for transfer from D-Show to USB key disk

5 Click the Transfer button.

Large transfers may take time. Transfer status is shown by a progress bar. A transfer may be cancelled by clicking Cancel.

⚠ *Cancelled transfers may result in partial folder contents, which will have to be deleted manually.*

Synchronizing Settings, Shows and Presets

Instead of transferring data in one direction between the D-Show system and a portable storage device, you can synchronize all data in both columns of the Transfer tab in a single operation.

Synchronizing data causes new files to be copied and files with the same name but a more recent modification date/time to be automatically updated.

⚠ *When synchronizing data, D-Show replaces data files of the same name with the file that has the most recent date/time. Check to be sure that the system clock times and time zones are correctly set on the D-Show system and on the computer running D-Show Standalone software when preparing data for synchronization.*

To synchronize Settings, Shows, or Presets between D-Show and a portable storage device:

1 Go to the Filing page and click the Transfer tab.

2 Connect a portable storage device (such as a USB key disk) to D-Show. The device appears above the right column.

3 Do one of the following to select the type of data to synchronize:

- To synchronize all data, click the Console icon.
- To synchronize Console Settings, click the Settings icon.
- To synchronize Show Folders, click the Show Folders icon.
- To synchronize individual Shows, click the Show icon.
- To synchronize Preset Folders, click the Preset Folders icon.
- To synchronize Presets for individual items, click the Built-In icon or the Plug-In icon and choose a processor or plug-in from the pop-up menu.

4 From the pop-up menus above each column, choose the folders containing the elements you want to synchronize.

5 Click the Sync All button. The contents of the left and right columns are synchronized.

Transferring Settings, Shows, and Presets from the D-Show Standalone Software

Using D-Show Standalone software on a laptop computer, you can configure D-Show system routing, set up mixes, create Snapshots, and save Shows and Presets, then transfer them to a D-Show console.

You can create and transfer Console Settings, Shows, and Presets from the Standalone software.

▤ See Chapter 24, "Using the D-Show Standalone Software."

Undoing Changes Using the History Feature

D-Show automatically saves the current state of the console while you are working, allowing you to quickly return the console to a previous state.

The History feature uses Show files to capture the console state, and displays the files in the History tab.

💡 *Show Folders and Show files displayed in the History tab can only be deleted. They cannot be duplicated or renamed.*

Show Folders in the History Tab

There are two Show Folders in the History tab:

◆ The *Most Recent Changes* folder includes all auto-saved Show files for a ten-hour period.

◆ The *Previous Days* folder includes only the last auto-saved Show file for each day since the console was last cleared.

Show Files in the History Tab

The auto-saved Show files displayed in the History Tab are named according to the date and time of their creation, and cannot be renamed.

The Notes field for each auto-saved Show file includes a description of the conditions that caused the automatic save.

Several conditions cause D-Show to automatically save a new Show file in the History tab, as follows:

◆ In the course of normal work, a new Show file is automatically saved in the History tab approximately every ten minutes. Saves are less frequent when the console is idle.

◆ A new Show file is automatically saved just prior to a significant change in the console setup, including:

- Change of console channel or bus configuration
- Recall, storage, or modification of a Snapshot
- Loading of Console Settings or a Show

Loading an Auto-Saved Show

To return the console to an earlier state at any time, you can load any of the auto-saved Show files displayed in the History tab.

To load an auto-saved Show file:

1 Go to the Filing page and click the History tab.

2 In the Show Folders column, click the Show Folder name to select the folder and display its contents in the Shows column.

3 In the Shows column, click the Show file name for the Show you want load.
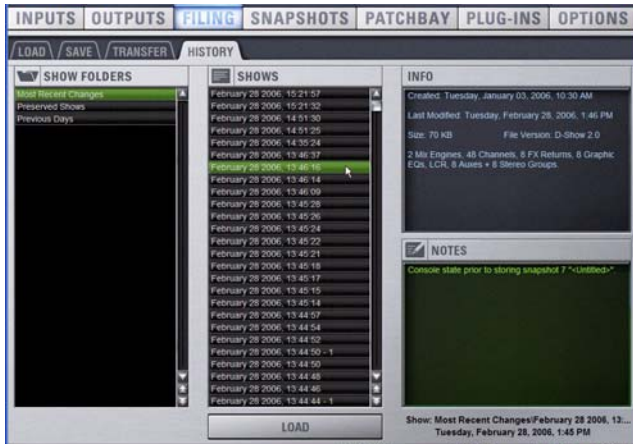
Loading an auto-saved Show file

4 Click the Load button.

D-Show loads the selected Show file, replacing the current system configuration, routing, and control settings with those contained in the selected file.

Chapter 21: Snapshots

The D-Show Snapshots feature lets you flexibly store and recall a wide range of console mixing parameters. Snapshots are commonly used to store the mixer setup and levels for individual scenes, songs or sound cues in a performance. Snapshots store information about channels and mix parameters, and you can use a variety of methods to edit, preview, and manage snapshot data.

Snapshots are contained and stored as part of a Show. A single Show file can contain up to 999 snapshots. Snapshots are controlled from the on-screen Snapshots page, or from the dedicated Snapshot controls of the ACS section. Once stored, snapshots can be recalled according to incoming MTC. The Event List provides additional capabilities for storing and recalling snapshots.

The selection of data types and channels to be recalled is referred to as the *scope* of a snapshot. The scope of data to be recalled is also stored within each snapshot, and is set using the Data Type Scope buttons and the Channel Scope controls in the Snapshots page. In addition, the Recall Safe page provides global control of automation safe status for individual parameters on specific channels.

Snapshots Page

The Snapshots page provides controls for storing, recalling, and managing snapshots, providing a central location for setting up and replaying automated performances.
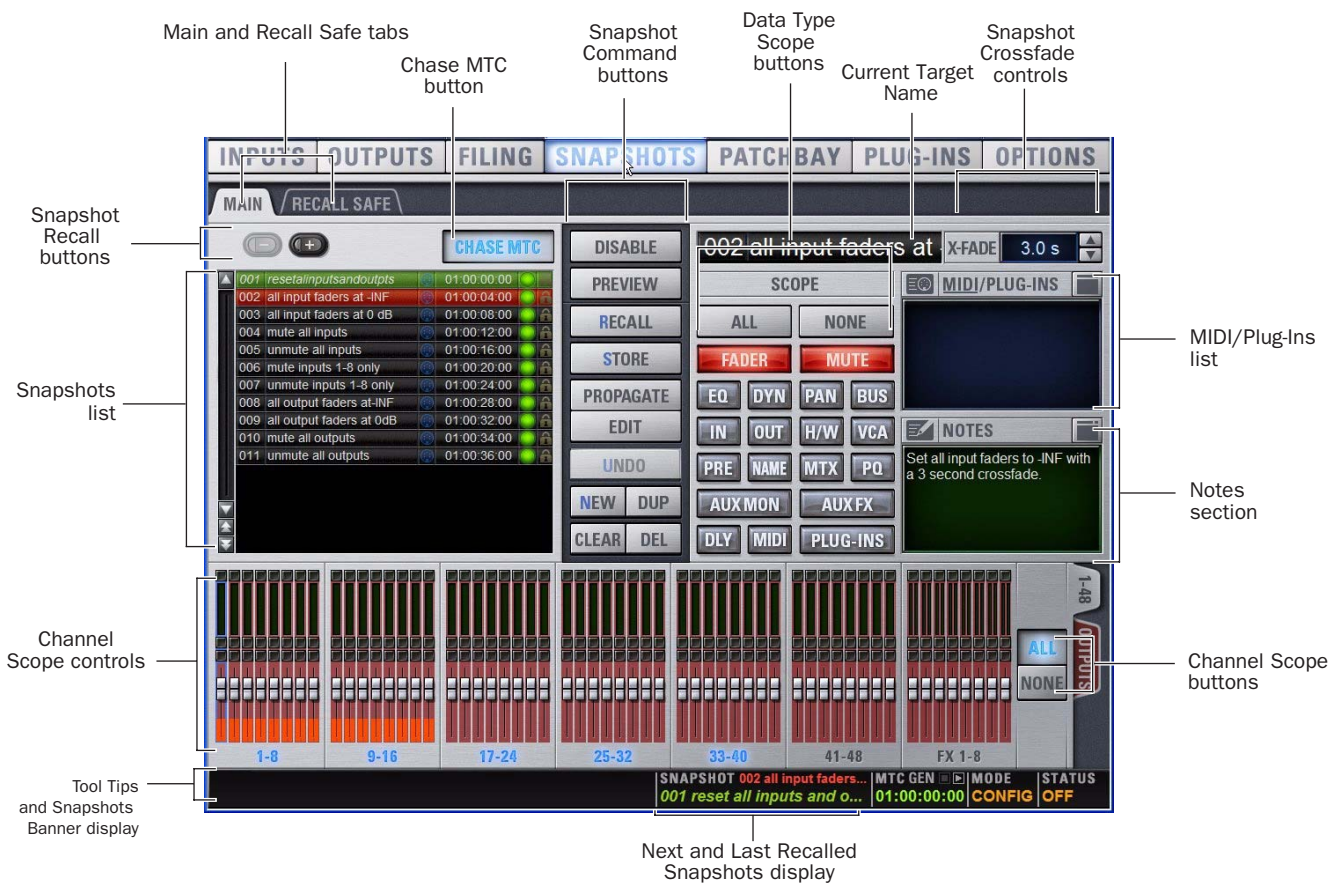

Figure 13. Sections of the Snapshots page

To display the Snapshots page, do one of the following:

- Click the Snapshots tab on-screen.

   – or –

- Press the Snapshots View Mode switch.

   💡 *Repeatedly pressing the Snapshots View Mode button toggles through all tabs.*

Main and Recall Safe

The Snapshots screen provides the Main and Recall Safe tabs.

Main Provides the primary snapshot controls described in the following sections.

Recall Safe Provides a matrix of channel parameters which can be globally safed from Recall for all snapshots.

Snapshots List

Snapshots can be targeted, renamed, recalled, previewed, edited, locked, reordered, duplicated, searched, and deleted from the Snapshots list.

Snapshot Command Buttons

Disable Temporarily disables all snapshot functions.

Preview An "offline" mode in which the console continues to process audio using its settings at the time Preview is invoked, letting you recall, edit and manage snapshots without affecting the current mix.

Recall Recalls the targeted snapshot, updating the console to reflect the status of all scoped data types and channels in the snapshot (subject to the current Recall Safe settings).

Store Stores the current state of the console in the targeted snapshot for all data types and channels, overwriting any existing data in the snapshot.

Propagate Enables Propagate mode. Lets you apply isolated changes to one or more snapshots at once (such as updating a channel EQ across all snapshots).

Edit Enables Edit mode. Lets you adjust parameters freely and apply those changes to one or more snapshots. Changes can be applied in Absolute or Relative fashion.

Undo Returns the console to its state before the last snapshot command.

New Creates a new snapshot that captures the current state of all data types and channels.

Duplicate Creates a copy of the selected snapshots.

Clear Clears the contents of the targeted snapshot, but retains the MTC information for the snapshots.

Delete Deletes the targeted snapshots.

Snapshot Scope Controls

The Snapshot Data Type buttons and Channels work together, acting as a filter for which data types are recalled for which channels on the console. The buttons and channels indicate which data will be recalled for the currently targeted snapshot.

Scope States

Scoped Red display indicates that the data type or channel is currently scoped and will be affected by snapshot recall.

Not Scoped Gray display indicates that the data type or channel is not currently scoped and will not be affected by snapshot recall.

Data Type Scope Buttons

The Snapshot Data Type buttons display scope status for the corresponding types of controls on the console. See Table 23 on page 193 for a complete list.

Data Type Scope buttons showing different scope states

Channel Scope Controls

Channels may be included or excluded from snapshots. The Snapshot Channel Faders display the scope status of each channel on the console. They also let you preview any changes in fader position or mute state that will result by recalling the targeted snapshot.
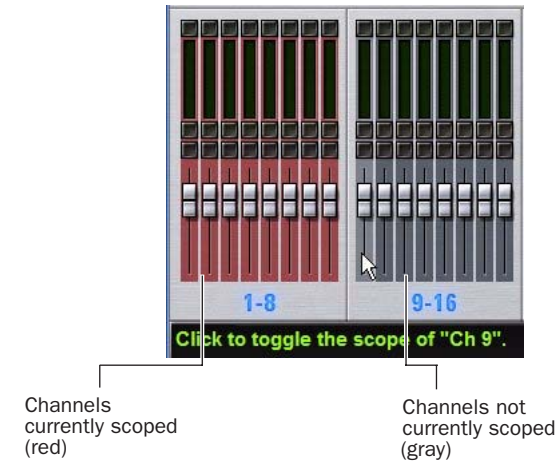
Snapshot channel fader display showing different scope states

Channel Fader Position

When you target a snapshot with scoped channels that have different fader positions from the current fader positions, the target fader positions are shown in bright red.

Snapshot channel fader display showing target fader positions

Channel Mute State

When you target a snapshot with scoped channels that have different mute states from the current mute states, the target mute buttons are outlined in yellow.
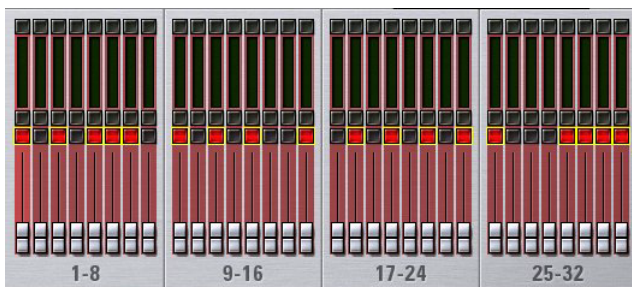

Snapshot channel fader display showing target mute states

Selected Channel Indication

The Snapshots page indicates the currently selected channel.

◆ If the selected channel is not scoped in the currently selected snapshot, it is indicated with a blue highlight.

◆ If the currently selected channel is scoped in the currently selected snapshot, it is indicated by a blue outline around the on-screen fader strip.

Selected channel, not scoped   Selected channel, scoped (blue outline)
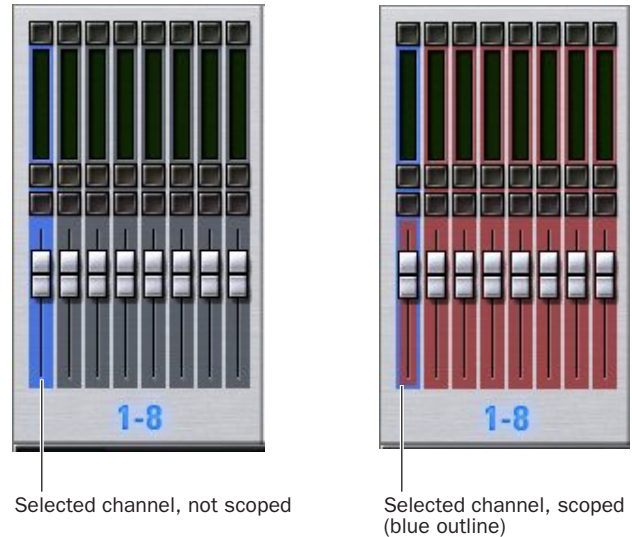
Selected channel indication in the Snapshots page

💡 *Though the currently selected channel is displayed in the Snapshots page, keep in mind that you cannot target a different channel from this page. The currently selected (target) channel is indicated for visual reference only. To select and target a different channel, use the channel Select switches or the Channel Scroll buttons.*

Data Type Scope Action Buttons

All Turns on the scope for all data types at once. This is equivalent to clicking all of the Data Type buttons so they are red.

None Turns off the scope for all data types at once. This is equivalent to clicking all of the Data Type buttons so they are gray.

Channel Scope Action Buttons

All Turns on the scope for all channels displayed on the current tab (such as 1–48, 49–96). Double-clicking the All button turns on the scope for all channels on the system.

None Clicking the None button turns off the scope for all channels on the current tab (such as 1–48, 49–96). Double-clicking the None button turns off the scope for all channels on the system.

Next Snapshot Indication in Status Display

The Snapshot Status display shows the currently targeted (next) snapshot in red text directly above the display of the last (most recently recalled) snapshot. Pressing the Snapshot Recall button immediately recalls the targeted snapshot and makes it the last recalled snapshot.


Next snapshot (red)

Most recently recalled snapshot (green)

Next and Last Recalled snapshot display in the Status area

Snapshot Controls on the D-Show Profile Control Surface

Snapshot controls appear in the Snapshots section. These controls provide direct access to a few basic snapshot commands and allow manual control of snapshot recall.

Snapshots Section

You can target (select), store, and recall snapshots from the Snapshots controls in this section.
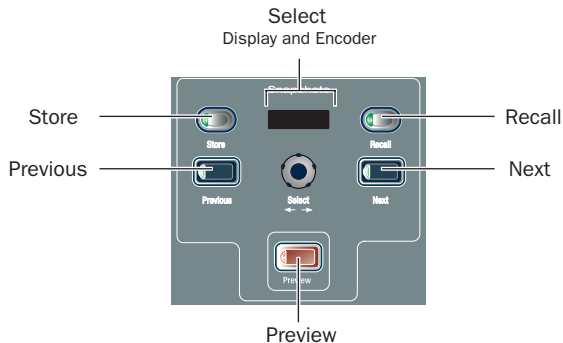
Snapshot controls in the ACS Section

The Snapshot controls in the Snapshots section perform the following functions:

Store Stores the current state of all console parameters in the targeted snapshot. This switch mirrors the Store button in the Snapshots page.

Recall Recalls the targeted snapshot. This switch mirrors the Recall button in the Snapshots page.

Select Encoder and Display Turning the Select encoder scrolls through and selects the targeted snapshot in the Snapshots list. The 6-character display shows the name of the currently targeted snapshot. A period is appended to the displayed snapshot name to indicate whenever it has been edited since being recalled.

Previous Instantly recalls the snapshot prior to the most recently recalled snapshot. This switch mirrors the Recall Previous button in the Snapshots page.

Next Instantly recalls the snapshot immediately following the most recently recalled snapshot. This switch mirrors the Recall Next button in the Snapshots page.

⚠ *The Previous and Next switches combine target and recall actions in one step, causing the next or previous snapshot to be instantly active. These switches cannot be used to preview snapshots before recalling them.*

Preview Enables snapshot Preview mode. See "Preview Mode" on page 185

Snapshots List

Snapshot Entries

Each entry in the Snapshots List has a number (001–999) and name, along with icons for Lock and Enable status. If either the MIDI Read or Generate feature is enabled, each snapshot will also have a time code value, trigger indicator, or send indicator.

Recall Buttons

The Recall Previous (–) and Recall Next (+) buttons at the top of the Snapshots List cause the previous or next snapshot to be targeted and recalled in one step.

Chase MTC

Enables or suspends automated recall of snapshots when either the MTC Read or MTC Generate options is enabled.

Navigating the Snapshots List

Snapshots are highlighted in color in the Snapshots list to indicate the following:

Green Indicates the last recalled snapshot

Red Indicates the currently targeted snapshot

Yellow Indicates that the snapshot is both the last recalled and currently targeted snapshot

Blue Indicates that the snapshot is part of a multiple snapshot selection but not the last recalled or currently targeted snapshot. Recalled and Targeted snapshots can also be part of a multiple selection in the list. In this case, the sequence number is blue while the rest of the name is red, green or yellow.

Snapshot Keyboard Shortcuts

When the Snapshots page is displayed, you can perform the following Snapshot functions with these keyboard shortcuts:

Snapshot Function	Keyboard Shortcut
Target Next/Previous Snapshot	Up/Down Arrow keys
Target First Snapshot in List	Home key
Target Last Snapshot in List	End key
Target Snapshot at Top of Page	Page Up
Target Snapshot at Bottom of Page	Page Down
Select Multiple Contiguous Snapshots	Shift-click snapshots
Select Multiple Non-Contiguous Snapshots/Deselect any Snapshot	Ctrl-click snapshots
Select All Snapshots	Ctrl+A
Create New Snapshot	Ctrl+N
Recall Targeted Snapshot	Ctrl+R
Store Targeted Snapshot	Ctrl+S
Undo	Ctrl+U
Add or update MIDI/Plug-in data to snapshot	Right-click MIDI/Plug-ins entry

Selecting Snapshots

You can select single snapshots or multiple snapshots in order to target, recall, duplicate, edit, lock or delete them in the snapshots list.

To select multiple contiguous snapshots:

■ Shift-click the snapshot names in the Snapshots list.

To clear a selection of multiple contiguous snapshots:

■ Click any snapshot name in the Snapshots list.

– or –

■ Turn the Select knob in the Snapshots section.

To select or de-select non-contiguous snapshots:

■ Ctrl-click the snapshot names in the Snapshots list.

Multiple items selected in the Snapshots list

Snapshot Type Text Search

Type Text search lets you use the keyboard for fast navigation of the Snapshots List.

To search for and target a snapshot:

1 Go to the Snapshots page.

2 Do one of the following:

• Type the number of the snapshot.

– or –

• Type the first letters of the snapshot name.

3 Press the Tab key to cycle through any snapshots that start with the same letter.

Centering the Snapshot List

The Options > Snapshots page provides a preference setting to always center the Snapshot list on the last recalled snapshot. This setting lets you always view the snapshots immediately above and below (prior to and following) the last recalled snapshot. This setting only affects the scroll position of items in the Snapshot list.

Snapshot list with Center Last Recalled Snapshot enabled

To center the Snapshot List on the last recalled snapshot:

1 Go to the Options > Snapshots page.

2 In the Snapshots General Preferences section, click to select the Center Last Recalled Snapshot setting.

Creating Snapshots

Snapshots can be created at any time to store the current channel and parameter settings. You can create new snapshots manually in the Snapshots page (see "Creating New Snapshots" on page 176), or by duplicating existing snapshots to build your mix as you work.

💡 *Use the first snapshot in a Show file to establish the basic settings for the performance. For subsequent snapshots, use the scope controls and Recall Safe settings to selectively recall only those controls that need to change between sections or songs, leaving other controls unaffected by snapshot recall.*

Creating New Snapshots

When you create a snapshot, it captures the current state of all console settings.

To create a new snapshot:

1 Set all parameters on the console whose state you want to store in the snapshot.

2 Click New. The new snapshot appears in the Snapshots List.

3 For each channel you want affected when the snapshot is later recalled, click the channel so that it is scoped (displayed in red).

Click to select-/de-select bank
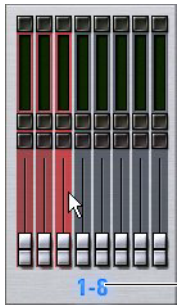
Adding channels to the scope of a snapshot

💡 *To quickly select (or de-select) banks of channels, click their blue labels below the Channel Faders in the Snapshots page.*

4 For each parameter of the scoped channels you want affected when the snapshot is later recalled, click the corresponding Data Type button so that it is scoped (displayed in red).

Adding data types to the scope of a snapshot

💡 *When you create a new snapshot it automatically inherits the channel and data type scope of the currently targeted snapshot.*

💡 *The New command can be undone.*

Naming Snapshots

New snapshots are automatically numbered and appear as "<Untitled>" in the Snapshots list. Snapshots can be renamed at any time. You can undo snapshot naming operations.

To name a snapshot:

1 Do one of the following:
  • Double-click the snapshot name in the Snapshots list or the current target name display.

  – or –
  • Right-click the snapshot name and choose Rename.

2 Type a name for the snapshot.

3 Press Enter on the keyboard or click another snapshot name.

Adding Notes to Snapshots

You can add notes to snapshots at any time. You do not need to store the snapshot to save the notes in the snapshot.

To add or edit comments for a snapshot:

1 Double-click the Notes header or click the list icon to expand the Notes field.

2 Double-click in the Notes field and enter text.

Recalling Snapshots

Targeting Snapshots

Targeting a snapshot lets you preview which data types and channels will be affected by that snapshot before recalling it. When a snapshot is targeted, the on-screen Data Type buttons and Channel Faders update to show the data types and channels enabled for recall by the snapshot.

Preview mode lets you take the console offline to recall and edit snapshots in their entirety without affecting the current mix. See "Preview Mode" on page 185.

To target a snapshot, do any of the following:

■ Click the snapshot name in the Snapshot list.

■ Type the number or name of the snapshot on the keyboard.

■ Press the Home/End, Page Up/Page Down, and Up/Down Arrow keys to navigate the Snapshot list.

■ Turn the Select knob in the ACS to scroll through the Snapshot list. Snapshot names appear in the display above the Select knob.

The current target snapshot is highlighted in red in the Snapshots list, and shown in red in the Status display.

Recalling Snapshots

You can do the following when recalling snapshots:

• Target and instantly recall successive snapshots (next or previous)

• Target first, then recall one or more snapshots

• Select multiple snapshots and recall them all sequentially

• Target snapshots, change Data Type or Channel Scope settings, then recall.

⚠ *Undoing snapshot recall commands might cause audio to be interrupted. Use Undo with caution in performance.*

Recalling Successive Snapshots Instantly

You can instantly recall successive snapshots in the Snapshots list. This command references the previously *recalled* snapshot, not the last targeted snapshot.

To instantly recall successive snapshots, do one of the following:

■ Click the Recall Previous (–) or Recall Next (+) button at the top of the Snapshots list.

– or –

■ Press the Previous or Next switch in the ACS section.

⚠ *The Snapshot Recall buttons combine target and recall actions in one step, causing the previous or next snapshot to be instantly active. These buttons cannot be used to preview snapshots before recalling them.*

Targeting Before Recalling Snapshots

To target and then recall a snapshot:

1 Target the snapshot you want to recall by clicking the snapshot name in the Snapshot list, or turning the Select knob in the ACS.

2 (Optional) Set the scope of the snapshot by doing the following:

• For each channel you want to recall in the snapshot, click the channel so that it is scoped (displayed in red).

• For each parameter of the scoped channels you want to recall in the snapshot, click the corresponding Data Type button so that it is scoped (displayed in red).

• Configure the Recall Safe page to further filter snapshot data on recall. (See "Recall Safe and Channel Automation Safe" on page 178.)

3 Click the Recall button on-screen, or press the Recall switch in the ACS.

Snapshot Recall can also be triggered by a D-Show foot-switch or any number of other console functions in the Events window. For more information, see Chapter 22, "Events."

Selecting and Recalling Multiple Snapshots

You can select and recall multiple snapshots to load them all in sequence, and in one step. This is useful to quickly reset the console to a sub-cue or other specific point within a longer scene or cue and "pick up from there."

To recall multiple snapshots:

1 Select multiple snapshots in the list (Shift-click to select multiple adjacent (contiguous) snapshots; Ctrl-click to select non-contiguous items or to deselect a single item.

2 Press the Recall switch, or click the Recall button on-screen.

If multiple snapshots are selected, toggling Data Type or Channel Scope buttons affects all selected snapshots. This provides a quick way of removing a channel or data type (such as EQ) from some or all snapshots. This action can be undone using the Undo button.

Recall Safe and Channel Automation Safe

The Recall Safe tab in the Snapshots page provides global automation safe settings of nearly every section of the console.

You can also place individual channels in automation safe from the console or on-screen. For more information, see "Automation Safing Channels" on page 181.

Recall Safe

Recall Safe lets you select which parameters on which channels you want to be 'safed' from snapshots, and which you want recalled.

Recall Safe is global to all snapshots, can be turned on or off quickly, and provides preset capabilities in the form of Scope Sets. Scope Sets can be loaded and saved just like D-Show Presets for built-in EQ, Dynamics, and plug-in settings. Current Recall Safe settings are stored with the Show file.

Recall Safe Tab

The Recall Safe tab opens the Recall Safe page on-screen. The Recall Safe tab is displayed in red when Recall Safe is on and in effect, and in gray when Recall Safe is off or when nothing is safed.

Indication of active Recall Safe from the main Snapshots page

Recall Safe Displays and Controls

Displays and controls in the Recall Safe page

On

The master On button toggles the entire Recall Safe feature on or off globally. When lit (blue), Recall Safe is active. When dark, Recall Safe is suspended.

Snapshot List, Recall and Store

The Snapshot List and its Recall and Store functions remain visible and available from the Recall Safe page at all times.

Channel Tabs

The Inputs and Outputs tabs at the top of the parameter matrix selects the channel type whose safe status you want to view or edit. Along the left side of the parameter matrix are channel Type selector tabs, which will change depending on whether you are viewing Input or Output tabs.

💡 *Shift-click channel type tabs to view more than one type at once in the scrollable parameter matrix.*

Global Safe for MIDI Output and Plug-Ins

These checkboxes let you globally suspend MIDI output and/or plug-in changes from being recalled. They are considered separate from the parameter matrix and do not follow the Recall Safe master On (or Off) status.

Scope Sets

Scope Sets are presets for the Recall Safe page that can be stored and loaded, just like plug-in, EQ and Dynamics presets. Scope sets can be used as a template when creating new shows, or used to change Recall Safe settings during a performance. Like other D-Show presets and settings files, Scope Sets can be transferred from the Filing page, making it easy to maintain and transfer Recall Safe configurations. For more information, see "Using Scope Sets" on page 181.

Parameter Matrix

The parameter matrix is a scrollable grid in which you can safe parameters and channels. You can undo and redo parameter matrix operations.

Parameters

Channel Safe

Channels

Channel grid icons

Parameter grid icons
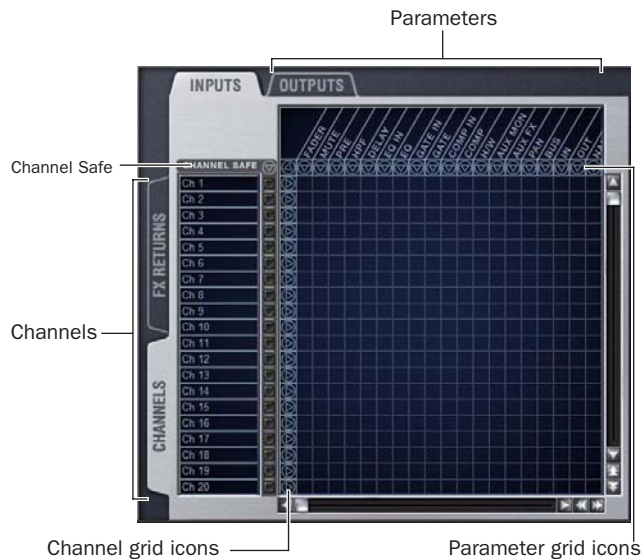
Parameter matrix for Recall Safe

Parameters are represented in the columns of the parameter matrix; channels are listed along the left side in rows.

Clicking in the grid enables safe status for that parameter on that channel. Parameter and Channel grid icons provide shortcuts to "safe all" parameters in a single-click, and to safe entire channels. Clicking these icons lets you quickly toggle recall safe status for entire columns and rows. You can also use the master grid icon located in the upper left most corner to toggle the entire grid.

Grid master icon

None   Some   All
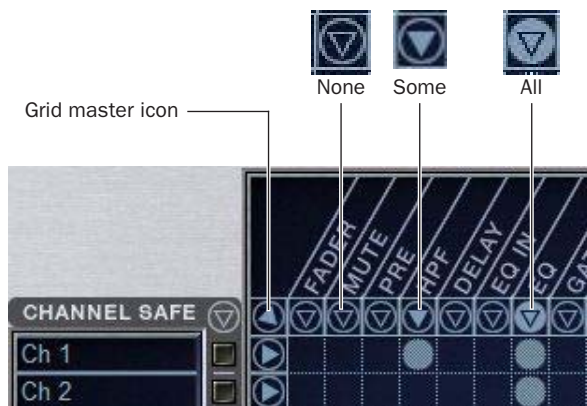
Display states for grid icons in Recall Safe

The display state of the Parameter and Channel grid icons indicate safe status for that column or row as follows:

None A dark Parameter or Channel grid icon indicates that no items in that column or row are safe enabled.

Some A dark triangle inside a lit blue circle indicates that at least one item in that column or row is safe enabled.

All A lit (white) triangle indicates that all items in that column or row are safe enabled.

Channel Safe Controls

The CHANNEL SAFE column mirrors the SAFE switch on the console and on-screen. Controls in the CHANNEL SAFE column are not part of the parameter matrix; they function *in addition to* the parameter matrix and act as a global "all channel" setting or override. As a result, you do not need to enable any CHANNEL SAFE settings to use the Recall Safe parameter matrix.

☼ *For more information, see "Automation Safing Channels" on page 181.*

Using Recall Safe

To access the Recall Safe page:

1 Do one of the following:
- Go to the Snapshots page and click the Recall Safe tab.

  – or –
- Double-press the Snapshot View switch until the Recall Safe tab is displayed.

2 Click a channel type tab to display the desired channels.

To safe individual parameters on specific channels:

■ Click in the grid at the intersection of the appropriate parameter (column) and channel (row). A blue dot appears, indicating a parameter is safed.

Click

Enabling recall safe for channel 1 fader

To safe multiple parameters or channels at a time:

■ Click and drag in a column, across a row, or at an angle.

To safe individual parameters or channels using the computer keyboard:

1 Place the cursor above the grid, above a parameter or channel name, or above any Channel Safe button. To be sure the cursor is above a valid area, you should be able to see at least one parameter name or channel name highlight.

2 Use the Arrow keys of the computer keyboard to move the cursor right, left, up, or down to other grid points. (You cannot navigate to parameter or channel grid icons, or to the Channel Safe column.)

3 Press Enter to enable or disable safe status for the currently focused grid point. Continue navigating to and toggling safe status of other parameters and channels.

To safe a parameter across all currently displayed channel types:

■ Click the Parameter grid icon at the top of the appropriate column until the triangle is white.

To safe all parameters for a particular channel:

■ Click the Channel grid icon in the ALL column for that channel (row).

To toggle the status of a parameter column or channel row:

■ Click the appropriate Parameter or Channel grid icon repeatedly until it displays the desired status. For more information, see "Parameter Matrix" on page 179.

To safe all parameters across all channels and clear any current settings:

■ Click the triangular icon at the top of the ALL column.

☀ *You can undo or redo the last action taken in the parameter matrix.*

Channel Safe

To automation safe an individual channel and retain all recall safe settings for that channel:

■ Click in the CHANNEL SAFE column for the desired channels.

☀ *A channel (row) Channel Safe button does not need to be lit in order to Recall Safe individual parameters for that channel.*

To automation safe all parameters across all channels and retain all current recall safe settings:

■ Click the CHANNEL SAFE master icon at the top of the Channel Safe column.

☀ *The Channel Safe column mirrors the channel automation Safe controls. For more information, see "Automation Safing Channels" on page 181.*

MIDI

To enable Recall Safe for MIDI Snapshot output:

■ Click the MIDI Snapshot Output Safe button, located above the parameter matrix.

☀ *For more information, see "Adding MIDI Messages to Snapshots" on page 189.*

Plug-Ins

To enable Recall Safe for plug-ins:

■ Click the Plug-In Snapshot Safe button, located above the parameter matrix.

☀ *For more information, see "Adding Plug-In Data to Snapshots" on page 190.*

Matrix and PQ

Snapshots can store and recall all source assignments (of each matrix and PQ mixer) when the Matrix ("Mtx") or PQ data types are scoped. In addition, all User Input assignments are stored, letting you reconfigure Matrix or PQ mixers and User Input assignments on a per snapshot basis, if desired.

The Recall Safe tab of the Snapshots page provides two data "Mix" data types that let you discretely "safe" source and/or user input assignments to prevent them from being changed with a snapshot recall.

The following table describes what can be stored and recalled in each snapshot when the MTX and PQ data types are scoped.

Table 22. Snapshot data types and parameters for Matrix and PQ mixers

Snapshot Data Type	Included Parameters (for Each Scoped Channel Strip)
MTX	Mixer Input Sources, User Input Assignments (global to all Matrixes), and pickoffs; Mixer Input level, Mixer Input on/off and Mixer Input Link
PQ	Mixer Input Sources, User Input Assignments (global, to all PQs) and pickoffs; Mixer Input level, pan, and on/off state, Mixer input link state, Limiter threshold and Limiter in/out.

Using Scope Sets

The configuration of the Recall Safe page can be stored as a Scope Set settings file. Scope Sets can be previewed, recalled and transferred just like D-Show plug-in, EQ and Dynamics settings.

To store the current Recall Safe settings as a Scope Set:

1 Configure the Recall Safe page as desired.

2 Click the Scope Sets icon (the folder icon located above and to the right of the parameter matrix).

3 Click New.

To preview and recall a saved Scope Set:

1 From the Recall Safe page, click the Scope Set icon to display the Scope Set window.

2 If necessary, choose the appropriate Scope Sets folder by clicking and selecting it from the Folder selector.

3 Do any of the following:
- To preview an existing Scope Set, click its name in the Scope Sets window.
- To load the currently selected Scope Set, press Enter or click the Close box (X) in the Scope Sets window title bar.
- To cancel without changing Recall Safe settings, click Cancel.

Scope Sets Folder selector

Scope Sets window

💡 *See Chapter 20, "Shows and File Management" for instructions on creating custom folders and transferring D-Show data.*

Automation Safing Channels

You can suspend the effect of snapshots on individual channels using any of the following Automation Safe controls:

Input Channel Safes Temporarily suspend the effect of snapshots on individual Input Channels and FX Returns from the control surface. Function of the Selected Channel Safe switch is determined by the current setting in the Options > Interaction page for Input Safe Switches.

On-Screen Safe Buttons Each on-screen channel has a safe button that controls its Channel Safe status.
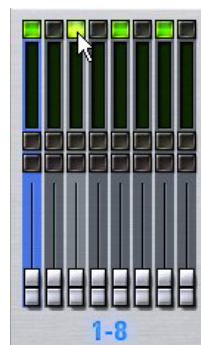
On-screen Automation Safe button

💡 *You can also control channel automation safe status in the Recall Safe tab. See "Channel Safe" on page 180.*

To toggle the Safe status of an Input Channel or FX Return directly from the channel strip:

1 Go to the Options page and click the Interaction tab.

2 Under Input Safe Switches, select the "Act as Automation Safes" option.

3 Press the Safe switch in the Input section, or click the on-screen Safe button) for each of the Input Channels or FX Returns you want to safe. The Safe switch lights solid to indicate that the channel is automation safed.

Managing Snapshots

You can manage snapshots in the list by storing, locking, clearing, duplicating, deleting, or moving them.

Storing Snapshots

You can modify the contents of an existing snapshot, over-writing it with new settings, using the *Store* command. It is not necessary to recall a snapshot to store it. Snapshots can be stored from on-screen or from the snapshot controls in the ACS section of the console. You can undo Store commands.

To store the current console state in an existing snapshot:

1 Set all parameters on the console as you want them to be stored in the snapshot.

2 Select the snapshot in the on-screen Snapshot list, or turn the Select knob in the ACS to target a snapshot you want to overwrite.

3 Click the Store button on-screen, or press the Store switch in the ACS section.

4 Set the scope by doing the following:

- For each parameter you want to be affected when the snapshot is recalled, click the corresponding Data Type button so that it is scoped (displayed in red).
- For each channel you want affected when the snapshot is recalled, click the channel fader so that it is scoped (displayed in red).

Locking Snapshots

Snapshots can be *locked* to prevent them from being accidentally altered, overwritten or deleted.

Locked snapshots can be selected, recalled, moved and duplicated. They cannot be overwritten, renamed, rescoped or otherwise changed. New and duplicated snapshots default to unlocked. Lock status can be changed at any time, including while in Preview mode.

To lock a snapshot:

1 Go to the Main tab of the Snapshots page.

2 In the Snapshot list, click the padlock icon at the far right of the row for any item. The padlock icon illuminates to indicate the snapshot is now locked.

Snapshot lock controls

Select multiple snapshots using the Shift key or Multi-Select switch to lock or unlock multiple snapshots at once.

Once locked, operations that would otherwise affect the snapshot cause the Status display and channel LCDs and Snapshot LCD to temporarily show a message reminding you that the operation cannot be applied while the snapshot is locked.

To unlock a snapshot:

■ Click the lit padlock icon in the row for that snapshot.

You can undo locking or unlocking of a snapshot by clicking the Undo button.

Undo and Locked Snapshots

You can undo locking or unlocking a snapshot. When toggling lock status for a selection of more than one snapshot, the entire operation creates a single undo point (it does not track and provide undo for each individual snapshot in the selection).

⚠ *Keep in mind that Undo can revert snapshots to "unlocked" status. For example, if you change the scope of an unlocked snapshot, lock the snapshot and then use Undo, the snapshot is unlocked. Pressing Undo one more time will revert the snapshot to its original scope.*

Locking Snapshots and MIDI Record

When using the MIDI Record feature, all MIDI data captured up to the point a snapshot is locked is preserved. If the MIDI Record operation is still active at the time the snapshot is locked, record mode is exited, the REC button becomes unavailable for that snapshot, and subsequent incoming MIDI messages are not captured.

Available Operations with Locked Snapshots

The following table details which operations can or can not be performed on a locked snapshot.

Summary of allowed/disallowed operations when locked

Operation	Allowed while Locked	Disallowed while locked
Select/target snapshot	X	
Recall snapshot	X	
Duplicate snapshot	X	
Re-sequence in snapshot list by:		
· Dragging in snapshot list	X	
· Manually editing sequence number	X	
· Re-sorting by time code	X	
Overwrite (Store to locked snapshot)		X
Propagate changes		X
Apply Edit mode changes		X
Clear		X
Delete		X
Modify Scope		X
Add/Modify stored MIDI data		X
Add/Modify stored Plug-In data		X
Modify Notes		X
Modify X-Fade time		X
Modify Snapshot Name		X
Modify Time Code Location		X
Toggle Time Code Enable		X
Undo changes	X	

Clearing Snapshots

The contents of a snapshot can be cleared while keeping the snapshot in the Snapshot list and retaining its MTC information. This lets you maintain a placeholder that you can use later to store new data. You can undo Clear commands.

To clear the contents of a snapshot:

1 Select the snapshots you want to clear.

2 Click Clear. Cleared snapshots are renamed "<Empty>."

Duplicating Snapshots

Snapshots can be duplicated from the Snapshots list. You can undo Duplicate commands.

To duplicate snapshots:

1 Select the snapshots you want to duplicate.

2 Do one of the following:
   • Click "Dup" (Duplicate).
   – or –
   • Right-click the snapshot name and choose Duplicate.

A copy of each selected snapshot is placed after the selection, with a plus sign (+) appended to the original snapshot name.

If multiple snapshots are selected in the list, the new (duplicate) items are added below their original source snapshots.

Deleting Snapshots

Snapshots can be deleted from the Snapshots list. You can undo Delete commands.

To delete snapshots:

1 Select the snapshots you want to delete.

2 Do one of the following:
   • Click "Del" (Delete).
   – or –
   • Right-click the snapshot name and choose Delete.

The snapshots are removed from the Snapshots list, and succeeding snapshots are renumbered.

Moving Snapshots

Existing snapshots can be rearranged in the Snapshots list. When you move one or more snapshots, they are automatically renumbered in the list, but MTC values are left unchanged. You can undo a snapshot move.

To move a snapshot, do one of the following:

■ Drag the currently selected snapshots to a new location in the Snapshots list.

   – or –

■ Double-click the snapshot number in the Snapshots list or the banner display, type a new number, and press Enter on the keyboard.

Making Changes to Snapshots

There may be situations where you need to change specific parameters in existing snapshots while leaving other parameters unchanged.

For example, if a guitarist changes instruments in the middle of a tour it might be necessary to change levels and EQ on the guitar channel in all the snapshots in a show. D-Show provides the following modes to accommodate these types of situations:

Edit Mode Lets you capture individual control changes while you mix, and apply those changes to one or more pre-existing snapshots as absolute or relative changes. For example, you could enter Edit mode the first time a guitarist uses a new guitar in rehearsal. When you are satisfied with your settings you can apply them (in absolute or relative fashion) to update other snapshots. See "Using Edit Mode" on page 184.

Propagate Mode Lets you update data in pre-existing snapshots after you've already made changes and decided you want to keep them. While Edit mode requires you to know ahead of time that you will be updating snapshots, Propagate mode lets you decide to update other snapshots with current settings after making adjustments to your mix. For example, if its the third consecutive night you've reached to increase gain on the DI channel for a new guitar, you could use Propagate mode to quickly take the gain increase you just made and apply it to other snapshots. See "Using Propagate Mode" on page 185.

Events-driven recall of snapshots is disabled while in Propagate or Edit mode. For more information, see Chapter 22, "Events."

Using Edit Mode

Edit mode is a powerful way to update specific parameters across multiple snapshots without overwriting any settings you want to preserve. By entering Edit mode before making adjustments, you can edit a single control or any number of controls, and your changes are tracked from the point Edit mode was entered.

The ability to edit a single control in Edit mode provides more selectivity than Propagate mode.

Absolute and Relative Edits

Changes can be applied to one or more selected snapshots as *absolute* or *relative* values. Any parameter can be edited in absolute fashion; all dB parameters can be edited in relative fashion.

Examples of Absolute and Relative Edits

Absolute Changing a fader level from 0 dB to –3 dB and applying that change results in that fader being set identically to –3 dB in all selected snapshots.

Relative Changing a fader level from 0 to –3 dB and applying that change results in that fader being reduced by that amount in all selected snapshots, or 3 dB relative to the value previously stored in the snapshot(s). For example, a channel previously at –6 dB would be changed to –9 dB.

Making Relative Changes with Mixed Data Types

If a combination of dB and non-dB parameters (such as gain and EQ frequency) are edited and applied in relative fashion, the dB parameters are adjusted as relative (delta) changes and the non-dB are applied as absolute changes.

To update specific parameters in existing snapshots using Edit mode:

1 Navigate to the main Snapshots page.

2 Click the Edit button to enter Edit mode. The Edit button changes into two smaller flashing buttons: Abs, and Rel. D-Show begins tracking all changes while you make them.
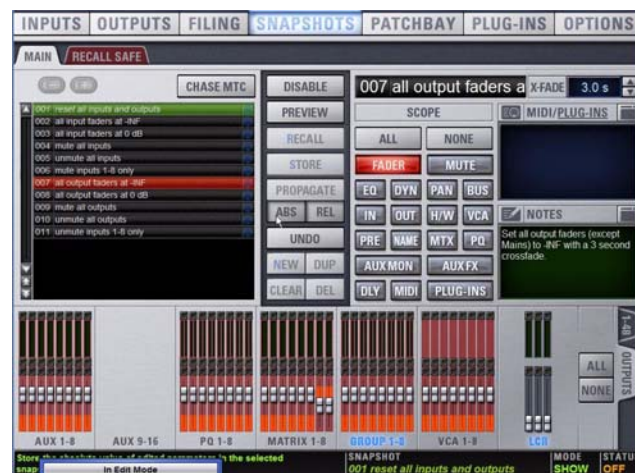
Edit mode

3 Adjust any combination of snapshottable parameters on the console or on-screen.

4 Select the snapshot(s) to which you want to apply your edits.

5 Click either of the flashing buttons Abs (for Absolute) or Rel (for Relative). You can cancel Edit mode by pressing the Cancel button on the control surface, clicking the Cancel button on-screen, or by pressing the ESC key on your computer keyboard.

The selected snapshots are updated according to your changes and your choice of Absolute or Relative edit.

Using Propagate Mode

You can use the Propagate command to capture changes and apply them to existing snapshots. Propagate mode is most useful when you realize during the course of mixing that you want to capture your current settings to use in other snapshots. You can undo Propagate commands.

To update specific parameters in existing snapshots:

1 Make sure the channel is set as needed.

2 Click Propagate. The current data and channel scope is cleared.

3 Set the scope to reflect only those parameters you want to update by doing the following:

- For each parameter you want to update, click the corresponding Data Type button so that it is scoped (displayed in red).

– and –

- For each channel you want to update, press its channel Select switch on the console, or click the channel on-screen so that it is scoped (displayed in red).

Propagating an EQ change for a channel

4 Select the snapshot or range of snapshots you want to update in the Snapshots list.

5 Click Propagate. The scoped parameters are updated in the selected snapshots.

Preview Mode

Preview mode lets you recall, store and edit snapshots without affecting the current mix.

When enabled, Preview mode takes the console offline from the live audio mix so you can "work ahead" during a rehearsal, performance or event to preview upcoming snapshots and edit them as needed. Any control that can be stored and recalled by snapshots is available while in Preview mode, and you can also modify the Snapshot List. Once you are done previewing or editing snapshots, you can store your changes to update the existing snapshots with your changes.

Using Preview Mode

The basic workflow for using Preview mode is as follows:

1 Make sure your active mix is set as desired, and make sure the rehearsal, event or performance has an upcoming opportunity for you to go offline.

2 Enter Preview mode by pressing F1 on the console, or by clicking the on-screen Preview button in the main Snapshots page. The word "PREVIEW" flashes in red across the screen for confirmation; on the console, the F1 (Preview) switch flashes, as do all input and output channel strip displays.

Preview mode

3 Do any of the following:

Edit the Snapshots List Reorder snapshots in the list, if desired, by clicking and dragging them. Changes to the order of items in the Snapshots list may affect the current active mix if the affected snapshots rely on MIDI or MTC triggering. (For more information, see "Changing Console Settings in Preview Mode" on page 186.)

Create a New Snapshot Adjust settings as desired and create a new snapshot by clicking New. (See "Creating New Snapshots" on page 176.)

Recall and Edit an Existing Snapshot Recall a snapshot to preview its settings and make any adjustments necessary, being sure to re-store the snapshot before exiting Preview mode. Storing a snapshot in Preview mode does not affect previously stored MIDI or Plug-in data (if any).

Edit Channel and Scope Settings Edit any channel settings, parameters, or scope associated with the snapshot being previewed. The Snapshots page displays the current snapshot name in italics to indicate that at least one parameter has been changed, and the Channel Faders show you the previous level for each channel in bright red. Scope Data Type buttons and Channel Scope functionality remain live and active at all times (in other words, changes made to these controls while in Preview mode will remain once Preview mode is exited).

Add and Edit MIDI or Plug-In Data To add MIDI or plug-in data associated with the snapshot, click the Add button in the MIDI or Plug-Ins snapshot list. With plug-ins this adds the current online plug-in settings to the snapshot. If you need to update pre-existing MIDI or plug-in data associated with a snapshot, right-click the corresponding entry in the MIDI/Plug-ins view of the Snapshots page and choose the Update option (this option will include the plug-in rack position, and the name of the associated snapshot). For more information, see "Plug-Ins and MIDI in Preview Mode" on page 187.
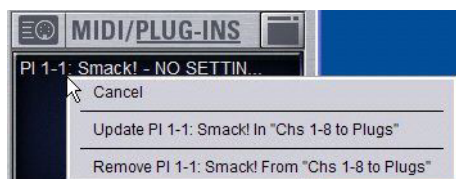
Updating snapshot plug-in data

4 To undo an action made while in Preview mode, click the Undo button on-screen. (For more information about Undo in Preview mode, see "Making Changes to Snapshots" on page 184.)

5 To update the currently previewed snapshot but remain in Preview mode, press or click Store.

6 Continue previewing and editing settings as needed (all snapshot functions are available in preview mode).

7 When you are finished and need to exit Preview mode, press F1 (or click the on-screen Preview button).

⚠ *Exiting Preview mode without storing will discard the changes made while in Preview mode (Preview mode is cleared each time you exit). You must explicitly store changes to update the associated snapshots.*

Undo and Preview Mode

In Preview mode, you can Undo actions applied to the Snapshot List (such as Recall, Store, New and Duplicate) without affecting the online mix.

💡 *Multiple levels of Undo are available.*

Changing Console Settings in Preview Mode

D-Show tracks any changes to console settings or to the Snapshot List while in Preview mode, but only Snapshot List actions create an Undo point. Choosing Undo will undo the last action you took while in Preview mode, up to a maximum of 100 levels of Undo. Any changes to console settings made after the last Preview action are also undone (the Snapshot screen is returned to its exact state prior to the action that created the Undo point).

Changing the Snapshot List in Preview Mode

Changes made to the Snapshot List are automatically tracked and available for Undo, regardless of whether Preview mode is enabled or not. This includes any Recall of snapshots triggered by incoming MIDI or MTC while in Preview mode.

For example, if a MIDI Snapshot Recall occurs while you are in Preview mode, the online mix will be updated with that snapshot. Pressing Undo immediately after that Recall will undo that Snapshot recall and revert the online mix to its state prior to the Undo.

Consider turning off the Chase MTC option while in Preview mode to disable all MIDI recall of snapshots. In addition, you can always use the D-Show History feature to recover from any unexpected results.

Changing MIDI or Plug-In Data in Preview Mode

Changes made to MIDI and Plug-In data cannot be undone. For more information, see "Adding MIDI Messages to Snapshots" on page 189 and "Adding Plug-In Data to Snapshots" on page 190.

💡 *Take advantage of D-Show Tool Tips in the banner display to confirm what action the Undo button will revert. See "Undoing Snapshot Commands" on page 188.*

Available and Unavailable Functions in Preview Mode

In order to maintain essential mix indicators and controls while in Preview mode, not all functions are taken offline.

The following sections detail what is and what is not available during Preview mode.

Always Active

Certain D-Show essential mix functions remain live and active at all times, regardless of whether Preview mode is enabled. The following vital mix functions continue to affect or be affected by the console and software:

- Metering (including input, output and dynamics meters, clip and bank clip indicators)
- AFL/PFL
- Dynamics Key Listen
- Monitoring level, Headphone level and Monitoring bus Delay
- Talkback, Osc and 2-Track
- Mute Groups (recall only)
- Recall Safe
- PQ system (remains active, but changes from a PQ Controller are not reflected)
- MIDI snapshot Recall, Chase MTC and Disable (Snapshots)
- Snapshot List and Recall Safe (deleting, adding, or editing snapshots are/will be reflected online and affect the mix)
- History (auto-save)

Recall Safe in Preview Mode

The Recall Safe settings are global, and are applied to filter snapshot data regardless of the current operating mode. For details on Recall Safe and other D-Show automation safe features, see "Recall Safe and Channel Automation Safe" on page 178.

Available and Editable in Preview Mode

Almost all system functions, such as selecting channels and banking faders, are available in Preview mode.

Only those controls that can be stored and recalled via snapshots are available for offline previewing and editing. In addition, some snapshot-capable controls have special requirements when using Preview mode (such as MIDI and plug-in data). See "Plug-Ins and MIDI in Preview Mode" on page 187.

Not Available in Preview Mode

The only controls not available while in Preview mode are those controls which are not able to be stored or recalled via snapshots. In addition, Config mode options are unavailable in Preview mode.

Unavailable functions include the following:

- Make Stereo, or Split to Mono
- Move channels
- Input channel Gain Guess
- Input channel and FX Return Input Direct switch
- Input channel Dyn Pre EQ switch
- Insert mode (plug-ins cannot be edited)
- Digital input source selection (ADAT)
- Enabling or disabling sample rate conversion

These functions are neither available for offline access in Preview mode, nor do they remain active (online) while in Preview mode. To adjust any of the above settings, you must exit Preview mode.

Config Mode

Config mode is not available while in Preview mode. Pressing the Config switch (or double-clicking the Config/Show mode icon on-screen) displays a dialog box in which you can choose to "Exit Preview" (return to online mix, in Config mode), or "OK" (remain in Preview mode).

The system automatically switches to Show mode if Config mode is active at the time Preview mode is entered.

Plug-Ins and MIDI in Preview Mode

In Preview mode, plug-ins and MIDI operate in a similar way as when using the standalone software.

Plug-Ins in Preview Mode

Recalling a snapshot that contains plug-in data affects the offline (Preview) routing and bypass state of the plug-in only; the online plug-in parameter settings are not recalled, and the online mix is not affected.

The following plug-in functions are available offline in Preview mode:

- Plug-in routing can be changed
- Plug-in rack view can be changed
- Plug-ins can be added to a snapshot to capture its current online parameter settings and (Preview mode) routing

The following plug-in functions are not available while in Preview mode:

- Plug-ins cannot be added to or removed from rack slots
- Plug-in presets cannot be recalled or saved
- Plug-in parameters cannot be changed (you cannot open plug-in windows while in Preview mode)
- Plug-ins cannot be installed

You must explicitly add or update plug-in (or MIDI) data to update snapshots, whether or not Preview mode is enabled. You can do this from the main Snapshot page, or from the plug-in racks.

Updating plug-in data in an associated snapshot from the plug-in view

MIDI in Preview Mode

Incoming MIDI or MTC continues to trigger snapshot recall while in Preview mode. However, MIDI messages stored to snapshots are not sent out when a snapshot is recalled in Preview mode. For more information, see "Adding MIDI Messages to Snapshots" on page 189 and "Adding Plug-In Data to Snapshots" on page 190.

MTC and Other Online Event Triggers

While in Preview mode, triggers that occur in the online state of the console are executed, including MTC-driven recall of snapshots. Triggers caused by changes to the offline (Preview) controls are ignored and do not cause events to occur. For more information, see Chapter 22, "Events."

Undoing Snapshot Commands

The Undo function returns the console to the state immediately before the last snapshot command. Undo is multi-level (up to 100), is available while in Preview mode and after performing an Edit or Propagate mode action.

⚠ *Undoing snapshot recall commands may cause audio to be interrupted. Use Undo with caution in performance.*

◆ If the Undo button is highlighted, you can place the cursor over the button to display text in the status bar describing what snapshot actions will be undone.

◆ If the Undo button is dimmed, Undo is not available.
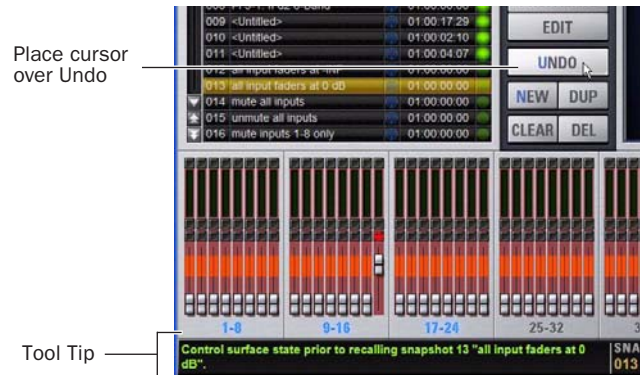
Using Tool Tips to verify the effect of Undo in the Snapshots page

To undo a snapshot command:

■ Click the Undo button in the Snapshot commands section.

Disabling Snapshots

You can temporarily disable the storage and recall of all snapshots. While snapshots are globally disabled, you can target snapshots in the Snapshots List to preview their properties, but you cannot recall them.

To disable all snapshots:

■ Click the Disable button in the Snapshot commands section.

Suspend MTC Recall

To disable MTC Recall of individual snapshots in the list:

1 Click the green Enable icon in the row for the desired snapshot so that it is unlit.

2 Click the Disable/Enable icon again to re-enable the snapshot.

Adding MIDI Messages to Snapshots

No MIDI message data is captured when a snapshot is first created. MIDI messages are added to existing snapshots directly from the MIDI list. You can store up to 20 MIDI messages in each snapshot.

When the MIDI data type is scoped for a snapshot, any stored MIDI messages are sent when the snapshot is recalled.

The following MIDI messages are supported and available in the MIDI list:

- Note Off
- Note On
- Poly Key Pressure
- Control Change
- Program Change
- Channel Pressure
- Pitch Bend
- MIDI Machine Control Stop
- MIDI Machine Control Play
- MIDI Machine Control Fast Forward
- MIDI Machine Control Rewind
- MIDI Machine Control Eject
- MIDI Machine Control Chase
- MIDI Machine Control Pause
- MIDI Machine Control Locate

When the MIDI data type is scoped for a snapshot, its MIDI messages are sent when the snapshot is recalled.

Snapshots List showing snapshot containing MIDI messages

To add a MIDI message to a snapshot:

1 Target the snapshot you want to modify.

2 Double-click the word "MIDI" in the MIDI/Plug-Ins list header to expand the MIDI list.

3 Click Add and choose a message from the pop-up menu.

Adding a message to the Snapshot MIDI list

A MIDI plug icon appears in the Snapshots List for each snapshot that contains MIDI messages.

To record incoming MIDI data to a snapshot.

1 Click REC.

2 Send a supported MIDI command.

3 Click REC again when done.

To edit a MIDI message in the MIDI list:

1 Double-click the message text to display the pop-up menu bar for the message.
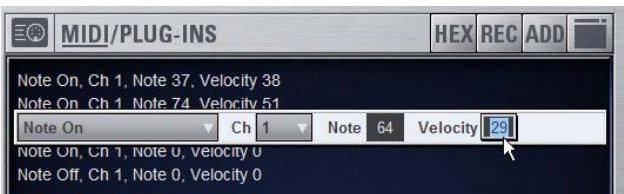
Editing a MIDI message in the snapshot MIDI list

2 Choose the message name and send channel or device ID from the pop-up menus.

3 Enter the message values in the text fields or drag up or down across the text field to change the values.

4 Click in the MIDI list area to dismiss the pop-up menu bar.

To remove a MIDI message from a snapshot:

■ Right-click the MIDI message in the MIDI list and choose Delete.

Viewing MIDI Messages in Hexadecimal Format

You can toggle the view of MIDI messages in the MIDI list between hexadecimal and decimal formats.

To toggle the view format of the MIDI list:

■ Click the "Hex" button in the MIDI/Plug-Ins list header.

Safing MIDI Message Output

You can temporarily disable output of embedded MIDI messages so that they are not sent when a snapshot is recalled, even when the MIDI data type is scoped.

☼ *MIDI output is automatically suspended while in Preview mode.*

To safe MIDI message output on-screen:

1 Go to the Snapshots page and click the Recall Safe tab.

2 Click the MIDI global output safe button above the parameter matrix so that it is lit.

Adding Plug-In Data to Snapshots

No Plug-In data is captured when a snapshot is first created. Plug-In data is added to existing snapshots from the Plug-Ins list or from the Plug-In rack.

When the Plug-In data type is scoped for a snapshot, plug-in routing, in/out state, and settings are recalled with the snapshot. (Adding or changing plug-in side-chain routing is not supported in snapshots.)

The Snapshots Plug-Ins list lets you select multiple plug-ins and add, remove and update them simultaneously across one or multiple snapshots. Multiple snapshots can be selected, and others can be added to or removed from the selection, at any time prior to adding, removing, or updating plug-ins and snapshots.

Plug-Ins List

To view plug-in data for snapshots in the MIDI/Plug-Ins list:

1 Target the snapshot you want to modify, or select multiple snapshots in the list.

2 Double-click "Plug-Ins" in the MIDI/Plug-Ins list header to expand the Plug-In list.
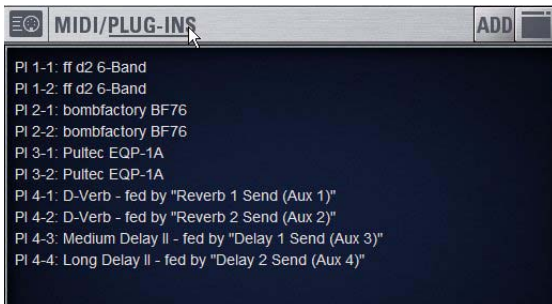
Expanded Plug-In list

It is also possible to select multiple plug-ins in the Snapshots Plug-Ins list and remove or update these plug-ins across multiple snapshots using Right-click commands. Selections can be contiguous or non-contiguous plug-ins in the list. This lets you more easily manage all plug-ins inserted on a single channel, for example.

Managing multiple plug-ins across multiple snapshots

Adding Plug-Ins to Snapshots

To add a plug-in to one or more snapshots from the Snapshots page:

1 Select an individual snapshot, or create a multi-selection of snapshots in the Snapshots list.

2 Display the Plug-Ins List (see "Plug-Ins List" on page 190).

3 Click the ADD button within the Snapshot Plug-Ins list and select a plug-in (or All Plug-Ins) from the menu.

To add a plug-in to multiple snapshots from the Plug-Ins page:

1 Create a multi-selection of snapshots on the Snapshots page

2 Go to the Plug-Ins page.

3 Click the Snapshots menu for the plug-in to be added and choose Add This Plug-In To Selected Snapshots. The selected plug-in is added to the currently targeted snapshot, as well as all other snapshots within the multi-selection.
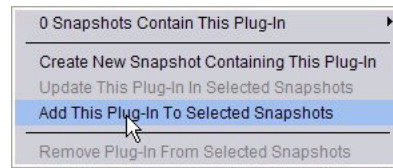
Using the Snapshots pop-up menu in the plug-in rack (Plug-Ins page)

Snapshots within the multi-selection that already contained the plug-in being added are unaffected and preserve any previously stored settings.

Removing a Plug-In from Snapshots

To remove a plug-in from snapshots from the Snapshots page:

1 Select an individual snapshot, or create a multi-selection of snapshots in the Snapshots List.

2 Click the Snapshots Plug-Ins icon to show the Snapshots Plug-Ins list.

3 Right-click a plug-in within the plug-in list of the currently targeted snapshot and choose Remove This Plug-In From Selected Snapshots.

To remove a plug-in from multiple snapshots from the Plug-Ins page:

1 Create a multi-selection of snapshots on the Snapshots page

2 Go to the Plug-Ins page.

3 Click the Snapshot menu for the plug-in to be removed and choose Remove This Plug-In From Selected Snapshots.

The selected plug-in is removed from the currently targeted snapshot, as well as all other snapshots within the multi-selection. Only snapshots within the multi-selection that contain the selected plug-in are affected.

Updating a Plug-In Across Multiple Snapshots

To update a plug-in across snapshots from the Snapshots page:

1 Select an individual snapshot, or create a multi-selection of snapshots on the Snapshots page

2 Select a plug-in within the plug-in list of the currently targeted snapshot

3 Right-click and choose Update Plug-In In Selected Snapshots.

Snapshots plug-ins pop-up menu with multiple plug-ins selected in the Snapshots page

To update a plug-in across multiple snapshots from the Plug-Ins page:

1 Create a multi-selection of snapshots on the Snapshots page

2 Go to the Plug-Ins page. All plug-ins that are associated with any of the currently selected snapshots are identifiable by their red Snapshot menu.

3 Click the Snapshots menu for the plug-in to be updated and choose Update This Plug-In In Selected Snapshots.

The selected plug-in is updated within the currently targeted snapshot, as well as all other snapshots within the multi-selection. Snapshots within the multi-selection that do not already contain the plug-in being added are unaffected.

Editing Plug-Ins

The Snapshot page provides two ways to quickly navigate to a plug-in in order to edit its routing assignment or parameters.

To edit a plug-in associated with a snapshot:

■ Double-click the item in the Snapshot Plug-Ins list. Or, Right-click a plug-in in the Snapshots Plug-Ins list and choose Edit Plug-In.

Snapshot Options

Crossfade Time

You can set the X-fade (crossfade) time for the channel faders between snapshots from 0–99.9 seconds, in 0.1 second increments. This value determines the *fade time*, or the time it takes for the faders to move to their new positions when a snapshot is recalled.

All other controls are unaffected by the crossfade time, and are updated instantly when a snapshot is recalled. Each snapshot may be assigned its own crossfade time. In addition, cross-fades will continue through a subsequent snapshot recall as long as the crossfading channels are not scoped in the incoming snapshot.

Default Crossfade Time

The default crossfade time assigned to new snapshots can be set with this option, with a possible range of 0–99.9 seconds.

To set the Default Crossfade Time:

1 Go to the Options page and click the Snapshot tab.

2 Under Snapshot General Preferences, enter a value or drag in the text box and press Enter.
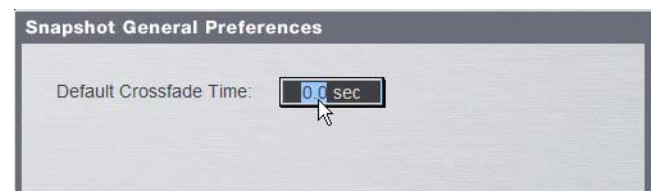
Setting the Default Crossfade Time

Pre Settings

Snapshots can be used to recall the preamplifier settings on inputs for all scoped Input Channels. You can set any of the following Pre parameters to be recalled by the Pre data type button: Gain, Pad and Phase/polarity, +48V (Phantom Power), HPF corner frequency and in/out state.

To set the Pre parameters recalled by the Pre Data Type button:

1 Go to the Options page and click the Snapshot tab.

2 Under Pre, select the options you want to include. Selected items will be affected when the Pre data type is included in the scope of a snapshot.

Setting Pre parameters

Classifying Auxes and Variable Groups

You can classify Aux Sends and Variable Group Sends as *monitor sends* ("Mon") or as *effects sends* ("FX"), which lets you scope each type separately from the Snapshots page.

💡 *This option is only a means of organizing Aux Sends for snapshot control, and does not directly affect Aux bus or Variable Group bus operation.*

To classify Aux Sends and Variable Groups for snapshot scope:

1 Go to the Options page and click the Snapshots tab.

2 For each Aux Send or Variable Group bus or bus pair, click the "Aux Mon" or "Aux FX" buttons to classify it as a monitor send or effects send, respectively.

Classifying Aux Sends and Variable Groups

Aux Pre/Post State

Select this option to include the pickoff point pre-fader or post-fader state of each Aux Send or Variable Group in snapshots.

Snapshot Data Types and Parameters

Table 23. Snapshot data types and parameters included in each data type

Snapshot Data Type	Included Parameters (for Each Scoped Channel Strip)
Fader	Main volume level
Mute	Mute state
EQ	EQ type selection (analog/digital); EQ in-circuit state; 4 bands (2 bands on FX Returns) of gain, freq, Q, bell/shelf selection (digital only), band on/off
Dyn	Compressor/Limiter in-circuit state; threshold, ratio, attack, release, knee, makeup gain Expander/Gate in-circuit state; threshold, ratio, attack, release, hold time, range, side-chain input
Pan	Channel pan or balance/width PQ strip balance Pan or balance/width for each Group bus returning back to L–R
Bus	Group bus assignments, group bus mono/stereo-linked state (if mono groups) or dual-mono/true stereo state (if stereo groups), L–R bus assignment and C/M bus assignments for input strips and groups
In	Input routing for Input Channels and FX Returns
Out	Main out assignments; direct out assignments, level, in-circuit state, & tap-off point (excluding VCAs)
H/W	Hardware insert routing and in-circuit state (excluding VCAs)
VCA	VCA membership
Pre	Gain, pad, phase, phantom power, HPF corner frequency & in-circuit state
Name	Name for each strip
MTX	Mixer Input Sources, User Input Assignments, and pickoffs; Mixer Input level, Mixer Input on/off and Mixer Input Link state
PQ	Mixer Input Sources, User Input Assignments, and pickoffs; Mixer Input level, pan, and on/off state, Mixer input Link state, Limiter threshold and Limiter in/out.
Aux Mon	On/off, pre/post selection, level, and pan/balance for each Aux/Var Group bus classified as a Monitor Aux
Aux FX	On/off, pre/post selection, level, and pan/balance for each Aux/Var Group bus classified as an FX Aux
Dly	Channel delay time & in-circuit
MIDI	All MIDI messages that were added to the associated MIDI list for that snapshot.
Plug-Ins	Rack slot settings, in-circuit state, and I/O routing for each plug-in added to plug-ins list for that snapshot

Chapter 22: Events

This chapter introduces the Events window, and explains how to use the Event List.

Introduction

A D-Show *event* consists of one or more *triggers*, which are configured to cause one or more *actions* to occur.

Events can be very simple, such as a Footswitch input triggering a Recall Next Snapshot command. This is an example of a single *trigger* (a footswitch input) causing a single *action* (Recall Next Snapshot).

Events can also be quite complex and involve multiple triggers and actions. For example, a single event can be defined so that moving a specific fader above and/or below a certain level sends a General Purpose output, recalls a specific snapshot *and* mutes one or more channels. Multiple triggers can be considered conditionally using the available logic operators AND, OR, and XOR.

For examples, see "Default Settings, Templates and Examples" on page 204.

Terminology

Event A defined combination of one or more triggers and one or more actions. Each event serves as a type of software "macro" in which you establish a cause-and-effect relationship between one or more console functions (triggers) and their results (actions).

Trigger A conditional check used to fire an event.

Action A console function, mode or other response resulting from an event being triggered.

GPI General Purpose Interface, also commonly known as a logic interface. D-Show Profile provides eight GPI inputs, and eight GPI outputs.

Open GPI input or GPI output is floating, or at its reference voltage.

Closed GPI input or GPI output is closed.

Footswitch Footswitch ports are functionally identical to GPI inputs and share all of the same properties and behaviors.

Important Information about Snapshots and Events

Because Events can trigger snapshot recalls, and because snapshot recalls can trigger other events, it is possible to create logic "feedback loops." For more information, see "Avoid Feedback Loops" on page 203.

D-Show and D-Show Profile Support

The following describe differences in Events support and capabilities between D-Show Profile and D-Show consoles:

GPI
• The D-Show Profile console features eight GPI Inputs and eight GPI Outputs, in addition to two Footswitches
• The D-Show console has two Footswitches but no GPI inputs or outputs. GPI appear as disabled within the D-Show software.

Function Switches
• The D-Show Profile console provides eight function switches
• The D-Show console provides only four function switches

The Events Window

The Events window is the working area of the Event List system, and is available as a new tab in the Options page (Options > Events). It is comprised of an upper Event List area and a lower status area.

Event List Commands

Figure 14. Events window (Options > Events)

Events are defined and managed from the upper Event List area of the Events window. This area includes the scrollable Event List at the left, plus the Triggers and Actions sections to its right. The lists and commands available in these sections create a powerful, user-programmable environment.

Events

An *event* consists of one or more *triggers*, which in turn cause one or more *actions* to occur. Up to 999 events can be created. Each event can have between 0 and 8 triggers, and each event can have between 0 and 8 actions.
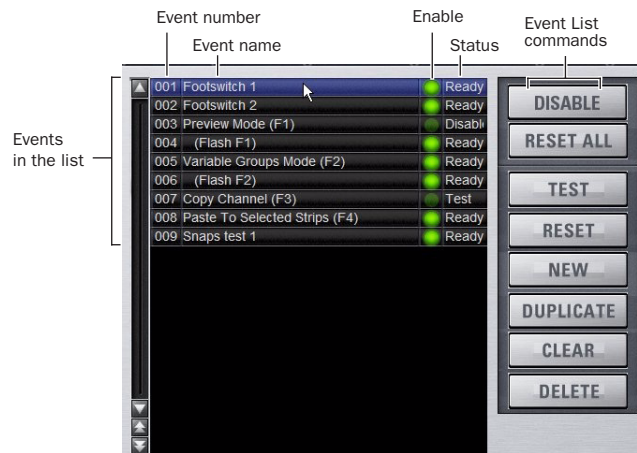
Event List items, commands and displays

Event List Each event is shown in its own row within the Event List. The list can be scrolled vertically when necessary.

Event Number Each event has an associated three digit sequence number, 001 through 999. Events are automatically re-numbered if items are moved, added or removed.

Event Name Events can be given custom names, up to a maximum length of 31 characters.

Event Enable Icon Events can be enabled or disabled individually by clicking the green Enable indicator to toggle its status. All events can be disabled (suspended) and enabled using the global Disable button.

Event Status The Event Status column shows Active (currently in effect), Ready, Disabled or Test state. For more information on the Status column, see "Resetting Events" on page 203.

Event List Commands You can test, reset, create, duplicate, clear or delete events in the list. These commands can be performed using the on-screen buttons or by right-clicking on list items. Multiple events can be selected to test, reset, duplicate, clear or delete them, but only one new event can be created at one time.

Triggers

The Triggers list shows the name and properties of each trigger defined for the currently selected event, as well as commands to create and manage triggers.

Triggers list items, commands and displays

Triggers List

Each event can have up to eight triggers in the list. Triggers are shown in rows in the Triggers list. Right-click commands let you select, edit, duplicate and delete triggers.

Add

The Add pop-up menu lets you create new triggers. Triggers are organized in the menu according to the type of console function or input signal that initiates (or triggers) the event. Types of triggers include channel functions, footswitch/GPI inputs, snapshot recall, and other console functions such as talkback.

Type and Properties

Each row in the Triggers list shows the selected trigger Type. Some types of triggers have editable properties such as a dB level on a specific channel, or open/closed state of a footswitch input. Choices vary depending on the trigger type, and not all triggers have editable properties.

Logical Operators

Multiple triggers can be considered conditionally by applying a logical operator (AND, OR, XOR) to their properties.

💡 *Triggers and actions which are unavailable due to unavailable hardware or console configuration are shown as italicized in the Trigger (and Action) Add menus.*

Actions

The Actions list shows the actions defined in the currently selected event, as well as commands to create and manage actions.
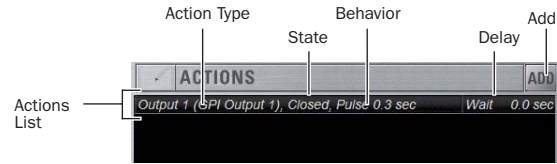
Actions list items, commands and displays

Actions List

Each event can have up to eight actions in the Actions list. All actions occur when the event is fired. Right-click commands let you select, edit, duplicate and delete actions.

Add

The Add pop-up menu lets you create new actions. Actions are organized in the menu according to the type of function they affect, such as channel functions, snapshots, GPI Output and function switches.

Type and Properties

Each row in the Actions list shows the selected action Type. Some actions have editable State and Behavior settings: all actions have a Wait (Delay) setting.

Footswitch and GPI Status

The Status display includes the Footswitch and GPI sections (see Figure 15), which show the present open or closed status of each logic port. Each footswitch or GPI port can be named.

Example uses of Switch and GPI inputs include remote snapshot recall from an external control system or custom control panel, or access to a console mode such as Preview mode, from any Function key or footswitch input.

Example uses of GPI output include the following:

- Sending a pulse to trigger samplers and playback devices
- Indicating when a microphone or channel is live by lighting an On Air or "tally" light
- Flashing or turning on a light when the console is in a particular mode (such as Solo In Place)
- Integrating with power sequencing devices for automated system turn-on

Figure 15. Footswitch and GPI Status Display in the Events window (GPI input and output are only available with D-Show Profile)

Creating Events

The basic steps to create an event include the following:

- Add a new event in the Event List (see "Adding an Event" on page 198).
- Add and configure triggers for the event (see "Adding Triggers to an Event" on page 200).
- Add and configure actions for the event (see "Adding Actions to an Event" on page 201).

💡 *Several pre-defined (default) events are included in D-Show software. For more information, see "Default Events" on page 204.*

Adding an Event

To add a new Event to the Event List:

1 Go to the Options > Events page.

2 Do any of the following:

- To create an empty, untitled new event, click the New button in the Event Commands section.

– or –

- To create a copy of a pre-existing event, select one or more events in the list and click the Duplicate button.

Selecting Events

Event list items can be selected, renamed, duplicated, deleted, cleared, enabled or disabled, tested and reset.

To select one or more events, do any of the following:

- To select a single event, click its row in the Event List.
- To select all events, Right-click an event and choose Select All.
- To select multiple contiguous events, click the first desired event and then Shift-click (or Multi-Select-click) the last desired event. All events in between are selected.
- To select multiple discontiguous events, or to de-select an individual event, Ctrl-click (or Fine-click) its row in the Event List.

Selected events (blue)

Events selected in the Event List

To deselect or ore more events:

■ Right-click anywhere in the Event List and choose Deselect All.

Moving Events

Selected events can be dragged and dropped to new locations in the list. You can also manually edit the Event number to re-sequence items.

To move one or more events:

1 Select one or more events in the Event List.

2 Click in the row of any selected event and drag to a new location in the list. As you move events, a white line appears indicating the destination.

3 Release the mouse button to drop the events at the desired location in the Event List. When moving multiple events, moved events will be adjacent regardless of their original locations relative to each other (whether adjacent or non-adjacent). Events will be renumbered as necessary according to the new sequence of events.

To manually edit an Event number:

■ Double-click the Event Number and enter a new three digit number to resequence the list accordingly.

Managing Events in the Event List

Once created, events in the list can be managed using on-screen buttons and right-click commands to rename, duplicate, delete, clear, enable or disable them.

💡 *You can also use the Test and Reset commands to manually audition events for development and diagnostics. For more information, see "Testing Events" on page 202*

Renaming an Event

To rename an event:

1 Double-click the Event Name in the list. Or right-click the Event Name and choose Rename.

2 Enter a new name.

3 Click Enter to confirm the new name.

Duplicating an Event

Duplicating an event can simplify Event List configuration when multiple, similar events need to be created, each with slightly different properties.

To duplicate an event:

1 Select one or more events in the Event List.

2 Click the Duplicate button on-screen. Or, right-click a selected event and choose Duplicate.

Deleting and Clearing an Event

Deleting an event removes it permanently from the Event List. *Clearing* an event leaves the named Event in the Event List but clears all associated triggers and actions.

To delete an event:

1 Select one or more events in the Event List.

2 Do one of the following:
- Click the Delete button on-screen.
- Right-click a selected event and choose Delete.

3 Click Delete in the Confirm Event Operation dialog to delete the event. Or click Cancel to cancel the operation.

To clear an event:

1 Select one or more events in the Event List.

2 Do one of the following:
- Click the Clear button on-screen.
- Right-click a selected event and choose Clear.

3 Click Clear in the Confirm Event Operation dialog to clear the event. Or click Cancel to cancel the operation.

Enabling and Disabling Events

Events can be disabled to suspend their operation. An event can be selected and edited while it is disabled.

You can toggle the enabled state of one or more events in the list by clicking the on-screen Enable icons in the Event List, or you can disable the Event List globally by clicking the master events Disable button.
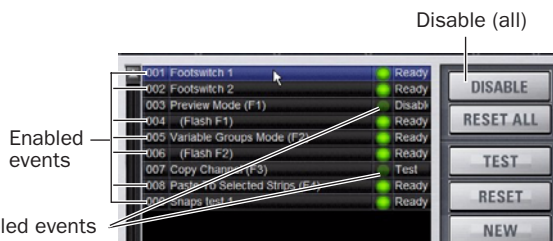
One selected event and two disabled events

Toggling Enable Status for Selected Events

To toggle the enable/disable status of an event in the list:

1 Select one or more events in the Event List.

2 Click the Enable icon for the selected event to toggle its state. Or, right-click an item and choose Enable or Disable as appropriate. When the Enable icon is lit (green) the event is enabled; when the icon is unlit the event is disabled.

Disabling an active event does not automatically de-activate any associated actions configured for While Active behavior. Use the Reset command instead (see "Resetting Events" on page 203).

Disabling an event stops all delay timers (Wait properties) associated with that event, preventing any pending (delayed) actions from occurring.

☼ *Disabling an event can be a useful troubleshooting tool, such as when an event has caused an action/trigger feedback loop and must be edited before being re-enabled.*

Disable All Events

The Disable button in the Events Commands section lets you temporarily disable all events in the event list.

To disable all Events:

■ Click the on-screen Disable button in the Events Commands area. The Disable button lights, and all items in the Event List show "Disabled" in the Status column.

To re-enable Events:

■ Click the Disable button again.

All Events are prevented from firing when the global Disable function is in effect. However, active events are not de-activated. Use Reset or Reset All for this (see "Resetting Events" on page 203).

Individual Event enable/disable status is preserved (events retain the current state of their Enable icons) and can be modified when globally disabling and enabling events using the master Disable button.

Disabling an event stops all timers (Wait/delay properties) associated with that event, preventing any pending (delayed) actions configured for While Active behavior from occurring.

Snapshot Modes and Event Status

While in Propagate or Edit modes, events-driven snapshot recall is suspended.

While in Preview mode, triggers that occur in the online state of the console are executed, including MTC-driven recall of snapshots. Triggers caused by changes to the offline (Preview) controls are ignored and do not cause events to occur.

Creating Triggers

Each event can have up to eight triggers. You create new triggers by selecting them from the Add pop-up menu. Once added, you can edit triggers and their properties to customize them.

Adding Triggers to an Event

To add a trigger:

1 Select an event in the Event List, or create a new one. (For details, see "Selecting Events" on page 198, and "Creating Events" on page 198.)

2 Click the ADD pop-up menu in the Trigger list and select an action type. The selected trigger type is added to the Trigger list for the currently selected event, with its default properties.
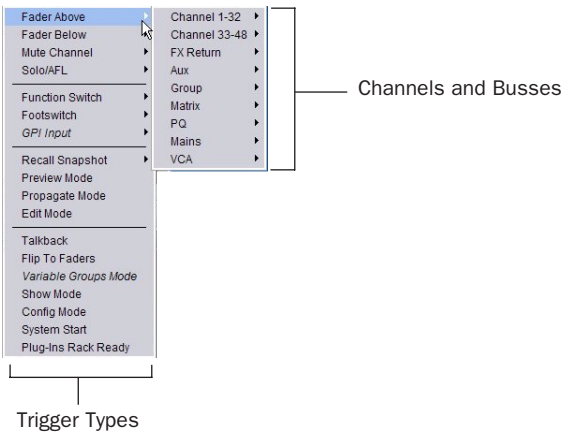
Add Triggers

💡 *For a list of available trigger types, see "Trigger Types" on page 206.*

Editing Trigger Type and Properties

To edit the trigger and its properties:

1 Double-click the trigger row in the list. Or right-click the action item and choose Edit.

2 Choose a new Trigger Type, or edit any of the available properties in the row for that trigger. Properties vary depending on the type of trigger selected (not all trigger types have editable properties).

Logical Operators for Triggers

An individual trigger is considered to be "true" when the function described by its type and properties takes place, such as while a footswitch is actually pressed, or a fader is raised above its trigger threshold.

A trigger is considered to be "false" (or, not occurring) whenever its function and properties are not met, such as when a footswitch is not being pressed, or while a fader remains below its assigned trigger threshold.

When an event includes multiple triggers, a logical operator (OR, AND, XOR) must be chosen from the Operators pop-up menu. (The default Operator is OR.)

The logical operator has no effect when the Triggers list includes only one item.

To choose a logical operator for the current event:

1 Select the desired event to display its assigned triggers.

2 Click the Operators pop-up menu (by default, this pop-up menu displays "OR") and choose AND, OR, or XOR.

Only one logical operator is permitted per event, and this operator applies to all triggers within the event. It is not possible to use a mix of logical operators within an event.

Examples of Logical Operators

Logical operators determine the precise state required in order for an event to occur as shown in the following tables:

OR At least one of the triggers must be true. The following table shows the effect of OR on events with multiple triggers. In the table, 0 indicates a false condition (not occurring) and 1 indicates a true condition (occurring).

Example truth table for OR, showing two triggers

Trigger A	Operator	Trigger B	Result
0	OR	0	0
0	OR	1	1
1	OR	0	1
1	OR	1	1

When using OR, if one or more (but not all) of the triggers go false, the event logic is only acted on again when all triggers evaluate to false (result = 0).

AND All triggers must be true. The following table shows the effect of AND on events with multiple triggers. In the table, 0 indicates a false condition (not occurring) and 1 indicates a true condition (occurring).

Example Truth table for AND showing two triggers

Trigger A	Operator	Trigger B	Result
0	AND	0	0
0	AND	1	0
1	AND	0	0
1	AND	1	1

XOR

At least one trigger, but not all, must be true. The following table shows the effect of XOR on events with multiple triggers. In the table, 0 indicates a false trigger condition (not occurring) and 1 indicates a true condition (occurring).

Example Truth table for XOR showing two triggers

Trigger A	Operator	Trigger B	Result
0	XOR	0	0
0	XOR	1	1
1	XOR	0	1
1	XOR	1	0

Managing Triggers in the Triggers List

Triggers in the list can be edited, duplicated and deleted.

Editing Triggers

To edit a trigger:

1 Double-click the trigger in the Triggers List. Or, right-click the item in the list and choose Edit.
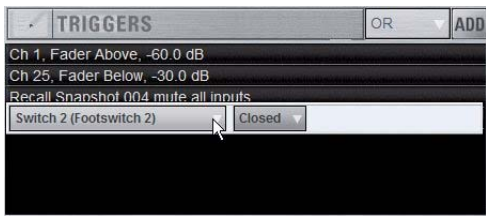
Editing a trigger

2 Do any of the following:

- To change the trigger type, click the Type pop-up menu and make a new selection from the Type menu.
- For Fader Above or Fader Below triggers, click the currently displayed dB value to highlight it, then type in a new value.
- For switches, buttons and other two-state functions, click the State pop-up menu and make a selection. Choices for State vary as appropriate for the trigger type, and will include Closed or Open, On or Off, and Pressed or Released.

3 To confirm your changes, press Enter or click anywhere else in the Events window.

Selecting Triggers

Triggers can be selected using the same methods as used when selecting items in the Event List. For more information, see "Selecting Events" on page 198.

Duplicating Triggers

To duplicate a trigger:

1 Select one or more items in the Triggers List.

2 Right-click on any selected item and choose Duplicate.

Deleting Triggers

To delete a trigger:

1 Select one or more items in the Triggers List.

2 Right-click on any selected item and choose Delete.

Creating Actions

Each event can have up to eight actions. You create new actions by selecting them from the Add pop-up menu. Once added, you can customize actions by editing their properties, as available.

Adding Actions to an Event

To add an action:

1 Select an event, or create a new one.

2 Click the ADD pop-up menu in the Action list and select an action type. The selected action type, with its default settings, is added to the action list area.
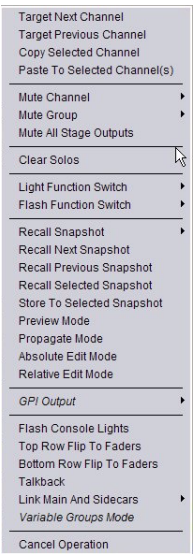
Add Actions

For a list of available actions, see "Action Types" on page 207.

Editing an Action Type and Properties

To edit an action:

1 Double-click the action row in the list. Or, right-click the action item and choose Edit.

2 Click the displayed action Type and make a new selection.
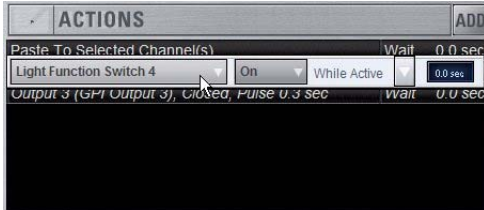
Editing an action

Action State

To edit an action State for switches, buttons and other two-state functions:

■ Click the State pop-up menu and make a selection. Choices for State vary as appropriate for the trigger type, and will include Closed or Open, On or Off, and Toggle.

Action Behavior

To edit action behavior:

■ Click the Behavior pop-up menu and choose Latch or While Active, as appropriate:

Latch Fixes the behavior in its defined state (such as open or closed) until unlatched by another event or operation.

While Active Latches the behavior in its defined state as long the associated trigger is in effect (active, or "true"), such as un-muting a channel only while a footswitch is pressed and held.

Pulse and Duration (GPI Output only) Produces a single-shot pulse output. Duration range is 0.1 second (100 ms) to 1.0 second, in 0.1 second increments. The default duration is 0.3 seconds (300 ms).

To configure GPI output pulse and duration for an action:

1 Double-click the action to edit it

2 Click the Behavior selector and choose Pulse.

3 Enter a value for Pulse Duration.

4 To confirm you changes, press Enter or click anywhere else in the Events window.

Action Wait

All actions let you specify a Wait time of up to 100 seconds for the action to wait before firing. This can be useful for synchronizing the timing of multiple external devices, or to build timed sequences of actions.

To configure action Wait (Delay):

1 Double-click the action to edit it.

2 To confirm your changes, click the Wait value to highlight it, then type in a new value.

Selecting Actions

Actions can be selected using the same methods as used when selecting items in the Event List. For more information, see "Selecting Events" on page 198.

Managing Actions in the List

Actions can be moved, renamed, duplicated, and deleted by right-clicking them and choosing the desired operation, just as you can with triggers. For instructions on managing items in the Actions List, follow the instructions for triggers in "Managing Triggers in the Triggers List" on page 201.

Testing Events

An event can be manually triggered to test it, regardless of its current Event Status or enabled/disabled state. Use this feature to verify action properties and confirm proper operation of devices connected to GPI output ports.

When an event is in Test mode, it is effectively considered true until the event is manually reset. An Event in test can be re-tested at any time by again pressing the Test button. You do not have to reset in-Test events to re-test them.

Incoming triggers are ignored when events are in Test mode. For example, if a footswitch event is being tested and you accidentally hit the footswitch at some point during the test, the event does not revert to Active the moment Test is cancelled.

Events always return to their ready state following a Reset. Events won't re-fire until the trigger logic re-asserts itself as true.

To test events:

1 Select one or more events in the Event List.

2 Click the Test button. Or, right-click an event and choose Test from the pop-up menu.

3 When you're satisfied the event is behaving correctly, click the Reset button. Or, Right-click an event and choose Reset. (For more information, see "Resetting Events" on page 203.)

Resetting Events

You can use the Reset features to quickly reset Active or in-Test events to "ready." You can also use the Reset All command (in the Events Commands buttons) to immediately reset all events in the list.

The current status of each event is shown in the Status column in the Event List:

Event List Status indicators

Status	Description
Active	Event is currently true (triggered)
Ready	Event is currently false (not triggered)
Disabled	Event is disabled and can not be triggered
Test	Event has been manually triggered

To reset an event:

1 Select one or more events in the Event List. (See "Selecting Events" on page 198.)

2 Click the Reset button. Or, right-click an event and choose Reset to reset an Active or in-Test event(s) back to a Ready state.

To reset all events:

■ Click the Reset All button.

When events are reset, the following rules are applied:

◆ Latching or pulsed actions which have already occurred are unaffected. For example, reset doesn't unlatch a previously latched function.

◆ All action delay timers (Wait) are immediately cancelled.

◆ Actions configured for While Active behavior are immediately cancelled.

◆ Events will not occur until the trigger logic again evaluates as true.

For example, let's say you have an event configured to close a GPI Output whenever Channel 3 is muted (its behavior property is While Active). Resetting the event opens the GPI Output, even though the Channel 3 might still be muted. The event will re-trigger the next time the channel goes from an unmuted state to a muted state.

Snapshots and Events

Events can include snapshot functions among their triggers and actions.

Snapshots as Triggers

Events can be triggered by the following snapshot functions:
- Recall of specific snapshots
- Enabling of Snapshot modes (Preview, Propagate and Edit)

Snapshots as Actions

Event actions can include the following snapshot functions:
- Recall of a specific snapshot
- Recall the previous, next or selected snapshot.
- Initiate Store to Selected Snapshot commands (overwriting and updating snapshots)
- Enable different Snapshot modes (Preview, Propagate and Edit)

Avoid Feedback Loops

Because events can both affect and be affected by snapshots, it is possible for events to cause "feedback loops."

Be especially careful when Recall Previous or Next snapshot triggers and actions are combined with events that recall a specific snapshot, as shown in the following diagram.
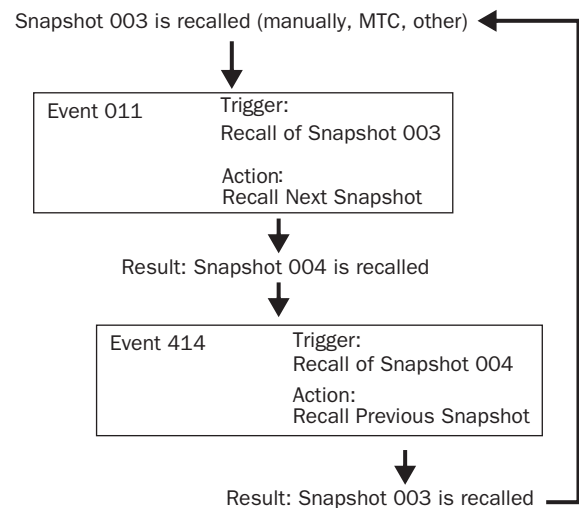
Diagram illustrating potential logic feedback loop between events and snapshots

💡 *The global Event Disable and Reset All buttons can serve as "panic" buttons to temporarily suspend and/or reset all events, giving you a chance to diagnose the source of the problem. For more information, see "Resetting Events" on page 203.*

Default Settings, Templates and Examples

Default Events

D-Show 2.5 includes the following pre-defined events for you to use as examples and as the starting point for your own events.

Default events

Event Number	Type and Name	Triggers	Actions
001	Footswitch 1	Switch 1 (Footswitch 1) Closed	*undefined* (choose an action)
002	Footswitch 2	Switch 2 (Footswitch 2) Closed	*undefined* (choose an action)
003	Preview Mode (F1)	Function Switch 1, Pressed	Preview mode, Toggle, Latch
004	(Flash F1)	Preview Mode, On	Flash Function Switch 1, On, While Active
005	Variable Groups Mode (F2)	Function Switch 2, Pressed	Variable Groups Mode, Toggle, Latch
006	(Flash F2)	Variable Groups Mode, On	Flash Function Switch 2, On, While Active
007	Copy Channel (F3)	Function Switch 3, Pressed	· Copy Selected Channel · Light Function Switch 3, On, While Active
008	Paste to Selected Strip (F4)	Function Switch 4, Pressed	· Paste to Selected Channel(s) · Light Function Switch 4, On, While Active

💡 *Among the default events are the two footswitches; these are Event 001 (for Switch 1, or Footswitch 1), and Event 002 (for Switch 2, or Footswitch 2). If your Show file was created in a previous version of D-Show and included Footswitch 1 and 2 assignments, those assignments are automatically transferred to the appropriate events. (For more information on Show file compatibility, see "Events and Show File Compatibility" on page 205.)*

Templates

The following table provides a listing of common event definitions. Use the techniques explained throughout this chapter to add one or more of the following events to establish your own set of events, triggers and actions.

Suggested event definitions for common functions

Event Name	Trigger Type	Trigger Properties		Action Type	Action Properties		Behavior
Talkback (Toggle)	Footswitch 1		Closed	Talkback		Toggle	Latch
Talkback (Momentary)	Footswitch 1		Closed	Talkback		On	While Active
Fader Start	Fader Above	Ch 1	-60 dB	GPI Output 1		Closed	Pulse (0.3 s)
Fader Stop	Fader Below	Ch 1	-inf dB	GPI Output 1		Closed	Pulse (0.3 s)
Fader Start/Stop	Fader Above	Ch 1	-60 dB	GPI Output 1		Closed	While Active
Mute Channel (Toggle)	Footswitch 1	1	Closed	Mute	Ch 1	Toggle	
Mute Channel (Momentary)	Footswitch 1	1	Closed	Mute	Ch 1	On	While Active

Using the Templates

To add any of the Events listed in the table, do the following (using the first template, Talkback (Toggle) as an example):

To use the templates:

1 Create a new event.

2 Edit the event name (for example, "Talkback (Toggle)" as shown in the table). For renaming instructions, see "Renaming an Event" on page 198.

3 Click the (Trigger) Add pop-up menu and choose Footswitch > Switch 1 (Footswitch 1). The Switch 1 trigger type is added, with a default State setting of Closed.

4 Click the (Action) Add pop-up menu and choose Talkback. The Talkback action is added. By default, the action State is Toggle, and the behavior is Latched. There is no Wait (delay before firing) needed for this action.

Switch 1 (Footswitch 1) is now configured to toggle Talkback On or Off each time the footswitch is pressed.

If you prefer momentary talkback, edit the event by doing the following.

1 Double-click the Talkback action in the Actions list to access its editable properties. Or, right-click the action and choose Edit.
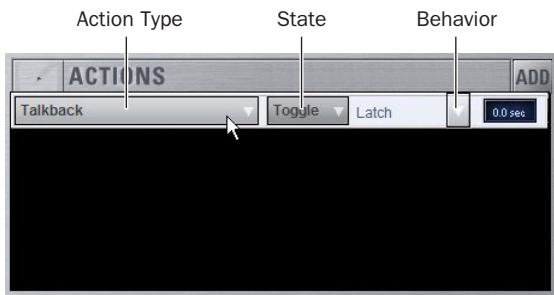
An action and its properties ready to be edited.

2 Click the action State pop-up menu (it displays Toggle by default, or the current State setting) and select On.

3 Click the action Behavior pop-up menu and select While Active. Together with the State setting (On), While Active establishes momentary control of the action; in this example, Footswitch 1 is now assigned to provide momentary Talkback control.
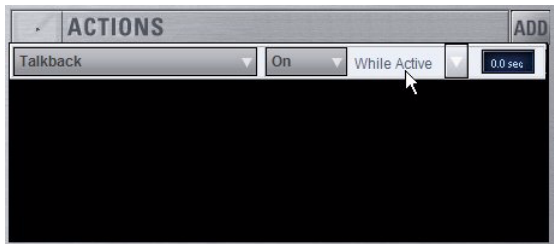
Talkback State and Behavior after editing

4 To quickly test the switch trigger, click the Test button, or press the Footswitch. Adjust the trigger State for your footswitch, as necessary, for its open/closed orientation. (For instructions, see "Editing Trigger Type and Properties" on page 200.)

5 After testing the trigger, click Reset to return the event to its Ready state.

Events and Show File Compatibility

When loading a Show file created in a previous version of D-Show, footswitch and Function switch data is converted as follows:

- Pre-existing Footswitch assignments map directly to corresponding new events 001 and 002.
- Previously hard-coded function switches (F keys) map directly to new events 003 through 008.

Transferring v2.5x Show Files from D-Show Profile to D-Show

GPI I/O is only available on D-Show Profile consoles. When a Show file containing Events is loaded on a system using a D-Show Main console, GPI Input and GPI Output controls are disabled (grayed out), and their associated menu items are italicized within the Events window.

There is no loss of event list data when moving a Show file between a D-Show Profile console a D-Show Main console. Show files created on D-Show Profile that include GPI events can be opened and saved on the D-Show Main system, then transferred back and re-opened on D-Show Profile with all GPI-related control information still intact.

GPI triggers and actions can still be selected and edited even when using even when using a D-Show Main unit. GPI signals are simply considered invalid triggers or actions and disregarded within the event.

Trigger Types

The following table lists the available trigger types and properties, along with a description of each.

Table 23. Trigger List, with default settings

Trigger Type	Property 1	Property 2	Description
Fader Above	Channel name/number	Fader level –inf to +12 dB (Default: –60 dB)	Fader moved above threshold level
Fader Below	Channel name/number	Fader level –inf to +12 dB (Default: –inf)	Fader moved below threshold level
Mute	Channel name/number	On (default) Off	Mute active/inactive
Solo/AFL	Any input, output, VCA, Solo In Place	On (default) Off	Solo/AFL active/inactive
Function Switch	Function Switch 1–8 (D-Show Profile); Function Switch 1–4 (D-Show Main Unit)	Press (default) Release	On button press (down) On button release (up)
Footswitch	Footswitch 1, 2	Open Closed (default)	Footswitch input high Footswitch input low
GPI Input	GPI input 1–8 (D-Show Profile only)	Open Closed (default)	GPI Input high GPI Input low
Recall Snapshot	Snapshot number and name		Event triggered by snapshot
Preview Mode		On (default) Off	Preview Mode active/inactive
Propagate Mode		On (default) Off	Propagate Mode active/inactive
Edit Mode		On (default) Off	Edit Mode active/inactive
Talkback		On (default) Off	Talkback active/inactive
Flip to Faders		On (default) Off	Flip to Faders active/inactive
Variable Groups Mode		On (default) Off	Var Groups Mode active/inactive
Show Mode			Console Show Mode is active
Config Mode			Console Config Mode is active
System Start			D-Show software initialized
Plug-In Rack Ready			Mirrors plug-ins rack Ready state

Action Types

The following table lists the available Action types and properties, along with a description of each.

Table 24. Action types

Action Type	Property	State	Behavior	Description
Target Next Channel				Selected Channel advances by one
Target Previous Channel				Selected Channel reverses by one
Copy Selected Channel				Channel copy operation
Paste to Selected Channel(s)				Channel paste operation
Mute Channel	Channel name/number	On Off Toggle (default)	Latch (default) While Active	Mute selected channel
Mute Group	Mute Group 1–8	On Off Toggle (default)	Latch (default) While Active	Toggle Mute group status
Mute All Stage Outputs		On Off Toggle (default)	Latch (default) While Active	Mute all outputs on all Stage Racks
Clear Solos				Mirrors console Solo Clear
Light Function Switch	1–8 (Profile) 1–4 (Main)	On (default) Off Toggle	Latch While Active (default)	Lights Function switch
Flash Function Switch	1–8 (Profile) 1–4 (Main)	On (default) Off Toggle	Latch While Active (default)	Flashes Function switch
Recall Snapshot	Snapshot number and name			Recall specified snapshot
Recall Next Snapshot				Mirrors Snapshot Next switch
Recall Previous Snapshot				Mirrors Snapshot Previous switch
Recall Selected Snapshots				Mirrors Snapshot Recall switch
Store to Selected Snapshot				Mirrors Snapshot Store switch
Preview Mode		On Off Toggle (default)		Activate/deactivate Preview Mode
Propagate Mode		On Off Toggle		Propagate mode active while trigger is true
Absolute Edit Mode		On Off Toggle (default)		Enters Edit mode when trigger is true; exits via Absolute when trigger goes false
Relative Edit Mode		On Off Toggle (default)		Enters Edit mode when trigger is true; exits via Relative when trigger goes false

Table 24. Action types

Action Type	Property	State	Behavior	Description
GPI Output	1–8 (D-Show Profile only)	Open Closed (default) Toggle	Pulse, 0.3s (default) Latch While Active	Pulses or latches selected GPI Output
Flash Console Lights				Flashes console lights
Top Row Flip to Faders (D-Show Main only)		On Off Toggle (default	Latch (default) While Active	Mirrors top encoder row Flip to Faders
Bottom Row Flip to Faders		On Off Toggle (default)	Latch (default) While Active	Mirrors bottom encoder row Flip to Faders (D-Show Main only)
Link Main and Sidecar(s) (D-Show Main only)	Faders Encoders Both	On Off Toggle (default)	Latch (default) While Active	Mirrors console function
Variable Groups Mode		On Off Toggle (default)	Latch (default) While Active	Toggles Variable Groups Mode on/off (only if console config is 24-bus mode)
Cancel Operation				Mirrors console Cancel switch (and Esc key on keyboard)

Chapter 23: Synchronization

D-Show provides a set of MIDI-based synchronization features that allow automation and remote control of snapshots, and triggering of external devices when snapshots are recalled.

Automating Recall of Snapshots with MIDI Time Code

D-Show lets you automate the recall of snapshots with MIDI Time Code (MTC). D-Show can trigger snapshots with internally generated MIDI Time Code, or it can read MIDI Time Code from an external source.

💡 *For instructions on MIDI and other connections required for synchronization, see Chapter 2, "Configuring and Connecting D-Show."*

Generating MIDI Time Code

You can set D-Show to generate MIDI Time Code and automate the recall of snapshots based on MTC playback.

To generate MIDI Time Code from D-Show:

1 Go to the Options page and click the Snapshots tab.

2 Under MTC Mode, click Generate. MIDI Time Code generator controls appear at the bottom of the screen.
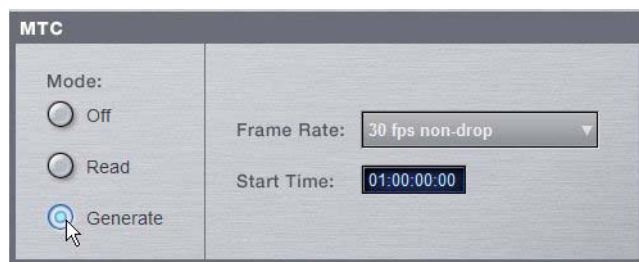
Setting the MIDI Time Code Mode

3 Choose the MTC Frame Rate from the Frame Rate pop-up menu (24 fps, 25 fps, 30 fps drop, or 30 fps non-drop).

4 If you want MTC playback to start at a different time than the currently displayed time, enter a start time in the Start Time field, and press Enter.

5 Control MTC playback from the MTC generator controls by doing any of the following:

- Start MTC playback by clicking the Play button.
- Pause MTC playback by clicking the Pause button.
- Stop MTC playback and reset to the Start Time by pressing the Stop button.

MIDI Time Code controls

Reading External MIDI Time Code

You can set D-Show to slave to external MTC and automate the recall of snapshots based on the incoming MTC.

To read external MIDI Time Code:

1 Go to the Options page and click the Snapshots tab.

2 Under MTC Mode, click Read. A MIDI Time Code display appears at the bottom of the screen.
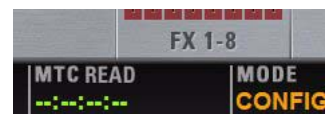
MIDI Time Code display

D-Show automatically detects the frame rate of the incoming time code (24 fps, 25 fps, 30 fps drop, or 30 fps non-drop).

The MIDI Time Code display indicates the following:

- When MIDI Time Code is not present, the display shows a series of dashes.
- When MIDI Time Code is present, the current time code value is shown in green.

Snapshot MIDI Time Code Display

When D-Show is set to generate or read MIDI Time Code, the Snapshots List shows time code values and a green Recall Enable indicator for each snapshot entry.

Snapshots List showing time code values and indicators

Assigning Time Code Values to Snapshots

With D-Show set to generate or read MIDI Time Code, you can assign time code values to snapshots by entering values manually, or by capturing MTC playback values.

Manually Assigning Time Code Values to Snapshots

To manually assign an MTC value to a snapshot:

1 In the Snapshots List, double-click the MTC value you want to change.

Snapshot showing selected MTC value

2 Do one of the following:

- From the keyboard, type a new MTC value.

– or –

- Press the Left and Right Arrow keys to move the cursor between number fields, and the Up and Down Arrow keys to increase and decrease the selected value.

3 Press Enter or click another snapshot MTC value to accept the entry.

Capturing Time Code Values in Snapshots

To capture the current MTC value in a new snapshot:

1 With D-Show in MTC Read or Generate mode, start time code playback.

2 Do one of the following:

- During playback, click the New button.

– or –

- Pause playback at the time code value you want to capture, and click the New button.

A new snapshot appears with the time code value at the time of creation.

To capture the current MTC value in an existing snapshot:

■ Right-click the snapshot in the Snapshots list and choose Set Timecode To.

The time code value is updated to the currently displayed value.

Sorting Snapshots by Time Code Value

You can sort snapshots in the Snapshots list by Time Code value, so that they appear in chronological order.

☼ *When chasing to MTC, snapshots will always recall in chronological order, regardless of their order in the Snapshots list.*

To sort snapshots by their assigned MIDI Time Code value:

■ Right-click any snapshot in the Snapshots list and choose Re-Sort All By Time Code.
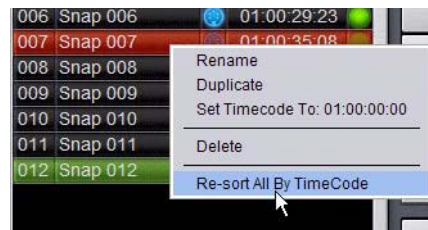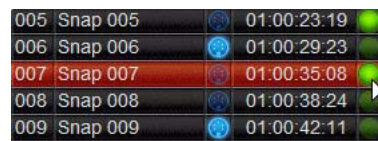
Sorting snapshots by MTC value

Enabling Snapshots for Automated Recall

With time code values assigned to snapshots, you can then enable snapshots for recall with time code playback.

To enable snapshots for automated recall with MTC:

■ Click the Time Code Recall Enable indicator on the right side of the Snapshots list. The indicator turns bright green to indicate that the snapshot is enabled for recall.

Snapshot enabled for automated recall with MTC

Chasing MIDI Time Code

With snapshots enabled for automated recall, the Chase MTC function needs to be engaged to allow automated recall to occur.

To initiate automated recall of snapshots:

1 Click the Chase MTC button so that it is highlighted.

2 Begin MTC playback by starting the internal generator (if set to MTC Generate) or the external device (if set to MTC Read).

When a recall-enabled snapshot's time code value is reached, the snapshot is recalled.

💡 *Snapshot modes can affect MTC recall. For more information, see "MTC and Other Online Event Triggers" on page 188.*

The Chase MTC button can be used to quickly take D-Show offline from MTC-triggered recall in performance in the event of a change in timing, such as a missed cue or dropped verse. You can then advance manually to an appropriate snapshot, and re-enable Chase MTC.

⚠ *D-Show does not chase up to the current timecode value. If you start playback in the middle of a snapshot sequence, any prior snapshots will need to be recalled manually to update the console before beginning time code playback. For more information, see "Selecting and Recalling Multiple Snapshots" on page 177.*

Remote Control of Snapshot Recall

D-Show can be set to recall snapshots in response to MIDI control messages sent from an external device such as an AV controller system. You can set the system to respond to control messages sent on any one of 16 available MIDI channels.

Snapshots are recalled when their snapshot number (1–999) is received in the form of MIDI Bank Select and Program Change messages. (See Table 24 on page 211.)

To enable recall of snapshots from an external device:

1 Go to the Options page and click the Snapshots tab.

2 Under MIDI, select the "Snapshots Respond to Channel" option, and choose the MIDI channel from the corresponding pop-up menu.

Snapshot MIDI respond option

D-Show listens on the specified channel for Bank Select and Program Change messages.

⚠ *The MIDI Snapshot Output Safe option does not affect this option. You can only turn off this feature by deselecting the "Snapshots Respond to Channel" option.*

Table 24. MIDI Bank and Program Numbers for Snapshots

Bank	Program	Snapshot Number
0	0–127	001–128
1	0–127	129–256
2	0–127	257–384
3	0–127	385–512
4	0–127	513–640
5	0–127	641–768
6	0–127	769–896
7	0–103	897–999

💡 *D-Show stores Bank Select messages, so it is not necessary to send a Bank Select message prior to every Program Change message. You only need to send a Bank Select message when you want to recall a snapshot in a different bank from the previous snapshot.*

Triggering of External Devices on Snapshot Recall

D-Show can be set to send MIDI Bank and Program Change messages whenever a snapshot is recalled, to trigger external devices whose cues are related to snapshots. You can set the system to send on any one of 16 available MIDI channels.

MIDI output is automatically suspended while in Preview mode. For more information, see "Preview Mode" on page 185.

While it is possible to add Bank Select and Program Change messages to individual snapshots, this option lets you toggle messages on and off for all snapshots in one step. Using this option also ensures that the Bank Select and Program Change messages correspond to the snapshot number, even after snapshots are rearranged in the Snapshots list.

The Bank Select and Program Changes messages reflect the number (1–999) of the recalled snapshot. (See Table 24 on page 211.)

D-Show always sends a Bank Select message before every Program Change message, even if the bank number has not changed from the previous snapshot.

To enable triggering of external devices when snapshots are recalled:

1 Go to the Options page and click the Snapshots tab.

2 Under MIDI, select the "Snapshots Send on Channel" option, and choose the MIDI channel from the corresponding pop-up menu.

Snapshot MIDI send option

D-Show sends a Bank Select and Program Change message on the specified channel whenever a snapshot is recalled.

The MIDI Snapshot Output Safe command does not affect the option to send on specific MIDI channels. You can only turn off this feature by deselecting the "Snapshots Send on Channel" option.

Sending MIDI Messages on Snapshot Recall

You can add up to 20 specific MIDI messages to each snapshot. These messages are sent whenever the snapshot is recalled. Sending of the messages is enabled with the MIDI scope control in the Snapshots window. For more information, see Chapter 21, "Snapshots."

Synchronizing with Word Clock and Digital Audio Input

D-Show receives and outputs Word Clock (at a sample rate of 48 kHz ± 10ppm) for synchronization with a master clock generator (house sync) or other device that uses clock reference. D-Show can operate as a Word Clock master, or it can slave to Work Clock input.

The Word Clock In and Word Clock Out ports are located on the back panel of the FOH Rack. Additional Word Clock options are available on systems that include a DSI card (Digital Stage Input) in the Stage Rack.

Synchronizing with Digital Audio Input

D-Show automatically synchronizes to the signal on any of its digital inputs, performing sample rate conversion as necessary to the D-Show native sample rate of 48 kHz.

This lets you connect a variety of digital sources (such as a DAT machine or CD player with digital outputs), directly to D-Show.

For instructions on Word Clock and digital audio connections for synchronization, see Chapter 2, "Configuring and Connecting D-Show."

Chapter 24: Using the D-Show Standalone Software

D-Show Standalone software lets you do all of the following to preconfigure performances, wherever you can use your laptop:

- Learn the basics of the D-Show software interface in preparation for working at a full D-Show or D-Show Profile system.

- Assign hardware I/O and D-Show routing, and name channels.

- Set channel input, EQ, dynamics, pan, and other settings.

- Create and maintain a library of D-Show setups, with access to nearly all parameters available on the control surface.

- Store and recall Snapshots, and configure Events.

- Use D-Show Filing features to transfer Shows, Shows Folders, and plug-in presets to/from a compatible USB storage device to transfer data between the standalone software and D-Show.

📄 *Transferring D-Show data must be done to/from a compatible USB storage device such as a USB key disk or other external USB hard drive.*

Differences Between Standalone Software and a D-Show System

The Standalone software is nearly identical to that on a full D-Show system, with the following differences:

Audio Throughput

You cannot play audio through the Standalone software. Real-time audio requires the D-Show hardware.

Plug-In Editing

When a Show is transferred from a complete D-Show system, all plug-ins installed on the D-Show system are visible in the Standalone software as *offline* (unavailable) plug-ins. You can assign offline plug-ins to racks, and assign plug-in rack routing in the Standalone software, and save the routing in snapshots.

📄 *You cannot install plug-ins or adjust plug-in parameters unless you are working on the complete D-Show system.*

Hardware Configuration

In the Standalone software, you can simulate the hardware configuration of a destination system from the Devices tab of the Options page.

System Requirements

The following are the minimum system requirements for using the D-Show Standalone software:

- Computer running Windows XP Pro or XP Home Edition O/S (Macintosh not supported)

- Minimum 1024 x 768 screen resolution

- Minimum 16-bit color graphics, 32-bit recommended

- Minimum 256 MB RAM, 512 MB recommended

- Minimum 200 MB of available hard disk space, 512 MB recommended

- CD-ROM drive for installation (unless installing from web-download)

- Available USB 1.1 or 2.0 port and compatible USB storage device (such as a flash disk, key disk or other external hard drive) for file transfer

Installation requires Windows XP Administrator permissions. Once installed, the software can be run under Admin or User accounts.

Installing the D-Show Standalone Software

To install the D-Show Standalone software:

1 Do one of the following:
- Download the D-Show Standalone Software Installer from the Digidesign website (www.digidesign.com).

– or –

- Insert your D-Show Software Installer into the CD-ROM drive on your Windows XP-compatible computer.

2 Launch the installer and follow the instructions on-screen.

The D-Show Standalone software requires no authorization.

Removing the Standalone Software

To remove the D-Show Standalone software:

1 Launch the Add/Remove Programs Control Panel.

2 Choose Digidesign D-Show, then follow the instructions on-screen.

Simulating a D-Show Configuration

You can use the Standalone software to simulate a D-Show system with any number of input and outputs. The corresponding inputs and outputs become available in the Patchbay, allowing you to prepare a show that can transfer directly to the destination system.

To simulate a D-Show system:

1 Launch the Standalone software.

2 Go to the Options page and click the Devices tab.

3 Right-click the console graphic and choose Use D-Show, or Use D-Show Profile, depending on which console you will be working with.

4 Right-click the Stage Rack graphic and choose the number of Input and Output cards on the destination system.
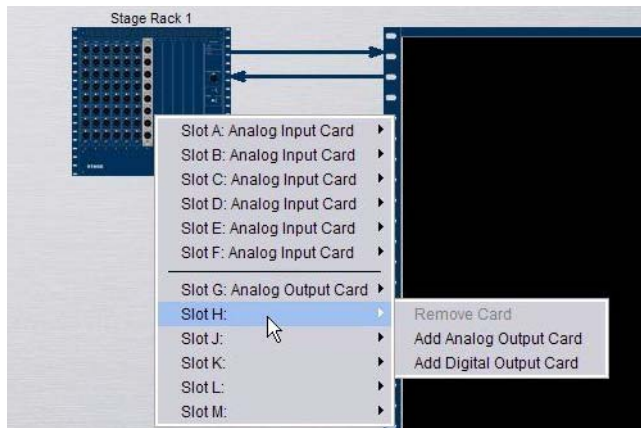
Adding Stage Rack inputs and outputs

5 Right-click the FOH Rack graphic and add an IOx Option or Pro Tools recording/playback option if they are present on the destination system.
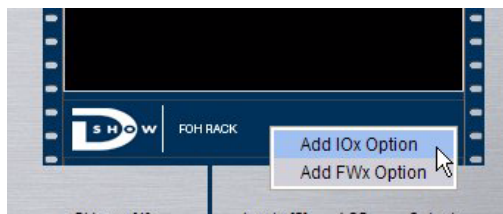
Adding FOH Rack inputs and outputs

Transfer and Filing Quick Start

The basic steps for using the Standalone software and data transfer are as follows:

• Save data to disk, then transfer it to an external USB storage device.

• Transfer data from the USB device, then load the data.

📄 *For complete instructions on transferring data, see Chapter 20, "Shows and File Management."*

Save and Transfer Data from a D-Show System

To save and transfer data from the complete system:

1 Connect a USB storage device to a D-Show USB port.

2 Use the Save tab of the Filing page to save D-Show data to disk.

3 Go to the Filing page and click the Transfer tab.

4 Do one of the following to select the type of data to transfer:
• To transfer all data, click the Console icon.
• To transfer Console Settings, click the Settings icon.
• To transfer Show Folders, click the Show Folders icon.
• To transfer individual Shows, click the Shows icon.
• To transfer Preset Folders, click the Preset Folders icon.
• To transfer Presets for individual items, click the Built-In icon or the Plug-In icon and choose a processor, plug-in or Input Channel Presets item from the pop-up menu, or click the Scope Sets icon.

5 In the left column, select the items you want to transfer from D-Show to the portable storage device.

Transferring Show files from D-Show

6 Click the Transfer button.

Transfer and Load Data to the Standalone Software

1 Connect the USB storage device to your laptop. Make sure the drive is mounted before proceeding.

2 Launch the D-Show standalone software.

3 Go to the Filing page and click the Transfer tab.

4 Make sure your USB disk is available in the list at right.

5 Click the Console, Settings, Show Folders, Shows, Preset Folders, Built-In, Plug-In or Scope Set selectors to select the type of data you want to transfer.
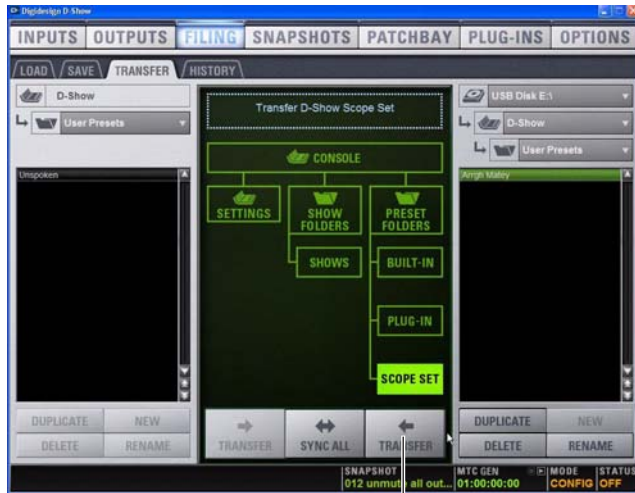
Click

Transferring a Scope Set for the standalone software

6 Click the Transfer button. The data is transferred from the USB device to the appropriate D-Show data folders on the laptop.

7 If you chose Console, data is automatically loaded and applied. If you chose any other data type, go to the Filing page and click the Load tab, and load the newly transferred data into the Standalone software.

Creating and Editing Shows and Presets

Use the techniques explained throughout this guide to assign routing, rename channels, and to configure other parameters. Then do the following to save and transfer your work to a complete system.

To save and transfer D-Show data from the standalone software to the complete system:

1 Connect a USB storage device to an available USB port on your laptop.

2 Using the Save tab of the Filing page, save data to disk.

3 Go to the Filing page and click the Transfer tab, and transfer saved data to a compatible USB storage device.

4 Connect the USB storage device to an available USB port on the complete system.

5 Use the Transfer tab of the Filing page to transfer the D-Show data from the USB storage device.

6 Use the Load tab of the Filing page to load the transferred data.

CD Transfer

The D-Show FOH Rack provides a CD-ROM drive that can also be used as a source device for D-Show data transfer. (You cannot write data to the FOH Rack CD-ROM drive; it is read-only.)

To use a CD for transfer:

1 Using the Standalone software on a laptop or other computer, create and save a show.

2 Locate the D-Show folder on the system drive.

3 Copy that D-Show folder and its contents to a CD-ROM. Make sure the D-Show folder is at the root level of the CD-ROM.

4 Burn or write the disc as a Windows-compatible CD-ROM.

5 Insert the CD-ROM into the FOH Rack CD-ROM drive.

6 In the Filing screen, select the CD-ROM drive as the source for file transfer.

7 When the transfer is complete, eject the CD-ROM.

Leaving a disc in the FOH Rack CD-ROM drive can slow down the response of some software screens, so it is recommended that you not leave any disc in the drive during a performance. This only applies to the CD-ROM drive in the FOH rack (not the laptop on which you're running the standalone software).

Exporting Patchbay Names to Text

With Standalone software, the contents of each Patchbay page can be exported to a text file. This can be useful for generating an input list (line list) directly from the system. For example, build and customize the Patchbay for an upcoming show, then export and print the channel names list for use during sound check.

To export Patchbay names:

1 Go to the Patchbay page you want to export.

2 Click the Export to Text button in the upper right corner of the screen.
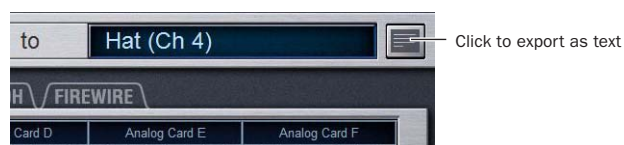
Export to Text button

The Patchbay names appear in an open text file that you can modify, save and print.

Part VI: Specifications

Chapter 25: Mechanical Specifications

D-Show Profile Mechanical Specifications	
Maximum Height (front)	3.2 inches (81 mm)
Maximum Height (rear)	6.8 inches (169 mm)
Maximum Width	45.21 inches (1150 mm)
Maximum Depth	31.11 inches (790 mm)
Weight	90 lbs (40.823313 Kg)
Power Requirements	100–240 VAC, 50–60 Hz, 160 W
USB Ports (3)	USB 1.1
VGA Port	DB-15 mini-female (1024 x 768 resolution)
Footswitch Connectors (2)	1/4-inch TRS
GPI In Port	DB-25 D-Sub, female
GPI Out Port	DB-25 D-Sub, male
Console Light Connectors (2)	XLR
FOH Link Connector (to FOH Rack)	MIL connector
Max FOH Link cable length	11 ft (3.35 m)
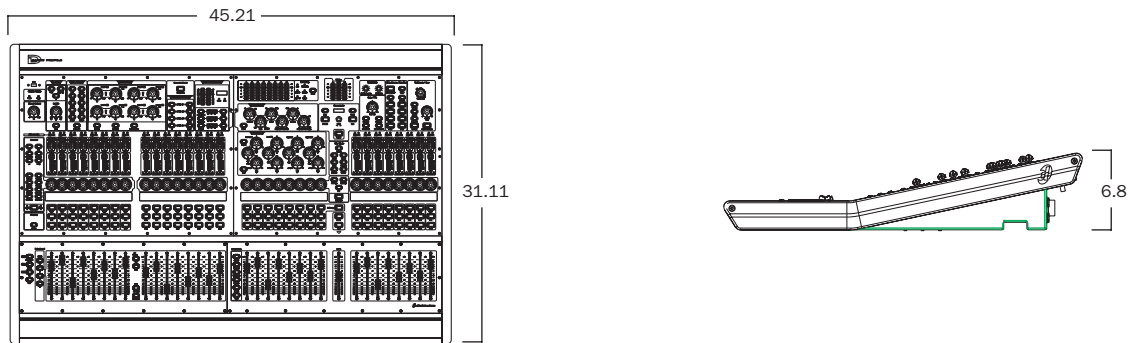
D-Show Profile dimensions

D-Show Stage Rack Specifications (maximum configuration)	
Dimensions (H x W x D)	17.5 x 17.0 x 12.2 inches (445 x 432 x 310 mm)
Rack Spaces	10 U
I/O Card Slots	12 (6 input, 6 output)
Weight	86 lbs (39 kg)
Power Requirements	90–260 VAC, 50–60 Hz, 140 W
Snake 1 In/Out Connectors (to FOH Rack)	BNC female (2)
Snake 2 In/Out Connectors (to FOH Rack)	BNC female (2)
Snake Cable Type	75-ohm coaxial cable
Snake Cable Length	250 ft (76 m) or 500 ft (152 m)
PQ Link Connector (to PQ Rack)	XLR4-M
PQ Link Cable Type	110-ohm (digital) cable
Max PQ Link Cable Length	15 ft (4.6 m)

D-Show FOH Rack Specifications (Maximum Configuration)	
Dimensions (H x W x D)	17.5 x 17.0 x 15.1 inches (445 x 432 x 384 mm)
Rack Spaces	10 U
Weight	74 lbs (33.7 kg)
Power Requirements	90–260 VAC, 50–60 Hz, 220 W
Snake 1 In/Out Connectors (to Stage Rack)	BNC female (2)
Snake 2 In/Out Connectors (to Stage Rack)	BNC female (2)
Word Clock In/Out Connectors	BNC female (2)
USB Ports (2)	USB 2.0
FOH Link Connector (to Main Unit)	MIL connector
Max FOH Link Cable Length	11 ft (3.35 m)

Chapter 26: Audio Specifications

D-Show Profile Console

Internal Sample Frequency	48 kHz
External Sample Frequency	48 kHz +/– 10 ppm (word clock input)
Processing Delay	less than 2.8 ms (96 channels, stage input through L–R bus to stage output)
Internal Processing	up to 48-bit, fixed point 288 dB internal dynamic range
Frequency Response	+/– 0.5 dB (22 Hz – 20 kHz BW, relative to 1 kHz)
THD + N	less than 0.01% (Stage Input to L–R bus, input gain @ min, +4 dBu output, 22 Hz – 20 kHz BW
Dynamic Range	108 dB typ
Maximum Voltage Gain	84 dB (Stage Input to L–R bus, channel & L–R faders @ max)
Crosstalk	–100 dB typ (Adjacent Stage inputs to L–R bus, @ 1 kHz)
Residual Output Noise	–90 dBu typ (22 Hz – 20 kHz BW)

Talkback Mic Input

Connector	XLR3-F
Phantom Power	+15V @ 6mA (always on)
Sensitivity (fixed)	–20 dBu
Input Impedance	20K ohms

Headphone Output

Connector	TRS unbalanced
Output Impedance	50 ohms
Max RMS Power Output at +21 dBu:	
(with 32-ohm phones)	20 mW
(with 600-ohm phones)	130 mW

Stage Rack

SRI Analog Input Card

Connector (x8)	XLR3–F
Phantom Power	+48V (individually switchable per channel via software)
Maximum Input Level	+34 dBu, with pad *
Pad	20 dB
Gain	+10 dB to +60 dB
Input Impedance	pad off: 10 k ohm balanced
	pad on: 4 k ohm, balanced
EIN	126 dBu typ (Max gain, 150 ohm source, 22 Hz – 20 kHz BW) *
LEDs	signal presence (indicates –37 dBu or greater), +48V
A/D	24-bit, delta sigma

SRO Analog Output Card

Connector (x8)	XLR3–M
Maximum Output Level	+24 dBu *
Output Impedance	50 ohm
LEDs	signal presence (indicates –37 dBu or greater), mute
D/A	24-bit, delta sigma, 128x oversampling

* 0 dBu = 0.775 V rms

📖 *See the Expansion Options Guide for audio specifications on Stage Rack expansion options.*

FOH Rack

FOH Rack IO (Standard)

Com Input

Connector	Neuetrik combi XLR/TRS
Phantom Power	+15V @ 6mA (switchable on FOH Rack back panel)
Gain	–2 dBu to –32 dBu, 6 steps
Input Impedance	20K ohms

Analog Inputs 1–8; 2-Track Analog Inputs

Connector	1/4-inch TRS
Maximum Input Level	+24 dBu
Input Impedance	10K ohms

Analog Outputs 1–8; 2-Track Analog Outputs, Monitor L/R

Connector	1/4-inch TRS
Maximum Output Level	+24 dBu
Output Impedance	50 ohms

Digital Inputs (Switchable between AES and S/PDIF)

2-Track AES

Connector	XLR3-F
Format	AES/EBU
Word Length	24-bit
Sample Rate	48 kHz
Sample Rate Conversion	3:1 ratio

2-Track S/PDIF

Connector	RCA co-axial
Format	SPIDF (IEC-60958)
Word Length	24-bit
Sample Rate	48 kHz
Sample Rate Conversion	3:1 ratio

Digital Outputs (Switchable between AES and S/PDIF)

2-Track AES

Connector	XLR3-M
Format	AES/EBU
Level	N/A
Word Length	24-bit
Sample Rate	48 kHz
Sample Rate Conversion	Yes
Dithering	No
Channel Status Info	Pro, Audio 48K, No Emphasis

2-Track S/PDIF

Connector	RCA co-axial
Format	SPIDF (IEC-60958)
Level	N/A
Word Length	24-bit
Sample Rate	48 kHz
Sample Rate Conversion	Yes
Dithering	No
Channel Status Info	Consumer, Audio, 48K, Non-copy, 2-Channel, General Category, Level 2 Clock

FOH Rack IOx (Optional)

Analog Inputs 9–16

Connector	1/4-inch TRS
Maximum Input Level	+24 dBu
Input Impedance	10K ohms

Analog Outputs 9–16

Connector	1/4-inch TRS
Maximum Output Level	+24 dBu
Output Impedance	50 ohms

Digital Inputs 1–4

Connector	XLR3-F
Format	AES/EBU
Word Length	24-bit
Sample Rate	48 kHz
Sample Rate Conversion	3:1 ratio

Digital Outputs 1–4

Connector	XLR3-M
Format	AES/EBU
Level	N/A
Word Length	24-bit
Sample Rate	48 kHz
Sample Rate Conversion	Yes
Dithering	No
Channel Status Info	Pro, Audio 48K, No Emphasis

Snake

Connector (x4)	BNC
Cable Type	coaxial
Max Length	250 feet (76 m) Belden 1855A
	500 feet (152 m) Belden 1694A
Channel Count	48 inputs, 48 outputs

Digital Snake Cable Assemblies

Customers wishing to build their own digital snake assemblies using copper coaxial cable should adhere to the following cable type and length recommendations:

Digital Snake Cable Specifications

SNAKE Connector	(x4) BNC Male, 75 ohm
Cable Type	Coaxial, 75 ohm
Max Length	250 ft (76 m)
Belden 1855A - single conductor Belden 7787A - three conductor Belden 7788A - four conductor	
Max Length	500 ft (152 m)
Belden 1694A - single conductor Belden 7710A - three conductor Belden 7711A - four conductor Van damme Cable (VDC) 278-175-00 - single conductor	

Check the VENUE sections of the Digidesign website for additional information about cable specifications and options (www.digidesign.com).

Chapter 27: Signal Flow Diagrams

D-Show Input Signal Flow Diagram
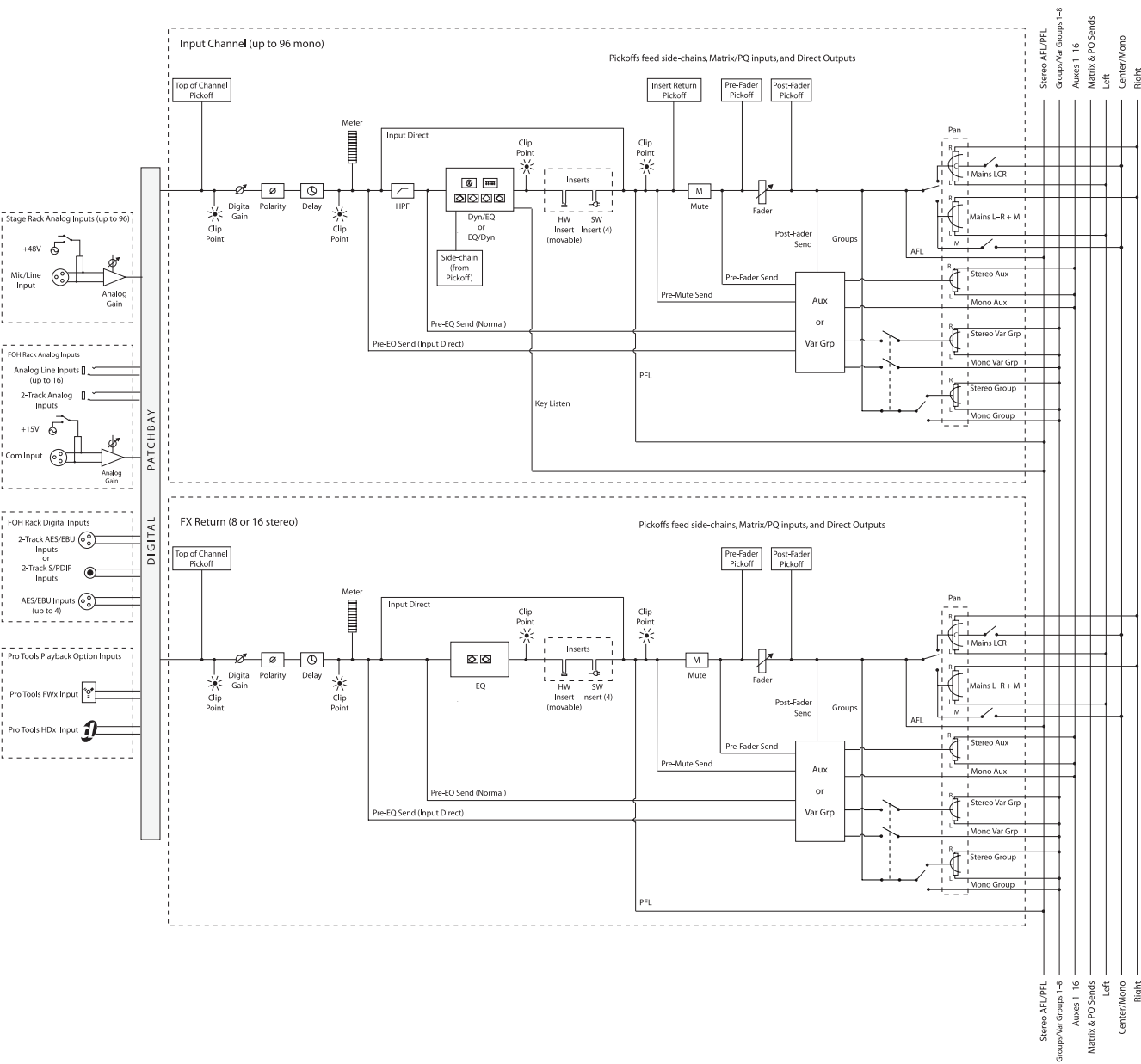
D-Show Output Signal Flow Diagram
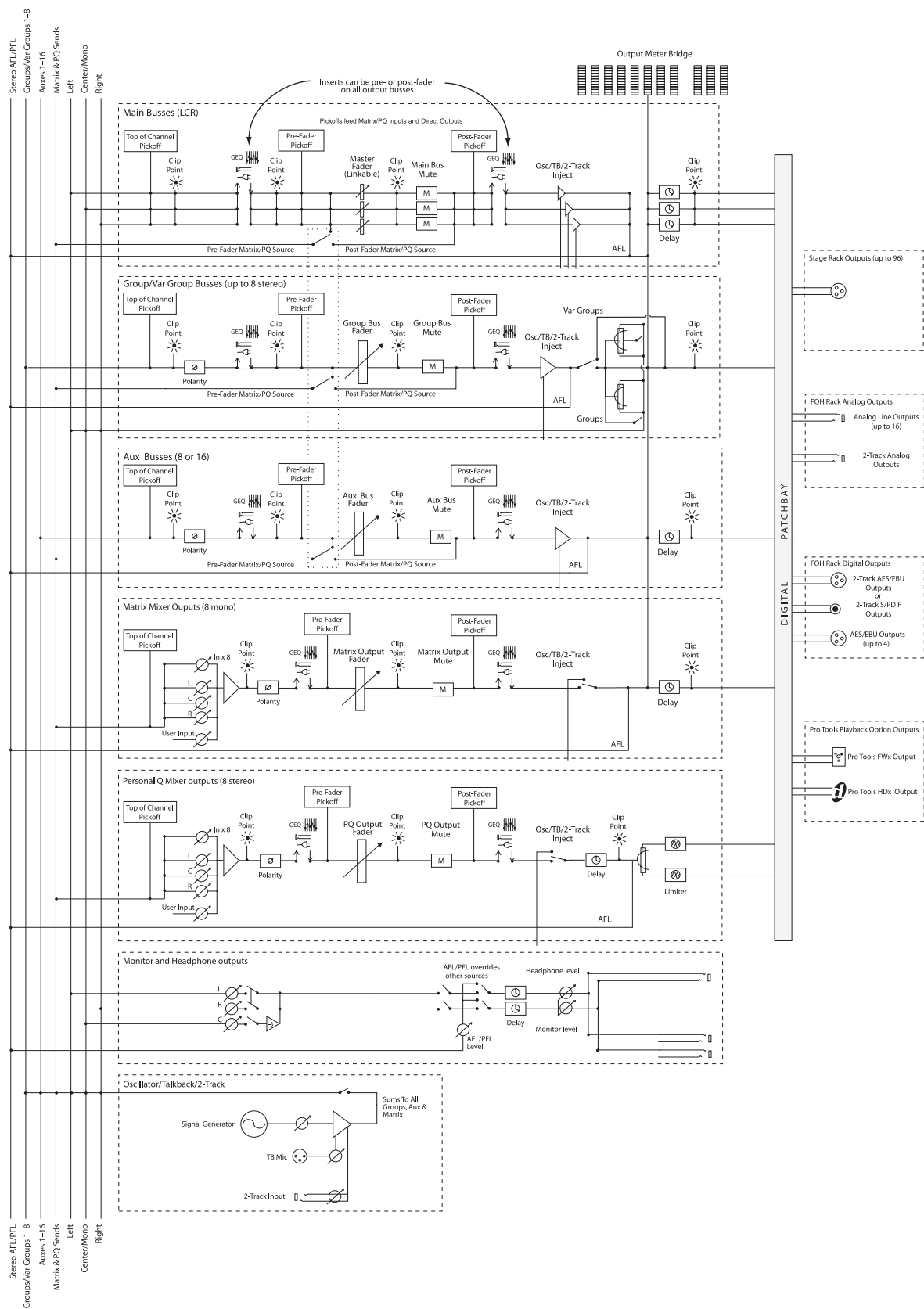
Chapter 28: Troubleshooting

This chapter provides troubleshooting and problem solving information. It includes a table of problems and solutions that provides answers to common questions, explains D-Show text messages, and refers you to specific sections later in this chapter or elsewhere in this guide for details and instructions.

Problem Solving

The following table provides descriptions of situations that may arise while operating D-Show and includes common questions, symptoms and error messages, along with possible solutions.

Table 29. Troubleshooting D-Show Errors and Messages

Symptom or Message	Possible Cause	Solution
Faders, Switches, Channels, and Devices		
Fader stuck	Fader path was blocked during startup calibration	Reset the unit on which the stuck fader resides by right-clicking the unit in the Options > Devices page and choosing Reset. If possible, wait for a silent portion of a performance to avoid unexpected gain changes upon reset. For details, see "Hardware Monitoring Window" on page 232).
Only faders and mutes are working	Backup personality is in effect	Wait for the system to recover and follow instructions on-screen to resume operations (see "Resuming Normal Operation" on page 230).
Channel meter Stereo LED is flashing	Indicates a difference of 12 dB or more between the two sides of the stereo signal.	Trim source levels or input gains to balance.
Cannot pan an Aux from the ACS	Aux panning is configured to follow channel pan	In the Options > Busses page, select the Follows Channel Pan option. Deselect for each Aux you want to pan independently from channel pan.
Startup and Restarts		
System failure and restart, then the Resume Operations dialog appears	The D-Show system software has been forced to restart and the backup personality is now in effect.	Continue mixing using features available while the backup personality is in effect (see "In Case of System Failure" on page 229). Follow the instructions on-screen to resume operations after a restart (see "Resuming Normal Operation" on page 230).

Table 29. Troubleshooting D-Show Errors and Messages

Symptom or Message	Possible Cause	Solution
Repeated failures	An incompatible plug-in, a corrupted D-Show data file or application software, or a hardware error.	Check to make sure you are using the most current versions of all your plug-ins (check with the manufacturers). If failures occur only when you try to use a certain plug-in, disable that plug-in and see if problems go away. Try re-installing plug-ins that are causing problems. Determine if a certain Show file causes the system to fail consistently. If so, delete that file and see if problems persist. For additional options, see "Restarting D-Show" on page 231. Clear the console from the Options > System Config page and see if problems persist. If necessary, you can reinstall D-Show software (see "Updating or Re-Installing" on page 233). If you suspect problems with the FOH Rack hard drive, or the D-Show system software, you can do a complete restore (see "Full System Restore" on page 233). Power down all equipment and check all cards and cable connections and power supplies.
Plug-Ins		
The plug-in racks need to be re-initialized	The racks have gone offline. The racks go offline whenever the backup personality is in effect, and after some conditions in which a plug-in or the DSP host failure causes significant problems.	Follow the instructions on-screen to reset the racks (see "Re-Initializing the Plug-In Racks" on page 230).
One or more plug-ins are unavailable	A Show was loaded that references plug-ins which are unavailable on the current system	Install the plug-ins, if available (see "Installing and Authorizing Plug-Ins" on page 145). Remove or replace the plug-ins in the Show, or load a different Show file.
	A plug-in is not fully compatible with D-Show and is causing failures	Check all plug-ins to make sure you are using the most recent versions. Go to Options > Plug-Ins and click the plug-in to display the version number. Try disabling plug-ins one-by-one to see if doing so eliminates problems (see "Enabling and Disabling Installed Plug-Ins" on page 148).
Plug-in authorization dialogs appear every time the system starts or restarts	A plug-in is installed that needs to be authorized for demo or full use.	Click Quit to dismiss the authorization dialog and continue starting up (the plug-in will be unavailable). Click Try to use the plug-in for a limited time in Demo mode. Click Authorize if you are ready to authorize a plug-in using an iLok. (See "Installing and Authorizing Plug-Ins" on page 145.)
	A plug-in demo has expired	Uninstall the plug-in listed in the authorization dialog (see "Removing Plug-Ins" on page 146).
Error Messages		
One or More Units have Failed	Bad or missing connection	Check all cables and connections. Make sure digital grade XLR cables are being used to connect Main Unit and all Sidecar units (original D-Show systems only). Check to make sure that the last Sidecar in the chain is properly terminated (original D-Show systems only).
	A unit needs to be reset	Reset the component in Options > Devices. If necessary, restart D-Show.
Plug-In Racks Need Reset	The racks have gone offline due to the backup personality being in effect, a plug-in has failed, or some circumstances have caused the DSP engines to require a reset.	Follow the instructions on-screen to reset the racks (see "Re-Initializing the Plug-In Racks" on page 230).

Table 29. Troubleshooting D-Show Errors and Messages

Symptom or Message	Possible Cause	Solution
Power Supply Alert	A power supply is failing or is not plugged in. A power supply jumper switch is set incorrectly.	Click Review to show the Options > Devices page. Reset units as needed (see "Hardware Monitoring Window" on page 232). Check the power supply jumper switch to make sure it matches the number of installed power supplies in the unit. (See the *Redundant Power Supply Installation Guide*.)
Control Surface Change	A unit Bus ID has changed, a new console has been detected, or a new sidecar has been detected.	Click to clear the message. Check unit Bus IDs to make sure input channel strips are arranged as desired.
Date & Time Check	Clock setting of D-Show system should be checked against current time.	Check and reset D-Show system time in the Options > Misc page. Incorrect system time can affect D-Show data transfer and plug-in authorizations. If clock problems persist, the battery in the FOH Rack may need to be replaced.
Sample Rate Conversion Alert SRC OFF LEDs flashing (DSI option only)	A sample rate mismatch or lack of clock has been detected at a digital input.	No immediate action required; automatic sample rate conversion maintains digital throughput, allowing you to check settings and connections between D-Show and external digital devices later. For more information on digital connections and synchronization, see "Digital Inputs and Sample Rate Conversion" on page 15.
Hardware Monitor Alert	The system has detected a hardware component that is performing above or below its hardware specification.	Click HW Monitor to access the Hardware Monitor WIndow for the device. See "Hardware Monitoring Window" on page 232.

In Case of System Failure

D-Show includes multiple redundancy and fail-safe routines that help protect against problems that could interrupt audio. These include the ability to maintain mix control even if a failure occurs, to reset software and hardware components, and to completely reset and reinstall the system software.

For maximum protection, Redundant Power Supplies are included standard in all hardware components. Redundant Snake options are available to provide additional backup system communication for uninterrupted operation.

Maintaining Mix Control

If at any time the system fails, or if the system is reset or restarted, the D-Show backup mode is automatically engaged to maintain audio throughput and essential mix control.

While the backup personality is engaged, a dialog appears on-screen in the banner display. The system then begins to reset itself in the background, while you can continue to use the faders and mute switches to perform basic mixing. Plug-Ins continue to process audio but their controls cannot be changed until the process is complete.

Features that Remain Active

The following essential mixing features remain available while the backup personality is engaged:

- Bank Input Channels (Banks A–D); adjust levels and mutes. (FX Returns are banked independently of Input Channels.)

- Bank to FX Returns; adjust faders and mutes

- Bank Output faders; adjust faders and mutes

- Control VCA masters, including VCA mutes, and have all members of the VCA group reflect VCA adjustments

- Display the correct name for any fader in its LCD display, even while banking

- Meter input signals on the channel input meters, and meter bus outputs on the assignable meterbridge. The Selected Channel meter continues to provide metering for the last selected channel. Meter mode selection buttons remain active on meterbridge (however, Meter mode does not automatically follow output selection, if configured to do so).

- Compressor and gate meters remain active for all Input Channels (however, Comp In and Gate In switches are not available)

- Meterbridge System Status LEDs turn off

- Channel select is disabled for all inputs and outputs

◆ Switch the Mute Group Masters, and see the effect on the channels with member-mutes (flashing mute switches)

◆ All LCD displays illuminate (orange)

- Adjust near-field monitor and headphone levels

Unavailable Features

The following features are unavailable while the backup personality is in effect:

- Use the Assignable Channel Sections
- Modify any other mixing parameters apart from faders and mutes (for example auxes)
- Use solos or Solo In Place
- Change the input or output routing, or order of inputs
- Make stereo, or unlink stereo to discrete mono channels
- Change bus or group assignments
- Change VCA membership, or show VCA members
- Change names or access any Filing functions
- Reconfigure any system parameters in the Options screens
- Access GEQs on the faders
- Adjust the parameters of any existing Plug-In
- All LED indicators (except meters) and output fader CAL lights go dark and are inactive

Resuming Normal Operation

(Exiting the Backup Personality)

When the system has recovered and is prepared to return to normal operation, the Ready to Resume dialog appears on-screen.
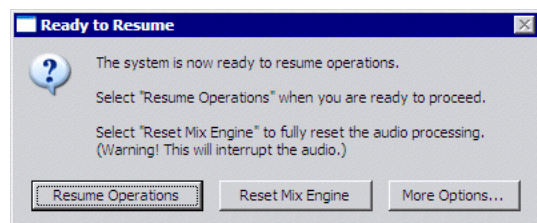
Ready to Resume dialog

Choices in the Ready to Resume dialog give you options for how and when critical functions are brought back online. Utility functions are also provided for reset and diagnostics, as described in the following sections.

⚠ *Because this process can interrupt audio throughput, wait for a silent portion of the performance before confirming (such as a break between songs, intermission, or similar).*

Resume Operations Use this option if you need to wait for a break in a performance to complete the resumption of normal operations.

Reset Mix Engines Use this option to do a full system reset in one step. All operations and controls including the plug-in racks return to full operation. This is the fastest way to resume operations, but it may interrupt audio.

More Options Use this option to clear the console (reset, or "zero" the board), or to perform hardware diagnostics.

Resume Operations

This option begins the process of resuming operations and lets you control precisely when the plug-in racks are re-initialized.

To begin the Resume Operations process:

1 Click Resume Operations. The console resets all parameters and configuration settings. When completed, the Plug-In Racks Reset dialog appears to let you initiate the process of re-initializing the plug-in racks.

2 Reset the plug-in racks (see next).

Re-Initializing the Plug-In Racks

The plug-in racks are taken offline during a Resume Operation process. Whenever the plug-in racks go offline they will need to be reinitialized to resume normal operation.

⚠ *Do not reset the racks until there is a long enough break in the performance that the rack can be fully rebuilt with no signal passing through. This is especially important when using crossover plug-ins or gain-attenuating plug-ins.*

The following conditions apply when resuming operations

- When offline, plug-ins on Input Channels and FX Returns continue to pass and process audio using their settings at the time the racks went offline.
- Offline plug-ins on output channels and busses are muted.
- You will not be able to adjust plug-ins settings until the racks fully re-initialize.
- Once the racks begin to reinitialize, plug-ins are unavailable and do not process audio.
- During reinitialization, plug-ins are loaded into rack slots according to the last loaded Show file; plug-in racks are turned off (all assigned plug-ins are made inactive).
- When all plug-ins have loaded and the racks initialized, D-Show displays a dialog alerting you that the racks are ready to be brought back online (reactivated). This is provided as a final precaution against sudden changes to audio when plug-ins resume processing.

Shortly after you confirm that you want the racks brought back online, plug-ins resume processing audio and all parameters become available for editing.

To re-initialize (reset) the racks:

1 In the Plug-In Racks Reset dialog, click Reset to begin the plug-in rack re-initialization.

Plug-In Racks Need Reset

Plug-Ins continue to process audio but will need to be reset before you can adjust parameters again.

During the reset, AUDIO MAY BE INTERRUPTED AND/OR AUDIO LEVELS MAY CHANGE.
As a result, it is recommended you wait for a suitably long break in the performance prior to hitting the "Reset" button below.

Reset

Resetting the plug-in racks

When this step is completed, the Plug-In Racks are Ready dialog appears alerting you that the plug-in racks are ready to be re-activated.

2 Click Use Racks to confirm that you want the racks to be re-initialized. Status is shown on-screen. After the process is complete, the console and all plug-ins are operational again.

Reset Mix Engines

Use this option to do a full system reset in one step. Reset Mix Engines resumes all operations automatically, including the console, settings, and plug-in racks.

⚠ *Audio may be interrupted or may change levels during this reset procedure.*

To reset the Mix Engines and all operations immediately:

▪ Click Reset Mix Engines in the Ready to Resume dialog.

Operations are brought back online; no further interaction is required (no warning or confirmation dialogs appear).

More Options

Additional options are provided to clear the console, or to run DigiTest (hardware diagnostics).

To access additional options:

▪ Click More Options.

After clicking More Options, a dialog is displayed that provides the following options.

Clear Console

▪ Click Clear Console to reset all D-Show parameters on all channels to their factory default settings.

Run DigiTest

DigiTest is hardware diagnostics software for D-Show. Only use DigiTest at the request of a Digidesign technician to diagnose specific hardware problems.

Restarting D-Show

If D-Show ever needs to be restarted, do the following:

To restart D-Show:

1 Turn off all power amps or turn the volume down on all monitoring equipment.

2 Press both Reset switches on the front of the FOH Rack simultaneously.
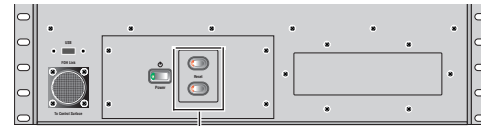
Reset switches

Location of reset switches on FOH Rack

If restarting the system does not correct a problem, you may have to reset other hardware components, identify and remove any incompatible plug-ins, or reinstall D-Show software using the D-Show System Restore CD.

Additional Restart Options

Additional shortcuts are provided while restarting the system, which let you do the following:

• Back up the current show settings and clear the console. Use this option if you suspect an auto-saved setting has become corrupted. This lets you save your most recent settings and clear the console without having to a full system restore.

– or –

• Restart the D-Show processor but launch into Explorer, to manually manage software components. Use this option if to troubleshoot the system if problems arise early in the startup process and persist through repeated restarts.

Backup and Clear Console

To backup and clear the console at restart:

1 Start or restart the system.

2 Watch the screen closely during the startup process. As soon as the cursor becomes visible (and before the D-Show logo screen appears) press and hold the C key on the computer keyboard. Continue to hold the C key (do not press it repeatedly).

3 A dialog appears that lets you choose to backup your auto-saved settings and clear the console, or to continue and load settings normally.

💡 *If you press the C key too early in the startup process, the USB keyboard is reset instead of calling the Backup and Clear dialog. If you do not see the backup and clear dialog, repeat the restart process and try again.*

Startup in Explorer

To start up the system in Explorer (bypassing D-Show):

1 Start or restart the system, as necessary.

2 Watch the screen closely during the startup process. As soon as the cursor becomes visible (and before the D-Show logo screen appears) press and hold the E key on the computer keyboard. Continue to hold the E key (do not press it repeatedly) until you see the Explorer desktop.

3 From Explorer, you can manually find and delete suspect D-Show data files, plug-ins, or perform other file management tasks.

If you are unsure about how to troubleshoot a computer and its files, it is recommended that you contact Digidesign VENUE customer service.

Hardware Monitoring Window

D-Show provides the Hardware Monitoring window in which performance of hardware components can be viewed and monitored.

The Hardware Monitoring window is not available in the Standalone version of D-Show software.

Accessing Hardware Monitoring

To access the Hardware Monitoring window, do any of the following:

- Press Ctrl+Shift+M at any time to open the FOH Rack Hardware Monitoring window.
- In the Options > Devices page, right-click on any supported device (FOH Rack, Stage Rack 1 or 2, or D-Show Profile) and choose Hardware Monitoring in the pop-up menu. This opens the Hardware Monitoring window for the selected device.
- If the Hardware Monitoring Alert dialog appears on-screen, click to select Show Hardware Monitor. The Hardware Monitoring Alert dialog for the problem device appears automatically and identifies the reading that is out of specification.

The Hardware Monitoring Alert window is only displayed once per device (should a problem ever be detected with that device).

The following is an example of the Hardware Monitoring Alert for a FOH Rack:

FOH Rack Hardware Monitoring Alert

Should a problem occur with any of the components in your system, the Hardware Monitoring window will provide information that will be useful in troubleshooting while in contact with Digidesign VENUE customer service.

Resetting Hardware Components

D-Show hardware can be reset from the Options > Devices screen, or by power-cycling the component. It is recommended that you perform a reset if, for example, the Hardware Monitor Alert dialog appears, or if a connected device stops communicating with the rest of the system.

⚠ *Resetting a hardware device from the Options > Devices page relies on software and therefore requires that the device be in a fairly good state just to receive and process the reset request message sent to it. If in doubt, power cycle the units instead.*

Indication

D-Show will display error messages alerting you if a device fails or is no longer available.

The system remembers the last hardware configuration used. If it doesn't find all units at the next startup, it displays those units as grayed out in the Options > Devices page. Units remain offline (and D-Show displays error messages alerting you to their absence) until either the units are powered up and come online, or you tell the system to forget the offline units by Right-clicking the missing devices and choosing Forget.

A Unit has gone Offline

The System LED on the console will flash. In the Options > Devices page, the failed unit appears grayed out. If a problem has been detected with the power being supplied to a unit, that unit will be indicated by a red circle above the icon for that unit in the Options > Devices page.

To reset system hardware:

1 Put D-Show in Config mode.

2 Go to the Options page and click the Devices tab.

3 Right-click any of the following hardware components:

- Inputs section
- ACS sections
- Outputs section
- Stage Rack

4 Choose Reset.
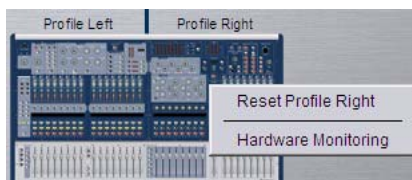
Resetting a unit in the Options > Devices page

Using the System Restore CD to Update or Restore the System

One copy of the System Restore CD is included with each system. The System Restore CD provides software installers to update or restore a system.

Updating or Re-Installing Updating or re-installing D-Show software lets you replace Digidesign software (including new installers for factory-installed plug-ins) but preserve any saved Shows and Presets. Use this option to update system software or firmware, or to re-install system software or the installer for a factory-installed plug-in.

All plug-Ins must be reinstalled after updating from the System Restore CD. Factory-installed plug-ins are immediately available to be reinstalled, while other plug-ins from Digidesign and other manufacturers must be reinstalled from their installer discs.

Full System Restore Performing a full system restore completely uninstalls D-Show before replacing it with new software. All D-Show data folders and files are removed. Be sure to transfer and archive needed data before performing a system restore. All plug-ins must be re-installed after restoring the system.

☼ *A System Restore CD and CDs of any plug-in installers should be kept with the system at all times.*

To start, update, or restore a system using the System Restore CD:

1 Make sure outputs, speakers, and power amps are muted.

2 Insert the System Restore CD into the D-Show CD-ROM drive on the FOH Rack.

3 Press the two Reset switches on the front of the FOH Rack simultaneously to restart the system, then press and hold F10 on the keyboard until either of the following occur, depending on your hardware:

- If the system begins to boot off the Restore CD, proceed to step 4.
- If the Restore CD text screen appears, release F10 and use the Up and Down Arrow keys to select the CD drive, then press Enter. This launches using the software on the inserted System Restore CD. Continue to step 4.

☼ *Some models of USB keyboards require repeated pressing of F10 (holding it down in between pressings) to register.*

4 Do one of the following to update or restore D-Show software:

- To update D-Show software while keeping any Show files and Preset files on the system, press "u" (lower-case). In the Update confirmation screen, press Shift+U (upper-case) to proceed. Follow the on-screen instructions to begin installation.

– or –

- To fully restore the system (completely removing all files on the system), press "r" (lower-case). (Or press P to return to the previous screen.) When the Restore confirmation dialog appears, press Shift+R to proceed. Follow on-screen instructions to complete the system restore operation.

5 Select an option in the Ready to Resume dialog as appropriate (see "Resuming Normal Operation" on page 230).

6 Follow any additional instructions on-screen for plug-ins or authorizations.

7 Remove the D-Show System Restore CD from the FOH Rack CD-ROM drive.

8 Re-install any plug-ins from their installer discs, as necessary.

⚠ *Before re-installing plug-ins after updating D-Show software, make sure they are the current versions available. If an updated versions of a plug-in is available, install it from its installer CD-ROM.*

To cancel without changing any installed software:

■ Press E to exit from the Welcome to D-Show System Restore screen. D-Show resumes starting up using the currently installed version on the FOH Rack CPU.

⚠️ *If you cancel a full system restore or an update, you may experience installation errors about unavailable space. If this occurs, repeat the system restore process, making sure to complete it in one pass.*

Updating Firmware

During an update or system restore, D-Show checks for new firmware. If newer firmware is found on the System Restore CD, it is installed while D-Show starts up.

Reinstalling Plug-Ins After Restoring the System

The System Restore CD reinstalls all D-Show system software and factory-installed plug-in installers only. DigiRack Plug-ins and any additional plug-ins from Digidesign or its Development Partners must be re-installed separately. (Factory-installed plug-ins will be available from the Previous Installs selector to re-install immediately after a system restore; other plug-ins must be completely re-installed.)

📄 *For instructions on re-installing plug-ins, see Chapter 19, "Plug-Ins."*

D-Show Profile Power and Status LEDs

D-Show Profile provides the two Power and Status LEDs, located just at the upper left of the unit.

Power and Status LEDs

Power and Com Link LEDs

Power LED

Power LED

Color	State	Meaning
green	Lit	All system components powered on, no power alerts present
yellow	Flashing	One or more power alerts are present in the system.

Status LED

Status LED color, state and meaning

Color	State	Meaning
green	Lit	All system components connected and operating properly
yellow	Flashing	One or more of the following events has occurred: · At least one expected component can't be found · Main snake failed, redundant being used. · Communication to FOH Rack not yet established · At least one expected PQ Rack or PQ Controller can't be found
red	Flashing	Communication has been lost to one or more of the following components: · Control Surface · FOH Rack · Stage Rack · PQ Rack and/or PQ Controller

If you power up with a different console configuration than was last used, you will need to reset D-Show Devices.

To reconfigure D-Show after reconfiguring consoles or removing a PQ Controller:

1 Go to Options page and click the Devices tab.

2 Right-click on the offline device and choose Forget.

Part VII: Reference

Chapter 29: Control Surface Reference

This chapter describes the ports and connectors on the D-Show Profile console.

D-Show Profile Console

USB port   Back Panel Connectors

Talkback

USB (2) and Headphones
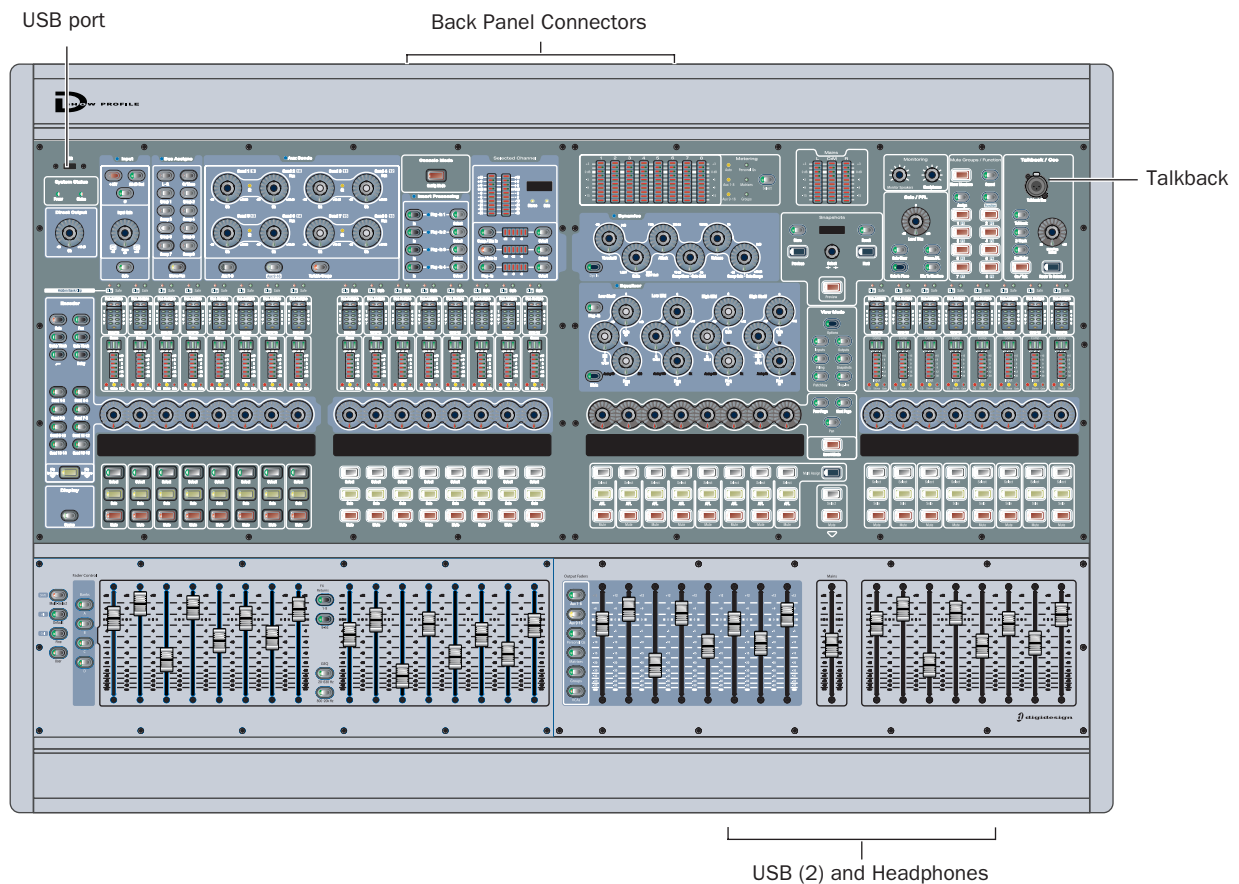
Figure 16. D-Show Profile connectors

Top Panel USB Port

A USB 1.1 port is provided on the top panel, in the upper left corner of the console. Use this USB port for iLok Smart Keys or any other USB device such as a key disks.

For faster data transfer to and from USB storage devices, use the USB 2.0 ports on the front and back of the FOH Rack.The FOH Rack actually provides three USB 2.0 ports (two on the outside, and a secure port inside the rack). For more information, see Chapter 30, "FOH Rack Reference."

Front USB Ports

Two USB 1.1 ports are provided on the front of console. Use these ports to connect a USB keyboard and a Trackball (or mouse). These ports also support iLoks and USB key disks.

Headphone Connector

The headphone connector on the front of the console is a standard 1/4-inch stereo (TRS) headphone jack. The connector is fed by the Monitor bus.

Back Panel

Console Light · AC (2) · FOH Link · VGA · USB · Footswitch 1 and 2 · Console Light

digidesign

Power Switches (2) · CAN · GPI
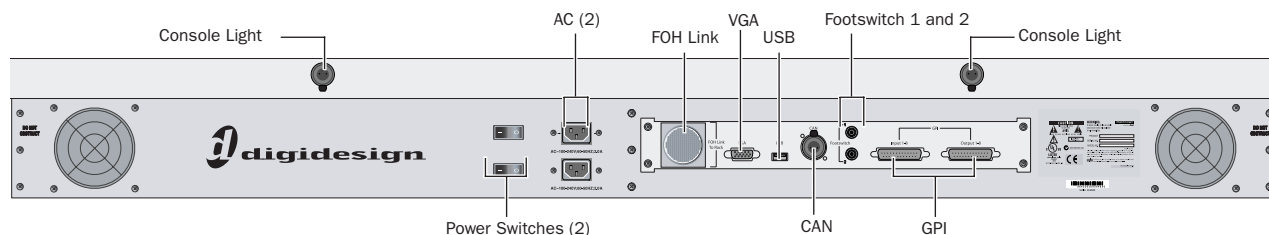
Figure 17. D-Show Profile back panel

Power Switches

The Power switches apply power to the D-Show Profile console using their corresponding AC connectors.

Power Connectors

Two male, 3-pin IEC power sockets with cable retaining clips are provided, one for each of the internal power supplies. Two North American standard IEC power cables are provided with each D-Show Profile console.

FOH Link

FOH Link connects D-Show Profile to the FOH Rack. One FOH Link cable is included with each FOH Rack.

VGA

A single, female VGA connector is provided for driving a compatible video display (not included).

CAN Bus

This XLR3-M connector is not functional.

Footswitches

Two female 1/4-inch TS footswitch jacks are provided for switch input. Footswitches can be normally open or normally closed, latching or momentary. Functions are assigned to these jacks on-screen in the Options > Events page.

USB Port

A single USB 1.1 port is provided on the back panel for interfacing with iLoks, keyboards, pointing devices or key disks.

Console Lights

These two XLR3-F jacks connect to the included console lights.

GPI (General Purpose Interface)

GPI Input Specifications

A 25-pin, male D-Sub connector provides a total of 8 General Purpose Interface (GPI) Inputs.

- Inputs are logic inputs with pull-ups. They may be driven by logic outputs or contact closure to ground.

- Input signal range is 0 to 5.5V. The inputs are ESD protected.

- Input signaling uses standard TTL logic levels: 0.8V or less for a logic low. 2.0V or greater for a logic high.

- Inputs are compatible with 5V TTL (e.g. 74LS series), 5V CMOS (e.g. 74HC series), 3.3V CMOS (e.g. 74LVC series)

- Inputs provide an internal 5K ohm pull-up to +5V.

- All Inputs are referenced to the same internal ground, which is connected to AC safety ground.

GPI Input Connector Pin Assignments

The D-Show Profile GPI Input is a male DB-25 connector.

GPI Input Connector Pin Assignments

Pin Number	Function	Comments
1	Input 1	Logic level (TTL, CMOS) input with pullup
2	Input 2	Logic level (TTL, CMOS) input with pullup
3	Input 3	Logic level (TTL, CMOS) input with pullup
4	Input 4	Logic level (TTL, CMOS) input with pullup
5	Input 5	Logic level (TTL, CMOS) input with pullup
6	Input 6	Logic level (TTL, CMOS) input with pullup
7	Input 7	Logic level (TTL, CMOS) input with pullup
8	Input 8	Logic level (TTL, CMOS) input with pullup
14, 15, 16, 17, 18, 19, 20, 21	Ground	All ground pins are connected together internally
9, 10, 11, 12, 13, 22, 23, 24, 25	Reserved	Do not use

Pinout for GPI Input Connector
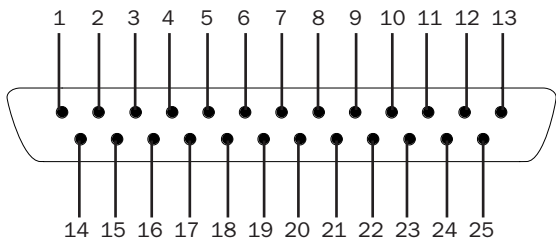
Pinout for D-Show Profile DB25M GPI Input port (looking at back of console)

GPI Output Specifications

A 25-pin, female D-Sub connector provides a total of 8 General Purpose Interface (GPI) Outputs.

• Outputs are isolated, floating relay contacts (contact closure).

• Switched voltage is 200V max; 0.5A max.

• Switched voltage with respect to safety/chassis ground is 300V max.

⚠ *The D-Show Profile GPI Outputs can switch 500 mA maximum. This applies even to short term current surges. This limit can be exceeded when driving a capacitive or incandescent lamp load. An incandescent lamp may draw as much as ten times its steady state current when first turned on. Therefore such lamps are typically not appropriate loads for the GPI Outputs, and should instead be controlled by a secondary relay.*

GPI Output Power Specification

The GPI Output connector also provides +12VDC at up to 200 mA for powering external devices, such as relays or LEDs. The ground return that is provided is the D-Show Profile internal system ground, which is connected to AC safety ground.

GPI Output Ground Connections

The GPI Outputs provided are isolated contact-closure style. Each GPI output is presented on a pair of pins (see "GPI Output Connector Pin Assignments" on page 240). These two pins represent the two sides of a switch that can be opened and closed. If it is desired to drive a signal to ground, then one of the pins must be wired to ground, and the other to the signal to be controlled.

GPI Output Connector Pin Assignments

The D-Show Profile GPI Output is a female DB-25 connector.

GPI Output Connector Pin Assignments

Pin Number	Function	Comments
1, 14	Output 1	Floating contact closure output
2, 15	Output 2	Floating contact closure output
3, 16	Output 3	Floating contact closure output
4, 17	Output 4	Floating contact closure output
5, 18	Output 5	Floating contact closure output
6, 19	Output 6	Floating contact closure output
7, 20	Output 7	Floating contact closure output
8, 21	Output 8	Floating contact closure output
12, 13, 24, 25	+12V auxiliary power	Maximum total load 200 mA All +12V pins are connected together internally
9, 10, 22, 23	Ground for auxiliary power	All ground pins are connected together internally
11	Reserved	Do not use

DB25F Pinout
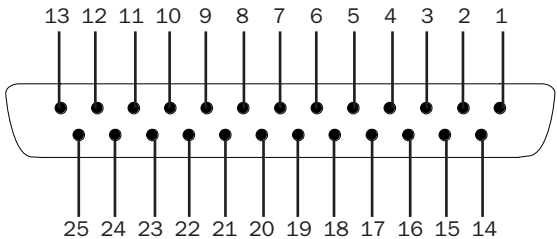
Pinout for D-Show Profile DB25F GPI Output port (looking at back of console)

GPI Wiring Diagrams

The following diagrams provide examples of GPI pinout and wiring for the common uses. All diagrams are shown from the rear (solder side) of the DB25 connector.

GPI Input Examples

The following diagrams provide simplified wiring examples for a customer-provided DB25 female connector, to attach to the male GPI In connector on D-Show Profile.

Wiring a Switch to Drive GPI

No ground reference needed between systems.
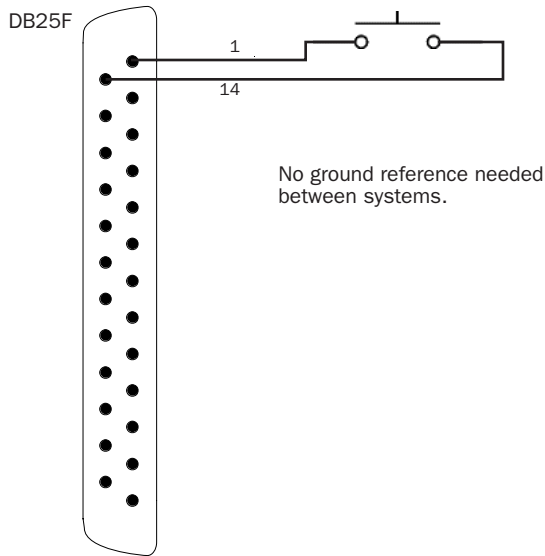
Wiring a Relay to Drive GPI

No ground reference needed between systems.
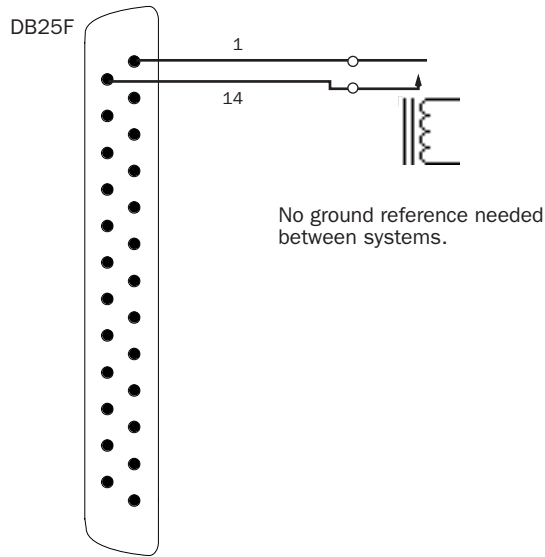
Wiring a Logic Signal to Drive GPI

DB25F
1
14

Ground reference needed
between systems.
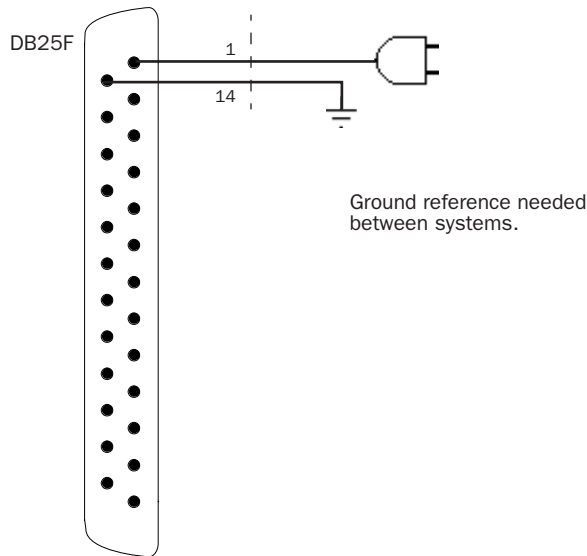
GPI Output Driving and Powering an LED

DB25M
1
14

9

24

Connect one side of the
relay to Ground.
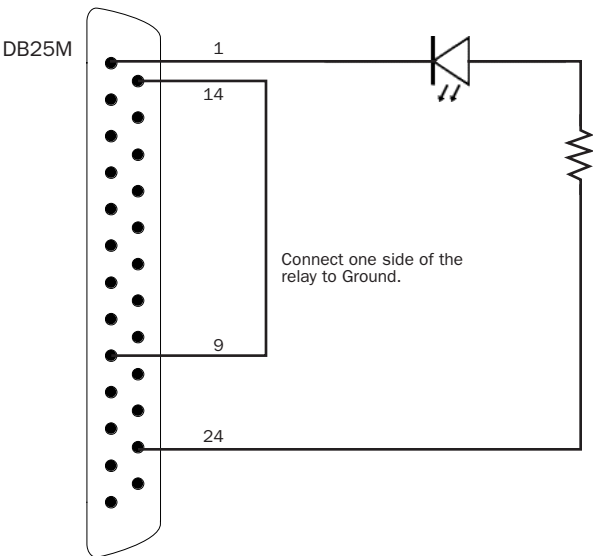
GPI Output Examples

The following diagrams depict wiring examples for a cus-
tomer-provided DB25 male connector, to connect to the fe-
male GPI Output connector on D-Show Profile.

GPI Output Driving a Relay to Illuminate a Light

DB25M
1
14

9

24

External
Power
Supply

No ground reference needed
between systems.
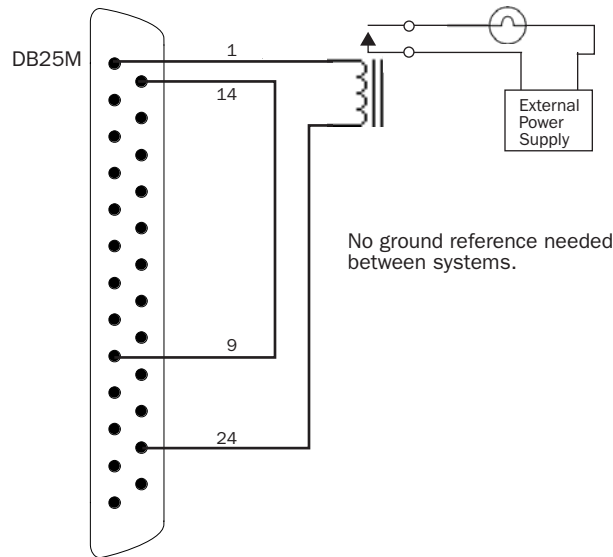
GPI Output Driving an Externally Powered LED

DB25M
1
14

−   +

External
Power
Supply
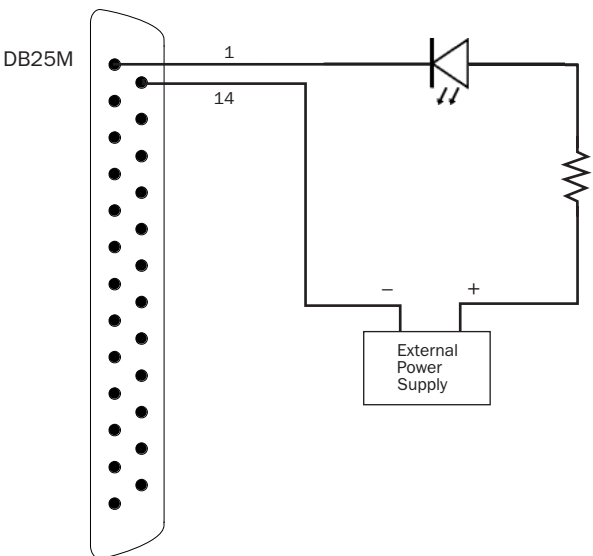
GPI Output Driving a Logic Input

Ground reference needed
between systems.
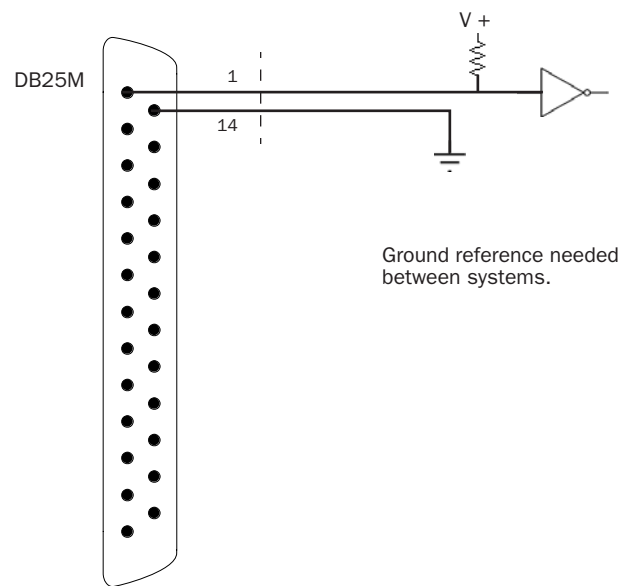
**GPI Output Driving a Relay Using an External Power
Supply**
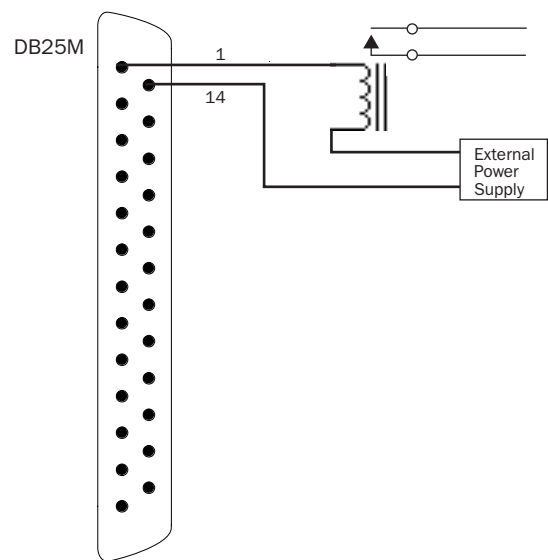
Chapter 30: FOH Rack Reference

FOH Rack Front Panel
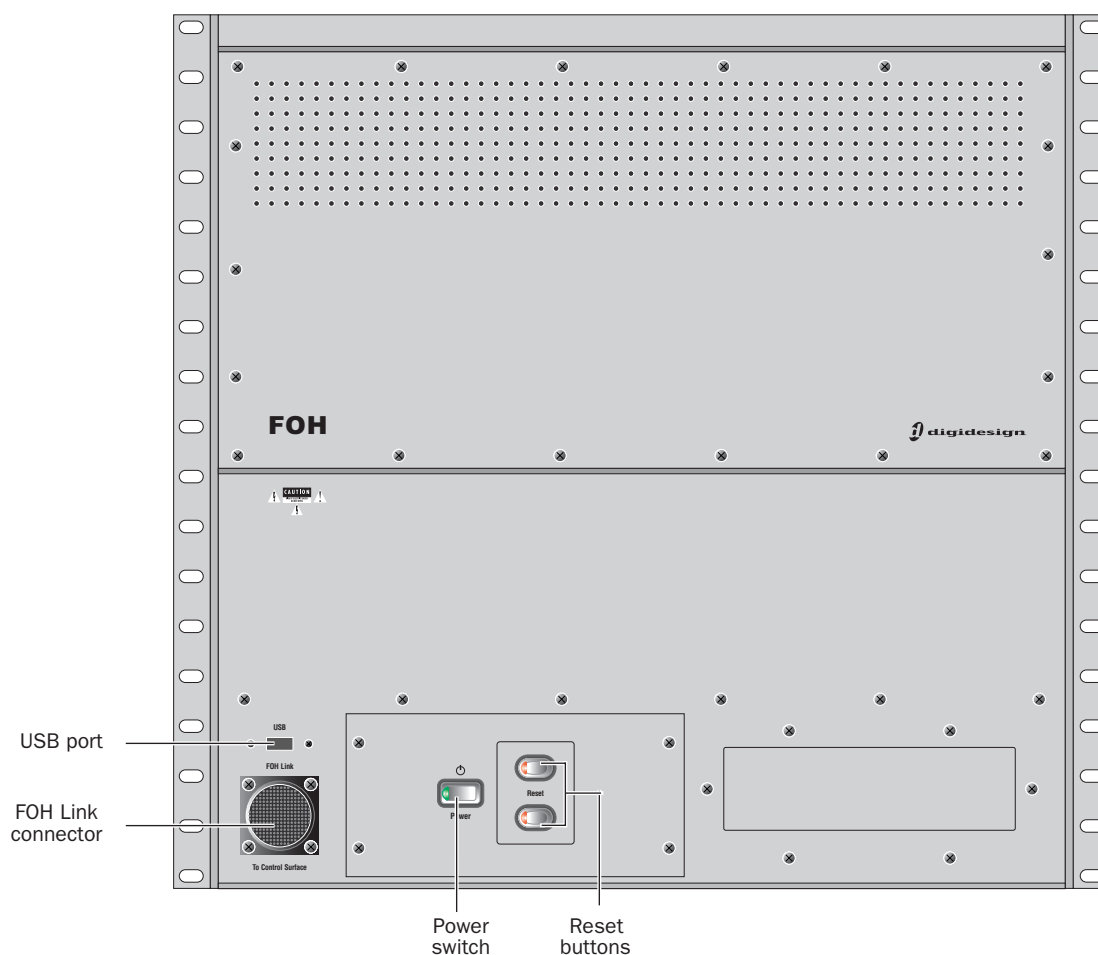
Figure 18. FOH Rack front panel

Power Switch

The Power switch applies power to the FOH Rack and starts the D-Show system.

Reset Buttons

The Reset buttons, when pressed simultaneously and held, restart the D-Show system.

FOH Link Connector

The FOH Link connector accepts the FOH Link cable that connects to the D-Show Main Unit. This cable provides all the data and audio connections between the D-Show Console and the FOH Rack.

USB Port

The USB port on the front panel of the FOH Rack is a USB 2.0 port. This port supports iLoks, USB key disks, and USB keyboards.

FOH Rack Back Panel
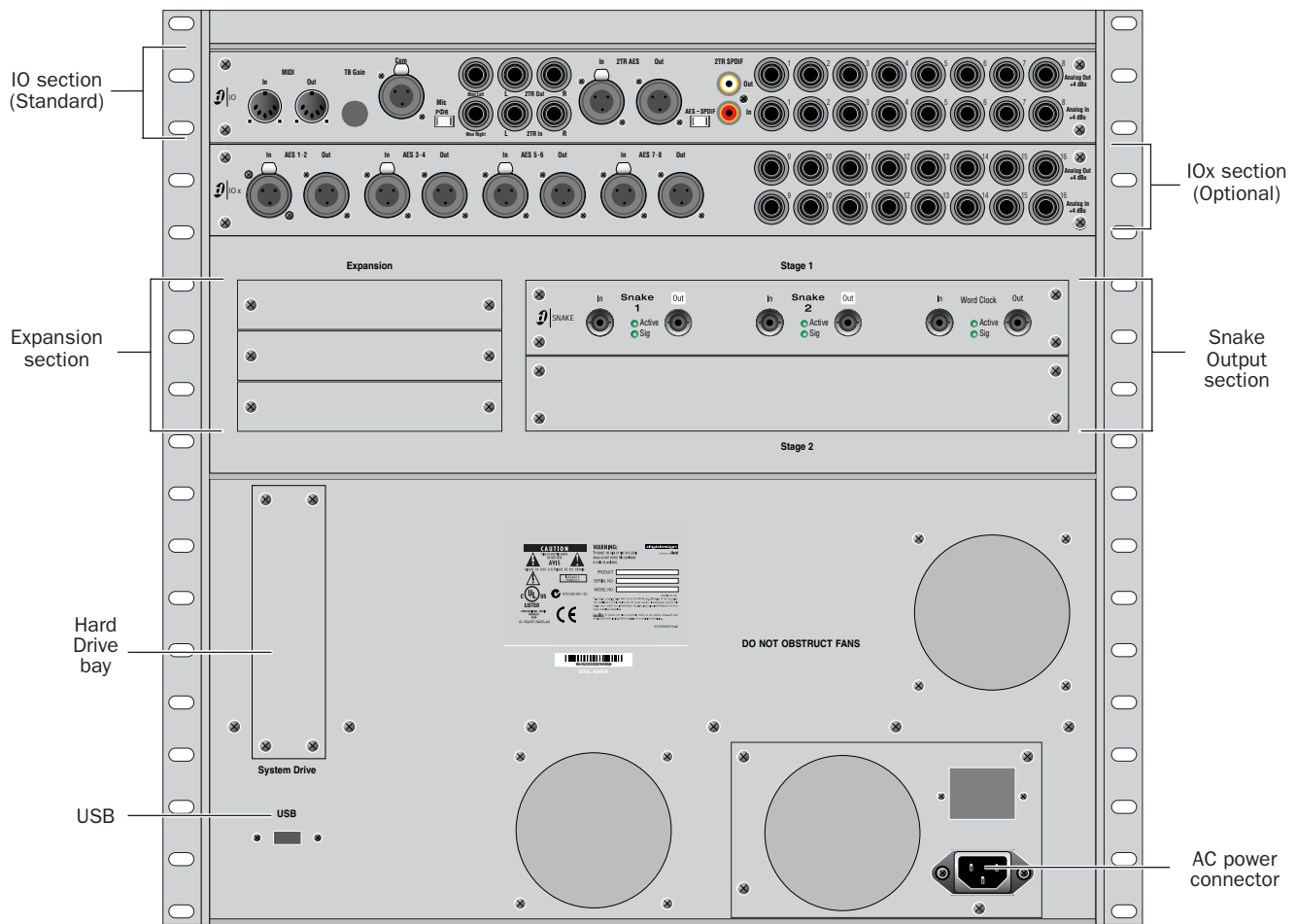
Figure 19. FOH Rack back panel

I/O Section (Standard)

MIDI I/O Ports

These MIDI In and Out Ports provide 16 channels of MIDI input and 16 channels of MIDI output to D-Show. The MIDI I/O ports are used in sending and receiving Snapshot MIDI messages, and in receiving MIDI Time Code from external devices.

Com Mic, Gain Control, and Phantom Power

This Com Mic connector and controls allow connection and control of an intercom system. The Gain control operates in steps of 3 dB. Phantom power may be applied to the Com mic with the Mic Power switch.

Monitor Outputs

These 2 Monitor Outputs are used for output to the near-field monitoring system. These are 1/4-inch balanced TRS connectors.

2-Track Analog Inputs and Outputs

These 2-Track analog connections are used for input and output of analog audio material, which can be routed to the Main bus. These are balanced 1/4-inch TRS connectors.

2-Track Digital Inputs and Outputs

These 2-Track digital connections are used for input and output of digital audio material, which can be routed to the Main bus. Stereo AES/EBU or S/PDIF I/O connectors are selectable with the AES–SPDIF switch. These connectors support 24-bit, 48 kHz digital signals. Input signals with other sample rates are sample-rate converted to 48 kHz.

Analog Inputs and Outputs (1–8)

These 8 pairs of analog inputs and outputs are used for hardware inserts, or for input and output of program material from the front of house position. These are balanced, 1/4-inch TRS connectors.
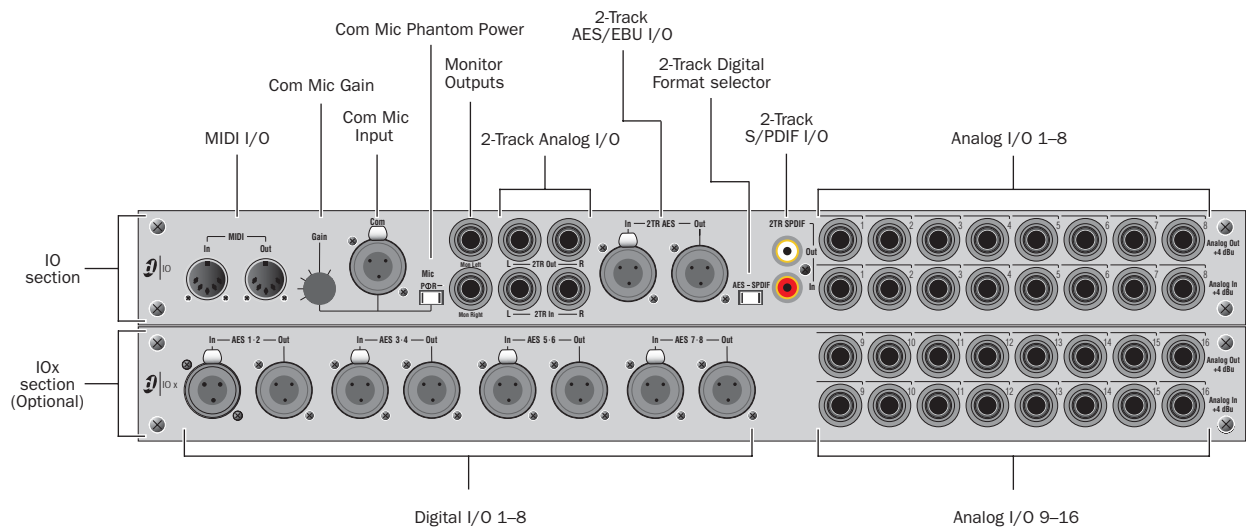
Figure 20. Audio connectors on FOH Rack, showing standard IO connectors (top) and optional IOx connectors (bottom)

IOx Section (Optional)

AES/EBU Digital Inputs and Outputs

These 4 pairs of stereo digital inputs and outputs are used for hardware inserts, or for input and output of program material at the front of house position. These connectors support 24-bit, 48 kHz digital signals. Input signals with other sample rates are sample-rate converted to 48 kHz.

Analog Inputs and Outputs (9–16)

These 8 pairs of analog inputs and outputs increase the total number of analog I/O on the FOH Rack to 16. These are balanced, 1/4-inch TRS connectors.

Expansion Section

FWx Card (Optional)

The optional FWx card enables the D-Show FWx Firewire option, which provides recording and playback of audio with Pro Tools LE.

HDx Card (Optional)

The optional HDx card enables the D-Show HDx Record and Playback option for recording and playback of audio with Pro Tools HD.

ECx Card (Optional)

The optional ECx card enables remote control of a D-Show system using wired or wireless Ethernet network equipment.

Snake Output Section

Stage 1 (Standard)

The Snake card accepts the Digital Snake cable (Snake 1) and an optional redundant cable (Snake 2) that connects the FOH Rack to the Stage Rack, handling up to 48 channels of audio.

Stage 2 (Optional)

An optional second Snake card may be added to the FOH rack to enable the use of a second Stage Rack, increasing capacity to 96 channels of audio. The second Snake card also supports an optional redundant cable.

Snake Connectors

The FOH Rack Digital Snake connectors consist of two pairs of BNC-style connectors (Snake 1 In and Out, Snake 2 In and Out), and two pairs of signal status indicators.

Active LED Green LED lights to indicate that connection to FOH Rack is active for the corresponding Snake. Only one Snake can be active at a time.

Sig LED Green LED lights to indicate that signal is present on the corresponding Snake.

All Snake LEDs flash when no Snake signal is present.

USB Ports

The FOH Rack has two external USB ports (one on the front, and one on the back) and one internal USB port. All are USB 2.0 ports that support iLoks, USB key disks, and USB keyboards.

Power Supply

An optional redundant power supply may be added to the FOH Rack.

AC Power Connector

The AC Power connector accepts a standard AC power cable. FOH Rack power supplies are auto-power selecting (100V to 240V) and automatically work with a standard modular power cord when connected to an AC receptacle in any country.

FOH Link Cable

Figure 21. FOH Link cable specifications and connector pinout diagram

Connector Specifications

P1: KPT 60 ZIFF connector w/ metal backshell

- Cannon P/N: KPSE06E22-55PF42F0 (housing)
- Cannon P/N: 030-9036-000 (contacts)

P2: KPT 55 Position w/ cable clamp, solder cup

- Cannon P/N: KPSE06E22-55PF42F0 (housing)
- Cannon P/N: 030-9036-000 (contacts)

Cable Specifications

VGA Bundle:
3 x 75 Ohm Coax, 2 x 24 awg Pair, 3 x 28awg
+ Foil and Braid shield

USB Bundle:
1 x 28 awg Pair, 4 x 24awg + Drain
+ Foil and Braid shield

Rack Bundle:
5 x 28 awg, Foil shield

Talkback (TB) Bundle:
4 x 28 awg, Foil shield

Headphone (HP) Bundle:
4 x 28 awg, Foil shield

CAN Bundle:
9 x 28 awg, Foil shield

Overall Shield: 360 degree Foil and 65% Braid + Drain

Overall Jacket: PVC, Black, UL

Connect all shields to the connector shell and to position EE on each connector.

Connector Pinouts

FOH Link cable VGA BUNDLE pinouts

P1	VGA BUNDLE	P2
U	RED DATA	U
A	GREEN DATA	A
T	BLUE DATA	T
V	ID	V
B	RED GND	B
S	GREEN GND	S
n	BLUE GND	n
W	GND	W
C	ID	C
m	ID	m
p	HSYNC	p
X	VSYNC	X
k	VGA SHIELD	k

FOH Link cable RACK BUNDLE pinouts

P1	RACK BUNDLE	P2
HH	RACK PSU	HH
BB	RACK GND	BB
CC	RACK SHD	CC
DD	SPR 1	DD
GG	SPR 2	GG

FOH Link cable TALKBACK BUNDLE pinouts

P1	TB BUNDLE	P2
R	TB P	R
j	TB N	j
y	TB GND	y
P	TB SHIELD	P

FOH Link cable HEADPHONE BUNDLE pinouts

P1	HP BUNDLE	P2
N	HP L	N
i	HP R	i
h	HP GND	h
M	HP SHIELD	M

FOH Link cable CAN BUNDLE pinouts

P1	CAN BUNDLE	P2
Y	CAN 1 H	Y
r	CAN 1 L	r
Z	CAN 2 H	Z
s	CAN 2 L	s
a	CAN 3 H	a
b	CAN 3 L	b
E	CAN 4 H	E
F	CAN 4 L	F
D	CAN CS	D

FOH Link cable USB BUNDLE pinouts

P1	USB BUNDLE	P2
K	USB 5+	K
J	USB GND	J
H	USB D+	H
d	USB D–	d
G	USB SHIELD	G
f	USB +5	f
c	USB GND	c

Not connected: AA, FF, z, x, w, v, u, t, q, e, L, g

Chapter 31: Stage Rack Reference

Stage Rack Front Panel
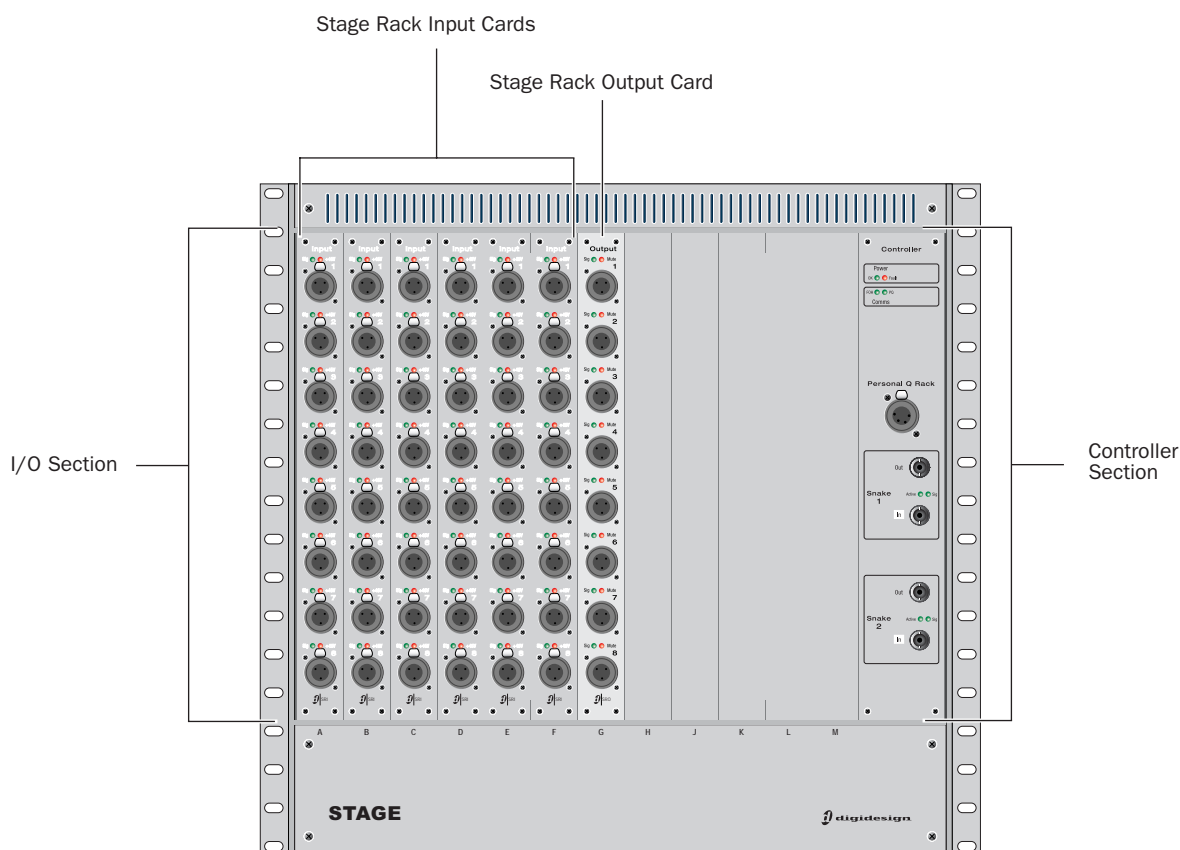
Figure 22. Stage Rack front panel

Stage Rack I/O Section

The Stage Rack I/O section consists of 12 slots that accept modular input cards or output cards. The first 6 slots (A–F) of the Stage Rack accept input cards only (such as SRI and DSI cards). The last 6 slots (G–M) accept output cards only (such as SRO and DSO cards).

Stage Rack Input Cards

Each SRI card has 8 analog inputs. The connectors are female XLR connectors. Each Input connector has Signal Present and Phantom Power LED indicators.

Stage Rack Output Cards

Each SRO card has 8 analog outputs. The connectors are male XLR connectors. Each Output connector has Signal Present and Hardware Mute indicators.

Outputs are automatically muted when the system restarts. Outputs can also be muted with a footswitch command.

Digital Stage Input Cards

(Optional)

Each DSI card has 8 digital input channels (8 female AES3 connectors and a single ADAT (Optical) input connector). Input source is selectable in software. Inputs have Lock and SRC OFF (sample rate conversion) LEDs, and additional LEDs indicate input source (AES or ADAT). DSI cards also provide Word Clock Out.

Digital Stage Output Cards

(Optional)

Each DSO card has 8 digital output channels (8 male AES3 connectors and a single ADAT (Optical) output connector). Both banks of outputs (AES and ADAT) are active at all times. LEDs indicate signal and mute status.

Outputs are automatically muted when the system restarts. Outputs can also be muted with a footswitch command.

Stage Rack Controller Section

The Stage Rack Controller section includes power and communication status indicators, Personal Q Rack connector, and Digital Snake connectors.

Power indicators

Comm indicators

Personal Q Rack connector

Primary Snake connector

Redundant Snake connector
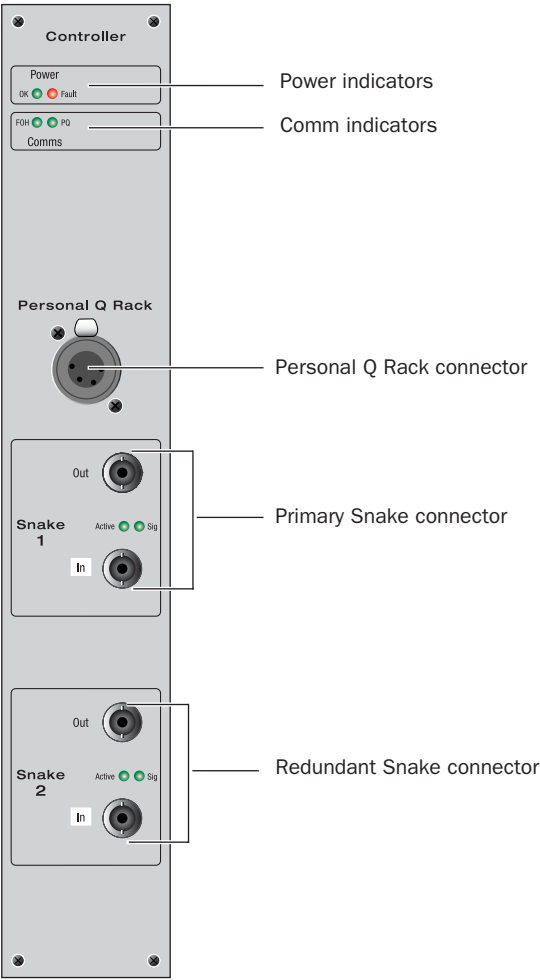
Power Indicators

OK LED Green LED lights to indicate that power and fan signals for at least one Stage Rack power supply is good.

Fault LED Red LED lights to indicate that any power or fan signal for a Stage Rack power supply is not good.

Comm Indicators

FOH LED

◆ Flashing fast means Stage Rack processor is OK and is receiving data from FOH

◆ Flashing slow means Stage Rack processor is OK but is also not receiving data from FOH

◆ Full on or off means Stage Rack processor is stuck.

PQ LED

◆ Flashing means that messages are being received from the PQ Rack and PQ Controllers

◆ No flashing indicates that there is no active link between PQ Rack and the Stage Rack.

Personal Q Rack Connector

The Personal Q Rack Connector is a special 4-pin XLR connector that accepts the PQ Rack cable supplied with the PQ Rack unit.

Snake Connectors

The Stage Rack Digital Snake connectors consist of two pairs of BNC-style connectors (Snake 1 In and Out, Snake 2 In and Out), and two pairs of signal status indicators.

Active LED Green LED lights to indicate that connection to FOH Rack is active for the corresponding Snake. Only one Snake can be active at a time.

Sig LED Green LED lights to indicate that signal is present on the corresponding Snake.

All Snake LEDs flash when no Snake signal is present.

Stage Rack Back Panel

Power switch
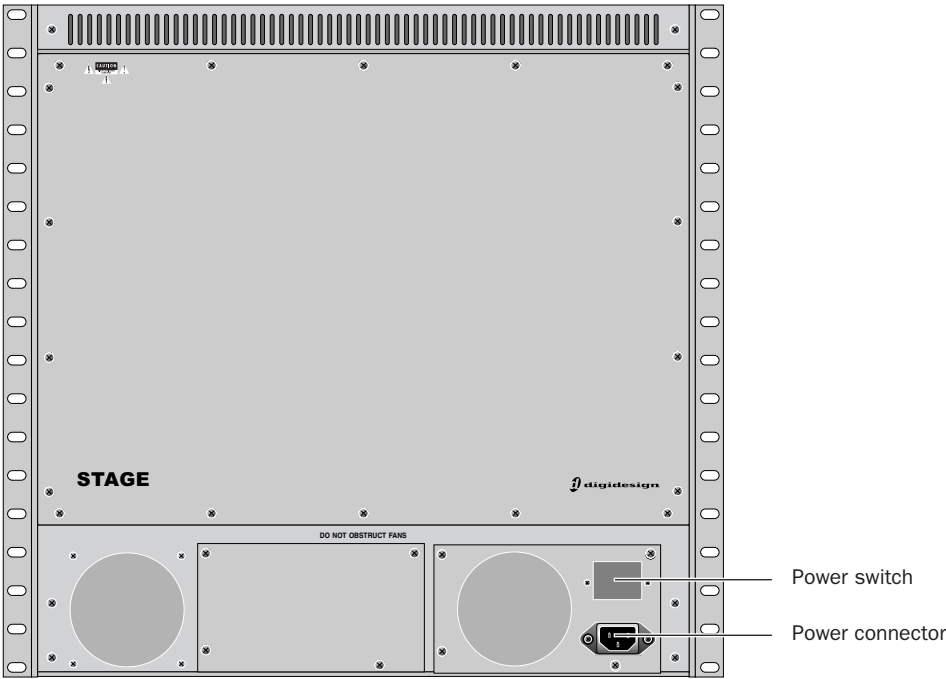
Power connector

Figure 23. Stage Rack back panel

Power Switch

The Power switch applies power to the Stage Rack.

AC Power Connector

The AC Power connector accepts a standard AC power cable. Stage Rack power supplies are auto-power selecting (100V to 240V) and automatically work with a standard modular power cord when connected to an AC receptacle in any country.

index

R

rack slots 149
racks 231
racks (plug-ins) 149
ratio
    compressor/limiter 127
Ready to Resume 230
Recall 172, 177
    Next 174
    Previous 174
    Safe 178
Recall Safe 178
    and MIDI 178
    and plug-ins 178
    and Preview mode 187
    CHANNEL SAFE 180
    Matrix and PQ 180
    turning on and off 178
    using 179
recovery 231
red (snapshot) 174
red plug-in rack 151
Relative (editing snapshots) 184
release
    compressor/limiter 127
    expander/gate 128
Remove this plug-in in Snapshot 159
Reset 231
reset 230
    dynamics 130
Reset (strip) 45
reset a section or parameter 36
Reset Fader 45
Reset Mix Engines 231
resolution (see Fine)
restart 230
restore (software) 233
Resume Operations 230
right-click shortcuts 44
RMS mode 110
rotary encoders
    rotary and switch functionality 28
routing
    channel bus indicators 27
    in the Patchbay 104
    Monitor bus 115
    multiple D-Show channels to a hardware output 105

S

Safe
    Automation 56
    Recall Safe 178
    Solo 56
    using channel automation safe 181
Safe All 181
Safe Selected 181
Sample rate conversion 15
save (History auto-save) 168
Scope Sets
    transferring 167
    using 181
Select
    channel switch 29
selecting channels 42
settings
    dynamics 131
    EQ 140
    plug-ins 158
shelf or bell EQ 136
shortcuts 36
    right-click 44
    Snapshots 175
Show files 163
    and Events 205
    creating 163
    deleting 163
    Folders 163
    loading 164
    transferring 167
Show Folder 163
Show Mode 36
side-chain 132
    assigning for plug-ins 155
    assigning source (gate only) 132

signal routing
    display in Patchbay 103
Snapshots
    adding MIDI messages 189
    adding plug-in data 190
    All 173
    Center Last Recalled in list 175
    Channel Safe 180
    channel scope 172
    chase MTC 174
    classifying Auxes and Var Groups 192
    Clear 172
    color indication in List 174
    creating 176
    crossfade time 191
    data type buttons 172
    Delete 172
    Disable 172
    Duplicate 172
    Edit mode 184
    Events and Preview mode 188
    faders 173
    from the console 174
    in Preview mode 186
    keyboard shortcuts 175
    List 172
    list of data types and parameters 180, 193
    locking and unlocking 182
    managing (storing, clearing, deleting, moving, duplicating) 182
    MIDI and plug-ins in Preview mode 186
    naming and renaming 176
    New 172
    Next 174
    None 173
    notes 176
    overview 171
    plug-in menu 159
    plug-in scope indication 151
    Preview (editing and previewing snapshots) 185
    Previous 174
    Propagate mode (updating snapshot parameters) 185
    Recall 172
    Recall Safe 178
    recalling 177
    safe filter (Recall Safe) 179
    Scope Sets 181
    selecting 175
    Store 172
    target 177
    type text search 43
    x-Fade 191
Snapshots containing this plug-in 159
Snapshots page 53
soft knee 127
software
    overview of pages and tabs 38
    standalone 213
    system restore 233
    updating 233
Solo
    and key listen 133
    metering 109
    on-screen settings 53
Solo Safe 56
Source 29, 156
Stage Rack
    enabling 2 21
standalone software 213
    and plug-ins 213
    installing and removing 213
    system requirements 213
stereo plug-ins 152
Store 172
synchronizing digital sources 16
System 49
system clock 54
System Config 49
System Update and Restore CD 233

T

takeover from backup mode 230
Talkback
        dim level 55
target
        channel Select switch 29
        channels 42
        plug-in 156
Targeting Changes View Mode 55
threshold
        compressor/limiter 127
        Expander/Gate 128
time of day 54
Tool Tips 35
Trackball
        settings for 55
Trackball Mount 8
transfer 167
Triggers 197
        creating 200
        list 206
troubleshooting
        plug-ins 148
        restore and replace all software 233
Type Text search 43

U

Undo
        in Preview mode 186
        via History 168
Update this plug-in in Snapshot 159
updating D-Show software 233
UPS (uninterruptable power supply) 5
USB
        ports for iLoks 148
Use Racks 231
User 37

V

Variable Groups 69
        level and pan via Flip to Faders 89
        snapshot as monitor, or as effects sends 192
Variable Sine 54
VCAs
        and snapshots 193
        assigning 77
        banking 42
        mute 121
        using 78
VESA 7
VGA monitor 7
Video Monitor Mount 7
voltage 5

W

Wait (Event List) 202
While Active (Event action behavior) 202
White Noise 54
width (when pasting) 45
word clock 16

X

X-fade (crossfade) 191
XOR (Event List) 200

Y

yellow (snapshot) 174

Z

zero
        see Clear Console

digidesign
A division of *Avid*

www.digidesign.com