

FWx FireWire Record/Playback Option Card

For VENUE Systems

Digidesign

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Communications and Safety Regulation Information

Compliance Statement

This model Digidesign FWx FireWire Option Card complies with the following standards regulating interference and EMC:

- FCC Part 15 Class B
- EN 55103-1 E3
- EN 55103-2 E3
- AS/NZS 3548 Class B
- CISPR 22 Class B

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.

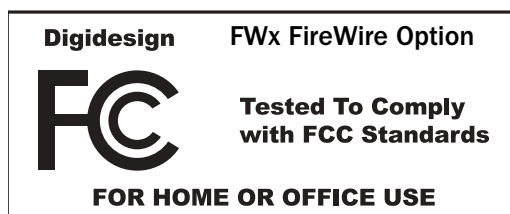
DECLARATION OF CONFORMITY

We Digidesign,
2001 Junipero Serra Boulevard, Suite 200
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tel: 650-731-6300
declare under our sole responsibility that the product
FWx FireWire Option Card
complies with Part 15 of FCC Rules.
Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Communication Statement

NOTE: 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. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or locate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



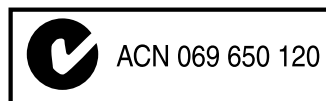
Any modifications to the unit, unless expressly approved by Digidesign, could void the user's authority to operate the equipment.

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.

Australian Compliance



European Compliance



Contents

Chapter 1. Overview	1
FWx Capabilities and Features	1
FWx Components	1
System Requirements	1
Conventions Used in This Guide	2
Chapter 2. Installing FWx	3
FOH Rack FWx Card Installation	3
Confirming FOH Rack FWx Card Installation	5
Mix Rack FWx Card Installation	6
Confirming Mix Rack FWx Card Installation	8
Powering Up and Powering Down VENUE System and Pro Tools	9
Installing Pro Tools LE	9
Using Lower Versions of Pro Tools LE with FWx	9
Chapter 3. Using FWx	11
Overview	11
D-Show Signal Routing for FWx Recording	11
D-Show Signal Routing for FWx Playback	13
Using Synchronization and Time Code with FWx	13

Chapter 1: Overview


Welcome to the FWx FireWire Record/Playback Option for VENUE systems. The FWx Option lets you integrate a Digidesign®Pro Tools® LE system with your VENUE system, allowing you to record and archive live performances, and to integrate pre-recorded Pro Tools tracks with live inputs.


By combining the recording and playback features of the FWx Option, you can also perform Virtual Soundchecks: play back the tracks you recorded the night before and adjust the mix before a performance or rehearsal.

FWx Capabilities and Features

The FWx Option provides the following features:

- Direct digital connection (24-bit, 48 kHz) between your VENUE system and a computer running Pro Tools LE
- Recording of up to 18 channels of digital audio directly to Pro Tools
- Playback of up to 18 Pro Tools tracks
- Support for Windows XP, Vista, and Mac OS X
- A standard FireWire cable connection

 Only one FWx card can be installed in the FOH Rack or the Mix Rack.

 An FWx card and an HDx TDM Option Card cannot be installed simultaneously.

FWx Components

The FWx Option package includes the following items:

- FWx card (installs into the VENUE FOH Rack and Mix Rack)
- FWx card ribbon cable
- Pro Tools LE software
- Digidesign Registration Information card
- A FireWire cable (six-pin 1394)



FWx FireWire Option card

System Requirements

The following are required to use the FWx Option with your installed and configured VENUE system:

- A compatible FireWire-equipped computer running Windows XP, Vista, or Mac OS X.
- A compatible version of Pro Tools LE version 6.7 or higher (Windows) or 6.9.2 or higher (Macintosh). Digidesign Pro Tools LE hardware is not required.

For complete system requirements, visit the Digidesign website (www.digidesign.com).

Compatibility Information

Digidesign can only assure compatibility and provide support for hardware and software it has tested and approved.


For a list of Digidesign-qualified computers, operating systems, hard drives, and third-party devices, refer to the latest compatibility information on the Digidesign website (www.digidesign.com/compatibility).


Conventions Used in This Guide


All Digidesign guides use the following conventions to indicate menu choices and key commands in D-Show and Pro Tools:


Convention	Action
File > Save Session	In Pro Tools, choose Save Session from the File menu
Options > System Config	In the D-Show software screen, click Options to display the Options page, then click the System Config tab.
Ctrl+N	Hold down the Control key and press the N key
Ctrl-click	Hold down the Control key and click the mouse button

The following symbols are used to highlight important information:

 *User Tips are helpful hints for getting the most from your D-Show system.*

 *Important Notices include information that could affect data or performance.*

 *Shortcuts show you useful keyboard or mouse shortcuts.*

 *Cross References point to related sections in the D-Show or Pro Tools Guides.*

Chapter 2: Installing FWx

If you are using an FOH Rack with your VENUE system, see “FOH Rack FWx Card Installation” on page 3.

If you are using a Mix Rack, see “Mix Rack FWx Card Installation” on page 6.

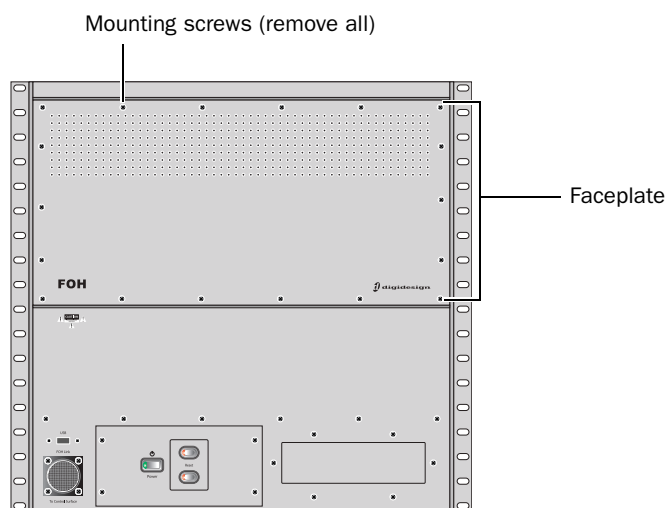
For Pro Tools LE installation and compatibility information, see “Installing Pro Tools LE” on page 9.

FOH Rack FWx Card Installation

This section shows how to install an FWx card into FOH Rack. Only one FWx card can be installed in an FOH Rack.

To install the FWx card in the FOH Rack:

- 1 Shut down your sound system.
- 2 Power down your FOH Rack.
- 3 Disconnect all power, audio, FOH Link, and any MIDI cables attached to the FOH Rack.
- 4 Remove the front panel faceplate by unscrewing its mounting screws (#1 Phillips). Keep the screws nearby for remounting the front panel later.

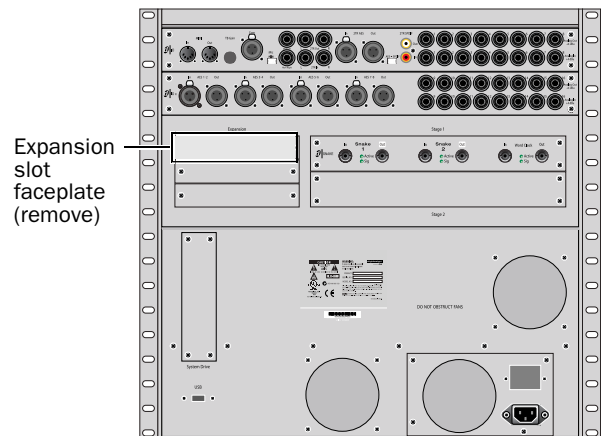


Front panel of the FOH Rack

- 5 If your system has an HDx TDM Option card installed, disconnect its ribbon cable and remove the card.

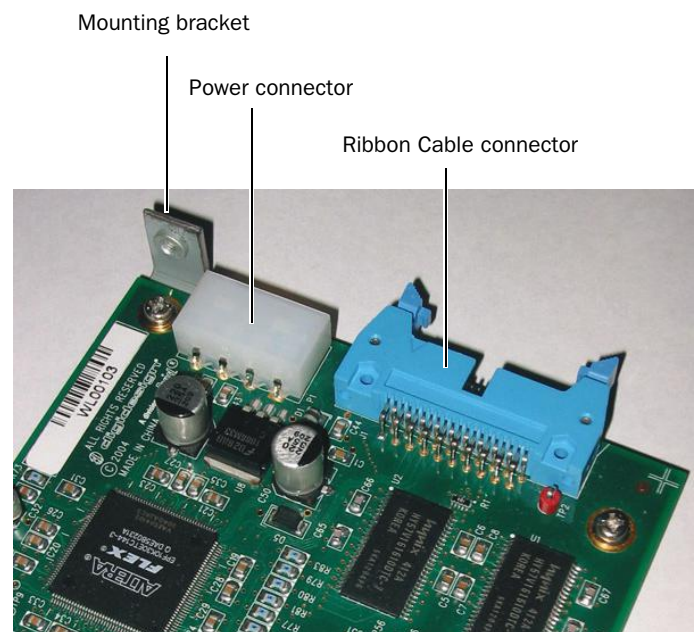
⚠ HDx and FWx cards cannot be installed in the FOH Rack simultaneously.

- 6 On the back panel of the FOH Rack, remove the faceplate on any available expansion slot by removing the screws holding it in place. Keep the screws nearby for securing the FWx card to the FOH Rack later.



Back panel of the FOH Rack

- 7 Remove the FWx card from its packing material. Hold the card by its edges.



FWx card showing bracket and connectors

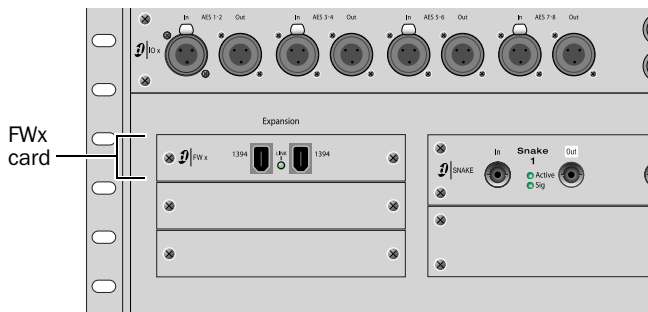
8 Gently slide the card into the expansion slot. Make sure it is oriented right-side up.



Installing the FWx card in the FOH Rack

9 When the card is seated in its slot, secure it to the FOH chassis with the mounting screw at the end of the FWx mounting bracket (accessible from the open front panel of the FOH Rack).

10 Secure the FWx card to the back panel of the FOH Rack using the two screws that held the faceplate.

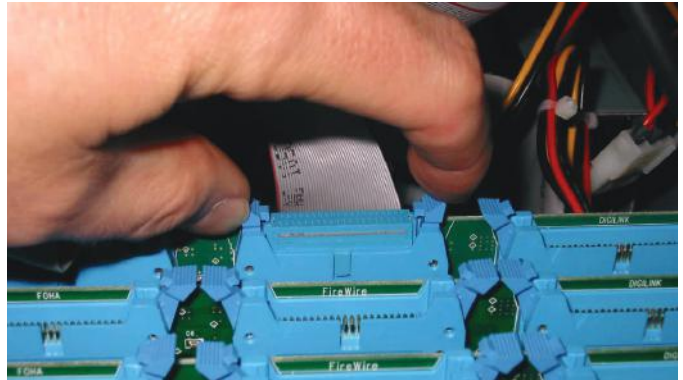


Securing the FWx Card to the back panel of the FOH Rack

11 Attach an available internal power cable plug to the power socket on the FWx card by holding the socket on the FWx and pushing the plug firmly into the socket.

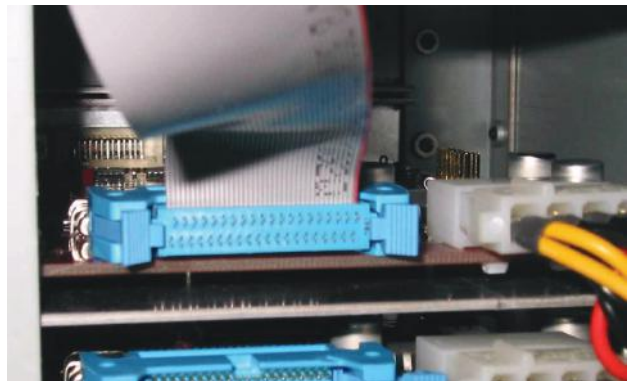
When the power cable plug is correctly attached to the FWx card, the yellow wire should be the first wire from the left.

12 Attach the included ribbon cable to the ribbon connector socket labelled “FireWire” on the first Mix Engine card (the rear most card when viewed from the open front panel). Make sure that the ribbon cable connector’s notch is facing you when attaching the connector.



Attaching the ribbon cable to the Mix Engine card

13 Attach the other end of the ribbon cable to the ribbon connector socket on the FWx card. Make sure that the notch on the ribbon cable connector is facing upwards when attaching the cable.



Attaching the ribbon cable to the FWx card

14 Reattach the FOH Rack faceplate using its screws.

15 Reconnect power, audio, FOH Link, and any MIDI cables to the FOH Rack.

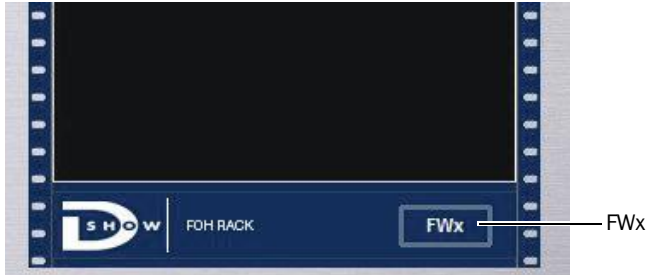
16 Power on all system components. Proceed to “Confirming FOH Rack FWx Card Installation” on page 5.

Confirming FOH Rack FWx Card Installation


After you have installed the FWx card in your FOH Rack, you can confirm that you have installed it properly.

To confirm FWx card installation, do the following:

- 1 In the D-Show software, go to the Options > Devices page.
- 2 Confirm the FWx card's presence in your FOH Rack. When successfully installed, the FWx card is detected and "FWx" is shown on-screen in the lower right of the FOH Rack graphic.




FWx card indicated in the FOH Rack icon in the Devices page

 *If the FWx card is not displayed, power down the system and check all cables and connections.*

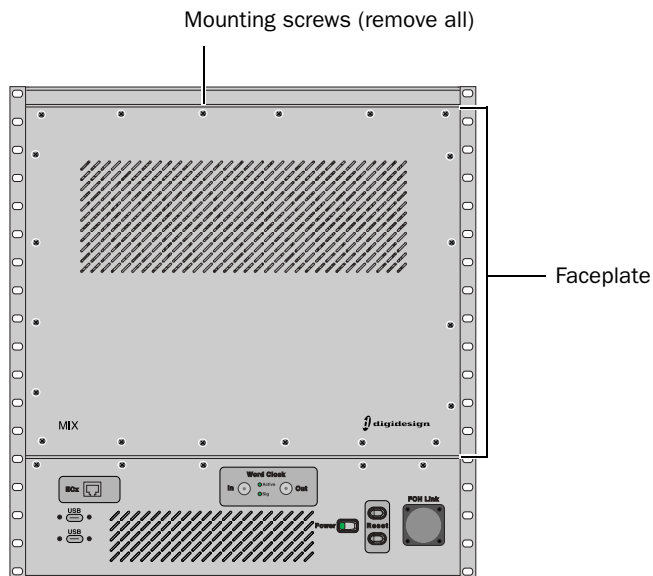
Mix Rack FWx Card Installation

This section shows how to install an FWx card into a Mix Rack. One FWx card can be installed in a Mix Rack. An FWx card and an HDx card cannot be used simultaneously.

 For FOH Rack installation instructions, see “FOH Rack FWx Card Installation” on page 3.

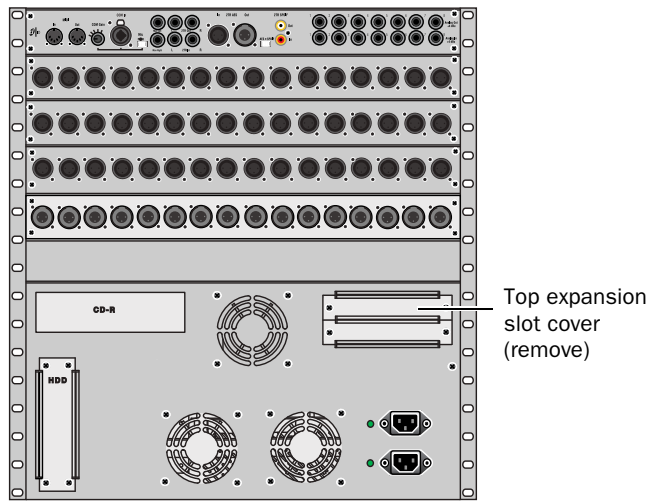
To install the FWx card in the Mix Rack:

- 1 Shut down your system.
- 2 Power down your Mix Rack.
- 3 Disconnect all power, audio, FOH Link, and any other cables attached to the Mix Rack.
- 4 Remove the front panel faceplate by unscrewing its mounting screws (#1 Phillips). Keep the screws nearby for remounting the front panel later.




Front of the Mix Rack

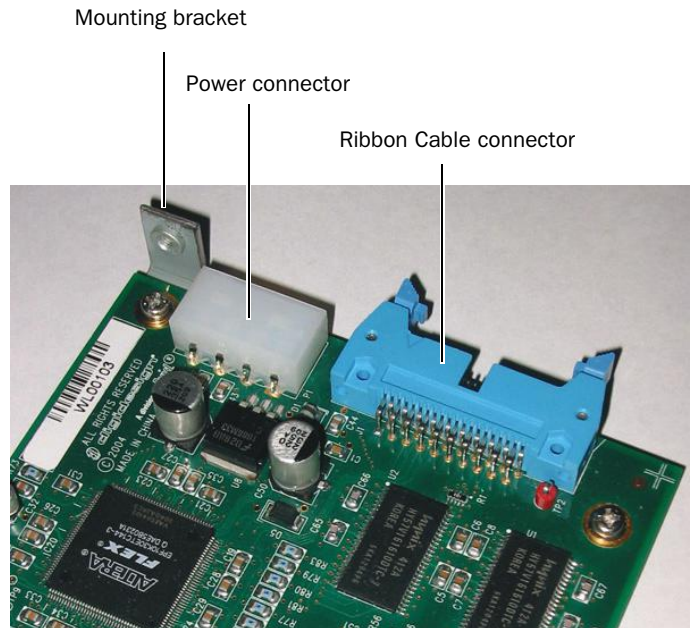
- 5 On the Mix Rack back panel, remove the top expansion slot cover by unscrewing its mounting screws. Keep the screws nearby in order to secure the FWx card to the Mix Rack.



Back of the Mix Rack

 Although there are two expansion slots in which you can install the FWx card, for ease of installation it is suggested that you install the card in the top expansion slot.

- 6 Remove the FWx card from its packing material. Hold the card by its edges.



FWx card showing bracket and connectors

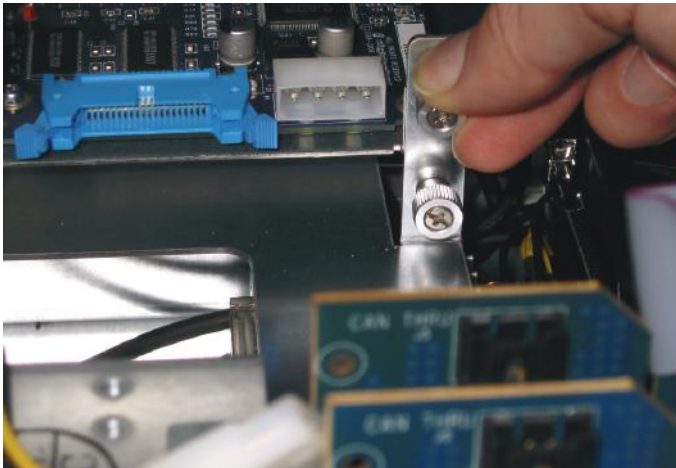
7 Gently slide the card into the expansion slot. Make sure it is oriented right-side up.



Installing the FWx card in the back of the Mix Rack

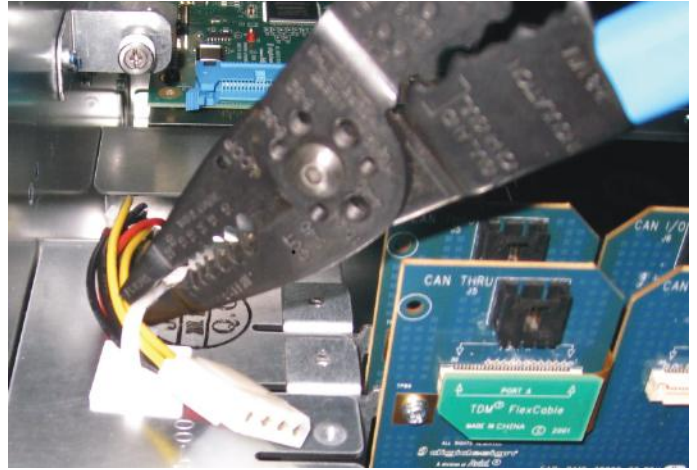
8 Secure the FWx to the back of the Mix Rack using the screws that secured the expansion slot cover.

9 Secure the FWx card to the Mix Rack's chassis by tightening the captive thumbscrews (accessible from the open front panel of the Mix Rack).



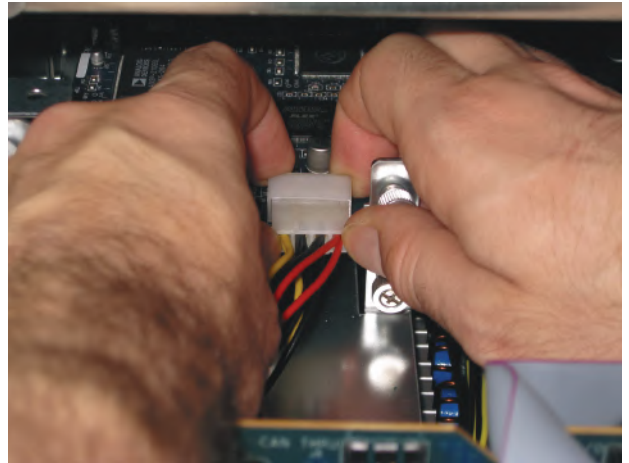
Securing the FWx card to the Mix Rack's chassis

10 Cut the zip tie that secures the expansion card power cable to the chassis, being careful not to cut the wires.



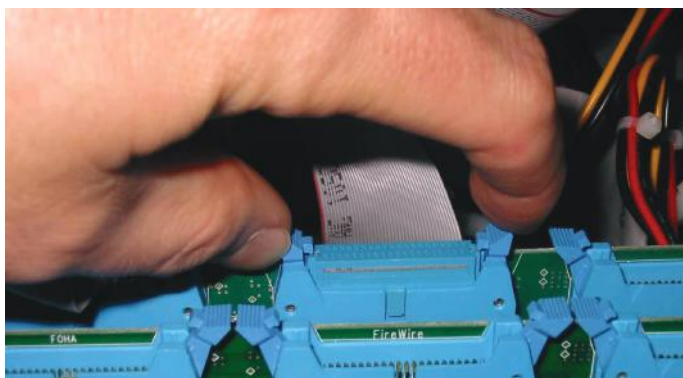
Cutting the expansion card power cable zip tie

11 Attach an available internal power cable plug to the power socket on the FWx card by holding the socket on the FWx and pushing the plug firmly into the socket. When the power cable plug is correctly attached to the FWx card, the yellow wire should be the first wire from the left.



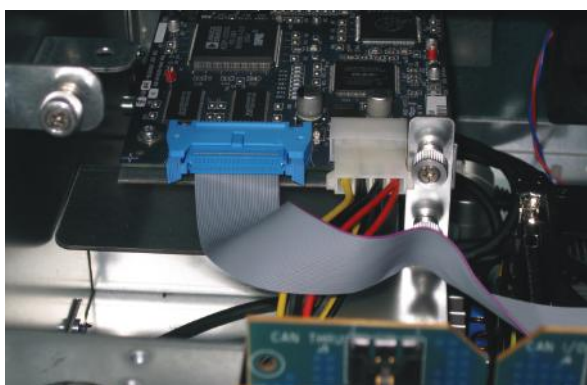
Attaching an internal power cable plug

12 Attach the included ribbon cable to the ribbon connector socket labelled “FireWire” on the first Mix Engine card (the rear most card when viewed from the open front panel). Make sure that the ribbon cable connector’s notch is facing you when attaching the cable.



Attaching ribbon cable connector to rear most Mix Engine card

13 Attach the other end of the ribbon cable to the ribbon connector socket on the FWx card. Make sure that the ribbon cable’s notch is facing upwards when attaching the cable.



A correctly attached ribbon cable and power cable

14 Reattach the Mix Rack faceplate using its screws.

15 Reconnect power, audio, FOH Link, and any other cables to the FOH Rack.


16 Power on all system components. Proceed to “Confirming Mix Rack FWx Card Installation” on page 8.

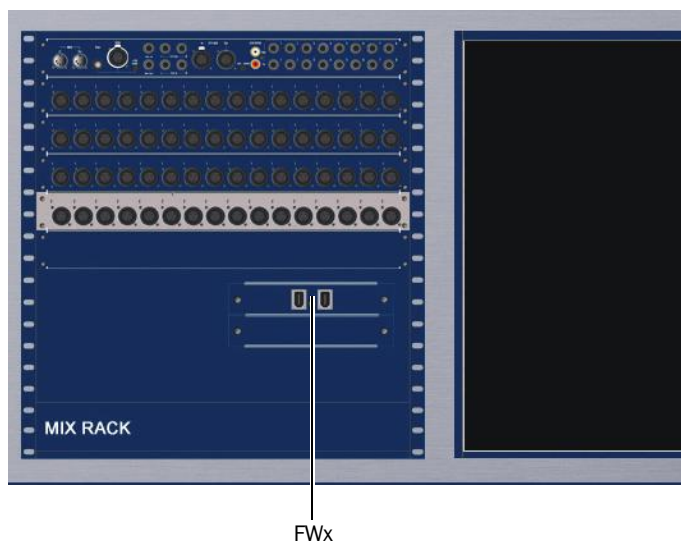
Confirming Mix Rack FWx Card Installation

After you have installed the FWx card in your Mix Rack, you can confirm that you have installed it properly.

To confirm FWx card installation, do the following:

- 1** In D-Show, go to the Options > Devices page.
- 2** Confirm the FWx card’s presence in your Mix Rack. When successfully installed, the FWx card is detected and shown on-screen in the Mix Rack graphic.

 *If the FWx card graphic is not displayed, power down the system and check all cables and connections.*




Detail of Devices tab indicating presence of an FWx card in the expansion card slot

Powering Up and Powering Down VENUE System and Pro Tools

Whenever you are using a Pro Tools LE system with VENUE and FWx, you must power up and power down in a specific order.

Connect and power up your VENUE system and the Pro Tools system in the following order:


- 1 Power up your VENUE system as described in the user guide that came with your VENUE system.
- 2 Do one of the following depending on your system configuration:
 - If you are not using an external FireWire hard drive, connect FWx directly to a FireWire port on your computer.
– or –
 - If you are using an external FireWire hard drive and your computer has more than one FireWire port, connect the FWx to one FireWire port on your computer, connect the FireWire drive to another FireWire port on your computer, and power up the FireWire drive
– or –
 - If you are using an external FireWire hard drive and your computer has only one FireWire port, connect the FireWire drive directly to your computer, connect FWx to an available FireWire port on the drive, and power up the drive.

 For more information on connecting FireWire drives to your computer, see the *003 & 003 Rack Getting Started* guide.

- 3 Start up the Pro Tools computer.
- 4 Launch Pro Tools.

Power down and disconnect your VENUE system and the Pro Tools system in the following order:

- 1 Quit Pro Tools.
- 2 Shut down the Pro Tools computer.
- 3 Disconnect the FireWire cable between your VENUE system and the Pro Tools computer.
- 4 Shut down your system as described in the user guide that came with your VENUE system.

 **Always shut down Pro Tools and disconnect the FireWire cable before shutting down your VENUE system.**

Installing Pro Tools LE

If you are installing Pro Tools LE on a computer for the first time, use the Pro Tools LE Installer disc included with the FWx Option to install all software and drivers for FWx recording and playback. For information on installing Pro Tools LE and configuring your Pro Tools system, refer to the *003 & 003 Rack Getting Started* guide located on the Pro Tools Installer disc.

Using Lower Versions of Pro Tools LE with FWx

This section details software installation requirements for FWx with lower versions of Pro Tools LE.

Pro Tools 7.1.1 or higher No extra installation is required. With Pro Tools 7.1.1 and higher, the Pro Tools software driver for FWx is installed automatically.

Pro Tools 6.7-7.1.0 You must manually install the Pro Tools software driver for FWx. The procedure for installing the driver differs for computers with DVD drives and computers with CD-ROM drives.

If your computer has a DVD drive, do the following:

- Use the Pro Tools Installer disc include with the FWx Option. Follow the installation and configuration instructions in the *003 & 003 Rack Getting Started* guide.

If your computer does not have a DVD drive, you will need the original Pro Tools LE Installer CD-ROM.

If your machine does NOT have a DVD drive, do the following:

- 1 Power up your VENUE system.
- 2 Connect one end of a FireWire cable to an FWx port on the back of the FOH Rack or the Mix Rack. Connect the other end to an available FireWire port on the Pro Tools host computer.
- 3 Insert the original Pro Tools LE Installer CD-ROM in your CD-ROM drive
- 4 Launch Pro Tools. Upon starting, Pro Tools LE detects the presence of FWx and automatically installs the FWx driver from the Pro Tools LE Installer CD-ROM

Chapter 3: Using FWx

Overview

Using FWx, you can record and archive performances, and you can integrate pre-recorded Pro Tools tracks with live inputs. By combining these recording and playback features, you can also perform Virtual Soundchecks by playing back tracks you recorded earlier.

Signal routing for recording and playback using FWx is done in both Pro Tools and in D-Show.

D-Show Signal Routing

FWx Outputs (Recording)

FWx provides 18 assignable outputs for recording D-Show channels into Pro Tools.

For information on assigning D-Show channels for recording, see “D-Show Signal Routing for FWx Recording” on page 11.


FWx Inputs (Playback)


FWx provides 18 assignable inputs for playback of Pro Tools tracks through your system.

For information on assigning Pro Tools tracks for playback in D-Show, see “D-Show Signal Routing for FWx Playback” on page 13.

Pro Tools Settings

The connection to the FWx card is reflected in the Pro Tools Hardware Setup dialog, and FWx inputs and outputs appear in the Pro Tools I/O Setup dialog. This allows you to assign track inputs and outputs to FWx.


 When using FWx, Pro Tools session bit depth and sample rate are fixed at 24-bit/48 kHz, and cannot be changed.

 For complete information on configuring your Pro Tools system, see the 003 & 003 Rack Getting Started guide or the Pro Tools Reference Guide.

D-Show Signal Routing for FWx Recording

You can assign any mono or stereo D-Show channel to FWx channels, including channel Direct Outputs, Mains, Auxes, mono or stereo Groups, Matrix outputs, and PQ outputs. Use the Patchbay>Outputs page to route D-Show output busses or Direct Outputs to FWx channels 1-18 for recording.

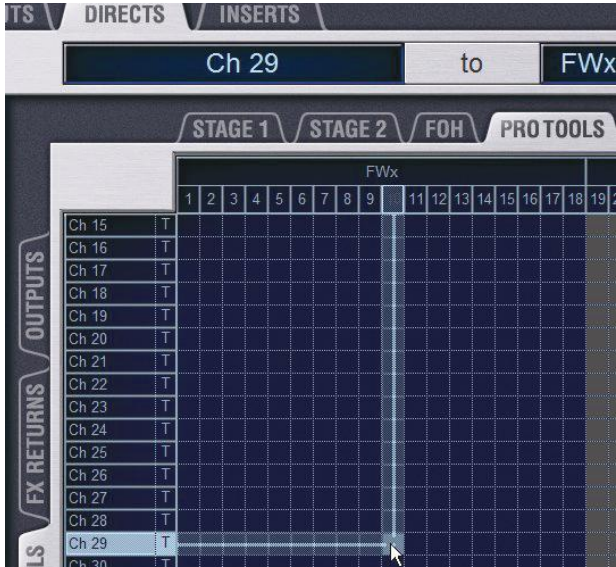
- ◆ Using Direct Outputs lets you record discrete channels from the pickoff point you choose.
- ◆ Using Mains, Aux, Group, Matrix, or PQ outputs lets you record a stereo main mix, one or more stereo submixes, or any combination of these, up to the number of available FWx channels.

 If you configure the Patchbay for playback as well as recording through FWx, be sure to check Pro Tools track outputs for any potential feedback loops before record enabling tracks.

To route multiple Direct Outputs to Pro Tools for a multitrack recording:

- 1 In the D-Show Patchbay, click the Directs tab.
- 2 Click the tab at the left of the grid for the channel or bus type you are routing.
- 3 Click the Pro Tools tab at the top right of the grid to show the available FWx channels.

4 Click in the channel grid to assign a channel or bus (listed on the left) to FWx channels (listed across the top).



Routing a Direct Output to an FWx channel


5 Activate and set the level for each Direct Output by clicking its In button and dragging its on-screen encoder in the Direct Out section.

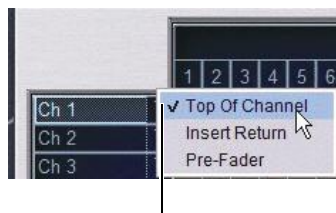


Activating a Direct Output in the Directs page of the Patchbay

6 Click the Pickoff column in the Patchbay to specify one of the following the pickoff sources for each Direct Output:

- top of channel (indicated by a "T")
- pre-fader (indicated by a lowercase "p")
- post-fader (indicated by an uppercase "P")

 The available Direct Output pickoff points for Input Channels and FX Returns can be configured globally as pre- or post-fader in the Options > Pickoffs page.



Click to display Pickoff menu

Specifying the channel Pickoff source

7 Configure Pro Tools tracks for multitrack recording.

To route the L/R main mix to Pro Tools for a stereo recording:

- 1 In the D-Show Patchbay, go to the Outputs page.
- 2 Click the Mains tab to the left of the channel grid.
- 3 Click the Pro Tools tab at the top right of the grid to show the available FWx channels.
- 4 Click in the channel grid to route the Main Left and Right outputs to FWx channels 1–2.




Routing the Mains bus to FWx channels for recording

5 Configure Pro Tools for stereo recording.


To use an Output bus to route a submix to Pro Tools:

- 1 In the D-Show Patchbay, go to the Outputs page.
- 2 Click the Mains, Aux, Group, Matrix, or PQ tab to the left of the grid to display the type of bus you want to use.

 Pickoff points for output busses in the Outputs tab are always post-fader. Use the Directs tab and select the pickoff point to record output busses pre-fader.

3 Click the Pro Tools hardware tab at the top right of the grid to show the available FWx channels.

4 Click in the grid to route busses (listed on the left) to FWx channels (listed across the top).

 D-Show software does not support using FWx channels for insert processing through Pro Tools.

5 Configure Pro Tools for recording.

D-Show Signal Routing for FWx Playback

You can route channels from Pro Tools to D-Show Input Channels and FX Returns to include pre-recorded tracks in your mix. You can use this feature to perform Virtual Sound-checks, use prerecorded click tracks or other material in a performance, or mix down the Pro Tools session using D-Show.

Use the Patchbay>Inputs page to route FWx channels 1-18 to any available D-Show Input Channels or FX Returns.

To route FWx channels to Input Channels and FX Returns:

- 1 In the D-Show Patchbay, go to the Inputs page.
- 2 Click the Channels or FX Returns tab to the left of the grid to display the type of channels you want to use.
- 3 Click the Pro Tools tab at the top right of the grid to show the available FWx channels.
- 4 Click in the grid to route FWx channels to D-Show Input or FX Return channels.



Patching FWx channels to D-Show FX Returns for playback

5 From the ACS or channel Input screens, assign routing for each FWx channel as needed:

- Assign to the main L/R bus to include FWx audio in the main mix of a performance.
- Assign to a Group, Aux, Matrix, or PQ bus for submixing and monitoring.

You can leave FWx channels unassigned and still monitor them in the Solo bus and headphones.

⚠ *To avoid potential feedback loops, make sure no channels are simultaneously routing to and receiving from any record-enabled Pro Tools tracks.*

Monitoring FWx Recordings Through D-Show

To monitor the recording through D-Show, configure Pro Tools signal routing to play back the main stereo mix through two available Input or FX Return channels. In D-Show, leave the Input or FX Return signal routing unassigned and use Solo to monitor the recording.

To monitor FWx recording from D-Show:

- 1 In Pro Tools, check the output assignment shown for the currently record-enabled tracks, as follows.
 - If Pro Tools is only being used for recording, make sure the recording tracks are assigned to an available FWx channel pair.
 - or –
 - If simultaneously using Pro Tools to record and play back audio, check output routing to avoid potential feedback loops. Make sure record-enabled tracks do not share the same output assignment as any playback tracks. Assign output of the recording tracks to a discrete pair of FWx channels.
- 2 In the Patchbay, route the FWx channels to D-Show Input Channels or FX Returns. See “To route FWx channels to Input Channels and FX Returns:” on page 13.
- 3 Using the ACS or channel Input screens, make sure the FWx record monitoring channels are not assigned to any D-Show bus or output, as follows:
 - Make sure no Group Bus indicators are lit; press any lit or flashing indicators to unassign.
 - If you selected multiple channels, the LEDs flash to indicate a mixed state of assignments among all the currently selected channels.
 - Press a flashing indicator LED once to reset all selected to the same setting (usually, assigned). Press again to toggle and unassign all selected channels in unison.

Using Synchronization and Time Code with FWx

The FWx Option only communicates audio data between D-Show and Pro Tools.

If you plan to use Pro Tools as a MIDI Time Code master or slave, a separate MIDI connection for the Pro Tools host computer is required. Use a USB MIDI interface with Pro Tools, and connect its ports to the MIDI In/Out ports on the FOH Rack or Mix Rack.

For complete information on synchronization and time code features, see the user guide that came with your VENUE system.

