D-Show Expansion Options
Installation Guide

Digidesign

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Product features, specifications, system requirements, and availability are subject to change without notice.

PN 9327-14557-00 REV A 02/05

Communications & Safety Regulation Information

Compliance Statement

The models D-Show Main, D-Show Sidecar, 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:

CE

Digidesign is authorized to apply the CE (Conformité Européenne) 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.

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Chapter 1: Installing a Mix Engine Card

The Mix Engine card adds mixer and plug-in processing capacity to a D-Show system. A total of five Mix Engine cards can be installed in the FOH Rack.

Mix Engine Card Components

The Mix Engine card package includes the following items:

- Mix Engine card
- TDM FlexCable
- Mounting screws
- Registration card

Installing a Mix Engine Card

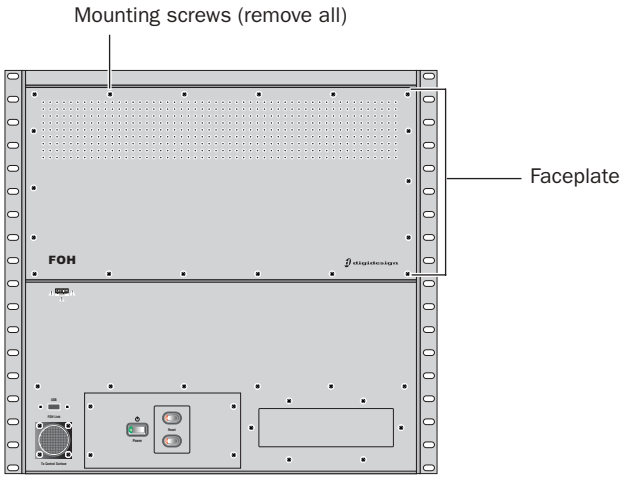
The Mix Engine card is installed in the FOH Rack and connected with a TDM FlexCable to the front-most Mix Engine card in the system.

To install the Mix Engine card:

1 Shut down the D-Show system.

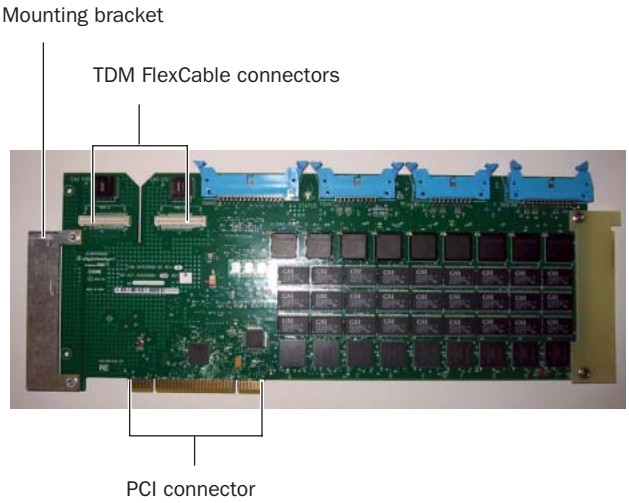
2 Disconnect all audio and power cables attached to the FOH Rack.

3 Remove the FOH Rack front panel faceplate by unscrewing its mounting screws (#1 Phillips).



Front panel of the FOH Rack

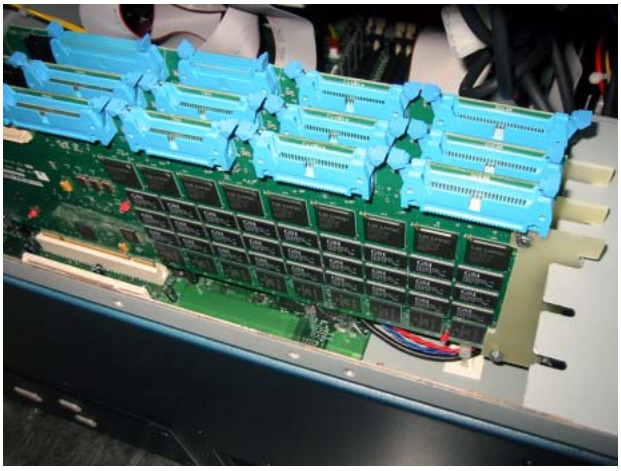
4 Remove the Mix Engine card from its packing material. Hold the card by its edges.



Mix Engine card showing bracket and connectors

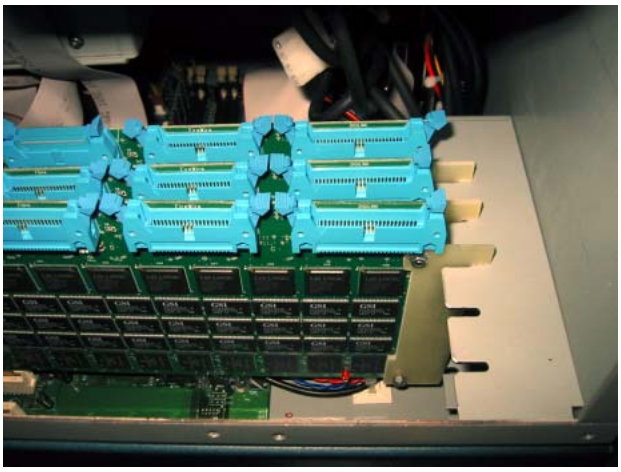
5 Locate the open PCI slot closest to the currently installed Mix Engine cards.

6 Align the card with corresponding slot in the chassis and press down on the left side of the card so that it makes contact with the PCI slot.



Placing the Mix Engine card in a PCI slot

7 Press down on the right side of the card to snap it in place in the FOH Rack chassis.

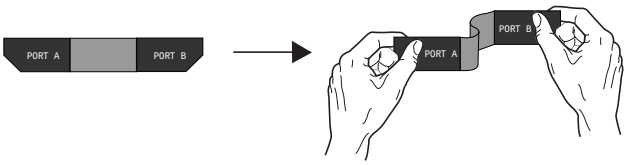


Snapping the Mix Engine card into place

8 Attach the card to the chassis with one of the provided mounting screws.

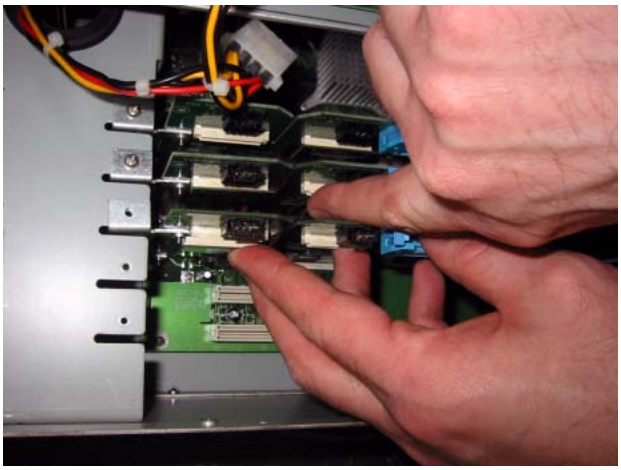
To connect the Mix Engine cards with the TDM FlexCable:

1 Shape the FlexCable by grasping the cable with both hands and moving the Port A portion of the cable straight towards you and inwards, as shown below. Do not bend the cable more than you need to, as you may damage the traces in the cable.



Preparing TDM FlexCable for installation

2 Slide the FlexCable into the notch of the front card, so that the Port B connector of the FlexCable can be aligned with Port B of the back card; and the Port A connector of the FlexCable can be aligned with Port A of the second card.

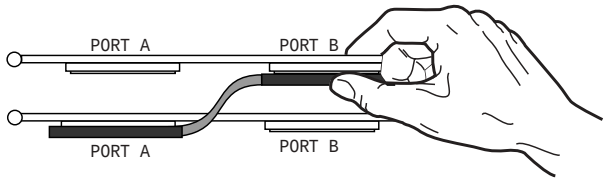


Inserting the TDM FlexCable

3 Connect the Port A connector of the FlexCable to Port A on the front card. Push down gently but firmly until the cable is fully connected to the card.

4 Attach the other end of the FlexCable (labeled Port B) to Port B on the back card.

5 Verify the connection as shown below.



Top view of Mix Engine cards connected with TDM FlexCable

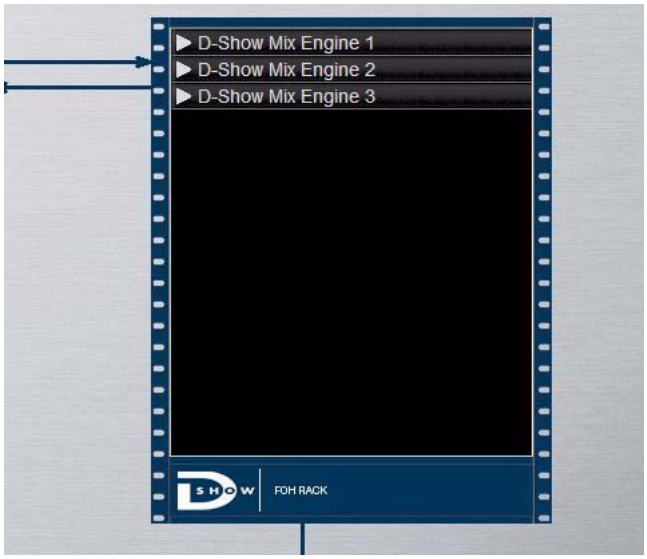
To complete and confirm installation:

1 Reattach the FOH Rack faceplate.

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

3 Turn on the D-Show system.

4 Go to the Options page and click the Devices tab to view D-Show hardware status. The newly installed Mix Engine card should be displayed in the FOH Rack graphic.



Detail of Devices page showing 3 Mix Engine cards in FOH Rack

Chapter 2: Installing a Snake Card

Adding a second Snake card lets you connect a second Stage Rack to a D-Show system. (Additional Digital Snake cables are purchased separately.)

Snake Card Components

The Snake card package includes the following items:

- Snake card
- Ribbon cable
- Mounting screws
- Registration card

Installing a Snake Card

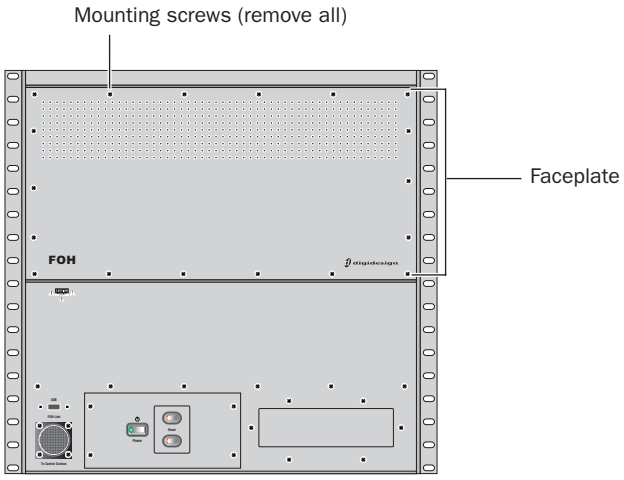
The Snake card is installed in the FOH Rack and connected with a Ribbon cable to a Mix Engine card in the system.

To install the Snake card:

1 Shut down the D-Show system.

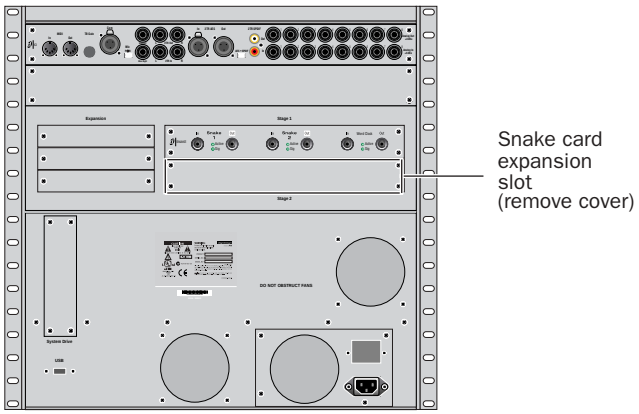
2 Disconnect all audio and power cables attached to the FOH Rack.

3 Remove the FOH Rack front panel faceplate by unscrewing its mounting screws (#1 Phillips).



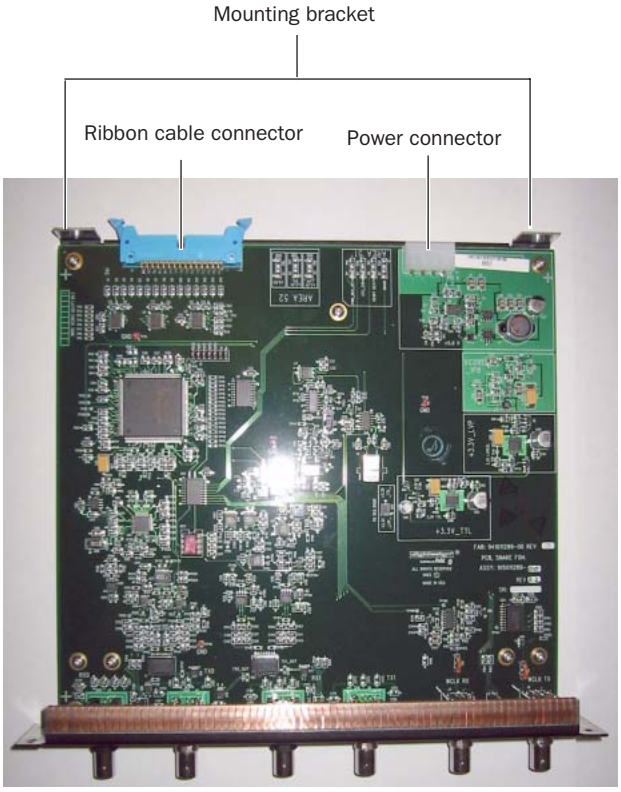
Front panel of the FOH Rack

4 On the back panel of the FOH Rack, remove the Snake card expansion slot cover by removing the four screws holding it in place.



Back panel of the FOH Rack

5 Remove the Snake card from its packing material. Hold the card by its edges.



Snake card showing brackets and connectors

6 Gently slide the card into the Snake card expansion slot.

Installing the Snake card in the FOH Rack

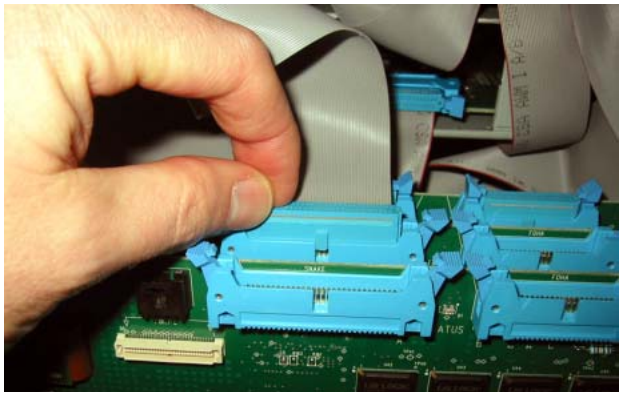
7 When the card is seated in its slot, secure it to the inside of the FOH Rack chassis with two provided mounting screws at both sides of the Snake card (accessible from the open front panel of the FOH Rack).

Securing the Snake card to the FOH Rack chassis

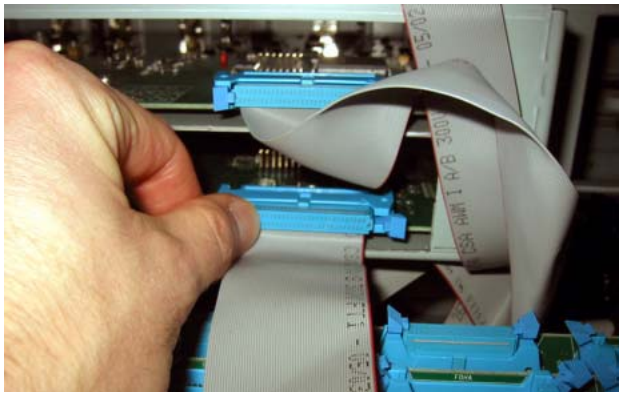
8 Secure the Snake card to the back panel of the FOH Rack using four of the provided surface mount screws.

Securing the Snake card to the back panel of the FOH Rack

9 Attach the provided ribbon cable from the connector labeled "Snake" on the second Mix Engine card (the card *just in front of* the rear-most Mix Engine card) to the ribbon connector on the Snake card. Make sure the keyed connector is oriented correctly in each socket. Secure each connection by moving the tabs on each side of the connector inward. Check to make sure the cable is connected securely.



Connecting the Ribbon cable to the Mix Engine card



Connecting the Ribbon cable to the Snake card

10 Plug an available power connector in the FOH Rack into the power socket on the Snake card. Make sure it is connected securely.

Power connection to the Snake card

To complete and confirm installation:

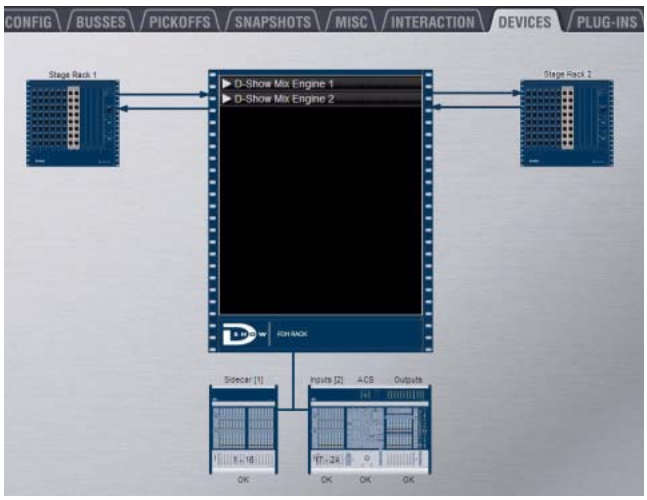
1 Reattach the FOH Rack faceplate.

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

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 6.

4 Turn on the D-Show system.

5 Go to the Options page and click the Devices tab 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

Connecting the Stage Rack to the FOH Rack

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

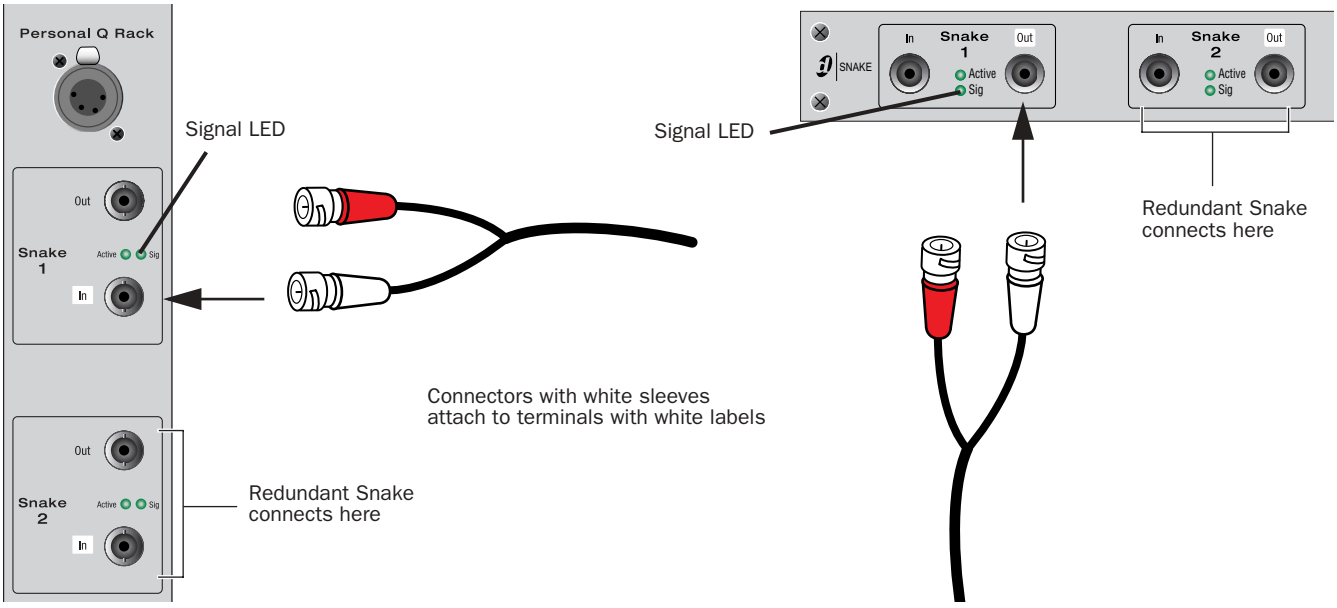
To connect the Stage Rack to the FOH Rack:

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.

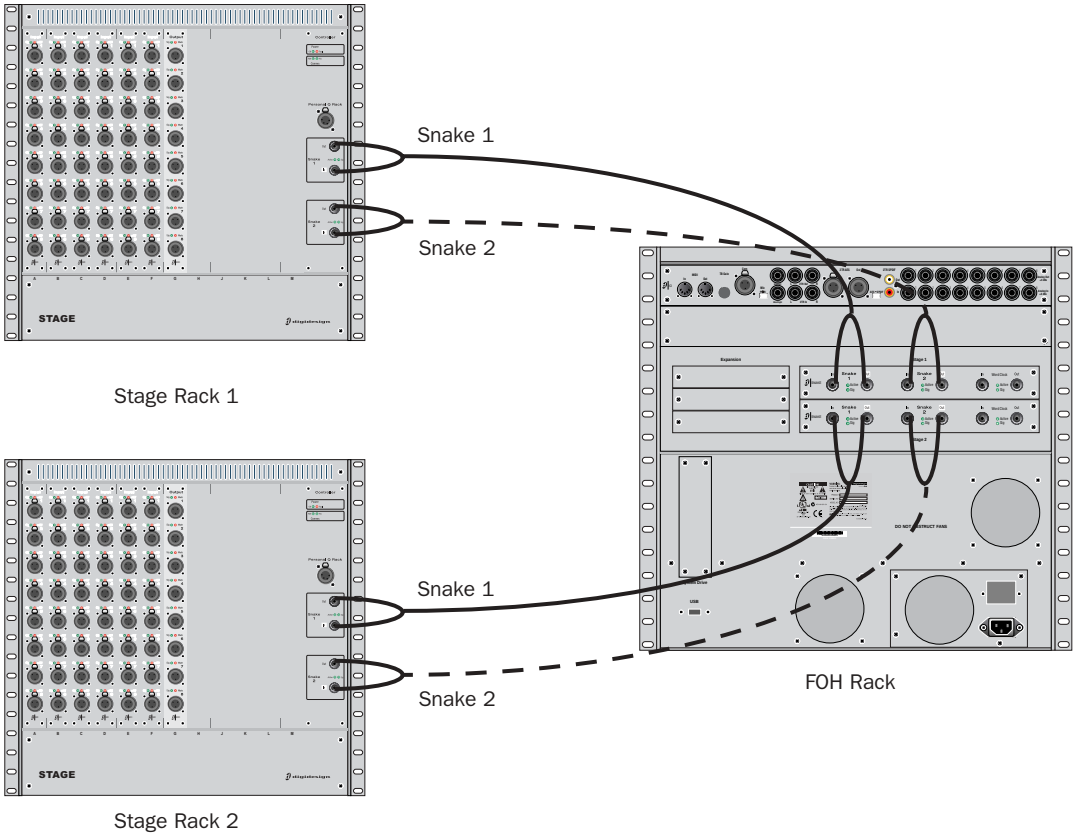
3 If you are using a second, redundant Digital Snake, connect it to the Snake 2 ports on each unit in the same manner, matching the white connector sleeves to the ports whose labels are outlined in white.

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.



Detail of Digital Snake cable connection between Stage Rack (left) and FOH Rack (right)

When connecting two Stage Racks with redundant snake connections, make sure each Stage Rack is connected to a single Snake card on the FOH Rack, as shown in the following figure.



Digital Snake cable connections for fully redundant system with 2 Stage Racks

Chapter 3: Installing an IOx Card

Adding an IOx card provides an additional 8 channels of 1/4-inch analog I/O and 8 channels of AES/EBU Digital I/O to the FOH Rack.

IOx Card Components

The IOx card package includes the following items:

- IOx card
- Ribbon cables (2)
- Registration card

Installing an IOx Card

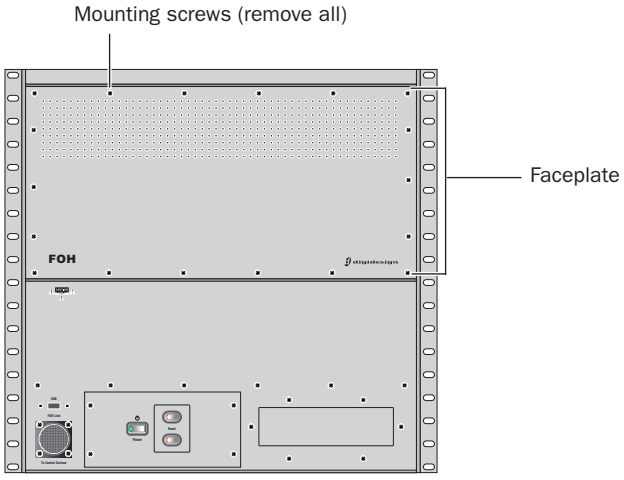
The IOx card is installed in the FOH Rack and connected with two ribbon cables to the IO card already installed in the system.

To install the IOx card:

1 Shut down the D-Show system.

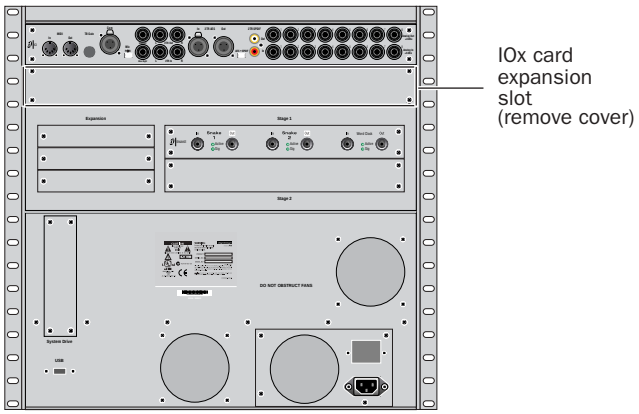
2 Disconnect all audio and power cables attached to the FOH Rack.

3 Remove the FOH Rack front panel faceplate by unscrewing its mounting screws (#1 Phillips).



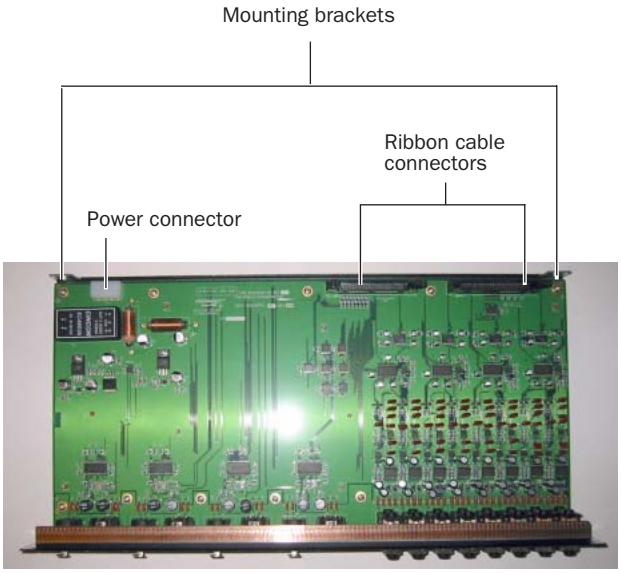
Front panel of the FOH Rack

4 On the back panel of the FOH Rack, remove the IOx card expansion slot cover by removing the four screws holding it in place. Keep the screws nearby for securing the IOx card to the FOH Rack later.



Back panel of the FOH Rack

5 Remove the IOx card from its packing material. Hold the card by its edges.



IOx card showing brackets and connectors

6 Gently slide the card into the IOx card expansion slot.

Installing the IOx card in the FOH Rack

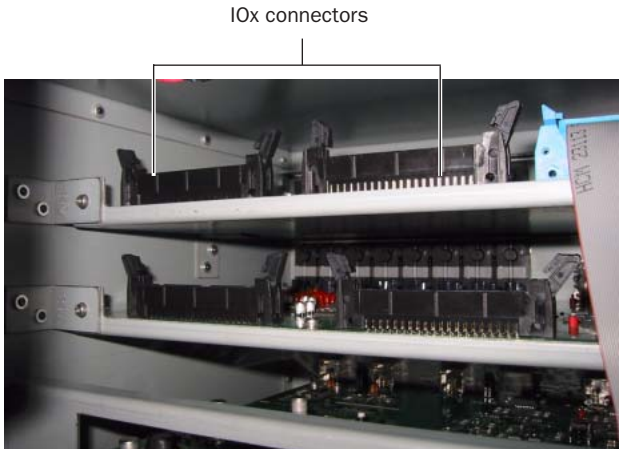
7 When the card is seated in its slot, secure it to the inside of the FOH Rack chassis with two provided mounting screws at both sides of the IOx card (accessible from the open front panel of the FOH Rack).

Securing the IOx card to the FOH Rack chassis

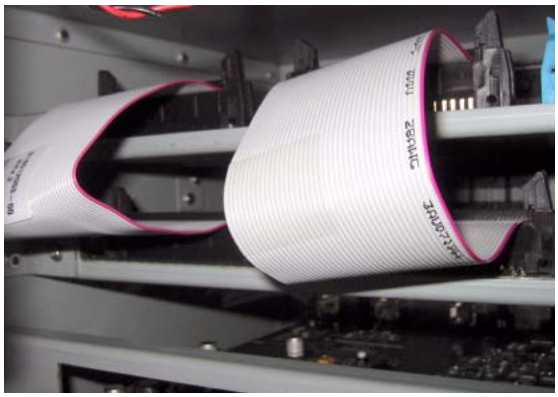
8 Secure the IOx card to the back panel of the FOH Rack using the four screws that held the slot cover.

Securing the IOx card to the back panel of the FOH Rack

9 Connect the IOx card to the IO card immediately below it with the two provided ribbon cables. Make sure the keyed connector is oriented correctly in each socket. Secure each connection by moving the tabs on each side of the connector inward. Check to make sure the cables are connected securely.

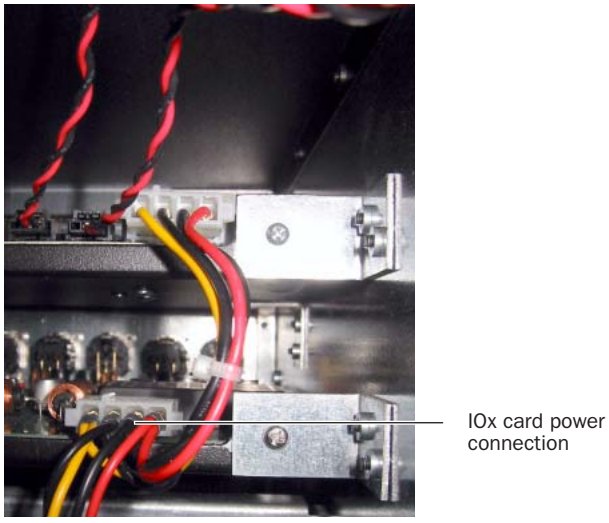


Connectors on the IOx card (top) and the IO card (bottom)



Ribbon cables connecting the IOx card to the IO card

10 Plug an available power connector in the FOH Rack into the power socket on the IOx card. Make sure it is connected securely.



Power connection to the IOx card

To complete and confirm installation:

1 Reattach the FOH Rack faceplate.

2 Reconnect the power, FOH Link, and any audio and MIDI cables to the FOH Rack. See “FOH Rack IOx Connections” on page 12.

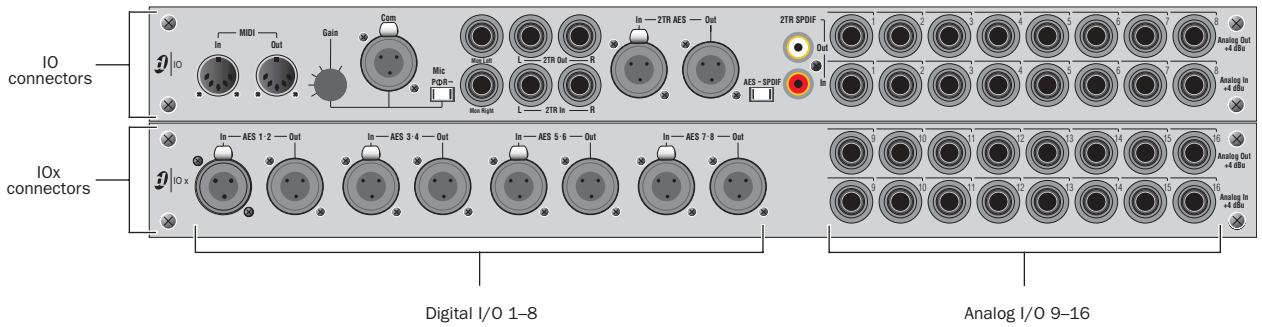
3 Turn on the D-Show system.

4 Go to the Options page and click the Devices tab to view D-Show hardware status. The IOx card should be indicated in the FOH Rack graphic.

Detail of Devices page indicating presence of an IOx card

The corresponding inputs and outputs should also become available in the “FOH” tab in the Patchbay.

FOH Rack IOx Connections



Audio connectors on FOH Rack, showing IO connectors (top) and IOx connectors (bottom)

The IOx card adds the following audio connections to the FOH Rack:

Analog Inputs and Outputs 9–16

(Balanced 1/4-inch TRS Connectors)

- Connect the analog inputs and outputs of external processors to any of these analog output and input pairs.
- 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 1–8

(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.

Chapter 4: Installing SRI and SRO Cards

Adding an SRI or SRO card provides an additional 8 channels of analog input (SRI) or analog output (SRO) to the Stage Rack.

SRI/SRO Card Components

The SRI/SRO card package includes the following items:

- SRI or SRO card
- Mounting screws
- Registration card

Installing an SRI or SRO Card

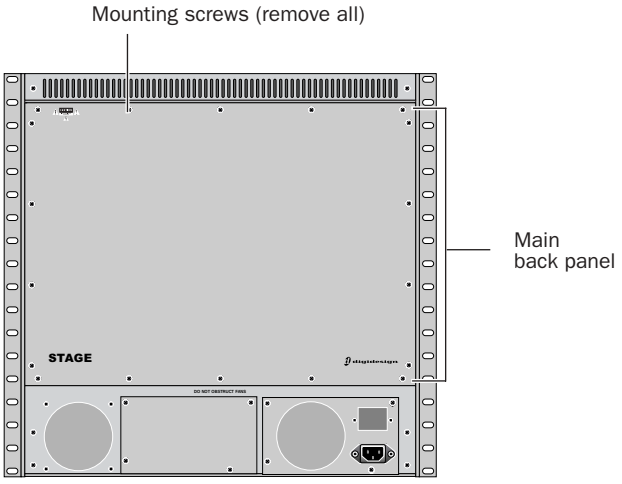
SRI and SRO cards are installed in the Stage Rack and connected to the ribbon cable in the Stage Rack.

To install an SRI or SRO card:

1 Shut down the D-Show system, and turn off power to the Stage Rack.

2 Disconnect all cables from the Stage Rack.

3 Remove the Stage Rack main back panel cover by unscrewing its mounting screws (#1 Phillips).

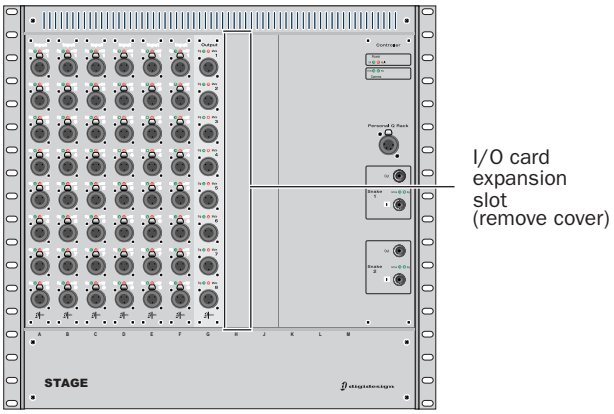


Stage Rack main back panel

4 On the front panel of the Stage Rack, locate the slot where you want to install the SRI or SRO card.

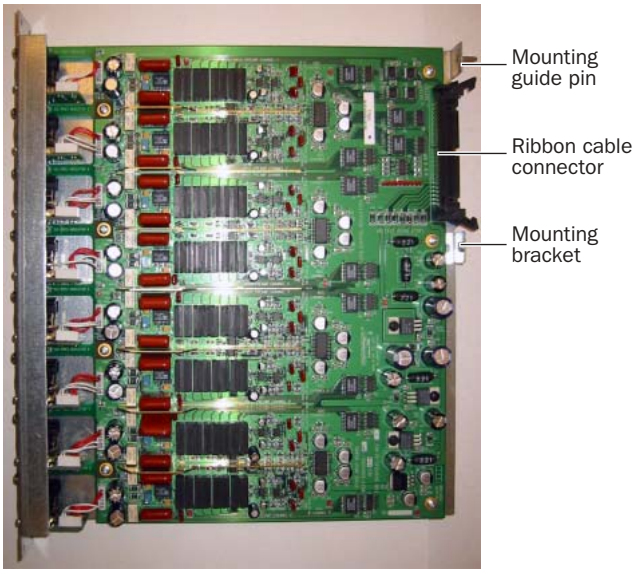
⚠ *SRI cards may be installed in slots A–F only and SRO cards may be installed in slots G–M only.*

5 Remove the card slot cover by removing the four screws holding it in place. Keep the screws nearby for securing the SRI/SRO card to the Stage Rack later.



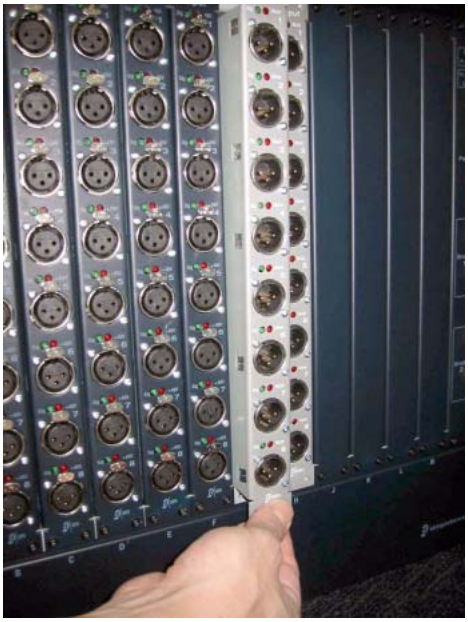
Stage Rack front panel

6 Remove the SRI or SRO card from its packing material. Hold the card by its edges.



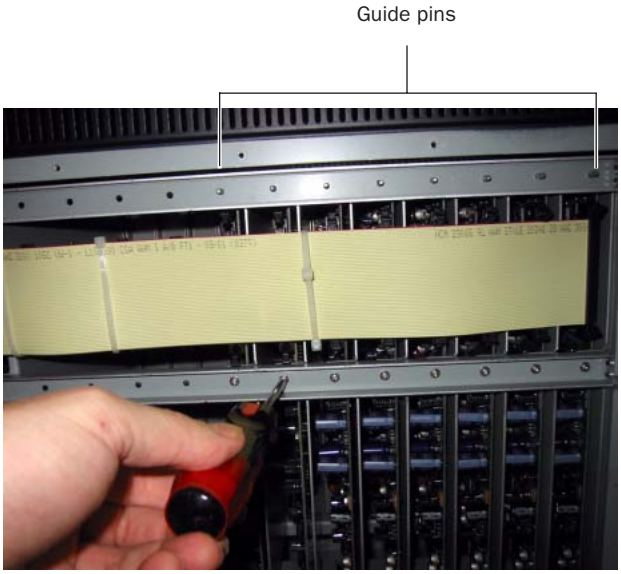
Stage Rack I/O card showing brackets and connector

7 Gently slide the card into the I/O card expansion slot. Use two hands, one to guide the card from the back of the Stage Rack, and the other to push the card in from the front of the Stage Rack. Align the guide pin at the top rear of the card with the corresponding hole in the back of the Stage Rack chassis.



Installing a Stage Rack I/O card in the Stage Rack

8 When the card is seated in its slot, secure it to the Stage Rack chassis from the back of the Stage Rack with a provided mounting screw.



Securing a Stage Rack I/O card to the Stage Rack chassis

9 Secure the Stage Rack I/O card to the front panel of the Stage Rack using four provided mounting screws.

Securing a Stage Rack I/O card to the Stage Rack front panel

10 Connect the Stage Rack I/O card to its corresponding ribbon cable connector. Make sure the pins are oriented correctly. Secure the connection by moving the retaining clips on each side of the connector in ward. Check to make sure the cable is connected securely.

Connecting a Stage Rack I/O card to the Stage Rack ribbon cable

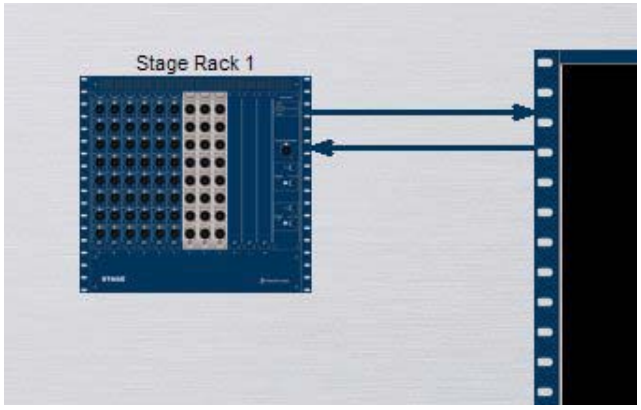
To complete and confirm installation:

1 Reattach the Stage Rack main back panel.

2 Reconnect the power, Snake cable, and any audio cables to the Stage Rack.

3 Turn on the D-Show system.

4 Go to the Options page and click the Devices tab to view D-Show hardware status. The newly installed Stage Rack I/O card should appear in the Stage Rack graphic.



Detail of Devices page indicating presence of additional SRO cards

The newly installed card inputs or outputs should also become available in the corresponding “Stage” tab in the Patchbay.