Power Supply Guide
Version 1.0 for D-Show

Digidesign

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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.

Contents

Chapter 1: Introduction

This guide explains how to install the following D-Show power supply options:

- FOH Rack Redundant Power Supply
- Stage Rack Redundant Power Supply

Before You Begin

Before you install your power supply option, do the following:

- Make sure all hardware is powered off and all cables are disconnected.
- Place the Stage Rack or FOH Rack in a well-lit area, free of excessive dust and dirt.

The power supply options are easy to install and require only a small or medium-sized screwdriver (#1 or #2 Phillips-head).

What's Included

FOH Redundant Power Supply Option

The complete FOH Redundant Power Supply package includes the following:

- FOH Rack Redundant Power Supply unit
- Power Supply Guide
- AC power cable (IEC)

Stage Redundant Power Supply Option

The complete Stage Rack Redundant Power Supply package includes the following:

- Stage Rack Redundant Power Supply unit
- Power Supply Guide
- AC power cable (IEC)

Chapter 2: FOH Rack Redundant Power Supply

The FOH Rack Redundant Power Supply adds a backup power supply that automatically takes over in the event of a loss of power to, or failure of, the primary power supply.

Installing a second power supply into the FOH Rack involves the following (detailed below):

- Removing the back cover panel
- Installing the new power supply module in the rack
- Securing the new power supply
- Configuring the Power Mode switch for redundant power
- Replacing the back cover panel

The complete installation process should take approximately 15 minutes.

Installation

To install the power supply option in the FOH Rack:

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

2 Disconnect all cables from the FOH Rack. Remove any USB disks or accessories plugged in to the connectors on the outside of the rack.

3 At the back panel of the FOH Rack, remove the two screws holding the faceplate over the empty power supply slot.

4 Check that the mounting screw on the outside of the redundant power supply module is not tightened. This mechanism helps secure the power supply to the rack chassis after installation, but it must be loosened completely before the power supply can be slid into the rack.

5 Check the redundant power supply module and make sure it is facing the correct way (labels up).

6 Carefully slide the power supply module completely into its slot in the rack. Push it until it seats fully, and until it is flush with the outside of the FOH Rack.

Sliding the power module into the slot

7 With the power module fully seated in the rack slot, tighten the mounting screw on the outside of the module so that it locks the module to the chassis.

Securing the mounting screw to the chassis

8 Check to make sure the power supply is fully seated and secured by gently pulling on its swivel handle and making sure the unit cannot slide out.

9 At the front of the FOH Rack, remove the FOH Link panel to access the Power Mode switch.

10 Make sure the Power Mode switch is in the down (redundant) position. The Power Mode switch must be in this position whenever your FOH Rack contains two power supply modules. This switch is located on the left edge of the PCB, and is marked SW1. The up position denotes a single supply configuration.

⚠ *If you are replacing the lone power supply in a single-power supply FOH Rack, the switch must remain in its "up" position.*

11 Reattach the FOH Link panel using its screws.

To verify installation:

1 Connect the AC power cable to the newly installed power module.

2 Turn the power switch to the ON position.

3 After verifying that the power module is installed correctly, disconnect the AC power cable.

4 Reconnect the FOH Rack to the rest of your D-Show system.

In Operation

To use an FOH Rack containing a redundant power supply:

1 Make sure you connect AC power cables to both power supplies in the FOH Rack.

2 Turn both power supplies to the ON position.

In use, the additional power supply module will automatically take over supplying power to the FOH Rack if the primary power supply is interrupted or fails. No user interaction is required. An on-screen display in D-Show software alerts you when one of the redundant supplies fails or is not turned on.

Chapter 3: Stage Rack Redundant Power Supply

This chapter describes how to install the Stage Rack Redundant Power Supply option.

Installing a second power supply into the Stage Rack involves the following (detailed below):

- Removing the front and back cover panels
- Disconnecting and removing one of the fans
- Disconnecting and removing Stage Rack I/O cards
- Installing the new power supply module in the rack
- Connecting and securing the new power supply
- Reinstalling Stage Rack I/O cards
- Replacing the cover panels

Depending on the number of Stage Rack I/O cards that need to be removed, the complete installation process should take approximately 30 minutes.

Installation

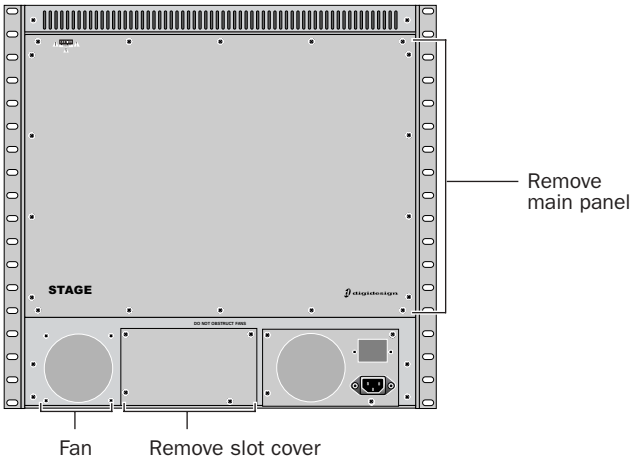
To install the power supply option in the Stage Rack:

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

2 Disconnect all cables from the Stage Rack.

3 Use a small Phillips screwdriver to remove the main back panel and the power supply slot cover from the Stage Rack.

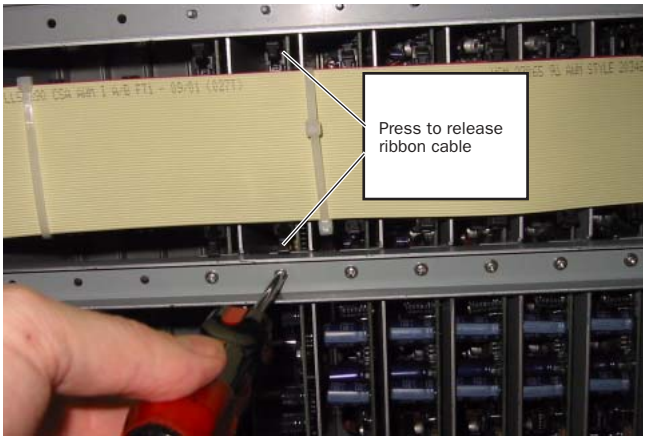
4 Remove the screws holding the fan to the back of the Stage Rack (the fan at the left, when viewing the rack from the back).



Back main panel, slot cover, and fan

5 Disconnect the fan power cables from the Stage Rack power connector. Remove any screws still holding the fan to the rack, and remove the entire fan assembly. You can discard the fan, recycle it, or reuse it elsewhere (it is no longer needed).

6 Disconnect the ribbon cables connected to Stage Rack I/O cards G, H, J, K, L and M (if any). To do so, press the retaining clips at the top and bottom of the ribbon sockets outward to release the ribbon cable from each card. Leave the ribbon cable in place (do not disconnect additional cards, and do not remove the entire ribbon cable).



Removing the mounting screws before removing Stage Rack I/O cards

7 Use a Phillips screwdriver to unscrew the card mounting screws for each Stage Rack I/O card (G–M) you disconnected in the previous step.

8 From the front of the Stage Rack, use a medium Phillips screwdriver to remove the four screws securing each card that you will be removing from slots G–M.

9 Remove Stage Rack I/O cards from slots G–M from the chassis. For each card, use two hands; one to push forward (from the back of the Stage Rack, and the other to pull the card out (from the front of the Stage Rack). Make sure to note which card belongs in which slot to simplify the reinstallation of the cards.

Removing a Stage Output card from slot G

10 From the back of the Stage Rack, carefully place the new power module in to the rack. Slide the power module into place so that its mounting holes line up with the holes in the rack chassis. Make sure the power cables for the new power module are free to reach their power socket to the left and above the new module.

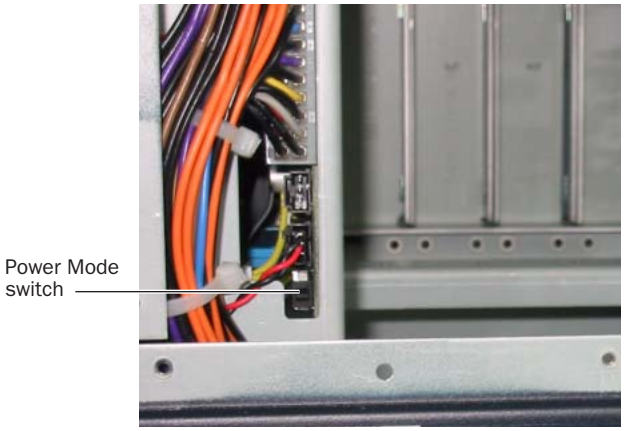
11 Secure the new power module to the chassis by inserting and tightening the two silver screws on either side of the power switch.

Securing the power module to the chassis

12 Connect the power cable harness for the new power module to the second power input connector on the back of the Stage Rack motherboard. Orient the cable correctly so that it snaps into the socket.

Connecting the new power module to the Stage Rack

13 Set the Power Mode switch to its down position in order to enable redundant power. The Power Mode switch is located inside the Stage Rack, just below the two power sockets at the lower left.



Power Mode switch

⚠ *The Power Mode switch must be set correctly to its down position for redundant operation.*

14 Reinstall the Stage Rack I/O cards into the Stage Rack and replace the four mounting screws that secure each card to the front of the Stage Rack.

15 Reattach the ribbon cable to each of the Stage Rack I/O cards you replaced. Gently press the ribbon cable into each card socket, and make sure the connector tabs spring back to their "locked" position.

16 Using the screws you removed in step 7, reattach each card to the card rail.

17 Reattach the front and back cover plates on the Stage Rack.

In Operation

To use a Stage Rack containing a redundant power supply:

1 Make sure you connect AC power cables to both power supplies in the Stage Rack.

2 Turn both power supplies to the ON position.

In use, the additional power supply module will automatically take over supplying power to the Stage Rack if the primary power supply is interrupted or fails. No user interaction is required. An on-screen display in D-Show software alerts you when one of the redundant supplies fails or is not turned on.