

Ultripower

Ultripower User Guide

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3. We will not ship crap.
4. We will be great to work with.
5. We will do something extra for our customers, as an apology, when something big goes wrong and it's our fault.
6. We will keep our promises.
7. We will treat the competition with respect.
8. We will cooperate with and help other friendly companies.
9. We will go above and beyond in times of crisis. *If there's no one to authorize the required action in times of company or customer crisis - do what you know in your heart is right. (You may rent helicopters if necessary.)*

Ultripower - User Guide

- Ross Part Number: **2101DR-304-04**
- Release Date: July 29, 2019.

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Patents

Patent numbers US 7,034,886; US 7,508,455; US 7,602,446; US 7,802,802 B2; US 7,834,886; US 7,914,332; US 8,307,284; US 8,407,374 B2; US 8,499,019 B2; US 8,519,949 B2; US 8,743,292 B2; GB 2,419,119 B; GB 2,447,380 B; and other patents pending.

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US FCC Part 15

This equipment has been tested and found to comply with the limits for a class A Digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a Commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Notice — *Changes or modifications to this equipment not expressly approved by Ross Video Ltd. could void the user's authority to operate this equipment.*

CANADA

This Class “A” digital apparatus complies with Canadian **ICES-003**.

Cet appareil numérique de la classe “A” est conforme à la norme **NMB-003** du Canada.

EUROPE

This equipment is in compliance with the essential requirements and other relevant provisions of **CE Directive 93/68/EEC**.

AUSTRALIA

This equipment has been tested to **AS/NZS CISPR 22:2008** and found to comply with the limits for a Class A Digital device.

INTERNATIONAL

This equipment has been tested to **CISPR 22:2008** and found to comply with the limits for a Class A Digital device.



Notice — *This is a Class A product. In domestic environments, this product may cause radio interference, in which case the user may have to take adequate measures.*

Warranty and Repair Policy

The product is backed by a comprehensive one-year warranty on all components.



Notice — *Changes or modifications to this equipment not expressly approved by Ross Video Limited could void the user's authority to operate this equipment.*

If an item becomes defective within the warranty period Ross will repair or replace the defective item, as determined solely by Ross.

Warranty repairs will be conducted at Ross, with all shipping FOB Ross dock. If repairs are conducted at the customer site, reasonable out-of-pocket charges will apply. At the discretion of Ross, and on a temporary loan basis, plug in circuit boards or other replacement parts may be supplied free of charge while defective items undergo repair. Return packing, shipping, and special handling costs are the responsibility of the customer.

This warranty is void if products are subjected to misuse, neglect, accident, improper installation or application, or unauthorized modification.

In no event shall Ross Video Limited be liable for direct, indirect, special, incidental, or consequential damages (including loss of profit). Implied warranties, including that of merchantability and fitness for a particular purpose, are expressly limited to the duration of this warranty.

This warranty is TRANSFERABLE to subsequent owners, subject to Ross' notification of change of ownership.

Environmental Information

The equipment may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.



If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration. You can also contact Ross Video for more information on the environmental performances of our products.

This appliance may contain a Coin type battery which should not be treated as household waste.

To ensure that the battery will be treated properly use the appropriate take-back systems in your area. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

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Introduction

This guide is for system administrators and installers of the Ross Video Ultripower. It provides instructions on how to install, configure, and monitor your Ultripower rack mount power supply unit.

This guide contains the following chapters that cover the installation and setup of an Ultripower:

- “**Introduction**” summarizes the guide and provides important terms, and conventions.
- “**Getting Started**” provides general information to keep in mind before installing and configuring your Ultripower.
- “**Hardware Overview**” provides a basic introduction to the Ultripower front and rear panels.
- “**Physical Installation**” provides instructions for the basic physical installation of the Ultripower.
- “**Configuration**” provides instructions on navigating the Ultripower interfaces, and establishing communications in DashBoard.
- “**Monitoring the Ultripower**” provides instructions on how to monitor the Ultripower status via the chassis and the DashBoard read-only status fields.
- “**DashBoard Interface Overview**” summarizes the tabs, menus, fields, and parameters displayed in the DashBoard window for Ultripower.
- “**Maintenance**” provides instructions for removing a blank module plate from the chassis, removing a PSU module from the chassis, and installing a new PSU module.
- “**Technical Specifications**” provides the specifications, such as dimensions and power consumption, for the Ultripower.

If you have questions pertaining to installation of this Ross Video product, please contact us at the numbers listed in the section “**Contacting Technical Support**” on page 10. Our technical staff is always available for consultation, training, or service.

Related Publications

It is recommended to consult the following Ross documentation before installing your Ultripower:

- *Ultracore User Guide*, Ross Part Number: 2201DR-104
- *Ultracore Quick Start Guide*, Ross Part Number: 2201DR-102
- *ULTRIX-FR1 and ULTRIX-FR2 Quick Start Guide*, Ross Part Number: 2101DR-002
- *ULTRIX-FR5 Quick Start Guide*, Ross Part Number: 2101DR-502
- *Ultrix Installation Guide*, Ross Part Number: 2101DR-003
- *Ultrix User Guide*, Ross Part Number: 2101DR-004

Documentation Conventions

Special text formats are used in this guide to identify parts of the user interface, text that a user must enter, or a sequence of menus and sub-menus that must be followed to reach a particular command.

Interface Elements

Bold text is used to identify a user interface element such as a dialog box, menu item, or button. For example:

In the **Save Layout** dialog, click **OK**.

User Entered Text

Courier text is used to identify text that a user must enter. For example:

In the **Language** box, enter **English**.

Referenced Guides

Italic text is used to identify the titles of referenced guides, manuals, or documents. For example:

For more information, refer to the *Ultrix Installation Guide*.

Menu Sequences

Menu arrows are used in procedures to identify a sequence of menu items that you must follow. For example, if a step reads “**File > Save**,” you would click the **File** menu and then click **Save**.

Important Instructions

Star icons are used to identify important instructions or features. For example:

- ★ When the Ultripower cannot connect to the network, a **Message** dialog box opens to report the connection problem.

Contacting Technical Support

At Ross Video, we take pride in the quality of our products, but if problems occur, help is as close as the nearest telephone.

Our 24-hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support is provided directly by Ross Video personnel. During business hours (Eastern Time), technical support personnel are available by telephone. After hours and on weekends, a direct emergency technical support phone line is available. If the technical support person who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. This team of highly trained staff is available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

- **Technical Support:** (+1) 613-652-4886
- **After Hours Emergency:** (+1) 613-349-0006
- **E-mail:** techsupport@rossvideo.com
- **Website:** <http://www.rossvideo.com>

Getting Started

The Ultripower offers a reliable, fault tolerant, and fail-safe option for Ultrix routers. It delivers up to a maximum of 1200W. It also provides an Ethernet port for monitoring purposes via DashBoard.

General Overview

The Ultripower provides load balanced high reliability DC power to all connected routers. The Ultripower comes standard as a positive power rail supply.

Supported Devices

The Ultripower supports the following Ross devices:

- ULTRIX-FR1
- ULTRIX-FR2
- ULTRIX-FR5

Features

The Ultripower includes the following features:

- 1200W output 15VDC @ 20A per output connection (x4)
- 2 front hot swappable AC-DC power supply modules
- 2 rear mounted AC inputs capable with Universal input voltage of 90-264VAC
- DashBoard interface to all reported status data
- Status LEDs on each power supply
- 4 ports can support:
 - › 4 x ULTRIX-FR1 routers or
 - › 2 x ULTRIX-FR2 routers, or
 - › 1 x ULTRIX-FR5 router
- Reversible rack mount ears to provide mounting options

Block Diagram

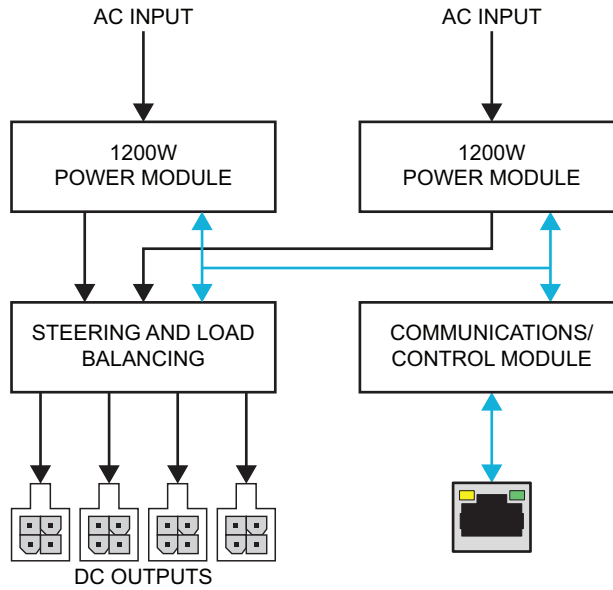


Figure 2.1 Ultripower Internal Block Diagram

Example Configuration

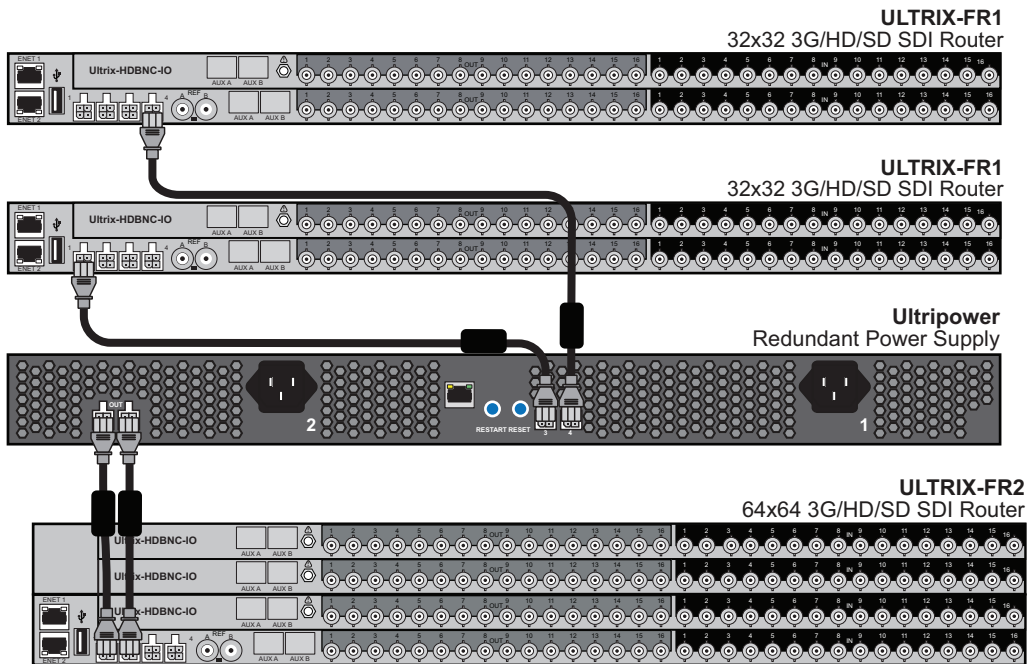


Figure 2.2 Ultripower Example — Two ULTRIX-FR1 and One ULTRIX-FR2 Connections

Hardware Overview

This chapter presents information on the Ultripower front and rear panels.

Front Panel Overview

The Ultripower front panel enables you to monitor the power supplies via the LEDs for each slot.

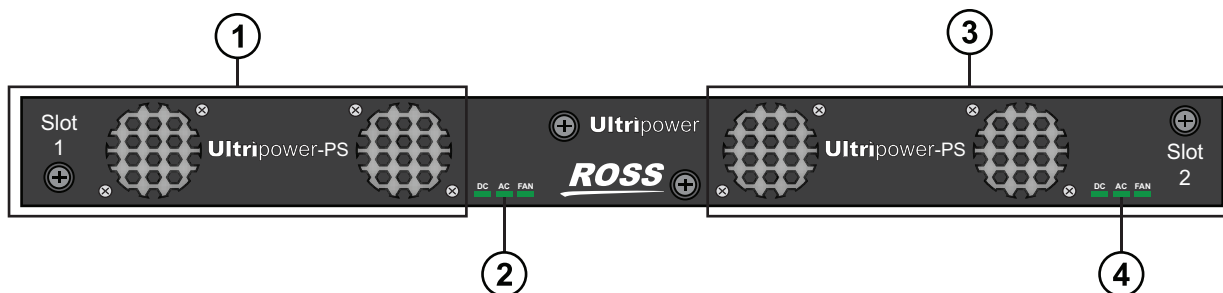


Figure 3.1 Ultripower — Front Panel

- | | |
|-------------------------------|-------------------------------|
| 1) Slot 1 Power Supply Module | 3) Slot 2 Power Supply Module |
| 2) Slot 1 Status LEDs | 4) Slot 2 Status LEDs |

1. Slot 1 Power Supply Module

The Slot 1 Power Supply Module provides power to the four DC outputs. If a PSU module is present and operating in Slot 2, the load is distributed between the operating modules.

2. Slot 1 Status LEDs

The Slot 1 Status LEDs monitor the Slot 1 PSU power supply and status. Refer to **Table 6.1** for details.

3. Slot 2 Power Supply Module

The Slot 2 Power Supply Module provides power to the four DC outputs. If a PSU module is present and operating in Slot 1, the load is distributed between the operating modules.

4. Slot 2 Status LEDs

The Slot 2 Status LEDs monitor the Slot 2 PSU power supply and status. Refer to **Table 6.1** for details.

Rear Panel Overview

The rear panel provides a support structure for connecting power inputs, power outputs, and to your facility network.

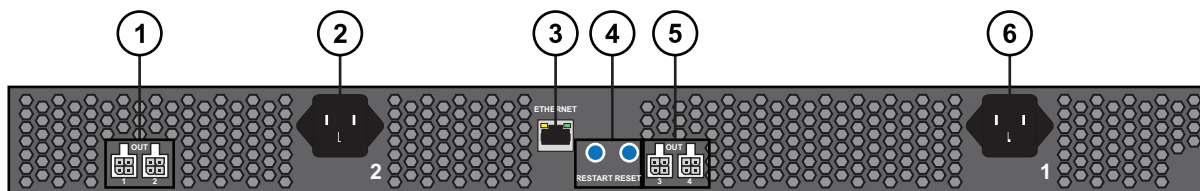


Figure 3.2 Ultripower — Rear Panel Overview

- | | |
|--------------------------|------------------------------|
| 1) PSU OUT Ports 1 and 2 | 4) Reset and Restart Buttons |
| 2) PSU IN Port 2 | 5) PSU OUT Ports 3 and 4 |
| 3) 10/00 Ethernet Port | 6) PSU IN Port 1 |

1. PSU OUT Ports 1 and 2

These ports are Molex mini-fit 4-position connectors that provide power drawn from both power supplies. Each connector can support one connection to an Ultrix router.

2. PSU IN Port 2

This connection is the AC connector for the power supply module inserted in Slot 2.

3. 10/00 Ethernet Port

The Ethernet port is an RJ45 connector used to connect the Ultripower to an external Ethernet network. This port is required for monitoring and control of Ultripower.



Notice — *The Ethernet ports do not provide Power-over-Ethernet (PoE).*

4. Reset and Restart Buttons

These buttons are not implemented.

5. PSU OUT Ports 3 and 4

These ports are Molex mini-fit 4-position connectors that provide power drawn from both power supplies.

6. PSU IN Port 1

This connection is the AC connector for the power supply module inserted in Slot 1.

Physical Installation

If you have questions pertaining to the installation of your Ultripower, please contact us at the numbers listed in the section “**Contacting Technical Support**” on page 10.

Before You Begin



Notice — *The Ultripower utilizes front-to-rear airflow management. It is a requirement that the airflow is not restricted.*

These installation guidelines assume the following:

- The relevant Ross equipment is installed into a ventilated rack frame. The relative humidity in the environment of the equipment should be <70% (non-condensing). The ambient temperature of the air entering the front panel should not exceed 40°C (104°F), and should not fall below 0°C (32°F). It is recommended to leave a 1RU gap between each unit.
- Ensure that adequate space exists in front, and behind of the chassis for airflow exhaust.
- The install location of the chassis should be accessible, dry, and dust-free.
- The socket/outlet should be installed near the equipment and be easily accessible.

Static Discharge

Throughout this chapter, please heed the following cautionary note:



ESD Susceptibility — *Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling circuit boards in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Always exercise proper grounding precautions when working on circuit boards and related equipment.*

Unpacking the Equipment

On receiving your Ultripower, check the contents against the packing list. Ensure that all equipment itemized on the packing list is present and there are no signs of damage before installing the Ultripower in your system.

If anything is missing or damaged, contact Ross Video immediately to obtain the correct warranty service procedures.

We recommend that the equipment is installed by qualified and experience personnel, to any relevant standards and approvals.

Mounting Requirements

The Ultripower is designed for installation into a standard 19” equipment rack. It has integrated rack ears, allowing it to be screwed in using standard screws and cage nuts.

The Ultripower mounts in the rack frame by means of four rack screws fastened through the mounting ears. This should normally be sufficient to carry the load, including the weight of accompanying cables.

Under some conditions, the ambient air temperature inside rack-mount cabinets can be greater than the ambient temperatures within a room. For safe long term reliability, ensure the ambient air temperatures at the chassis right-side intake are within the Ultripower specified operating temperature range. Adequate ventilation within a rack frame must also be maintained.

For More Information on...

- the technical specifications for the Ultripower, refer to the chapter “**Technical Specifications**” on page 35.

Connecting Ultripower to a Network

The **ETHERNET** port is a standard 10/100 RJ45 Ethernet connector and is used to exchange data and communicate with control and monitoring applications such as DashBoard.

★ Contact your IT department before connecting to your facility network to ensure that there are no conflicts. They will provide you with an appropriate value for the IP Address, Subnet Mask, and Gateway for your device.

The Ultripower is connected directly to your network so that it can interface with the devices and the computer running the DashBoard client. After a physical connection is established, DashBoard is used to configure the network settings for the Ultripower.

For More Information on...

- downloading and installing DashBoard, refer to the *DashBoard User Manual*.
- ★ If difficulties or problems are experienced when connecting the Ultripower to a network hub, or with assigning IP addresses, please contact your network administrator.

To establish a physical connection to the network

1. Connect one free end of a standard CAT 5/5e/6 Ethernet cable to a free port of the network hub.
2. Connect the other end of the same cable to the **ETHERNET** port on the rear of the Ultripower.

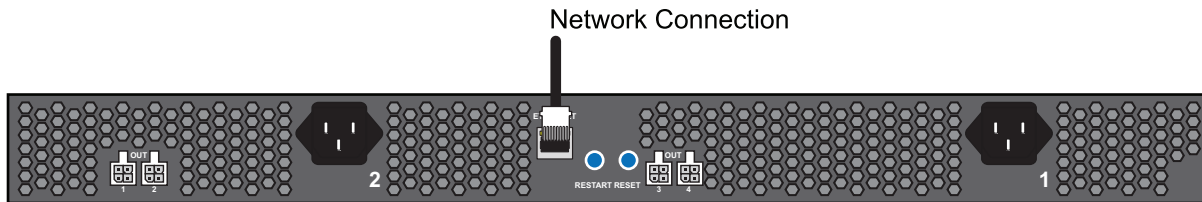


Figure 4.1 Ultripower — Network Connections

Connecting an Ultrix Router to Ultripower



Caution — Do not exceed 1200W total power for all connected devices. Damage can occur and the Ultripower will not be able to supply power if the limit is exceeded. Refer to the appropriate user guide for the maximum power consumption of each device, or contact Ross Video Technical Support.

You must first establish DC connections between the Ultrix routers and Ultripower before you can connect a power source to the Ultripower.

Connecting to an ULTRIX-FR1 Router

You must use a Molex® connector on one end to connect to the Ultripower, and a Molex® connector on the other to connect to the Ultrix-FR1 router. This cable is supplied by Ross Video and shipped with Ultripower.



Notice — The ULTRIX-FR1 router automatically powers on when power is applied to Ultripower.

To connect the Ultripower to an ULTRIX-FR1 router

1. Connect one end of the power cable into an **OUT** socket on the Ultripower rear panel.

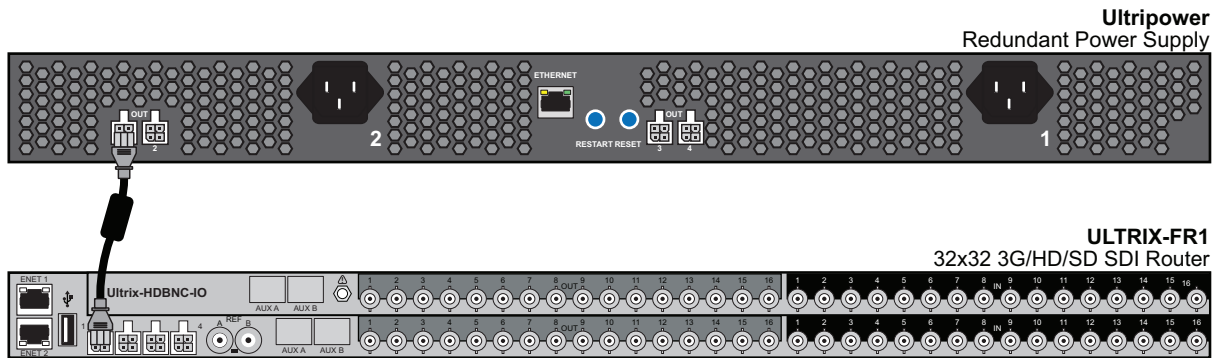


Figure 4.2 Ultripower — Connection to an ULTRIX-FR1 Router



Notice — Ensure that the power cable end with the ferrite bead connects to the Ultripower port.
(Figure 4.2)

2. Connect the other end of the power cable into the PSU socket marked **1** on the ULTRIX-FR1 rear panel.
3. Repeat steps 1 and 2 for up to three additional ULTRIX-FR1 routers.

Connecting to an ULTRIX-FR2 Router

You must use a Molex® connector on one end to connect to the Ultripower, and a Molex® connector on the other to connect to the ULTRIX-FR2 router. This cable is supplied by Ross Video and shipped with Ultripower.



Notice — The ULTRIX-FR2 requires a minimum of two power supply connections.

To connect the Ultripower to an ULTRIX-FR2 router

1. Connect one end of the first power cable into the **OUT 1** socket on the Ultripower rear panel.
2. Connect one end of the second power cable into the **OUT 2** socket on the Ultripower rear panel.



Notice — Ensure that the power cable end with the ferrite bead connects to the Ultripower port (Figure 4.3).

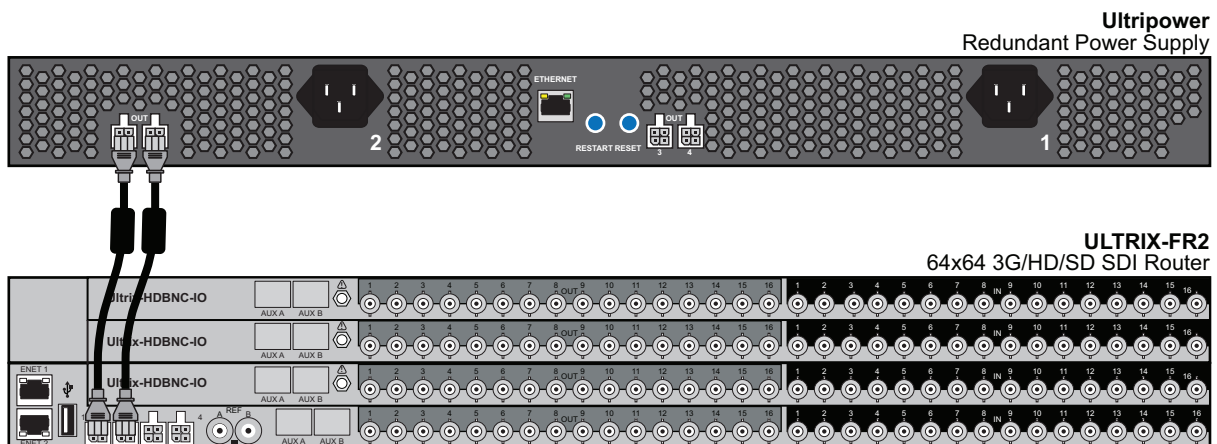


Figure 4.3 Ultripower — Connections to an ULTRIX-FR2 Router



Notice — *The ULTRIX-FR2 router automatically powers on when power is applied to Ultripower. Connect DC cables prior to connecting AC power source to Ultripower. This prevents the ULTRIX-FR2 from trying to draw too much power while only one DC cable is installed.*

3. Connect the first power cable into the PSU socket marked **1** on the ULTRIX-FR2 rear panel.
4. Connect the second power cable into the PSU socket marked **2** on the ULTRIX-FR2 rear panel.

Connecting to an ULTRIX-FR5 Router

Each ULTRIX-FR5 router requires powering from an Ultripower Rack Mount Power Supply Unit.



Notice — *Powering an ULTRIX-FR5 from individual external power supplies is not supported.*

- ★ When using an Ultripower with an ULTRIX-FR5, the ULTRIX-FR5 must run Ultrix software version 3.43 or higher.

To connect an Ultripower to an ULTRIX-FR5

1. Connect the ends of four power cables to the Ultripower rear panel **OUT** sockets.
2. Connect the free ends of the same power cables to the ULTRIX-FR5 rear panel.



Notice — *Ensure that the power cable end with the ferrite bead connects to the Ultripower port. (Figure 4.4)*



Notice — *The ULTRIX-FR5 automatically powers on when power is applied to Ultripower. Connect DC cables prior to connecting AC power source to the Ultripower. This prevents the ULTRIX-FR5 from trying to draw too much power while only one DC cable is installed.*

3. Connect an AC power cable to the Ultripower **PSU 1** socket.
4. If Ultripower is fitted with a second power module, connect a second AC power cable to the Ultripower **PSU 2** socket.

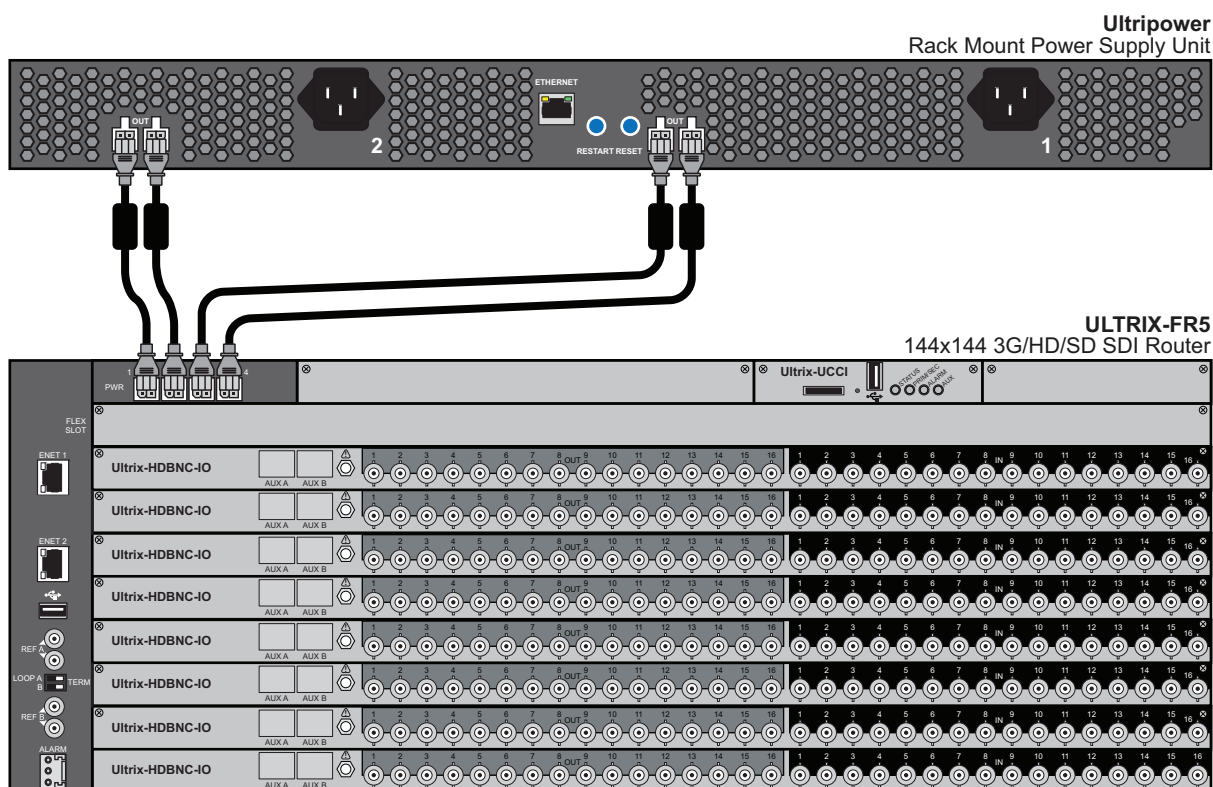


Figure 4.4 Ultripower — Connections to an ULTRIX-FR5 Router

Connecting to a Power Source

Each IEC power cord should be connected to a separate power source for protection against failure of the A/C power circuit. Under normal conditions with two power supply modules operating, the DC output power is shared between the two modules. In the event of one power supply failure, the single remaining power supply module automatically compensates for the increased demand and continues to power the connected devices with no interruption.



Warning Hazardous Voltages — *The safe operation of this product requires that a protective earth connection be provided. This protective earth is provided by the ground conductor in the equipment's supply cord. To reduce the risk of electrical shock to operator and service personnel, this ground connector must be connected to an earthed ground.*



Warning — *In some countries it may be necessary to supply the correct mains supply cord. Use only certified cords for the country of use.*

To connect the power cables to the Ultripower

1. Connect the female end of the provided AC power cable into the socket marked **A** on the Ultripower rear panel.



Figure 4.5 Ultripower — Power Connections

2. Connect the remaining power cable into the socket marked **B**.
3. Connect the supplied AC power cable into the power module.
4. Connect the supplied power cable's three-prong male connector to Mains Power.

Configuration

This chapter outlines how to assign an IP address to the Ultripower, and access the interfaces and status fields displayed in the Ultripower DashBoard interface.

Launching DashBoard

DashBoard must be run on a computer that has a physical wired ethernet connection. Wireless connections do not allow device discovery.

For More Information on...

- downloading and installing the DashBoard client software, refer to the *DashBoard User Manual*.

To launch DashBoard

1. Ensure that you are running DashBoard software version 8.0 or higher.
2. Launch DashBoard by double-clicking its icon on your computer desktop.

Using Walkabout to Assign the Initial IP Address to the Ultripower

Once the Ultripower is physically installed and cabled to your facility network, you will need to assign it an initial static IP Address to enable DashBoard to locate it on your network. Establishing an initial IP Address enables DashBoard to communicate with the Ultripower and update the Basic Tree View with the Ultripower nodes.

To assign the initial static IP address for the Ultripower

1. Launch DashBoard.
2. From the DashBoard client main toolbar, select **File > Show Walkabout**.
The DashBoard window displays the **Walkabout** table.
3. Click **Refresh**, located at the bottom of the Walkabout tab, to ensure the list in the Walkabout interface is current.
4. In the **Walkabout** table, find the entry for the Ultripower you want to configure.
5. Use the **Name** field to assign a unique identifier to the Ultripower. This will be the name displayed in the Tree View of DashBoard.
- ★ After you edit a cell in the **Walkabout** table, the **Connection/Link Quality** value for the device reports **1%**. It is recommended to wait approximately 1 minute, then click **Refresh** to apply the new settings.
6. Use the **Address** field to specify the IP Address supplied by your IT Department for this device.
7. Ensure the **Netmask** field is set to match your network requirements.
8. Use the **Gateway** field to specify the IP Address for connection outside of the local area network (LAN).
9. Click **Reboot** in the row of the **Walkabout** table for the Ultripower.
- ★ After initial setup, you can edit the network settings of the Ultripower using the Network tab options in DashBoard.

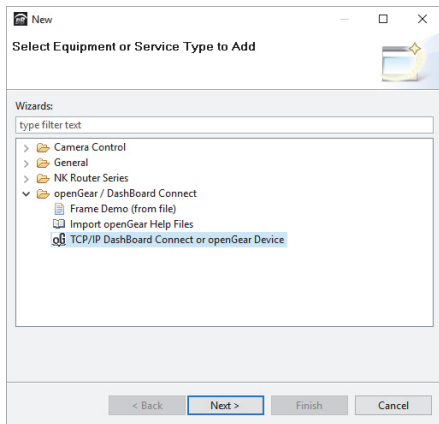
Adding the Ultripower to the Tree View in DashBoard

Once you have assigned the Ultripower a static IP Address, you can then manually add it to the Tree View. Manually adding the Ultripower displays its node in the Tree View, granting you access to the interfaces described used to monitor the status of the power supplies.

To manually add the Ultripower to the Tree View in DashBoard

1. In the **Basic Tree View** toolbar of DashBoard, click **+**.

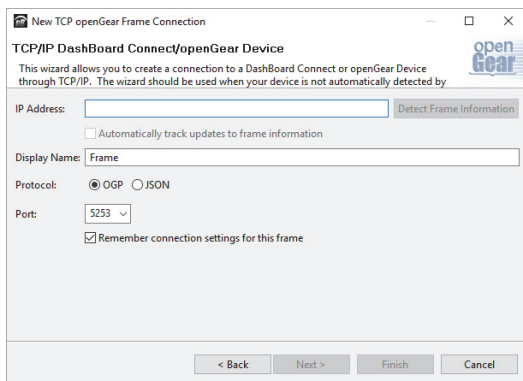
The **Select Equipment or Service Type to Add** dialog opens.



2. Expand the **openGear/DashBoard Connect** node.
3. Select **TCP/IP DashBoard Connect or openGear Device**.
4. Click **Next >**.

The **TCP/IP DashBoard Connect/openGear Device** dialog opens.

5. Select the **OGP** radio button as the **Protocol**.



6. Enter the IP Address for the router in the **IP Address** field that you assigned in the section “**To assign the initial static IP address for the Ultripower**” on page 21.
7. Perform one of the following steps:
 - In the text fields provided, enter the display name for the Ultripower, and port of the panel you wish to add.
 - Click **Detect Frame Information** to automatically retrieve the connection details.
8. Click **Finish**.

The Ultripower displays in the **Tree View**.

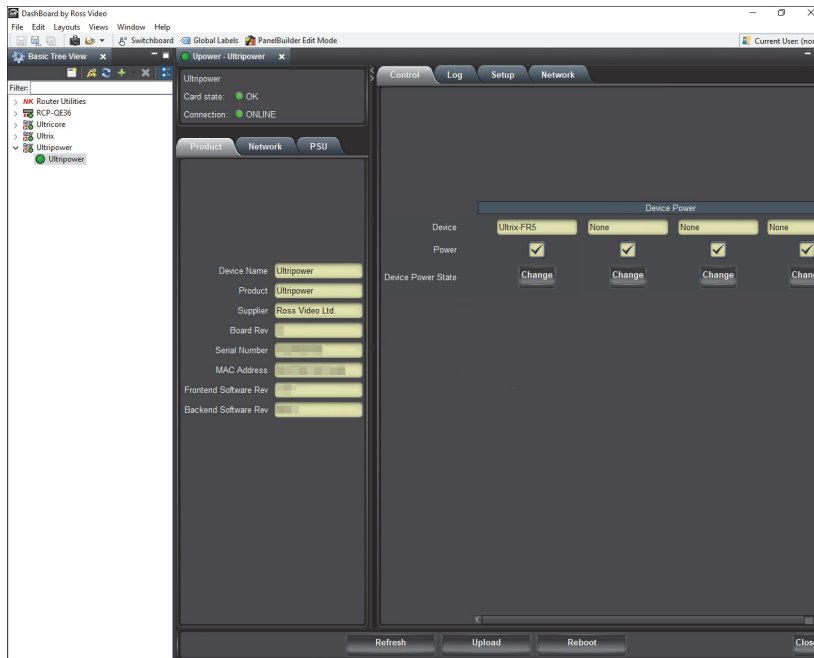
Accessing the Ultripower Interfaces in DashBoard

The interface is accessed by expanding the Ultripower node in the DashBoard Tree View and selecting the sub-node. The interface is divided vertically to show status and frame information on the left, and configuration options on the right.

To access the Database interfaces in DashBoard

1. Locate the Ultripower in the Tree View of DashBoard.
2. Expand the Ultripower node to display the frame in the Tree View.
3. Double-click the Ultripower sub-node to display its interface in the right-side of the DashBoard window.
4. Select a tab to displays its contents in the DashBoard window.

In the example below, the **Product** and **Setup** tabs are selected.



For More Information on...

- the Status tabs, refer to the section “**Monitoring via DashBoard**” on page 28.

Restricting Access to the Ultripower

The Network tab provides an option to specify which DashBoard clients in your facility can access the Ultripower.

To add a DashBoard client to the Ultripower DB Whitelist

1. Display the Ultripower interface in DashBoard as outlined in the procedure “**To access the Database interfaces in DashBoard**” on page 23.
2. Select the **Network** tab.
3. Use the **DB Whitelist** area to specify up to four DashBoard clients that are allowed to communicate with the Ultripower.
4. Click **Apply**.

Configuring the PSU OUT Ports

The four **PSU OUT** ports on the rear panel may be treated individually or grouped together depending on the physical cabling to Ultrix routers. Each **PSU OUT** port may be assigned to an external device using a user-defined label. For example, if you wired an ULTRIX-FR2 router to PSU OUT 1 and 2, you would enter a device label (e.g. Ultrix-FR2) in one of the device labels fields, then using the drop-down, select boxes in the Connected Device area, assign Ultrix-FR2 to OUT 1 and OUT 2.

For More Information on...

- the physical **PSU OUT** port locations, refer to the section “**Rear Panel Overview**” on page 13.

To assign a PSU OUT port to a device

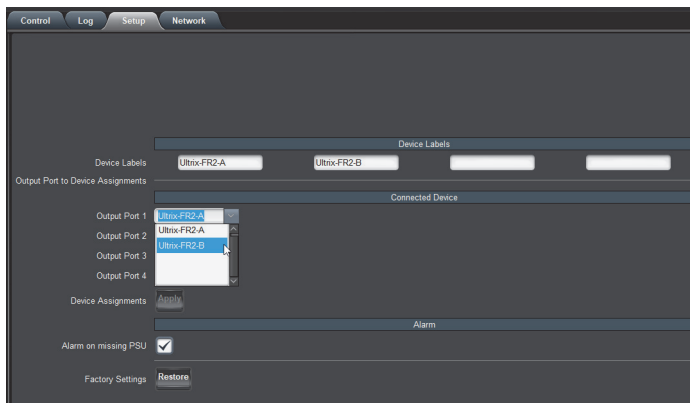
1. Display the Ultripower interface in DashBoard as outlined in the procedure “**To access the Database interfaces in DashBoard**” on page 23.
2. Select the **Setup** tab.
3. Use the **Device Labels** fields to assign a unique identifier for up to four devices.

★ Ultripower does not support Unicode characters.

This label is used in the Connected Device menus to identify each external device connected to the Ultripower.

4. Use the **Connected Device** menu to assign a device label to a physical Output Port on the Ultripower chassis.

★ Some external devices require multiple ports (e.g. ULTRIX-FR5 requires four ports). Refer to the user guide for your external device to confirm the number of required connections to the Ultripower.



5. Click **Apply** in the **Connected Device** area.

Enabling Power to an External Device

Once the **PSU OUT** ports are assigned to external devices, you can enable power to those devices using the options in the Control tab.

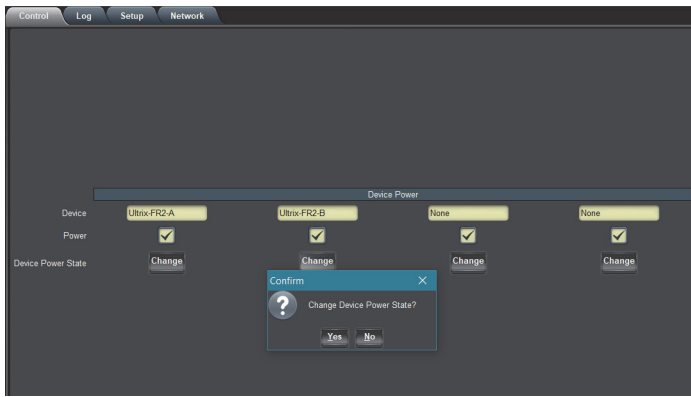
To enable power to an external device

1. Locate the Ultripower in the Tree View of DashBoard.
2. Expand the Ultripower node.
3. Double-click the Ultripower sub-node.
4. Select the **Control** tab.

The current power state is reported for each defined device.

5. Select the **Power** box for the device you wish to enable power for.
6. Click **Change** below the box you selected in step 5.

The **Confirm** dialog opens.



7. Click **Yes**.

The **Confirm** dialog closes and power is enabled to that device.

Monitoring the Ultripower

You can monitor the Ultripower from the front panel LEDs, the rear panel LEDs, and via the read-only fields in DashBoard. Each location reports the status on a specific feature of the Ultripower.

Monitoring via the Front Panel LEDs

The Ultripower front panel includes LEDs for each power supply to indicate if the unit is operating normally and whether the power supplies are functional.

For More Information on...

- the location of the LEDs on the front panel, refer to the section “**Front Panel Overview**” on page 13.

Power Supply Module LEDs

There are three status LEDs per PSU module to indicate the operation status of Ultripower. **Table 6.1** outlines the LEDs available for each power supply module.

Table 6.1 Front Panel — Power Supply Module LEDs

LED	Status	Description
DC	On	The module is supplying DC voltage to the system.
	Off	The module is not supplying DC voltage to the system.
AC	On	A valid AC voltage supply is connected to the rear panel.
	Off	No AC voltage is present.
FAN	On	The two module fans are operating correctly.
	Off	One or both module fans are not operating correctly.

Monitoring via the Rear Panel LEDs

The Ultripower rear panel includes LEDs on the ETHERNET RJ45 port. (**Figure 6.1**)

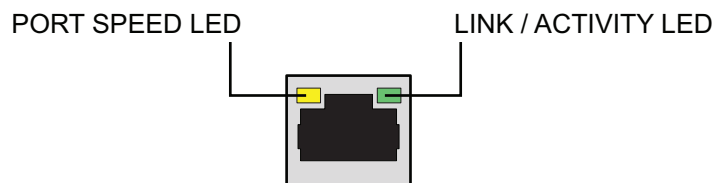


Figure 6.1 ETHERNET Port LEDs

Table 6.2 Rear Panel — ETHERNET LEDs

LED	Status	Description
LINK /ACTIVITY	Green	When lit solid green, this LED indicates an invalid link is detected on the RJ45 port or an absence of communication.
	Flashing Green	When flashing green, this LED indicates communication activity is occurring on the RJ45 port.
	Off	When unlit, this LED indicates an invalid link is detected on the RJ45 port or an absence of communication.

Table 6.2 Rear Panel — ETHERNET LEDs

LED	Status	Description
PORT SPEED	Yellow	When lit yellow, this LED indicates a 100Base-T Ethernet connection.
	Off	When unlit, this LED indicates a 10Base-T Ethernet connection.

Monitoring via DashBoard

The read-only fields in DashBoard enable you to monitor the PSU slots in the chassis.

For More Information on...

- the status tabs and fields in DashBoard, refer to the section “**Status Tabs Overview**” on page 29.
- the Log tab entires, refer to **Table 7.5**.

Monitoring the PSU Slots

If the **Alarm on missing PSU** option is enabled, the **PSU** tab in DashBoard reports the status of each slot in the chassis. Refer to the section “**PSU Tab**” on page 30 for a list of possible messages in these fields.

To enable monitoring of the PSU slots

1. Locate the Ultripower in the Tree View of DashBoard.
2. Expand the **Ultripower** node.
3. Double-click the **Ultripower** sub-node.

The Ultripower tabs display in the right-half of the DashBoard window.

4. Select the **Setup** tab.
5. Select the **Alarm on missing PSU** check box.

To view the status of a PSU slot via DashBoard

1. Locate the Ultripower in the Tree View of DashBoard.
2. Expand the **Ultripower** node.
3. Double-click the **Ultripower** sub-node.
4. Select the **PSU** tab.

The **PSU Slot** area displays a read-only field for each slot in the Ultripower chassis.

Monitoring the Ultripower PSU OUT Ports

You can use DashBoard to monitor the overall status of each **PSU OUT** port. Refer to the section “**PSU Tab**” on page 30 for a list of possible messages in these fields.

To view the status of a PSU OUT port via DashBoard

1. Locate the Ultripower in the Tree View of DashBoard.
2. Expand the **Ultripower** node.
3. Double-click the **Ultripower** sub-node.
4. Select the **PSU** tab.

The **Outputs** area displays a read-only field for each PSU OUT port on the Ultripower rear panel.

DashBoard Interface Overview

The DashBoard client software enables you to configure and monitor the Ultripower. Using the tabs provided via the DashBoard client software, you can:

- Configure the network settings for your Ultripower
- Assign physical PSU OUT ports to external devices
- Monitor the status of each PSU OUT port

Ultripower groups the configuration and monitoring features two areas in the DashBoard client window: Status (tabs in the left pane of the window), and Configuration (tabs in the right pane of the window). The following sections outline the fields, menus, and parameters displayed in each area.

Status Tabs Overview

This section summarizes the read-only information displayed in the Status tabs. Some fields in the Status tabs vary in severity from green (valid), yellow (caution), to red (alarm). DashBoard reports the most severe alarm for a single field. Alarm colors are noted within the tables as text set in brackets next to the menu parameter name.

Product Tab

Table 7.1 summarizes the read-only information displayed in the **Product** tab.

Table 7.1 Product Tab

Item	Parameters	Description
Device Name	#	Indicates the name assigned to the device in the Setup tab
Product	Ultripower	Indicates the model name of this unit
Supplier	Ross Video	Indicates the supplier of this unit
Board Rev	#	Indicates the hardware version of the Ultripower control module
Serial Number	#	Indicates the serial number assigned to this unit
MAC Address	#	Media Access Control (MAC) address for ethernet connectivity
Frontend Software Rev	#	Read-only information used by Ross Technical Support
Backend Software Rev	#	

Network Tab

Table 7.2 summarizes the read-only information displayed in the **Network** status tab.

Table 7.2 Network Tab

Item	Parameters	Description
IP Address	###.###.###.###	Displays the current Ethernet TCP/IP address assigned to this unit
Subnet Mask	###.###.###.###	Displays the current Ethernet subnet mask assigned to this unit

Table 7.2 Network Tab

Item	Parameters	Description
Default Gateway	###.###	Displays the current gateway for communication outside of the local area network (LAN)
Active Connections	#	Indicates the total number of active DashBoard client connections to this unit

PSU Tab

Table 7.3 summarizes the read-only information displayed in the **PSU** tab.

Table 7.3 PSU Tab

Item	Parameters	Description
PSU		
Slot # Status	OK (Green)	Ultripower is operating within specifications
	Not Installed (Yellow)	
	Input Voltage Fault (Red)	Ultripower is not powered
	Temperature Fault (Red)	
	Output Voltage Fault (Red)	
	Fan Fault (Red)	
	Fault (Red)	
Outputs		
Out # Status	OK (Green)	The Ultripower output is operational within the specified limits
	Over Current (Red)	Over current fault detected. output protection enabled
	Under Voltage (Red)	
	Fault (Red)	
Power		
Avg Output (watts)	#	Reports the overall power consumption (+/- 5%)

Configuration Tabs Overview

The Configuration options are arranged into three tabs: Control, Log, Setup, and Network.

Control Tab

The **Control** tab allows for applying or disconnecting power to external devices. **Table 7.6** summarizes the options in the **Control** tab.

Table 7.4 Control Tab

Item	Parameters	Description
Device	<name>	Displays the device label as defined in the Setup tab. The default is Ultrix-FR5 and is assigned to all output ports.
Power	Selected	The power state for the external device is enabled
	Cleared	The power state for the external device is disabled
Device Power State	Change	Toggles the device power state

Log Tab

The read-only information displayed in the Logs tab is used by Ross Technical Support for diagnostic and troubleshooting purposes. **Table 7.6** summarizes the possible messages in the **Log** tab.

★ The roll-over for entries is approximately 50 days.

Table 7.5 Log Tab

Message	Description
Outx overcurrent ^a	the device connected to output port x is drawing too much current
Outx undervoltage	the output port x is under voltage
Outx fault	the output port x has another undefined fault
Sloty uninstalled ^b	the module not present
Sloty vin fault	the power module AC input is out of range
Sloty fan fault	the power module has a blocked or faulty fan
Sloty vout fault	the power module DC output is out of range
Sloty temp fault	the power module is
Sloty fault	undefined error

a. Where x is output 1 to 4.

b. Where y is power module 1 or 2.

Setup Tab

Table 7.6 summarizes the options in the **Setup** tab.

Table 7.6 Setup Tab

Item	Parameters	Description
Device Labels		
Device Labels	<text>	User-defined identifier for the device
Connected Device		
Output Port #		Assign a specified Output Port to a defined device
Device Assignments	Apply	Apply any changes to the port assignment This may change device power state

Table 7.6 Setup Tab

Item	Parameters	Description
Alarm		
Alarm on Missing PSU	Selected	Ultripower will alarm if only one PSU module is present
	Cleared	Ultripower will not alarm if there is only PSU module present
Factory Settings	Restore	The following occurs: • factory settings will be restored • one device label assigned to all Output Ports • power is enabled

Network Tab

Table 7.7 summarizes the options in the Network tab.

Table 7.7 Network Tab

Item	Parameters	Description
Device Name	#	Assigns a unique name to the device. This name also displays in the DashBoard tree view. The default is Ultripower.
IP Address	###.##	Specifies the IP address for the Ultripower. The default is 192.168.20.123.
Subnet Mask	###.##	Specifies the subnet mask for the Ultripower. The default is 255.255.255.0.
Default Gateway	###.##	Specifies the gateway for communication outside of the local area network (LAN). The default is 192.168.20.1.
DB Whitelist		
IP Address	#	Specifies the IP Address for a DashBoard client granted access to the Ultripower
Apply		Updates the IP Address, Subnet Mask, Default Gateway, and DB Whitelist fields with current the settings
Cancel		Ignores any unsaved changes made to the Network tab

Maintenance

This chapter provides additional information for the ongoing maintenance of your Ultripower.

Installing a PSU Module

The PSU Module is accessed via the front of the Ultripower chassis and requires that you loosen the two thumb-screws securing the module to the chassis before sliding the module out of the chassis.



ESD Susceptibility — *Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling circuit boards in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Always exercise proper grounding precautions when working on circuit boards and related equipment.*

Removing a Blank Module Plate from the Ultripower Chassis

If you are not replacing a PSU Module, you will need to first remove the blank module plate from the required slot. You will need a #1 Phillips screwdriver to remove the two screws. The following procedure is applicable to any PSU Module slot.

To remove a blank plate from the chassis

1. Locate the blank module plate from the Ultripower front panel.
2. Use a #1 Phillips screwdriver to loosen the two screws that affix the blank module plate to the chassis.
3. Remove the plate from the chassis slot and set it aside.
4. Continue to the procedure “**Installing a new PSU Module into the Ultripower Chassis**” on page 34.

Removing the PSU Module from the Ultripower Chassis

Each PSU Module is accessed via the front of the Ultripower chassis and requires that you loosen the two retaining bolts securing the module to the chassis before sliding the module out of the chassis. The following procedure is applicable to any PSU Module slot.

To remove a failed PSU Module from the chassis

1. Locate the failed PSU module from the Ultripower front panel.
2. Disengage the two retaining bolts that affix the module to the chassis. Note that the bolts are not removable. Refer to **Figure 8.1** for the bolt locations.



Caution — *Ensure the Retaining Bolts are fully unfastened before attempting to remove the PSU module from the chassis. While the bolts are not removable and serve as a threaded insertion and extraction tool. It should be free to move in and out a few millimeters in its socket once unfastened.*

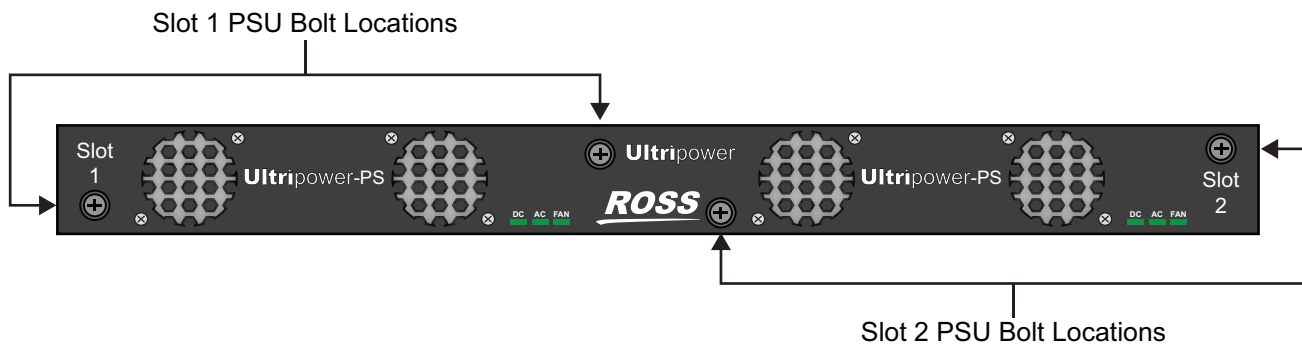


Figure 8.1 Ultripower Front Panel — Location of Screws on the PSU Modules

3. Gently pull the PSU module towards you to unseat it from the backplane and to disengage the PSU module from the chassis.
4. Pull the PSU module free from the chassis and set it on a static-free surface.

Installing a new PSU Module into the Ultripower Chassis

Once you have removed the failed PSU module or the blank module plate from the Ultripower chassis, you can install the new PSU module into the unpopulated slot. The following procedure is applicable to any PSU Module slot.

To install a new PSU module into the chassis

1. Align the new PSU module into the slot inside the chassis.
2. Gently slide the new PSU module into the slot until the module is fully seated. You will feel the back connector of the module engaged with its connector inside the chassis.
3. Fully tighten both retaining bolts. These bolts secure the PSU module to the chassis from the interior, ensuring proper contacts between the PSU module and the Ultripower backplane.



Caution — Tightening the bolts separately may damage the PSU module. Ensure the bolts are equally tightened and at the same time.

Technical Specifications

This chapter provides technical information for the Ultripower. Note that specifications are subject to change without notice.

Physical Dimensions

Table 9.1 Physical Dimensions

Item		Specifications
Width (not including rack mounting ears)		17.5" (444.5mm)
Depth (chassis only)		8.1" (206mm)
Height		1.7" (43.2mm)
Weight (approx)	Chassis + 1PSU	3.24kg (7.14lb)
	1 PSU module only	1.59kg (3.51lb)

General Specifications

- ★ The C14 AC input connector is limited to 10amps. Therefore Ultripower is de-rated when powered from a source less than 120VAC.

Table 9.2 General Specifications

Item	Specifications
Inputs	90-240VAC
Positive Output	15VDC @ 300W per output connector
Maximum Total Output	1200W
On-board Cooling	4 x dynamically controlled fans

Environmental

Table 9.3 Environmental Specifications

Item	Specifications
Maximum Ambient Temperature Range	0°C to 40°C (32°F to 104°F)
Humidity	<70% (non-condensing)

