

Installation and Setup Guide
020-102093-03

Remote Power Supply Rack Shelf

CHRISTIE®

NOTICES

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Products are warranted under Christie's standard limited warranty, the complete details of which are available by contacting your Christie dealer or Christie. In addition to the other limitations that may be specified in Christie's standard limited warranty and, to the extent relevant or applicable to your product, the warranty does not cover:

- a. Problems or damage occurring during shipment, in either direction.
- b. Problems or damage caused by combination of a product with non-Christie equipment, such as distribution systems, cameras, DVD players, etc., or use of a product with any non-Christie interface device.
- c. Problems or damage caused by misuse, improper power source, accident, fire, flood, lightning, earthquake, or other natural disaster.
- d. Problems or damage caused by improper installation/alignment, or by equipment modification, if by other than Christie service personnel or a Christie authorized repair service provider.
- e. Problems or damage caused by use of a product on a motion platform or other movable device where such product has not been designed, modified or approved by Christie for such use.
- f. Except where the product is designed for outdoor use, problems or damage caused by use of the product outdoors unless such product is protected from precipitation or other adverse weather or environmental conditions and the ambient temperature is within the recommended ambient temperature set forth in the specifications for such product.
- g. Defects caused by normal wear and tear or otherwise due to normal aging of a product.

The warranty does not apply to any product where the serial number has been removed or obliterated. The warranty also does not apply to any product sold by a reseller to an end user outside of the country where the reseller is located unless (i) Christie has an office in the country where the end user is located or (ii) the required international warranty fee has been paid.

The warranty does not obligate Christie to provide any on site warranty service at the product site location.

PREVENTATIVE MAINTENANCE

Preventative maintenance is an important part of the continued and proper operation of your product. Failure to perform maintenance as required, and in accordance with the maintenance schedule specified by Christie, will void the warranty.


REGULATORY

The product 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 product is operated in a commercial environment. The product 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 the product in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's own expense.

CAN ICES-3 (A) / NMB-3 (A)

이 기기는 업무용(A급)으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.

ENVIRONMENTAL

The product is designed and manufactured with high-quality materials and components that can be recycled and reused. This symbol  means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from regular waste. Please dispose of the product appropriately and according to local regulations. In the European Union, there are separate collection systems for used electrical and electronic products. Please help us to conserve the environment we live in!

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Introduction

The Remote Power Supply Rack Shelf is a rack mountable power supply comprised of one or more shelves that house up to four 2.0KW modules for the purposes of supplying remote power to an array.

The Remote Power Supply Rack Shelf is intended to be used in conjunction with Christie LED tiles and LCD display panels.

Each shelf within the Remote Power Supply Rack Shelf supports four universal AC inputs and supplies up to four 48V DC output connections; each current is limited to 30A. The Remote Power Supply Rack Shelf supports redundancy through removable and hot-swappable power supply modules. The Remote Power Supply Rack Shelf also includes an Ethernet interface for status monitoring over SNMP.

Important safeguards

To prevent personal injury and to protect the device from damage, read and follow these safety precautions.

General safety warnings

To prevent personal injury and to protect the device from damage, read and follow these safety precautions.



Warning! If not avoided, the following could result in death or serious injury.

- This product must be installed within a restricted access location not accessible by the general public.
- SHOCK HAZARD! Disconnect the product from AC before installing, moving, servicing, cleaning, removing components, or opening any enclosure.
- A minimum of two people or appropriately rated lift equipment is required to safely lift, install, or move the product.
- A certified electrician must be present during installation to ensure the installation meets the local electrical code.
- Install the product near an easily accessible AC receptacle.
- Hazardous voltages are present at power system inputs. The DC output, though not dangerous in voltage, has a high short-circuit current capacity that may cause severe burns and electrical arcing.
- SHOCK HAZARD! Power supply uses double pole/neutral fusing.
- Fuses are present in active and neutral lines.
F1—Rated 15 A, 250 VAC
F2—Rated 15 A, 250 VAC
- Before working with live power systems, remove all metallic jewelry (such as watches, rings, metal rimmed glasses, or necklaces) and wear safety glasses with side shields at all times during the installation.
- Motors and fans may start without warning.
- Use insulated hand tools while working on live power systems.







General hazards

Hazard warnings also apply to accessories once they are installed in a Christie product that is connected to power.

Fire and Shock Hazard



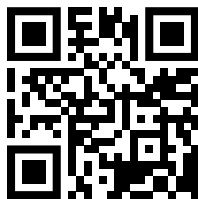
To prevent fire or shock hazards, do not expose this product to rain or moisture.
Do not alter the power plug, overload the power outlet, or use it with extension cords.
Do not remove the product enclosure.
Only Christie qualified technicians are authorized to service the product.

Electrical Hazard	
	<p>Risk of electric shock.</p> <p>Do not remove the product enclosure.</p> <p>Only Christie qualified technicians are authorized to service the product.</p>
	<p>General hazard.</p>
	<p>Electric shock hazard. To avoid personal injury, disconnect all power sources before performing maintenance or service.</p>
	<p>Electrocution hazard. To avoid personal injury, always disconnect all power sources before performing maintenance or service procedures.</p>
	<p>Do not operate the product in tropical climate regions.</p>
	<p>Do not operate the product at an altitude exceeding 5000 m.</p>

Product documentation

For installation, setup, and user information, see the product documentation available on the Christie Digital Systems USA Inc. website. Read all instructions before using or servicing this product.

1. Access the documentation from the Christie website:
 - Go to this URL: <http://bit.ly/2Jiha7Q>.
 - Scan the QR code using a QR code reader app on a smartphone or tablet.



2. On the product page, switch to the **Downloads** tab.

Related documentation

Additional information on the Remote Power Supply Rack Shelf is available in the following documents.

- *Monitoring the Remote Power Supply Rack Shelf (P/N: 020-000850-XX)*
- *Remote Power Supply Rack Shelf Product Safety Guide (P/N: 020-102093-XX)*

Additional information may also be available in the documentation included with Christie products the Remote Power Supply Rack Shelf will be used with.

Required tools

Make sure the following tools are available during the installation.

Remote Power Supply Rack Shelf installation tools

- Screwdrivers
- Molex Crimping Tool (P/N: 154-124108-XX)

If the power cord supplied with your product is not long enough to connect the first display panel in an array to the Remote Power Supply Rack Shelf module, you must purchase a power cord of an adequate length. Christie recommends one of the pre-terminated power cables offered as Christie accessories, or that you create a custom cable using the Christie Main Power Cable Spool (P/N 154-122106-XX), Connector Kit (P/N 154-125109-XX), and Molex Crimping Tool (P/N 154-124108-XX). For more information on the Molex Crimping Tool, see the Molex documentation.

Installing and configuring the Remote Power Supply Rack Shelf

Use the following instructions to install and configure the Remote Power Supply Rack Shelf external power supply.

Mounting the Remote Power Supply Rack Shelf

The power system must be mounted in a clean and dry environment. Sufficient free space must be provided at the front and rear of the power system.



Warning! If not avoided, the following could result in death or serious injury.

- This product must be installed within a restricted access location not accessible by the general public.
1. Find a location in the rack for a 3U device.
 2. Attach the Remote Power Supply Rack Shelf to the rack.
To ensure a proper electrical bond between the system chassis and the relay rack use thread-forming mounting screws and star washers.

Inserting the power modules into the Remote Power Supply Rack Shelf

The power modules, or rectifiers, convert an AC power source into the DC current required by the product.

1. Remove the cover from the rectifier slot.
2. Slide the power module into the front of the chassis until it clicks into place.
3. To lock the power module, lift the handle and snap it into place.
4. Repeat steps 1 to 3 for each rectifier in the Remote Power Supply Rack Shelf.

Connecting the product power cables to the Remote Power Supply Rack Shelf

Connect the cables between the product and the Remote Power Supply Rack Shelf.

1. Connect the main power cable to the Remote Power Supply Rack Shelf.
2. Connect the main power cable to the product.
If the power cord supplied with your product is not long enough to connect the first display panel in an array to the Remote Power Supply Rack Shelf module, you must purchase a power cord of an adequate length. Christie recommends one of the pre-terminated power cables offered as Christie accessories, or that you create a custom cable using the Christie Main Power Cable Spool (P/N 154-122106-XX), Connector Kit (P/N 154-125109-XX), and Molex Crimping Tool (P/N 154-124108-XX). For more information on the Molex Crimping Tool, see the Molex documentation.
3. Plug the Remote Power Supply Rack Shelf into the building outlets in the wall or the floor.

Logging in to the Remote Power Supply Rack Shelf web interface

To make changes to the Remote Power Supply Rack Shelf, use Internet Explorer.

1. Connect a computer to the Remote Power Supply Rack Shelf with a network crossover cable.
2. To access the web interface, in the Control Panel, change the IP address and subnet mask of the computer to be on the same subnet as the Remote Power Supply Rack Shelf.

If the IP address and subnet mask on the Remote Power Supply Rack Shelf have not been changed from the default, use the following values on the computer:

- IP address: 10.10.10.202
- Subnet mask: 255.255.255.0

3. Turn off any browser pop-up blockers.
4. In the browser address bar, type the IP address of the Remote Power Supply Rack Shelf device.

The default IP address is 10.10.10.201.

If you have changed the IP address of the Remote Power Supply Rack Shelf, the IP address and subnet mask of the computer must also be changed.

The IP address for the web interface is one digit higher than the IP address of the device. For example, when the IP address of the device is 10.10.10.201, the address of the web interface is 10.10.10.202.

5. If prompted, run the MSXML add-on.
6. Log in to the Remote Power Supply Rack Shelf with your username and password.

The default username is **Admin**, and the default password is **1234**.

Changing the IP address of the Remote Power Supply Rack Shelf

In an environment where there are multiple Remote Power Supply Rack Shelf devices, you must have a unique IP address for each device.

1. Select **Communications > Configure Communication Parameters**.
2. Set the new IP address for the Remote Power Supply Rack Shelf.
3. Click **Submit Changes**.

After the IP address has been changed from the web interface, close the browser window and then open it using the new IP address.

If you have changed the IP address of the Remote Power Supply Rack Shelf, the IP address and subnet mask of the computer must also be changed.

Resetting the Remote Power Supply Rack Shelf IP address

The Remote Power Supply Rack Shelf IP address ensures local access with a laptop and a standard network crossover cable.

Press and hold the front panel reset button (RST) for three seconds.

The Remote Power Supply Rack Shelf beeps three times, the IP address is reset to 10.10.10.201, and DHCP is disabled.

Changing the time on the Remote Power Supply Rack Shelf

Configure the time on the Remote Power Supply Rack Shelf.

The date and time is a dynamic field, and as changes are made to the values on the screen the internal values are also changed. An event is added to the event log detailing the changes made.

1. *Log in to the Remote Power Supply Rack Shelf web interface* (on page 9).
2. Select **Controller > Date and Time**.
3. Set the date and time for the Remote Power Supply Rack Shelf.
 - Manually enter the date and time for the Remote Power Supply Rack Shelf to use.
 - Automatically retrieve the date and time from a server.
 - a. Select **Enable SNTP Service**.
 - b. Type the IP address of the SNTP source.
 - c. In the **Time Zone Adjustment** field, select the time zone adjustment for the location of the Remote Power Supply Rack Shelf.
4. Click **Save**.
5. If the time is set by an SNTP service, click **Get Time Now**.

Setting the temperature units

Change the units used when reporting the temperature.

1. *Log in to the Remote Power Supply Rack Shelf web interface (on page 9).*
2. Select **Controller > Temperature Units**.
3. Select whether the display units are Celsius or Fahrenheit.
4. Click **Save**.

Resetting the breakers

When too many panels are connected or too much power is sent through the Remote Power Supply Rack Shelf, the breakers may interrupt the current flow. Reset the breakers to resume operation.

If the breakers disconnect the current, the On button is released for the affected Output.

1. Reduce the number of panels connected to the input or the amount of power going through the input.
2. Push the **On** button back into place.
The current is reconnected and the output is powered.

Specifications

Learn about the product specifications. Due to continuing research, specifications are subject to change without notice.

Physical specifications

Learn the physical specifications for the tiles and the power supply.

Description	Details
Dimensions (W x H x D)	485 mm x 133 mm x 395 mm (19.09 in x 5.24 in x 15.55 in)
Weight	Shelf: 11.5 kg (30.8 lbs) Rectifiers: 2.5 kg (6.7 lbs) per unit, four units maximum

Power requirements

Learn the power requirements for the power supply.

Power ratings for the Remote Power Supply Rack Shelf

Description	Details
Input voltage	120-230 VAC, 50/60 Hz 12A at 120VAC - 9.5A @ 230 VAC per rectifier (maximum four rectifiers installed)
Output	52 VDC (max), 30A per output (with maximum four rectifiers installed)

The number of displays that can be powered by a single Remote Power Supply Rack Shelf depends on the voltage range of the input and the number of rectifiers. Please consult your local Christie representative for further details.

	PSU modules	Max power	De-rated power	
		AC input: 187-312 V	AC input: 120 V	AC input: 176 V
Total output power (no redundancy)	1	2000W	1200W	1800W
	2	4000W	2400W	3600W
	3	5760W	3600W	5400W
	4	5760W	4800W	5760W

	PSU modules	Max power	De-rated power	
		AC input: 187-312 V	AC input: 120 V	AC input: 176 V
Total output power (n+1 redundancy)	2	2000W	1200W	1800W
	3	4000W	2400W	3600W
	4	5760W	3600W	5400W

Environment requirements

Learn about the environment requirements for the product while operating and not operating.

Description	Details
Temperature	Operating: -10 to 35°C (14°F to 95°F) Storage: -40 to 85°C (-40 to 185°F)
Humidity (non-condensing)	Operating: 0% to 93% Non-operating: 0% to 95%
Elevation	-60 to 2000 m (-198 to 6600 ft)
Heat dissipation	<2196 BTU per hour (four PSU modules)
Acoustic	Max 66dB (four PSU modules)

Regulatory

This product conforms to the latest regulations and standards related to product safety, environmental requirements and electromagnetic compatibility (EMC).

Safety

- CAN/CSA C22.2 No. 60950-1
- ANSI/UL 60950-1 - Information Technology Equipment – Safety – Part 1: General Requirements
- IEC 60950-1 IEC/EN 60950-1 - Information Technology Equipment – Safety – Part 1: General Requirements
- EN 60950-1

Electro-magnetic compatibility

Emissions

- FCC CFR47, Part 15, Subpart B, Class A - Unintentional Radiators
- CAN ICES-003 (A)/NMB-003 (A) - Information Technology Equipment (Including Digital Apparatus) - Limits and Methods of Measurement

- CISPR 22/EN 55022, Class A

Immunity

Environmental

EU Directive (2011/65/EU) on the restriction of the uses of certain hazardous substances (RoHS) in electrical and electronic equipment and the applicable official amendment(s).

EU Regulation (EC) No. 1907/2006 on the registration, evaluation, authorization and restriction of chemicals (REACH) and the applicable official amendment(s).

EU Directive (2012/19/EU) on waste and electrical and electronic equipment (WEEE) and the applicable official amendment(s).

China Ministry of Information Industry (along with 7 other Government Agencies) Order No.32 (01/2016) on the control of pollution caused by electronic information products, hazardous substances concentration limits (GB/T 26572 - 2011), and the applicable product marking requirement (SJ/T 11364 - 2014).

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