



PS9600 Power Supply User Guide



PS9600 Power Supply User Guide

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Federal Communications Commission Statement

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.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



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1 Introduction

Introduction

This manual describes the field installation of a Multi-Tech PS9600 power supply into a CommPlete Communications Server CC9600 chassis. Installation and troubleshooting of the PS9600 should be performed only by qualified service personnel.

Description

The PS9600 is a universal input switching power supply for the CommPlete Communications Server. Two PS9600 power supplies are installed as standard equipment in each CommPlete CC9600 chassis. The outputs of the two power supplies are connected in parallel to the CC9600 chassis power bus. If any of the outputs on either power supply fails or is too low, the other power supply takes over with no switchover time, and supplies all the power required to run the system. (This assumes that both power supplies are turned on.)



Figure 1. PS9600 power supply.

Features

- Dual redundant, universal input switching supply.
- Front panel on/off switch and power LED indicator.
- Power LED lights only if all outputs are good.
- Outputs paralleled for redundancy.
- No switchover time for redundant supply takeover.
- Short circuit protection on all outputs.
- Over-voltage protection on 5 VDC output
- Logic level output signal for “All voltages OK.”

Technical Specifications

Input voltage	100 VAC to 240 VAC RMS
Input frequency	50/60 Hz
Input current	8 A @ 115 V at full load 4 A @ 230 V at full load
Output voltage at maximum current	5 VDC @ 65 A 21 VDC @ 0.5 A
5 V regulation	± 0.1% at full load
5 V OVP	125-132% of output voltage
Dielectric strength, input to output	3750 VRMS per EN60950
Indicator	LED for power good indication
Environmental	Temperature range: 0°–40° C (32°–104° F) Humidity range: 0–95% (noncondensing)
Dimensions	7.3 cm × 17.1 cm × 29.8 cm (H × W × D) 2.88 in. × 6.75 in. × 11.75 in. (H × W × D)
Weight	2.27 kg (5 lb)
Limited Warranty	Two years
Fuses	12 A 250 V fast blow

Manual Organization

Chapter 1 Introduction

This chapter describes the PS9600, gives its technical specifications, and provides a guide to the organization of the manual.

Chapter 2 Installation

This chapter describes how to install the PS9600 into the CommPlete chassis

Chapter 3 Operation

This chapter describes briefly how to operate the PS9600 power supply.

Chapter 4 Solving Problems

This chapter describes how to troubleshoot the PS9600 and adjust the output.

2 Installation

Introduction

This chapter describes how to install the PS9600 power supply into a CommPlete Communication Server CC9600 chassis. This equipment should be installed only by a qualified service person.

Pre-Installation Notes

- All installation must be done by a qualified service person.
- **Warning:** Interconnection directly, or by way of other apparatus, of ports marked “SAFETY WARNING see instructions for use” with ports marked or not so marked may produce hazardous conditions on the network. Advice should be obtained from a competent engineer before such a connection is made.
- **Warning:** Ports that are connected to other apparatus are defined as SELV. To ensure conformity to EN 41003, ensure that these ports are only connected to the same type on the other apparatus.
- To reduce emissions, be sure to use blanking plates to cover empty slots in the CC9600 chassis.

Installation Procedure

1. Unpack the PS9600 assembly from its packaging and save the packaging for possible future use. Perform a visual inspection of the PS9600. If you are concerned about its condition, call Technical Support for instructions.
2. Make sure the PS9600 power switch is in the off (●) position.
3. Remove the cover plate on the CC9600 if necessary. The PS9600 is hot-swappable.
4. Holding the PS9600 by the front panel and bottom corners, place the PS9600 into the open power supply slot. Make sure that the top rails on the PS9600 mate properly with the plastic guides in the CC9600.
5. Slowly slide the PS9600 into the CC9600 chassis until you feel the PS9600’s connectors mate with the CC9600’s connectors.
6. Tighten the PS9600’s retaining screws.
7. Turn the PS9600 power switch on to the on (■) position.
8. Observe the PS9600 “outputs good” LED. If it is not lit, see Chapter 4. If it is lit, proceed with normal CommPlete Communications Server operation.
9. After you turn on the power supplies, you should check the 5 Voutput. See page 10 for details. The supplies can be re-checked as part of your regular system maintenance.

3 Operation

Introduction

This chapter provides information about operating your PS9600 Power Supply after it is installed.

Power Switch

The PS9600 has a power switch on the front panel that is labeled with the international **I** (on) and **●** (off) symbols. For the most reliable operation, both power supplies should be turned on whenever the CommPlete Communications Server is operating.

Power Indicator

The power indicator lights if all outputs are good. If any one of the outputs on the power supply goes bad, this indicator goes out. If a power supply fails and the redundant power supply is installed and turned on, the good power supply takes over with no switchover time.

4 Solving Problems

Introduction

This chapter provides information needed to identify and fix problems with the PS9600 power supply module. Problems can be observed on the CommPlete system's front panel LEDs, the control PC's screen, or via audio alarm or alarm report. In addition, problems can be found when performing the Diagnostic Tests documented elsewhere in the CommPlete Communications Server *User Guide*.

LED Indicators

The CommPlete Communication Server's front panels contains the following indicators.

- MR9600 controller LEDs.
- Modem card LEDs. The number of LEDs on your modem card may vary, depending on the type of modem card in your chassis. Please refer to your modem's user guide for LED descriptions.
- PS9600 power supply LED.

The PS9600 power supply LED is described below. Each of the other LED indicators is described in the applicable manual.

Power Supply LED

This LED goes out if one of the PS9600 power supply outputs goes low or fails altogether. In normal operation it is lit. The recovery procedure to be used depends on whether the CommPlete chassis has one or two PS9600 power supplies installed.

Indication: **LED is on (either one or two PS9600s installed).**

Meaning: The power supply (or supplies) are operating properly.

Recovery: No action required.

Indication: **LED is off (one PS9600 installed).**

Meaning: At least one of the outputs is low or out.

Recovery: Turn off the power supply, remove it, and check the fuse. Replace the fuse if it is blown; call Technical Support if the fuse is good (Chapter 5).

Indication: **LED is off (two PS9600s are installed).**

Meaning: At least one of the outputs is low or out. Power is being supplied by the second PS9600.

Recovery: Turn off the PS9600 that has the LED off, and remove the PS9600. Replace the fuse if it is blown; call Technical Support if the fuse is good (Chapter 5).

Adjustment of the PS9600 Power Supply

For optimal operation of the CommPlete Communications Server, the 5 V output of the PS9600 power supply should be adjusted to 5.1 VDC. The 5-volt test points are located on the back of the chassis between the power supply fans.

Procedure

1. Turn off the power supply that is not being adjusted.
2. Place your voltmeter's probes on the test points.
3. Two trim pots, one for each power supply, are located on the back of the chassis between the power supply fans. Adjust the 5 volt trimpot that is closest to the power supply that you are testing to 5.1 VDC by turning it clockwise to increase the voltage, or counterclockwise to decrease the voltage.
4. Check the measurement.
5. Repeat the above steps, as necessary, until the voltage is correct.
6. Repeat for the second PS9600 supply with the first PS9600 power supply turned off.

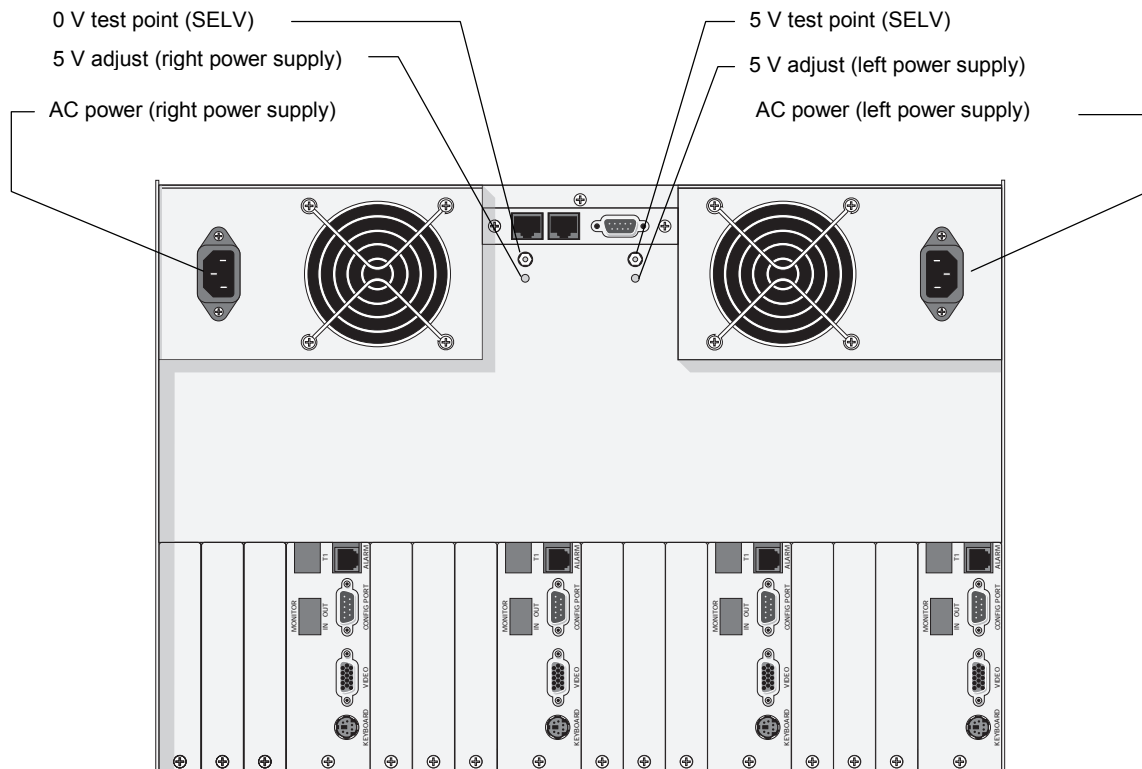


Figure 2. Power supply connectors and test points

Important Safety Considerations

Fuse Replacement

There is one replaceable fuse in the PS9600 power supply. Qualified service personnel may replace the fuse with one of the same type and rating as indicated on the PS9600 Fuse Label.

Insertion and Removal of a Power Supply

Qualified service personnel may insert or remove a power supply without turning off the system. We recommend that you insert the power supply slowly. If the power supply is not replaced, a cover plate must be installed.

Safety Disconnect Device

The switches on the power supplies are not safety disconnect devices. To reduce the risk of electric shock, unplug the two input power cords from the back of the CC9600.

Install the power outlet near the CC9600, and place the equipment so that the outlet is easily accessible.

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