

Redundant Power Systems for 3Com Enterprise Fixed-Configuration Switches

OVERVIEW

3Com® H3C™ Redundant Power Systems are enterprise-class power redundancy systems that work with many 3Com fixed-configuration switches. Redundant power systems (RPS) are an important element for enterprise networks to provide high network availability. RPS power is particularly important for voice-ready networks as an element to providing highest phone uptime.

3Com Corporation manufactures networking equipment under the H3C brand for sale into many markets. These H3C-brand RPS units are compatible with many 3Com enterprise fixed-configuration switches from the 3Com Switch 5500G, Switch 4800G, Switch 4500G, Switch 4200G, Switch 5500, Switch 4500 and Switch 4210 families. They are also usable with H3C-brand switches.

Redundant power systems provide two functions for compatible fixed-configuration switches:

- › An RPS delivers redundant power to switches so there is continued operation should the main switch unit power supply fail.
- › An RPS provides more power for IEEE 802.3af Power over Ethernet than what the switches alone can provide. For example, a 48-port PoE switch might have a PoE power budget of 360 Watts, which means that approximately $\frac{1}{2}$ the ports can support full IEEE 802.3af PoE power of 15.4 Watts. With an RPS providing additional power, all 48 switch ports can provide full 15.4 Watts of PoE power.

MODELS

Three models of RPS are offered to support 3Com and H3C fixed-configuration switches. Specific RPS units are matched to specific switches based on the switches' power specifications.

RPS 1000 PoE/non-PoE redundancy with operation at -54V supporting multiple switches.

This 1U high unit supports up to two power rectifiers and two power inputs for 1+1 power redundancy, and multiple power output connections to support multiple switch units at the same time. It supports switches with -54V redundant power connections with sufficient power for to fully power all PoE ports of a switch with full power redundancy.

RPS 800 Single-switch non-PoE redundancy with operation at +12V and -54V.

A fixed-configuration 1U high unit with a single power rectifier and a single power connection. Sufficient redundant power for a 48-Port non-PoE stackable switch.

RPS 500 Single-switch non-PoE redundancy with operation at +12V and -54V.

A fixed-configuration 1U high unit with a single power rectifier and a single power connection.

RPS SYSTEMS HIGHLIGHTS

	Input Voltage Range	Available Outputs	Maximum Power Output	RPS Power Redundancy
RPS 1000	For each power module: 100VAC to 240VAC	2 @ -54V / 25A 6 @ -54V / 8A	Maximum power output when all eight outputs are working: - 220V / 2 power modules = 2900W - 220V / 1 power module = 1450W - 110V / 2 power modules = 1200W - 110V / 1 power module = 600W	Optional 1+1
RPS 800	100VAC to 240VAC	1 @ -54V / 12A or +12V / 17.25A	-54V output only = 650W +12V output only = 210W -54V and +12V outputs concurrently = 650W	None
RPS 500	100VAC to 240VAC	1 @ -50V / 7.5A or +12V / 10.5A	-50V output only = 375W +12V output only = 125W -54V and +12V outputs concurrently = 500W	None

3COM SWITCHES WITH RPS SUPPORT

Family	SKU	Description	RPS 1000 (AMP Rating / VDC / Cable)	RPS 800 (VDC / Cable)	RPS 500 (VDC / Cable)
5500G	3CR17250-91	Switch 5500G-EI 24 Port	25AMP / -48 to -60 VDC / 0404A053		-48 to -60 VDC / 0404A03U
5500G	3CR17251-91	Switch 5500G-EI 48-Port	25AMP / -48 to -60 VDC / 0404A053		-48 to -60 VDC / 0404A03U
5500G	3CR17252-91	Switch 5500G-EI PWR 24-Port	25AMP / -52 to -55 VDC / 0404A053		
5500G	3CR17253-91	Switch 5500G-EI PWR 48-Port	25AMP / -52 to -55 VDC / 0404A053		
5500G	3CR17258-91	Switch 5500G-EI 24-Port SFP	25AMP / -48 to -60 VDC / 0404A053		-48 to -60 VDC / 0404A03U
4800G	3CRS48G-24-91	Switch 4800G 24-Port			10.8 to 13.2 VDC / 0404A08G
4800G	3CRS48G-48-91	Switch 4800G 48-Port		10.8 to 13.2 VDC / 0404A08G	
4800G	3CRS48G-24P-91	Switch 4800G PWR 24-Port	25AMP / -52 to -55 VDC / 0404A053		
4800G	3CRS48G-48P-91	Switch 4800G PWR 48-Port	25AMP / -52 to -55 VDC / 0404A053		
4500G	3CR17771-91	Switch 4500G PWR 24-Port	25AMP / -52 to -55 VDC / 0404A053		
4500G	3CR17772-91	Switch 4500G PWR 48-Port	25AMP / -52 to -55 VDC / 0404A053		
4200G	3CR17671-91	Switch 4200G PWR 24-Port	25AMP / -52 to -55 VDC / 0404A053		
5500	3CR17161-91	Switch 5500-EI 28-Port	25AMP / -48 to -60 VDC / 0404A055 8AMP / -48 to -60 VDC / 0404A054		-48 to -60 VDC / 0404A03V
5500	3CR17162-91	Switch 5500-EI 52-Port	25AMP / -48 to -60 VDC / 0404A055 8AMP / -48 to -60 VDC / 0404A054		-48 to -60 VDC / 0404A03V
5500	3CR17171-91	Switch 5500-EI PWR 28-Port	25AMP / -52 to -55 VDC / 0404A053		
5500	3CR17172-91	Switch 5500-EI PWR 52-Port	25AMP / -52 to -55 VDC / 0404A053		
5500	3CR17181-91	Switch 5500-EI 28-Port FX	25AMP / -48 to -60 VDC / 0404A055 8AMP / -48 to -60 VDC / 0404A054		-48 to -60 VDC / 0404A03V
4500	3CR17571-91	Switch 4500 PWR 26-Port	25AMP / -52 to -55 VDC / 0404A053		
4500	3CR17572-91	Switch 4500 PWR 50-Port	25AMP / -52 to -55 VDC / 0404A053		
4210	3CR17343-91	Switch 4210 PWR 26-Port	25AMP / -52 to -55 VDC / 0404A053		

RPS 1000: FEATURES

See table, page 2, for 3Com switch models supporting an RPS connection.

The H3C RPS 1000 is an external power supply unit that uses AC inputs and provides eight lines of DC output, with a maximum output power of 2900 W. Protection is built-in against input and output high voltage and short-circuits. Indicator lights show output current status.

This RPS is 1U high; two power rectifiers can be installed for 1+1 load sharing and power redundancy. It supports switches with -54V RPS connections, with sufficient power for Power over Ethernet redundancy.

Use with:

- 3Com Switches 5500G, 4800G PWR, 4500G PWR, 4200G PWR, 5500, 4500 PWR, 4200 PWR
- H3C Switches S5600, S5500 PWR, S5100-EI, S3600-EI

SPECIFICATIONS

POWER

Max. output power with two power rectifiers: 2900 Watt

Input power

AC line frequency: 50/60 Hz
 AC input voltage: 100-120/200-240 VAC
 Current rating (one system): 6/8 A

Output power

with 1 power rectifier
Input Voltage **Output Power**
 100 VAC to 120 VAC 600 Watt
 200 VAC to 240 VAC 1450 Watt

with 2 power rectifiers

Input voltage **Output Power**
 100 VAC to 120 VAC 1200 Watt
 200 VAC to 240 VAC 2900 Watt

Output voltage/current

Two output connections: -53 to -55 Volts, 25 Amp
 Six output connections: -53 to -55 Volts, 8 Amp
 Output dynamic response: -54 VDC±2%.
 Static regulation: -54 VDC±1%.

DIMENSIONS

RPS 1000
 Height: 44.5 mm (1.7 in or 1 RU)
 Width: 440.0 mm (17.4 in)
 Depth: 393.0 mm (15.5 in)
 Weight: <8kg (17.6 lb)

Power Rectifier Unit

Weight: 2.8kg (6.17 lb)

RELIABILITY

Mean Time Between Failure (MTBF): 420,000 hours (47.9 years)

ENVIRONMENTAL

Operating temperature: 5° to 45°C (41° to 113°F)
 Storage temperature: 40° to 70°C (104° to 158°F)
 (allow 4+ hours after low temperature storage before operating)
 Humidity (operating and storage): 5% to 90% non-condensing

PACKAGE CONTENTS

RPS 1000 Unit
 RPS 1000 unit with one installed power rectifier and one blanking plate
 one power cord
 one Cable A with JD5 type connector (0404A053)

three cables with JD5-A type connector (0404A054)

one Cable B with JD5 type connector (0404A055)

front and rear mounting brackets
 rubber feet for desktop setup
 six backup fuses 10A/125V
 grounding cable
 mini-screwdriver for releasing mounting clips
 user manual

Power Rectifier Unit

Power rectifier unit (label: AC-Flatpack 1500-M)
 One power cord
 One Cable A with JD5 type connector (0404A053)
 Three cables with JD5-A type connector (0404A054)

One Cable B with JD5 type connector (0404A055)

One mini-screwdriver for releasing mounting clips

NOTE

When the RPS 1000 is used with a switch, the RPS takes the full power load. Therefore, the RPS 1000 must have enough power to provision the switch and all Power over Ethernet requirements. The RPS 1000 does support giving power to multiple devices provided the connections are present and there is adequate power for the various devices. Consider all the power requirements—both for the switch or switches themselves, together with any PoE connections—to ensure that the RPS 1000 has sufficient Watts of output to power the attached switches.

Available Cables for the RPS 1000	
CABLE TYPE	DETAILS
Cable A, JD5 connector (0404A053)	For use with PoE (PWR) units; 25A max output current
Cable, JD5-A connector (0404A054)	For use with non-PoE units; 8A max output current
Cable B, JD5 connector (0404A055)	For use with non-PoE units; 8A max output current

RPS 800: FEATURES

See table, page 2 for 3Com switch models supporting an RPS connection.

The H3C RPS 800 is an external DC power supply unit that uses AC input and provides DC output for switch redundant backup power.

This 1RU RPS provides selective DC outputs. Depending on the connected DC output cable(s), the RPS can provide +12 VDC, -54 VDC, or +12 VDC and -54 VDC concurrently, to the powered device. The RPS 800 supports cold backup of power supply, which means that the RPS 800 only switches to the DC output state when it detects a power supply failure of the powered device.

Use with:

- 3Com Switch 4800G 48-port
- H3C S5500-52C-EI

SPECIFICATIONS

POWER

Max. output power
 +12 V output only: 210 W
 -54 V output only: 650 W
 +12 V and - 54 V output: 210 W for +12 V output
 440 W for -54 V output
 Total: < 650 W

Input power

AC Line Frequency: 50/60 Hz
 AC input voltage: 110-240 VAC

Available outputs

-54 V / 12 A
 +12 V / 17.25 A

DIMENSIONS

Height: 44 mm (1.7 in or 1 RU)
 Width: 441 mm (17.4 in)
 Depth: 182 mm (7.2 in)
 Weight: <3.8kg (8.4 lb)

ENVIRONMENTAL

Operating temperature: 0° to 45°C (32° to 113°F)
 Operating humidity: 10% to 90% non-condensing

PACKAGE CONTENTS

RPS 800 unit
 Power cord
 Front and rear mounting brackets

Available Cables for the RPS 800	
CABLE TYPE	DETAILS
0404A08G	Cable G — RPS power cable 1 meter

RPS 500: FEATURES

See table, page 2, for 3Com switch models supporting an RPS connection.

The H3C RPS 500 is a low-end redundant power system for non-PWR H3C and 3Com-brand stackable and fixed-configuration switches.

It is a 1RU high fixed-configuration unit supporting non-PWR switches with a single RPS device connection and -50V or +12V DC redundant power.

Use with:

- › 3Com Switches 5500G non-PWR, 4800G non-PWR, 5500 non-PWR
- › H3C Switches S5600 non-PWR, S5500 non-PWR, S5100 non-PWR, S3610 non-PWR, S3600 non-PWR

SPECIFICATIONS

POWER

Max. output power

+12 V output only: 125 W
-54 V output only: 375 W
+12 V and -54 V output: 125 W for +12 V output, 375 W for -54 V output
Total: < 500 W

Output voltage/current:

Two output connections:
-53 to -55 Volts, 25 Amp
Six output connections:
-53 to -55 Volts, 8 Amp

Output dynamic response:

-54 VDC±2%.

Static regulation: -54 VDC±1%.

Input power

AC Line Frequency: 50/60 Hz
AC input voltage: 110-240 VAC

DIMENSIONS

Height: 44 mm (1.7 in or 1 RU)
Width: 441 mm (17.4 in)
Depth: 165 mm (7.2 in)
Weight: <3.5kg (7.7 lb)

ENVIRONMENTAL

Operating temperature: 0° to 45°C
(32° to 113°F)

Operating Humidity:
10% to 90% non-condensing

PACKAGE CONTENTS

RPS 500 unit
Power cord
Front and rear mounting brackets
Rubber feet for desktop setup

Available Cables for the RPS 500

CABLE TYPE	DETAILS
0404A03C	Cable C — CAB-RPS-1m-3026C
0404A03U	Cable C — CAB-RPS-1m-3026C
0404A03V	Cable V — CAB-Pwr-1m-PS3FP-I
0404A08G	Cable G — RPS power cable 1 meter

PRODUCT WARRANTY AND OTHER SERVICES (ALL MODELS)

One Year Limited Hardware Warranty; return to factory
90 days of telephone technical support

ORDERING INFORMATION

PRODUCT DESCRIPTION

3Com H3C RPS 1000-A3 Redundant Power System

RPS 1000 Redundant Power System Unit, 2 rectifier slots, with 1 Power Rectifier Unit and 5 connector cables: 1x Cable A with JD5 connector (0404A053), 3x Cable with JD5-A connector (0404A054), and 1x Cable B with JD5 connector (0404A055). Max. output 600W at 110VAC or 1450W at 220VAC.

3Com H3C Flatpack1500-M

RPS 1000 Power Rectifier Unit and 5 connector cables: 1x Cable A with JD5 connector (0404A053), 3 cables with JD5-A connector (0404A054), and 1x Cable B with JD5 connector (0404A055). When installed with a second Power Rectifier Unit, together they support a max. output of 1200W at 110VAC or 2900W at 220VAC.

3Com H3C RPS 800-A Redundant Power System

Max. output 650W

3Com H3C RPS 500-A3 Redundant Power System

Max. output 500W

Cables

3Com H3C RPS 1000 JD5 Cable A

JD5 connector

3Com H3C RPS 1000 JD5A Cable

JD5-A connector (for non-PoE switches)

3Com H3C RPS 1000 JD5 Cable B

JD5 connector (for non-PoE switches)

3Com H3C RPS 500 Cable U

1m length

3Com H3C RPS 500 Cable C

1m length

3Com H3C RPS 500/800 Cable G

1m length

3Com H3C RPS 500 Cable V

1m length

ORDERING SKU

0213A01S

0213A01G

0213A02R

0213A01T

0404A053

0404A054

0404A055

0404A03U

0404A03C

0404A08G

0404A03V

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