

## HP ProCurve Networking datasheets

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# HP ProCurve Networking is the best choice for secure, mobile, multi-service networks.



## Command from the center. Control to the edge.

The HP ProCurve Networking Adaptive EDGE Architecture™ enables enterprises to effectively accommodate the enterprise network as it evolves into an anytime, anywhere resource responsive to changing business needs. The ability to provide secure, mobile, multi-service resources is made possible through continuous command from the network center with added intelligence at the edge where users connect and policies are enforced. Control to the edge enables a robust network infrastructure that supports current and future business needs while ensuring secure, appropriate network access. HP ProCurve Networking helps customers build an adaptive enterprise network ready to simultaneously deliver more reliability, more flexibility, and a superior return on IT business investments.

## Security—protect and enable your network

Increasing productivity without compromising network security continues to be an important requirement for both IT and business managers. Protecting corporate information assets while enabling appropriate network access based upon individuals' needs, anytime or anywhere, defines the ultimate in network infrastructure expectations. This is what HP ProCurve Networking delivers.

## Mobility—control your network's wireless and wired environment

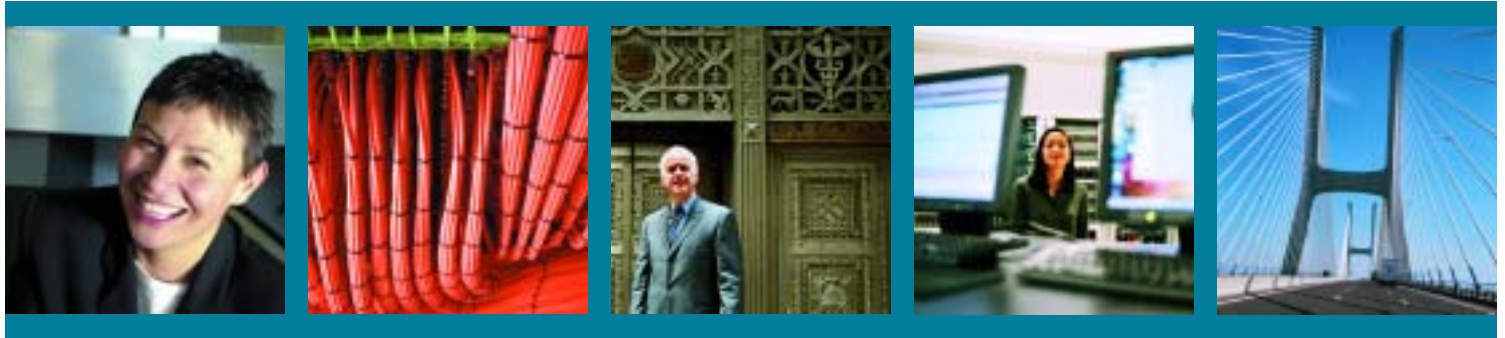
IT managers as well as business managers must consider a variety of requirements relative to their organization's mobile user strategy. These requirements include support for both wired and wireless mobility, overall business imperatives, as well as the organization's specific technology needs. Organizations now have the opportunity to provide their mobile workers with access to valuable information anytime or anywhere without security risks. Furthermore, with the simplification of wireless and wired deployment through converged technology, there is the ability to increase productivity through unified and robust communications. HP ProCurve Networking solutions are the answer.

## Convergence—streamline and maximize your network

Today, implementing voice, video, and data over a single network allows organizations to simplify and streamline their communication systems. Converged networks are commonly used to support business environments where employees and customers are demanding access to advanced applications and new ways of collaborating across business objectives.

The HP ProCurve Networking Adaptive EDGE Architecture offers customers an affordable way to streamline their networks by running all traffic over an Ethernet/IP infrastructure. HP ProCurve Networking also offers flexibility with tested and documented convergence solutions that interoperate with a variety of vendor products.

HP ProCurve Networking is an experienced partner whose affordable network solutions are founded on the Adaptive EDGE Architecture™ and aligned with your business needs. HP ProCurve Networking enables secure, mobile, multi-service networks with superior return on IT, reduced complexity, trusted security, proven reliability, choice, and flexibility.



**Superior return on IT**

Price/Performance leadership

- High-performance, no-compromise functionality at affordable prices
- Adaptive EDGE Architecture maximizes current infrastructure and easily adapts to future needs
- Industry-leading warranties

**Reduced complexity**

Proactive networking, focused innovation

- Plug & Play/Find-Fix-and-Inform
- Operations efficiency with reduced costs, better asset utilization, and increased productivity

**Trusted security**

Secure solutions from a trusted partner

- Robust security features for wired and wireless networks
- Industry-standard security leadership
- Safe choice vendor

**Proven reliability**

Highly available, legendary HP quality

- Industry-leading service and support
- Rigorous quality testing
- Best warranty in the industry with the only true lifetime warranty
- Adaptive EDGE Architecture enables highly available networks

**Choice and flexibility**

Industry-standard solutions

- Tradition of leadership in open standards allows scalable growth
- Multivendor interoperability for solutions with choice
- Adaptive EDGE Architecture scales and adapts to future needs

# HP ProCurve Networking Product Portfolio

[www.hp.com/go/hpprocurve](http://www.hp.com/go/hpprocurve)



## Layer 3 and 4+

Managed chassis

### HP ProCurve Routing Switch 9315m (J4874A)

- 10/100/1000/10 Gigabit
- 15 open module slots for up to 28 10-GbE, 232 Gigabit, or 672 10/100 ports



### HP ProCurve Routing Switch 9308m (J4138A)

- 10/100/1000/10 Gigabit
- 8 open module slots for up to 14 10-GbE, 120 Gigabit, or 336 10/100 ports



### HP ProCurve Routing Switch 9304m (J4139A)

- 10/100/1000/10 Gigabit
- 4 open module slots for up to 6 10-GbE, 56 Gigabit, or 144 10/100 ports



## Layer 2, 3, and 4

Managed chassis

### HP ProCurve Switch 5372xl (J4848A)

- 72 10/100 ports
- 5 open module slots
- IEEE 802.3af PoE ready



### HP ProCurve Switch 5308xl (J4819A)

- Same chassis as 5372xl
- 8 open module slots



### HP ProCurve Switch 5348xl (J4849A)

- 48 10/100 ports
- 2 open module slots
- IEEE 802.3af PoE ready



### HP ProCurve Switch 5304xl (J4850A)

- Same chassis as 5348xl
- 4 open module slots



## Layer 2 and 3\*

Managed chassis

### HP ProCurve Switch 4160gl (J8152A) **NEW**

- 60 10/100/1000 ports
- 6 mini-GBIC slots
- 5 open module slots



### HP ProCurve Switch 4140gl (J8151A) **NEW**

- 40 10/100/1000 ports
- 4 mini-GBIC slots
- 2 open module slots



### HP ProCurve Switch 4108gl bundle (J4861A)

- 72 10/100 ports
- 3 open transceiver slots
- 4 open module slots



### HP ProCurve Switch 4148gl (J4888A)

- 48 10/100 ports
- 2 open module slots



### HP ProCurve Switch 4108gl (J4865A)

- Same chassis as the 4160gl
- 8 open module slots

### HP ProCurve Switch 4104gl (J4887A)

- Same chassis as the 4140gl
- 4 open module slots

\* Basic IP routing

Managed stackables

### HP ProCurve Switch 2848 (J4904A) **NEW**

- 44 10/100/1000 ports
- 4 dual-personality ports



### HP ProCurve Switch 2650 (J4899A)

- 48 10/100 ports
- 2 dual-personality ports



### HP ProCurve Switch 6108 (J4902A)

- 6 10/100/1000 ports
- 2 dual-personality ports



Power over Ethernet

### HP ProCurve Switch 2650-PWR (J8165A) **NEW**

- 48 10/100 ports
- 2 dual-personality ports
- IEEE 802.3af compliant for PoE



### HP ProCurve Switch 2824 (J4903A) **NEW**

- 20 10/100/1000 ports
- 4 dual-personality ports



### HP ProCurve Switch 2626 (J4900A)

- 24 10/100 ports
- 2 dual-personality ports



### HP ProCurve Switch 2626-PWR (J8164A) **NEW**

- 24 10/100 ports
- 2 dual-personality ports
- IEEE 802.3af compliant for PoE



## Layer 2

Managed chassis and managed stackables

### HP ProCurve Switch 2524 (J4813A)

- 24 10/100 ports
- 2 open transceiver slots



### HP ProCurve Switch 2512 (J4812A)

- 12 10/100 ports
- 2 open transceiver slots



### HP ProCurve Switch 4000m (J4121A)

- 40 10/100 ports
- 5 open module slots
- 10/100/1000 flexibility



### HP ProCurve Switch 8000m (J4110A)

- Same chassis as 4000m
- 10 open module slots

Unmanaged stackables

### HP ProCurve Switch 2724 (J4897A)

- 24 10/100/1000 ports



### HP ProCurve Switch 2708 (J4898A)

- 8 10/100/1000 ports



### HP ProCurve Switch 2124 (J4868A)

- 24 10/100 ports
- 1 open transceiver slot for 100-FX



### HP ProCurve Switch 2324 (J4818A)

- 24 10/100 ports
- 2 open transceiver slots



### HP ProCurve Switch 2312 (J4817A)

- 12 10/100 ports
- 2 open transceiver slots



### HP ProCurve Switch 408 (J4097B)

- 8 10/100 ports



Actual product appearance may differ slightly. Some products are shown with optional transceivers or modules installed.

# HP ProCurve Networking Product Portfolio

Command from the center. Control to the edge.

## Mobility

### Wireless access points



**HP ProCurve Wireless Access Point 520wl (J8133A)**

- Supports up to 250 users using 802.11b\*\*
- Supports up to 50 users using 802.11a\*\*
- 64- and 128-bit RC4 WEP encryption
- Roaming
- Automatic channel selection
- Web-based management

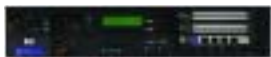


**HP ProCurve Wireless Access Point 420 (J8130A/J8131A)<sup>T</sup>**

**NEW**

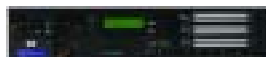
- Supports up to 250 users using 802.11g or 802.11b
- 64-, 128-, and 152-bit WEP encryption
- Roaming
- Automatic channel selection
- Web-based management

### Secure access



**HP ProCurve Access Controller 720wl (J8153A)** **NEW**

- Secure, scalable connectivity between wireless clients and wired network
- Enforces authentication, access rights, and data encryption
- Supports up to 12 wireless access points
- Used with either the 740wl or 760wl



**HP ProCurve Access Control Server 740wl (J8154A)** **NEW**

- Centralized security configuration and user policy management
- Secure uninterrupted subnet roaming
- Supports thousands of wireless users within a domain
- Used with the 720wl



**HP ProCurve Integrated Access Manager 760wl (J8155A)** **NEW**

- For smaller networks or remote offices
- Combines functionality of 720wl and 740wl

## Network management



- HP ProCurve Manager**
- Included in-box with all HP ProCurve manageable devices
  - A Windows®-based network management solution



- HP ProCurve Manager Plus (J8172A)**
- A complete, Windows-based network management solution with basic and advanced management features for HP ProCurve devices
  - Available as an upgrade for HP ProCurve Manager



- HP ProCurve Network Management for OV-NT (J4869B)**
- An HP ProCurve network management solution that integrates directly into HP OpenView Network Node Manager for Windows NT®



- HP ProCurve Network Management for OV-UX (J3250P)**
- An HP ProCurve network management solution that integrates directly into HP OpenView Network Node Manager for HP-UX

## Services and support

- Industry-leading warranty**
- Lifetime next-business-day advance replacement on most products

- Worldwide telephone assistance**
- Free telephone support during normal business hours

- Web support**
- Free software updates
  - Proactive e-mail notification of software releases
  - Free technical product support via e-mail

- HP ProCurve Design Center**
- Free comprehensive network design and configuration services
- Service contracts**
- Multivendor network support
  - Network environment support
  - Network fault isolation

- HP Care Packs (formerly Supportpacks)**
- Onsite service
  - Unlimited 24 x 7 phone support
  - Installation and configuration

\*\* Requires an HP ProCurve 150wl or 160wl card (ordered separately)

Check Web site for availability.

# HP ProCurve Routing Switch 9300m Series



## HP ProCurve Routing Switch 9315m (J4874A)

with 15 open module slots for up to 28 10 GbE ports,  
232 Gigabit Ethernet ports, 672 auto-sensing 10/100  
ports, or a combination.<sup>1</sup>



## HP ProCurve Routing Switch 9308m (J4138A)

with 8 open module slots for up to 14 10 GbE ports,  
120 Gigabit Ethernet ports, 336 auto-sensing  
10/100 ports, or a combination.<sup>1</sup>



## HP ProCurve Routing Switch 9304m (J4139A)

with 4 open module slots for up to 6 10 GbE ports,  
56 Gigabit Ethernet ports, 144 auto-sensing 10/100  
ports, or a combination.<sup>1</sup>

The HP ProCurve Routing Switch 9300m series delivers a new level of high-performance capabilities and investment protection for medium and large enterprise networks. By providing high-performance throughput from the wiring closet into the data center and out to the edge of the WAN, the Routing Switch 9300m series' non-blocking architecture enables network managers to build scalable and highly available network designs.

<sup>1</sup> This product requires a management module (ordered separately). Shown with optional modules installed.



# HP ProCurve Routing Switch 9300m Series

## Features and benefits

- **Enhanced Performance (EP) technology:**
  - **Extended port density** to enhance system capabilities and overall investment protection
  - **sFlow** (RFC 3176) wire-speed traffic accounting and monitoring
  - **Jumbo frames** on Gigabit and 10 Gigabit ports allow high-performance remote backup and disaster recovery services
  - **Increased on-board memory and flash capacity** for more robust management capabilities
- **10 Gigabit Ethernet:** simplify data center configurations and increase backbone throughput
- **T-Flow traffic management:** simultaneously process access control lists (ACLs), perform policy-based routing (PBR), perform network address translation (NAT), and collect and export statistics for NetFlow-based accounting and billing, all at wire speed
- **Up to 345 million pps performance:** provides the high performance required by large networks
- **Layer 4 prioritization:** delivers QoS (quality of service) for delay-sensitive applications
- **IP/IPX/AppleTalk routing:** provides routing of IP and IPX at media speed
- **IP multicast routing:** provides IGMP, DVMRP, PIM-dense, PIM-sparse, and PIM snooping mode support in routed environments to control multicast traffic
- **Unparalleled security:** protection against denial-of-service attacks; Secure Shell, Secure Copy, wire-speed rate limiting, and user authentication (with AAA, RADIUS, and TACACS+) prevent unauthorized network access and associated downtime
- **Policy-based VLANs:** allow you to assign VLANs on a port, protocol, subnet, or IEEE 802.1Q tagged basis
- **Hardware-based wire-speed access control lists:** feature-rich ACL implementation (selective ACL logging, scalability, and syntax compatibility) to ensure high levels of security and ease of administration without impacting network performance
- **Port trunking:** for higher switch-to-switch and switch-to-server throughput and link-level redundancy, with support for standards-based link aggregation (IEEE 802.3ad)
- **Next-generation Spanning Tree functionality:** single-instance STP, Per VLAN Spanning Tree (PVST), Per VLAN Group STP (PVGST) based on IEEE 802.1s, and Rapid Spanning Tree Protocol based on IEEE 802.1w all provide improved availability and scalability for Spanning Tree-based networks
- **Software updates:** free downloads from the Web
- **Optional redundant power supply:** provides uninterrupted power for high availability
- **Hot-swappable chassis modules:** allow you to swap modules without interrupting the network
- **Automatic routing switch failover:** provides hot standby redundancy using standards-based VRRP (Virtual Router Redundancy Protocol) or SRP (Standby Routing Protocol)
- **Optional redundant management:** provides automatic failover from the active management module to the standby management module for high availability
- **Industry-leading warranty:** one-year next-business-day advance replacement (available in most countries) with extensions available
- **Full-featured console:** provides complete control of the switch with a familiar command line interface
- **Web interface:** allows you to configure the switch from any Web browser on the network

## Accessories

### Modules:

- HP ProCurve 9300 EP 48-Port 10/100-TX RJ-45 Module (J4881A)<sup>1</sup>
- HP ProCurve 9300 EP 8-Port Mini-GBIC Redundant Management Module (J4885A)
- HP ProCurve 9300 EP 48-Port 10/100-TX Telco (RJ-21) Module (J4889A)<sup>1</sup>
- HP ProCurve 9300 EP 16-Port Mini-GBIC Module (J4894A)<sup>1</sup>
- HP ProCurve 9300 EP 16-Port 100/1000-T Module (J4895A)<sup>1</sup>
- HP ProCurve 9300 10/100 Module (J4140A)<sup>2</sup>
- HP ProCurve 9300 100Base-FX Module (J4142A)<sup>2</sup>
- HP ProCurve 9300 1000Base-T Module (J4842A)<sup>2</sup>
- HP ProCurve 9300 Mini-GBIC Module (J4856A)<sup>2</sup>
- HP ProCurve 9300 Mini-GBIC Redundant Management Module (J4857A)
- HP ProCurve 9300 T-Flow Redundant Management Module (J4879A)<sup>3</sup>

- HP ProCurve 9300 10 Gb 10 km Module (J4891A)<sup>4</sup>

- NEW** • HP ProCurve 9300 2-Port 10 GbE Module (J8174A)<sup>5</sup>

### Redundant power supplies:

- HP ProCurve 9304/9308 Redundant Power Supply (J4147A)
- HP ProCurve 9315 Redundant Power Supply (J4875A)

### Mini-GBICs:

- HP ProCurve Gigabit-SX-LC Mini-GBIC (J4858A)
- HP ProCurve Gigabit-LX-LC Mini-GBIC (J4859A)
- HP ProCurve Gigabit-LH-LC Mini-GBIC (J4860A)

### XENPAK transceivers:

- NEW** • HP ProCurve 9300 10 GbE LR Optic (J8173A)<sup>6</sup>
- NEW** • HP ProCurve 9300 10 GbE SR Optic (J8175A)<sup>6</sup>
- NEW** • HP ProCurve 9300 10 GbE ER Optic (J8176A)<sup>6</sup>

<sup>1</sup> These modules require an EP management module (J4885A) in the same chassis.

<sup>2</sup> These modules require a non-EP management module (J4857A or J4879A, for example) in the same chassis.

<sup>3</sup> Redundancy requires software version 07.6.01 or greater.

<sup>4</sup> This module requires either the EP management module (J4885A) or the standard management module (J4857A, for example).

<sup>5</sup> This module requires software version 7.6.04 or greater.

<sup>6</sup> For use with HP ProCurve 9300 2-Port 10 GbE Module (J8174A).

Note: EP and non-EP management modules cannot co-exist in the same chassis.

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

# HP ProCurve Routing Switch 9300m Series

## Services

### HP ProCurve Switch 9308m and Switch 9315m:

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H2885A/E)
- 3-year, 4-hour onsite, 24 x 7 coverage, 24 x 7 phone support, for hardware (H2886A/E)
- 1-year, post-warranty, parts only, global next-day exchange (H7640PA/PE)
- 1-year, post-warranty, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H2739PA/PE)
- Installation with minimum configuration, system-based pricing (U4829A/E)
- Installation with HP-provided configuration, system-based pricing (U4833A/E)

### HP ProCurve Switch 9304m:

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H2887A/E)
- 3-year, 4-hour onsite, 24 x 7 coverage, 24 x 7 phone support, for hardware (H2888A/E)
- 1-year, post-warranty, parts only, global next-day exchange (H7639PA/PE)
- 1-year, post-warranty, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H2738PA/PE)
- Installation with minimum configuration, system-based pricing (U4829A/E)
- Installation with HP-provided configuration, system-based pricing (U4833A/E)

# HP ProCurve Routing Switch 9300m Series



## Specifications

	HP ProCurve Routing Switch 9315m (J4874A)	HP ProCurve Routing Switch 9308m (J4138A)	HP ProCurve Routing Switch 9304m (J4139A)
<b>Ports</b> Maximum ports	15 open module slots Supports a maximum of 28 10-GbE, 232 Gigabit, or 672 10/100 ports	8 open module slots Supports a maximum of 14 10-GbE, 120 Gigabit, or 336 10/100 ports	4 open module slots Supports a maximum of 6 10-GbE, 56 Gigabit, or 144 10/100 ports
<b>Physical characteristics</b> Dimensions Weight (fully loaded)	75.7 x 48.3 x 38.7 cm (29.75 x 19.0 x 15.25 in.) 116.3 kg (256 lb.)	52.7 x 44.4 x 38.7 cm (20.75 x 17.5 x 15.25 in.) 53.1 kg (117 lb.)	22.8 x 44.4 x 38.1 cm (9 x 17.5 x 15 in.) 27.2 kg (60 lb.)
<b>Memory and processor</b> EP management (J4885A) Packet buffer size Processor type and speed RAM/ROM capacity Flash capacity	4 MB per module Motorola PowerPC @ 466 MHz 512 MB per module 16 MB	4 MB per module Motorola PowerPC @ 466 MHz 512 MB per module 16 MB	4 MB per module Motorola PowerPC @ 466 MHz 512 MB per module 16 MB
Standard management (J4857A) Packet buffer size Processor type and speed RAM/ROM capacity Flash capacity	8 MB per module Motorola PowerPC @ 466 MHz 256 MB per module 8 MB	8 MB per module Motorola PowerPC @ 466 MHz 256 MB per module 8 MB	8 MB per module Motorola PowerPC @ 466 MHz 256 MB per module 8 MB
T-Flow management (J4879A) Packet buffer size Processor type and speed SDRAM capacity Flash capacity	8 MB per module 4 Motorola PowerPC @ 466 MHz each 1.25 GB per module 16 MB	8 MB per module 4 Motorola PowerPC @ 466 MHz each 1.25 GB per module 16 MB	8 MB per module 4 Motorola PowerPC @ 466 MHz each 1.25 GB per module 16 MB
<b>Mounting</b>	Standard 19 in. rack (hardware included)	Standard 19 in. rack (hardware included)	Standard 19 in. rack (hardware included)
<b>Performance</b> Latency Throughput Routing/Switching capacity Address table size	<7 $\mu$ s (FIFO) 345 mpps (64-byte packets) 480 Gbps 64,000 entries	<7 $\mu$ s (FIFO) 178 mpps (64-byte packets) 256 Gbps 64,000 entries	<7 $\mu$ s (FIFO) 83 mpps (64-byte packets) 128 Gbps 64,000 entries
<b>Environment</b> Operating temperature Operating relative humidity Non-operating/storage temperature Non-operating/storage relative humidity Shock and vibration	0°C to 40°C (32°F to 104°F) 5% to 90% @ 40°C (104°F), non-condensing -25°C to 70°C (-13°F to 158°F) 90% @ 65°C (149°F), non-condensing EN 60068 (IEC 68)	0°C to 40°C (32°F to 104°F) 5% to 90% @ 40°C (104°F), non-condensing -25°C to 70°C (-13°F to 158°F) 90% @ 65°C (149°F), non-condensing EN 60068 (IEC 68)	0°C to 40°C (32°F to 104°F) 5% to 90% @ 40°C (104°F), non-condensing -25°C to 70°C (-13°F to 158°F) 95% @ 65°C (149°F), non-condensing EN 60068 (IEC 68)
<b>Electrical characteristics</b> Max. heat dissipation Power Voltage Current Frequency	5,857 BTU/hr 1,715W 100-120 VAC/200-240 VAC 17A/8.5A 50/60 Hz	2,835 BTU/hr 830W 100-120 VAC/200-240 VAC 8A/4A 50/60 Hz	1,435 BTU/hr 420W 100-120 VAC/200-240 VAC 8A/4A 50/60 Hz
<b>Safety</b>	EN 60950/IEC 950; UL 1950; CSA 950	EN 60950/IEC 950; UL 1950; CSA 950	EN 60950/IEC 950; UL 1950; CSA 950
<b>Emissions</b>	FCC Class A; EN 55022/CISPR 22 Class A; VCCI Class A	FCC Class A; EN 55022/CISPR 22 Class A; VCCI Class A	FCC Class A; EN 55022/CISPR 22 Class A; VCCI Class A
<b>Immunity</b>	ESD: IEC 61000-4-2; 4 kV CD, 8 kV AD Radiated: IEC 61000-4-3; 3V/m EFT/Burst: IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line) Conducted: IEC 61000-4-6; 3V	ESD: IEC 61000-4-2; 4 kV CD, 8 kV AD Radiated: IEC 61000-4-3; 3V/m EFT/Burst: IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line) Conducted: IEC 61000-4-6; 3V	ESD: IEC 61000-4-2; 4 kV CD, 8 kV AD Radiated: IEC 61000-4-3; 3V/m EFT/Burst: IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line) Conducted: IEC 61000-4-6; 3V
<b>Management</b>	HP ProCurve Manager (included); HP ProCurve Manager Plus; 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB	HP ProCurve Manager (included); HP ProCurve Manager Plus; 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB	HP ProCurve Manager (included); HP ProCurve Manager Plus; 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB
<b>Standards and protocols</b>	IEEE 802.3x Flow Control; RFC 1058 RIP; RFC 1583 OSPF; IEEE 802.1D Spanning Tree; SSH, RADIUS, and TACACS+ support; IEEE 802.1Q VLANs; SNMPv1, SNMPv2c, SNMPv3 support; RFC 1493 Bridge MIB; RMON groups: 1 (statistics), 2 (history), 3 (alarm), and 9 (events); IEEE 802.1p Priority; RFC 1075 DVMRP; PIM-dense, PIM-sparse, and PIM snooping mode; RFC 1112 IGMP; RFC 2338 VRRP; RFC 1723 RIPv2	IEEE 802.3x Flow Control; RFC 1058 RIP; RFC 1583 OSPF; IEEE 802.1D Spanning Tree; SSH, RADIUS, and TACACS+ support; IEEE 802.1Q VLANs; SNMPv1, SNMPv2c, SNMPv3 support; RFC 1493 Bridge MIB; RMON groups: 1 (statistics), 2 (history), 3 (alarm), and 9 (events) IEEE 802.1p Priority; RFC 1075 DVMRP; PIM-dense, PIM-sparse, and PIM snooping mode; RFC 1112 IGMP; RFC 2338 VRRP; RFC 1723 RIPv2	IEEE 802.3x Flow Control; RFC 1058 RIP; RFC 1583 OSPF; IEEE 802.1D Spanning Tree; SSH, RADIUS, and TACACS+ support; IEEE 802.1Q VLANs; SNMPv1, SNMPv2c, SNMPv3 support; RFC 1493 Bridge MIB; RMON groups: 1 (statistics), 2 (history), 3 (alarm), and 9 (events) IEEE 802.1p Priority; RFC 1075 DVMRP; PIM-dense, PIM-sparse, and PIM snooping mode; RFC 1112 IGMP; RFC 2338 VRRP; RFC 1723 RIPv2

# HP ProCurve Switch 5300xl Series



HP ProCurve Switch 5372xl (J4848A)



HP ProCurve Switch 5308xl (J4819A)



HP ProCurve Switch 5348xl (J4849A)



HP ProCurve Switch 5304xl (J4850A)

Designed to accommodate the most demanding network needs, the HP ProCurve Switch 5300xl series offers scalable layer 2, 3, and 4 switching in compact 4- or 8-slot modular form factors. These convergence-ready switches provide flexibility, high port density, free software updates, and a lifetime warranty. The easy-to-use Switch 5300xl series provides the latest in technology with unparalleled investment protection and superior return on IT.

# HP ProCurve Switch 5300xl Series

## Features and benefits

- **Non-blocking architecture:** 76.8 Gbps non-blocking crossbar switching fabric provides wire-speed intra- and inter-module switching with up to 48 million pps throughput built on HP custom-designed ASIC technology
- **IP layer 3 routing:** provides routing of IP at media speed; supports basic routes, RIP, RIPv2, and OSPF
- **Router redundancy (XRRP):** allows groups of 2 routers to dynamically back each other up to create highly available routed environments
- NEW** • **IP multicast routing (PIM Dense):** routes IP multicast using the PIM Dense routing protocol
- **IP multicast (data-driven IGMP):** automatically prevents flooding of IP multicast traffic
- **HP switch meshing:** dynamically load-balances across multiple active redundant links to increase available aggregate bandwidth
- NEW** • **802.1s Multi-Instance Spanning Tree:** high link availability in multiple VLAN environments by allowing multiple spanning trees
- **802.1w Rapid Convergence Spanning Tree Protocol:** increases network uptime through faster recovery from failed links
- **802.3ad Link Aggregation Control Protocol (LACP) and HP trunking:** support up to 36 trunks, each with up to 8 links (ports) per trunk; trunking across modules is supported
- **Cisco Fast EtherChannel® (FEC):** supports Cisco's proprietary FEC trunking protocol
- NEW** • **Web-based authentication:** similar to 802.1X, provides a browser-based environment to authenticate clients that do not support the 802.1X supplicant
- **Access control lists (ACLs):** provide IP layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
- **VLAN support and tagging:** support complete 802.1Q (4,096 VLAN IDs) and 256 VLANs simultaneously
- NEW** • **802.1v Protocol VLANs:** isolate select non-IPv4 protocols automatically into their own VLANs
- **Group VLAN Registration Protocol (GVRP):** allows automatic learning and dynamic assignment of VLANs
- **Port security:** prevents unauthorized access using MAC address lockdown
- NEW** • **MAC address lockout:** prevents configured particular MAC addresses from connecting to the network
- **Source port filtering:** allows only specified ports to communicate with each other
- **TACACS+:** eases switch management security administration by using a password authentication server
- **Secure Shell (SSHv1/SSHv2):** encrypts all transmitted data for secure CLI remote access over IP networks
- **Secure Sockets Layer (SSL):** encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- NEW** • **Secure FTP:** allows secure file transfer to/from the switch—protects against unwanted file downloads or unauthorized copying of switch configuration file
- **Secure access to manage the 5300xl series:** all access methods—CLI, GUI, or MIB—are securely encrypted through SSHv2, SSL, and/or SNMPv3
- NEW** • **Static NAT:** hide up to 32 nodes per switch from the rest of the network through static IP address translation
- **Layer 4 prioritization:** enables prioritization based on TCP/UDP port numbers
- **Traffic prioritization (802.1p):** allows real-time traffic classification into 8 priority levels
- NEW** • **Rate Limiting:** per port, per queue: ingress and egress guaranteed minimums, ingress enforced maximums
- **Class of Service (CoS):** sets 802.1p priority tag based on IP address, IP Type of Service (ToS), L3 protocol, TCP/UDP port number, source port, and DiffServ
- NEW** • **RMON, XRMON, sFlow, and SMON:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- NEW** • **Cisco Discovery Protocol (CDPv2):** enables real-time mapping of nodes to switch ports, discovery of Cisco IP phones

# HP ProCurve Switch 5300xl Series

## Features and benefits

- **Friendly port names:** allow assignment of descriptive names to ports
- **Find-Fix-and-Inform:** finds and fixes common network problems automatically, then informs administrator
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports
- **Hot-swappable modules:** permit modules and mini-GBICs to be added or swapped without interrupting the network
- **Dual flash images:** provide independent primary and secondary OS files for backup while upgrading
- **Optional redundant power supply:** provides uninterrupted power
- **iSCSI support:** enables the deployment of Ethernet storage area network solutions using the iSCSI standard
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

## Accessories

### Modules

- HP ProCurve Switch xl 10/100-TX Module (J4820A)
- HP ProCurve Switch xl 100/1000-T Module (J4821A)
- HP ProCurve Switch xl Mini-GBIC Module (J4878A)
- HP ProCurve Switch xl 100-FX MTRJ Module (J4852A)
- NEW** • HP ProCurve Switch xl PoE Module (J8161A)\*
- NEW** • HP ProCurve Switch xl 16-port 10/100/1000 Module (J4907A)\*

### Mini-GBICs

- HP ProCurve Gigabit-LH-LC Mini-GBIC (J4860A)
- HP ProCurve Gigabit-LX-LC Mini-GBIC (J4859A)
- HP ProCurve Gigabit-SX-LC Mini-GBIC (J4858A)

### RPS

- NEW** • HP ProCurve 600 Redundant and External Power Supply (J8168A)\*
- HP ProCurve Switch gl/xl Redundant Power Supply (J4839A)

\*Check [www.hp.com/go/hpprocurve](http://www.hp.com/go/hpprocurve) for availability.

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

# HP ProCurve Switch 5300xl Series

## Services

- 3-year, 4-hour onsite, 24 x 7 coverage, 24 x 7 phone support, for hardware (H2893A/E)
- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H4496A/E)
- Installation with minimum configuration, system-based pricing (U4828A/E)
- Installation with HP-provided configuration, system-based pricing (U4832A/E)

## Specifications

### Standard configurations

8-slot chassis has an integrated switching engine and a power supply. Supports a maximum of 192 10/100 ports or 32 Gigabit ports.\*  
Switch 5372xl:  
72 10/100 ports  
(3 x J4820A);  
5 open module slots  
Switch 5308xl:  
8 open module slots

4-slot chassis has an integrated switching engine and a power supply. Supports a maximum of 96 10/100 ports or 16 Gigabit ports.\*  
Switch 5348xl:  
48 10/100 ports  
(2 x J4820A);  
2 open module slots  
Switch 5304xl:  
4 open module slots

### Physical characteristics

Dimensions  
– Switch 5308xl and 5372xl:  
44.2 x 38.9 x 22.23 cm  
(17.4 x 15.3 x 8.75 in.)  
(5U height)  
– Switch 5304xl and 5348xl:  
44.2 x 38.9 x 13.34 cm  
(17.4 x 15.3 x 5.25 in.)  
(3U height)  
Weight  
– Switch 5372xl:  
14.20 kg (31.3 lb.)  
– Switch 5308xl:  
12.16 kg (26.8 lb.)  
– Switch 5348xl:  
11.27 kg (24.85 lb.)  
– Switch 5304xl:  
9.91 kg (21.85 lb.)

### Memory and processor

Fabric: Motorola PowerPC  
@ 200 MHz, 12 MB flash,  
32 MB SDRAM  
Module: ARM7 @ 66 MHz,  
128 KB flash, 128 KB SRAM,  
18 MB RDRAM  
Packet buffer size: 36 MB  
Dual flash

### Mounting

Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only

### Performance

Latency: < 6  $\mu$ s FIFO  
Throughput:  
5308xl and 5372xl: 48 mpps  
5304xl and 5348xl: 24 mpps  
Switch fabric speed: 76.8 Gbps  
Address table size: 10,000 entries

### Environment

Operating  
– Temperature: 0° C to 40° C  
(32° F to 104° F)  
– Relative Humidity: 15% to 95%  
at 40° C (104° F),  
non-condensing  
Non-operating/Storage  
– Temperature: –40° C to 70° C  
(–40° F to 158° F)  
– Relative humidity: 15% to 95%  
@ 65° C (149° F)  
Altitude: up to 4.6 km (15,091 ft.)

### Electrical characteristics

Heat dissipation:  
– 8-slot chassis—2,116 BTU/hr  
– 4-slot chassis—1,178 BTU/hr  
Power: 620W  
Voltage: 100–127 VAC/  
200–240 VAC  
Current: 8.2A/3.8A  
Frequency: 50/60 Hz

### Safety

cUL (CSA 950)  
EN 60950/IEC 950  
NOM-019-SCFI-1994  
UL 1950 3rd edition

### Emissions

FCC Class A  
EN 55022/CISPR 22 Class A  
VCCI Class A

### Immunity

EN 55024/CISPR 24  
ESD: IEC 61000-4-2, 4 kV CD,  
8 kV AD  
Radiated: IEC 61000-4-3, 3V/m  
EFT/Burst: IEC 61000-4-4, 1.0 kV  
(power line), 0.5 kV (signal  
line)  
Surge: IEC 61000-4-5, 1 kV/  
2 kV AC  
Conducted: IEC 61000-4-6, 3V  
Power frequency magnetic field:  
IEC 61000-4-8, 1A/m, 50 or  
60 Hz  
Voltage dips and interruptions:  
IEC 61000-4-11, >95%  
reduction, 0.5 period;  
30% reduction, 25 periods  
Harmonics: EN 61000-3-2/  
IEC 61000-3-2  
Flicker: EN 61000-3-3/  
IEC 61000-3-3

### Management

HP ProCurve Manager (included);  
HP ProCurve Manager Plus;  
Command line interface; Web  
browser; configuration menu;  
out-of-band management  
(serial RS-232C)

### Standards and protocols

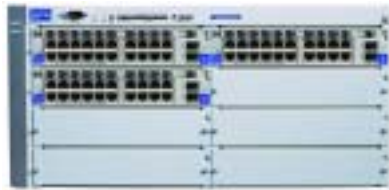
RFC 783 TFTP  
RFC 951 BootP  
RFC 1542 BootP  
RFC 854 Telnet  
RFC 768 UDP  
RFC 792 ICMP  
RFC 793 TCP  
RFC 826 ARP  
RFC 2030 Simple Network Time  
Protocol  
IEEE 802.3x Flow Control  
DHCP Relay  
RFC 3376 IGMPv1/v2/v3  
RFC 2453 RIPv2  
RFC 2328 OSPFv2 (includes  
route authentication)  
IGMPv3  
IEEE 802.1D Spanning Tree  
IEEE 802.1w Rapid Convergence  
Spanning Tree  
IEEE 802.1s Multiple Spanning  
Trees  
IEEE 802.3ad Link Aggregation  
Control Protocol  
Cisco Fast EtherChannel® (FEC)  
RFC 2474 DiffServ Precedence  
RFC 2597 DiffServ Assured  
Forwarding (AF)

RFC 2598 DiffServ Expedited  
Forwarding (EF)  
RFC 1492 TACACS+  
RFC 2138 RADIUS  
RFC 2866 RADIUS accounting  
SSHv1/SSHv2 Secure Shell  
Secure Sockets Layer (SSL)  
IEEE 802.1X Network Login  
IEEE 802.1Q VLAN tagging  
IEEE 802.1Q GVRP  
IEEE 802.3af  
SNMPv1/v2c/v3  
Cisco Discovery Protocol (CDP)  
Cisco Discovery Protocol v2  
(CDPv2)  
HTML and telnet management  
RFC 1493 Bridge MIB  
PIM Dense  
RFC 1213 MIB II  
RFC 2096 IP Forwarding  
Table MIB  
RFC 2737 Entity MIB  
RFC 2863 Evolution of Interface  
RFC 2665 Ethernet MIB  
RFC 1058 RIP  
RFC 1724 RIPv2 MIB  
RFC 2819 Four groups of  
RMON:  
1 (statistics), 2 (history),  
3 (alarm), and 9 (events)  
Extended RMON  
sFlow  
RFC 2021 RMON probe  
configuration (RMON v2)  
RFC 2668 802.3 MAU MIB  
RFC 2613 SMON  
RFC 2674 802.1p and  
IEEE 802.1Q Bridge MIB  
RFC 1850 OSPF MIB  
RFC 2618 RADIUS Client MIB  
RFC 2620 RADIUS Accounting  
MIB

\* More when 16-port module (J4907A) is available.



# HP ProCurve Switch 4100gl Series



HP ProCurve Switch 4160gl (J8152A)



HP ProCurve Switch 4140gl (J8151A)



HP ProCurve Switch 4108gl bundle (J4861A)



HP ProCurve Switch 4148gl (J4888A)



HP ProCurve Switch 4108gl (J4865A)



HP ProCurve Switch 4104gl (J4887A)

The HP ProCurve Switch 4100gl series is convergence-ready and easy to use in compact 8-slot and 4-slot modular form factors. Based on HP Fast Path Technology, these switches provide reliable, high-performance, high-density 10 Mbit, 100 Mbit, or Gigabit connectivity for a growing network. The Switch 4100gl series is the low-cost, modular alternative to stackable switches and includes a lifetime warranty.

## Features and benefits

- **Basic IP routing:** enables automatic routing with up to 16 external routes—including one default route—in IP networks
- **Traffic prioritization (802.1p):** allows real-time traffic classification into 8 priority levels mapped to 3 queues
- **iSCSI support:** enables the deployment of Ethernet storage area network solutions using the iSCSI standard
- **Fast Path Technology:** wire-speed switching of intra-module traffic for up to 71.4 million pps throughput
- **Fast switch fabric:** high-performance switch fabric (up to 36.6 Gbps)
- **Hot-swappable modules:** permit modules and mini-GBICs to be added or swapped without interrupting the network
- **Dual flash images:** provide independent primary and secondary OS files for backup while upgrading
- **Optional redundant power supply:** provides uninterrupted power
- **VLAN:** supports up to 30 port-based VLANs, GVRP, and 802.1Q VLAN tagging
- **802.1x and RADIUS network login:** control port-based access authentication and accountability
- **Port security:** prevents unauthorized access using MAC address lockdown
- **TACACS+:** eases switch management security administration by using a password authentication server
- **Secure Shell (SSHv2):** encrypts all transmitted data for secure CLI remote access over IP networks
- **Secure Sockets Layer (SSL):** encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- **Secure access to manage the 4100gl series:** all access methods—CLI, GUI, or MIB—are securely encrypted through SSHv2, SSL, and/or SNMPv3
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100 and 100/1000 ports
- **Stacking capability:** single IP address management for a virtual stack of up to 16 switches, including the 2500 series, 2600 series, 2800 series, 4000m, 6108, 8000m, and 4100gl series
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

# HP ProCurve Switch 4100gl Series

## Accessories

### Modules

- NEW** • HP ProCurve Switch gl 10/100/1000 Module (J4908A)
- HP ProCurve Switch gl 10/100-TX Module (J4862B)
- HP ProCurve Switch gl 100-FX MTRJ Module (J4892A)
- HP ProCurve Switch gl 100/1000-T Module (J4863A)
- HP ProCurve Switch gl Mini-GBIC Module (J4893A)
- HP ProCurve Switch gl Transceiver Module (J4864A)

### Transceivers

- HP ProCurve 100-FX Transceiver (J4853A)
- HP ProCurve 100/1000-T Transceiver (J4834A)
- HP ProCurve Gigabit-LX Transceiver (J4132A)
- HP ProCurve Gigabit-SX Transceiver (J4131B)
- HP ProCurve Gigabit Stacking Kit (J4116A)

### Mini-GBICs

- HP ProCurve Gigabit-LH-LC Mini-GBIC (J4860A)
- HP ProCurve Gigabit-LX-LC Mini-GBIC (J4859A)
- HP ProCurve Gigabit-SX-LC Mini-GBIC (J4858A)

### RPS

- HP ProCurve Switch gl/xl Redundant Power Supply (J4839A)

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

## Services

### HP ProCurve Switch 4108gl and Switch 4108gl Bundle

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H7675A/E)
- 3-year, 4-hour onsite, 24 x 7 coverage, 24 x 7 phone support, for hardware (H7676A/E)
- Installation with minimum configuration, system-based pricing (U4827A/E)
- Installation with HP-provided configuration, system-based pricing (U4831A/E)

### HP ProCurve Switch 4104gl and Switch 4148gl

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (U2855A/E)
- 3-year, 4-hour onsite, 24 x 7 coverage, 24 x 7 phone support, for hardware (U2856A/E)
- Installation with minimum configuration, system-based pricing (U4827A/E)
- Installation with HP-provided configuration, system-based pricing (U4831A/E)

# HP ProCurve Switch 4100gl Series

## Specifications

### Standard configurations

8-slot chassis has an integrated switching engine and a power supply. Supports a maximum of 192 10/100 ports or 160 Gigabit ports and 16 mini-GBICs.

#### Switch 4160gl:

60 RJ-45 10/100/1000 ports (3 x J4908A);  
6 mini-GBIC slots;  
5 open module slots

#### Switch 4108gl bundle:

72 10/100 ports (3 x J4862B);  
3 transceiver ports (1 x J4864A); 4 open module slots

#### Switch 4108gl:

8 open module slots

4-slot chassis has an integrated switching engine and a power supply. Supports a maximum of 96 10/100 ports or 80 Gigabit ports and 8 mini-GBICs.

#### Switch 4140gl:

40 RJ-45 10/100/1000 ports (2 x J4908A);  
4 mini-GBIC slots;  
2 open module slots

#### Switch 4148gl:

48 10/100 ports (2 x J4862B);  
2 open module slots

#### Switch 4104gl:

4 open module slots

### Physical characteristics

#### Dimensions

– **Switch 4160gl, 4108gl bundle, and 4108gl:**

44.2 x 38.9 x 22.23 cm  
(17.4 x 15.3 x 8.75 in.)  
(5U height)

– **Switch 4140gl, 4148gl, and 4104gl:**

44.2 x 38.9 x 13.34 cm  
(17.4 x 15.3 x 5.25 in.)  
(3U height)

#### Weight

– Switch 4160gl:  
13.9 kg (30.6 lb.)  
– Switch 4108gl bundle:  
10.4 kg (22.9 lb.)  
– Switch 4108gl:  
9.4 kg (20.7 lb.)  
– Switch 4140gl:  
10.9 kg (24.1 lb.)  
– Switch 4148gl:  
7.2 kg (15.85 lb.)  
– Switch 4104gl:  
6.7 kg (14.75 lb.)

### Memory and processor

Fabric: Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM  
Packet buffer size: 1 MB (8-slot Fabric); 512 KB (4-slot Fabric)

### Mounting

Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only

### Performance

#### Latency:

– 100 MB:  
<10.2  $\mu$ s (FIFO 64-byte packets)  
– 1000 MB:  
<3.5  $\mu$ s (FIFO 64-byte packets)

#### Throughput:

– Switch 4160gl, 4108gl bundle, and 4108gl: up to 71.4 mpps  
– Switch 4140gl, 4148gl, and 4104gl: up to 35.7 mpps

#### Switch fabric speed:

– Switch 4160gl, 4108gl bundle, and 4108gl: 36.6 Gbps  
– Switch 4140gl, 4148gl, and 4104gl: 18.3 Gbps

Address table size: 8,000 entries

### Environment

#### Operating

– Temperature: 0° C to 55° C (32° F to 131° F)  
– Relative humidity: 15% to 95% @ 40° C (104° F) non-condensing

#### Non-operating/Storage

– Temperature: –40° C to 70° C (–40° F to 158° F)  
– Relative humidity: 15% to 95% @ 65° C (149° F) non-condensing  
Altitude: up to 4.6 km (15,091 ft.)

### Electrical characteristics

Heat dissipation: 2,152 BTU/hr  
Power: 630W  
Voltage: 100–127 VAC/  
200–240 VAC  
Current: 8.2A/3.8A  
Frequency range: 50/60 Hz

### Safety

cUL (CSA 950)  
EN 60950/IEC 950  
NOM-019-SCFI-1994  
UL 1950 3rd edition

### Emissions

FCC Class A  
EN 55022/CISPR22 Class A  
VCCI Class A

### Immunity

EN 55024/CISPR24  
ESD: IEC 61000-4-2, 4 kV CD, 8 kV AD  
Radiated: IEC 61000-4-3, 3V/m  
EFT/Burst: IEC 61000-4-4, 1.0 kV (power line), 0.5 kV (signal line)  
Surge: IEC 61000-4-5, 1 kV/2 kV AC  
Conducted: IEC 61000-4-6, 3V  
Power frequency magnetic field: IEC 61000-4-8, 1A/m, 50 or 60 Hz  
Voltage dips and interruptions: IEC 61000-4-11, >95% reduction, 0.5 period, 30% reduction, 25 periods  
Harmonics: EN 61000-3-2/  
IEC 61000-3-2  
Flicker: EN 61000-3-3/  
IEC 61000-3-3

### Management

HP ProCurve Manager (included);  
HP ProCurve Manager Plus;  
command line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)

### Standards and protocols

RFC 783 TFTP  
RFC 951 BootP  
RFC 1542 BootP

RFC 854 Telnet  
RFC 768 UDP  
RFC 792 ICMP  
RFC 793 TCP  
RFC 826 ARP  
RFC 2030 Simple Network Time Protocol  
IEEE 802.3X Flow Control  
DHCP Relay  
RFC 2236 IGMPv1/v2/v3  
IEEE 802.1D Spanning Tree  
IEEE 802.1w Rapid Convergence Spanning Tree  
IEEE 802.3ad Link Aggregation Control Protocol  
Cisco Fast EtherChannel® (FEC)  
RFC 1492 TACACS+  
RFC 2138 RADIUS  
RFC 2866 RADIUS accounting  
SSHv1/SSHv2 Secure Shell  
Secure Sockets Layer (SSL)  
IEEE 802.1X Network Login  
IEEE 802.1Q VLAN tagging  
IEEE 802.1Q GVRP  
IEEE 802.1p Priority  
SNMPv1/v2c/v3  
HTML and telnet management  
RFC 1493 Bridge MIB  
RFC 1213 MIB II  
RFC 2096 IP Forwarding Table MIB  
RFC 2737 Entity MIB  
RFC 2863 Evolution of Interface  
RFC 2665 Ethernet MIB  
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events)  
RFC 2021 RMON probe configuration (RMON v2)  
RFC 2668 802.3 MAU MIB  
RFC 2613 SMON  
RFC 2674 802.1p and 802.1Q Bridge MIB  
RFC 2618 RADIUS Client MIB  
RFC 2620 RADIUS Accounting MIB

# HP ProCurve Switch 6108



HP ProCurve Switch 6108 (J4902A)

The HP ProCurve Switch 6108 is a low cost, stackable, multi-layer, managed 8-port switch with 6 auto-sensing 10/100/1000 ports and 2 dual-personality ports for 10/100/1000 or mini-GBIC connectivity. With layer 3 basic IP routing, industry-leading lifetime warranty, and free end-user telephone and e-mail support, the Switch 6108 is ideal for access tier aggregation with 2 optional Gigabit fiber uplinks to connect at distances up to 70 km.

## Features and benefits

- **16 Gbps backplane:** non-blocking architecture for wire-speed throughput
- **Dual-personality functionality:** two 10/100/1000 ports or mini-GBIC slots for optional fiber connectivity such as Gigabit-SX, -LX, or -LH
- **Basic IP routing:** enables automatic routing with up to 16 external routes—including one default route—in IP networks
- **Rapid Convergence Spanning Tree Protocol (802.1w):** increases network uptime through faster recovery from failed links
- **802.3ad Link Aggregation Control Protocol (LACP) and HP trunking:** support up to 6 trunks, each with up to 4 links (ports) per trunk; trunking across modules is supported
- **Cisco Fast EtherChannel® (FEC):** supports Cisco's proprietary FEC trunking protocol



# HP ProCurve Switch 6108

## Features and benefits

- **802.1X and RADIUS network login:** control port-based access for authentication and accountability
- **Port security:** prevents unauthorized access using MAC address lockdown
- **TACACS+:** eases switch management security administration by using a password authentication server
- **Secure Shell (SSH):** encrypts all transmitted data for secure remote access over IP networks
- **Secure Sockets Layer (SSL):** encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- **VLAN:** supports up to 30 port-based VLANs, GVRP, and 802.1Q VLAN tagging
- **Traffic prioritization (802.1p):** allows real-time traffic classification into 8 priority levels mapped to 4 queues
- **RMON, extended RMON, and SMON:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Stacking capability:** single IP address management for a virtual stack of up to 16 switches, including the 2500 series, 2600 series, 2800 series, 4000m, 6108, 8000m, and 4100gl series
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports
- **Group VLAN Registration Protocol (GVRP):** allows automatic learning and dynamic assignment of VLANs
- **Cisco Discovery Protocol (CDP):** enables real-time mapping of nodes to switch ports
- **Friendly port names:** allow assignment of descriptive names to ports
- **Find-Fix-and-Inform:** finds and fixes common network problems automatically, then informs administrator
- **Secure access to manage the switches:** all access methods—CLI, GUI, or MIB—are securely encrypted through SSHv2, SSL, and/or SNMPv3
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

# HP ProCurve Switch 6108

## Accessories

- HP ProCurve Gigabit-LH-LC Mini-GBIC (J4860A)
- HP ProCurve Gigabit-LX-LC Mini-GBIC (J4859A)
- HP ProCurve Gigabit-SX-LC Mini-GBIC (J4858A)

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

## Services

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H5481A/E)
- Installation with minimum configuration, system-based pricing (U4826A/E)
- Installation with HP-provided configuration, system-based pricing (U4830A/E)

## Specifications

### Ports

6 RJ-45 10/100/1000 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX; 802.3ab 1000Base-T Gigabit Ethernet)  
2 dual-personality ports—can be used as either 2 additional RJ-45 10/100/1000 ports, 2 open mini-GBIC slots (for use with mini-GBIC transceivers), or one of each

### Physical characteristics

Dimensions:  
44.25 x 23.7 x 4.4 cm  
(17.42 x 9.3 x 1.73 in.)  
Weight: 3.16 kg (6.96 lb.)

### Memory and processor

Processor: Motorola MPC8245 PowerPC  
Flash capacity: 16 MB

### Mounting

Mounts in a standard 19 in. rack (hardware included)

### Performance

Latency: <12.5  $\mu$ s (LIFO 64-byte packets)  
Throughput: 11.9 mpps (64-byte packets)  
Switching capacity: 16 Gbps  
Address table size: 8,000

### Environment

Operating  
– Temperature: 0°C to 55°C (32°F to 131°F)  
– Relative humidity: 15% to 95% @ 40°C (104°F), non-condensing  
Non-operating/Storage  
– Temperature: –40°C to 70°C (–40°F to 158°F)  
– Relative humidity: 15% to 95% @ 65°C (149°F)  
Altitude: up to 4.6 km (15,091 ft.)

### Electrical characteristics

Heat dissipation: 341 BTU/hr  
Voltage: 100–240 VAC  
Current: 1.5A  
Power: 100W  
Frequency: 50/60 Hz

### Safety

EN 60950/IEC 950  
UL 1950 3rd edition cUL (CSA 950)  
NOM-019-SCFI-1994

### Emissions

FCC Class A  
EN 55022/CISPR 22 Class A  
VCCI Class A

### Immunity

EN 55024/CISPR 24  
ESD: IEC 61000-4-2, 4 kV CD, 8 kV AD  
Radiated: IEC 61000-4-3, 3V/m  
EFT/Burst: IEC 61000-4-4, 1.0 kV (power line), 0.5 kV (signal line)  
Surge: IEC 61000-4-5, 1 kV/2 kV AC  
Conducted: IEC 61000-4-6, 3V  
Power frequency magnetic field: IEC 61000-4-8, 1A/m, 50 or 60 Hz  
Voltage dips and interruptions: IEC 61000-4-11, >95% reduction, 0.5 period; 30% reduction, 25 periods  
Harmonics: EN 61000-3-2/IEC 61000-3-2  
Flicker: EN 61000-3-3/IEC 61000-3-3

### Management

HP ProCurve Manager (included); command line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)

### Standards and protocols

RFC 783 TFTP  
RFC 951 BootP  
RFC 1542 BootP  
RFC 854 Telnet  
RFC 768 UDP  
RFC 792 ICMP  
RFC 793 TCP  
RFC 826 ARP  
RFC 2030 Simple Network Time Protocol  
IEEE 802.3x Flow Control  
RFC 2236 IGMPv1/v2/v3  
IEEE 802.1D Spanning Tree  
IEEE 802.1w Rapid Convergence Spanning Tree  
IEEE 802.3ad Link Aggregation Control Protocol  
Cisco Fast EtherChannel® (FEC)  
SSHv1/v2\* Secure Shell  
Secure Sockets Layer (SSL)  
IEEE 802.1X Network Login  
IEEE 802.1p Priority  
IEEE 802.1Q GVRP  
SNMPv1/v2c/v3

### Cisco Discovery Protocol (CDP)

HTML and telnet management  
RFC 1493 Bridge MIB  
RFC 1213 MIB II  
RFC 2096 IP Forwarding Table MIB  
RFC 2737 Entity MIB  
RFC 2863 Evolution of Interface  
RFC 2665 Ethernet MIB  
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events)  
RFC 2021 RMON probe configuration (RMON v2)  
RFC 2668 802.3 MAU MIB  
RFC 2613 SMON  
RFC 2674 802.1p and 802.1Q Bridge MIB  
RFC 2618 RADIUS Client MIB  
RFC 2620 RADIUS Accounting MIB

# HP ProCurve Switch 2800 Series



HP ProCurve Switch 2848 (J4904A)



HP ProCurve Switch 2824 (J4903A)



The HP ProCurve Switch 2800 series consists of two switches: the 24-port HP ProCurve Switch 2824 with 20 10/100/1000 ports, and the 48-port HP ProCurve Switch 2848 with 44 10/100/1000 ports. In addition, each switch has 4 dual-personality ports for 10/100/1000 or mini-GBIC connectivity. Ideal for medium to large networks, the Switch 2824 and Switch 2848 cost-effectively offer the maximum in bandwidth performance with 10 times the speed of 100 Mbit switches. Migrating to Gigabit switches will allow you to take full advantage of your existing high-performance, Gigabit-enabled PCs, laptops, and servers—and see noticeably improved application response and file transfer times. By implementing the Switch 2824 or Switch 2848, you will seamlessly protect your existing network investment while preparing for future growth.



# HP Procurve Switch 2800 series

## Features and benefits

- **48 Gbps backplane with up to 35.7 mpps (Switch 2824) and 96 Gbps backplane with up to 71.4 mpps (Switch 2848):** ten times the bandwidth for low-latency throughput
- **Dual-personality functionality:** four 10/100/1000 ports or mini-GBIC slots for optional fiber connectivity such as Gigabit-SX, -LX, or -LH
- **Basic IP routing:** enables automatic routing with up to 16 external routes—including one default route—in IP networks
- **IP multicast (data-driven IGMP):** automatically prevents flooding of IP multicast traffic
- **Optional redundant power supply:** provides uninterrupted power in case of a power supply failure
- **RMON and extended RMON:** provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Port security:** prevents unauthorized access using MAC address lockdown
- **TACACS+ :** eases switch management security administration by using a password authentication server
- **Secure Shell (SSHv2):** encrypts all transmitted data for secure CLI remote access over IP networks
- **Secure Sockets Layer (SSL):** encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- **VLAN:** supports up to 60 port-based VLANs, GVRP, and 802.1Q VLAN tagging
- **Traffic prioritization (802.1p):** allows real-time traffic classification into 8 priority levels
- **Per-port broadcast throttling:** selectively configure broadcast control on heavy traffic port uplinks
- **Stacking capability:** single IP address management for a virtual stack of up to 16 switches, including the 2500 series, 2600 series, 2800 series, 4000m, 6108, 8000m, and 4100gl series
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports
- **Source port filters:** allows only specified ports to communicate with each other
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

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## Accessories

- HP ProCurve Gigabit-LH-LC Mini-GBIC (J4860A)
- HP ProCurve Gigabit-LX-LC Mini-GBIC (J4859A)
- HP ProCurve Gigabit-SX-LC Mini-GBIC (J4858A)
- NEW** • HP ProCurve 600 Redundant and External Power Supply (J8168A)\*

\*Check [www.hp.com/go/hpprocurve](http://www.hp.com/go/hpprocurve) for availability.

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

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## Services

- Check [www.hp.com/go/procurveservices](http://www.hp.com/go/procurveservices) for part numbers and service-level descriptions.

# HP ProCurve Switch 2800 Series

## Specifications

### Ports

20 (for Switch 2824) or  
44 (for Switch 2848) RJ-45  
10/100/1000 ports (IEEE  
802.3 Type 10Base-T, IEEE  
802.3u Type 100Base-T, IEEE  
802.3ab 1000Base-T Gigabit  
Ethernet)  
1 RS-232C DB-9 console port  
4 dual-personality ports—each  
port can be used as either an  
RJ-45 10/100/1000 port (IEEE  
802.3 Type 10Base-T; 802.3u  
Type 100Base-TX; 802.3ab  
1000Base-T Gigabit Ethernet)  
or an open mini-GBIC slot (for  
use with mini-GBIC transceivers)

### Physical characteristics

Switch 2824  
– Dimensions:  
44 x 36.7 x 4.4 cm  
(17.32 x 14.4 x 1.7 in.)  
– Weight:  
4.62 kg (10.2 lb.)  
Switch 2848  
– Dimensions:  
44 x 43 x 4.4 cm  
(17.32 x 16.9 x 1.7 in.)  
– Weight:  
4.88 kg (10.75 lb.)

### Memory and processor

Flash capacity: 16 MB

### Mounting

Mounts in a standard 19 in. rack  
(hardware included)

### Performance

#### Switch 2824

Latency  
– 100 MB: <11.5  $\mu$ s  
(FIFO 64-byte packets)  
– 1000 MB: <5.4  $\mu$ s  
(FIFO 64-byte packets)  
Throughput: 35.7 mpps  
Switching capacity: 48 Gbps

#### Switch 2848

Latency  
– 100 MB: <11.8  $\mu$ s  
(FIFO 64-byte packets)  
– 1000 MB: <4.4  $\mu$ s  
(FIFO 64-byte packets)  
Throughput: 71.4 mpps  
Switching capacity: 96 Gbps  
Address table size: 16,000  
entries

### Environment

Operating  
– Temperature: 0° C to 55° C  
(32° F to 131° F)  
– Relative humidity: 15% to 95%  
@ 40° C (104° F), non-  
condensing  
Non-operating/Storage  
– Temperature: –40° C to 70° C  
(–40° F to 158° F)  
– Relative humidity: 15% to 90%  
@ 65° C (149° F), non-  
condensing  
Altitude: up to 4.6 km (15,091 ft.)  
Acoustic: DIN 45635T.19  
per ISO 7779 <53dB  
@ <25° C (80° F)

### Electrical characteristics

Max BTUs: 341  
Voltage: 100–127 VAC/  
200–240 VAC  
Current: 0.6A/0.3A  
Power: 100W  
Frequency: 50/60 Hz

### Safety

cUL (CSA 950)  
EN 60950/IEC 950  
NOM-019-SCFI-1994  
UL 1950 3rd edition

### Emissions

FCC Class A  
EN 55022/CISPR 22 Class A  
VCCI Class A

### Immunity

EN 55024/CISPR 24  
ESD: IEC 61000-4-2, 4 kV CD,  
8 kV AD  
Radiated: IEC 61000-4-3, 3V/m  
EFT/Burst: IEC 61000-4-4, 1.0 kV  
(power line), 0.5 kV (signal  
line)  
Surge: IEC 61000-4-5, 1 kV/  
2 kV AC  
Conducted: IEC 61000-4-6, 3V  
Power frequency magnetic field:  
IEC 61000-4-8, 1A/m, 50 or  
60 Hz  
Voltage dips and interruptions:  
IEC 61000-4-11, >95%  
reduction, 0.5 period; 30%  
reduction, 25 periods  
Harmonics: EN 61000-3-2/  
IEC 61000-3-2  
Flicker: EN 61000-3-3/  
IEC 61000-3-3

### Management

HP ProCurve Manager (included);  
HP ProCurve Manager Plus;  
command line interface; Web  
browser; configuration menu;  
out-of-band management  
(serial RS-232C)

### Standards and protocols

RFC 783 TFTP  
RFC 951 BootP  
RFC 1542 BootP  
RFC 854 Telnet  
RFC 768 UDP  
RFC 792 ICMP  
RFC 793 TCP  
RFC 826 ARP  
RFC 2030 Simple Network Time  
Protocol  
IEEE 802.3X Flow Control  
DHCP Relay  
RFC 2236 IGMPv1/v2/v3  
IEEE 802.1D Spanning Tree  
IEEE 802.1w Rapid Convergence  
Spanning Tree  
IEEE 802.3ad Link Aggregation  
Control Protocol  
Cisco Fast EtherChannel® (FEC)  
RFC 1492 TACACS+  
RFC 2138 RADIUS  
RFC 2866 RADIUS accounting  
SSHv2 Secure Shell  
Secure Sockets Layer (SSL)  
IEEE 802.1X Network Login

Bridge MIB  
IEEE 802.1Q VLANs  
IEEE 802.1Q VLAN tagging  
IEEE 802.1Q GVRP  
IEEE 802.1p Priority  
SNMPv1/v2c/v3  
Cisco Discovery Protocol (CDP)  
HTML and telnet management  
RFC 1493 Bridge MIB  
RFC 1213 MIB II  
RFC 2096 IP Forwarding  
Table MIB  
RFC 2737 Entity MIB  
RFC 2863 Evolution of Interface  
RFC 2665 Ethernet MIB  
RFC 2819 Four groups of  
RMON: 1 (statistics), 3 (alarm),  
and 9 (events)  
Extended RMON  
RFC 2021 RMON probe  
configuration (RMON v2)  
RFC 2668 802.3 MAU MIB  
RFC 2613 SMON  
RFC 2674 802.1p and 802.1Q  
Bridge MIB  
RFC 2618 RADIUS Client MIB  
RFC 2620 RADIUS Accounting  
MIB

# HP ProCurve Switch 2600 Series



HP ProCurve Switch 2650 (J4899A)



HP ProCurve Switch 2650-PWR (J8165A)



HP ProCurve Switch 2626 (J4900A)



HP ProCurve Switch 2626-PWR (J8164A)



The HP ProCurve Switch 2600 Series is a collection of low-cost, stackable, multi-layer, managed 50- or 26-port switches with 48 or 24 auto-sensing 10/100 ports and 2 dual-personality ports for 10/100/1000 or mini-GBIC connectivity. The HP Switch 2650-PWR and 2626-PWR are IEEE 802.3af compliant for Power over Ethernet and provide up to 15.4W per port. A redundant and external power supply is also available as an accessory.

# HP ProCurve Switch 2600 Series

## Features and benefits

- **Power over Ethernet (IEEE 802.3af) compliant (Switch 2650-PWR/Switch 2626-PWR):** provide up to 15.4W per port to power IP phones, wireless access points, Web cameras, and more
- **13.6 Gbps (2650 and 2650-PWR)/9.6 Gbps (2626 and 2626-PWR) backplane:** wire-speed non-blocking architecture for low latency throughput
- **Dual-personality functionality:** two 10/100/1000 ports or mini-GBIC slots for optional fiber connectivity such as Gigabit-SX, -LX, or -LH
- **Basic IP routing:** enables automatic routing with up to 16 external routes—including one default route—in IP networks
- **Rapid Convergence Spanning Tree Protocol (802.1w):** increases network uptime through faster recovery from failed links
- **802.3ad Link Aggregation Control Protocol (LACP) and HP trunking:** support up to 6 trunks, each with up to 4 links (ports) per trunk
- **Cisco Fast EtherChannel® (FEC):** supports Cisco's proprietary FEC trunking protocol
- **802.1X and RADIUS network login:** control port-based access for authentication and accountability
- **Port security:** prevents unauthorized access using MAC address lockdown
- **TACACS+:** eases switch management security administration by using a password authentication server
- **Secure Shell (SSH):** encrypts all transmitted data for secure remote access over IP networks
- **Secure Sockets Layer (SSL):** encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- **VLAN:** supports up to 30 port-based VLANs, GVRP, and 802.1Q VLAN tagging
- **Traffic prioritization (802.1p):** allows real-time traffic classification into 8 priority levels mapped to 4 queues
- **RMON, extended RMON, and SMON:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Stacking capability:** single IP address management for a virtual stack of up to 16 switches, including the 2500 series, 2600 series, 2800 series, 4000m, 6108, 8000m, and 4100gl series
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100 ports
- **Group VLAN Registration Protocol (GVRP):** allows automatic learning and dynamic assignment of VLANs
- **Cisco Discovery Protocol (CDP):** enables real-time mapping of nodes to switch ports
- **Friendly port names:** allow assignment of descriptive names to ports
- **Find-Fix-and-Inform:** finds and fixes common network problems automatically, then informs administrator
- **Secure access to manage the switches:** all access methods—CLI, GUI, or MIB—are securely encrypted through SSHv2, SSL, and/or SNMPv3
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

# HP ProCurve Switch 2600 Series

## Accessories

- NEW** • HP ProCurve 600 Redundant and External Power Supply (J8168A)\* (2650-PWR and 2626-PWR only)
- HP ProCurve Gigabit-LH-LC Mini-GBIC (J4860A)
- HP ProCurve Gigabit-LX-LC Mini-GBIC (J4859A)
- HP ProCurve Gigabit-SX-LC Mini-GBIC (J4858A)

\*Check [www.hp.com/go/hpprocurve](http://www.hp.com/go/hpprocurve) for availability.

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

## Services

### HP ProCurve Switch 2650:

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H5481A/E)
- Installation with minimum configuration, system-based pricing (U4826A/E)
- Installation with HP-provided configuration, system-based pricing (U4830A/E)

### HP ProCurve Switch 2626:

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H5484A/E)
- Installation with minimum configuration, system-based pricing (U4826A/E)
- Installation with HP-provided configuration, system-based pricing (U4830A/E)

### HP ProCurve Switch 2650-PWR and 2626-PWR:

- Check [www.hp.com/go/procurveservices](http://www.hp.com/go/procurveservices) for availability.

# HP ProCurve Switch 2600 Series

## Specifications

### Ports

#### 2650/2650-PWR

48 RJ-45 10/100 ports  
(IEEE 802.3 Type 10Base-T;  
802.3u Type 100Base-TX)

#### 2626/2626-PWR

24 RJ-45 10/100 ports  
(IEEE 802.3 Type 10Base-T;  
802.3u Type 100Base-TX)

#### 2600 series

2 dual-personality ports—each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX; 802.3ab 1000Base-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers)

### Physical characteristics

#### 2626

– Dimensions:  
44.0 x 32.5 x 4.4 cm  
(17.32 x 12.8 x 1.73 in.)  
– Weight: 4.15 kg (9.15 lb.)

#### 2626-PWR

– Dimensions:  
45.8 x 44.25 x 4.45 cm  
(18.03 x 17.42 x 1.75 in.)  
(1U height)  
– Weight: 5.18 kg (11.5 lb.)

#### 2650

– Dimensions:  
44.25 x 32.5 x 4.4 cm  
(17.32 x 12.8 x 1.73 in.)  
– Weight: 4.44 kg (9.78 lb.)

### Physical characteristics (cont.)

#### 2650-PWR

Dimensions:  
45.8 x 44.25 x 4.45 cm  
(18.03 x 17.42 x 1.75 in.)  
(1U height)  
Weight: 7.34 kg (16.3 lb.)

### Memory and processor

Processor: Motorola MPC8245  
PowerPC  
Flash capacity: 16 MB

### Mounting

Mounts in a standard 19 in. rack  
(hardware included)

### Performance

Latency: <12  $\mu$ s (LIFO)  
Throughput:

2650–10.1 mpps  
(64-byte packets)  
2626–6.6 mpps  
(64-byte packets)

Switching capacity:

2650–13.6 Gbps  
2626–9.6 Gbps

Address table size: 8,000

### Environment

Operating  
– Temperature: 0° C to 55° C  
(32° F to 131° F)  
– Relative humidity: 15% to 95%  
@ 40° C (104° F), non-  
condensing

### Non-operating/Storage

– Temperature: –40° C to 70° C  
(–40° F to 158° F)  
– Relative humidity: 15% to 95%  
@ 65° C (149° F)  
Altitude: up to 4.6 km (15,091 ft.)

### Electrical characteristics

#### 2626/2650

Heat dissipation: 341 max  
BTU/hr  
Voltage: 100–120 VAC/  
200–240 VAC  
Current: 1.5A  
Power: 100W  
Frequency: 50/60 Hz

#### 2626-PWR/2650-PWR

Heat dissipation: 2,155 max  
BTU/hr  
Voltage: 100–240 VAC  
Current: 6.4A  
Power: 631W  
Frequency: 50/60 Hz

### Safety

EN 60950/IEC 950  
UL 1950 3rd edition  
cUL (CSA 950)  
NOM-019-SCFI-1994

### Emissions

FCC Class A  
EN 55022/CISPR22 Class A  
VCCI Class A

### Immunity

EN 55024/CISPR24  
ESD: IEC 61000-4-2, 4 kV CD,  
8 kV AD  
Radiated: IEC 61000-4-3, 3V/m

EFT/Burst: IEC 61000-4-4,  
1.0 kV (power line), 0.5 kV  
(signal line)  
Surge: IEC 61000-4-5, 1 kV/  
2 kV AC  
Conducted: IEC 61000-4-6, 3V  
Power frequency magnetic field:  
IEC 61000-4-8, 1A/m, 50 or  
60 Hz  
Voltage dips and interruptions:  
IEC 61000-4-11, >95%  
reduction, 0.5 period, 30%  
reduction, 25 periods  
Harmonics: EN 61000-3-2/  
IEC 61000-3-2  
Flicker: EN 61000-3-3/  
IEC 61000-3-3

### Management

HP ProCurve Manager (included);  
HP ProCurve Manager Plus;  
command line interface;  
Web browser; configuration  
menu; out-of-band management  
(serial RS-232C)

### Standards and protocols

RFC 783 TFTP  
RFC 951 BootP  
RFC 1542 BootP  
RFC 854 Telnet  
RFC 768 UDP  
RFC 792 ICMP  
RFC 793 TCP  
RFC 826 ARP  
RFC 2030 Simple Network Time  
Protocol  
IEEE 802.3x Flow Control  
RFC 2236 IGMPv1/v2/v3  
IEEE 802.1D Spanning Tree  
IEEE 802.1w Rapid Convergence  
Spanning Tree

IEEE 802.3ad Link Aggregation  
Control Protocol  
IEEE 802.3af PoE  
Cisco Fast EtherChannel (FEC)  
SSHv1/v2 Secure Shell  
Secure Sockets Layer (SSL)  
IEEE 802.1X Network Login  
IEEE 802.1p Priority  
IEEE 802.1Q GVRP  
SNMPv1/v2c/v3  
Cisco Discovery Protocol (CDP)  
HTML and telnet management  
RFC 1493 Bridge MIB  
RFC 1213 MIB II  
RFC 2096 IP Forwarding  
Table MIB  
RFC 2737 Entity MIB  
RFC 2863 Evolution of Interface  
RFC 2665 Ethernet MIB  
RFC 2819 Four groups of  
RMON:  
1 (statistics), 2 (history),  
3 (alarm), and 9 (events)  
RFC 2021 RMON probe  
configuration (RMON v2)  
RFC 2668 802.3 MAU MIB  
RFC 2613 SMON  
RFC 2674 802.1p and 802.1Q  
Bridge MIB  
RFC 2618 RADIUS Client MIB  
RADIUS Accounting MIB

# HP ProCurve Switch 2500 Series



HP ProCurve Switch 2524 (J4813A)



HP ProCurve Switch 2512 (J4812A)

The HP ProCurve Switch 2500 Series are low cost, stackable, managed 24- and 12-port switches with 10/100 auto-sensing per port and 2 open transceiver slots for Gigabit or 100Base-FX. The HP ProCurve Switches 2524 and 2512 offer HP Auto-MDIX on all 10/100 and 100/1000 ports and high-availability features. The HP ProCurve Switches 2524 and 2512 are ideal for low-cost migration to 10/100 managed switching with uplinks.

## Features and benefits

- **9.6 Gbps switch fabric integrated on-chip:** high-performance switch design with a non-blocking architecture
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100 and 100/1000 ports
- **Stacking capability:** single IP address management for a virtual stack of up to 16 switches, including the 2500 series, 2600 series, 2800 series, 4000m, 6108, 8000m, and 4100gl series
- **RMON, extended RMON, and SMON:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Web interface:** allows you to configure the switch from any Web browser on the network
- **802.3ad Link Aggregation Control Protocol (LACP) and HP trunking:** support a single trunk with up to 4 links (ports)
- **VLAN support and tagging:** support up to 30 port-based VLANs and dynamic configuration of 802.1Q VLAN tagging, providing security between workgroups



# HP ProCurve Switch 2500 Series

## Features and benefits

- **Group VLAN Registration Protocol (GVRP):** allows automatic learning and dynamic assignment of VLANs
- **IP multicast (IGMPv3):** prevents flooding of IP multicast traffic
- **Port security:** prevents unauthorized access using MAC address lockdown
- **Spanning Tree Protocol:** provides redundant links while preventing network loops
- **IEEE 802.1p prioritization:** delivers data to devices based on the priority and type of traffic
- **TACACS+:** eases administration of switch management security by using a password authentication server
- **Cisco Fast EtherChannel® (FEC):** supports Cisco's proprietary FEC trunking protocol
- **Rapid Convergence Spanning Tree Protocol (802.1w):** increases network uptime through faster recovery from failed links
- **802.1X and RADIUS network login:** control port-based access for authentication and accountability
- **Cisco Discovery Protocol (CDP):** enables real-time mapping of nodes to switch ports
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

## Accessories

- HP ProCurve Switch Gigabit Stacking Kit (J4116A)
- HP ProCurve Gigabit-SX Transceiver (J4131B)
- HP ProCurve Gigabit-LX Transceiver (J4132A)
- HP ProCurve 100/1000-T Transceiver (J4834A)
- HP ProCurve 100-FX SC Transceiver (J4853A)

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

## Services

- 3-year, 4-hour onsite, 13x5 coverage, 13x5 phone support, for hardware (H5484A/E)
- Installation with minimum configuration, system-based pricing (U4826A/E)
- Installation with HP-provided configuration, system-based pricing (U4830A/E)

# HP ProCurve Switch 2500 Series

## Specifications

### Ports

#### Switch 2524:

24 RJ-45 10/100 ports  
(IEEE 802.3 Type 10Base-T;  
802.3u Type 100Base-TX)

#### Switch 2512:

12 RJ-45 10/100 ports  
(IEEE 802.3 Type 10Base-T;  
802.3u Type 100Base-TX)

#### Both:

2 open transceiver slots  
1 RS-232C DB-9 console port

### Physical characteristics

#### Dimensions:

44.2 x 20.3 x 4.6 cm  
(17.4 x 8.0 x 1.8 in.)

Weight: 2.7 kg (6.0 lb.)

### Memory and processor

Packet buffer size: 6 MB shared  
packet buffers

RAM/ROM capacity: 26 MB

Processor type and speed:

ARM7TDMI @ 62.5 MHz  
Flash capacity: 2 MB

### Mounting

Mounts in a standard 19 in. rack  
(hardware included)

### Performance

Latency: <10  $\mu$ s (LIFO)

2524—Throughput: 6.6 mpps  
(64-byte packets)

2512—Throughput: 4.8 mpps  
(64-byte packets)

Switch fabric speed: 9.6 Gbps

Address table size: 4,096 entries

### Environment

#### Operating

– Temperature: 0°C to 55°C  
(32°F to 131°F)

– Relative humidity: 15% to 95%  
@ 40°C (104°F), non-  
condensing

#### Non-operating/Storage

– Temperature: –40°C to 70°C  
(–40°F to 158°F)

– Relative humidity: 90% @ 65°C  
(149°F), non-condensing

Shock and vibration: HP759,  
HP760 (similar to EN 60068,  
IEC 68)

### Electrical characteristics

Heat dissipation: 123 BTU/hr

Power: 36W

Voltage: 100–127 VAC/  
200–240 VAC

Current: 2.4A max/1.2A max

Frequency: 50/60 Hz

### Safety

EN 60950/IEC 950

UL 1950 3rd edition

cUL (CSA 950)

NOM-019-SCFI-1994

### Emissions

FCC Class A

EN 55022/CISPR 22 Class A

VCCI Class A

### Immunity

Generic: EN 50082-1

ESD: IEC/EN 61000-4-2; 4 kV  
CD, 8 kV AD

Radiated: IEC/EN 61000-4-3;  
3V/m

EFT/Burst: IEC/EN 61000-4-4;  
1.0 kV (power line),  
0.5 kV (signal line)

### Management

HP ProCurve Manager (included);  
HP ProCurve Manager Plus;  
command line interface; Web  
browser; configuration menu;  
out-of-band management  
(serial RS-232C)

### Standards and protocols

IEEE 802.3x Flow Control  
IEEE 802.1D Spanning Tree  
IEEE 802.3ad Link Aggregation  
IEEE 802.1X Network Login  
IEEE 802.1p Priority  
IEEE 802.1Q VLANs  
SNMPv1/v2c  
RFC 1493 Bridge MIB  
RMON groups: 1 (statistics),  
2 (history), 3 (alarm), and  
9 (events)  
Extended RMON  
RFC 2674 802.1Q Bridge MIB

# HP ProCurve Switch 4000m and Switch 8000m



HP ProCurve Switch 4000m (J4121A)



HP ProCurve Switch 8000m (J4110A)

The HP ProCurve Switch 4000m and 8000m are managed modular 10/100/1000 desktop switches that provide scalable, expandable, low-cost migration to 10/100 switching for the desktop with Gigabit uplinks. The 4000m and 8000m are a simple way to build high-availability networks. The 4000m includes 40 auto-sensing 10/100 ports and 5 open module slots. The 8000m provides 10 open module slots.

## Features and benefits

- **Stacking capability:** single IP address management for a virtual stack of up to 16 switches, including the 2500 series, 2600 series, 2800 series, 4000m, 6108, 8000m, and 4100gl series
- **RMON and extended RMON:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Port monitoring:** allows you to monitor traffic using a switched port so you can view several ports at one time with a network analyzer
- **Web interface:** allows you to configure the switch from any Web browser on the network
- **Protocol filtering:** provides traffic control
- **VLAN support and tagging:** support up to 30 port-based VLANs and dynamic configuration of 802.1Q VLAN tagging, providing security between workgroups
- **Class of Service (CoS) tagging:** sets 802.1p priority field using policy-based management
- **IP multicast (IGMP):** prevents flooding of IP multicast traffic
- **Port security:** prevents unauthorized access using MAC address lockdown
- **HP switch meshing:** dynamically load-balances across multiple active redundant links to increase available aggregate bandwidth



# HP ProCurve Switch 4000m and Switch 8000m

## Features and benefits

- **Hot-swappable modules:** allow you to add or swap modules without interrupting the network
- **Optional redundant power supply:** provides uninterrupted power
- **Spanning Tree Protocol:** provides redundant links while preventing network loops
- **802.3ad Link Aggregation Control Protocol (LACP) and HP trunking:** support up to 10 trunks, each with up to 4 links (ports) per trunk; trunking across modules is supported
- **Cisco Fast EtherChannel® (FEC):** supports Cisco's proprietary FEC trunking protocol
- **Automatic broadcast control (ABC):** minimizes IP and IPX broadcast traffic throughout the network
- **TACACS+:** eases administration of switch management security by using a password authentication server
- **Cisco Discovery Protocol (CDP):** enables real-time mapping of nodes to switch ports
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

## Accessories

- HP ProCurve Switch 10/100Base-T Module (J4111A)
- HP ProCurve Switch 100Base-FX Module (J4112A)\*
- HP ProCurve Switch Gigabit-SX Module (J4113A)
- HP ProCurve Switch Gigabit-LX Module (J4114A)
- HP ProCurve Switch 100/1000Base-T Module (J4115B)
- HP ProCurve Switch 10Base-FL Module (J4118A)
- HP ProCurve Switch 4000m/8000m Redundant Power Supply (J4119A)

\* A redundant power supply (J4119A) is required if more than five 100Base-FX modules (J4112A) are installed.

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

# HP ProCurve Switch 4000m and Switch 8000m

## Services

- 3-year, 4-hour onsite, 13x5 coverage, 13x5 phone support, for hardware (H5481A/E)
- Installation with minimum configuration, system-based pricing (U4827A/E)
- Installation with HP-provided configuration, system-based pricing (U4831A/E)

## Specifications

### Ports

#### Switch 4000m:

- 40 RJ-45 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)
- 5 open module slots

#### Switch 8000m:

- 10 open module slots

#### Both:

- 1 RS-232C DB-9 console port

### Physical characteristics

#### Dimensions:

- 44.2 x 33.5 x 17.8 cm (17.4 x 13.2 x 7 in.)

#### Weight

- 4000m: 10.4 kg (22.9 lb.)
- 8000m: 9.4 kg (20.7 lb.)

### Memory and processor

Packet buffer size: 512 KB per port 10/100 ports; 4 MB per port (Gigabit ports)

RAM/ROM capacity: 16 MB

Processor type and speed:

Intel® i960JD @ 66 MHz

Flash capacity: 2 MB

### Mounting

Mounts in a standard 19 in. rack (hardware included)

### Performance

Latency: <10  $\mu$ s (LIFO)

Throughput: 4.67 mpps (64-byte packets)

Backplane speed: 3.8 Gbps

Address table size: 10,000 entries

### Environment

#### Operating

– Temperature: 0°C to 55°C (32°F to 131°F)

– Relative humidity: 15% to 95% @ 40°C (104°F), non-condensing

#### Non-operating/Storage

– Temperature: –40°C to 70°C (–40°F to 158°F)

– Relative humidity: 15% to 90% @ 65°C (149°F), non-condensing

Shock and vibration: EN 60068 (IEC 68)

### Electrical characteristics

Heat dissipation: 535 BTU/hr

Power: 157W

Voltage: 100–127 VAC/200–240 VAC

Current: 2.0A max/1.0A max

Frequency: 50/60 Hz

### Safety

EN 60950/IEC 950

UL 1950 3rd edition

cUL (CSA 950)

NOM-019-SCFI-1994

### Emissions

FCC Class A

EN 55022/CISPR 22 Class A

VCCI Class A

### Immunity

Generic: EN 50082-1

ESD: IEC 801-2; 4 kV CD,

8 kV AD

Radiated: IEC 801-3; 3V/m

EFT/Burst: IEC 801-4; 1.0 kV (power line), 0.5 kV (signal line)

### Management

HP ProCurve Manager (included);

HP ProCurve Manager Plus;

command line interface; Web

browser; configuration menu;

out-of-band management

(serial RS-232C)

### Standards and protocols

IEEE 802.3x Flow Control

IEEE 802.1D Spanning Tree

IEEE 802.1p Priority

IEEE 802.1Q VLANs

SNMPv1/v2c

RFC 1493 Bridge MIB

RMON groups: 1 (statistics),

2 (history), 3 (alarm), and

9 (events)

Extended RMON

# HP ProCurve Switch 2700 Series



HP ProCurve Switch 2724 (J4897A)



HP ProCurve Switch 2708 (J4898A)

The HP ProCurve Switch 2700 Series are low cost, unmanaged 24- and 8-port switches with 10/100/1000 auto-sensing per port. The HP ProCurve Switch 2724 and Switch 2708 offer HP Auto-MDIX on all 10/100/1000 ports and are ideal for building networks with connectivity for any combination of 10 Mbit, 100 Mbit, and 1000 Mbit devices.

## Features and benefits

- **Performance:** maximized throughput for all PCs and servers
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports
- **10/100/1000 auto-sensing per port:** automatically detects and sets the speed for any 10Base-T, 100Base-TX, or 1000Base-T device
- **Flow control:** ensures reliable communication during full-duplex operation
- **Unmanaged:** provides plug-and-play simplicity
- **Comprehensive LED display with per-port indicators:** provides an at-a-glance view of status, activity, speed, and full-duplex operation
- **Half/Full duplex auto-negotiating capability on every port:** doubles the throughput of every port
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

# HP ProCurve Switch 2700 Series

## Services

### HP ProCurve Switch 2724:

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H5481A/E)
- Installation with minimum configuration, system-based pricing (U4826A/E)
- Installation with HP-provided configuration, system-based pricing (U4830A/E)

### HP ProCurve Switch 2708:

- 3-year, 4-hour onsite, 13x5 coverage, 13x5 phone support, for hardware (H5484A/E)
- Installation with minimum configuration, system-based pricing (U4826A/E)
- Installation with HP-provided configuration, system-based pricing (U4830A/E)

## Specifications

### Ports

#### Switch 2724:

24 RJ-45 10/100/1000 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX, 802.3ab 1000Base-T Gigabit Ethernet)

#### Switch 2708:

8 RJ-45 10/100/1000 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX, 802.3ab 1000Base-T Gigabit Ethernet)

### Physical characteristics

#### Dimensions:

44.3 x 23.7 x 4.4 cm  
(17.4 x 9.3 x 1.7 in.)

#### Weight

– Switch 2724: 3.5 kg (7.6 lb.)  
– Switch 2708: 3.1 kg (6.8 lb.)

### Mounting

Mounts in a standard 19 in. rack (hardware included)

### Performance

#### Switch 2724

- Latency: <12  $\mu$ s (64-byte packets)
- Throughput: 35.7 mpps (64-byte packets)
- Fabric speed: 48 Gbps
- Address table size: 32,000 entries

#### Switch 2708

- Latency: <2.5  $\mu$ s (64-byte packets)
- Throughput: 11.9 mpps (64-byte packets)
- Fabric speed: 16 Gbps
- Address table size: 8,000 entries

### Environment

#### Operating

- Temperature: 0°C to 55°C (32°F to 131°F)
- Relative humidity: 15% to 95% @ 40°C (104°F), non-condensing

#### Non-operating/Storage

- Temperature: –40°C to 70°C (–40°F to 158°F)
- Relative humidity: 90% @ 65°C (149°F), non-condensing
- Shock and vibration: HP759, HP760 (similar to IEC 68)

### Electrical characteristics

Heat dissipation: 341 BTU/hr  
Power: 100W  
Voltage: 100–240 VAC  
Current: 1.5A  
Frequency: 50/60 Hz

### Safety

EN 60950/IEC 950  
UL 1950 3rd edition  
cUL (CSA 950)  
NOM-019-SCFI-1994

### Emissions

FCC Class A  
EN 55022/CISPR 22 Class A  
VCCI Class A

### Immunity

Generic: EN 50082-1  
ESD: IEC/EN 61000-4-2; 4 kV CD, 8 kV AD  
Radiated: IEC/EN 61000-4-3; 3V/m  
EFT/Burst: IEC/EN 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)

### Standards and protocols

Switch 2708: IEEE 802.3x Flow Control

# HP ProCurve Switch 2300 Series



HP ProCurve switch 2324 (J4818A)



HP ProCurve switch 2312 (J4817A)

The HP ProCurve Switch 2300 Series are low cost, unmanaged 24- and 12-port switches with 10/100 auto-sensing per port and 2 open transceiver slots for Gigabit or 100Base-FX uplinks. The HP ProCurve Switch 2324 and Switch 2312 offer HP Auto-MDIX on all 10/100 and 100/1000 uplink ports.

## Features and benefits

- **9.6 Gbps switch fabric integrated on-chip:** high-performance switch design with a non-blocking architecture
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100 and 100/1000 ports
- **Media-flexible uplink ports:** provide Gigabit or 100Base-FX ports for uplinks or server connections
- **10/100 auto-sensing per port:** automatically detects and sets the speed for any 10Base-T or 100Base-TX device
- **Flow control:** ensures reliable communication during full-duplex operation
- **Unmanaged:** provides plug-&-play simplicity
- **Comprehensive LED display with per-port indicators:** provides an at-a-glance view of status, activity, speed, and full-duplex operation
- **Half/Full duplex auto-negotiating capability on every port:** double the throughput of every port
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)



# HP ProCurve Switch 2300 Series

## Accessories

- HP ProCurve Switch Gigabit Stacking Kit (J4116A)
- HP ProCurve Gigabit-SX Transceiver (J4131B)
- HP ProCurve Gigabit-LX Transceiver (J4132A)
- HP ProCurve 100/1000-T Transceiver (J4834A)
- HP ProCurve 100-FX SC Transceiver (J4853A)

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

## Services

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H5484A/E)
- Installation with minimum configuration, system-based pricing (U4826A/E)
- Installation with HP-provided configuration, system-based pricing (U4830A/E)

## Specifications

### Ports

#### Switch 2324:

24 RJ-45 10/100 ports  
(IEEE 802.3 Type 10Base-T;  
802.3u Type 100Base-TX)

#### Switch 2312:

12 RJ-45 10/100 ports  
(IEEE 802.3 Type 10Base-T;  
802.3u Type 100Base-TX)

#### Both:

2 open transceiver slots  
1 RS-232C DB-9 download port

### Physical characteristics

Dimensions:  
44.2 x 20.3 x 4.6 cm  
(17.4 x 8.0 x 1.8 in.)  
Weight: 2.7 kg (6.0 lb.)

### Memory and processor

Packet buffer size: 6 MB shared  
packet buffers  
RAM/ROM capacity: 26 MB  
Processor type and speed:  
ARM7TDMI @ 62.5 MHz  
Flash capacity: 2 MB

### Mounting

Mounts in a standard 19 in. rack  
(hardware included)

### Performance

Latency: <10  $\mu$ s (LIFO)  
Throughput:  
– Switch 2324: 6.6 mpps  
(64-byte packets)  
– Switch 2312: 4.8 mpps  
(64-byte packets)  
Switch fabric speed: 9.6 Gbps  
Address table size: 4,096 entries

### Environment

Operating  
– Temperature: 0°C to 55°C  
(32°F to 131°F)  
– Relative humidity: 15% to 95%  
@ 40°C (104°F), non-  
condensing  
Non-operating/Storage  
– Temperature: –40°C to 70°C  
(–40°F to 158°F)  
– Relative humidity: 90% @ 65°C  
(149°F), non-condensing  
Shock and vibration: HP759,  
HP760 (similar to EN 60068,  
IEC 68)

### Electrical characteristics

Heat dissipation: 123 BTU/hr  
Power: 36W  
Voltage: 100–127 VAC/  
200–240 VAC  
Current: 2.4A max/1.2A max  
Frequency: 50/60 Hz

### Safety

EN 60950/IEC 950  
UL 1950 3rd edition  
cUL (CSA 950)  
NOM-019-SCFI-1994

### Emissions

FCC Class A  
EN 55022/CISPR 22 Class A  
VCCI Class A

### Immunity

Generic: EN 50082-1  
ESD: IEC/EN 61000-4-2; 4 kV  
CD, 8 kV AD  
Radiated: IEC/EN 61000-4-3;  
3V/m  
EFT/Burst: IEC/EN 61000-4-4;  
1.0 kV (power line), 0.5 kV  
(signal line)

### Standards and protocols

IEEE 802.3x Flow Control

# HP ProCurve Switch 2124



HP ProCurve Switch 2124 (J4868A)

The HP ProCurve Switch 2124 is a low cost, unmanaged 24-port switch with 10/100 auto-sensing per port and 1 open transceiver slot for a 100Base-FX uplink, the HP ProCurve Switch 2124 offers HP Auto-MDIX on all 10/100 ports.

## Features and benefits

- **24 auto-sensing 10/100 ports:** high-performance switching
- **1U form factor:** the industry's most frequently requested size
- **Full scalability:** optional 100Base-FX fiber-optic (full duplex bandwidth) transceiver enables low-cost uplink connectivity into a wiring closet up to 2 km away
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100 ports
- **Use on desktop or rackmounted:** quiet operation enables flexible use
- **Low-cost/high-performance:** combines affordability, scalability, and ease-of-use
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

## Accessories

- HP ProCurve 100-FX SC Transceiver (J4853A)

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

## Services

- 3-year, 4-hour onsite, 13x5 coverage, 13x5 phone support, for hardware (H5484A/E)
- Installation with minimum configuration, system-based pricing (U4826A/E)
- Installation with HP-provided configuration, system-based pricing (U4830A/E)

## Specifications

### Ports

24 RJ-45 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)  
1 open transceiver slot for optional 100Base-FX transceiver uplink

### Physical characteristics

Dimensions:  
44.2 x 20.3 x 4.4 cm  
(17.4 x 8.0 x 1.8 in.)  
Weight: 3.75 kg (8.25 lb.)

### Memory

Packet buffer size: 768 KB

### Mounting

Mounts in a standard 19 in. rack (hardware included)

### Performance

Latency: <8.5  $\mu$ s (LIFO)  
Switch fabric speed: 2.6 Gbps  
Address table size: 4,096 entries

### Environment

Operating  
– Temperature: 0°C to 55°C (32°F to 131°F)  
– Relative humidity: 15% to 95% @ 40°C (104°F), non-condensing  
Non-operating/Storage  
– Temperature: –40°C to 70°C (–40°F to 158°F)  
– Relative humidity: 90% @ 65°C (149°F), non-condensing  
Shock and vibration: HP759, HP760 (similar to EN 60068 IEC 68)  
Acoustic: ISO 7779, DIN EN 27779 compliant (4.2 Bels)

### Electrical characteristics

Heat dissipation: 341 BTU/hr  
Power: 100W  
Voltage: 100–240 VAC  
Current: 1.0A  
Frequency: 50/60 Hz

### Safety

EN 60950/IEC 950  
UL 1950 3rd edition  
cUL (CSA 950)  
NOM-019-SCFI-1994

### Emissions

FCC Class A  
EN 55022/CISPR 22 Class A  
VCCI Class A

### Immunity

Generic: EN 50082-1  
EN 55024/CISPR 24  
ESD: IEC/EN 61000-4-2; 4 kV CD, 8 kV AD  
Radiated: IEC/EN 61000-4-3; 3V/m  
EFT/Burst: IEC/EN 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)  
Surge: IEC 61000-4-5; 1 kV/2 kV AC  
Conducted: IEC 61000-4-6; 3V  
Power frequency magnetic field: IEC 61000-4-8; 1A/m, 50 or 60 Hz  
Voltage dips or interruptions: IEC 61000-4-11, >95% reduction, 0.5 period; 30% reduction, 25 periods  
Harmonics: EN 61000-3-2/IEC 61000-3-2  
Flicker: EN 61000-3-3/IEC 61000-3-3

### Standards and protocols

IEEE 802.3x Flow Control

# HP ProCurve Switch 408



HP ProCurve Switch 408 (J4097B)

The HP ProCurve Switch 408 is a compact, unmanaged 8-port 10/100 switch offers half/full duplex 10/100 auto-sensing on every port and HP Auto-MDIX on all ports for easy expansion. Ideal for building small networks or connecting peripherals with any combination of 10 Mbit and 100 Mbit devices.

## Features and benefits

- **Auto-sensing:** 10/100 auto-sensing per port automatically detects and sets the speed for any 10Base-T or 100Base-TX device
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100 ports
- **Flow control:** ensures reliable communications during full-duplex operation
- **LED display:** comprehensive LED display with per-port indicators allows you to monitor status and activity of every port at a glance
- **Automatic polarity correction:** helps find and fix common cabling problems
- **Switch design:** delivers dedicated bandwidth to each device and uses segmentation to improve network utilization
- **Auto-negotiation:** half/full duplex auto-negotiation on every port automatically doubles the throughput to each device, up to 200 Mbps

# HP ProCurve Switch 408

## Features and benefits

- **Compact:** small footprint allows multiple mounting configurations on a flat surface, side-by-side, or in a standard rack
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

## Accessories

- Mounting Kit (5183-7210)

For accessory information, including port counts, IEEE specs, and compatibility, see pages 46–59.

## Services

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (H5484A/E)
- Installation with minimum configuration, system-based pricing (U4826A/E)
- Installation with HP-provided configuration, system-based pricing (U4830A/E)

## Specifications

### Ports

8 RJ-45 10/100 ports (IEEE 802.3 Type 10Base-TX; 802.3u Type 100Base-TX)  
All ports HP Auto-MDIX

### Physical characteristics

Dimensions:  
19.9 x 12.1 x 4.0 cm  
(7.8 x 4.8 x 1.6 in.)  
Weight: 0.7 kg (1.5 lb.)

### Mounting

Mounts in a standard 19 in. rack with optional four-way mounting kit

### Memory

Packet buffer size: 64 KB per port  
RAM/ROM capacity: 512 KB

### Performance

Address table size: 1,000

### Environment

Operating  
– Temperature: 0°C to 55°C (32°F to 131°F)  
– Relative humidity: 15 to 95% @ 40°C (104°F), non-condensing  
Non-operating/Storage  
– Temperature: –40°C to 70°C (–40°F to 158°F)  
– Relative humidity: 90% @ 65°C (149°F), non-condensing  
Shock and vibration: EN 60068 (IEC 68)

### Electrical characteristics

Heat dissipation: 52 BTU/hr  
Power: 15W (external power supply)  
Voltage: 110–127 VAC/  
200–240 VAC  
Current: 0.4A max/0.2A max  
Frequency: 50–60 Hz

### Safety (complies with)

EN 60950/IEC 950  
UL 1950  
CSA 950  
NOM-019-SCFI-1994

### Emissions

FCC Class A  
EN 55022:1998/CISPR 22:1997  
Class A  
VCCI Class A

### Immunity

Generic: EN 55022:1998/  
CISPR 22:1997  
ESD: IEC 61000-4-3:1995;  
4 kV CD, 8 kV AD  
Radiated: IEC 61000-4-3:1995;  
3V/m  
EFT/Burst: IEC 61000-4-4:1995;  
1.0 kV (power line),  
0.5 kV (signal line)  
Surge: IEC 61000-4-5:1995;  
1 kV/2 kV AC  
Conducted: IEC 61000-4-6:1996;  
3V  
Magnetic field: IEC 61000-4-8:1993; 1A/m, 50 or 60 Hz  
Voltage: IEC 61000-4-11:1994;  
>95% reduction, 0.5 period;  
30% reduction, 25 periods  
Harmonics: EN 61000-3-2:1995;  
IEC 61000-3-2:1995  
Flicker: EN 61000-3-3:1995;  
IEC 61000-3-3:1994

# HP ProCurve Routing Switch 9300m Series Modules and RPS

## Used with the following

- HP ProCurve Routing Switch 9315m (J4874A)
- HP ProCurve Routing Switch 9308m (J4138A)
- HP ProCurve Routing Switch 9304m (J4139A)



**HP ProCurve 9300 EP 8-Port Mini-GBIC Redundant Management Module (J4885A)**  
with 8 open mini-GBIC slots

### Ports

8 open mini-GBIC slots  
1 RS-232C DB-9 console port  
Duplex: full

### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 1.97 kg (4.35 lb.)

### Mini-GBICs supported (ordered separately)

- J4858A HP ProCurve Gigabit-SX-LC mini-GBIC
- J4859A HP ProCurve Gigabit-LX-LC mini-GBIC
- J4860A HP ProCurve Gigabit-LH-LC mini-GBIC

For mini-GBIC specification information, see page 56.  
For management specification information, see page 12.  
This module cannot be installed in the same chassis with non-EP modules.  
Two modules are required for redundant configuration.



**HP ProCurve 9300 EP 16-Port Mini-GBIC Module (J4894A)**  
with 16 open mini-GBIC slots

### Ports

16 open mini-GBIC slots  
Duplex: full

### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 1.95 kg (4.31 lb.)

### Mini-GBICs supported (ordered separately)

- J4858A HP ProCurve Gigabit-SX-LC mini-GBIC
- J4859A HP ProCurve Gigabit-LX-LC mini-GBIC
- J4860A HP ProCurve Gigabit-LH-LC mini-GBIC

For mini-GBIC specification information, see page 56.  
This module cannot be installed in the same chassis with non-EP modules.



**HP ProCurve 9300 EP 16-Port 100/1000-T Module (J4895A)**  
with 16 auto-sensing 100/1000 ports

### Ports

16 auto-sensing 100/1000 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)  
Connector: RJ-45  
Duplex: full

### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 1.95 kg (4.31 lb.)

### Cabling

Type:  
• 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX  
• 1000Base-T: Category 5 (5E or better recommended), 100Ω differentiated 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3ab 1000Base-T

This module cannot be installed in the same chassis with non-EP modules.



**HP ProCurve 9300 EP 48-Port 10/100-TX RJ-45 Module (J4881A)**  
with 48 auto-sensing 10/100 ports

### Ports

48 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)  
Connector: RJ-45  
Duplex: half or full

### Physical characteristics

Dimensions: 40.6 x 31.75 x 5.1 cm  
(16.0 x 12.5 x 2.0 in.)  
Weight: 2.36 kg (5.2 lb.)

### Cabling

Type:  
• 10Base-T: Category 3 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T specifications  
• 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX

This module cannot be installed in the same chassis with non-EP modules.

# HP ProCurve Routing Switch 9300m Series Modules and RPS

## Used with the following

- HP ProCurve Routing Switch 9315m (J4874A)
- HP ProCurve Routing Switch 9308m (J4138A)
- HP ProCurve Routing Switch 9304m (J4139A)



### HP ProCurve 9300 EP 48-Port 10/100-TX Telco (RJ-21) Module (J4889A)

with 48 auto-sensing 10/100 ports

#### Ports

48 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)  
Connector: RJ-21  
Duplex: half or full

#### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 2.11 kg (4.65 lb.)

#### Cabling

##### Type:

- 10Base-T: Category 3 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T specifications
- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX

This module cannot be installed in the same chassis with non-EP modules.



### HP ProCurve 9300 10 Gb 10 km Module (J4891A)

1310 nanometer serial optical interface supports up to 10 km

#### Ports

1-port 10 Gigabit Ethernet (IEEE 802.3ae Type 10Gbase-LR 1310 nm serial optics)  
Duplex: full

#### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 2.24 kg (4.95 lb.)

#### Cabling

Type: 10Gbase-LR serial 1310 nm long haul (up to 10 km on Single Mode Fiber (SMF))  
Maximum distance: 10 km

This module can be installed in the same chassis with either EP or non-EP modules.

Use in a chassis managed with the T-Flow redundant management module requires software version 7.6.01 or greater.



**NEW**

### HP ProCurve 9300 2-Port 10 GbE Module (J8174A)

single-slot module provides two ports 10 GbE connectivity

#### Ports

2 open 10 GbE XENPAK transceiver slots  
Duplex: full

#### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 2.4 kg (5.2 lb.)

#### XENPAK transceivers:

- HP ProCurve 9300 10 GbE LR Optic (J8173A)  
For XENPAK transceiver information, see page 49.
- HP ProCurve 9300 10 GbE SR Optic (J8175A)
- HP ProCurve 9300 10 GbE ER Optic (J8176A)

#### Cabling

Type: 10Gbase-LR serial 1310 nm long haul  
Maximum distance: up to 10 km on Single Mode Fiber (SMF)

For mini-GBIC specification information, see page 56.

This module can be installed in the same chassis with either EP or non-EP modules.

This module requires software version 7.6.04 or greater.



### HP ProCurve 9300 Mini-GBIC Redundant Management Module (J4857A)

with 8 open mini-GBIC slots

#### Ports

8 open mini-GBIC slots  
1 RS-232C DB-9 console port  
Duplex: full

#### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 1.22 kg (2.7 lb.)

#### Mini-GBICs supported (ordered separately)

- J4858A HP ProCurve Gigabit-SX-LC mini-GBIC
- J4859A HP ProCurve Gigabit-LX-LC mini-GBIC
- J4860A HP ProCurve Gigabit-LH-LC mini-GBIC

For mini-GBIC specification information, see page 56. For management specification information, see page 12.

This module cannot be installed in the same chassis with EP modules or with the following management modules:

- J4141A HP ProCurve 9300 10/100 management module
- J4144A HP ProCurve 9300 Gigabit-SX management module
- J4146A HP ProCurve 9300 Gigabit-LX/SX management module
- J4879A HP ProCurve 9300 EP 8-port mini-GBIC redundant management module
- J4885A HP ProCurve 9300 T-Flow redundant management module

Two modules are required for redundant configuration.

For use with 9300 2-port 10 GbE module (J8174A).

# HP ProCurve Routing Switch 9300m Series Modules and RPS

## Used with the following

- HP ProCurve Routing Switch 9315m (J4874A)
- HP ProCurve Routing Switch 9308m (J4138A)
- HP ProCurve Routing Switch 9304m (J4139A)



### HP ProCurve 9300 Mini-GBIC Module (J4856A)

with 8 open mini-GBIC slots

#### Ports

8 open mini-GBIC slots  
Duplex: full

#### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 1.22 kg (2.7 lb.)

#### Mini-GBICs supported (ordered separately)

- J4858A HP ProCurve Gigabit-SX-LC mini-GBIC
- J4859A HP ProCurve Gigabit-LX-LC mini-GBIC
- J4860A HP ProCurve Gigabit-LH-LC mini-GBIC

For mini-GBIC specification information, see page 56.  
This module cannot be installed in the same chassis with EP modules.



### HP ProCurve 9300 1000Base-T Module (J4842A)

with 8 1000Base-T ports

#### Ports

8 1000Base-T ports (IEEE 802.3ab Type 1000Base-T)  
Connector: RJ-45  
Duplex: full

#### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 1.34 kg (2.95 lb.)

#### Cabling

Type: Category 5 (5E or better recommended), 100Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3ab 1000Base-T  
Maximum distance: 100m

This module cannot be installed in the same chassis with EP modules.



### HP ProCurve 9300 100Base-FX Module (J4142A)

with 24 100Base-FX ports

#### Ports

24 100Base-FX ports (IEEE 802.3u Type 100Base-FX)  
Connector: MTRJ  
Duplex: full

#### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 1.36 kg (3.0 lb.)

#### Cabling

Type: 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
Maximum distance: 2 km

This module cannot be installed in the same chassis with EP modules.



### HP ProCurve 9300 10/100 Module (J4140A)

with 24 auto-sensing 10/100 ports

#### Ports

24 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)  
Connector: RJ-45  
Duplex: half or full

#### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 1.50 kg (3.3 lb.)

#### Cabling

Type:

- 10Base-T: Category 3 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T specifications
- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX

Maximum distance: 100m

This module cannot be installed in the same chassis with EP modules.



# HP ProCurve Routing Switch 9300m Series Modules and RPS

## Used with the following

- HP ProCurve Routing Switch 9315m (J4874A)
- HP ProCurve Routing Switch 9308m (J4138A)
- HP ProCurve Routing Switch 9304m (J4139A)



### HP ProCurve 9300 T-Flow Redundant Management Module (J4879A)

Portless management module with NetFlow and sFlow capability for traffic metering and traffic analysis applications

#### Ports

Portless management module with NetFlow and sFlow capability for traffic metering and traffic analysis applications  
1 RS-232C DB-9 console port

#### Physical characteristics

Dimensions: 40.6 x 31.75 x 2.5 cm  
(16.0 x 12.5 x 1.0 in.)  
Weight: 2.25 kg (4.95 lb.)

For management specification information, see page 12.

This module cannot be installed in the same chassis with EP modules.

Redundancy requires software version 7.6.01 or greater.

Two modules are required for redundant configuration.

### HP ProCurve 9304m/9308m Redundant Power Supply (J4147A)

not pictured

#### Physical characteristics

Dimensions: 34.5 x 18.5 x 8.0 cm  
(13.6 x 7.3 x 3.15 in.)  
Weight: 3.70 kg (8.15 lb.)

#### Electrical characteristics

- Voltage: 100–120 VAC/200–240 VAC
- Maximum current: 8.0A/4.0A
- Frequency range: 50/60 Hz

For additional RPS specification information, see the data sheet for the product in which the RPS is being installed.

This RPS is supported only in the following chassis:

- J4138A HP ProCurve Routing Switch 9308m
- J4139A HP ProCurve Routing Switch 9304m

### HP ProCurve 9315m Redundant Power Supply (J4875A)

not pictured

#### Physical characteristics

Dimensions: 39.4 x 19.7 x 11.2 cm  
(15.5 x 7.75 x 4.4 in.)  
Weight: 6.55 kg (14.45 lb.)

#### Electrical characteristics

- Voltage: 100–120 VAC/200–240 VAC
- Maximum current: 16A
- Frequency range: 47/63 Hz

For additional RPS specification information, see the data sheet for the product in which the RPS is being installed.

This RPS is supported only in the J4874A HP ProCurve Routing Switch 9315m.



**NEW**

### HP ProCurve 9300 10 GbE LR Optic (J8173A)

XENPAK-based hot-pluggable optic for use with 9300 2-port 10 GbE module. LR or 10 km distance.

#### Ports

1-port 10 Gb Ethernet (IEEE 802.3ae Type 10Gbase-LR 1310 serial optics)  
Connector: SC  
Duplex: full

#### Physical characteristics

Dimensions: 12.1 x 3.6 x 1.74 cm  
(4.8 x 1.4 x 0.7 in.)  
Weight: 0.14 kg (.30 lb.)

For use with HP ProCurve 9300 2-Port 10 GbE Module (J8174A) only.

Optic only—module sold separately.

Maximum distance: 10 km (J8173A), 300 m (J8175A), 40 km (J8176A)

### Other optics

**NEW**

### HP ProCurve 9300 10 GbE SR Optic (J8175A)

**NEW**

### HP ProCurve 9300 10 GbE ER Optic (J8176A)

**NEW**

# HP ProCurve Switch xl Modules and RPS

Used with the following

- HP ProCurve Switch 5372xl (J4848A)
- HP ProCurve Switch 5308xl (J4819A)
- HP ProCurve Switch 5348xl (J4849A)
- HP ProCurve Switch 5304xl (J4850A)



**HP ProCurve Switch xl 10/100-TX Module (J4820A)**  
with 24 auto-sensing 10/100 ports

#### Ports

24 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)  
Connector: RJ-45  
HP Auto-MDIX: yes  
Duplex: half or full

#### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm  
(8.97 x 8.0 x 1.75 in.)  
Weight: 0.79 kg (1.75 lb.)

#### Cabling

##### Type:

- 10Base-T: Category 3 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T specifications
  - 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX
- Maximum distance: 100m



**HP ProCurve Switch xl 100/1000-T Module (J4821A)**  
with 4 auto-sensing 100/1000 ports

#### Ports

4 auto-sensing 100/1000 ports (IEEE 802.3u Type 100Base-TX; 802.3ab Type 1000Base-T)  
Connector: RJ-45  
HP Auto-MDIX: yes  
Duplex:

- 100Base-TX: half or full
- 1000Base-T: full

#### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm  
(8.97 x 8.0 x 1.75 in.)  
Weight: 0.68 kg (1.5 lb.)

#### Cabling

##### Type:

- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX
  - 1000Base-T: Category 5 (5E or better recommended), 100Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3ab 1000Base-T
- Maximum distance: 100m



**HP ProCurve Switch xl Mini-GBIC Module (J4878A)**  
with 4 open mini-GBIC slots

#### Ports

4 open mini-GBIC slots

#### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm  
(8.97 x 8.0 x 1.75 in.)  
Weight: 0.658 kg (1.45 lb.)

#### Mini-GBICs supported (ordered separately)

- J4858A HP ProCurve Gigabit-SX-LC mini-GBIC
- J4859A HP ProCurve Gigabit-LX-LC mini-GBIC
- J4860A HP ProCurve Gigabit-LH-LC mini-GBIC

For mini-GBIC specification information, see page 56.



**HP ProCurve Switch xl 100-FX MTRJ Module (J4852A)**  
with 12 100Base-FX MTRJ ports

#### Ports

12 100Base-FX ports (IEEE 802.3u Type 100Base-FX)  
Connector: MTRJ  
Duplex: half or full

#### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm  
(8.97 x 8.0 x 1.75 in.)  
Weight: 0.88 kg (1.95 lb.)

#### Cabling

Type: 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
Maximum distance: 2 km (full-duplex) or 412m (half-duplex)

# HP ProCurve Switch xl Modules and RPS

## Used with the following

- HP ProCurve Switch 5372xl (J4848A)
- HP ProCurve Switch 5308xl (J4819A)
- HP ProCurve Switch 5348xl (J4849A)
- HP ProCurve Switch 5304xl (J4850A)

### HP ProCurve Switch gl/xl Redundant Power Supply

**(J4839A)**

not pictured

#### Physical characteristics

Dimensions: 20 x 16 x 12.7 cm (7.9 x 6.3 x 5 in.)

Weight: 2.52 kg (5.55 lb.)

#### Electrical characteristics

- Voltage: 100–120 VAC/200–240 VAC
- Maximum current: 8.2A/3.8A
- Frequency range: 50/60 Hz

For additional RPS specification information, see the data sheet for the product in which the RPS is being installed.

# HP ProCurve Switch gl Modules and RPS

## Used with the following

- HP ProCurve Switch 4160gl (J8152A)
- HP ProCurve Switch 4140gl (J48151A)
- HP ProCurve Switch 4108gl bundle (J4861A)
- HP ProCurve Switch 4108gl (J4865A)
- HP ProCurve Switch 4148gl (J4888A)
- HP ProCurve Switch 4104gl (J4887A)



NEW

### HP ProCurve Switch gl 10/100/1000 Module (J4908A)

#### Ports

24 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX; 802.3ab Type 1000Base-T)

2 open mini-GBIC slots

Connector: RJ-45

HP Auto-MDIX: yes

Duplex: half or full

#### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm (8.97 x 8.0 x 1.75 in.)

Weight: 0.567 kg (1.25 lb.)

#### Cabling

Type:

- 10Base-T: Category 3 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T specifications
- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX
- 1000Base-T: Category 5 (5E or better recommended), 100Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3ab 1000Base-T

Maximum distance: 100m



### HP ProCurve Switch gl 10/100-TX Module (J4862B)

with 24 auto-sensing 10/100 ports

#### Ports

24 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)

Connector: RJ-45

HP Auto-MDIX: yes

Duplex: half or full

#### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm (8.97 x 8.0 x 1.75 in.)

Weight: 0.567 kg (1.25 lb.)

#### Cabling

Type:

- 10Base-T: Category 3 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T specifications
- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX

Maximum distance: 100m



### HP ProCurve Switch gl Mini-GBIC Module (J4893A)

with 6 open mini-GBIC slots

#### Ports

6 open mini-GBIC slots

#### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm (8.97 x 8.0 x 1.75 in.)

Weight: 0.431 kg (0.95 lb.)

#### Mini-GBICs supported (ordered separately)

- J4858A HP ProCurve Gigabit-SX-LC mini-GBIC
- J4859A HP ProCurve Gigabit-LX-LC mini-GBIC
- J4860A HP ProCurve Gigabit-LH-LC mini-GBIC

For mini-GBIC specification information, see page 56.



### HP ProCurve Switch gl 100/1000-T Module (J4863A)

with 6 auto-sensing 100/1000 ports

#### Ports

6 auto-sensing 100/1000 ports (IEEE 802.3u Type 100Base-TX; 802.3ab Type 1000Base-T)

Connector: RJ-45

HP Auto-MDIX: yes

Duplex:

- 100Base-TX: half or full
- 1000Base-T: full

#### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm (8.97 x 8.0 x 1.75 in.)

Weight: 0.454 kg (1.0 lb.)

#### Cabling

Type:

- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX
- 1000Base-T: Category 5 (5E or better recommended), 100Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3ab 1000Base-T

Maximum distance: 100m

# HP ProCurve Switch gl Modules and RPS

## Used with the following

- HP ProCurve Switch 4160gl (J8152A)
- HP ProCurve Switch 4140gl (J48151A)
- HP ProCurve Switch 4108gl bundle (J4861A)
- HP ProCurve Switch 4108gl (J4865A)
- HP ProCurve Switch 4148gl (J4888A)
- HP ProCurve Switch 4104gl (J4887A)



**HP ProCurve Switch gl Transceiver Module (J4864A)**  
with 3 open transceiver slots

### Ports

3 open transceiver slots

### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm

(8.97 x 8.0 x 1.75 in.)

Weight: 0.522 kg (1.15 lb.)

### Transceivers supported (ordered separately)

- J4116A HP ProCurve Gigabit stacking kit
- J4131B HP ProCurve Gigabit-SX transceiver
- J4132A HP ProCurve Gigabit-LX transceiver
- J4834A HP ProCurve 100/1000-T transceiver
- J4853A HP ProCurve 100-FX transceiver

For transceiver specification information, see pages 57–58.



**HP ProCurve Switch gl 100-FX MTRJ Module (J4892A)**  
with 12 100Base-FX MTRJ ports

### Ports

12 100Base-FX ports (IEEE 802.3u Type 100Base-FX)

Connector: MTRJ

Duplex: half or full

### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm

(8.97 x 8.0 x 1.75 in.)

Weight: 0.66 kg (1.45 lb.)

### Cabling

Type: 62.5/125  $\mu\text{m}$  or 50/125  $\mu\text{m}$  (core/cladding) diameter, graded-index, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively

Maximum distance: 2 km (full-duplex) or 412m (half-duplex)

**HP ProCurve Switch gl/xl Redundant Power Supply (J4839A)**  
not pictured

### Physical characteristics

Dimensions: 22.8 x 20.3 x 4.45 cm

(8.97 x 8.0 x 1.75 in.)

Weight: 2.52 kg (0.95 lb.)

### Electrical characteristics

- Voltage: 100–127 VAC/200–240 VAC
- Maximum current: 8.2A/3.8A
- Frequency range: 50/60 Hz

For additional RPS specification information, see the data sheet for the product in which the RPS is being installed.

# HP ProCurve Switch 8000m and 4000m Modules

## Used with the following

- HP ProCurve Switch 8000m (J4110A)
- HP ProCurve Switch 4000m (J4121A)



### HP ProCurve Switch 10/100Base-T Module (J4111A)

with 8 auto-sensing 10/100 ports

#### Ports

8 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)  
Connector: RJ-45  
HP Auto-MDIX: no (ports are MDI-X)  
Duplex: half or full

#### Physical characteristics

Dimensions: 18 x 16.5 x 3.5 cm (7.1 x 6.5 x 1.4 in.)  
Weight: 0.26 kg (0.55 lb.)

#### Cabling

##### Type:

- 10Base-T: Category 3 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T specifications
- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX  
Maximum distance: 100m



### HP ProCurve Switch 100Base-FX Module (J4112A)

with 4 100Base-FX ports

#### Ports

4 100Base-FX ports (IEEE 802.3u Type 100Base-FX)  
Connector: SC  
Duplex: full

#### Physical characteristics

Dimensions: 18 x 16.5 x 3.5 cm (7.1 x 6.5 x 1.4 in.)  
Weight: 0.26 kg (0.55 lb.)

#### Cabling

Type: 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
Maximum distance: 2 km (full-duplex) or 412m (half-duplex)

An HP ProCurve 4000m/8000m redundant power supply (J4119A) is required if more than 5 HP ProCurve switch 100Base-FX modules (J4112A) are installed.



### HP ProCurve Switch Gigabit-SX Module (J4113A)

with one 1000Base-SX port

#### Ports

One 1000Base-SX port (IEEE 802.3z Type 1000Base-SX)  
Connector: SC  
Duplex: full

#### Physical characteristics

Dimensions: 18 x 16.5 x 3.5 cm (7.1 x 6.5 x 1.4 in.)  
Weight: 0.26 kg (0.55 lb.)

#### Cabling

Type: 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, low metal content, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
Maximum distance:

- 220m (62.5 μm core diameter, 160 MHz\*km bandwidth)
- 275m (62.5 μm core diameter, 200 MHz\*km bandwidth)
- 500m (50 μm core diameter, 400 MHz\*km bandwidth)
- 550m (50 μm core diameter, 500 MHz\*km bandwidth)



### HP ProCurve Switch Gigabit-LX Module (J4114A)

with one 1000Base-LX port

#### Ports

One 1000Base-LX port (IEEE 802.3z Type 1000Base-LX)  
Connector: SC  
Duplex: full

#### Physical characteristics

Dimensions: 18 x 16.5 x 3.5 cm (7.1 x 6.5 x 1.4 in.)  
Weight: 0.26 kg (0.55 lb.)

#### Cabling

Type: either single mode or multimode

- 9/125 μm (core/cladding) diameter, 1310 nm, low metal content, single mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1
- 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, low metal content, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively (a mode conditioning patch cord may be needed in some multimode fiber installations)  
Maximum distance: 10 km (single mode) or 550m (multimode)

# HP ProCurve Switch 8000m and 4000m Modules

## Used with the following

- HP ProCurve Switch 8000m (J4110A)
- HP ProCurve Switch 4000m (J4121A)



### HP ProCurve Switch 100/1000Base-T Module (J4115B)

with 1 auto-sensing 100/1000 port

#### Ports

1 auto-sensing 100/1000 port (IEEE 802.3u Type 100Base-TX; 802.3ab Type 1000Base-T)

Connector: RJ-45  
HP Auto-MDIX: yes

Duplex:

- 100Base-TX: half or full
- 1000Base-T: full

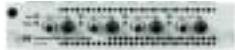
#### Physical characteristics

Dimensions: 18 x 16.5 x 3.5 cm (7.1 x 6.5 x 1.4 in.)  
Weight: 0.26 kg (0.55 lb.)

#### Cabling

Type:

- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX
  - 1000Base-T: Category 5 (5E or better recommended), 100Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3ab 1000Base-T
- Maximum distance: 100m



### HP ProCurve Switch 10Base-FL Module (J4118A)

with 4 10Base-FL ports

#### Ports

4 10Base-FL ports (IEEE 802.3j Type 10Base-FL)

Connector: ST

Duplex: half or full

#### Physical characteristics

Dimensions: 18 x 16.5 x 3.5 cm  
(7.1 x 6.5 x 1.4 in.)  
Weight: 0.26 kg (0.55 lb.)

#### Cabling

Type: 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively

Maximum distance: 1 km

### HP ProCurve 4000m/8000m Redundant Power Supply (J4119A)

not pictured

Only used with:

- HP ProCurve Switch 8000m (J4110A)
- HP ProCurve Switch 4000m (J4121A)

#### Physical characteristics

Dimensions: 20.6 x 14.0 x 16.8 cm  
(8.1 x 5.5 x 6.6 in.)  
Weight: 1.5 kg (3.3 lb.)

#### Electrical characteristics

- Voltage: 100–127 VAC/200–240 VAC
- Maximum current: 2.0A/1.0A
- Frequency range: 50/60 Hz

For additional RPS specification information, see the data sheet for the product in which the RPS is being installed.

# HP ProCurve Mini-GBICs

## Used with the following

- HP ProCurve 9300 EP 8-Port Mini-GBIC Redundant Management Module (J4885A)
- HP ProCurve 9300 EP 16-Port Mini-GBIC Module (J4894A)
- HP ProCurve 9300 Mini-GBIC Module (J4856A)
- HP ProCurve 9300 Mini-GBIC Redundant Management Module (J4857A)
- HP ProCurve Switch xl Mini-GBIC Module (J4878A)
- HP ProCurve Switch xl 16-port 10/100/1000 Module (J4907A)
- HP ProCurve Switch 4160gl (J8152A)
- HP ProCurve Switch 4140gl (J8151A)
- HP ProCurve Switch gl 10/100/1000 Module (J4908A)
- HP ProCurve Switch gl Mini-GBIC Module (J4893A)
- HP ProCurve Switch 2848 (J4904A)
- HP ProCurve Switch 2824 (J4903A)
- HP ProCurve Switch 6108 (J4902A)
- HP ProCurve Switch 2650 (J4899A)
- HP ProCurve Switch 2626 (J4900A)
- HP ProCurve Switch 2650-PWR (J8165A)
- HP ProCurve Switch 2626-PWR (J8164A)



### HP ProCurve Gigabit-SX-LC Mini-GBIC (J4858A)

with one 1000Base-SX port

#### Ports

One 1000Base-SX port (IEEE 802.3z Type 1000Base-SX)  
Connector: LC  
Duplex: full

#### Physical characteristics

Dimensions: 5.80 x 1.30 x 1.30 cm  
(2.28 x 0.51 x 0.51 in.)  
Weight: 0.0168 kg (0.037 lb.)

#### Cabling

Type: 62.5/125  $\mu\text{m}$  or 50/125  $\mu\text{m}$  (core/cladding) diameter, graded-index, low metal content, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
Maximum distance:

- 220m (62.5  $\mu\text{m}$  core diameter, 160 MHz\*km bandwidth)
- 275m (62.5  $\mu\text{m}$  core diameter, 200 MHz\*km bandwidth)
- 500m (50  $\mu\text{m}$  core diameter, 400 MHz\*km bandwidth)
- 550m (50  $\mu\text{m}$  core diameter, 500 MHz\*km bandwidth)



### HP ProCurve Gigabit-LX-LC Mini-GBIC (J4859A)

with one 1000Base-LX port

#### Ports

One 1000Base-LX port (IEEE 802.3z Type 1000Base-LX)  
Connector: LC  
Duplex: full

#### Physical characteristics

Dimensions: 5.80 x 1.30 x 1.30 cm  
(2.28 x 0.51 x 0.51 in.)  
Weight: 0.0168 kg (0.037 lb.)

#### Cabling

Type: either single mode or multimode  
• 9/125  $\mu\text{m}$  (core/cladding) diameter, 1310 nm, low metal content, single mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1  
• 62.5/125  $\mu\text{m}$  or 50/125  $\mu\text{m}$  (core/cladding) diameter, graded-index, low metal content, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively (a mode conditioning patch cord may be needed in some multimode fiber installations)  
Maximum distance: 10 km (single mode) or 550m (multimode)



### HP ProCurve Gigabit-LH-LC Mini-GBIC (J4860A)

with one 1000Base-LH port

#### Ports

One 1000Base-LH port (No IEEE standard exists for 1550 nm optics)  
Connector: LC  
Duplex: full

#### Physical characteristics

Dimensions: 5.80 x 1.30 x 1.30 cm  
(2.28 x 0.51 x 0.51 in.)  
Weight: 0.0168 kg (0.037 lb.)

#### Cabling

Type: 9/125  $\mu\text{m}$  (core/cladding) diameter, 1550 nm, low metal content, single mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1  
Maximum distance: 70 km



# HP ProCurve Transceivers

## Used with the following

- HP ProCurve Switch gl Transceiver Module (J4863A)
- HP ProCurve Switch 2524 (J4813A)
- HP ProCurve Switch 2512 (J4812A)
- HP ProCurve Switch 2324 (J4818A)
- HP ProCurve Switch 2312 (J4817A)



**HP ProCurve Switch Gigabit Stacking Kit (J4116A)**  
with 2 Gigabit transceivers plus interconnecting cable

### Ports

2 Gigabit transceivers (1 HSSDC port each)  
Connector: HSSDC  
Duplex: full

### Physical characteristics

Dimensions: 9.6 x 5.2 x 2.4 cm  
(3.8 x 2.05 x 0.95 in.)  
Weight: 0.042 kg (0.092 lb.)

### Cabling

Type: included with product  
Maximum distance: 23.5 in.



**HP ProCurve Gigabit SX Transceiver (J4131B)**  
with one 1000Base-SX port

### Ports

One 1000Base-SX port (IEEE 802.3z Type 1000Base-SX)  
Connector: SC  
Duplex: full

### Physical characteristics

Dimensions: 9.6 x 5.2 x 2.4 cm  
(3.8 x 2.05 x 0.95 in.)  
Weight: 0.042 kg (0.092 lb.)

### Cabling

Type: 62.5/125  $\mu\text{m}$  or 50/125  $\mu\text{m}$  (core/cladding) diameter, graded-index, low metal content, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
Maximum distance:

- 220m (62.5  $\mu\text{m}$  core diameter, 160 MHz\*km bandwidth)
- 275m (62.5  $\mu\text{m}$  core diameter, 200 MHz\*km bandwidth)
- 500m (50  $\mu\text{m}$  core diameter, 400 MHz\*km bandwidth)
- 550m (50  $\mu\text{m}$  core diameter, 500 MHz\*km bandwidth)



**HP ProCurve Gigabit LX Transceiver (J4132A)**  
with one 1000Base-LX port

### Ports

One 1000Base-LX port (IEEE 802.3z Type 1000Base-LX)  
Connector: SC  
Duplex: full

### Physical characteristics

Dimensions: 9.6 x 5.2 x 2.4 cm  
(3.8 x 2.05 x 0.95 in.)  
Weight: 0.04206 kg (0.093 lb.)

### Cabling

Type: either single mode or multimode

- 9/125  $\mu\text{m}$  (core/cladding) diameter, 1310 nm, low metal content, single mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1
- 62.5/125  $\mu\text{m}$  or 50/125  $\mu\text{m}$  (core/cladding) diameter, graded-index, low metal content, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively (a mode conditioning patch cord may be needed in some multimode fiber installations)

Maximum distance: 10 km (single mode) or 550m (multimode)

# HP ProCurve Transceivers

## Used with the following

- HP ProCurve Switch g1 Transceiver Module (J4863A)
- HP ProCurve Switch 2524 (J4813A)
- HP ProCurve Switch 2512 (J4812A)
- HP ProCurve Switch 2324 (J4818A)
- HP ProCurve Switch 2312 (J4817A)



### HP ProCurve 100/1000-T Transceiver (J4834A)

with one 100/1000 auto-sensing port

#### Ports

One 100/1000 auto-sensing port (IEEE 802.3u 100Base-TX and IEEE 802.3ab 1000Base-T)

Connector: RJ-45

Duplex:

- 100Base-TX: half or full
- 1000Base-T: full

#### Physical characteristics

Dimensions: 9.6 x 5.2 x 2.4 cm  
(3.8 x 2.05 x 0.95 in.)

Weight: 0.04662 kg (0.10 lb.)

#### Cabling

Type:

- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX
- 1000Base-T: Category 5 (5E or better recommended), 100Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3ab 1000Base-T

Maximum distance: 100m



### HP ProCurve 100-FX SC Transceiver (J4853A)

with one 100Base-FX port

#### Ports

One 100Base-FX (IEEE 802.3u Type 100Base-FX)

Connector: SC

Duplex: half or full (full duplex only when installed in unmanaged switches)

#### Physical characteristics

Dimensions: 9.6 x 5.2 x 2.4 cm  
(3.8 x 2.05 x 0.95 in.)

Weight: 0.04188 kg (0.092 lb.)

#### Cabling

Type: 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
Maximum distance: 2 km (full-duplex) or 412m (half-duplex)

# HP ProCurve Redundant and External Power Supply

## Used with the following

- HP ProCurve Switch xl PoE Module (J8161A)
- HP ProCurve Switch 2650-PWR (J8165A)
- HP ProCurve Switch 2626-PWR (J8164A)
- HP ProCurve Switch 2848 (J4904A)
- HP ProCurve Switch 2824 (J4903A)

**NEW**

### HP ProCurve 600 Redundant and External Power Supply (J8168A)

Provides 12V RPS for up to 6 stackable switches and 2 ports with 370W 50V PoE

#### Physical characteristics

Dimensions: 32.52 x 44.25 x 4.4 cm  
(12.8 x 17.42 x 1.73 in.)  
Weight: 5.24 kg (11.65 lb.)

#### Electrical characteristics

- Voltage: 100–120 VAC/200–240 VAC
- Maximum current: 6.3A/3.1A
- Frequency range: 50/60 Hz
- Power:
  - With EPS but without RPS: 506W
  - With EPS and RPS: 729W

Supports internal power supply redundancy for up to six devices.

Supports two External PoE devices with up to 370W at 50V for PoE applications.

Check [www.hp.com/go/hpprocurve](http://www.hp.com/go/hpprocurve) for availability.

# HP ProCurve Wireless Access Point 520wl



HP ProCurve Wireless Access Point 520wl (J8133A)\*

The HP ProCurve Wireless Access Point 520wl extends the range of your cabled Ethernet environment to an entire building or campus by providing easy network access for mobile users or for hard-to-wire locations, such as conference rooms. The Access Point 520wl is a high-performance bridge that features roaming, automatic channel selection, and Web-based configuration and management. It cost-effectively responds to the growing demands of enterprise and small-business users for anytime, anywhere access to files, e-mail, and the Internet. The Access Point 520wl supports up to 250 wireless clients per radio slot and 64- and 128-bit RC4 Wired Equivalent Privacy (WEP) encryption.

## Features and benefits

- **IEEE 802.1X EAP support:**

- Extends port-based network access control to the wireless LAN network. Supported EAP types include: MD5, TLS, PEAP, and TTLS for secure user authentication via certificate-based authentication or exchange of username and password within a secure tunnel environment.

- Two WEP keys (separate upstream and downstream keys) are generated and managed by the Access Point 520wl. WEP keys are distributed to the wireless client only after successful user authentication.

\* This product requires an HP ProCurve Wireless 802.11b Access Point Card 150wl or 802.11a Access Point Kit 160wl (ordered separately).

# HP ProCurve Wireless Access Point 520wl

- New WEP key pairs generated and distributed after authentication, at re-authentication, and at any given interval as configured in the Access Point 520wl.
- Mix mode support—shared downstream key (static) for all clients. Shared downstream key used by all non-802.1X clients for authentication and encryption of all wireless data. 802.1X enabled clients assigned dynamic WEP key for upstream encryption upon successful 802.1X authentication, re-authentication, or re-key interval.
- **VLAN support:** virtual local area networks (VLANs) segment network traffic into workgroups to restrict user access to network resources and limit broadcast and multicast traffic to users on a specific VLAN. The Access Point 520wl provides two-user VLAN support by utilizing the capabilities of the dual-slot radio design; each slot represents a unique VLAN. VLAN access is extended to wireless clients by using a unique Network Name (SSID) for each HP ProCurve Wireless 802.11b Access Point Card 150wl or HP ProCurve Wireless 802.11a Access Point Kit 160wl inserted in the Access Point 520wl.
- **WDS (wireless distribution system):** up to six wireless links are supported in each Access Point 520wl. Two configurations are possible:
  - Single radio configuration—supports wireless traffic to other WDS relay Access Points 520wl and local wireless clients within the cell.
  - Dual radio configuration—one radio supports wireless traffic to other WDS relay Access Points 520wl. The second radio supports local wireless clients within the cell.
- **Software updates:** free downloads are available from the Web.
- **Lifetime warranty:** for as long as you own the product with next-business-day advance replacement (available in most countries).

Benefits of a wireless VLAN include:

- Efficient use of the dual-slot radio bandwidth (capacity) by restricting broadcast, multicast, and unicast traffic to wireless clients on a specific VLAN.
- Secure method to separate guest users from restricted corporate network resources.
- **Investment protection:** with its two open bays, the Access Point 520wl allows users the ability to add support for 802.11a or 802.11b as their wireless needs expand by simply changing out the Access Point Cards.
- **Auto Channel Select:** Auto Channel Select (ACS) tests available channels and selects one based on signal strength. The available channel range is set by the regulatory agency responsible for your geographic region. The Access Point 520wl scans appropriate channels and selects the radio frequency channel with the best signal-to-noise ratio (in other words, signal strength).

# HP ProCurve Wireless Access Point 520wl

## Accessories

- HP ProCurve Wireless 802.11b Access Point Card 150wl 13 CH (J8136A) for use in Europe
- HP ProCurve Wireless 802.11a Access Point Kit 160wl—Europe (J8149A) for use in Europe (selected countries only)
- HP ProCurve Wireless Range Extender Antenna 100wl (J8134A)

For more accessory information, see pages 64–65.

## Services

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (U4683A/E)
- 3-year, 4-hour onsite, 24 x 7 coverage, 24 x 7 phone support, for hardware (U4835A/E)
- Post Warranty Service Level\*— Available Fall 2003
- Installation/Configuration Service Level—Sold directly by HP. Contact HP sales representative, contract # HA17AC

\*Check [www.hp.com/go/procurveservices](http://www.hp.com/go/procurveservices) for availability.

# HP ProCurve Wireless Access Point 520wl

## Specifications

### Ports

- 1 RJ-45 10/100 port (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)
- Wireless
  - 2 CardBus slots for HP ProCurve Wireless 802.11b Access Point Card 150wl or HP ProCurve Wireless 802.11a Access Point Kit 160wl
- RS-232C serial port
  - 1 RS-232C DB-9 console port

### Physical characteristics

Dimensions: 5 x 18.5 x 26.1 cm (2.0 x 7.3 x 10.2 in.)  
Weight: 1.75 kg (3.86 lb.)

### Mounting

Includes metal mounting plate for placement on wall, ceiling, or table

### Memory and processors

16 MB SDRAM, 8 MB Flash ROM memory  
Processor: Intel SA1110, 233 MHz processor

### Environment

- Operating
- Temperature: 0°C to 40°C (32°F to 104°F)
  - Relative humidity: 95% maximum (non-condensing)
- Non-operating/Storage
- Temperature: –10°C to 50°C (14°F to 122°F)
  - Relative humidity: 95% maximum (non-condensing)
- Web interface
- Microsoft® Internet Explorer 5.5 or higher
  - Netscape Navigator 6.0 or higher

### Electrical characteristics

Voltage: 100–240 VAC  
Current: 0.7 A  
Frequency: 47–63 Hz

### Safety

CSA 22.2 No. 60950  
EN/IEC 60950  
UL 60950  
UL 2043

### Emissions

EMC  
CISPR 22 Class B  
EN55022  
EN55024  
AS/NZS3548  
CNS13438  
FCC CFR 47 Part 15

### Features, standards, and protocols

- Common to 802.11a and 802.11b networks:
- HTTP server interface for configuration and management
  - Telnet/CLI
  - SNMP agent
  - TFTP
  - 2-user VLAN support
  - DHCP client
  - DHCP server

- 802.1X support for MD5, TLS, PEAP, and TTLS
- 802.1d bridging
- Automatic Channel Select
- Roaming
- 64- and 128-bit WEP encryption
- RADIUS access control
- MAC access control table
- Protocol filtering
- Static MAC filtering
- Multicast/Broadcast storm filtering
- Proxy ARP
- ICMP echo response
- Hardware watchdog timer
- Emergency reset to default configuration
- Link integrity

- Applicable to the 802.11b network:
- Up to 250 stations per radio card
  - WEPplus (weak key avoidance)
  - WDS (wireless distribution system) relay
  - Remote link test
  - Link test responder for 802.11b network
  - Medium density distribution
  - Ultra high cell density support
  - Closed system
  - Interference robustness
  - Load balancing on 802.11b network

- Applicable to the 802.11a network:
- Fragmentation support for 802.11a network
  - Up to 50 stations per radio control

# HP ProCurve Wireless Access Point 520wl Accessories



## HP ProCurve Wireless 802.11b Access Point Card 150wl 13 CH (J8136A)

with 13-channel support; for use in Europe

### Physical characteristics

Dimensions: 11.78 x 5.39 x 0.87 cm  
(4.64 x 2.12 x 0.34 in.)  
Weight: 45 g (0.10 lb.)

### Radio characteristics

Modulation technique: direct sequence spread spectrum (CCK, DQPSK, DBPSK)  
Spreading: 11-chip Barker Sequence  
Media Access Protocol: CSMA/CA (collision avoidance) with ACK  
Bit error rate (BER): better than 10<sup>-15</sup>  
Nominal output power: -15 dBm

### Regulatory compliance

FCC CFR 47 Part 15 C, para 15.247;  
FCC 11-channel: approval (FCC ID) IC RSS 210; RSS 139;  
IC approval 13-channel: EN 300-328 (1999/5/EC R&TT Directive);  
CE Mark 14-channel: ARIB STD-T66 Telec radio and JATE approval

Data rate	11 Mbps	5.5 Mbps	2 Mbps	1 Mbps
<b>Range</b>				
Open office	160 m (525 ft.)	270 m (885 ft.)	400 m (1300 ft.)	550 m (1750 ft.)
Semi-open office	50 m (165 ft.)	70 m (230 ft.)	90 m (300 ft.)	115 m (375 ft.)
Closed office	25 m (80 ft.)	35 m (115 ft.)	40 m (130 ft.)	50 m (165 ft.)
<b>Receiver sensitivity</b>	-82 dBm	-87 dBm	-91 dBm	-94 dBm
<b>Delay spread-frame error rate &lt;1%</b>	65 ns	225 ns	400 ns	500 ns

The HP ProCurve Wireless 802.11b Access Point Card 150wl is not supported in any device other than the HP ProCurve Wireless Access Point 520wl.



## HP ProCurve Wireless 802.11a Access Point Kit 160wl—Europe (J8149A)

for use in Europe (selected countries only)

### Physical characteristics

Dimensions: 27.9 x 24.3 x 2.5 cm  
(11.0 x 9.5 x 1.0 in.)  
Weight: 227 g (0.5 lb.)

### Radio characteristics

Modulation technique: Orthogonal Frequency Division Multiplexing (OFDM) 64 QAM, 16 QAM, QPSK, BPSK with rate fallback  
Media Access Protocol: CSMA/CA (Collision Avoidance) with ACK  
Output power: will vary with data rate by region (FCC, TELEC, ETSI)

### Antenna

Two integral omnidirectional 5 dBi antennae with diversity  
0-180 degrees articulation

Data rate	6 Mbps	54 Mbps
<b>Range</b>		
Open office	400 m (1300 ft.)	40 m (130 ft.)
Semi-open office	120 m (400 ft.)	15 m (50 ft.)

### Regulatory compliance

U.S.: FCC CFR 47 Part 15 E, para 15.247, 15.407; 8-channel approval  
Canada: IC RSS 210, RSS 102; 8-channel approval  
EU: EN 301 893 (draft), EN 301-489-1, EN 301 489-17 (1995/5/EC R&TTE Directive), CE Mark; 4-channel  
Japan: ARIB STD-T71, Telec radio and JATE approval; 4-channel approval  
Singapore: IDA-TS-SSS Issue 1 (approval pending)

Data rate	6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
<b>Receiver sensitivity</b>	-85 dBm	-84 dBm	-82 dBm	-80 dBm	-77 dBm	-73 dBm	-69 dBm	-65 dBm
<b>Delay spread frame error rate &gt;1%</b>	160 ns	160 ns	160 ns	160 ns	160 ns	160 ns	160 ns	160 ns

The HP ProCurve Wireless 802.11a Access Point Kit 160wl is not supported in any device other than the HP ProCurve Wireless Access Point 520wl.



# HP ProCurve Wireless Access Point 520wl Accessories



## HP ProCurve Wireless Range Extender Antenna 100wl (J8134A)

with 2.5 dBi indoor omnidirectional antenna

### Physical characteristics

Dimensions: 23.0 x 2.5 x 0.8 cm  
(9.1 x 1.0 x 0.3 in.)  
Weight: 150 g (0.3 lb.)  
Base diameter: 7 cm (2.8 in.)

### Mounting

Table stand and wall mounting bracket

### Cable length

1.5 m (59 in.)

### Connector

Proprietary (FCC compliant)

### Performance

Open office: 50% increase over standard range  
Antenna pattern: omnidirectional  
Semi-open office: 15% increase over standard range  
Antenna diversity: yes

### Environment

Operating

– Temperature: 0° to 55°C (32° to 131°F)  
– Relative humidity: 10% to 90% non-condensing

Non-operating/Storage

– Temperature: –10° to 60°C (14° to 140°F)  
– Relative humidity: 0% to 90% non-condensing

### Gain

2.5 dBi

### Frequency

2400–2484 MHz

# HP ProCurve Wireless Access Point 420



HP ProCurve Wireless Access Point 420 WW  
(J8131A)—All other countries



The Wireless Access Point 420 is a full-featured IEEE 802.11g, single-radio access point ideally suited for medium to large wireless LAN deployments. With integrated 802.3af Power over Ethernet, the HP ProCurve Wireless Access Point 420 offers a cost-effective means to deploy either an 802.11b or 802.11g wireless network. The Access Point 420 addresses wireless security concerns by delivering the latest security based on industry standards, including support for IEEE 802.1X with per user/per session encryption, Wi-Fi Protected Access,<sup>™</sup> and multiple VLAN support.

## Features and benefits

- **Secure mobility:**
  - **802.1X port-based access control:** secure yet flexible user authentication safeguards access to the wireless network; 802.1X support includes MD5, TLS, TTLS, and PEAP
  - **Enhanced encryption management:** per user/per session dynamic WEP key assignment and automatic key replacement significantly enhances wireless data privacy
  - **802.1Q compliant VLAN support and tagging:** 64 VLANs capable of being independently mapped to RADIUS server attributes
  - **Wi-Fi Protected Access™ (WPA):** combines 802.1X user authentication with enhanced, industry-compatible encryption (TKIP) to secure network access and wireless data traffic
- **IEEE 802.11g single-radio design:** allows for selecting either IEEE 802.11b, 802.11g, or 802.11g with fallback support for 802.11b
- **IEEE 802.3af Power over Ethernet support:** simplifies deployment and dramatically reduces installation costs
- **Auto channel selection:** simplifies access deployment by testing all available channels and selecting the best channel based on signal-to-noise ratio
- **Remote configuration and management:** through Web browser or command line interface (CLI)
- **Dual flash images:** enables auto-recovery upon unsuccessful software download
- **Adjustable output power:** controls cell size for high-density deployments
- **International country configuration:** select the appropriate country and the access point automatically configures operation to match regulatory requirements (model J8131A only)
- **Local wireless bridge filter:** when enabled, prevents communication between wireless devices associated with the same access point
- **Interoperability:** Wi-Fi CERTIFIED™ to ensure IEEE 802.11g and multivendor interoperability
- **Software updates:** free downloads are available from the Web
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

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## Services

- Check [www.hp.com/go/procurveservices](http://www.hp.com/go/procurveservices) for part numbers and service-level descriptions.

# HP ProCurve Wireless Access Point 420

## Specifications

### Ports

1 RJ-45 10/100 port  
(IEEE 802.3 Type 10Base-T,  
IEEE 802.3u Type 100Base-T)  
1 RS-232C DB-9 console port

### Physical characteristics

Dimensions:  
13.73 x 21.83 x 3.27 cm  
(5.41 x 8.59 x 1.29 in.)  
Weight: 1.02 kg (2.27 lb.)  
including mounting bracket

### Memory and processor

Processor: Motorola MPC8241,  
166 MHz processor  
Flash capacity: 4 MB

### Mounting

Includes wall mount bracket and  
related hardware

### Environment

Operating  
– Temperature: 0° C to 40° C  
(32° F to 104° F)  
– Relative humidity: 15% to 95%,  
non-condensing  
Non-operating/Storage  
– Temperature: –40° C to 70° C  
(–40° F to 158° F)  
– Relative humidity: 90% @ 65° C  
(149° F), non-condensing

### Web interface

Microsoft® Internet Explorer  
5.5 or higher

### Radio compliance

FCC Part 15 C  
IC RSS 210  
EN 300-328-1  
EN 300-328-2  
EN 301-489-1  
EN 301-489-17  
EU 1999/519/EC  
ARIB STD-T66

### Safety

EN 60950/IEC 60950  
UL 60950  
CAN/CSA-C22.2 No. 60950

### Electrical characteristics

Heat dissipation: 102 BTU/hr  
Voltage: 100–240 VAC  
Current: .4 A  
Power: 30 W  
Frequency: 50/60 Hz

### Emissions

VCCI, Class B  
CISPR 22 Class B  
EN 55022, Class B  
AS/NZS 3548, Class B  
FCC CFR 47 Part 15, Class B  
BSMI CNS13438, Class B  
RRL, Class B

### Immunity

Generic: CISPR 24  
EN 55024  
ESD: IEC 61000-4-2, 4 kV CD,  
8 kV AD  
Radiated: IEC 61000-4-3, 3V/m  
EFT/Burst: IEC 61000-4-4, 1.0  
kV power line, 0.5 kV signal  
line  
Surge: IEC 61000-4-5,  
1 kV/2 kV AC  
Conducted: IEC 61000-4-6, 3V  
Voltage dips and interruptions:  
IEC 61000-4-11  
Harmonics: IEC 61000-3-2  
Flicker: IEC 61000-3-3

### Standards and protocols

RFC 783 TFTP  
RFC 854 Telnet  
RFC 768 UDP  
RFC 792 ICMP  
RFC 793 TCP  
RFC 826 ARP  
RFC 2030 SNTP  
RFC 2138 RADIUS  
IEEE 802.1X Network Login  
IEEE 802.1Q VLAN  
802.3af Power over Ethernet  
SNMPv1/v2  
HTML and telnet management  
RFC 1213 MIB II  
RFC 3164 Syslog  
IAPP (draft standard)

### Features

HTTP interface for configuration  
and management  
Telnet/CLI  
SNMP agent  
DHCP client  
Roaming  
802.1X support for MD5, TLS,  
TTLS, and PEAP  
Dynamic per user/per session  
encryption keys

### Wi-Fi™ Protected Access (WPA)

64-, 128-, and 152-bit WEP  
encryption  
Local MAC address filtering  
RADIUS MAC address  
authentication  
Reverse ARP  
Syslog  
Adjustable power output  
Auto channel selection  
64 VLANs  
Plenum Rating  
Power over Ethernet  
Closed system  
Hardware reset button  
Local wireless bridge filter  
External antenna connectors  
(RP-SMA)  
Selectable long or short preamble  
Selectable beacon interval  
Selectable DTIM interval  
Selectable RTC/CTS  
Selectable fragmentation  
threshold  
Wi-Fi CERTIFIED™

### Radio characteristics

Modulation Technique: 802.11b Direct Sequence Spread Spectrum (CCK, DQPSK, DBPSK); 802.11g Orthogonal Frequency Division Modulation (64 QAM, 16 QAM, QPSK, BPSK)  
Media Access Protocol: CSMA/CA (Collision Avoidance) with ACK  
Maximum transmit power: 15 dBm

### Data rates

IEEE 802.11b: 1, 2, 5.5, 11 Mbps; IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

### Receiver sensitivity

1 Mbps data rate	2 Mbps data rate	5.5 Mbps data rate	11 Mbps data rate	6 Mbps data rate	9 Mbps data rate	12 Mbps data rate	18 Mbps data rate	24 Mbps data rate	36 Mbps data rate	48 Mbps data rate	54 Mbps data rate
–93 dBm	–90 dBm	–90 dBm	–87 dBm	–87 dBm	–85 dBm	–85 dBm	–82 dBm	–80 dBm	–75 dBm	–73 dBm	–70 dBm

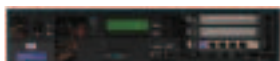
# HP ProCurve Secure Access 700wl Series



HP ProCurve Access Controller 720wl  
(J8153A)



HP ProCurve Access Control Server  
740wl (J8154A)



HP ProCurve Integrated Access Manager  
760wl (J8155A)



The HP ProCurve Secure Access 700wl series products offer powerful solutions for controlling and managing access to network resources across wireless LANs of all sizes.

The HP ProCurve Access Controller 720wl resides between wireless access points and the network and enforces user authentication and access rights based on the point of network access and time of day. To ensure the highest level of data privacy, the Access Controller 720wl offers a choice of robust industry-standard security protocols to protect data transmitted between the network and wireless clients—at the edge, where

your network is most vulnerable. The Access Controller 720wl manages all user sessions on connected access points, maintains session persistence, and enforces policy rights of users as they roam from one subnet to another. The Access Controller 720wl tracks all network activity and provides a detailed history of all user network activity.

# HP ProCurve Secure Access 700wl Series

The HP ProCurve Access Control Server 740wl provides centralized security configuration and policy management for all users of the wireless network—as well as secure, uninterrupted sessions as users roam between access points and across subnets. Centralized policy management allows quick and efficient updating of user rights—consolidated into one location. The Access Control Server 740wl seamlessly integrates into a network infrastructure, leveraging existing authentication services to authorize user access. Maintaining constant communication with all HP ProCurve access controllers, the Access Control Server 740wl coordinates all user activity including updating network access rights based on the user's policy rights, physical location, or time of day. Capable of managing thousands of users, the HP ProCurve Access Control Server 740wl easily adapts to the deployment of additional access controllers to expand wireless coverage as the need arises.

For smaller wireless LAN or branch office deployments, the HP ProCurve Integrated Access Manager 760wl combines the enforcement of user policies, wireless data privacy, and roaming functionality of the Access Controller 720wl with the centralized security configuration and policy management functionality of the Access Control Server 740wl—in an all-in-one solution.

The HP ProCurve Networking team understands that it is imperative to have your network working properly. HP offers services designed to integrate your new secure mobility solution into your existing network infrastructure by coordinating the installation, configuration, and verification of your new products. Because ensuring security is such a high priority, it is essential that you have a certified HP reseller assess and design the right secure mobility solution to fit your needs. For a list of HP ProCurve certified resellers near you, go to [www.hp.com/go/hpprocurve](http://www.hp.com/go/hpprocurve).

## Features and benefits

- **Wireless data privacy:**
  - Uses IPSec, PPTP, L2TP/IPSec, or SSH tunnels to encrypt wireless traffic with DES, 3DES, Blowfish, CAST, or AES to provide the utmost in data privacy
  - User authentication and appropriate access to network resources can be controlled at the edge of the network since all secure tunnels terminate within the HP ProCurve Access Controller 720wl or Integrated Access Manager 760wl
- **Rights-based network access control and management:**
  - Blocks all user traffic until the user is authenticated
  - Allows only traffic designated by a user's access privileges
  - Gives network administrators the flexibility to configure access rights based on user, group, time, and location
- **Centralized management and browser-based UI:**
  - Provides quick and efficient updating to user rights—all consolidated into one location
  - Shortens the administrator learning curve with secure and intuitive user interface
- **Scalable:**
  - Grows cost-effectively as the wireless LAN expands
  - Access Controller 720wl and Integrated Access Manager 760wl include three additional slots for expanding capabilities as network needs grow or change
  - Includes 4 10/100Base-T Ethernet ports with expansion capability of up to 12 ports
- **Hardware encryption acceleration (optional):** increases data throughput by offloading DES and 3DES encryption processing on either the HP ProCurve Access Controller 720wl or Integrated Access Manager 760wl platforms
  - Enhances overall encryption performance during peak user activity
- **Roaming across subnets:** ensures that users maintain persistent connectivity to the network and applications
- **No client configuration:** lowers operating costs and saves time by eliminating the need to change network settings or install client software
- **Standards-based authentication support for LDAP, Active Directory, 802.1X, RADIUS, Kerberos, and Windows® 2000/NT® domain:** seamlessly integrates into existing authentication servers or uses the built-in database

# HP ProCurve Secure Access 700wl Series

## Features and benefits

- **802.1q VLAN support:**
  - Supports standards-based tagging based on user or point of network access
  - Allows placement of wireless traffic on separate VLANs
  - Provides application of filters based on VLAN ID
- **Complete session logging:** provides detailed information for problem identification and resolution
- **Misconfigured service management and proxy redirection:** allow secure, transparent login for guests or users who have changed their configurations
- **Simultaneous guest and trusted user access:** allow trusted users and guests simultaneous network access with different access privileges
- **Anti-MAC address spoofing:** prevents untrusted users from gaining access by spoofing a trusted user's MAC address
- **High-speed backbone connectivity:** connectivity to a Gigabit Ethernet backbone
- **Industry-leading warranty:** one year with next-business-day advance replacement (available in most countries) with extensions available

## Accessories

### HP ProCurve Access Controller 720wl and HP ProCurve Integrated Access Manager 760wl:

- NEW** • HP ProCurve Secure Access 700wl 4-Port 10/100 Card (J8156A)
- NEW** • HP ProCurve Secure Access 700wl Acceleration Card (J8160A)

### HP ProCurve Access Controller 720wl, HP ProCurve Access Control Server 740wl, and HP ProCurve Integrated Access Manager 760wl:

- NEW** • HP ProCurve Secure Access 700wl 1-Port Gigabit-SX Card (J8157A)
- NEW** • HP ProCurve Secure Access 700wl 1-Port Gigabit-LX Card (J8158A)
- NEW** • HP ProCurve Secure Access 700wl 1-Port 10/100/1000Base-T Card (J8159A)

For accessory information, including port counts, IEEE specs, and compatibility, see pages 73–74.

# HP ProCurve Secure Access 700wl Series

## Services

### HP ProCurve Access Controller 720wl and Access Control Server 740wl:

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (U6449A/E)
- 3-year, 4-hour onsite, 24 x 7 coverage, 24 x 7 phone support, for hardware (U6448A/E)
- Post Warranty Service Level\* – Available Fall 2003
- Installation/Configuration Service Level – Sold directly by HP. Contact HP sales representative, contract # HA17AC

### HP ProCurve Integrated Access Manager 760wl:

- 3-year, 4-hour onsite, 13 x 5 coverage, 13 x 5 phone support, for hardware (U6451A/E)
- 3-year, 4-hour onsite, 24 x 7 coverage, 24 x 7 phone support, for hardware (U6450A/E)
- Post Warranty Service Level\* – Available Fall 2003
- Installation/Configuration Service Level – Sold directly by HP. Contact HP sales representative, contract # HA17AC

\*Check [www.hp.com/go/procurveservices](http://www.hp.com/go/procurveservices) for availability.

## Specifications

### Ports

- 1 RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX; 802.3ab Type 1000Base-T Gigabit Ethernet)
  - 1 DB-9 management console
- 720wl and 760wl include
- 1 secure access 4-port 10/100 card (J8156A)
  - 3 open slots
- 740 includes 4 open slots

### Physical characteristics

- Dimensions  
– 8.8 cm x 43.9 cm x 39.7 cm  
(3.5 x 17.3 x 15.6 in.)
- Weight  
– 8.2 kg (18 lb.)

### Performance

- Routing/Switching capacity:  
~300 Mbps

### Environment

- Operating  
– Temperature: 5° to 40° C  
(41° to 104° F)  
– Relative humidity: 5% to 90%  
(non-condensing)
- Non-operating/Storage  
– Temperature: –25° to 70° C  
(–13° to 158° F)

### Electrical characteristics

- Power: 460W  
Voltage: 110/240V  
Current: 6/3A  
Frequency: 50/60 Hz

### Regulatory

- FCC part 15 Class A  
CE  
EN 61000-3-2, EN 55024  
EN 61000-3-3, EN 55022

### Safety

- UL 60950  
CAN/CSA 22.2 #60950

## Features at a glance

### Authentication

- Built-in secure database
- LDAP interface
- RADIUS interface
- Kerberos interface
- Windows XP/2000/NT domain login interface
- Active directory
- 802.1X
- Customizable login/stop screens
- Signed certificate upload
- Location-specific logon pages

### Networking

- Network address translation
- Port address translation
- Real IP mode
- HTTP/HTTPS proxy support
- DHCP client
- DHCP server (in NAT mode)
- DHCP relay (in Real IP mode)
- Never NAT
- Custom NAT range

### Security

- IPSec, L2TP/IPSec, PPTP
- AES, DES (56-bit), 3DES (168-bit), Blowfish, CAST
- SSH
- VPN client compatibility: Certicom, Microsoft, NetScreen, PGP, SafeNet
- MPPE 40-, 128-bit encryption
- IKE and ESP tunnel mode
- SHA-1, MD5, HMAC-SHA-1, HMAC-MD5
- Diffie-Hellman, Groups 1, 2, 5
- MS CHAP, MS CHAP v2
- Login authentication

- Session redirects
- X.509 certificate support
- NAT/PAT
- Packet filtering
- Location access control
- Time/Date access control
- Session timer
- Linger timer
- Roaming denial
- Anti-MAC address spoofing

### Mobility

- Secure roaming across subnets
- Persistent session roaming

### System management

- Secure Web-based GUI
- CLI
- Secure, digitally signed software upgrades, TFTP, FTP, HTTP
- Configuration backup/restore
- SNMP MIB II compliant

### Logging/monitoring

- Complete session logging
- Syslog server interface
- Session duration
- MAC address
- Source/Destination address
- Bytes transmitted/received



# HP ProCurve Secure Access 700wl Series Accessories



NEW

## HP ProCurve Secure Access 700wl 4-Port 10/100 Card (J8156A)

with 4 auto-sensing 10/100 ports

### Ports

4 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)  
Connector: RJ-45

### Physical characteristics

Dimensions: 17.1 x 12.7 x 1.9 cm  
(6.75 x 5 x 0.75 in.)  
Weight: 0.12 kg (0.26 lb.)

### Cabling

Type:

- 10Base-T: Category 3 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T specifications
- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX  
Maximum distance: 100m



NEW

## HP ProCurve Secure Access 700wl 1-Port Gigabit-SX Card (J8157A)

with one 1000Base-SX port

### Ports

One 1000Base-SX port (IEEE 802.3z Type 1000Base-SX)  
Connector: LC

### Physical characteristics

Dimensions: 17.8 x 12.1 x 1.9 cm  
(7 x 4.75 x 0.75 in.)  
Weight: 0.08 kg (0.17 lb.)

### Cabling

Fiber-optic cable lengths up to 275m at 62.5 μm, 550m at 50 μm

Type: 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, low metal content, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
Maximum distance:

- 220m (62.5 μm core diameter, 160 MHz\*km bandwidth)
- 275m (62.5 μm core diameter, 200 MHz\*km bandwidth)
- 500m (50 μm core diameter, 400 MHz\*km bandwidth)
- 550m (50 μm core diameter, 500 MHz\*km bandwidth)



NEW

## HP ProCurve Secure Access 700wl 1-Port Gigabit-LX Card (J8158A)

with one 1000Base-LX port

### Ports

One 1000Base-LX port (IEEE 802.3z Type 1000Base-LX)  
Connector: LC

### Physical characteristics

Dimensions: 17.8 x 12.1 x 1.9 cm  
(7 x 4.75 x 0.75 in.)  
Weight: 0.06 kg (0.15 lb.)

### Cabling

Fiber-optic cable lengths up to 550m at 62.5 or 50 μm in multi-mode, 5 km at 9 μm in single mode

Type: either single mode or multimode

- 9/125 μm (core/cladding) diameter, 1310 nm, low metal content, single mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1
- 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, low metal content, multimode fiber-optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively (a mode conditioning patch cord may be needed in some multimode fiber installations)

Maximum distance: 5 km (single mode) or 550m (multimode)

# HP ProCurve Secure Access 700wl Series Accessories



**NEW**

## HP ProCurve Secure Access 700wl 1-Port 10/100/1000Base-T Card (J8159A)

with one auto-sensing 10/100/1000 port

### Ports

1 auto-sensing 10/100/1000 port (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX; 802.3ab Type 1000Base-T)

Connector: RJ-45

### Physical characteristics

Dimensions: 13.3 x 12.1 x 1.9 cm  
(5.25 x 4.75 x 0.75 in.)

Weight: 0.05 kg (.11 lb.)

### Cabling

Type:

- 10Base-T: Category 3 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T specifications
- 100Base-TX: Category 5 (or better), 100Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX
- 1000Base-T: Category 5 (5E or better recommended), 100Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3ab 1000Base-T

Maximum distance: 100m



**NEW**

## HP ProCurve Secure Access 700wl Acceleration Card (J8160A)

Accelerates the cryptographic functions of DES, 3DES, HMAC-SHA-1, HMAC-MD5 encrypted data

### Ports

1 auto-sensing 10/100/1000 port (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX; 802.3ab Type 1000Base-T)

### Physical characteristics

Dimensions: 17.8 x 11.9 x 1.9 cm  
(7 x 4.7 x 0.75 in.)

Weight: 0.08 kg (0.17 lb.)

# HP ProCurve Manager and HP ProCurve Manager Plus (J8172A)



HP ProCurve Manager



HP ProCurve Manager Plus (J8172A)

HP ProCurve Manager is a Windows®-based network management solution that is included in-box with all manageable HP ProCurve devices. It provides all the basic tools you need to handle a network effectively, along with a 30-day trial version of HP ProCurve Manager Plus. HP ProCurve Manager Plus is a complete, Windows-based network management solution that provides both basic and advanced management features for the most demanding enterprise networks. HP ProCurve Manager Plus gives you network control and advanced device-handling capabilities that allow you to demand more—more accountability, more agility, and a better return on IT.

## Features and benefits of HP ProCurve Manager

- **Network status summary:** upon boot-up, a Network Status screen displays high-level information on network devices, end nodes, events, and traffic levels. From here, the user can research any one of these areas to get more details.
- **Alerts and troubleshooting:** an Events Summary screen displays alerts to the user and categorizes them by severity, making it easier to track where bottlenecks and issues exist in the network. Alerts present detailed information on the problem, even down to the specific port.
- **Automatic device discovery:** this feature is customized for fast discovery of all HP ProCurve manageable network devices. The user can define which IP subnets to discover.
- **Topology and mapping:** this feature automatically creates a map of discovered network devices. Maps are color-coded to reflect device status and can be viewed at multiple levels (physical view, subnet view, or VLAN view).



# HP ProCurve Manager and HP ProCurve Manager Plus (J8172A)

## Features and benefits of HP ProCurve Manager Plus

- **Device management:** many device-focused tasks can be performed directly by the software, or the user can access Web and command-line interfaces with the click of a button to manage individual devices from inside the tool.
- **All of the features of HP ProCurve Manager**
- **In-depth traffic analysis:** an integrated, low-overhead traffic monitor interface shows detailed information on traffic throughout the network. Using enhanced traffic analysis protocols such as Extended RMON and sFlow, the user can monitor overall traffic levels, segments with the highest traffic, or even the top users within a network segment.
- **Group and policy management:** the user can create device groups and set group policies for managing those devices. Predetermined configurations can be automatically applied to new devices that have just been added to the network.
- **Easier configuration management:** changes in configuration are tracked and logged, and archived configurations can be applied to one or many devices. Configurations can be compared over time or between two devices, with the differences highlighted for the user.
- **Advanced VLAN management:** a new, easy-to-use VLAN management interface allows the user to create and assign VLANs across the entire network, without having to access each network device individually.
- **Device software updates:** this feature automatically obtains new device software images from HP and updates devices, allowing the user to download the latest version or choose the desired version. Updates can be scheduled easily across large groups of devices, all at user-specified times.
- **Investment protection:** the modular software architecture of HP ProCurve Manager Plus will allow HP to offer network administrators add-on software solutions that complement their needs.

Feature	HP ProCurve Manager	HP ProCurve Manager Plus
Device auto-discovery	•	•
Topology and mapping	•	•
Intuitive Explorer-style interface	•	•
Usable troubleshooting data and alerts	•	•
Device configuration and management	•	•
Customize and execute policies across groups	•	•
Enhanced network security features		•
Multiple device configuration management and archiving		•
Create and configure VLANs across the network		•
Traffic monitoring and analysis		•
Software updates with dual flash image support		•
Modular design for add-in expansion		•

## Specifications

### Minimum system requirements

Processor: 500 MHz Intel® Pentium® III or equivalent

Memory: 256 MB RAM

Disk space: 100 MB free hard disk space

### Recommended system requirements

Processor: 800 MHz Intel Pentium III or equivalent

Memory: 512 MB RAM

Disk space: 100 MB free hard disk space

### Additional requirements

Additional processing power may be necessary for extensive traffic monitoring.

### Operating systems

Microsoft® Windows 2000, Windows XP, Windows 2003

# HP ProCurve Network Management for OV-NT (J4869B)



HP ProCurve Network Management for OV-NT was specifically developed to integrate with HP OpenView Network Node Manager (NNM) on Windows® (NT, 2000) to provide a proven, single-source solution for all your network monitoring and management requirements. HP ProCurve Network Management for OV-NT is a reliable, scalable, and easy-to-use software solution that simplifies management of HP ProCurve networks.



For enterprise networks, HP ProCurve offers a network management solution for NT environments that integrates directly into the HP OpenView enterprise management platform, allowing you to manage larger networks. Using this powerful tool, you can monitor traffic, schedule software updates, and execute device management, configuration, and policy settings for HP ProCurve devices from a single management station. This centralized approach simplifies the management of all the key segments of your network infrastructure.

## Total network management solution

This HP software enables you to centrally manage your layer 2 and routed layer 3 enterprise LAN environments from a single platform running Windows NT or 2000:

- Offers full native integration with the HP OpenView Network Node Manager (NNM), so you can manage your whole network from a single management console
- Automatically update the software on your HP ProCurve networking devices, and copy the configuration on the devices to your network management station according to the schedule that you determine
- Includes an intuitive set of applications that provide robust capabilities for managing your HP ProCurve network devices
- Displays traffic monitor data for all configured segments for the most recent 60 minutes at 1-minute intervals—also highlights the top users on each segment
- Enables you to easily configure SNMP parameters—community names, authorized managers, etc.—as well as RMON thresholds

# HP ProCurve Network Management for OV-NT (J4869B)

- Manages an unlimited number of nodes from one easy interface
- Supports group configuration and configuration policies, which allows you to define groups of HP networking devices and then apply configuration policies to all the devices in a group at the same time
- Quick and uncomplicated generation of NNM maps with custom icons of HP networking devices—enabling you to easily visualize the products you are managing
- Using this plug-in, you can easily format alarms (SNMP traps) and install and compile MIBs for HP ProCurve devices

## Features and benefits

This software solution incorporates Proactive Management to reduce time and money spent on managing the network:

- Allows the user to set SNMP parameters on the device to create Trap Receivers and RMON thresholds to monitor traffic
- The Traffic Monitor lets you examine network traffic and proactively identify problem areas based on statistics gathered from any HP ProCurve device that is SNMP manageable
- Using this plug-in, HP ProCurve Networking devices are capable of sending special traps as part of their Find-Fix-and-Inform technology—which provides the user with troubleshooting tips to help fix issues the device may be experiencing

## Supported devices

- HP ProCurve switches: 9300m series, 6308m, 6208m, 6108, 5300xl series, 4100gl series, 8000m, 4000m, 2650, 2524, 2512, 2424m, 1600m
- HP ProCurve hubs: 10/100 Hub 24m, 10/100 Hub 12m, 10Base-T Hub 24m, 10Base-T Hub 12m
- Other HP switches: Switch 2000, Switch 2000B, Switch 800T

# HP Hub and Switch Management for OV-UX (J3250P)



HP Hub and Switch Management for OV-UX was specifically developed to integrate with HP OpenView Network Node Manager (NNM) on UNIX® to provide a proven, single-source solution for all your network monitoring and management requirements. HP ProCurve Network Management for OV-UX is a reliable, scalable, and easy-to-use software solution that simplifies management of HP ProCurve networks.



For enterprise networks, HP ProCurve offers a network management solution for UNIX environments that integrates directly into the HP OpenView enterprise management platform, allowing you to manage larger networks. This streamlined management solution helps you to proactively manage your network—in its current state or as it continues to expand with your growing business. Using this powerful tool, you can do things like run reports and manage devices for HP ProCurve switches from a single management station. This centralized approach simplifies the management of all the key segments of your network infrastructure.

# HP Hub and Switch Management for OV-UX (J3250P)

## Total network management solution

This HP software enables you to centrally manage your layer 2 and routed layer 3 enterprise LAN environments from a single platform running UNIX:

- Offers full native integration with the HP OpenView Network Node Manager (NNM), so you can manage your whole network from a single management console
- Provides the ability to manage multivendor networks leveraging HP OpenView capabilities
- Includes an intuitive set of applications that provide robust capabilities for managing your HP ProCurve network devices
- Capable of mapping large enterprise network configurations
- Enables you to easily configure SNMP parameters—community names, authorized managers, etc.—as well as RMON thresholds
- Manages an unlimited number of nodes from one easy interface
- HP ProCurve Network Management applications can be accessed directly from the NNM menus
- Quick and uncomplicated generation of NNM maps with custom icons of HP networking devices—enabling you to easily visualize the products you are managing
- Easily set NNM capabilities, format alarms (SNMP traps), and install and compile MIBs for HP ProCurve devices
- With the use of this plug-in, incoming traps are decoded and include clear descriptions in the HP OpenView event log

## Features and benefits

This software solution incorporates Proactive Management to reduce time and money spent on managing the network:

- Allows the user to set SNMP parameters on the device to create Trap Receivers and RMON thresholds to monitor traffic
- Provides reports to help proactively plan for growth via NNM
- Using this plug-in, HP ProCurve Networking devices are capable of sending special traps as part of their Find-Fix-and-Inform technology—which provides the user with troubleshooting tips to help fix issues the device may be experiencing

## Supported devices

- HP ProCurve switches: 9300m series, 6308m, 6208m, 6108, 5300xl series, 4100gl series, 8000m, 4000m, 2650, 2626, 2524, 2512, 2424m, 1600m
- HP ProCurve hubs: 10/100 Hub 24m, 10/100 Hub 12m, 10Base-T Hub 24m, 10Base-T Hub 12m
- Other HP switches: Switch 2000, Switch 2000B, Switch 800T



The HP commitment to quality and reliability goes beyond hardware and software solutions to ensure that your network performs smoothly over time. Included with the purchase of HP ProCurve products, you receive an extensive set of support services designed to keep your business, and network, running smoothly. Additional services—ranging from planning to implementation, operation, and maintenance—can be added, customized, and used throughout your network's lifecycle.



## Service and support solutions

### Designed into HP ProCurve products

You receive HP's legendary commitment to quality and reliability with HP ProCurve products. Coupled with intuitive design and ease of use, the following features can be found throughout the HP ProCurve product line:

- Free HP ProCurve Manager software shipped with every managed product
- LED displays for at-a-glance monitoring and troubleshooting
- Extensive installation information shipped with the product to get you up and running quickly

### Free network design service

Our comprehensive network design services will generate drawings, including detailed explanations, as well as recommendations based upon your business or project requirements. These designs can address current and future traffic levels, security needs, budget constraints, and the ability to interface with legacy equipment.

### Free electronic support via the Web

Comprehensive documentation such as product information, technical papers, release notes, and FAQs can be found on the HP ProCurve Networking Web site ([www.hp.com/go/hpprocurve](http://www.hp.com/go/hpprocurve)). This information is updated frequently and is available on demand, every day, at any time.

HP ProCurve customers also receive the following:

- Free software updates
- Proactive notification of new software releases via e-mail
- Free technical product support via e-mail

### Worldwide telephone assistance

Free telephone support by highly trained service technicians at our HP Customer Care Centers worldwide is available during normal business hours to assist with HP ProCurve product questions.

# Service and support solutions

## Industry-leading warranty

HP ProCurve products come with warranties you would expect from HP.

- Free lifetime warranty\* for as long as you own the product with next-business-day advance replacement (available in most countries)
- Warranty covers the entire product, including fans, power supplies, and accessories
- Genuine HP parts for both in- and out-of-warranty repair needs

## Fee-based services

Depending on your needs, several additional HP ProCurve support services are available:

- Hardware support
  - 4-hour onsite
  - 4-hour onsite 24 x 7
  - 6-hour call to repair
- Software support
  - 24 x 7 phone-in
- Premium (hardware and software)
  - Support Plus 24
  - Proactive 24
- Deployment services
  - Installation
  - Installation and startup

For more information on HP ProCurve Services, visit [www.hp.com/go/procurveservices](http://www.hp.com/go/procurveservices).

\* The HP ProCurve Routing Switch 9300m series and HP ProCurve Secure Access 700wl series have a 1-year warranty with extensions available.

# Contact information

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