

## ProCurve Switch 2800 Series

The ProCurve Switch 2800 series consists of two switches: the 24-port ProCurve Switch 2824 with 20 10/100/1000 ports, and the 48-port ProCurve Switch 2848 with 44 10/100/1000 ports. In addition, each switch has 4 dual-personality ports for RJ-45 10/100/1000 or mini-GBIC connectivity. The 2800 series is ideal for secure 10/100/1000 connectivity, and it offers access security and advanced prioritization and traffic-monitoring capabilities. With support for IP static routing, the 2800 series is well-suited for environments that need basic routing at the edge of the network.



ProCurve Switch 2824 (J4903A)



ProCurve Switch 2848 (J4904A)

# ProCurve Switch 2800 Series

## Features and benefits

### Connectivity

- **Dual-personality functionality:** four 10/100/1000 ports or mini-GBIC slots for optional fiber connectivity such as Gigabit-SX, -LX, or -LH

### Performance

- **48 Gbps backplane with up to 34.7 million pps (ProCurve 2824) and 96 Gbps backplane with up to 69.8 million pps (ProCurve 2848):** ten times the bandwidth for low-latency throughput

### Resiliency and high availability

- **IEEE 802.3ad Link Aggregation Protocol (LACP) and ProCurve trunking:** support up to 24 trunks, each with up to 8 links (ports) per trunk
- **Spanning Tree Protocol (IEEE 802.1D):** provides redundant links while preventing network loops
- **IEEE 802.1w Rapid Convergence Spanning Tree Protocol:** increases network uptime through faster recovery from failed links
- **IEEE 802.1s Multiple Spanning Tree:** provides high link availability in multiple VLAN environments by allowing multiple spanning trees
- **Optional external redundant power supply:** provides uninterrupted power

### Layer 2 switching

- **VLAN support and tagging:** supports the IEEE 802.1Q (4,096 VLAN IDs) and 256 VLANs simultaneously
- **GARP VLAN Registration Protocol:** allows automatic learning and dynamic assignment of VLANs
- **Jumbo packet support:** supports up to 9,216 byte frame size to improve performance of large data transfers

### Layer 3 routing

- **Basic IP routing:** enables automatic routing to the connected VLANs and up to 16 static routes—including one default route—in IP networks

### Security

- **Dynamic ARP protection:** blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network area
- **Port security:** allows access only to specified MAC addresses, which can be learned or specified by the administrator
- **MAC address lockout:** prevents configured particular MAC addresses from connecting to the network
- **IP lockdown:** restrict incoming traffic on a port to a specific IP address/subnet, and deny all other traffic on that port
- **Multiple user authentication methods:**
  - **IEEE 802.1X:** industry-standard way of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
  - **Web-based authentication:** similar to IEEE 802.1X, provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant
  - **MAC-based authentication:** client is authenticated with the RADIUS server based on the MAC address of the client
- **Secure FTP:** allows secure file transfer to/from the switch; protects against unwanted file downloads or unauthorized copying of switch configuration file
- **TACACS+:** eases switch management security administration by using a password authentication server

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- **Source-port filtering:** allows only specified ports to communicate with each other
- **Secure Shell (SSHv2):** encrypts all transmitted data for secure, remote command-line interface (CLI) access over IP networks
- **Secure Sockets Layer (SSL):** encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- **Switch management logon security:** can require either RADIUS or TACACS+ authentication for secure switch CLI logon

## Convergence

- **IP multicast snooping and data-driven IGMP:** automatically prevents flooding of IP multicast traffic
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** automated device discovery protocol for easy mapping by network management applications
- **LLDP-MED (Media Endpoint Discovery):** a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
- **Per-port broadcast throttling:** selectively configure broadcast control on heavy traffic port uplinks

## Quality of Service (QoS)

- **Traffic prioritization (IEEE 802.1p):** allows real-time traffic classification into 8 priority levels mapped to 4 queues
- **Class of Service (CoS):** sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), L3 protocol, TCP/UDP port number, source port, and DiffServ

- **Layer 4 prioritization:** enables prioritization based on TCP/UDP port numbers

## Manageability

- **RMON, XRMON, sFlow, and SMON:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
  - **Friendly port names:** allow assignment of descriptive names to ports
  - **ProCurve/IEEE Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports
  - **Dual flash images:** provides independent primary and secondary OS files for backup while upgrading
  - **Software updates:** free downloads from the Web
  - **Stacking capability:** single IP address management for a virtual stack of up to 16 switches, including the ProCurve 2500 series, 2510 series, 2600 series, 2800 series, 2810 series, 2900 series, 3400cl series, 3500yl series, 4200vl series, 6108, 6200yl-24G-mGBIC, and 6400cl series
  - **Find-Fix-and-Inform:** finds and fixes common network problems automatically, then informs administrator
  - **Troubleshooting:** ingress/egress port monitoring enables network problem-solving
  - **Multiple configuration files:** multiple config files can be stored to flash image
- ## Industry-leading warranty
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

# ProCurve Switch 2800 Series

## Services

### ProCurve Switch 2824

- 3-year, 4-hour onsite, 13x5 coverage for hardware (U2855E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (U2856E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6304E)
- 3-year, 24x7 software phone support, software updates (UE262E)
- Installation with minimum configuration, system-based pricing (U4826E)
- Installation with HP-provided configuration, system-based pricing (U4830E)

### ProCurve Switch 2848

- 3-year, 4-hour onsite, 13x5 coverage for hardware (H4496E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (H2893E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6319E)
- 3-year, 24x7 software phone support, software updates (UE264E)
- Installation with minimum configuration, system-based pricing (U4826E)
- Installation with HP-provided configuration, system-based pricing (U4830E)

Check [www.hp.com/go/procurveservices](http://www.hp.com/go/procurveservices) for part numbers and service-level descriptions. For details about services and response times in your area, please contact your local HP sales office.

## Accessories

**ProCurve Gigabit-SX-LC Mini-GBIC (J4858C)**

**ProCurve Gigabit-LX-LC Mini-GBIC (J4859C)**

**ProCurve Gigabit-LH-LC Mini-GBIC (J4860C)**

**ProCurve 600 Redundant External Power Supply (J8168A)**

**ProCurve 100-FX SFP-LC Transceiver (J9054B)**

**ProCurve Manager 2.2**

**ProCurve Manager Plus v2.2 upgrade from PCM+ 1.6 or newer (J9056A)**

**ProCurve Manager Plus v2.2 50-device license (J9057A)**

**ProCurve Manager Plus v2.2 upgrade +100-device license (J9058A)**

**ProCurve Manager Plus v2.2 unlimited-device license (J9059A)**

**ProCurve Identity Driven Manager 2.0 base product—500-user license (J9012A)**

**ProCurve Identity Driven Manager 2.0 base product—upgrade from 1.0 (J9013A)**

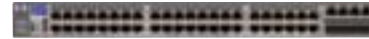
**ProCurve Identity Driven Manager 2.0—add 2000 users license (J9014A)**

# ProCurve Switch 2800 Series

## Specifications



**ProCurve Switch 2824 (J4903A)**



**ProCurve Switch 2848 (J4904A)**

<b>Ports</b>	20 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T) Media type: IEEE Auto-MDIX Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only 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 or an open mini-GBIC slot (for use with mini-GBIC transceivers)	44 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T) Media type: IEEE Auto-MDIX Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only 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 or an open mini-GBIC slot (for use with mini-GBIC transceivers)
<b>Physical characteristics</b>		
Dimensions (D x W x H)	14.4 x 17.32 x 1.75 in. (36.58 x 43.99 x 4.45 cm) (1U height)	16.9 x 17.32 x 1.75 in. (42.93 x 43.99 x 4.45 cm) (1U height)
Weight (fully loaded)	10.2 lb. (4.63 kg)	10.75 lb. (4.88 kg)
<b>Memory and processor</b>		
Processor type and speed	Motorola PowerPC MPC8245 @ 266 MHz	Motorola PowerPC MPC8245 @ 266 MHz
Flash capacity	8 MB	8 MB
SDRAM	64 MB	64 MB
<b>Mounting</b>	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
<b>Performance</b>		
Latency	<5.4 $\mu$ s (64-byte packets)	<5.4 $\mu$ s (FIFO 64-byte packets)
Throughput	Up to 34.65 million pps (64-byte packets)	Up to 69.3 million pps (64-byte packets)
Switching capacity	48 Gbps	96 Gbps
MAC address table size	16,000 entries	16,000 entries
<b>Environment</b>		
Operating temperature	32°F to 131°F (0°C to 55°C)	32°F to 131°F (0°C to 55°C)
Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing	15% to 95% @ 104°F (40°C), non-condensing
Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Non-operating/Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing	15% to 95% @ 149°F (65°C), non-condensing
Altitude	Up to 15,000 ft. (4.6 km)	Up to 15,000 ft. (4.6 km)
Acoustic	Power: <53 dB @ <80°F (25°C); DIN 45635 T.19 per ISO 7779	Power: <53 dB @ <80°F (25°C); DIN 45635 T.19 per ISO 7779
<b>Electrical characteristics</b>		
Maximum heat dissipation	341 BTU/hr (360 kJ/hr)	341 BTU/hr (360 kJ/hr)
Voltage	100-127 VAC/200-240 VAC	100-127 VAC/200-240 VAC
Current	0.6 A/0.3 A	0.6 A/0.3 A
Power consumption	100 W	100 W
Frequency	50/60 Hz	50/60 Hz
<b>Safety</b>	cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition	
<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
<b>Immunity</b>		
EN	EN 55024, CISPR 24	EN 55024, CISPR 24
ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD	IEC 61000-4-2; 4 kV CD, 8 kV AD
Radiated	IEC 61000-4-3; 3 V/m	IEC 61000-4-3; 3 V/m
EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
Surge	IEC 61000-4-5; 1 kV/2 kV AC	IEC 61000-4-5; 1 kV/2 kV AC
Conducted	IEC 61000-4-6; 3 V	IEC 61000-4-6; 3 V
Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
Harmonics	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2
Flicker	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3
<b>Management</b>	ProCurve Manager Plus; ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	
<b>Standards and protocols</b> (applies to both products)	<b>Device management</b> HTML and telnet management  <b>General protocols</b> IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3x Flow Control RFC 768 UDP RFC 783 TFTP Protocol (revision 2) RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 854 TELNET RFC 951 BOOTP RFC 1542 BOOTP Extensions	<b>Network management</b> IEEE 802.1AB Link Layer Discovery Protocol (LLDP) RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events) RFC 3176 sFlow SNMPv1/v2c/v3 XRMON  <b>Security</b> IEEE 802.1X Port Based Network Access Control RFC 1492 TACACS+ RFC 2138 RADIUS Authentication RFC 2866 RADIUS Accounting Secure Sockets Layer (SSL) SSHv2 Secure Shell
	RFC 2030 Simple Network Time Protocol (SNTP) v4 RFC 3046 DHCP Relay Agent Information Option  <b>IP multicast</b> RFC 3376 IGMPv3  <b>MIBs</b> RFC 1213 MIB II RFC 1493 Bridge MIB RFC 2021 RMONv2 MIB RFC 2096 IP Forwarding Table MIB RFC 2613 SMON MIB RFC 2618 RADIUS Client MIB RFC 2620 RADIUS Accounting MIB RFC 2665 Ethernet-Like-MIB RFC 2668 802.3 MAU MIB RFC 2674 802.1p and IEEE 802.1Q Bridge MIB RFC 2737 Entity MIB (Version 2) RFC 2863 The Interfaces Group MIB	