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)](image1) ![ProCurve Switch 2848 (J4904A)](image2)
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
ProCurve Switch 2800 Series

- **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 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

#### Ports

<table>
<thead>
<tr>
<th>ProCurve Switch 2824 (J4903A)</th>
<th>ProCurve Switch 2848 (J4904A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 auto-sensing 1/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T)</td>
<td>44 auto-sensing 1/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T)</td>
</tr>
<tr>
<td>Media type: IEEE Auto-MDI</td>
<td>Media type: IEEE Auto-MDI</td>
</tr>
<tr>
<td>Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only</td>
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</tr>
<tr>
<td>1 RS-232C DB-9 console port</td>
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</tr>
<tr>
<td>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)</td>
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</tr>
</tbody>
</table>

#### Physical characteristics

<table>
<thead>
<tr>
<th>Dimension (D x W x H)</th>
<th>Weight (fully loaded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.4 x 17.32 x 1.75 in. (36.58 x 43.99 x 4.45 cm) (1U height)</td>
<td>10.2 lb. (4.63 kg)</td>
</tr>
<tr>
<td>16.9 x 17.32 x 1.75 in. (42.93 x 43.99 x 4.45 cm) (1U height)</td>
<td>10.75 lb. (4.88 kg)</td>
</tr>
</tbody>
</table>

#### Memory and processor

<table>
<thead>
<tr>
<th>Processor type and speed</th>
<th>Flash capacity</th>
<th>SDRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorola PowerPC MPC8245 @ 266 MHz</td>
<td>1 MB</td>
<td>64 MB</td>
</tr>
</tbody>
</table>

#### Mounting

MOUNTS IN AN EIA-STANDARD 19 IN. TELCO RACK OR EQUIPMENT CABINET (HARDWARE INCLUDED); HORIZONTAL SURFACE MOUNTING ONLY

#### Performance

<table>
<thead>
<tr>
<th>Latency</th>
<th>Throughput</th>
<th>Switching capacity</th>
<th>MAC address table size</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5.4 μs (64-byte packets)</td>
<td>Up to 34.65 million pps (64-byte packets)</td>
<td>48 Gbps</td>
<td>16,000 entries</td>
</tr>
<tr>
<td>16.9 x 17.32 x 1.75 in. (42.93 x 43.99 x 4.45 cm) (1U height)</td>
<td>10.75 lb. (4.88 kg)</td>
<td></td>
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#### Environment

<table>
<thead>
<tr>
<th>Operating temperature</th>
<th>Operating relative humidity</th>
<th>Non-operating/Storage temperature</th>
<th>Non-operating/Storage relative humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>32°F to 131°F (0°C to 55°C)</td>
<td>15% to 95% @ 104°F (40°C), non-condensing</td>
<td>-40°F to 158°F (-40°C to 70°C)</td>
<td>15% to 95% @ 149°F (65°C), non-condensing</td>
</tr>
<tr>
<td>0°F to 122°F (-18°C to 50°C)</td>
<td>15% to 95% @ 104°F (40°C), non-condensing</td>
<td>-40°F to 158°F (-40°C to 70°C)</td>
<td>15% to 95% @ 149°F (65°C), non-condensing</td>
</tr>
</tbody>
</table>

#### Electrical characteristics

<table>
<thead>
<tr>
<th>Maximum heat dissipation</th>
<th>Voltage</th>
<th>Current</th>
<th>Power consumption</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>341 BTU/hr (360 kJ/hr)</td>
<td>100–127 VAC/200–240 VAC</td>
<td>0.6 A/0.3 A</td>
<td>100 W</td>
<td>50/60 Hz</td>
</tr>
</tbody>
</table>

#### Safety

<table>
<thead>
<tr>
<th>Emissions</th>
<th>FCC Class A</th>
<th>EN 55022/CISPR 22 Class A</th>
<th>FCC Class A</th>
<th>EN 55022/CISPR 22 Class A</th>
<th>FCC Class A</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 55024, CISPR 24</td>
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<td>FCC Class A</td>
<td>EN 55024, CISPR 24</td>
</tr>
</tbody>
</table>

#### Standards and protocols

<table>
<thead>
<tr>
<th>(applies to both products)</th>
<th>Device management</th>
<th>General protocols</th>
<th>IP multicast</th>
<th>MIBs</th>
<th>Network management</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEEE 802.1D MAC Bridges</td>
<td>IEEE 802.1p Priority</td>
<td>IEEE 802.1Q VLANs</td>
<td>RFC 3376 IGMPv3</td>
<td>RFC 1213 MIB II</td>
<td>IEEE 802.1AB Link Layer Discovery Protocol (LLDP)</td>
<td>IEEE 802.1x Port Based Network Access Control</td>
</tr>
<tr>
<td>IEEE 802.3 Flow Control</td>
<td>RFC 768 UDP</td>
<td>RFC 802.3ad Link Aggregation Control Protocol (LACP)</td>
<td>RFC 3046 DHCP Relay Agent Information Option</td>
<td>RFC 1493 Bridge MB</td>
<td>RFC 1492 TACACS+</td>
<td>RFC 2866 RADIUS Accounting</td>
</tr>
<tr>
<td>RFC 783 TFTP Protocol (revision 2)</td>
<td>RFC 792 ICMP</td>
<td>RFC 2011 RMONv2 MIB</td>
<td>RFC 3176 sFlow</td>
<td>RFC 2094 IP Forwarding Table MIB</td>
<td>RFC 2138 RADIUS Authenticaton</td>
<td>RFC 2919 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events)</td>
</tr>
<tr>
<td>RFC 793 TCP</td>
<td>RFC 826 ARP</td>
<td>RFC 2061 RADIUS Client MIB</td>
<td>RFC 3176 sFlow</td>
<td>RFC 826 ARP</td>
<td>RFC 2065 EthernetLikeMIB</td>
<td>RFC 3176 sFlow</td>
</tr>
<tr>
<td>RFC 854 TELNET</td>
<td>RFC 951 BOOTP</td>
<td>RFC 2668 802.3 MIB</td>
<td>RFC 2678 TELNET</td>
<td>RFC 951 BOOTP</td>
<td>RFC 2678 TELNET</td>
<td>SNMPv2c/v3</td>
</tr>
<tr>
<td>RFC 1542 BOOTP Extensions</td>
<td>RFC 2030 Simple Network Time Protocol (SNTP)</td>
<td>RFC 2665 EthernetLikeMIB</td>
<td>RFC 2737 Entity MIB</td>
<td>RFC 3046 DHCP Relay Agent Information Option</td>
<td>RFC 2665 EthernetLikeMIB</td>
<td>XRRMON</td>
</tr>
<tr>
<td>RFC 2863 The Interfaces Group MIB</td>
<td>RFC 3046 DHCP Relay Agent Information Option</td>
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#### Management

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