ProCurve
Networking by HP

ProCurve Switch 2510 Series

Designed to provide essential connectivity solutions to Small Business Networks, the ProCurve Switch 2510 Series consists of four Layer 2 managed switches that provide reliable 10/100 and 10/100/1000 connectivity. Building off of the popularity of the 2510-24, a 24-port 10/100 switch with two dual-personality ports, the 2510 series has expanded to include a higher-density 2510-48, with 48 10/100 ports and four Gigabit uplinks. Additionally, the 2510G switches add Gigabit to the 2510 series, with the 2510G-24 and 2510G-48, 24- and 48-port 10/100/1000 switches, each with 4 dual-personality ports—ideal for businesses that are ready to upgrade to increased network performance.

ProCurve Switch 2510-24 (J9019B)

ProCurve Switch 2510-48 (J9020A)

NEW ProCurve Switch 2510G-24 (J9279A)

NEW ProCurve Switch 2510G-48 (J9280A)

Features and benefits

Industry-leading warranty

Connectivity

NEW **10/100 and 10/100/1000 connectivity**: provides customers with the choice to select the network connectivity speed that best meets their needs, with a consistent user experience

- **Gigabit uplinks**:
  - **2510-24 and 2510-48**: the 2510-24 has two dual-personality ports for either 10/100/1000 or SFP connectivity; the 2510-48 has four Gigabit ports, which can all be used concurrently with two 10/100/1000 ports and two open SFP slots
  - **2510G-24 and 2510G-48**: four dual personality for either 10/100/1000 or SFP connectivity for optional fiber connectivity such as Gigabit-SX, -LX, -LH, or 100-FX
- **ProCurve Auto-MDIX**: automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 copper ports

Resiliency and high availability

- **IEEE 802.3ad Link Aggregation Control Protocol (LACP) and ProCurve trunking**:
  - 2510-24 supports up to two 10/100 trunks each with four links/ports plus one Gigabit trunk
  - 2510-48 supports up to 24 10/100 trunks with eight links/ports per trunk
  - 2510G switches support up to 24 trunks with eight links/ports per trunk
- **IEEE 802.1s Multiple Spanning Tree**: provides high link availability in multiple VLAN environments by allowing multiple spanning trees; provides legacy support for IEEE 802.1d and IEEE 802.1w

Layer 2 switching

- **VLAN support and tagging**: support up to 64 port-based VLANs and dynamic configuration of IEEE 802.1Q VLAN tagging, providing security between workgroups
- **GARP VLAN Registration Protocol**: allows automatic learning and dynamic assignment of VLANs
- **Jumbo packet support (2510G only)**: supports up to 9,216-byte frame size to improve performance of large data transfers

Security

- **Protected ports**: provides increased security by allowing specified ports to be isolated from all other ports on the switch; the protected port or ports can only communicate with the uplinks or shared resources
- **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

♦For as long as you own the product, with next-business-day advance replacement (available in most countries). The following hardware products and their related family modules have a one-year warranty with extensions available: The ProCurve Routing Switch 9300m Series, ProCurve Switch 8100fl Series, ProCurve Access Control Server 745wl and the ProCurve Network Access Controller 800. Stand-alone software may have a different warranty duration. For details, refer to the ProCurve Software Licence, Warranty and Support booklet at **www.procurve.eu/warranty**

  - **MAC-based authentication**: client is authenticated with the RADIUS server based on client's MAC address

- **Multiple IEEE 802.1X users per port**: provides authentication of up to two IEEE 802.1X users per port; prevents user "piggybacking" on another user's IEEE 802.1X authentication
- **BPDU port protection**: blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **Secure management access**: all access methods—CLI, GUI, or MIB—are securely encrypted through SSHv2, SSL, and/or SNMPv3
- **TACACS+**: eases switch management security administration by using a password authentication server

Convergence

- **IP multicast (data-driven IGMPv3)**: automatically prevents flooding of IP multicast traffic (except 2510-24)

Quality of Service (QoS)

- **IEEE 802.1p prioritization**: delivers data to devices based on the priority and type of traffic

Manageability

- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP)**: automated device discovery protocol for easy mapping by network management applications
- **RMON**: provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Friendly port names**: allow assignment of descriptive names to ports
- **Full-featured console**: provides complete control of the switch with a familiar command-line interface (CLI)
- **Web interface**: allows configuration of the switch from any Web browser on the network
- **Stacking capability**: single IP address management for a virtual stack of up to 16 switches, including the ProCurve 2500 series, 2510 series, 2600 series, 2610 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
- **Dual flash images**: provides independent primary and secondary operating system files for backup while upgrading
- **Software updates**: free downloads from the Web

Flexibility

- **Fanless design**: reduces noise and distractions when deployed in open spaces (2510-24 only)

NEW **Multiple port density and connectivity speed options**: provide choice and flexibility with a consistent user experience

ProCurve Switch 2510 Series

Services

- 3-year, 4-hour onsite, 13x5 coverage for hardware (U4683E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (U4835E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6321E)
- 3-year, 4-hour onsite, 24x7 coverage for software (UF792E)
- Installation with minimum configuration, system-based pricing (U4826E)
- Installation with HP-provided configuration, system-based pricing (U4830E)

Check **www.procurve.eu/services** 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 100-FX SFP-LC Transceiver (J9054B)

ProCurve Manager 2.3

ProCurve Switch 2510 Series

Specifications

	ProCurve Switch 2510-24 (J9019B)	ProCurve Switch 2510-48 (J9020A)
Ports	24 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX) Media type: ProCurve Auto-MDIX Duplex: half or full 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers) 1 RJ-45 serial console port	48 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX) Media type: ProCurve Auto-MDIX Duplex: half or full 2 RJ-45 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-MDI/MDIX Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only 2 open mini-GBIC (SFP) slots 1 RJ-45 serial console port
Physical characteristics		
Dimensions (D x W x H)	23.62 x 44.25 x 4.39 cm (9.3 x 17.42 x 1.73 in.) (1U height)	23.62 x 44.25 x 4.39 cm (9.3 x 17.42 x 1.73 in.) (1U height)
Weight (fully loaded)	2.22 kg (4.89 lb.)	2.74 kg (6.05 lb.)
Memory and processor		
Processor type and speed	MIPS 32 @ 264 MHz	MIPS 32 @ 300 MHz
Flash capacity	8 MB	16 MB
SDRAM	64 MB	128 MB
Packet buffer size	384 KB	1 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance		
Latency		
100 Mb latency	<4.9 µs (64-byte packets)	<4.9 µs (64-byte packets)
1000 Mb latency	<2.6 µs (64-byte packets)	<2.9 µs (64-byte packets)
Throughput	Up to 6.5 million pps (64-byte packets)	Up to 13 million pps (64-byte packets)
Switching capacity	8.8 Gbps	17.6 Gbps
MAC address table size	8,000 entries	8,000 entries
Environment		
Operating temperature	0°C to 45°C (32°F to 113°F)	0°C to 45°C (32°F to 113°F)
Operating relative humidity	15% to 95% @ 40°C (104°F), non-condensing	15% to 95% @ 40°C (104°F), non-condensing
Non-operating/Storage temperature	–40°C to 70°C (–40°F to 158°F)	–40°C to 70°C (–40°F to 158°F)
Non-operating/Storage relative humidity	15% to 95% @ 65°C (149°F), non-condensing	15% to 90% @ 65°C (149°F), non-condensing
Altitude	Up to 3 km (10,000 ft.)	Up to 4.6 km (15,000 ft.)
Acoustic	Power: 0 dB, no fan	Power: 43.6 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics		
Maximum heat dissipation	71.74 kJ/hr (68 BTU/hr)	97 kJ/hr (92 BTU/hr)
Voltage	100–127 VAC/200–240 VAC	100–127 VAC/200–240 VAC
Current	0.75 A/0.4 A	1.25 A/0.75 A
Power consumption	20 W	27 W
Frequency	50/60 Hz	50/60 Hz
Safety	cUL (CSA 22.2 No. 60950); UL 60950-1; IEC 60950; EN 60950	
Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3	
Immunity		
Generic	EN 55024, CISPR 24	EN 55024, CISPR 24
ESD	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11
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
Management	ProCurve Manager Plus; ProCurve Manager; command-line interface; Web browser; out-of-band management	
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required.	

Standards and protocols

Device management
HTML and telnet management

General protocols
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s Multiple Spanning Trees
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
RFC 2030 Simple Network Time Protocol (SNTP) v4

IP multicast
RFC 3376 IGMPv3

MIBs
RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 1573 SNMP MIB II
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

Network management
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
SNMPv1/v2c/v3

Security
IEEE 802.1X Port Based Network Access Control
RFC 1492 TACACS+
RFC 2138 RADIUS Authentication
RFC 2866 RADIUS Accounting
Secure Sockets Layer (SSL)
SSHv1/SSHv2 Secure Shell

ProCurve Switch 2510 Series

Specifications

	ProCurve Switch 2510G-24 (J9279A)	ProCurve Switch 2510G-48 (J9280A)
Ports	20 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-TX) Media type: Auto-MDIX Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only 4 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers) 1 RJ-45 serial console port	44 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-TX) Media type: Auto-MDIX Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only 4 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers) 1 RJ-45 serial console port
Physical characteristics		
Dimensions (D x W x H)	32.26 x 44.2 x 4.32 cm (12.7 x 17.4 x 1.7 in.) (1U height)	32.26 x 44.2 x 4.32 cm (12.7 x 17.4 x 1.7 in.) (1U height)
Weight (fully loaded)	3.27 kg (7.21 lb.)	3.9 kg (8.6 lb.)
Memory and processor		
Processor type and speed	MIPS @ 264 MHz	MIPS @ 264 MHz
Flash capacity	16 MB	16 MB
SDRAM	64 MB	64 MB
Packet buffer size	0.75 MB	1.5 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance		
Latency	<5.6 µs (FIFO 64-byte packets)	<5.4 µs (FIFO 64-byte packets)
Throughput	Up to 35.7 million pps	Up to 71.4 million pps
Switching capacity	48 Gbps	96 Gbps
MAC address table size	8,000 entries	8,000 entries
Environment		
Operating temperature	0°C to 45°C (32°F to 113°F)	0°C to 45°C (32°F to 113°F)
Operating relative humidity	15% to 95% @ 40°C (104°F), non-condensing	15% to 95% @ 40°C (104°F), non-condensing
Non-operating/Storage temperature	–40°C to 70°C (–40°F to 158°F)	–40°C to 70°C (–40°F to 158°F)
Non-operating/Storage relative humidity	15% to 95% @ 65°C (149°F), non-condensing	15% to 90% @ 65°C (149°F), non-condensing
Altitude	Up to 3 km (10,000 ft.)	Up to 3 km (10,000 ft.)
Acoustic	Power: 40.3 dB	Power: 40.5 dB
Electrical characteristics		
Maximum heat dissipation	173 kJ/hr (164 BTU/hr)	331 kJ/hr (314 BTU/hr)
Voltage	100–240 VAC	100–240 VAC
Current	1.0 A	1.5 A
Power consumption	48 W	92 W
Frequency	50–60 Hz	50/60 Hz
Safety	cUL (CSA 22.2 No. 60950); UL 60950-1; IEC 60950; EN 60950	
Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3	
Immunity		
Generic	EN 55024, CISPR 24	EN 55024, CISPR 24
ESD	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11
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
Management	ProCurve Manager Plus; ProCurve Manager; command-line interface; Web browser; out-of-band management	
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required.	

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SSHv1/SSHv2 Secure Shell

For more information

To learn more about ProCurve Networking, please visit **www.procurve.eu**

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