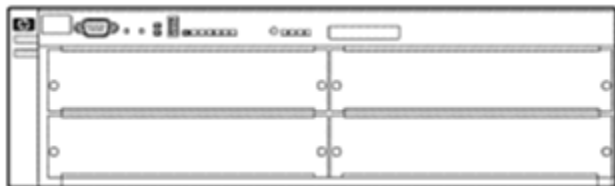
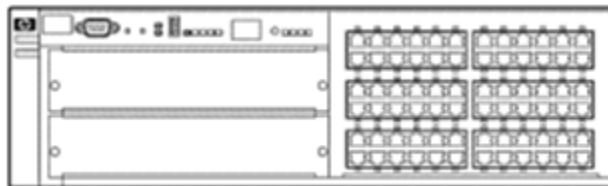


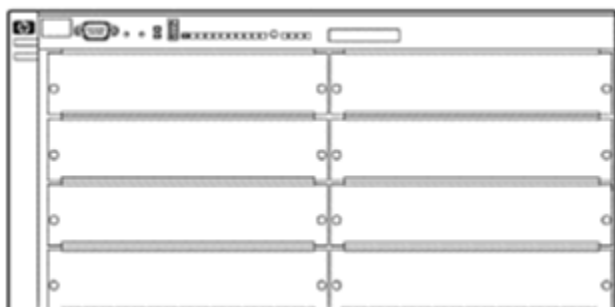
Overview



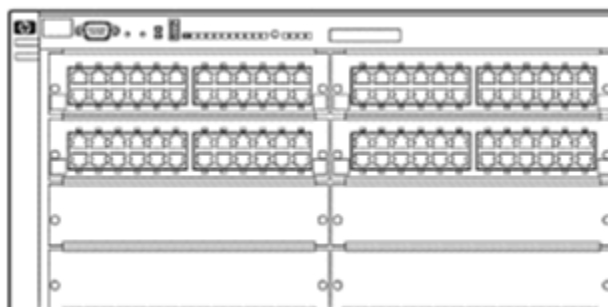
HP ProCurve Switch 4204vl



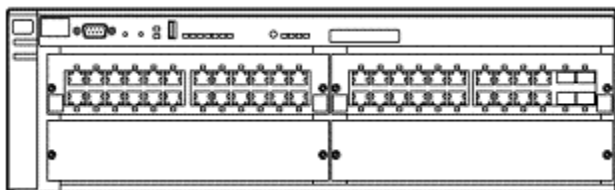
HP ProCurve Switch 4202vl-72



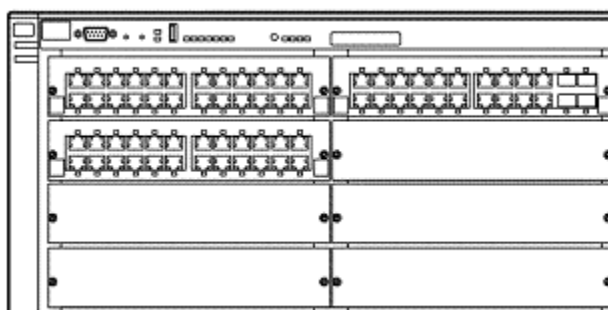
HP ProCurve Switch 4208vl



HP ProCurve Switch 4208vl-96



HP ProCurve Switch 4204vl-48GS



HP ProCurve Switch 4208vl-72GS

Models

HP ProCurve Switch 4204vl	J8770A
HP ProCurve Switch 4202vl-72	J8772A
HP ProCurve Switch 4208vl	J8773A
HP ProCurve Switch 4208vl-96	J8775A
HP ProCurve Switch 4204vl-48GS	J9064A
HP ProCurve Switch 4208vl-72GS	J9030A

Key features

- Access layer
- Layer 2 and Layer 3 lite feature set
- Scalable 10/100/1000 connectivity
- 10-GbE uplinks

Overview

Introduction

The HP ProCurve Switch 4200vl Series consists of modular chassis that provide a flexible, cost-effective LAN solution as an alternative to stackables. These switches offer a proven chassis form factor with high quality and reliability in 10/100, 10/100/1000, and 10-Gigabit scalable solutions that integrate easily into any network.

Features and Benefits

Management

- **Uni-Directional Link Detection (UDLD):** Monitors cable between two switches and shuts down the ports on both ends if the cable is broken turning the bi-directional link into uni-directional; this prevents network problems such as loops

Connectivity

- **Auto-MDIX:** Automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports

Performance

- **Architecture:** Up to 76.8 Gbps crossbar switching fabric provides wire-speed intra- and inter-module switching with up to 48 million pps throughput built on ProCurve custom-designed ASIC technology

Resiliency and high availability

- **IEEE 802.3ad Link Aggregation Control Protocol (LACP) and ProCurve trunking:** Support up to 60 trunks, each with up to 8 links (ports) per trunk; trunking across modules is supported
- **IEEE 802.1s Multiple Spanning Tree Protocol:** Provides high link availability in multiple VLAN environments by allowing multiple spanning trees; encompasses IEEE 802.1D Spanning Tree Protocol and IEEE 802.1w Rapid Spanning Tree Protocol
- **Hot-swappable modules:** Permit modules and mini-GBICs to be added or swapped without interrupting the network
- **Optional redundant power supply:** Provides uninterrupted power; allows hot-swapping of one of the two supplies when installed

Layer 2 switching

- **VLAN support and tagging:** Supports the IEEE 802.1Q (4,094 VLAN IDs) and 256 VLANs simultaneously
- **GARP VLAN Registration Protocol:** Allows automatic learning and dynamic assignment of VLANs

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

- **Multiple user authentication methods:**
 - **IEEE 802.1X:** industry-standard method 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 client's MAC address
- **Authentication flexibility:**
 - **Multiple IEEE 802.1X users per port:** provides authentication of up to eight IEEE 802.1X users per port; prevents user "piggybacking" on another user's IEEE 802.1X authentication
- **Dynamic ARP protection:** blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- **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
- **Secure FTP:** allows secure file transfer to/from the switch; protects against unwanted file downloads or unauthorized

Overview

copying of switch configuration file

- **RADIUS/TACACS+**: eases switch management security administration by using a password authentication server
- **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
- **Custom banner**: displays security policy when users log in to the switch
- **STP BPDU port protection**: blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks

Convergence

- **IP multicast** (data-driven IGMPv3): 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

Quality of Service (QoS)

- **Traffic prioritization** (IEEE 802.1p): allows real-time traffic classification into 8 priority levels mapped to 8 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

- **sFlow** (RFC 3176): Wire-speed traffic accounting and monitoring
- **RMON and XRMON**: Provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Dual flash images**: Provides independent primary and secondary operating system files for backup while upgrading
- **Multiple configuration files**: allows a config file to be stored to flash image
- **Friendly port names**: Allow assignment of descriptive names to ports
- **Stacking capability**: single IP address management for a virtual stack of up to 16 switches, including the HP ProCurve Switch 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
- **Software updates**: Free downloads from the Web
- **Troubleshooting**: Ingress/egress port monitoring enables network problem-solving

Warranty and Support*

- **ProCurve Lifetime Warranty**: for as long as you own the product, with next-business-day advance replacement (available in most countries).
- **Electronic and telephone support**: limited electronic and telephone support is available from HP. Refer to the HP Web site at: www.procurve.com/support for details on the support provided and the period during which support is available.
- **Software releases**: refer to the HP Web site at: www.procurve.com/support for details on the software releases provided and the period during which software releases are available.

* For as long as you own the product, with next-business-day advance replacement (available in most countries). The following hardware products have a five-year hardware warranty for the disk drive and lifetime hardware warranty (for as long as you own the product) for the rest of the module: HP ProCurve ONE Services zl Module, HP ProCurve Threat Management Services zl Module, and HP ProCurve MSM765zl Mobility Controller. The following hardware products and their related series modules have a one-year hardware warranty with extensions available: HP ProCurve Routing Switch 9300m series, HP ProCurve Switch 8100fl series, HP ProCurve Network Access Controller 800, and HP ProCurve DCM



Overview

Controller. The following hardware products have a one-year hardware warranty with extensions available: HP ProCurve M111 Client Bridge, HP ProCurve MSM3xx-R Access Points, HP ProCurve MSM7xx Mobility and Access Controllers, HP ProCurve RF Manager IDS/IPS Systems, HP ProCurve MSM Power Supplies, HP ProCurve 1-Port Power Injector, HP ProCurve CNMS Appliances, and HP ProCurve MSM317 Access Device. Standalone software, upgrades, or licenses may have a different warranty duration. For details, refer to the ProCurve Software License, Warranty, and Support booklet at www.procurve.com/warranty.

Technical Specifications

HP ProCurve Switch 4204vl (J8770A)	Ports	4 open module slots 1 RS-232C DB-9 console port
	Maximum ports	Supports a maximum of 96 auto-sensing 10/100 ports or 96 auto-sensing 10/100/1000 ports or 16 mini-GBICs, or a combination
	Power supplies	Includes 1 x J4839A 1 open power-supply slot
	Physical characteristics	Dimensions (D x W x H) 15.3 x 17.4 x 5.25 in. (38.86 x 44.2 x 13.34 cm) (3U height) Weight (fully loaded) 20.75 lb. (9.41 kg)
	Memory and processor	Fabric module Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM Packet buffer size 36 MB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Performance	Latency <6 µs (FIFO) Throughput Up to 24 million pps Switch fabric speed 38.4 Gbps
	Environment	Operating temperature 32°F to 104°F (0°C to 40°C) Operating relative humidity 15% to 95% @ 104°F (40°C), non-condensing Non-operating/Storage temperature -40°F to 158°F (-40°C to 70°C) Non-operating/Storage relative humidity 15% to 95%, non-condensing Altitude Up to 15,000 ft. (4.6 km) Acoustic Power: 64.2 dB; DIN 45635T.19 per ISO 7779
	Electrical characteristics	Maximum heat dissipation 2152 BTU/hr (2270 kJ/hr) Voltage 100–127 VAC / 200–240 VAC Current 8.2 / 3.8 A Power consumption 630 W Frequency 50 / 60 Hz
	Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
	Safety	CSA 22.2 No. 950; UL 60950; EN60950
	Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; CISPR 22 Class A; EN 55024; IEC/EN 61000-3-2; IEC/EN 61000-3-3
	Immunity	EN EN55024, CISPR 24 ESD IEC 61000-4-2 Radiated IEC 61000-4-3 EFT/Burst IEC 61000-4-4 Surge IEC 61000-4-5 Conducted IEC 61000-4-6

Technical Specifications

	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	IEC 61000-4-11
	Harmonics	EN61000-3-2, IEC61000-3-2
	Flicker	EN61000-3-3, IEC61000-3-3
Management	HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (DB-9 serial port console); IEEE 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB	
Services	<p>3-year, 4-hour onsite, 13x5 coverage for hardware (UE241E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware (UE242E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UE243E)</p> <p>3-year, 24x7 SW phone support, software updates (UE263E)</p> <p>Installation with minimum configuration, system-based pricing (U4827E)</p> <p>Installation with HP-provided configuration, system-based pricing (U4831E)</p>	
	<p>Refer to the HP Web site at: www.procurve.com/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>	
Standards and protocols	<p>Device Management</p> <p>HTML and telnet management</p> <p>General Protocols</p> <p>IEEE 802.1D MAC Bridges</p> <p>IEEE 802.1p Priority</p> <p>IEEE 802.1Q VLANs</p> <p>IEEE 802.1s Multiple Spanning Trees</p> <p>IEEE 802.1w Rapid Reconfiguration of Spanning Tree</p> <p>IEEE 802.3ad Link Aggregation Control Protocol (LACP)</p> <p>IEEE 802.3x Flow Control</p> <p>RFC 768 UDP</p> <p>RFC 783 TFTP Protocol (revision 2)</p> <p>RFC 791 IP</p> <p>RFC 792 ICMP</p> <p>RFC 793 TCP</p> <p>RFC 826 ARP</p> <p>RFC 854 TELNET</p> <p>RFC 1542 BOOTP Extensions</p> <p>RFC 2030 Simple Network Time Protocol (SNTP) v4</p> <p>RFC 3046 DHCP Relay Agent Information Option</p> <p>IP Multicast</p> <p>RFC 3376 IGMPv3</p> <p>MIBs</p> <p>RFC 1213 MIB II</p> <p>RFC 1493 Bridge MIB</p> <p>RFC 2613 SMON MIB</p> <p>RFC 2618 RADIUS Client MIB</p> <p>RFC 2665 Ethernet-Like-MIB</p> <p>RFC 2668 802.3 MAU MIB</p> <p>RFC 2737 Entity MIB (Version 2)</p> <p>Network Management</p> <p>IEEE 802.1AB Link Layer Discovery Protocol (LLDP)</p>	

Technical Specifications

RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
 RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
 RFC 3164 BSD syslog Protocol
 RFC 3176 sFlow
 ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
 SNMPv1/v2c/v3
 XRMON
QoS/Cos
 RFC 2474 DiffServ Precedence, including 8 queues/port
 RFC 2597 DiffServ Assured Forwarding (AF)
 RFC 2598 DiffServ Expedited Forwarding (EF)
Security
 IEEE 802.1X Port Based Network Access Control
 RFC 2138 RADIUS Authentication Secure Sockets Layer (SSL)
 SSHv2 Secure Shell

NOTE: 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.

HP ProCurve Switch 4202vl-72 (J8772A)	Ports	2 open module slots 1 RS-232C DB-9 console port 72 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full
	Maximum ports	Supports a maximum of 120 auto-sensing 10/100 ports or 48 Gigabit ports or 8 mini-GBICs, or a combination
	Power supplies	Includes 1 x J4839A 1 open power supply slots
	Physical characteristics	Dimensions (D x W x H) 15.3(d) x 17.4(w) x 5.25(h) in. (38.86 x 44.2 x 13.34 cm) (3U height) Weight (fully loaded) 23.81 lb. (10.8 kg)
	Memory and processor	Fabric module Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM Packet buffer size 36 MB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Performance	Latency < 6 µs (FIFO) Throughput Up to 22.4 million pps Switch fabric speed 33.6 Gbps
	Environment	Operating temperature 32°F to 104°F (0°C to 40°C) Operating relative humidity 15% to 95% @ 104°F (40°C), non-condensing Non-operating/Storage temperature -40°F to 158°F (-40°C to 70°C) Non-operating/Storage relative humidity 15% to 95%, non-condensing Altitude up to 15000 ft. (4.6 km) Acoustic Power: 64.2 dB; DIN 45635T.19 per ISO 7779
	Electrical	Maximum heat 2152 BTU/hr (2270 kJ/hr)



Technical Specifications

characteristics	dissipation Voltage 100-127 / 200-240 VAC Current 8.2 / 3.8 A Power consumption 630 W Frequency 50/60 Hz
Notes	<p>Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.</p>
Safety	CSA 22.2 No. 950; UL 60950; EN 60950
Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; CISPR 22 Class A; EN 55024; IEC/EN 61000-3-2; IEC/EN 61000-3-3
Immunity	EN EN55024, CISPR 24 ESD IEC 61000-4-2 Radiated IEC 61000-4-3 EFT/Burst IEC 61000-4-4 Surge IEC 61000-4-5 Conducted IEC 61000-4-6 Power frequency magnetic field IEC 61000-4-8 Voltage dips and interruptions IEC 61000-4-11 Harmonics EN61000-3-2, IEC61000-3-2 Flicker EN61000-3-3, IEC61000-3-3
Management	HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (DB-9 serial port console); IEEE 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB
Services	<p>3-year, 4-hour onsite, 13x5 coverage for hardware (UE247E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UE248E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UE249E) 3-year, 24x7 SW phone support, software updates (UE265E) Installation with minimum configuration, system-based pricing (U4827E) Installation with HP-provided configuration, system-based pricing (U4831E)</p> <p>Refer to the HP Web site at: www.procurve.com/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>
Standards and protocols	Device Management HTML and telnet management General Protocols IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s Multiple Spanning Trees 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)

Technical Specifications

RFC 791 IP
 RFC 792 ICMP
 RFC 793 TCP
 RFC 826 ARP
 RFC 854 TELNET
 RFC 1542 BOOTP Extensions
 RFC 2030 Simple Network Time Protocol (SNTP) v4
 RFC 3046 DHCP Relay Agent Information Option

IP Multicast

RFC 3376 IGMPv3

MIBs

RFC 1213 MIB II
 RFC 1493 Bridge MIB
 RFC 2613 SMON MIB
 RFC 2618 RADIUS Client MIB
 RFC 2665 Ethernet-Like-MIB
 RFC 2668 802.3 MAU MIB
 RFC 2737 Entity MIB (Version 2)

Network Management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
 RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
 RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
 RFC 3164 BSD syslog Protocol
 RFC 3176 sFlow
 ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
 SNMPv1/v2c/v3
 XRMON

QoS/Cos

RFC 2474 DiffServ Precedence, including 8 queues/port
 RFC 2597 DiffServ Assured Forwarding (AF)
 RFC 2598 DiffServ Expedited Forwarding (EF)

Security

IEEE 802.1X Port Based Network Access Control
 RFC 2138 RADIUS Authentication
 Secure Sockets Layer (SSL)
 SSHv2 Secure Shell

NOTE: 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.

HP ProCurve Switch 4208vl (J8773A)	Ports	8 open module slots
		1 RS-232C DB-9 console port
	Maximum ports	Supports a maximum of 192 auto-sensing 10/100 ports or 192 auto-sensing 10/100/1000 ports or 32 mini-GBICs, or a combination
	Power supplies	Includes 1 x J4839A 1 open power-supply slot
	Physical characteristics	Dimensions (D x W x H) 15.3(d) x 17.4(w) x 8.75(h) in. (38.86 x 44.2 x 22.23 cm) (5U height)
		Weight (fully loaded) 26.85 lb. (12.18 kg)
	Memory and processor	Fabric module Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM
		Packet buffer size 36 MB

Technical Specifications

Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
Performance	Latency <6 μ s (FIFO) Throughput Up to 48 million pps Switch fabric speed 76.8 Gbps
Environment	Operating temperature 32°F to 104°F (0°C to 40°C) Operating relative humidity 15% to 95% @ 104°F (40°C), non-condensing Non-operating/Storage temperature -40°F to 158°F (-40°C to 70°C) Non-operating/Storage relative humidity 15% to 95%, non-condensing Altitude Up to 15,000 ft. (4.6 km) Acoustic Power: 63.1 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Maximum heat dissipation 2152 BTU/hr (2270 kJ/hr) Voltage 100–127 VAC / 200–240 VAC Current 8.2 / 3.8 A Power consumption 630 W Frequency 50 / 60 Hz
Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety	CSA 22.2 No. 950; UL 60950; EN60950
Emissions	FCC Class A; VCCI Class A; EN55022/CISPR-22 Class A; CISPR22 Class A; EN55024; IEC/EN61000-3-2; IEC/EN61000-3-3
Immunity	EN EN55024, CISPR 24 ESD IEC 61000-4-2 Radiated IEC 61000-4-3 EFT/Burst IEC 61000-4-4 Surge IEC 61000-4-5 Conducted IEC 61000-4-6 Power frequency magnetic field IEC 61000-4-8 Voltage dips and interruptions IEC 61000-4-11 Harmonics EN61000-3-2, IEC61000-3-2 Flicker EN61000-3-3, IEC61000-3-3
Management	HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (DB-9 serial port console); IEEE 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UE244E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UE245E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UE246E) 3-year, 24x7 SW phone support, software updates (UF787E) Installation with minimum configuration, system-based pricing (U4827E)

Installation with HP-provided configuration, system-based pricing (U4831E)

Refer to the HP Web site at: www.procurve.com/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Standards and protocols

Device Management

HTML and telnet management

General Protocols

IEEE 802.1D MAC Bridges

IEEE 802.1p Priority

IEEE 802.1Q VLANs

IEEE 802.1s Multiple Spanning Trees

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 791 IP

RFC 792 ICMP

RFC 793 TCP

RFC 826 ARP

RFC 854 TELNET

RFC 1542 BOOTP Extensions

RFC 2030 Simple Network Time Protocol (SNTP) v4

RFC 3046 DHCP Relay Agent Information Option

IP Multicast

RFC 3376 IGMPv3

MIBs

RFC 1213 MIB II

RFC 1493 Bridge MIB

RFC 2613 SMON MIB

RFC 2618 RADIUS Client MIB

RFC 2665 Ethernet-Like-MIB

RFC 2668 802.3 MAU MIB

RFC 2737 Entity MIB (Version 2)

Network Management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

RFC 1757 RMON 4 groups: Stats, History, Alarms and Events

RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)

RFC 3164 BSD syslog Protocol

RFC 3176 sFlow

ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)

SNMPv1/v2c/v3

XRMON

QoS/Cos

RFC 2474 DiffServ Precedence, including 8 queues/port

RFC 2597 DiffServ Assured Forwarding (AF)

RFC 2598 DiffServ Expedited Forwarding (EF)

Security

IEEE 802.1X Port Based Network Access Control

RFC 2138 RADIUS Authentication

Secure Sockets Layer (SSL)

SSHv2 Secure Shell

Technical Specifications

NOTE: 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.

HP ProCurve Switch 4208vl-96 (J8775A)	What's included	4 HP ProCurve Switch vl 24-Port 10/100-TX Module (J8765A)
	Ports	4 open module slots 96 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full 1 RS-232C DB-9 console port Maximum ports Supports a maximum of 192 auto-sensing 10/100 ports or 96 auto-sensing 10/100/1000 ports or 16 mini-GBICs, or a combination
	Power supplies	Includes 1 x J4839A 1 open power-supply slot
	Physical characteristics	Dimensions (D x W x H) 15.3(d) x 17.4(w) x 8.75(h) in. (38.86 x 44.2 x 22.23 cm) (5U height) Weight (fully loaded) 32.3 lb. (14.65 kg)
	Memory and processor	Fabric module Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM
		Packet buffer size 36 MB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Performance	Latency <6 µs (FIFO) Throughput Up to 48 million pps Switch fabric speed 76.8 Gbps
	Environment	Operating temperature 32°F to 104°F (0°C to 40°C) Operating relative humidity 15% to 95% @ 104°F (40°C), non-condensing Non-operating/Storage temperature -40°F to 158°F (-40°C to 70°C) Non-operating/Storage relative humidity 15% to 95%, non-condensing Altitude Up to 15,000 ft. (4.6 km) Acoustic Power: 64.2 dB; DIN 45635T.19 per ISO 7779
	Electrical characteristics	Maximum heat dissipation 2152 BTU/hr (2270 kJ/hr) Voltage 100-127 VAC / 200-240 VAC Current 8.2 / 3.8 A Power consumption 630 W Frequency 50 / 60 Hz
	Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
	Safety	CSA 22.2 No. 950; UL 60950; EN60950
	Emissions	FCC Class A; VCCI Class A; EN55022/CISPR 22 Class A; CISPR 22 Class A; EN 55024; IEC/EN61000-3-2; IEC/EN 61000-3-3
	Immunity	EN EN55024, CISPR 24



Technical Specifications

	ESD	IEC 61000-4-2
	Radiated	IEC 61000-4-3
	EFT/Burst	IEC 61000-4-4
	Surge	IEC 61000-4-5
	Conducted	IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	IEC 61000-4-11
	Harmonics	EN61000-3-2, IEC61000-3-2
	Flicker	EN61000-3-3, IEC61000-3-3
Management	HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (DB-9 serial port console); IEEE 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB	
Services	<p>3-year, 4-hour onsite, 13x5 coverage for hardware (UE244E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware (UE245E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UE246E)</p> <p>3-year, 24x7 SW phone support, software updates (UF787E)</p> <p>Installation with minimum configuration, system-based pricing (U4827E)</p> <p>Installation with HP-provided configuration, system-based pricing (U4831E)</p>	
	<p>Refer to the HP Web site at: www.procurve.com/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>	
Standards and protocols	<p>Device Management HTML and telnet management</p> <p>General Protocols IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s Multiple Spanning Trees 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 791 IP RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 854 TELNET RFC 1542 BOOTP Extensions RFC 2030 Simple Network Time Protocol (SNTP) v4 RFC 3046 DHCP Relay Agent Information Option</p> <p>IP Multicast RFC 3376 IGMPv3</p> <p>MIBs RFC 1213 MIB II RFC 1493 Bridge MIB RFC 2613 SMON MIB RFC 2618 RADIUS Client MIB</p>	

Technical Specifications

RFC 2665 Ethernet-Like-MIB
 RFC 2668 802.3 MAU MIB
 RFC 2737 Entity MIB (Version 2)

Network Management

IEEE 802.1AB Link Layer
 Discovery Protocol (LLDP)
 RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
 RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
 RFC 3164 BSD syslog Protocol
 RFC 3176 sFlow
 ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
 SNMPv1/v2c/v3
 XRMON

QoS/Cos

RFC 2474 DiffServ Precedence, including 8 queues/port
 RFC 2597 DiffServ Assured Forwarding (AF)
 RFC 2598 DiffServ Expedited Forwarding (EF)

Security

IEEE 802.1X Port Based Network Access Control
 RFC 2138 RADIUS Authentication
 Secure Sockets Layer (SSL)
 SSHv2 Secure Shell

NOTE: 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.

HP ProCurve Switch 4204vl-48GS (J9064A)	What's included	1 HP ProCurve Switch vl 24-Port Gig-T Module (J8768A) 1 HP ProCurve Switch vl 20-Port Gig-T + 4-Port SFP Module (J9033A)
	Ports	2 open module slots 1 RS-232C DB-9 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-T); Media Type: Auto-MDIX; Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only 4 open mini-GBIC (SFP) slots Maximum ports Supports a maximum of 48 auto-sensing 10/100 ports or 92 auto-sensing 10/100/1000 ports or 12 mini-GBICs, or a combination
	Power supplies	Includes 1 x J4839A 1 open power-supply slot
	Physical characteristics	Dimensions (D x W x H) 15.3(d) x 17.4(w) x 5.25(h) in. (38.86 x 44.2 x 13.34 cm) (3U height) Weight (fully loaded) 24.45 lb. (11.09 kg), Fully loaded
	Memory and processor	Fabric module Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM Packet buffer size 36 MB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Performance	Latency <6 µs (FIFO) Throughput up to 24 million pps Switch fabric speed 38.4 Gbps
	Environment	Operating temperature 32°F to 104°F (0°C to 40°C)



Technical Specifications

	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
	Non-operating/ Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
	Altitude	Up to 15,000 ft. (4.6 km)
	Acoustic	Power: 64.2 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Maximum heat dissipation	2152 BTU/hr (2270 kJ/hr)
	Voltage	100-127 / 200-240 VAC
	Current	8.2 / 3.8 A
	Power consumption	630 W
	Frequency	50 / 60 Hz
Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	
Safety	CSA 22.2 No. 950; UL 60950; EN60950	
Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; CISPR 22 Class A; EN 55024; IEC/EN61000-3-2; IEC/EN 61000-3-3	
Immunity	EN	EN55024, CISPR 24
	ESD	IEC 61000-4-2
	Radiated	IEC 61000-4-3
	EFT/Burst	IEC 61000-4-4
	Surge	IEC 61000-4-5
	Conducted	IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	IEC 61000-4-11
	Harmonics	EN61000-3-2, IEC61000-3-2
	Flicker	EN61000-3-3, IEC61000-3-3
Management	HP ProCurve Manager Plus; HP ProCurve Manager (included); command- line interface; Web browser; configuration menu; out-of-band management (DB-9 serial port console); IEEE 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UE241E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UE242E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UE243E) Installation with minimum configuration, system-based pricing (U4827E) Installation with HP-provided configuration, system-based pricing (U4831E)	
	Refer to the HP Web site at: www.procurve.com/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
Standards and	Device Management	

Technical Specifications

protocols

HTML and telnet management

General Protocols

IEEE 802.1D MAC Bridges
 IEEE 802.1p Priority
 IEEE 802.1Q VLANs
 IEEE 802.1s Multiple Spanning Trees
 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 791 IP
 RFC 792 ICMP
 RFC 793 TCP
 RFC 826 ARP
 RFC 854 TELNET
 RFC 1542 BOOTP Extensions
 RFC 2030 Simple Network Time Protocol (SNTP) v4
 RFC 3046 DHCP Relay Agent Information Option

IP Multicast

RFC 3376 IGMPv3

MIBs

RFC 1213 MIB II
 RFC 1493 Bridge MIB
 RFC 2613 SMON MIB
 RFC 2618 RADIUS Client MIB
 RFC 2665 Ethernet-Like-MIB
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 RFC 2737 Entity MIB (Version 2)

Network Management

IEEE 802.1AB Link Layer
 Discovery Protocol (LLDP)
 RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
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QoS/Cos

RFC 2474 DiffServ Precedence, including 8 queues/port
 RFC 2597 DiffServ Assured Forwarding (AF)
 RFC 2598 DiffServ Expedited Forwarding (EF)

Security

IEEE 802.1X Port Based Network Access Control
 RFC 2138 RADIUS Authentication
 Secure Sockets Layer (SSL)
 SSHv2 Secure Shell

NOTE: 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.

**HP ProCurve Switch
 4208vl-72GS (J9030A)**

What's included

2 HP ProCurve Switch vl 24-Port Gig-T Module (J8768A)
 1 HP ProCurve Switch vl 20-Port Gig-T + 4-Port SFP Module (J9033A)

Ports

5 open module slots
 1 RS-232C DB-9 console port



Technical Specifications

	68 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: Auto-MDIX; Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only 4 open mini-GBIC (SFP) slots
	Maximum ports Supports a maximum of 120 auto-sensing 10/100 ports or 188 auto-sensing 10/100/1000 ports or 24 mini-GBICs, or a combination
Power supplies	includes: 1 x J4839A 1 open power supply slots
Physical characteristics	Dimensions (D x W x H) 15.3 x 17.4 x 8.75 in. (38.86 x 44.2 x 22.23 cm) (5U height) Weight (fully loaded) 30.88 lb. (14.01 kg), Fully loaded
Memory and processor	Fabric module Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM Packet buffer size 36 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
Performance	Latency <6 μ s (FIFO) Throughput Up to 48 million pps Switch fabric speed 76.8 Gbps
Environment	Operating temperature 32°F to 104°F (0°C to 40°C) Operating relative humidity 15% to 95% @ 104°F (40°C), non-condensing Non-operating/Storage temperature -40°F to 158°F (-40°C to 70°C) Non-operating/Storage relative humidity 15% to 95% @ 149°F (65°C), non-condensing Altitude Up to 15,000 ft. (4.6 km) Acoustic Power: 64.2 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Maximum heat dissipation 2152 BTU/hr (2270 kJ/hr) Voltage 100-127 VAC / 200-240 VAC Current 8.2 A / 3.8 A Power consumption 630 W Frequency 50/60 Hz
Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety	CSA 22.2 No. 950; UL 60950; EN 60950
Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; CISPR 22 Class A; EN 55024; IEC/EN 61000-3-2; IEC/EN 61000-3-3
Immunity	EN EN 55024, CISPR 24 ESD IEC 61000-4-2 Radiated IEC 61000-4-3 EFT/Burst IEC 61000-4-4

Technical Specifications

	Surge	IEC 61000-4-5
	Conducted	IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	IEC 61000-4-11
	Harmonics	EN61000-3-2, IEC61000-3-2
	Flicker	EN61000-3-3, IEC61000-3-3
Management	HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (DB-9 serial port console); IEEE 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB	
Services	<p>3-year, 4-hour onsite, 13x5 coverage for hardware (UE244E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UE245E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UE246E) 3-year, 24x7 SW phone support, software updates (UF787E) Installation with minimum configuration, system-based pricing (U4827E) Installation with HP-provided configuration, system-based pricing (U4831E)</p>	

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 RFC 1542 BOOTP Extensions
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 RFC 3046 DHCP Relay Agent Information Option

IP Multicast
 RFC 3376 IGMPv3

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 RFC 1493 Bridge MIB

Technical Specifications

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QoS/Cos

RFC 2474 DiffServ Precedence,
including 8 queues/port
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Security

IEEE 802.1X Port Based Network
Access Control
RFC 2138 RADIUS Authentication
Secure Sockets Layer (SSL)
SSHv2 Secure Shell

NOTE: 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.

Accessories

Accessories

Modules	HP ProCurve Switch vl 4-Port Mini-GBIC Module	J8776A
	HP ProCurve Switch vl 12-Port 100-FX MTRJ Module	J8763A
	HP ProCurve Switch vl 24-Port 10/100-TX Module	J8765A
	HP ProCurve Switch vl 20-Port Gig-T + 4-Port SFP Module	J9033A
	HP ProCurve Switch vl 24-Port Gig-T Module	J8768A
	HP ProCurve Switch vl 1-Port 10-GbE X2 Module	J8766A

EPS/RPS	HP ProCurve Switch gl/xl/vl Redundant Power Supply	J4839A
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Transceivers	HP ProCurve 10-GbE X2-SC ER Optic	J8438A
	HP ProCurve 10-GbE CX4 Media Converter	J8439A
	HP ProCurve 10-GbE X2-SC SR Optic	J8436A
	HP ProCurve 10-GbE X2-CX4 Transceiver	J8440B
	HP ProCurve 100-FX SFP-LC Transceiver	J9054B
	HP ProCurve 10-GbE X2-SC LR Optic	J8437A
	HP ProCurve 10-GbE X2-SC LRM Optic	J9144A
	HP ProCurve 100-BX-D SFP-LC Transceiver	J9099B
HP ProCurve 100-BX-U SFP-LC Transceiver	J9100B	

Mini-GBICs	HP ProCurve Gigabit-LH-LC Mini-GBIC	J4860C
	HP ProCurve Gigabit-SX-LC Mini-GBIC	J4858C
	HP ProCurve Gigabit-LX-LC Mini-GBIC	J4859C
	HP ProCurve Gigabit 1000Base-T Mini-GBIC	J8177C
	HP ProCurve 1000-BX-D SFP-LC Mini-GBIC	J9142B
	HP ProCurve 1000-BX-U SFP-LC Mini-GBIC	J9143B

Software	HP ProCurve Network Immunity Manager 2.0 software--50-device license	J9161A
	HP ProCurve Network Immunity Manager 2.0 software--+100-device license	J9162A
	HP ProCurve Network Immunity Manager 2.0 software--unlimited-device license	J9163A
	HP ProCurve Manager Plus 3.0 software with 50 device license	J9174A
	HP ProCurve Manager Plus 3.0 50 device license upgrade	J9173A
	HP ProCurve Manager Plus 3.0 100 device license	J9175A
	HP ProCurve Manager Plus 3.0 unlimited device license upgrade	J9176A
	HP ProCurve Manager Plus 3.0 software with unlimited device license	J9177A
	HP ProCurve Identity Driven Manager 3.0 software--500-user license	J9438A
	HP ProCurve Identity Driven Manager 3.0 software--additional 1,000-user license	J9440A
	HP ProCurve Identity Driven Manager 3.0 software--unlimited-user license	J9439A

Accessories

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