HP E4200 vl Switch Series

Data sheet

Product overview

The HP E4200 vl Switch Series consists of modular chassis that provide a flexible, cost-effective LAN solution as an alternative to stackable switches. 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.

Key features

- Access layer
- Layer 2 plus static IP routing
- Scalable 10/100/1000 connectivity
- 10 GbE uplinks

Features and benefits

Quality of Service (QoS)

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

- **Class of Service (CoS):** sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ

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

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 bidirectional link into a unidirectional one; this prevents network problems such as loops

Connectivity

- **Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100 and 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 HP custom-designed ASIC technology

Resiliency and high availability

- **IEEE 802.3ad Link Aggregation Control Protocol (LACP) and HP port trunking:** support up to 60 trunks, each with up to 8 links (ports) per trunk

- **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

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 configuration file to be stored to a 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 E2500 Series, E2510 Series, E2600 Series, E2800 Series, E2810 Series, E2900 Series, E3400 cl Series, E3500 yl Series, E4200 vl Series, E6108, E6200 yl, and E6400 cl Series Switches

- **Find-Fix-Inform:** finds and fixes common network problems automatically, then informs administrator

- **Software updates:** free downloads from the Web

- **Troubleshooting:** ingress and egress port monitoring enable network problem solving

Layer 2 switching

- **VLAN support and tagging:** supports 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:** is an 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, it 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 particular configured MAC addresses from connecting to the network

- **Secure FTP:** allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a 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:** encrypts all transmitted data for secure remote 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):** is an automated device discovery protocol that provides easy mapping of network management applications

- **LLDP-MED (Media Endpoint Discovery):** is a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
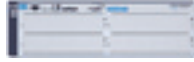
Warranty and support

- **Lifetime warranty:** for as long as you own the product with advance replacement and next-business-day delivery (available in most countries)*

- **Electronic and telephone support:** limited electronic and telephone support is available from HP; refer to www.hp.com/networking/warranty for details on the support provided and the period during which support is available

- **Software releases:** refer to www.hp.com/networking/warranty for details on the software releases provided and the period during which software releases are available for your product(s)

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*Hardware warranty replacement for as long as you own the product, with next business day advance replacement (available in most countries) with a five-year hardware warranty replacement for the disk drive included with HP AllianceONE Services zl Module, HP Threat Management Services zl Module, HP PCM+ Agent with AllianceONE Services zl Module, and HP E-MSM765 zl Mobility Controller. For details, refer to the HP Software License, Warranty, and Support booklet at www.hp.com/networking/warranty.
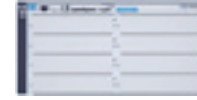
HP E4200 vl Switch Series

Specifications

	HP E4204 vl Switch Chassis (J8770A)	HP E4202-72 vl Switch (J8772B)	HP E4208 vl Switch Chassis (J8773A)
Ports	4 open module slots	2 open module slots	8 open module slots
	Supports a maximum of 96 autosensing 10/100 ports or 96 autosensing 10/100/1000 ports or 16 mini-GBICs or 4 10-GbE ports, or a combination	72 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Media Type: Auto-MDIX; Duplex: half or full	Supports a maximum of 192 autosensing 10/100 ports or 192 autosensing 10/100/1000 ports or 32 mini-GBICs or 4 10-GbE ports, or a combination
		Supports a maximum of 120 autosensing 10/100 ports or 48 Gigabit ports or 8 mini-GBICs or 2 10-GbE ports, or a combination	
Power supplies	2 power supply slots includes: 1 x J4839A (HP gl/xl/vl Switch Redundant Power Supply)	2 power supply slots includes: 1 x J4839A (HP gl/xl/vl Switch Redundant Power Supply)	2 power supply slots includes: 1 x J4839A (HP gl/xl/vl Switch Redundant Power Supply)
Physical characteristics			
Dimensions	15.3(d) x 17.4(w) x 5.25(h) in. (38.86 x 44.2 x 13.34 cm) (3U height)	15.3(d) x 17.4(w) x 5.25(h) in. (38.86 x 44.2 x 13.34 cm) (3U height)	15.3(d) x 17.4(w) x 8.75(h) in. (38.86 x 44.2 x 22.23 cm) (5U height)
Weight	20.75 lb. (9.41 kg), Fully loaded	23.81 lb. (10.8 kg), Fully loaded	26.85 lb. (12.18 kg), Fully loaded
Memory and processor			
Fabric	Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM; packet buffer size: 36 MB	Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM; packet buffer size: 36 MB	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	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
Performance			
Latency	< 6 μs (FIFO)	< 6 μs (FIFO)	< 6 μs (FIFO)
Throughput	up to 24 million pps	up to 22.4 million pps	up to 48 million pps
Switch fabric speed	38.4 Gbps	33.6 Gbps	76.8 Gbps
Environment			
Operating temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing	15% to 95% @ 104°F (40°C), noncondensing	15% to 95% @ 104°F (40°C), noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	15% to 95% @ 149°F (65°C), noncondensing	15% to 95% @ 149°F (65°C), noncondensing	15% to 95% @ 149°F (65°C), noncondensing
Altitude	up to 15,000 ft. (4.6 km)	up to 15,000 ft. (4.6 km)	up to 15,000 ft. (4.6 km)
Acoustic	Power: 64.2 dB; DIN 45635T.19 per ISO 7779	Power: 64.2 dB; DIN 45635T.19 per ISO 7779	Power: 63.1 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics			
Maximum heat dissipation	2152 BTU/hr (2270 kJ/hr)	2152 BTU/hr (2270 kJ/hr)	2152 BTU/hr (2270 kJ/hr)
Voltage	100-127/200-240 VAC	100-127/200-240 VAC	100-127/200-240 VAC
Current	8.2/3.8 A	8.2/3.8 A	8.2/3.8 A
Maximum power rating	630 W	630 W	630 W
Frequency	50/60 Hz	50/60 Hz	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.	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.	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	CSA 22.2 No. 950; UL 60950; EN 60950	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	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	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	EN 55024, CISPR 24	EN 55024, CISPR 24
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	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	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	EN 61000-3-3, IEC 61000-3-3

Specifications (continued)

	HP E4204 vl Switch Chassis (J8770A)	HP E4202-72 vl Switch (J8772B)	HP E4208 vl Switch Chassis (J8773A)
Management	HP PCM+; HP PCM (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	HP PCM+; HP PCM (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	HP PCM+; HP PCM (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
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.	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.	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.

Specifications (continued)

	HP E4204 vl Switch Chassis (J8770A)	HP E4202-72 vl Switch (J8772B)	HP E4208 vl Switch Chassis (J8773A)
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UE241E)	3-year, 4-hour onsite, 13x5 coverage for hardware (UE247E)	3-year, 4-hour onsite, 13x5 coverage for hardware (UE244E)
	3-year, 4-hour onsite, 13x5 coverage for hardware (HR879E)	3-year, 4-hour onsite, 24x7 coverage for hardware (UE248E)	3-year, 4-hour onsite, 13x5 coverage for hardware (HR884E)
	3-year, 4-hour onsite, 24x7 coverage for hardware (UE242E)	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UE249E)	3-year, 4-hour onsite, 24x7 coverage for hardware (UE245E)
	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UE243E)	3-year, 24x7 SW phone support, software updates (UE265E)	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UE246E)
	3-year, 24x7 SW phone support, software updates (UE263E)	1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR874E)	3-year, 24x7 SW phone support, software updates (UF787E)
	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR880E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR875E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR885E)
	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR881E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR876E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR886E)
	Installation with minimum configuration, system-based pricing (U4827E)	Installation with minimum configuration, system-based pricing (U4827E)	Installation with minimum configuration, system-based pricing (U4827E)
	Installation with HP-provided configuration, system-based pricing (U4831E)	Installation with HP-provided configuration, system-based pricing (U4831E)	Installation with HP-provided configuration, system-based pricing (U4831E)
	4-year, 4-hour onsite, 13x5 coverage for hardware (UR876E)	4-year, 4-hour onsite, 13x5 coverage for hardware (UR892E)	4-year, 4-hour onsite, 13x5 coverage for hardware (UR908E)
	4-year, 4-hour onsite, 24x7 coverage for hardware (UR877E)	4-year, 4-hour onsite, 24x7 coverage for hardware (UR893E)	4-year, 4-hour onsite, 24x7 coverage for hardware (UR909E)
	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR878E)	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR894E)	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR910E)
	4-year, 24x7 SW phone support, software updates (UR879E)	4-year, 24x7 SW phone support, software updates (UR895E)	4-year, 24x7 SW phone support, software updates (UR911E)
	5-year, 4-hour onsite, 13x5 coverage for hardware (UR880E)	5-year, 4-hour onsite, 13x5 coverage for hardware (UR896E)	5-year, 4-hour onsite, 13x5 coverage for hardware (UR912E)
	5-year, 4-hour onsite, 24x7 coverage for hardware (UR881E)	5-year, 4-hour onsite, 24x7 coverage for hardware (UR897E)	5-year, 4-hour onsite, 24x7 coverage for hardware (UR913E)
	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR882E)	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR898E)	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR914E)
	5-year, 24x7 SW phone support, software updates (UR883E)	5-year, 24x7 SW phone support, software updates (UR899E)	5-year, 24x7 SW phone support, software updates (UR915E)
	3 Yr 6 hr Call-to-Repair Onsite (UW347E)	3 Yr 6 hr Call-to-Repair Onsite (UW353E)	3 Yr 6 hr Call-to-Repair Onsite (UW350E)
	4 Yr 6 hr Call-to-Repair Onsite (UW348E)	4 Yr 6 hr Call-to-Repair Onsite (UW354E)	4 Yr 6 hr Call-to-Repair Onsite (UW351E)
	5 Yr 6 hr Call-to-Repair Onsite (UW349E)	5 Yr 6 hr Call-to-Repair Onsite (UW355E)	5 Yr 6 hr Call-to-Repair Onsite (UW352E)
	1-year, 6 hour Call-To-Repair Onsite for hardware (HR883E)	1-year, 6 hour Call-To-Repair Onsite for hardware (HR878E)	1-year, 6 hour Call-To-Repair Onsite for hardware (HR888E)
	1-year, 24x7 software phone support, software updates (HR882E)	1-year, 24x7 software phone support, software updates (HR877E)	1-year, 24x7 software phone support, software updates (HR887E)
	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS594E)	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS586E)	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS602E)
	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS595E)	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS587E)	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS603E)
	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS596E)	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS588E)	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS604E)
	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS597E)	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS589E)	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS605E)
	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS598E)	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS590E)	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS606E)
	4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS599E)	4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS591E)	4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS607E)
	5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS600E)	5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS592E)	5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS608E)
	5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS601E)	5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS593E)	5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS609E)
	Refer to the HP website at www.hp.com/networking/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.	Refer to the HP website at www.hp.com/networking/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.	Refer to the HP website at www.hp.com/networking/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.

Specifications (continued)

	HP E4204 vl Switch Chassis (J8770A)	HP E4202-72 vl Switch (J8772B)	HP E4208 vl Switch Chassis (J8773A)
Standards and protocols (applies to all products in series)	**Device management** HTML and telnet management	**IP multicast** RFC 3376 IGMPv3	SNMPv1/v2c/v3 XRMON
	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	**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)	**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

Specifications (continued)

	HP E4208-96 vl Switch (J8775B)	HP E4204-44G-4SFP vl Switch (J9064A)	HP E4208-68G-4SFP vl Switch (J9030A)
Included accessories	4 HP ProCurve Switch vl 24-Port 10/100-TX Module (J8765A)	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)	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	4 open module slots	2 open module slots	5 open module slots
	96 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Media Type: Auto-MDIX; Duplex: half or full	44 autosensing 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	68 autosensing 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
	Supports a maximum of 192 autosensing 10/100 ports or 96 autosensing 10/100/1000 ports or 16 mini-GBICs or 4 10-GbE ports, or a combination	4 open mini-GBIC (SFP) slots	4 open mini-GBIC (SFP) slots
		Supports a maximum of 48 autosensing 10/100 ports or 92 autosensing 10/100/1000 ports or 12 mini-GBICs or 2 10-GbE ports, or a combination	Supports a maximum of 120 autosensing 10/100 ports or 188 autosensing 10/100/1000 ports or 24 mini-GBICs or 4 10-GbE ports, or a combination
Power supplies	2 power supply slots includes: 1 x J4839A (HP gl/xl/vl Switch Redundant Power Supply)	2 power supply slots includes: 1 x J4839A (HP gl/xl/vl Switch Redundant Power Supply)	2 power supply slots includes: 1 x J4839A (HP gl/xl/vl Switch Redundant Power Supply)
Physical characteristics			
Dimensions	15.3(d) x 17.4(w) x 8.75(h) in. (38.86 x 44.2 x 22.23 cm) (5U height)	15.3(d) x 17.4(w) x 5.25(h) in. (38.86 x 44.2 x 13.34 cm) (3U height)	15.3(d) x 17.4(w) x 8.75(h) in. (38.86 x 44.2 x 22.23 cm) (5U height)
Weight	32.3 lb. (14.65 kg), Fully loaded	24.45 lb. (11.09 kg), Fully loaded	30.88 lb. (14.01 kg), Fully loaded
Memory and processor			
Fabric	Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM; packet buffer size: 36 MB	Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM; packet buffer size: 36 MB	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	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
Performance			
Latency	< 6 μs (FIFO)	< 6 μs (FIFO)	< 6 μs (FIFO)
Throughput	up to 48 million pps	up to 24 million pps	up to 48 million pps
Switch fabric speed	76.8 Gbps	38.4 Gbps	76.8 Gbps
Environment			
Operating temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing	15% to 95% @ 104°F (40°C), noncondensing	15% to 95% @ 104°F (40°C), noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	15% to 95% @ 149°F (65°C), noncondensing	15% to 95% @ 149°F (65°C), noncondensing	15% to 95% @ 149°F (65°C), noncondensing
Altitude	up to 15,000 ft. (4.6 km)	up to 15,000 ft. (4.6 km)	up to 15,000 ft. (4.6 km)
Acoustic	Power: 64.2 dB; DIN 45635T.19 per ISO 7779	Power: 64.2 dB; DIN 45635T.19 per ISO 7779	Power: 64.2 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics			
Maximum heat dissipation	2152 BTU/hr (2270 kJ/hr)	2152 BTU/hr (2270 kJ/hr)	2152 BTU/hr (2270 kJ/hr)
Voltage	100-127/200-240 VAC	100-127/200-240 VAC	100-127/200-240 VAC
Current	8.2/3.8 A	8.2/3.8 A	8.2/3.8 A
Maximum power rating	630 W	630 W	630 W
Frequency	50/60 Hz	50/60 Hz	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.	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.	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	CSA 22.2 No. 950; UL 60950; EN 60950	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	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	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	EN 55024, CISPR 24	EN 55024, CISPR 24
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6

Specifications (continued)

	HP E4208-96 vl Switch (J8775B)	HP E4204-44G-4SFP vl Switch (J9064A)	HP E4208-68G-4SFP vl Switch (J9030A)
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	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	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	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM (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	HP PCM+; HP PCM (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	HP PCM+; HP PCM (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
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.	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.	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.

Specifications (continued)

Services	HP E4208-96 vl Switch (J8775B)	HP E4204-44G-4SFP vl Switch (J9064A)	HP E4208-68G-4SFP vl Switch (J9030A)
	3-year, 4-hour onsite, 13x5 coverage for hardware (UE244E)	3-year, 4-hour onsite, 13x5 coverage for hardware (UE241E)	3-year, 4-hour onsite, 13x5 coverage for hardware (UE244E)
	3-year, 4-hour onsite, 13x5 coverage for hardware (HR884E)	3-year, 4-hour onsite, 13x5 coverage for hardware (HR879E)	3-year, 4-hour onsite, 13x5 coverage for hardware (HR884E)
	3-year, 4-hour onsite, 24x7 coverage for hardware (UE245E)	3-year, 4-hour onsite, 24x7 coverage for hardware (UE242E)	3-year, 4-hour onsite, 24x7 coverage for hardware (UE245E)
	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UE246E)	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UE243E)	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UE246E)
	3-year, 24x7 SW phone support, software updates (UF787E)	3-year, 24x7 SW phone support, software updates (UE263E)	3-year, 24x7 SW phone support, software updates (UF787E)
	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR885E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR880E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR885E)
	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR886E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR881E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR886E)
	Installation with minimum configuration, system-based pricing (U4827E)	Installation with minimum configuration, system-based pricing (U4827E)	Installation with minimum configuration, system-based pricing (U4827E)
	Installation with HP-provided configuration, system-based pricing (U4831E)	Installation with HP-provided configuration, system-based pricing (U4831E)	Installation with HP-provided configuration, system-based pricing (U4831E)
	4-year, 4-hour onsite, 13x5 coverage for hardware (UR908E)	4-year, 4-hour onsite, 13x5 coverage for hardware (UR876E)	4-year, 4-hour onsite, 13x5 coverage for hardware (UR908E)
	4-year, 4-hour onsite, 24x7 coverage for hardware (UR909E)	4-year, 4-hour onsite, 24x7 coverage for hardware (UR877E)	4-year, 4-hour onsite, 24x7 coverage for hardware (UR909E)
	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR910E)	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR878E)	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR910E)
	4-year, 24x7 SW phone support, software updates (UR911E)	4-year, 24x7 SW phone support, software updates (UR879E)	4-year, 24x7 SW phone support, software updates (UR911E)
	5-year, 4-hour onsite, 13x5 coverage for hardware (UR912E)	5-year, 4-hour onsite, 13x5 coverage for hardware (UR880E)	5-year, 4-hour onsite, 13x5 coverage for hardware (UR912E)
	5-year, 4-hour onsite, 24x7 coverage for hardware (UR913E)	5-year, 4-hour onsite, 24x7 coverage for hardware (UR881E)	5-year, 4-hour onsite, 24x7 coverage for hardware (UR913E)
	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR914E)	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR882E)	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR914E)
	5-year, 24x7 SW phone support, software updates (UR915E)	5-year, 24x7 SW phone support, software updates (UR883E)	5-year, 24x7 SW phone support, software updates (UR915E)
	3 Yr 6 hr Call-to-Repair Onsite (UW350E)	3 Yr 6 hr Call-to-Repair Onsite (UW347E)	3 Yr 6 hr Call-to-Repair Onsite (UW350E)
	4 Yr 6 hr Call-to-Repair Onsite (UW351E)	4 Yr 6 hr Call-to-Repair Onsite (UW348E)	4 Yr 6 hr Call-to-Repair Onsite (UW351E)
	5 Yr 6 hr Call-to-Repair Onsite (UW352E)	5 Yr 6 hr Call-to-Repair Onsite (UW349E)	5 Yr 6 hr Call-to-Repair Onsite (UW352E)
	1-year, 6 hour Call-To-Repair Onsite for hardware (HR888E)	1-year, 6 hour Call-To-Repair Onsite for hardware (HR883E)	1-year, 6 hour Call-To-Repair Onsite for hardware (HR888E)
	1-year, 24x7 software phone support, software updates (HR887E)	1-year, 24x7 software phone support, software updates (HR882E)	1-year, 24x7 software phone support, software updates (HR887E)
	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS602E)	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS594E)	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS602E)
	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS603E)	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS595E)	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS603E)
	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS604E)	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS596E)	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS604E)
	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS605E)	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS597E)	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS605E)
	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS606E)	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS598E)	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS606E)
	4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS607E)	4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS599E)	4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS607E)
	5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS608E)	5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS600E)	5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS608E)
	5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS609E)	5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS601E)	5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS609E)
	Refer to the HP website at www.hp.com/networking/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.	Refer to the HP website at www.hp.com/networking/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.	Refer to the HP website at www.hp.com/networking/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.

HP E4200 vl Switch Series

Specifications (continued)

	HP E4208-96 vl Switch (J8775B)	HP E4204-44G-4SFP vl Switch (J9064A)	HP E4208-68G-4SFP vl Switch (J9030A)
Standards and protocols (applies to all products in series)	**Device management** HTML and telnet management	**IP multicast** RFC 3376 IGMPv3	SNMPv1/v2c/v3 XRMON

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

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)

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

11

HP E4200 vl Switch Series accessories

Modules

HP 12-port 100FX MTRJ vl Module (J8763A)

HP 24-port 10/100-TX vl Module (J8765B)

HP 24-port Gig-T vl Module (J8768A)

HP 4-port Mini-GBIC vl Module (J8776A)

HP 20-port Gig-T / 4-port SFP vl Module (J9033A)

HP 1-port 10GbE X2 vl Module (J8766A)

Transceivers

HP X131 10G X2 SC ER Transceiver (J8438A)

HP X130 CX4 Optical Media Converter (J8439A)

HP X131 10G X2 SC SR Transceiver (J8436A)

HP X131 10G X2 CX4 Transceiver (J8440C)

HP X111 100M SFP LC FX Transceiver (J9054C)

HP X131 10G X2 SC LR Transceiver (J8437A)

HP X131 10G X2 SC LRM Transceiver (J9144A)

HP X112 100M SFP LC BX-D Transceiver (J9099B)

HP X112 100M SFP LC BX-U Transceiver (J9100B)

HP X121 1G SFP LC LH Transceiver (J4860C)

HP X121 1G SFP LC SX Transceiver (J4858C)

HP X121 1G SFP LC LX Transceiver (J4859C)

HP X121 1G SFP RJ45 T Transceiver (J8177C)

HP X122 1G SFP LC BX-D Transceiver (J9142B)

HP X122 1G SFP LC BX-U Transceiver (J9143B)

Cables

HP 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A)

HP 1 m Multimode OM3 LC/LC Optical Cable (AJ834A)

HP 2 m Multimode OM3 LC/LC Optical Cable (AJ835A)

HP 5 m Multimode OM3 LC/LC Optical Cable (AJ836A)

HP 15 m Multimode OM3 LC/LC Optical Cable (AJ837A)

HP 30 m Multimode OM3 LC/LC Optical Cable (AJ838A)

HP 50 m Multimode OM3 LC/LC Optical Cable (AJ839A)

NEW HP 0.5 m PremierFlex OM3+ LC/LC Optical Cable (BK837A)

NEW HP 1 m PremierFlex OM3+ LC/LC Optical Cable (BK838A)

NEW HP 2 m PremierFlex OM3+ LC/LC Optical Cable (BK839A)

NEW HP 5 m PremierFlex OM3+ LC/LC Optical Cable (BK840A)

NEW HP 15 m PremierFlex OM3+ LC/LC Optical Cable (BK841A)

NEW HP 30 m PremierFlex OM3+ LC/LC Optical Cable (BK842A)

NEW HP 50 m PremierFlex OM3+ LC/LC Optical Cable (BK843A)

EPS/RPS

HP gl/xl/vl Switch Redundant Power Supply (J4839A)

Software

HP Identity Driven Manager 3.0 Software–500-User License (J9438A)

HP Identity Driven Manager 3.0 Software–Additional 1,000-User License (J9440A)

HP Identity Driven Manager 3.0 Software–Unlimited-User License (J9439A)

To learn more, visit www.hp.com/networking