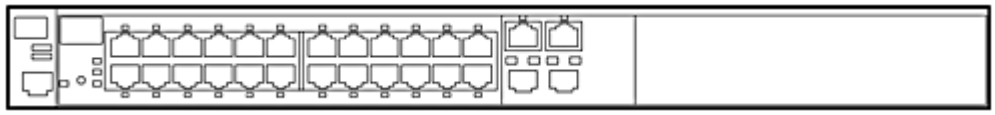
Overview



HP E2510 Switch Series

Models

HP E2510-48G Switch	J9280A
HP E2510-24G Switch	J9279A
HP E2510-48 Switch	J9020A
HP E2510-24 Switch	J9019B

Key features

- Managed Layer 2 feature set
- 24 or 48 10/100 or Gigabit ports
- Two mini-GBIC slots for fiber connectivity
- Quiet fanless design (J9019B)
- Industry-leading warranty

Introduction

Designed to provide essential solutions to small and medium businesses, the HP E2510 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 HP E2510-24, a 24-port 10/100 switch with two dual-personality ports, the E2510 Series has expanded to include a higher-density HP E2510-48, with 48 10/100 ports and four Gigabit uplinks. Additionally, the E2510-G switches add Gigabit to the E2510 series, with the E2510G-24 and E2510G-48, 24- and 48-port 10/100/1000 switches, each with four dual-personality ports, making them ideal for businesses that are ready to upgrade to increased network performance.

Features and Benefits

Quality of Service (QoS)

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

Connectivity

- 10/100 and 10/100/1000 connectivity: provides customers with the choice of selecting the network connectivity speed that best meets their needs, with a consistent user experience
- Gigabit uplinks:
  - E2510-24 and E2510-48: the E2510-24 switch has two dual-personality ports for either 10/100/1000 or mini-GBIC connectivity; the E2510-48 switch has four Gigabit ports, which can all be used concurrently with two 10/100/1000 ports and two open mini-GBIC slots
  - E2510G-24 and E2510G-48: four dual personality for 10/100/1000 or SFP ports for optional fiber connectivity such as Gigabit-SX, -LX, -LH, or 100-FX
- HP Auto-MDIX: automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 copper ports

Resiliency and high availability

Overview

- 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
- IEEE 802.3ad Link Aggregation Control Protocol (LACP) and HP trunking:
  - E2510-24 switch supports up to two 10/100 trunks each with four links/ports plus one Gigabit trunk
  - E2510-48 switch supports up to 24 10/100 trunks with eight links/ports per trunk
  - E2510-24G & E2510-48G switches support up to 24 trunks with eight links/ports per trunk

Manageability

- IEEE 802.1AB Link Layer Discovery Protocol (LLDP): provides automated device discovery protocol for easy mapping by network management applications
- RMON: provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- 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
- Single IP Address Management: provides single IP address management for a virtual stack of up to 16 switches
- Find-Fix-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
- Friendly port names: allow assignment of descriptive names to ports

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: supports up to 9216-byte frame size to improve performance of large data transfers (2510G models only)

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 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
- Guest VLAN: isolates guest and unauthorized users traffic to a separate VLAN
- 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
- 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
- STP BPDU port protection: blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- Secure management access: securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- TACACS+: eases switch management security administration by using a password authentication server

Convergence

- IP multicast snooping: automatically prevents flooding of IP multicast traffic

Overview

Flexibility

- **Fanless design**: reduces noise and distractions when deployed in open spaces (E2510-24 switch only)
- **Multiple port density and connectivity speed options**: provide choice and flexibility with a consistent user experience

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)

* 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 E2510-48G Switch (J9280A)	Ports	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 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or an open mini-GBIC slot (for use with mini-GBIC transceivers)	
	Physical characteristics	Dimensions	12.7(d) x 17.4(w) x 1.7(h) in. (32.26 x 44.2 x 4.32 cm) (1U height)
		Weight	8.6 lb. (3.9 kg)
	Memory and processor	Processor	MIPS @ 264 MHz, 16 MB flash, 64 MB SDRAM; packet buffer size: 1.5 MB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance	Latency	< 5.4 µs (FIFO 64-byte packets)
		Throughput	up to 71.4 million pps
		Switching capacity	96 Gbps
		MAC address table size	8,000 entries
	Environment	Operating temperature	32°F to 113°F (0°C to 45°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 90% @ 149°F (65°C), non-condensing
		Altitude	up to 10,000 ft. (3 km)
		Acoustic	Power: 40.5 dB
	Electrical characteristics (Achieved Miercom Certified Green Award)	Maximum heat dissipation	341 BTU/hr (360 kJ/hr)
		Voltage	100-127 / 200-240 VAC
		Current	1.5 A
		Power consumption	92 W
		Frequency	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
		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	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM; 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 ending 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 ending with the letter "B" or later, e.g., J4858B, J4859C) are required.	
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, 24x7 SW phone support, software updates (UF792E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR948E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR949E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR950E) 4-year, 24x7 SW phone support, software updates (UR951E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR952E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR953E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR954E) 5-year, 24x7 SW phone support, software updates (UR955E) 3 Yr 6 hr Call-to-Repair Onsite (UW368E) 4 Yr 6 hr Call-to-Repair Onsite (UW369E) 5 Yr 6 hr Call-to-Repair Onsite (UW370E) 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.	
Standards and protocols (applies to all products in series)	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
RFC 3418 MIB for SNMPv3

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

HP E2510-24G Switch (J9279A)	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-T); 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 or an open mini-GBIC slot (for use with mini-GBIC transceivers)
	Physical characteristics	Dimensions	12.7(d) x 17.4(w) x 1.7(h) in. (32.26 x 44.2 x 4.32 cm) (1U height)
		Weight	7.21 lb. (3.27 kg)

Technical Specifications

Memory and processor	Processor	MIPS @ 264 MHz, 16 MB flash, 64 MB SDRAM; packet buffer size: 0.75 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)
	Throughput	up to 35.7 million pps
	Switching capacity	48 Gbps
	MAC address table size	8,000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°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 10,000 ft. (3 km)
	Acoustic	Power: 40.3 dB
Electrical characteristics	Maximum heat dissipation	164 BTU/hr (173 kJ/hr)
	Voltage	100-127 / 200-240 VAC
	Current	1.0 A
	Power consumption	48 W
	Frequency	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
	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	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM; 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 ending 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 ending with the letter "B" or later, e.g., J4858B, J4859C) are required.
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, 24x7 SW phone support, software updates (UF792E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR948E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR949E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR950E) 4-year, 24x7 SW phone support, software updates (UR951E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR952E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR953E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR954E) 5-year, 24x7 SW phone support, software updates (UR955E) 3 Yr 6 hr Call-to-Repair Onsite (UW368E) 4 Yr 6 hr Call-to-Repair Onsite (UW369E) 5 Yr 6 hr Call-to-Repair Onsite (UW370E) 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.
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RFC 3376 IGMPv3

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

HP E2510-48 Switch (J9020A)	Ports		48 RJ-45 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 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: Auto-MDIX; Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only 1 RJ-45 serial console port 2 open mini-GBIC (SFP) slots
	Physical characteristics	Dimensions	9.3(d) x 17.42(w) x 1.73(h) in. (23.62 x 44.25 x 4.39 cm) (1U height)
		Weight	6.05 lb. (2.74 kg), Fully loaded
	Memory and processor	Processor	MIPS 32 @ 300 MHz, 16 MB flash, 128 MB SDRAM; packet buffer size: 512 KB
	Mounting		Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only

Performance	100 Mb Latency	< 4.9 µs (64-byte packets)
	1000 MB latency	< 2.9 µs (64-byte packets)
	Throughput	up to 13 million pps (64-byte packets)
	Switching capacity	17.6 Gbps
	MAC address table size	8,000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°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 90% @ 149°F (65°C), non-condensing
	Altitude	up to 15,000 ft. (4.6 km)
	Acoustic	Power: 43.6 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Maximum heat dissipation	92 BTU/hr (97 kJ/hr)
	Voltage	100-127 / 200-240 VAC
	Current	1.2 / 0.7 A
	Power consumption	27 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	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
	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	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM; 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 ending with the letter "B" or later, e.g., J4858B, J4859C) are required.
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, 24x7 SW phone support, software updates (UF792E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 3 Yr 6 hr Call-to-Repair Onsite (UW368E) 4 Yr 6 hr Call-to-Repair Onsite (UW369E) 5 Yr 6 hr Call-to-Repair Onsite (UW370E) 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.
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RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
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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

HP E2510-24 Switch (J9019B)	Ports	24 RJ-45 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 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or an open mini-GBIC slot (for use with mini-GBIC transceivers)	
	Physical characteristics	Dimensions	9.3(d) x 17.42(w) x 1.73(h) in. (23.62 x 44.25 x 4.39 cm) (1U height)
		Weight	4.89 lb. (2.22 kg), Fully loaded
	Memory and processor	Processor	MIPS 32 @ 264 MHz, 8 MB flash, 64 MB SDRAM; packet buffer size: 384 KB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance	100 Mb Latency	< 4.9 µs (64-byte packets)
		1000 MB latency	< 2.6 µs (64-byte packets)
		Throughput	up to 6.5 million pps (64-byte packets)
		Switching capcity	8.8 Gbps
		MAC address table size	8,000 entries
	Environment	Operating temperature	32°F to 113°F (0°C to 45°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 10,000 ft. (3 km)
		Acoustic	Power: 0 dB no fan
	Electrical characteristics	Maximum heat dissipation	68 BTU/hr (71.74 kJ/hr)

	Voltage	100-127 / 200-240 VAC
	Current	0.7 / 0.4 A
	Power consumption	20 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	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
	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	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM; 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 ending with the letter "B" or later, e.g., J4858B, J4859C) are required.	
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, 24x7 SW phone support, software updates (UF792E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR948E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR949E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR950E) 4-year, 24x7 SW phone support, software updates (UR951E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR952E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR953E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR954E) 5-year, 24x7 SW phone support, software updates (UR955E)	

3 Yr 6 hr Call-to-Repair Onsite (UW368E)
4 Yr 6 hr Call-to-Repair Onsite (UW369E)
5 Yr 6 hr Call-to-Repair Onsite (UW370E)

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.

Standards and protocols (applies to all products in series)

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
RFC 3418 MIB for SNMPv3

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

HP E2510 Switch Series accessories

Transceivers	HP X111 100M SFP LC FX Transceiver	J9054B
	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	NEW HP 0.5 m Multimode OM3 LC/LC Optical Cable	AJ833A
	NEW HP 1 m Multimode OM3 LC/LC Optical Cable	AJ834A
	NEW HP 2 m Multimode OM3 LC/LC Optical Cable	AJ835A
	NEW HP 5 m Multimode OM3 LC/LC Optical Cable	AJ836A
	NEW HP 15 m Multimode OM3 LC/LC Optical Cable	AJ837A
	NEW HP 30 m Multimode OM3 LC/LC Optical Cable	AJ838A
	NEW HP 50 m Multimode OM3 LC/LC Optical Cable	AJ839A
	NEW HP 0.5 m PremierFlex OM3+ LC/LC Optical Cable	BK837A
HP E2510-48 Switch (J9020A)	HP X121 1G SFP RJ45 T Transceiver	J8177C

To learn more, visit: www.hp.com/networking
Information is subject to change without notice.