

Overview

Models

HP 2520-8-PoE Switch	J9137A
HP 2520-24-PoE Switch	J9138A
HP 2520-8G-PoE Switch	J9298A
HP 2520-24G-PoE Switch	J9299A

Key features

- Fully managed Layer 2 switch in 8 or 24 ports
- Choice of Fast Ethernet or Gigabit PoE models
- Power over Ethernet for voice, video, and wireless
- Energy-efficient design and quiet operation
- Rack-mountable and compact form factors

Introduction

The HP 2520 switch series is ideally suited for small and medium businesses looking to deploy voice, video, or wireless solutions that require Power over Ethernet (PoE) connectivity. The series consists of four switches: the HP 2520-8-PoE, 2520-24-PoE, 2520-8G-PoE, and 2520-24G-PoE Switches. The four models offer a choice of either Fast Ethernet or Gigabit Ethernet connectivity. All models also include support for dual-personality Gigabit Ethernet ports that can be used for either copper or fiber connectivity. All products are fully managed via SNMP, command-line interface (CLI), and graphical user interface (GUI) and offer a Layer 2 feature set. In addition, the products provide deployment flexibility with compact, quiet, and energy-efficient designs.

Features and Benefits

Quality of Service (QoS)

- **Selectable queue configuration:** allows you to increase performance and/or traffic reliability by selecting the number of queues that best meet the requirements of your network applications; switch will map 8 priorities to either 2 or 4 queues
- **Simplified QoS configuration:**
 - Port-based: prioritize traffic by specifying a port and priority level
 - VLAN based: prioritize traffic by specifying a VLAN and priority level
- **IEEE 802.1p traffic prioritization:** honors and sets IEEE 802.1p priority in the VLAN tag
- **Type of service:**
 - **IP precedence:** honors IP precedence bits and allows mapping to a priority queue
 - **Differentiated Services Code Point values:** honors Differentiated Services Code Point (DSCP) bits and allows mapping to a priority queue
- **Flow control:** helps ensure reliable communications during full-duplex operation

Management

- **Choice of management interfaces:**
 - **Web graphical user interface (GUI):** easy-to-use graphical interface allows configuration of the switch from any Web browser
 - **Command-line interface (CLI):** robust command-line interface provides advanced configuration and diagnostics
 - **Simple Network Management Protocol (SNMPv2c/SNMPv3):** allows switch to be managed with a variety of third-party network management applications
- **Integration with HP PCM:** enables discovery, mapping, logging, and configuration via HP PCM, which is available as a free



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download from the Web

- **Virtual stacking:** single IP address manages up to 16 switches
- **Port mirroring:** allows traffic to be mirrored on any port or a network analyzer to assist with diagnostics or detecting network attacks
- **Multiple configuration files:** configuration file management tools allow up to three configuration files to be managed and stored on the switch
- **Dual flash images:** provide independent primary and secondary operating system files for backup while upgrading
- **Network tools:** command-line interface includes telnet client, ping, traceroute, and Layer 2 link test tools for diagnostics
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** automated device discovery protocol for easy mapping by network management applications
- **Command authorization:** leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; also provides an audit trail
- **Logging:** local and remote logging of events via SNMP (v2c and v3) and syslog
- **IPv6 host:** allows switches to be managed using IPv6
- **RMON:** provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Find-Fix-Inform:** finds and fixes common network problems automatically, then informs the administrator
- **Front-panel LEDs:**
 - **Locator LED:** allows users to set the locator LED on a specific switch to either turn on, blink, or turn off; simplifies troubleshooting by making it easy to locate a particular switch within a rack of similar switches
 - **Per-port LEDs:** provides an at-a-glance view of status, activity, speed, and full-duplex operation
 - **Power and fault LEDs:** display any issues

Connectivity

- **Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all ports
- **Small Form-Factor Pluggable (SFP) slots:** dual-personality ports allow for either copper or fiber connectivity such as Gigabit-SX, -LX, -LH, and -BX or 100-FX and -BX
- **IEEE 802.3af Power over Ethernet:** provides up to 15.4 W per port to IEEE 802.3af-compliant PoE-powered devices such as IP phones, wireless access points, and security cameras (see product specifications for total PoE power available); supports some prestandard PoE devices (see product FAQs for more details)
- **RJ-45 serial console port:** front of unit location provides easy access to the switch CLI

Performance

- **Switch on a chip:** provides highly integrated, high-performance switch design with a non-blocking architecture
- **Jumbo packet support:** supports up to 9216-byte frame size to improve performance of large data transfers (2520G switch)

Resiliency and high availability

- **Port trunking and link aggregation:**
 - Trunking: supports up to eight links per trunk to increase bandwidth and create redundant connections
 - IEEE 802.3ad Link Aggregation Protocol (LACP): eases configuration of trunks through automatic configuration
- **IEEE 802.1s Multiple Spanning Tree Protocol (MSTP):** provides high link availability in multiple VLAN environments by allowing multiple spanning trees; provides legacy support for IEEE 802.1w (Rapid Reconfiguration of Spanning Tree Protocol) and IEEE 802.1d (Spanning Tree Protocol)

Layer 2 switching

- **VLAN support and tagging:** supports the IEEE 802.1Q (4,094 VLAN IDs) and up to 256 port-based VLANs simultaneously
- **GARP VLAN Registration Protocol (GVRP):** allows automatic learning and dynamic assignment of VLANs
- **Broadcast control:** allows limitation of broadcast traffic rate to cut down on unwanted broadcast traffic on the network

Security



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- **Manager and operator privilege levels:** enables read-only (operator) and read-write (manager) access on management interfaces
- **RADIUS/TACACS+ for management access authentication:** eases switch management security administration by using a password authentication server
- **Secure protocols for encryption of management traffic:**
 - Secure Shell (SSHv2): 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
 - Simple Network Management Protocol (SNMP) v3: allows encryption of traffic between switch MIBs and network management software
 - Secure FTP (SFTP): encrypts uploads and downloads of configuration file
- **Protected ports:** prevents designated ports from communicating with each other while allowing access to unprotected ports
- **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
- **MAC address lockdown:** allows only specified MAC addresses access to the network on a specified port
- **Denial-of-service (DoS) attack filtering:** automatically filters and drops common DoS attack traffic types
- **User authentication for port access:**
 - IEEE 802.1X: utilizes an industry-standard user authentication with an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
 - Web-based: similar to IEEE 802.1X, it provides a browser-based environment to authenticate clients
 - MAC-based: client is authenticated with the RADIUS server based on MAC address
 - Concurrent authentication schemes: each switch port will accept up to two sessions of IEEE 802.1X, Web, and/or MAC authentications concurrently
- **Custom banner:** displays security policy when users log in to the switch
- **Spanning Tree Protocol Bridge Protocol Data Unit (BPDU) port protection:** blocks BPDUs on ports that do not require BPDUs, preventing forged BPDU attacks
- **Spanning Tree Protocol Root Guard:** when running the spanning tree protocol, protects root bridge from malicious attack or configuration mistakes
- **Physical security:**
 - Front-panel buttons: provides the ability to disable reset and clear buttons on front panel for added security
 - Kensington Lock: 2520-8-PoE and 2520G-8-PoE switches include a Kensington Lock slot for securing the switches in open-space deployments

Convergence

- **LLDP-MED (Media Endpoint Discovery):** is a standard extension of LLDP that automatically configures network devices such as IP phones
- **IP multicast snooping and data-driven IGMP:** automatically prevents flooding of IP multicast traffic
- **Voice VLAN:** uses LLDP-MED to automatically configure a VLAN for IP phones

Flexibility

- **Quiet operation:**
 - Fanless design (2520-8-PoE and 2520G-8-PoE switches): enables quiet operation for deployment in open spaces
 - Variable-speed fans (2520-24-PoE and 2520G-24-PoE switches): improves fan speed for the operating environment while lowering noise and energy consumption levels
- **Flexible mounting:**
 - Rackable: is mountable in a standard 19-inch rack with included hardware (2520-8-PoE and 2520G-8-PoE rack kit available free of charge via the Web)
 - Wall mountable: allows the switch to be mounted to a wall using included hardware
 - Surface mountable: allows the product to be mounted above or below a surface (such as a desk or table) with included



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hardware

- **Compact size:** products are designed to reduce space requirements (see product specifications for exact dimensions)

Product Architecture

- **Energy-efficient design:**
 - **Fans:** fanless (2520-8-PoE and 2520G-8-PoE switches) and variable-speed fans (2520-24-PoE and 2520G-24-PoE switches) help reduce power consumption
 - **Port LEDs:** port link and activity LEDs can be turned off to conserve energy
 - **Port low-power mode:** when no link is detected on a port, the port will automatically go into low-power mode to conserve energy (2520G switch)

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.



Technical Specifications

HP 2520-8-PoE Switch (J9137A)	Ports	8 RJ-45 autosensing 10/100 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3af PoE) 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 (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or as a SFP slot (for use with SFP transceivers) 1 RJ-45 serial console port	
	Physical characteristics	Dimensions	6.28(d) x 10(w) x 1.75(h) in. (15.95 x 25.4 x 4.45 cm) (1U height)
		Weight	3.62 lb. (1.64 kg) including power adapter and power cord
	Memory and processor	Processor	Freescall PowerPC 8313 @ 266 MHz, 32 MB flash, 128 MB DDR2 SDRAM; packet buffer size: 384 KB dynamically allocated
	Mounting	Mounts in an EIA-standard 19-inch telco rack or equipment cabinet (rack-mounting kit available); horizontal surface mounting; wall mounting	
	Performance	100 Mb Latency	< 1.9 μ s (LIFO 64-byte packets)
		1000 Mb Latency	< 1.5 μ s (LIFO 64-byte packets)
		Throughput	4.1 million pps
		Switching capacity	5.6 Gbps
		MAC address table size	8000 entries
	Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
		Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
		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), noncondensing
		Altitude	up to 10,000 ft. (3 km)
		Acoustic	Power: 0 dB, Pressure: 0 dB
	Electrical characteristics	Description	Use only the external power adapter module (5070-6082, PA1 AC adapter) supplied with this product
		Maximum heat dissipation	87 BTU/hr (91.79 kJ/hr)
		Voltage	100-240 VAC
		Current	1.5 A
		Idle power	9.4 W
		Maximum power rating	85.5 W
		PoE power	67 W
		Frequency	50/60 Hz
		Notes	Idle power is the actual power consumption of the device with no ports connected.



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	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. PoE power is the total power budget available to all PoE ports. Achieved Miercom Certified Green Award	
Safety	cUL (CSA 22.2 No. 60950); CE Labeled; UL 60950-1; UL Listed; CAN/CSA 22.2 No. 60950; EN 60825; AS/NZS 60950; IEC 60950-1; EN 60950-1	
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 (Canada); AS/NZS CISPR 22; IEC/EN 61000-3-2; IEC/EN 61000-3-3; IEC 61000-4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11	
Immunity	Generic	EN 55024, CISPR 24
	EN	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; configuration menu; out-of-band management (serial RS-232C); 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, for example, 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 SW phone support and SW updates (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	



Technical Specifications

(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)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR853E)
1-year, 24x7 software phone support, software updates (HR852E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS554E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS555E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS556E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS557E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS558E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS559E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS560E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS561E)

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 2520-24-PoE Switch (J9138A)	Ports		24 RJ-45 autosensing 10/100 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3af PoE); Media Type: Auto-MDIX; Duplex: half or full
			2 RJ-45 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
			2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or as a SFP slot (for use with SFP transceivers)
			1 RJ-45 serial console port
Physical characteristics	Dimensions	9.69(d) x 17.44(w) x 1.75(h) in. (24.61 x 44.3 x 4.45 cm) (1U height)	
	Weight	7.1 lb. (3.22 kg)	
Memory and processor	Processor		Freescall PowerPC 8313 @ 266 MHz, 32 MB flash, 128 MB DDR2 SDRAM; packet buffer size: 384 KB dynamically allocated

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Mounting	Mounts in an EIA-standard 19-inch telco rack or equipment cabinet (rack-mounting kit available); horizontal surface mounting; wall mounting	
Performance	100 Mb Latency	< 1.9 μ s (LIFO 64-byte packets)
	1000 Mb Latency	< 1.5 μ s (LIFO 64-byte packets)
	Throughput	6.2 million pps
	Switching capacity	12.8 Gbps
	MAC address table size	8000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 50°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
	Nonoperating/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: 27.9 dB, Pressure: 36.0 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Maximum heat dissipation	208 BTU/hr (219.44 kJ/hr)
	Voltage	100-127 / 200-240 VAC
	Current	3.3/1.6 A
	Idle power	21.6 W
	Maximum power rating	257 W
	PoE power	195 W
	Frequency	50/60 Hz
	Notes	Idle power is the actual power consumption of the device with no ports connected. 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. PoE power is the total power budget available to all PoE ports. Achieved Miercom Certified Green Award
Safety	cUL (CSA 22.2 No. 60950); CE Labeled; UL 60950-1; UL Listed; CAN/CSA 22.2 No. 60950; EN 60825; AS/NZS 60950; IEC 60950-1; EN 60950-1	
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 (Canada); AS/NZS CISPR 22; IEC/EN 61000-3-2; IEC/EN 61000-3-3; IEC 61000-4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11	
Immunity	Generic	EN 55024, CISPR 24
	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2
	Radiated	IEC 61000-4-3
	EFT/Burst	IEC 61000-4-4



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	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; configuration menu; out-of-band management (serial RS-232C); 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, for example, 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 SW phone support and SW updates (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) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR853E) 1-year, 24x7 software phone support, software updates (HR852E) 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS554E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS555E) 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS556E) 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS557E) 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS558E) 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS559E) 5-year, 24x7 software phone support, software updates + Next Business Day	



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Hardware Exchange (HS560E)

5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS561E)

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 2520-8G-PoE Switch Ports (J9298A)

8 RJ-45 autosensing 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only

2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or as a SFP slot (for use with SFP transceivers)

1 RJ-45 serial console port

Physical characteristics	Dimensions	6.28(d) x 10(w) x 1.75(h) in. (15.95 x 25.4 x 4.45 cm) (1U height)
	Weight	3.66 lb. (1.66 kg) including power adapter and power cord
Memory and processor	Processor	Freescall PowerPC 8313 @ 266 MHz, 32 MB flash, 128 MB DDR2 SDRAM; packet buffer size: 512 KB dynamically allocated
Mounting	Mounts in an EIA-standard 19-inch telco rack or equipment cabinet (rack-mounting kit available); horizontal surface mounting; wall mounting	
Performance	100 Mb Latency	< 5.3 μ s (LIFO 64-byte packets)
	1000 Mb Latency	< 2.7 μ s (LIFO 64-byte packets)
	Throughput	14.8 million pps
	Switching capacity	20 Gbps
Environment	MAC address table size	8000 entries
	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)
Electrical characteristics	Acoustic	Power: 0 dB, Pressure: 0 dB
	Description	Use only the external power adapter module (5070-6082, PA1 AC adapter) supplied with this product
	Maximum heat dissipation	89 BTU/hr (93.9 kJ/hr)



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	Voltage	100-240 VAC
	Current	1.5 A
	Idle power	9.3 W
	Maximum power rating	86.2 W
	PoE power	67 W
	Frequency	50/60 Hz
	Notes	Idle power is the actual power consumption of the device with no ports connected. 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. PoE power is the total power budget available to all PoE ports. Achieved Miercom Certified Green Award
Safety		cUL (CSA 22.2 No. 60950); CE Labeled; UL 60950-1; UL Listed; CAN/CSA 22.2 No. 60950; EN 60825; AS/NZS 60950; IEC 60950-1; EN 60950-1
Emissions		FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 (Canada); AS/NZS CISPR 22; IEC/EN 61000-3-2; IEC/EN 61000-3-3; IEC 61000-4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11
Immunity	Generic	EN 55024, CISPR 24
	EN	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; configuration menu; out-of-band management (serial RS-232C); 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, for example, 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 SW phone support and SW updates (U6321E) 3-year, 24x7 SW phone support, software updates (UF792E)



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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)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR853E)
1-year, 24x7 software phone support, software updates (HR852E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS554E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS555E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS556E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS557E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS558E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS559E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS560E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS561E)

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 2520-24G-PoE Switch Ports (J9299A)

20 RJ-45 autosensing 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); 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 PoE port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet, IEEE 802.3af) or as an SFP slot (for use with SFP transceivers)
1 RJ-45 serial console port



Technical Specifications

Physical characteristics	Dimensions	9.69(d) x 17.44(w) x 1.75(h) in. (24.61 x 44.3 x 4.45 cm) (1U height)
	Weight	7.21 lb. (3.27 kg)
Memory and processor	Processor	Freescall PowerPC 8313 @ 266 MHz, 32 MB flash, 128 MB DDR2 SDRAM; packet buffer size: 512 KB dynamically allocated
	Mounting	Mounts in an EIA-standard 19-inch telco rack or equipment cabinet (rack-mounting kit available); horizontal surface mounting; wall mounting
Performance	100 Mb Latency	< 5.3 μ s (LIFO 64-byte packets)
	1000 Mb Latency	< 2.7 μ s (LIFO 64-byte packets)
	Throughput	35.7 million pps
	Switching capacity	48 Gbps
	MAC address table size	8000 entries
Environment	Operating temperature	32°F to 122°F (0°C to 50°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: 28.3 dB, Pressure: 37.7 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Maximum heat dissipation	223 BTU/hr (235.27 kJ/hr)
	Voltage	100-127/200-240 VAC
	Current	3.3/1.6 A
	Idle power	21.8 W
	Maximum power rating	260.4 W
	PoE power	195 W
	Frequency	50/60 Hz
	Notes	Idle power is the actual power consumption of the device with no ports connected. 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. PoE power is the total power budget available to all PoE ports.
Safety	Achieved Miercom Certified Green Award	
	cUL (CSA 22.2 No. 60950); CE Labeled; UL 60950-1; UL Listed; CAN/CSA 22.2 No. 60950; EN 60825; AS/NZS 60950; IEC 60950-1; EN 60950-1	



Technical Specifications

Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 (Canada); AS/NZS CISPR 22; IEC/EN 61000-3-2; IEC/EN 61000-3-3; IEC 61000:4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11	
Immunity	Generic	EN 55024, CISPR 24
	EN	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; configuration menu; out-of-band management (serial RS-232C); 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, for example, 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 SW phone support and SW updates (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)	
	1-year, 6 hour Call-To-Repair Onsite for hardware (HR853E)	
	1-year, 24x7 software phone support, software updates (HR852E)	
	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS554E)	
	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS555E)	



Technical Specifications

3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS556E)

3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS557E)

4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS558E)

4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS559E)

5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS560E)

5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS561E)

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)

Denial of service protection

CPU DoS Protection

Device management

RFC 1591 DNS (client)

SSHv1/SSHv2 Secure Shell

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 802.3 Type 10BASE-T

IEEE 802.3ab 1000BASE-T

IEEE 802.3ad Link Aggregation Control Protocol (LACP)

IEEE 802.3af Power over Ethernet

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 868 Time Protocol

RFC 951 BOOTP

RFC 1350 TFTP Protocol (revision 2)

RFC 1542 BOOTP Extensions

RFC 2030 Simple Network Time Protocol (SNTP) v4

RFC 2131 DHCP

IP multicast

RFC 3376 IGMPv3 (host joins only)



IPv6

RFC 1981 IPv6 Path MTU Discovery
RFC 2460 IPv6 Specification
RFC 2925 Remote Operations MIB (Ping only)
RFC 3315 DHCPv6 (client only)
RFC 3513 IPv6 Addressing Architecture
RFC 3596 DNS Extension for IPv6
RFC 4022 MIB for TCP
RFC 4113 MIB for UDP
RFC 4251 SSHv6 Architecture
RFC 4252 SSHv6 Authentication
RFC 4253 SSHv6 Transport Layer
RFC 4254 SSHv6 Connection
RFC 4293 MIB for IP
RFC 4419 Key Exchange for SSH
RFC 4443 ICMPv6
RFC 4861 IPv6 Neighbor Discovery
RFC 4862 IPv6 Stateless Address Auto-configuration

MIBs

RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 2021 RMONv2 MIB
RFC 2613 SMON MIB
RFC 2618 RADIUS Client MIB
RFC 2620 RADIUS Accounting MIB
RFC 2665 Ethernet-Like-MIB
RFC 2668 802.3 MAU MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2737 Entity MIB (Version 2)
RFC 2863 The Interfaces Group MIB

Network management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 1098 A Simple Network Management Protocol (SNMP)
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
SNMPv1/v2c/v3

QoS/CoS

RFC 2474 Diffserv precedence, with 4 queues per port
RFC 2475 DiffServ Architecture
RFC 2597 DiffServ Assured Forwarding (AF)
RFC 2598 DiffServ Expedited Forwarding (EF)

Security

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



Accessories

HP 2520 Switch Series accessories

Transceivers	HP X111 100M SFP LC FX Transceiver	J9054C
	HP X112 100M SFP LC BX-D Transceiver	J9099B
	HP X112 100M SFP LC BX-U Transceiver	J9100B
	HP X121 1 G SFP LC SX Transceiver	J4858C
	HP X121 1 G SFP LC LX Transceiver	J4859C
	HP X121 1 G SFP LC LH Transceiver	J4860C
	HP X122 1 G SFP LC BX-D Transceiver	J9142B
	HP X122 1 G 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
Mounting Kit	HP X410 1U Universal 4-post Rack Mounting Kit	J9583A
HP 2520-8-PoE Switch (J9137A)	NEW HP X510 1U Cable Guard	J9700A
	NEW HP X520 1U Power Adapter Shelf	J9701A
HP 2520-8G-PoE Switch (J9298A)	NEW HP X510 1U Cable Guard	J9700A
	NEW HP X520 1U Power Adapter Shelf	J9701A



Accessory Product Details

NOTE: Details are not available for all accessories. The following specifications were available at the time of publication.

HP X111 100M SFP LC FX Ports Transceiver (J9054C)	Physical characteristics	1 LC 100BASE-FX port (IEEE 802.3u Type 100BASE-FX); Duplex: half or full Dimensions: 2.7(d) x 0.54(w) x 0.48(h) in. (6.86 x 1.38 x 1.22 cm) Weight: 0.06 lb. (0.03 kg)	
	Environment	Operating temperature: 32°F to 158°F (0°C to 70°C) Operating relative humidity: 5% to 95% Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C) Nonoperating/Storage relative humidity: 5% to 85% Altitude: up to 10,000 ft. (3 km)	
	Cabling	Type: 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively Maximum distance: 2 km (full duplex) or 412 m (half duplex)	
	Notes	Transmitter wavelength: 1310nm Power consumption is 1.1 watt maximum.	
	Services	For supported platforms and minimum software requirements to support this product, see the document titled "Support for the J9054B 100-FX SFP-LC Transceiver" on the "HP Mini-GBICs and SFPs" Manuals Web page. 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 X112 100M SFP LC BX-D Transceiver (J9099B) A small form-factor pluggable (SFP) 100-Megabit BX (bi-directional) "downstream" transceiver that provides 100 Mbps full-duplex connectivity up to 10 km on one strand of singlemode fiber. The J9099B connects to the J9100B "upstream" transceiver, or to any IEEE-standard 100BASE-BX10-U ("upstream") device.	Ports	1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-D); Duplex: full only	
	Physical characteristics	Dimensions	2.7(d) x 0.55(w) x 0.48(h) in. (6.86 x 1.39 x 1.22 cm)
	Environment	Weight	0.04 lb. (0.03 kg)
		Operating temperature	32°F to 158°F (0°C to 70°C)
		Operating relative humidity	0% to 95%, noncondensing
	Cabling	Nonoperating/Storage temperature	-40°F to 185°F (-40°C to 85°C)
	Notes	Type: Single-mode fiber optic, complying with ITU-T G.652;	
		Maximum distance: 0.5-10,000 m (single-mode fiber)	
		Transmit wavelength: 1550 nm. Receive wavelength: 1310 nm.	



Accessory Product Details

		Power consumption is 1.1 watt maximum. For supported platforms and minimum software requirements to support this product, see the document titled "Support for the HP BX Transceivers" on the "HP Mini-GBICs and SFPs" Manuals Web page. The J9099B connects to the J9100B "upstream" transceiver, or to any IEEE-standard 100BASE-BX10-U ("upstream") device. (A 100-BX-D transceiver can only connect to a 100-BX-U product. You cannot connect two 100-BX-D transceivers together.)
Services		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 X112 100M SFP LC BX-U Transceiver (J9100B) A small form-factor pluggable (SFP) 100-Megabit BX (bi-directional) "upstream" transceiver that provides 100 Mbps full-duplex connectivity up to 10 km on one strand of singlemode fiber. The J9100B connects to the J9099B "downstream" transceiver, or to any IEEE-standard 100BASE-BX10-D ("downstream") device.	Ports	1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-U); Duplex: full only
	Physical characteristics	Dimensions 2.7(d) x 0.55(w) x 0.48(h) in. (6.86 x 1.39 x 1.22 cm) Weight 0.07 lb. (.03 kg)
	Environment	Operating temperature 32°F to 158°F (0°C to 70°C) Operating relative humidity 0% to 95%, noncondensing Nonoperating/Storage temperature -40°F to 185°F (-40°C to 85°C)
	Cabling	Type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: 0.5-10,000 m (single-mode fiber)
	Notes	For supported platforms and minimum software requirements to support this product, see the document titled "Support for the HP BX Transceivers" on the "HP Mini-GBICs and SFPs" Manuals Web page. The J9100B connects to the J9099B "downstream" transceiver, or to any IEEE-standard 100BASE-BX10-D ("downstream") device. (A 100-BX-U transceiver can only connect to a 100-BX-D product. You cannot connect two 100-BX-U transceivers together.) Transmit wavelength: 1310 nm. Receive wavelength: 1550 nm. Power consumption is 1.1 watts maximum.
	Services	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.



Accessory Product Details

HP X121 1G SFP LC SX Transceiver (J4858C)	Ports Physical characteristics	1 LC 1000BASE-SX port; Duplex: full only Dimensions: 2.24(d) x 0.54(w) x 0.48(h) in. (5.69 x 1.37 x 1.22 cm) Weight: 0.04 lb. (0.02 kg) Transceiver form factor: SFP
A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550 m on multimode fiber.	Environment	Operating temperature: 32°F to 158°F (0°C to 70°C) Operating relative humidity: 5% to 85%, noncondensing Nonoperating/Storage temperature: -40°F to 203°F (-40°C to 85°C) Altitude: up to 10,000 ft. (3 km)
	Electrical characteristics	Power consumption typical: 0.4 W Power consumption maximum: 0.7 W
	Cabling	Type: 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively;
		Maximum distance:
		2-220 m (62.5 μm core diameter, 160 MHz*km bandwidth) 2-275 m (62.5 μm core diameter, 200 MHz*km bandwidth) 2-500 m (50 μm core diameter, 400 MHz*km bandwidth) 2-550 m (50 μm core diameter, 500 MHz*km bandwidth)
		Cable length: 2-550m
		Fiber type: Multi Mode
	Services	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 X121 1G SFP LC LX Transceiver (J4859C)	Ports Physical characteristics	1 LC 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX); Duplex: full only Dimensions: 2.24(d) x 0.54(w) x 0.486(h) in. (5.69 x 1.37 x 1.23 cm) Weight: 0.04 lb. (0.02 kg)
HP X121 1G SFP LC LX Transceiver: An SFP format gigabit transceiver with LC connectors using LX technology.	Environment	Operating temperature: 32°F to 158°F (0°C to 70°C) Operating relative humidity: 0% to 85%, noncondensing Nonoperating/Storage temperature: -40°F to 212°F (-40°C to 100°C) Altitude: up to 10,000 ft. (3 km)
	Cabling	Type: Either single mode or multimode; 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively; Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1;
		Maximum distance:
		2-550 m (multimode 62.5 μm core diameter, 500 MHz*km bandwidth) 2-550 m (multimode 50 μm core diameter, 400 MHz*km bandwidth) 2-550 m (multimode 50 μm core diameter, 500 MHz*km bandwidth)



Accessory Product Details

		2-10,000 m (single-mode fiber)
	Notes	A mode conditioning patch cord may be needed in some multimode fiber installations. Wavelength: 1310nm Power Consumption: < 500mW Typical
	Services	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 X121 1G SFP LC LH Transceiver (J4860C) A small form-factor pluggable (SFP) Gigabit LH transceiver that provides a full-duplex Gigabit solution up to 70 km on single-mode fiber.	Ports	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics); Duplex: full only
	Physical characteristics	Dimensions: 2.17(d) x 0.60(w) x 0.46(h) in. (5.5 x 1.53 x 1.18 cm) Weight: 0.04 lb. (0.02 kg)
	Environment	Operating temperature: -40°F to 185°F (-40°C to 85°C) Operating relative humidity: 0% to 95% @ 77°F (25°C), noncondensing Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C) Altitude: up to 10,000 ft. (3 km)
	Cabling	Cable type: Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1; Maximum distance:
	Notes	10-70,000 m (single-mode fiber) Power consumption is 0.8 watts typical with 1 watt maximum at 100% utilization. For distances less than 20 km, a 10 dB attenuator must be used. For distances between 20 km and 40 km, a 5 dB attenuator must be used. Attenuators can be purchased from most cable vendors.
	Services	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.



Accessory Product Details

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

A small form-factor pluggable (SFP) Gigabit-BX (bi-directional) "downstream" transceiver that provides a full-duplex Gigabit solution up to 10 km on one strand of single-mode fiber. The J9142B connects to the J9143B "upstream" transceiver, or to any IEEE-standard 1000BASE-BX10-U ("upstream") device.

Ports	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-D); Duplex: full only						
Physical characteristics	<table> <tr> <td>Dimensions</td><td>2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)</td></tr> <tr> <td>Weight</td><td>0.04 lb. (0.02 kg)</td></tr> </table>	Dimensions	2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)	Weight	0.04 lb. (0.02 kg)		
Dimensions	2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)						
Weight	0.04 lb. (0.02 kg)						
Environment	<table> <tr> <td>Operating temperature</td><td>32°F to 158°F (0°C to 70°C)</td></tr> <tr> <td>Operating relative humidity</td><td>0% to 95%, non-condensing</td></tr> <tr> <td>Non-operating/Storage temperature</td><td>–40°F to 185°F –40°C to 85°C)</td></tr> </table>	Operating temperature	32°F to 158°F (0°C to 70°C)	Operating relative humidity	0% to 95%, non-condensing	Non-operating/Storage temperature	–40°F to 185°F –40°C to 85°C)
Operating temperature	32°F to 158°F (0°C to 70°C)						
Operating relative humidity	0% to 95%, non-condensing						
Non-operating/Storage temperature	–40°F to 185°F –40°C to 85°C)						
Cabling	Type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: 0.5-10,000 m (single-mode fiber)						
Notes	Transmit wavelength: 1490 nm. Receive wavelength: 1310 nm. Power consumption is 1 watt maximum. For supported platforms and minimum software requirements to support this product, see the document titled "Support for the HP BX Transceivers" on the "HP Mini-GBICs and SFPs" Manuals Web page. The J9142B connects to the J9143B "upstream" transceiver, or to any IEEE-standard 1000BASE-BX10-U ("upstream") device. (A 1000-BX-D transceiver can only connect to a 1000-BX-U product. You cannot connect two 1000-BX-D transceivers together.)						
Services	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 X122 1G SFP LC BX-U Transceiver (J9143B)

A small form-factor pluggable (SFP) Gigabit-BX (bi-directional) "upstream" transceiver that provides a full-duplex Gigabit solution up to 10 km on one strand of single-mode fiber. The J9143B connects to the J9142B "downstream" transceiver, or to any IEEE-standard 1000BASE-BX10-D ("downstream") device.

Ports	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only						
Physical characteristics	<table> <tr> <td>Dimensions</td><td>2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)</td></tr> <tr> <td>Weight</td><td>0.04 lb. (0.02 kg)</td></tr> </table>	Dimensions	2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)	Weight	0.04 lb. (0.02 kg)		
Dimensions	2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)						
Weight	0.04 lb. (0.02 kg)						
Environment	<table> <tr> <td>Operating temperature</td><td>32°F to 158°F (0°C to 70°C)</td></tr> <tr> <td>Operating relative humidity</td><td>0% to 95%, non-condensing</td></tr> <tr> <td>Non-operating/Storage temperature</td><td>–40°F to 185°F –40°C to 85°C)</td></tr> </table>	Operating temperature	32°F to 158°F (0°C to 70°C)	Operating relative humidity	0% to 95%, non-condensing	Non-operating/Storage temperature	–40°F to 185°F –40°C to 85°C)
Operating temperature	32°F to 158°F (0°C to 70°C)						
Operating relative humidity	0% to 95%, non-condensing						
Non-operating/Storage temperature	–40°F to 185°F –40°C to 85°C)						
Cabling	Type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: 0.5-10,000 m (single-mode fiber)						
Notes	Transmit wavelength: 1310 nm. Receive wavelength: 1490 nm.						



Accessory Product Details

		For supported platforms and minimum software requirements to support this product, see the document titled "Support for the HP BX Transceivers" on the "HP Mini-GBICs and SFPs" Manuals Web page. The J9143B connects to the J9142B "downstream" transceiver, or to any IEEE-standard 1000BASE-BX10-D ("downstream") device. (A 1000-BX-U transceiver can only connect to a 1000-BX-D product. You cannot connect two 1000-BX-U transceivers together.) Power consumption is 1 watt maximum.
	Services	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 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A)	Cabling	Cable type: 50/125 μm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m
	Notes	Maximum distance: 10Gbps Transfer Rate (Ethernet): 300m Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 μm fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end. • Dimensions: Core diameter: 50 $\pm$ 3.0μm Cladding diameter: 125 $\pm$ 2.0μm Coating diameter: 245 $\pm$ 10μm • Optical glass: Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm. • Optical glass: Bandwidth: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links. • CABLE: The cable is duplex zipcord graded index 50/125μm multimode optical fiber and designed to work in both the 850 and 1300 nm wavelength windows. • BULK CABLE & CABLE ASSEMBLY CONFIGURATION: • Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic. • Jacket Color: Aqua for OM3 multimode per TIA 598 • Boot Color: White • Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters. • Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46. • Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg
	Services	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.



Accessory Product Details

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

Notes

Cable type:

50/125 μ m (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 μ m fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 $\pm$ 3.0 μ m Cladding diameter: 125 $\pm$ 2.0 μ m Coating diameter: 245 $\pm$ 10 μ m
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125 μ m multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

Services

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.



Accessory Product Details

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

Notes

Cable type:

50/125 μm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m;

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 μm fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: $50 \pm 3.0\mu\text{m}$ Cladding diameter: $125 \pm 2.0\mu\text{m}$ Coating diameter: $245 \pm 10\mu\text{m}$
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125 μm multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

Services

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.



Accessory Product Details

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

Notes

Cable type:

50/125 μ m core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m;

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Cable Specs: This specification defines the detail requirements for a tight buffered duplex fiber optic multimode OM3 50/125 μ m fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 $\pm$ 3.0 μ m Cladding diameter: 125 $\pm$ 2.0 μ m Coating diameter: 245 $\pm$ 10 μ m
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125 μ m multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

Services

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.



Accessory Product Details

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

Cabling

Cable type:

50/125 μ m (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m;

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Notes

Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 μ m fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 $\pm$ 3.0 μ m Cladding diameter: 125 $\pm$ 2.0 μ m Coating diameter: 245 $\pm$ 10 μ m
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125 μ m multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

Services

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.



Accessory Product Details

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

Cabling

Cable type:

50/125 μ m (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m;

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Notes

Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 μ m fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 $\pm$ 3.0 μ m Cladding diameter: 125 $\pm$ 2.0 μ m Coating diameter: 245 $\pm$ 10 μ m
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125 μ m multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

Services

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.



Accessory Product Details

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

Cabling

Cable type:

50/125 μ m (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m;

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Notes

Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 μ m fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 $\pm$ 3.0 μ m Cladding diameter: 125 $\pm$ 2.0 μ m Coating diameter: 245 $\pm$ 10 μ m
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125 μ m multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

Services

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.



Accessory Product Details

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

Notes

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um $\pm$ 3um; Cladding diameter: 125um $\pm$ 2um; Coating diameter: 245 $\pm$ 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade - Low Smoke Zero Halogen (LSZH) thermoplastic.
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46

Services

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

Notes

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core Diameter: 50um $\pm$ 3um, Cladding diameter: 125um $\pm$ 2um; Coating diameter: 245 $\pm$ 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

Services

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.



Accessory Product Details

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

Notes

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um $\pm$ 3um, Cladding diameter: 125um $\pm$ 2um; Coating diameter: 245 $\pm$ 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

Services

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

Notes

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um $\pm$ 3um, Cladding diameter: 125um $\pm$ 2um; Coating diameter: 245 $\pm$ 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

Services

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.



Accessory Product Details

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

Notes

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um $\pm$ 3um, Cladding diameter: 125um $\pm$ 2um; Coating diameter: 245 $\pm$ 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

Services

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

Notes

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um $\pm$ 3um, Cladding diameter: 125um $\pm$ 2um; Coating diameter: 245 $\pm$ 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

Services

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.



Accessory Product Details

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

Notes

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um $\pm$ 3um, Cladding diameter: 125um $\pm$ 2um; Coating diameter: 245 $\pm$ 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

Services

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 X410 1U Universal 4-post Rack Mounting Kit (J9583A)

Notes

The rack mounting kit supports the 1U, full width switches in the following switch series and the power supply: V1810 Series, E2510 Series, E2520 Series, E2610 Series, E2810 Series, E2910 Series, E3500 Series, and the E620 Power Supply

This universal rack mounting kit is design to fit the following racks: HP 10K 10642, HP 10K 10842, Panduit CN, Panduit CS, Wrightline Vantage S2, APC Netshelter 600mm, and APC Netshelter 800mm. It may well fit many other brands and models too.

Services

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 X510 1U Cable Guard (J9700A)

Notes

Dimensions: 10.94" x 3.62" x 1.69" or 27.8cm x 9.2cm x 4.3cm w/ears
10.94" x 1.69" x 1.69" or 27.8cm x 4.3cm x 4.3cm without ears Weight:
1.262 lbs or .57 kg (including faceplate, ears, and screws) 1.026 lbs or .47 kg (faceplate only)

Services

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.



Accessory Product Details

HP X520 1U Power
Adapter Shelf (J9701A)

Notes

Services

Dimensions: 10.75" x 3.75" x 1.75" or 27.3cm x 9.5cm x 4.4cm Weight:
0.316 lbs or .143 kg

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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