

## Overview

### HP 2520 Switch Series (Retired)

#### Models

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

#### 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 three switches: the HP 2520-8-PoE, 2520-24-PoE, and 2520-8G-PoE Switches. The three 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 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

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- **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

- **Manager and operator privilege levels:** enables read-only (operator) and read-write (manager) access on management

## Overview

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 switch): 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 hardware

### Overview

- **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 switch) 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: <http://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](http://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 z1 Module, HP Threat Management Services z1 Module, HP PCM+ Agent with AllianceONE Services z1 Module, and HP E-MSM765 z1 Mobility Controller. For details, refer to the HP Software License, Warranty, and Support booklet at: <http://www.hp.com/networking/warranty>.

## Configuration

**Build To Order:**

**BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.**

## HP 2520-8-PoE Switch

- 8 autosensing 10/100 ports
- 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or as a SFP slot
- min=0 \ max=2 SFP Transceivers
- 1U - Height

J9137A

See Configuration  
Note:1, 2

## HP 2520-24-PoE Switch

- 24 autosensing 10/100 ports
- 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or as a SFP slot
- min=0 \ max=2 SFP Transceivers
- 1U - Height

J9138A

See Configuration  
Note:1, 2

## HP 2520-8G-PoE Switch

- 8 autosensing 10/100 ports
- 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or as a SFP slot
- min=0 \ max=2 SFP Transceivers
- 1U - Height

J9298A

See Configuration  
Note:1, 2

## Configuration Rules:

Note 1	The following Transceivers install into this switch:	
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X121 1G SFP LC LX Transceiver	J4859C
	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 1G SFP LC LH Transceiver	J4860C
	HP X122 1G SFP LC BX-D Transceiver	J9142B
	HP X122 1G SFP LC BX-U Transceiver	J9143A

Note 2      Localization required. (See Localization Menu for list.)

**Factory Racked Models**

## HP 2520-24-PoE Switch

- 24 autosensing 10/100 ports
- 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or as a SFP slot
- min=0 \ max=2 SFP Transceivers
- 1U - Height

J9138A

See Configuration  
Note:1, 2

## HP 2520-8G-PoE Switch

J9298A

## Configuration

- 8 autosensing 10/100 ports
- 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or as a SFP slot
- min=0 \ max=2 SFP Transceivers
- 1U - Height

See Configuration  
Note:1, 2

### Configuration Rules:

Note 1	The following Transceivers install into this switch:	
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X121 1G SFP LC LX Transceiver	J4859C
	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 1G SFP LC LH Transceiver	J4860C
	HP X122 1G SFP LC BX-D Transceiver	J9142B
	HP X122 1G SFP LC BX-U Transceiver	J9143A

Note 2 If this switch is factory installed in HP Universal Racks, Then the J9583A#0D1 is required.  
EMEA then J9583A#0D1 is required.  
APD, Japan and China then J9583A#0D1 is required.

CLIC Only - Allow the J9583AZ in all regions.

**Enter the following menu selections as integrated to the CTO Model X server above if order is factory built.**

## Transceivers

### SFP Transceivers

HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X111 100M SFP LC FX Transceiver	J9054C
HP X121 1G SFP LC LH Transceiver	J4860C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
HP X112 100M SFP LC BX-D Transceiver	J9099B
HP X112 100M SFP LC BX-U Transceiver	J9100B

## Internal Power Supplies

No Power supplies

## Cables

### Multi-Mode Cables

HP .5m Multi-mode OM3 LC/LC FC Cable	AJ833A
HP 1m Multi-mode OM3 LC/LC FC Cable	AJ834A

## Configuration

HP 2 m Multimode OM3 LC/LC FC Cable	AJ835A
HP 5 m Multimode OM3 LC/LC FC Cable	AJ836A
HP 15 m Multimode OM3 LC/LC FC Cable	AJ837A
HP 30 m Multimode OM3 LC/LC FC Cable	AJ838A
HP 50 m Multimode OM3 LC/LC FC Cable	AJ839A
HP Premier Flex LC/LC OM4 2f 1m Cbl	QK732A
HP Premier Flex LC/LC OM4 2f 2m Cbl	QK733A
HP Premier Flex LC/LC OM4 2f 5m Cbl	QK734A
HP Premier Flex LC/LC OM4 2f 15m Cbl	QK735A
HP Premier Flex LC/LC OM4 2f 30m Cbl	QK736A
HP Premier Flex LC/LC OM4 2f 50m Cbl	QK737A

## Switch Enclosure Options

### Rack Mount Kit

HP X410 1U Univ 4-post Rack Mnt Kit	J9583A See Configuration Note:1, 2
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#### Configuration Rules:

Note 1 If this Mounting Kit is order with #0D1 then it integrates to the HP Rack. (not the switch)

### Cable Guard

HP X510 1U Cable Guard	J9700A See Configuration Note:1
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#### Configuration Rules:

Note 1 This Cable Guard is supported only on J9137A and J9298A.

### Rack Mount Kit

HP X520 1U Power Adapter Shelf	J9701A See Configuration Note:1
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#### Configuration Rules:

Note 1 This Cable Guard is supported only on J9137A and J9298A.

## Technical Specifications

<b>HP 2520-8-PoE Switch</b> (J9137A)	<b>Ports</b>	<p>8 RJ-45 autosensing 10/100 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3af PoE)</p> <p>Media Type: Auto-MDIX</p> <p>Duplex: half or full</p> <p>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)</p> <p>1 RJ-45 serial console port</p>
	<b>Physical characteristics</b>	<p><b>Dimensions</b> 6.28(d) x 10(w) x 1.75(h) in. (15.95 x 25.4 x 4.45 cm) (1U height)</p> <p><b>Weight</b> 3.62 lb. (1.64 kg) including power adapter and power cord</p>
	<b>Memory and processor</b>	<p><b>Processor</b> Freescale PowerPC 8313 @ 266 MHz, 32 MB flash, 128 MB DDR2 SDRAM; packet buffer size: 384 KB dynamically allocated</p>
	<b>Mounting</b>	Mounts in an EIA-standard 19-inch telco rack or equipment cabinet (rack-mounting kit available); horizontal surface mounting; wall mounting
	<b>Performance</b>	<p><b>100 Mb Latency</b> &lt; 1.9 <math>\mu</math>s (LIFO 64-byte packets)</p> <p><b>1000 Mb Latency</b> &lt; 1.5 <math>\mu</math>s (LIFO 64-byte packets)</p> <p><b>Throughput</b> 4.1 million pps</p> <p><b>Switching capacity</b> 5.6 Gbps</p> <p><b>MAC address table size</b> 8000 entries</p>
	<b>Environment</b>	<p><b>Operating temperature</b> 32°F to 113°F (0°C to 45°C)</p> <p><b>Operating relative humidity</b> 15% to 95% @ 104°F (40°C), noncondensing</p> <p><b>Non-operating/Storage temperature</b> -40°F to 158°F (-40°C to 70°C)</p> <p><b>Non-operating/Storage relative humidity</b> 15% to 95% @ 149°F (65°C), noncondensing</p> <p><b>Altitude</b> up to 10,000 ft. (3 km)</p> <p><b>Acoustic</b> Power: 0 dB, Pressure: 0 dB</p>
	<b>Electrical characteristics</b>	<p><b>Description</b> Use only the external power adapter module (5070-6082, PA1 AC adapter) supplied with this product</p> <p><b>Maximum heat dissipation</b> 87 BTU/hr (91.79 kJ/hr)</p> <p><b>Voltage</b> 100-240 VAC</p> <p><b>Current</b> 1.5 A</p> <p><b>Idle power</b> 9.4 W</p> <p><b>Maximum power rating</b> 85.5 W</p> <p><b>PoE power</b> 67 W</p> <p><b>Frequency</b> 50/60 Hz</p> <p><b>Notes</b> 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</p>



## Technical Specifications

		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. <b>Achieved Miercom Certified Green Award</b>
<b>Safety</b>		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
<b>Emissions</b>		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
<b>Immunity</b>	<b>Generic</b>	EN 55024, CISPR 24
	<b>EN</b>	EN 55024, CISPR 24
	<b>ESD</b>	IEC 61000-4-2
	<b>Radiated</b>	IEC 61000-4-3
	<b>EFT/Burst</b>	IEC 61000-4-4
	<b>Surge</b>	IEC 61000-4-5
	<b>Conducted</b>	IEC 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8
	<b>Voltage dips and interruptions</b>	IEC 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
	<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3
<b>Management</b>		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
<b>Notes</b>		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.
<b>Services</b>		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)

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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](http://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.

<b>HP 2520-24-PoE Switch</b> (J9138A)	<b>Ports</b>	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
	<b>Physical characteristics</b>	<b>Dimensions</b> 9.69(d) x 17.44(w) x 1.75(h) in. (24.61 x 44.3 x 4.45 cm) (1U height)
		<b>Weight</b> 7.1 lb. (3.22 kg)
	<b>Memory and processor</b>	<b>Processor</b> Freescale PowerPC 8313 @ 266 MHz, 32 MB flash, 128 MB DDR2 SDRAM; packet buffer size: 384 KB dynamically allocated
	<b>Mounting</b>	Mounts in an EIA-standard 19-inch telco rack or equipment cabinet (rack-mounting kit available); horizontal surface mounting; wall mounting
	<b>Performance</b>	<b>100 Mb Latency</b> < 1.9 $\mu$ s (LIFO 64-byte packets)
		<b>1000 Mb Latency</b> < 1.5 $\mu$ s (LIFO 64-byte packets)
		<b>Throughput</b> 6.2 million pps
		<b>Switching capacity</b> 12.8 Gbps
		<b>MAC address table size</b> 8000 entries
	<b>Environment</b>	<b>Operating temperature</b> 32°F to 113°F (0°C to 50°C)

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	<b>Operating relative humidity</b>	15% to 95% @ 104°F (40°C), non-condensing
	<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
	<b>Non-operating/Storage relative humidity</b>	15% to 95% @ 149°F (65°C), non-condensing
	<b>Altitude</b>	up to 10,000 ft. (3 km)
	<b>Acoustic</b>	Power: 27.9 dB, Pressure: 36.0 dB; DIN 45635T.19 per ISO 7779
<b>Electrical characteristics</b>	<b>Maximum heat dissipation</b>	208 BTU/hr (219.44 kJ/hr)
	<b>Voltage</b>	100-127 / 200-240 VAC
	<b>Current</b>	3.3/1.6 A
	<b>Idle power</b>	21.6 W
	<b>Maximum power rating</b>	257 W
	<b>PoE power</b>	195 W
	<b>Frequency</b>	50/60 Hz
	<b>Notes</b>	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. <a href="#">Achieved Miercom Certified Green Award</a>
<b>Safety</b>		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
<b>Emissions</b>		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
<b>Immunity</b>	<b>Generic</b>	EN 55024, CISPR 24
	<b>EN</b>	EN 55024, CISPR 24
	<b>ESD</b>	IEC 61000-4-2
	<b>Radiated</b>	IEC 61000-4-3
	<b>EFT/Burst</b>	IEC 61000-4-4
	<b>Surge</b>	IEC 61000-4-5
	<b>Conducted</b>	IEC 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8
	<b>Voltage dips and interruptions</b>	IEC 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
	<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3
<b>Management</b>		HP PCM+; HP PCM; command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C); IEEE 802.3 Ethernet MIB;

## Technical Specifications

	Repeater MIB; Ethernet Interface MIB
<b>Notes</b>	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.
<b>Services</b>	<p>3-year, 4-hour onsite, 13x5 coverage for hardware (U4683E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware (U4835E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (U6321E)</p> <p>3-year, 24x7 SW phone support, software updates (UF792E)</p> <p>Installation with minimum configuration, system-based pricing (U4826E)</p> <p>Installation with HP-provided configuration, system-based pricing (U4830E)</p> <p>4-year, 4-hour onsite, 13x5 coverage for hardware (UR948E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware (UR949E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR950E)</p> <p>4-year, 24x7 SW phone support, software updates (UR951E)</p> <p>5-year, 4-hour onsite, 13x5 coverage for hardware (UR952E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware (UR953E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR954E)</p> <p>5-year, 24x7 SW phone support, software updates (UR955E)</p> <p>3 Yr 6 hr Call-to-Repair Onsite (UW368E)</p> <p>4 Yr 6 hr Call-to-Repair Onsite (UW369E)</p> <p>5 Yr 6 hr Call-to-Repair Onsite (UW370E)</p> <p>1-year, 6 hour Call-To-Repair Onsite for hardware (HR853E)</p> <p>1-year, 24x7 software phone support, software updates (HR852E)</p> <p>1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS554E)</p> <p>1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS555E)</p> <p>3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS556E)</p> <p>3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS557E)</p> <p>4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS558E)</p> <p>4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS559E)</p> <p>5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS560E)</p> <p>5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS561E)</p>
	<p>Refer to the HP website at: <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>

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**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

## Technical Specifications

		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
<b>Physical characteristics</b>	<b>Dimensions</b>	6.28(d) x 10(w) x 1.75(h) in. (15.95 x 25.4 x 4.45 cm) (1U height)
	<b>Weight</b>	3.66 lb. (1.66 kg) including power adapter and power cord
<b>Memory and processor</b>	<b>Processor</b>	Freescape PowerPC 8313 @ 266 MHz, 32 MB flash, 128 MB DDR2 SDRAM; packet buffer size: 512 KB dynamically allocated
<b>Mounting</b>		Mounts in an EIA-standard 19-inch telco rack or equipment cabinet (rack-mounting kit available); horizontal surface mounting; wall mounting
<b>Performance</b>	<b>100 Mb Latency</b>	< 5.3 $\mu$ s (LIFO 64-byte packets)
	<b>1000 Mb Latency</b>	< 2.7 $\mu$ s (LIFO 64-byte packets)
	<b>Throughput</b>	14.8 million pps
	<b>Switching capacity</b>	20 Gbps
	<b>MAC address table size</b>	8000 entries
<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)
	<b>Operating relative humidity</b>	15% to 95% @ 104°F (40°C), non-condensing
	<b>Non-operating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
	<b>Non-operating/Storage relative humidity</b>	15% to 95% @ 149°F (65°C), non-condensing
	<b>Altitude</b>	up to 10,000 ft. (3 km)
	<b>Acoustic</b>	Power: 0 dB, Pressure: 0 dB
<b>Electrical characteristics</b>	<b>Description</b>	Use only the external power adapter module (5070-6082, PA1 AC adapter) supplied with this product
	<b>Maximum heat dissipation</b>	89 BTU/hr (93.9 kJ/hr)
	<b>Voltage</b>	100-240 VAC
	<b>Current</b>	1.5 A
	<b>Idle power</b>	9.3 W
	<b>Maximum power rating</b>	86.2 W
	<b>PoE power</b>	67 W
	<b>Frequency</b>	50/60 Hz
	<b>Notes</b>	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

## Technical Specifications

		to all PoE ports. Achieved Miercom Certified Green Award
<b>Safety</b>	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	
<b>Emissions</b>	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	
<b>Immunity</b>	<b>Generic</b>	EN 55024, CISPR 24
	<b>EN</b>	EN 55024, CISPR 24
	<b>ESD</b>	IEC 61000-4-2
	<b>Radiated</b>	IEC 61000-4-3
	<b>EFT/Burst</b>	IEC 61000-4-4
	<b>Surge</b>	IEC 61000-4-5
	<b>Conducted</b>	IEC 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8
	<b>Voltage dips and interruptions</b>	IEC 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
	<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3
<b>Management</b>	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	
<b>Notes</b>	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.	
<b>Services</b>	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)	

## Technical Specifications

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](http://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 100BASE-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

## Technical Specifications

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

<b>Transceivers</b>	<a href="#">HP X111 100M SFP LC FX Transceiver</a>	J9054C
	<a href="#">HP X112 100M SFP LC BX-D Transceiver</a>	J9099B
	<a href="#">HP X112 100M SFP LC BX-U Transceiver</a>	J9100B
	<a href="#">HP X121 1G SFP LC SX Transceiver</a>	J4858C
	<a href="#">HP X121 1G SFP LC LX Transceiver</a>	J4859C
	<a href="#">HP X121 1G SFP LC LH Transceiver</a>	J4860C
	<a href="#">HP X122 1G SFP LC BX-D Transceiver</a>	J9142B
	<a href="#">HP X122 1G SFP LC BX-U Transceiver</a>	J9143B
<b>Cables</b>	HP LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable	AJ833A
	HP LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable	AJ834A
	HP LC to LC Multi-mode OM3 2-Fiber 2.0m 1-Pack Fiber Optic Cable	AJ835A
	HP LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable	AJ836A
	HP LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable	AJ837A
	HP LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable	AJ838A
	HP LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable	AJ839A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A
<b>Mounting Kit</b>	<a href="#">HP X410 1U Universal 4-post Rack Mounting Kit</a>	J9583A
<b>HP 2520-8-PoE Switch (J9137A)</b>	HP X510 1U Cable Guard	J9700A
	HP X520 1U Power Adapter Shelf	J9701A
<b>HP 2520-8G-PoE Switch (J9298A)</b>	HP X510 1U Cable Guard	J9700A
	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.

<b>HP X111 100M SFP LC FX Transceiver (J9054C)</b>	<b>Ports</b>	1 LC 100BASE-FX port (IEEE 802.3u Type 100BASE-FX); Duplex: half or full	
	<b>Physical characteristics</b>	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)	
	<b>Environment</b>	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)	
	<b>Cabling</b>	Type: <ul style="list-style-type: none"> <li>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</li> </ul> <p>Maximum distance:</p> <ul style="list-style-type: none"> <li>2 km (full duplex) or 412 m (half duplex)</li> </ul>	
	<b>Notes</b>	Transmitter wavelength: 1310nm Power consumption is 1.1 watt maximum.	
	<b>Services</b>	For supported platforms and minimum software requirements to support this product, see the document titled "Support for the J9054C 100-FX SFP-LC Transceiver" on the "HP Mini-GBICs and SFPs" Manuals Web page. Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> 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.	
<b>HP X112 100M SFP LC BX-D Transceiver (J9099B)</b>	<b>Ports</b>	1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-D); Duplex: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	2.7(d) x 0.55(w) x 0.48(h) in. (6.86 x 1.39 x 1.22 cm)
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.	<b>Environment</b>	<b>Weight</b>	0.04 lb. (0.03 kg)
		<b>Operating temperature</b>	32°F to 158°F (0°C to 70°C)
		<b>Operating relative humidity</b>	0% to 95%, noncondensing
		<b>Nonoperating/Storage temperature</b>	-40°F to 185°F (-40°C to 85°C)
	<b>Cabling</b>	Type: <p>Single-mode fiber optic, complying with ITU-T G.652;</p> <p>Maximum distance:</p> <ul style="list-style-type: none"> <li>0.5-10,000 m (single-mode fiber)</li> </ul>	
	<b>Notes</b>	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.)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.
<b>HP X112 100M SFP LC BX-U Transceiver (J9100B)</b>	<b>Ports</b>	1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-U); Duplex: full only
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.	<b>Physical characteristics</b>	<b>Dimensions</b> 2.7(d) x 0.55(w) x 0.48(h) in. (6.86 x 1.39 x 1.22 cm)
	<b>Environment</b>	<b>Weight</b> 0.07 lb. (.03 kg) <b>Operating temperature</b> 32°F to 158°F (0°C to 70°C) <b>Operating relative humidity</b> 0% to 95%, noncondensing <b>Nonoperating/Storage temperature</b> -40°F to 185°F (-40°C to 85°C)
	<b>Cabling</b>	Type:  Single-mode fiber optic, complying with ITU-T G.652;  Maximum distance: <ul style="list-style-type: none"><li>0.5-10,000 m (single-mode fiber)</li></ul>
	<b>Notes</b>	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.
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> 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.

<b>HP X121 1G SFP LC SX Transceiver (J4858C)</b>	<b>Ports</b>	1 LC 1000BASE-SX port; Duplex: full only
A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit	<b>Physical characteristics</b>	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
	<b>Environment</b>	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)

## Accessory Product Details

solution up to 550 m on multimode fiber.	<b>Electrical characteristics</b>	Altitude: up to 10,000 ft. (3 km) Power consumption typical: 0.4 W Power consumption maximum: 0.7 W
	<b>Cabling</b>	Type: <ul style="list-style-type: none"> <li>62.5/125 <math>\mu\text{m}</math> or 50/125 <math>\mu\text{m}</math> (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;</li> </ul> <p>Maximum distance:</p> <ul style="list-style-type: none"> <li>2-220 m (62.5 <math>\mu\text{m}</math> core diameter, 160 MHz*km bandwidth)</li> <li>2-275 m (62.5 <math>\mu\text{m}</math> core diameter, 200 MHz*km bandwidth)</li> <li>2-500 m (50 <math>\mu\text{m}</math> core diameter, 400 MHz*km bandwidth)</li> <li>2-550 m (50 <math>\mu\text{m}</math> core diameter, 500 MHz*km bandwidth)</li> </ul> <p>Cable length: 2-550m Fiber type: Multi Mode</p>
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.
<b>HP X121 1G SFP LC LX Transceiver (J4859C)</b>	<b>Ports</b> <b>Physical characteristics</b>	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.	<b>Environment</b>	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)
	<b>Cabling</b>	Type: <ul style="list-style-type: none"> <li>Either single mode or multimode; 62.5/125 <math>\mu\text{m}</math> or 50/125 <math>\mu\text{m}</math> (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;</li> </ul> <p>Maximum distance:</p> <ul style="list-style-type: none"> <li>2-550 m (multimode 62.5 <math>\mu\text{m}</math> core diameter, 500 MHz*km bandwidth)</li> <li>2-550 m (multimode 50 <math>\mu\text{m}</math> core diameter, 400 MHz*km bandwidth)</li> <li>2-550 m (multimode 50 <math>\mu\text{m}</math> core diameter, 500 MHz*km bandwidth)</li> <li>2-10,000 m (single-mode fiber)</li> </ul>
	<b>Notes</b>	A mode conditioning patch cord may be needed in some multimode fiber installations. Wavelength: 1310nm

## Accessory Product Details

	<b>Services</b>	Power Consumption: < 500mW Typical Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> 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.
<b>HP X121 1G SFP LC LH Transceiver (J4860C)</b>	<b>Ports</b>	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics); Duplex: full only
	<b>Physical characteristics</b>	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)
A small form-factor pluggable (SFP) Gigabit LH transceiver that provides a full-duplex Gigabit solution up to 70 km on single-mode fiber.	<b>Environment</b>	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)
	<b>Cabling</b>	Cable type: <ul style="list-style-type: none"> <li>Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1;</li> </ul> <p>Maximum distance:</p> <ul style="list-style-type: none"> <li>10-70,000 m (single-mode fiber)</li> </ul>
	<b>Notes</b>	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.
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.
<b>HP X122 1G SFP LC BX-D Transceiver (J9142B)</b>	<b>Ports</b>	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-D); Duplex: full only
	<b>Physical characteristics</b>	<b>Dimensions</b> 2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm) <b>Weight</b> 0.04 lb. (0.02 kg)
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.	<b>Environment</b>	<b>Operating temperature</b> 32°F to 158°F (0°C to 70°C) <b>Operating relative humidity</b> 0% to 95%, non-condensing <b>Non-operating/Storage temperature</b> -40°F to 185°F -40°C to 85°C
	<b>Cabling</b>	Type: Single-mode fiber optic, complying with ITU-T G.652;  Maximum distance: <ul style="list-style-type: none"> <li>0.5-10,000 m (single-mode fiber)</li> </ul>
	<b>Notes</b>	Transmit wavelength: 1490 nm. Receive wavelength: 1310 nm.

## Accessory Product Details

		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.)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> 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.
<b>HP X122 1G SFP LC BX-U Transceiver (J9143B)</b>	<b>Ports</b>	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only
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.	<b>Physical characteristics</b>	<b>Dimensions</b> 2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)
	<b>Environment</b>	<b>Weight</b> 0.04 lb. (0.02 kg) <b>Operating temperature</b> 32°F to 158°F (0°C to 70°C) <b>Operating relative humidity</b> 0% to 95%, non-condensing <b>Non-operating/Storage temperature</b> -40°F to 185°F -40°C to 85°C
	<b>Cabling</b>	Type: Single-mode fiber optic, complying with ITU-T G.652;  Maximum distance: <ul style="list-style-type: none"><li>0.5-10,000 m (single-mode fiber)</li></ul>
	<b>Notes</b>	Transmit wavelength: 1310 nm. Receive wavelength: 1490 nm. 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.
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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)**

<b>Cabling</b>	<b>Cable type:</b> 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
	<b>Maximum distance:</b> 10Gbps Transfer Rate (Ethernet): 300m
<b>Notes</b>	Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 µm

## Accessory Product Details

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: 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 50/125um 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 <http://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 Multimode OM3 LC/LC Optical Cable**  
(AJ834A)

**Cabling****Cable type:**

50/125  $\mu\text{m}$  (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 um 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 50/125um 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.

## Accessory Product Details

- 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](http://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 2 m Multimode OM3  
LC/LC Optical Cable  
(AJ835A)**
**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;

**Maximum distance:**

10Gbps Transfer Rate (Ethernet): 300m

**Notes**

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 ± 3.0µm Cladding diameter: 125 ± 2.0µm Coating diameter: 245 ± 10µm
- 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 50/125µm 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 <http://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 Multimode OM3  
LC/LC Optical Cable  
(AJ836A)**
**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



## Accessory Product Details

distances of up to 300 m;

**Notes****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  $\mu$ m fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter:  $50 \pm 3.0\mu\text{m}$  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 $\mu$ 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](http://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 15 m Multimode OM3 LC/LC Optical Cable**  
(AJ837A)

**Cabling****Cable type:**

50/125  $\mu$ 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;

**Notes****Maximum distance:**

10Gbps Transfer Rate (Ethernet): 300m

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

- Dimensions: Core diameter:  $50 \pm 3.0\mu\text{m}$  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.

## Accessory Product Details

- CABLE: The cable is duplex zipcord graded index 50/125um 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: <http://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 Multimode OM3 LC/LC Optical Cable**  
(AJ838A)

**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;

**Maximum distance:**

10Gbps Transfer Rate (Ethernet): 300m

**Notes**

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

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- 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 50/125um 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](http://www.hp.com/networking/services) for details on the service-level descriptions and product numbers. For details about

## Accessory Product Details

services and response times in your area, please contact your local HP sales office.

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

## Cabling

**Cable type:**

50/125  $\mu\text{m}$  (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  $\mu\text{m}$  fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter:  $50 \pm 3.0\mu\text{m}$  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 50/125um 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: <http://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 Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable**  
(QK732A)

## 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  $\pm 3\mu\text{m}$ , Cladding diameter: 125um  $\pm 2\mu\text{m}$ ; Coating diameter:  $245 \pm 10\mu\text{m}$
- 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

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		<p>white stripe that runs the entire length of the cable.</p> <ul style="list-style-type: none"> <li>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul> <p><b>Services</b></p> <p>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>
<p><b>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable (QK733A)</b></p>	<p><b>Notes</b></p> <p>Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.</p> <ul style="list-style-type: none"> <li>• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>• Jacket Color: Blue</li> <li>• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>• Boot Color: White</li> <li>• 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.</li> <li>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul> <p><b>Services</b></p> <p>Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>	
<p><b>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable (QK734A)</b></p>	<p><b>Notes</b></p> <p>Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.</p> <ul style="list-style-type: none"> <li>• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>• Jacket Color: Blue</li> <li>• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>• Boot Color: White</li> <li>• 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.</li> <li>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul> <p><b>Services</b></p> <p>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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</p>	

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		sales office.
<b>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable (QK735A)</b>	<b>Notes</b>	<p>Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.</p> <ul style="list-style-type: none"> <li>• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>• Jacket Color: Blue</li> <li>• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>• Boot Color: White</li> <li>• 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.</li> <li>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul>
	<b>Services</b>	<p>Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>
<b>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable (QK736A)</b>	<b>Notes</b>	<p>Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.</p> <ul style="list-style-type: none"> <li>• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>• Jacket Color: Blue</li> <li>• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>• Boot Color: White</li> <li>• 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.</li> <li>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul>
	<b>Services</b>	<p>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>
<b>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable (QK737A)</b>	<b>Notes</b>	<p>Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.</p> <ul style="list-style-type: none"> <li>• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> </ul>

## Accessory Product Details

	<ul style="list-style-type: none"> <li>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>• Jacket Color: Blue</li> <li>• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>• Boot Color: White</li> <li>• 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.</li> <li>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul>
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> 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)**

<b>Notes</b>	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.
<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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)**

<b>Notes</b>	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)
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> 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 X520 1U Power Adapter Shelf (J9701A)**

<b>Notes</b>	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
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.

# QuickSpecs

## Summary of Changes

Date	Version History	Action	Description of Change:
24-Jul-2015	From Version 15 to 16	Changed	This QuickSpecs was retired; no further updates will be made.
02-Dec-2014	From Version 14 to 15	Changed	SKU J9054B changes to J9054C
28-May-2014	From Version 13 to 14	Changed	Updated the number of switches supported for the HP 2520-8-PoE Switch in the Build to Order section.
17-Jan-2014	From Version 12 to 13	Changed	Factory Racked Models and Switch Enclosure Options were revised.
12-Nov-2013	From Version 11 to 12	Added	Configuration was added.
06-Sep-2013	From Version 10 to 11	Removed	Removed the 2520-24G-PoE Switch.
10-Jun-2013	From Version 9 to 10	Added	OM4 cables were added.
08-Feb-2012	From Version 8 to 9	Changed	Updated the Warranty and Support section.
19-Jan-2012	From Version 7 to 8	Changed	Updated the Warranty and Support section.
26-Sep-2011	From Version 5 to 7	Changed	The QuickSpecs was completely revised, including changing the title.
09-May-2011	From Version 4 to 5	Changed	The Accessories section was revised.
15-Apr-2011	From Version 3 to 4	Removed	Removed the remaining mentions of ProCurve from the QS.
10-Sep-2010	From Version 2 to 3	Changed	The QuickSpecs was completely revised, including changing the title.
10-Nov-2009	From Version 1 to 2	Changed	Updated the Introduction and Key features sections.

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