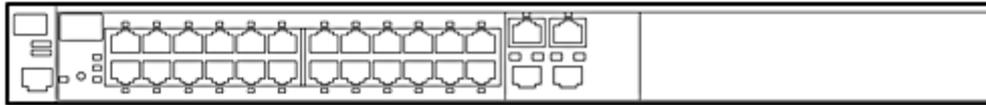


Overview

HP 2510 Switch Series (Retired)



HP 2510 Switch Series

Models

HP 2510-48 Switch

J9020A

HP 2510-24 Switch

J9019B

Key features

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

Product overview

Designed to provide essential solutions to small and medium businesses, the HP 2510 Switch Series consists of two Layer 2-managed switches that provide reliable 10/100 connectivity. Building off of the popularity of the HP 2510-24 Switch, a 24-port 10/100 switch with two dual-personality ports, the 2510 switch series has expanded to include a higher-density HP 2510-48 Switch, with 48 10/100 ports and four Gigabit Ethernet uplinks.

Features and Benefits

Quality of Service (QoS)

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

Connectivity

- **10/100 and 10/100/1000 connectivity:** provides customers with the choice of selecting the network connectivity speed that best meets their needs, with a consistent user experience
- **Gigabit uplinks:**
 - 2510-24 and 2510-48 switches: the 2510-24 switch has two dual-personality ports for either 10/100/1000 or mini-GBIC connectivity; the 2510-48 switch has four Gigabit Ethernet ports, which can all be used concurrently with two 10/100/1000 ports and two open mini-GBIC slots
- **HP Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 copper ports

Resiliency and high availability

- **IEEE 802.1s Multiple Spanning Tree:** provides high link availability in multiple VLAN environments by allowing multiple spanning trees; provides legacy support for IEEE 802.1d and IEEE 802.1w
- **IEEE 802.3ad Link Aggregation Control Protocol (LACP) and HP trunking:**
 - 2510-24 switch supports up to two 10/100 trunks each with four links/ports plus one Gigabit Ethernet trunk
 - 2510-48 switch supports up to 24 trunks with eight links/ports per trunk

Overview

Manageability

- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** provides automated device discovery protocol for easy mapping by network management applications
- **RMON:** provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Full-featured console:** provides complete control of the switch with a familiar command-line interface (CLI)
- **Web interface:** allows configuration of the switch from any Web browser on the network
- **Single IP Address Management:** provides single IP address management for a virtual stack of up to 16 switches
- **Find-Fix-Inform:** finds and fixes common network problems automatically, then informs administrator
- **Dual flash images:** provides independent primary and secondary operating system files for backup while upgrading
- **Software updates:** free downloads from the Web
- **Friendly port names:** allow assignment of descriptive names to ports

Layer 2 switching

- **VLAN support and tagging:** support up to 64 port-based VLANs and dynamic configuration of IEEE 802.1Q VLAN tagging, providing security between workgroups
- **GARP VLAN Registration Protocol:** allows automatic learning and dynamic assignment of VLANs
- **Jumbo packet support:** supports up to 9216-byte frame size to improve the performance of large data transfers (2510G models only)

Security

- **Protected ports:** provides increased security by allowing specified ports to be isolated from all other ports on the switch; the protected port or ports can communicate only with the uplinks or shared resources
- **Multiple user authentication methods:**
 - IEEE 802.1X: is an industry-standard method of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
 - Web-based authentication: similar to IEEE 802.1X, it provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant
 - MAC-based authentication: client is authenticated with the RADIUS server based on the client's MAC address
- **Guest VLAN:** isolates guest and unauthorized user traffic to a separate VLAN
- **Port security:** allows access only to specified MAC addresses, which can be learned or specified by the administrator
- **MAC address lockout:** prevents particular configured MAC addresses from connecting to the network
- **Multiple IEEE 802.1X users per port:** provides authentication of up to two IEEE 802.1X users per port; prevents user "piggybacking" on another user's IEEE 802.1X authentication
- **STP BPDU port protection:** blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **Secure management access:** securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- **TACACS+:** eases switch management security administration by using a password authentication server

Convergence

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

Flexibility

- **Fanless design:** reduces noise and distractions when deployed in open spaces (2510-24 switch only)
- **Multiple port density and connectivity speed options:** provide choice and flexibility with a consistent user experience

Warranty and support

Overview

- **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 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 MSM765 zl 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 2510-24 Switch

- 24 autosensing 10/100 ports
- 2 RJ-45 10/100/1000 port or an open mini-GBIC slot
- min=0 \ max=2 SFP Transceivers
- 1U - Height

J9019B

See Configuration
Note:1, 2

HP 2510-48 Switch

- 48 autosensing 10/100 ports
- 2 SFP 100/1000 Mbps ports
- min=0 \ max=2 SFP Transceivers
- 1U - Height

J9020A

See Configuration
Note:1, 2

HP 2510-48G Switch

- 44 autosensing 10/100 ports
- 4 SFP 100/1000 Mbps ports
- min=0 \ max=4 SFP Transceivers
- 1U - Height

J9280A

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 X121 1G SFP RJ45 T Transceiver	J8177C
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 2510-24 Switch

- 24 autosensing 10/100 ports
- 2 RJ-45 10/100/1000 port or an open mini-GBIC slot
- min=0 \ max=2 SFP Transceivers
- 1U - Height

J9019B

See Configuration
Note:1, 2

Configuration

HP 2510-24 Factory Integrated Switch	J9019BZ See Configuration Note:1, 2
HP 2510-48 Switch <ul style="list-style-type: none"> • 48 autosensing 10/100 ports • 2 SFP 100/1000 Mbps ports • min=0 \ max=2 SFP Transceivers • 1U - Height 	J9020A See Configuration Note:1, 2
HP 2510-48 Factory Integrated Switch	J9020AZ See Configuration Note:1, 2
HP 2510-48G Switch <ul style="list-style-type: none"> • 44 autosensing 10/100 ports • 4 SFP 100/1000 Mbps ports • min=0 \ max=4 SFP Transceivers • 1U - Height 	J9280A See Configuration Note:1, 2
HP E2510-48G Rack Shippable Switch	J9280AZ 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 X121 1G SFP RJ45 T Transceiver	J8177C
	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 3 If this switch is factory installed in HP Universal Racks, Then the J9583A#0D1 or J9583AZ is required.
AMS then J9583AZ 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

Configuration

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 X121 1G SFP RJ45 T Transceiver	J8177C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
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
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
HP X410 1U Integ Univ 4-post Rck Mnt Kit	J9583AZ See Configuration Note:1

Configuration Rules:

Note 1 If this Mounting Kit is order with #OD1 or Z then it integrates to the HP Universal Rack. (not the switch)

Configuration

Technical Specifications

HP 2510-48 Switch (J9020A)	Ports	<p>48 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Media Type: Auto-MDIX; Duplex: half or full</p> <p>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</p> <p>2 open mini-GBIC (SFP) slots</p> <p>1 RJ-45 serial console port</p>
	Physical characteristics	<p>Dimensions 9.3(d) x 17.42(w) x 1.73(h) in. (23.62 x 44.25 x 4.39 cm) (1U height)</p> <p>Weight 6.05 lb. (2.74 kg), Fully loaded</p>
	Memory and processor	<p>Processor MIPS 32 @ 300 MHz, 16 MB flash, 128 MB SDRAM; packet buffer size: 512 KB</p>
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Performance	<p>100 Mb Latency < 4.9 μs (64-byte packets)</p> <p>1000 MB latency < 2.9 μs (64-byte packets)</p> <p>Throughput up to 13 million pps (64-byte packets)</p> <p>Switching capacity 17.6 Gbps</p> <p>MAC address table size 8000 entries</p>
	Environment	<p>Operating temperature 32°F to 113°F (0°C to 45°C)</p> <p>Operating relative humidity 15% to 95% @ 104°F (40°C), noncondensing</p> <p>Nonoperating/ Storage temperature -40°F to 158°F (-40°C to 70°C)</p> <p>Nonoperating/ Storage relative humidity 15% to 90% @ 149°F (65°C), noncondensing</p> <p>Altitude up to 15,000 ft. (4.6 km)</p> <p>Acoustic Power: 43.6 dB; DIN 45635T.19 per ISO 7779</p>
	Electrical characteristics	<p>Maximum heat dissipation 92 BTU/hr (97 kJ/hr)</p> <p>Voltage 100-127/200-240 VAC</p> <p>Current 1.2/0.7 A</p> <p>Maximum power rating 27 W</p> <p>Frequency 50/60 Hz</p> <p>Notes Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.</p>
	Safety	cUL (CSA 22.2 No. 60950); UL 60950-1; IEC 60950; EN 60950
	Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3
	Immunity	<p>Generic EN 55024, CISPR 24</p> <p>ESD IEC 61000-4-2</p> <p>Radiated IEC 61000-4-3</p>

Technical Specifications

	EFT/Burst	IEC 61000-4-4
	Surge	IEC 61000-4-5
	Conducted	IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	IEC 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM; command-line interface; Web browser; out-of-band management	
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ending with the letter "B" or later, e.g., J4858B, J4859C) are required.	
Services	<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>1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR849E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR850E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR851E)</p> <p>Installation with minimum configuration, system-based pricing (U4826E)</p> <p>Installation with HP-provided configuration, system-based pricing (U4830E)</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</p>	

Technical Specifications

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 2510-24 Switch (J9019B)	Ports	24 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Media Type: Auto-MDIX; Duplex: half or full 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or an open mini-GBIC slot (for use with mini-GBIC transceivers)	
	Physical characteristics	Dimensions	9.3(d) x 17.42(w) x 1.73(h) in. (23.62 x 44.25 x 4.39 cm) (1U height)
		Weight	4.89 lb. (2.22 kg), Fully loaded
	Memory and processor	Processor	MIPS 32 @ 264 MHz, 8 MB flash, 64 MB SDRAM; packet buffer size: 384 KB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance	100 Mb Latency	< 4.9 μ s (64-byte packets)
		1000 MB latency	< 2.6 μ s (64-byte packets)
		Throughput	up to 6.5 million pps (64-byte packets)
		Switching capacity	8.8 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
		Nonoperating/ Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	15% to 95% @ 149°F (65°C), noncondensing
		Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 0 dB no fan	
	Electrical characteristics	Maximum heat dissipation	68 BTU/hr (71.74 kJ/hr)
		Voltage	100-127/200-240 VAC
		Current	0.7/0.4 A
		Maximum power rating	20 W
		Frequency	50/60 Hz
	Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	
	Safety	cUL (CSA 22.2 No. 60950); UL 60950-1; IEC 60950; EN 60950	
	Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3	
	Immunity	Generic	EN 55024, CISPR 24

Technical Specifications

	ESD	IEC 61000-4-2
	Radiated	IEC 61000-4-3
	EFT/Burst	IEC 61000-4-4
	Surge	IEC 61000-4-5
	Conducted	IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	IEC 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM; command-line interface; Web browser; out-of-band management	
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ending with the letter "B" or later, e.g., J4858B, J4859C) are required.	
Services	<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>1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR849E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR850E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR851E)</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</p> <p>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</p>	

Technical Specifications

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: <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)

Device management

HTML and telnet management

General protocols

IEEE 802.1p Priority

IEEE 802.1Q VLANs

IEEE 802.1s Multiple Spanning Trees

IEEE 802.3ad Link Aggregation Control Protocol (LACP)

IEEE 802.3x Flow Control

RFC 768 UDP

RFC 783 TFTP Protocol (revision 2)

RFC 792 ICMP

RFC 793 TCP

RFC 826 ARP

RFC 854 TELNET

RFC 951 BOOTP

RFC 1542 BOOTP Extensions

RFC 2030 Simple Network Time Protocol (SNTP) v4

IP multicast

RFC 3376 IGMPv3

MIBs

RFC 1213 MIB II

RFC 1493 Bridge MIB

RFC 1573 SNMP MIB II

RFC 2021 RMONv2 MIB

RFC 2096 IP Forwarding Table MIB

RFC 2613 SMON MIB

RFC 2618 RADIUS Client MIB

RFC 2620 RADIUS Accounting MIB

RFC 2665 Ethernet-Like-MIB

RFC 2668 802.3 MAU MIB

RFC 2674 802.1p and IEEE 802.1Q Bridge MIB

RFC 2737 Entity MIB (Version 2)

RFC 2863 The Interfaces Group MIB

Technical Specifications

RFC 3418 MIB for SNMPv3

Network management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

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

SNMPv1/v2c/v3

Security

IEEE 802.1X Port Based Network Access Control

RFC 1492 TACACS+

RFC 2138 RADIUS Authentication

RFC 2866 RADIUS Accounting

Secure Sockets Layer (SSL)

SSHv1/SSHv2 Secure Shell

Accessories

HP 2510 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 1G SFP LC LH Transceiver	J4860C
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X121 1G SFP LC LX Transceiver	J4859C
	HP X121 1G SFP RJ45 T Transceiver	J8177C
	HP X122 1G SFP LC BX-D Transceiver	J9142B
	HP X122 1G SFP LC BX-U Transceiver	J9143B
Cables	HP 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	
Mounting Kit	HP X410 1U Universal 4-post Rack Mounting Kit	J9583A
HP 2510-48 Switch (J9020A)	HP X121 1G SFP RJ45 T Transceiver	J8177C

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 Transceiver (J9054C)	Ports 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)
HP X111 100M SFP LC FX Transceiver: An SFP format 100-megabit transceiver with LC connectors using FX technology.	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	Cable type: 62.5/125 im or 50/125 im (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. 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 "ProCurve Mini-GBICs and SFPs" Manuals Web page.
	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 X112 100M SFP LC BX-D Transceiver (J9099B)	Ports	1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-D); Duplex: full only
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.	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	0.04 lb. (0.03 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	Transmit wavelength: 1550 nm. Receive wavelength: 1310 nm. 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-

Accessory Product Details

		<p>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.)</p>
	Services	<p>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.</p>

<p>HP X112 100M SFP LC BX-U Transceiver (J9100B)</p> <p>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.</p>	<p>Ports</p> <p>1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-U); Duplex: full only</p>	
	Physical characteristics	<p>Dimensions 2.7(d) x 0.55(w) x 0.48(h) in. (6.86 x 1.39 x 1.22 cm)</p> <p>Weight 0.07 lb. (.03 kg)</p>
	Environment	<p>Operating temperature 32°F to 158°F (0°C to 70°C)</p> <p>Operating relative humidity 0% to 95%, noncondensing</p> <p>Nonoperating/Storage temperature -40°F to 185°F (-40°C to 85°C)</p>
	Cabling	<p>Type:</p> <p>Single-mode fiber optic, complying with ITU-T G.652;</p> <p>Maximum distance:</p> <ul style="list-style-type: none"> • 0.5-10,000 m (single-mode fiber)
	Notes	<p>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.</p> <p>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.)</p> <p>Transmit wavelength: 1310 nm. Receive wavelength: 1550 nm.</p> <p>Power consumption is 1.1 watts maximum.</p>
	Services	<p>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.</p>

<p>HP X121 1G SFP LC LH Transceiver (J4860C)</p> <p>A small form-factor pluggable (SFP) Gigabit LH transceiver that provides a full-duplex Gigabit solution up to 70 km on single-mode fiber.</p>	<p>Ports</p> <p>1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics); Duplex: full only</p>	
	Physical characteristics	<p>Dimensions: 2.17(d) x 0.60(w) x 0.46(h) in. (5.5 x 1.53 x 1.18 cm)</p> <p>Weight: 0.04 lb. (0.02 kg)</p>
	Environment	<p>Operating temperature: -40°F to 185°F (-40°C to 85°C)</p> <p>Operating relative humidity: 0% to 95% @ 77°F (25°C), noncondensing</p> <p>Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C)</p> <p>Altitude: up to 10,000 ft. (3 km)</p>
	Cabling	<p>Cable type:</p> <ul style="list-style-type: none"> • Low metal content, single-mode fiber-optic, complying with ITU-T

Accessory Product Details

G.652 and ISO/IEC 793-2 Type B1;

Maximum distance:

- 10-70,000 m (single-mode fiber)

Notes

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.

HP X121 1G SFP LC SX Transceiver (J4858C)

A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550 m on multimode fiber.

Ports

1 LC 1000BASE-SX port; Duplex: full only

Physical characteristics

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

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 <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 X121 1G SFP LC LX Transceiver (J4859C)

HP X121 1G SFP LC LX Transceiver: An SFP format

Ports

1 LC 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX); Duplex: full only

Physical characteristics

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)

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)

Accessory Product Details

gigabit transceiver with LC connectors using LX technology.

Cabling

Altitude: up to 10,000 ft. (3 km)

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)
- 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 RJ45 T Transceiver (J8177C)

Ports

1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T); Duplex: full only

Physical characteristics

Dimensions: 2.71(d) x 0.54(w) x 0.55(h) in. (6.88 x 1.37 x 1.4 cm)

Weight: 0.06 lb. (0.03 kg)

Environment

Operating temperature: 32°F to 158°F (0°C to 70°C); with 100 LFM airflow over the SFP module)

Operating relative humidity: 0% to 95% @ 75°F (25°C), noncondensing

Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C)

Nonoperating/Storage relative humidity: 0% to 95% @ 77°F (25°C), noncondensing

Altitude: up to 10,000 ft. (3000 km)

Cabling

Cable type:

1000BASE-T: Category 5 (5E or better recommended), 100 Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;

Maximum distance:

- 100 m

Notes

Power consumption is nominally 1 watt.

For supported platforms and minimum software requirements to support this product, see the document titled "Support for the J8177C 1000Base-T Mini-GBIC" on the "ProCurve Mini-GBICs and SFPs" Manuals Web page.

The J8177C Gigabit copper mini-GBIC is not supported on dual-personality ports.

The J8177C is capable of 100 Mb operation. This is supported on only the

Accessory Product Details

HP ProCurve Switch 8200zl, 5400zl, and 6200yl Series using software version K.12.21 or later. Use the "auto-100" port setting to enable 100 Mb operation.

Important: The earlier J8177B does not support 100 Mb operation. When used in the ProCurve Switch gl 20-Port 10/100/1000 Module (J4908A), the J8177C mini-GBIC can be installed in either the upper or lower mini-GBIC port, but will block access to the other port.

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.

Services

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

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

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-

Ports

1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only

Physical characteristics

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

Operating temperature

32°F to 158°F (0°C to 70°C)

Operating relative humidity

0% to 95%, non-condensing

Accessory Product Details

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.

Cabling

Non-operating/ Storage temperature

–40°F to 185°F –40°C to 85°C

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. 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 <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 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

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: 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.

Accessory Product Details

- 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.

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

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: $50 \pm 3.0\mu\text{m}$ 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 <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;

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

Accessory Product Details

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 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 distances of up to 300 m;

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Notes

Cable Specs: This specification defines the detail requirements for a 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.

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 <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 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 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

Accessory Product Details

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

Cable type:

50/125 um (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 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

Accessory Product Details

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.

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 ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 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 <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 2m Cable (QK733A)

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 ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 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

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		<p>white stripe that runs the entire length of the cable.</p> <ul style="list-style-type: none"> • 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 <p>Services</p> <p>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.</p>
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<p>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable (QK734A)</p>	<p>Notes</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"> • Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 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 <p>Services</p> <p>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.</p>
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<p>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable (QK735A)</p>	<p>Notes</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"> • Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 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 <p>Services</p> <p>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</p>
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Accessory Product Details

sales office.

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable (QK736A) **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 ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 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 <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 50m Cable (QK737A) **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 ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 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

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Netshelter 600mm, and APC Netshelter 800mm. It may well fit many other brands and models too.

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.

Summary of Changes

Date	Version History	Action	Description of Change:
24-Jul-2015	From Version 20 to 21	Changed	This QuickSpecs was retired; no further updates will be made.
02-Dec-2014	From Version 19 to 20	Changed	SKU J9054B changes to J9054C
17-Jan-2014	From Version 18 to 19	Changed	Factory Racked Models and Switch Enclosure Options were revised.
05-Nov-2013	From Version 17 to 18	Added	Configuration was added.
06-Sep-2013	From Version 16 to 17	Changed	Removed two EOL models from the document,
10-Jun-2013	From Version 15 to 16	Added	OM4 cables were added.
25-Oct-2011	From Version 14 to 15	Changed	The QuickSpec was completely revised, including changing the title.
27-Sep-2011	From Version 12 to 14	Added	Accessory Product Details was added.
11-Aug-2011	From Version 11 to 12	Changed	Minor edits were made in Key Features, Features and Benefits, Accessories, and in each model's specifications.
10-Sep-2010	From Version 10 to 11	Changed	The QuickSpec was completely revised, including changing the title.
02-Jun-2010	From Version 9 to 10	Changed	Updated the Notes section of Technical Specifications. Updated Standards and Protocols Added new cables to the Accessories section.
06-Nov-2009	From Version 8 to 9	Changed	Revised the Accessories section, revised the Key features section, and revised the Introduction.
23-Sep-2009	From Version 7 to 8	Changed	Revised the Accessories section, added a Key features section, and removed a bullet point underneath "Convergence" in Features and Benefits.
17-Mar-2009	From Version 6 to 7	Changed	Completely revised the Warranty and Support section in the Features and Benefits, added "HP" throughout the document, Guest VLAN to the Security section and RADIUS VLAN voice to the Convergence section. Note the title has changed.
17-Mar-2009	From Version 6 to 7	Changed	Completely revised the Warranty and Support section in the Features and Benefits, added "HP" throughout the document, Guest VLAN to the Security section and RADIUS VLAN voice to the Convergence section. Note the title has changed.
26-Jun-2008	From Version 4 to 5	Added	Models 2510G-24 and 2510G-48, 10/100/1000 Connectivity and Multiple port density and connectivity speed were added within the QuickSpec.
13-May-2008	From Version 3 to 4	Changed	Changes were made throughout the QuickSpec.
21-Apr-2008	From Version 2 to 3	Changed	Changes were made throughout the QuickSpec.
31-Oct-2007	From Version 1 to 2	Changed	The Features and Benefits and Accessory part numbers were revised.

Summary of Changes

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