Overview

Models

HP 4500-48-PoE Switch	JE048A
HP 4500-24-PoE Switch	JE047A
HP 4500-48 Switch	JE046A
HP 4500-24 Switch	JE045A

Key features

- Enterprise-class security features
- Advanced access and distribution
- Easily add switches when needed
- Stack up eight units—or cluster up to 32 devices
- IEEE 802.1X network access control

Product overview

The HP 4500 Switch Series are managed, stackable 10/100 Ethernet switches that provide secure, flexible LAN connectivity for enterprise and branch office networks. HP 4500 switches offer Layer 2 switching and dynamic Layer 3 routing, as well as robust security, Quality of Service (QoS), and management features to deliver intelligent edge connectivity for essential business applications. Dual-personality ports allow for both copper and fiber Gigabit uplink connections. The switch supports true stacking with the ability to stack up to eight switch units—384 10/100 ports per stack—with single IP management and distributed aggregated links for high uplink resiliency.

Features and benefits

Quality of Service (QoS)

- **Traffic prioritization** (IEEE 802.1p): allows real-time traffic classification into eight priority levels mapped to eight queues
- **Class of Service** (CoS): sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
- **Rate limiting**: sets per-port ingress enforced maximums and per-port, per-queue guaranteed minimums

Management

- **IEEE 802.1AB Link Layer Discovery Protocol** (LLDP): automated device discovery protocol provides easy mapping by network management applications
- **Uni-Directional Link Detection** (UDLD): monitors cable between two switches and shuts down the ports on both ends if the cable is broken, turning the bidirectional link into a unidirectional one; this prevents network problems such as loops
- **Secure Web GUI**: provides a secure, easy-to-use graphical interface for configuring the module via HTTPS
- **Command-line interface** (CLI): provides a secure, easy-to-use command-line interface for configuring the module via SSH or a switch console; provides direct real-time session visibility
- **SNMPv1, v2c, and v3**: facilitate centralized discovery, monitoring, and secure management of networking devices
- **3Com-heritage Comware V3 Operating System**: CLI and Web user interface in common with HP 4XXX and 55XX series switches
- **Port mirroring**: enables traffic on a port to be simultaneously sent to a network analyzer for monitoring

Connectivity

Overview

- **Gigabit Uplinks**: The HP 4500-24 model has two dual-personality ports for either 10/100/1000 or mini-GBIC SFP connectivity; other models have dual-personality dual mini-GBIC Gigabit SFP ports and ship with two 1000BASE-T SFP transceivers for copper Ethernet connections
- **Auto-MDIX**: automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- **IEEE 802.3af Power over Ethernet** (PoE): 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

Manageability

- **RMON** (remote monitoring): provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Dual flash images**: provides independent primary and secondary operating system files for backup while upgrading
- **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
- **Multiple configuration files**: allow multiple configuration files to be stored to a flash image
- **Software updates**: free downloads from the Web
- **IEEE 802.1AB Link Layer Discovery Protocol** (LLDP): automated device discovery protocol provides easy mapping using network management applications
- **Virtual stacking capability**: single IP address management for a virtual stack of up to 255 Comware-based 3Com legacy devices, including HP 4XXX and 55XX series switches
- **Advanced stacking**: locally connect up to nine 4500 switches using Gigabit ports and manage as a single entity; improves resiliency by spreading aggregated links across multiple stacked units
- **IPv6 management**: future-proof networking as the switch is capable of being managed whether the attached network is running IPv4 or IPv6; supports pingv6, tracertv6, Telnetv6, TFTPv6, DNSv6, and ARPv6

Layer 2 switching

- **VLAN support and tagging**: support IEEE 802.1Q with 4,094 simultaneous VLAN IDs
- **GARP VLAN Registration Protocol**: allows automatic learning and dynamic assignment of VLANs
- **Jumbo packet support**: supports up to 9220-byte frame size to improve the performance of large data transfers
- **IEEE 802.1ad QinQ**: increases the scalability of an Ethernet network by providing a hierarchical structure; connects multiple LANs on a high-speed campus or metro network

Layer 3 routing

- **Layer 3 IP routing** : Static IP routing, RIPv1, and RIPv2 provide routing at media speed

Security

- **Access control lists** (ACLs): provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
- **RADIUS/TACACS+**: eases switch management security administration by using a password authentication server
- **Secure Shell**: encrypts all transmitted data for secure remote CLI access over IP networks
- **Secure Web management with HTTPS and SSL**: encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- **IEEE 802.1X and RADIUS network logins**: control port-based access for authentication and accountability
- **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
- **Switch management logon security**: can require either RADIUS or TACACS+ authentication for secure switch CLI logon
- **Secure management access**: securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- **Custom banner**: displays security policy when users log in to the switch
- **Automatic VLAN assignment**: automatically assigns users to the appropriate VLAN based on their identity and location and the time of day
- **Management password**: provides security so that only authorized access to the Web browser interface is allowed

Overview

Convergence

- **LLDP-MED** (Media Endpoint Discovery): is a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
- **Automated voice VLAN assignment**: recognizes IP phones and automatically assigns voice traffic to a dedicated VLAN for IP phones

Warranty and support

- **Lifetime warranty**: for as long as you own the product with advance replacement and next-business-day delivery (available in most countries)*
- **Electronic and telephone support**: limited electronic and telephone support is available from HP; refer to: www.hp.com/networking/warranty for details on the support provided and the period during which support is available
- **Software releases**: refer to: www.hp.com/networking/warranty for details on the software releases provided and the period during which software releases are available for your product(s)

* Hardware warranties replacement for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP Alliance One Advanced Services and Services zl Modules, HP Threat Management Services zl Module, HP AllianceOne Ext zl Mod w/Rvrbd Stlhd, HP E-MSM765zl Mobility Controller and HP Surv Brch Com zl Mod pwrby Msft Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at: www.hp.com/networking/warranty.

Technical Specifications

HP 4500-48-PoE Switch (JE048A)

Ports	48 RJ-45 autosensing 10/100 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3af PoE); Duplex: half or full	
	2 dual-personality ports; 10Base-T/100Base-TX/1000Base-T or 1000Base-X (SFP) ports	
	1 RJ-45 serial console port	
Physical characteristics	Dimensions	16.8(d) x 17.3(w) x 1.7(h) in. (42.67 x 43.94 x 4.32 cm) (1U height)
	Weight	13.9 lb. (6.31 kg)
Memory and processor	Broadcom 5836, 64 MB SDRAM, 8 MB flash; packet buffer size: 32 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	Throughput	10.1 million pps
	Routing/Switching capacity	13.6 Gbps
	Routing table size	2000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	10% to 95%, noncondensing
Electrical characteristics	Voltage	100-240 VAC
	DC Voltage	-48 to -60 VDC
	Frequency	50/60 Hz
Safety	UL 60950; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1-03; EU RoHS Compliant	
Emissions	FCC part 15 Class A; VCCI Class A; CISPR 22 Class A; EN 55024; EN 55022 1998 Class A; EN 61000-3-2 2000, 61000-3-3; ICES-003 Class A	
Management	IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; IEEE 802.3 Ethernet MIB	
Notes	Two pairs of Gigabit SFP ports operate as combination ports. Unit ships with two 1000Base-T SFP transceivers for copper connections.	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV834E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV837E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV840E) 3-year, 24x7 SW phone support, software updates (UV843E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR668E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR669E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR670E) Installation with minimum configuration, system-based pricing (UW451E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV835E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV838E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV841E) 4-year, 24x7 SW phone support, software updates (UV844E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV836E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV839E)	

Technical Specifications

5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV842E)
5-year, 24x7 SW phone support, software updates (UV845E)
3 Yr 6 hr Call-to-Repair Onsite (UW434E)
4 Yr 6 hr Call-to-Repair Onsite (UW435E)
5 Yr 6 hr Call-to-Repair Onsite (UW436E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR672E)
1-year, 24x7 software phone support, software updates (HR671E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS714E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS715E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS716E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS717E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS718E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS719E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS720E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS721E)

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 4500-24-PoE Switch (JE047A)

Ports	24 RJ-45 autosensing 10/100 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3af PoE); Duplex: half or full
	2 dual-personality ports; 10Base-T/100Base-TX/1000Base-T or 1000Base-X (SFP) ports
	1 RJ-45 serial console port

Physical characteristics	Dimensions	16.8(d) x 17.3(w) x 1.7(h) in. (42.67 x 43.94 x 4.32 cm) (1U height)
	Weight	13.9 lb. (6.31 kg)
Memory and processor	Broadcom 5836, 64 MB SDRAM, 8 MB flash; packet buffer size: 32 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	Throughput	6.5 million pps
	Routing/Switching capacity	8.8 Gbps
	Routing table size	2000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	10% to 95%, noncondensing

Technical Specifications

Electrical characteristics	Voltage	100-240 VAC
	DC Voltage	-48 to -60 VDC
	Frequency	50/60 Hz
Safety	UL 60950; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1-03; EU RoHS Compliant	
Emissions	FCC part 15 Class A; VCCI Class A; CISPR 22 Class A; EN 55024; EN 55022 1998 Class A; EN 61000-3-2 2000, 61000-3-3; ICES-003 Class A	
Management	IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; IEEE 802.3 Ethernet MIB	
Notes	Two pairs of Gigabit SFP ports operate as combination ports. Unit ships with two 1000Base-T SFP transceivers for copper connections.	

Services

3-year, 4-hour onsite, 13x5 coverage for hardware (UV834E)
3-year, 4-hour onsite, 24x7 coverage for hardware (UV837E)
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV840E)
3-year, 24x7 SW phone support, software updates (UV843E)
1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR668E)
1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR669E)
1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR670E)
Installation with minimum configuration, system-based pricing (UW451E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UV835E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UV838E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV841E)
4-year, 24x7 SW phone support, software updates (UV844E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UV836E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UV839E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV842E)
5-year, 24x7 SW phone support, software updates (UV845E)
3 Yr 6 hr Call-to-Repair Onsite (UW434E)
4 Yr 6 hr Call-to-Repair Onsite (UW435E)
5 Yr 6 hr Call-to-Repair Onsite (UW436E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR672E)
1-year, 24x7 software phone support, software updates (HR671E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS714E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS715E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS716E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS717E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS718E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS719E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS720E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS721E)

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.

Technical Specifications

HP 4500-48 Switch (JE046A)

Ports	48 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full	
	2 dual-personality ports; 10Base-T/100Base-TX/1000Base-T or 1000Base-X (SFP) ports	
	1 RJ-45 serial console port	
Physical characteristics	Dimensions	10.6(d) x 17.3(w) x 1.7(h) in. (26.92 x 43.94 x 4.32 cm) (1U height)
	Weight	7.3 lb. (3.31 kg)
Memory and processor	Broadcom 5836, 64 MB SDRAM, 8 MB flash; packet buffer size: 32 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	Throughput	10.1 million pps
	Routing/Switching capacity	13.6 Gbps
	Routing table size	2000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	10% to 95%, noncondensing
Electrical characteristics	Voltage	100-240 VAC
	DC Voltage	-48 to -60 VDC
	Frequency	50/60 Hz
Safety	UL 60950; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1-03; EU RoHS Compliant	
Emissions	FCC part 15 Class A; VCCI Class A; CISPR 22 Class A; EN 55024; EN 55022 1998 Class A; EN 61000-3-2 2000, 61000-3-3; ICES-003 Class A	
Management	IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; IEEE 802.3 Ethernet MIB	
Notes	Two pairs of Gigabit SFP ports operate as combination ports. Unit ships with two 1000Base-T SFP transceivers for copper connections.	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV834E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV837E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV840E) 3-year, 24x7 SW phone support, software updates (UV843E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR668E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR669E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR670E) Installation with minimum configuration, system-based pricing (UW451E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV835E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV838E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV841E) 4-year, 24x7 SW phone support, software updates (UV844E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV836E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV839E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV842E)	

Technical Specifications

5-year, 24x7 SW phone support, software updates (UV845E)
3 Yr 6 hr Call-to-Repair Onsite (UW434E)
4 Yr 6 hr Call-to-Repair Onsite (UW435E)
5 Yr 6 hr Call-to-Repair Onsite (UW436E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR672E)
1-year, 24x7 software phone support, software updates (HR671E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange
(HS714E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS715E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange
(HS716E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS717E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange
(HS718E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS719E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange
(HS720E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS721E)

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 4500-24 Switch (JE045A)

Ports	24 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full	
	2 dual-personality ports; 10Base-T/100Base-TX/1000Base-T or 1000Base-X (SFP) ports	
	1 RJ-45 serial console port	
Physical characteristics	Dimensions	10.6(d) x 17.3(w) x 1.7(h) in. (26.92 x 43.94 x 4.32 cm) (1U height)
	Weight	7.3 lb. (3.31 kg)
Memory and processor	Broadcom 5836, 64 MB SDRAM, 8 MB flash; packet buffer size: 32 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	Throughput	6.5 million pps
	Routing/Switching capacity	8.8 Gbps
	Routing table size	2000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	10% to 95%, noncondensing
Electrical characteristics	Voltage	100-240 VAC
	DC Voltage	-48 to -60 VDC
	Frequency	50/60 Hz

Technical Specifications

Safety	UL 60950; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1-03; EU RoHS Compliant
Emissions	FCC part 15 Class A; VCCI Class A; CISPR 22 Class A; EN 55024; EN 55022 1998 Class A; EN 61000-3-2 2000, 61000-3-3; ICES-003 Class A
Management	IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; IEEE 802.3 Ethernet MIB
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV834E)

Services (continued):

3-year, 4-hour onsite, 13x5 coverage for hardware (UV834E)
3-year, 4-hour onsite, 24x7 coverage for hardware (UV837E)
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV840E)
3-year, 24x7 SW phone support, software updates (UV843E)
1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR668E)
1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR669E)
1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR670E)
Installation with minimum configuration, system-based pricing (UW451E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UV835E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UV838E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV841E)
4-year, 24x7 SW phone support, software updates (UV844E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UV836E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UV839E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV842E)
5-year, 24x7 SW phone support, software updates (UV845E)
3 Yr 6 hr Call-to-Repair Onsite (UW434E)
4 Yr 6 hr Call-to-Repair Onsite (UW435E)
5 Yr 6 hr Call-to-Repair Onsite (UW436E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR672E)
1-year, 24x7 software phone support, software updates (HR671E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS714E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS715E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS716E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS717E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS718E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS719E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS720E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS721E)

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.

Technical Specifications

Standards and protocols
(applies to all products in series)

Device management
RFC 1157 SNMPv1/v2c
Web UI

General protocols
IEEE 802.1D MAC Bridges
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s (MSTP)
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.1X PAE
IEEE 802.3 Type 10BASE-T
IEEE 802.3ab 1000BASE-T
IEEE 802.3ad Link Aggregation (LAG)
IEEE 802.3af Power over Ethernet
IEEE 802.3i 10BASE-T
IEEE 802.3u 100BASE-X
IEEE 802.3x Flow Control
IEEE 802.3z 1000BASE-X
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 951 BOOTP
RFC 1058 RIPv1
RFC 1305 NTPv3
RFC 1350 TFTP Protocol (revision 2)
RFC 1519 CIDR
RFC 1542 BOOTP Extensions
RFC 1723 RIP v2
RFC 2131 DHCP
RFC 2284 EAP over LAN
RFC 2453 RIPv2
RFC 3046 DHCP Relay Agent Information Option
RFC 3576 Ext to RADIUS (CoA only)
RFC 3768 VRRP
RFC 4675 RADIUS VLAN & Priority

MIBs
IEEE8021-PAE-MIB
IEEE8023-LAG-MIB
RFC 1212 Concise MIB Definitions
RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 1724 RIPv2 MIB

RFC 1850 OSPFv2 MIB
RFC 1907 SNMPv2 MIB
RFC 2011 SNMPv2 MIB for IP
RFC 2013 SNMPv2 MIB for UDP
RFC 2021 RMONv2 MIB
RFC 2233 Interface MIB
RFC 2571 SNMP Framework MIB
RFC 2572 SNMP-MPD MIB
RFC 2573 SNMP-Notification MIB
RFC 2573 SNMP-Target MIB
RFC 2618 RADIUS Client MIB
RFC 2620 RADIUS Accounting MIB
RFC 2665 Ethernet-Like-MIB
RFC 2667 IP Tunnel MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2688 MAU-MIB
RFC 2737 Entity MIB (Version 2)
RFC 2787 VRRP MIB
RFC 2819 RMON MIB
RFC 2925 Ping MIB
RFC 3414 SNMP-User based-SM MIB
RFC 3415 SNMP-View based-ACM MIB
RFC 3418 MIB for SNMPv3
RFC 3621 Power Ethernet MIB
RFC 3826 AES for SNMP's USM MIB
RFC 4133 Entity MIB (Version 3)
LLDP-EXT-DOT1-MIB
LLDP-EXT-DOT3-MIB
LLDP-MIB

Network management
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 2571 SNMP Management Frameworks
RFC 2572 SNMPv3 Message Processing
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
SNMPv1/v2c/v3

Security
IEEE 802.1X Port Based Network Access Control
RFC 1492 TACACS+
RFC 2865 RADIUS (client only)
RFC 2866 RADIUS Accounting
Secure Sockets Layer (SSL)
SSHv2 Secure Shell

Accessories

HP 4500 Switch Series accessories

Transceivers

HP X124 1G SFP LC SX Transceiver	JD493A
HP X125 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X125 1G SFP RJ45 T Transceiver	JD089B
HP X110 100M SFP LC FX Dual Mode Transceiver	JD497A
HP X110 100M SFP LC LX10 Transceiver	JD498A
HP X124 1G SFP LC LX Transceiver	JD494A

Cables

NEW HP 0.5 m Multimode OM3 LC/LC Optical Cable	AJ833A
NEW HP 1 m Multimode OM3 LC/LC Optical Cable	AJ834A
NEW HP 2 m Multimode OM3 LC/LC Optical Cable	AJ835A
NEW HP 5 m Multimode OM3 LC/LC Optical Cable	AJ836A
NEW HP 15 m Multimode OM3 LC/LC Optical Cable	AJ837A
NEW HP 30 m Multimode OM3 LC/LC Optical Cable	AJ838A
NEW HP 50 m Multimode OM3 LC/LC Optical Cable	AJ839A
NEW HP 0.5 m PremierFlex OM3+ LC/LC Optical Cable	BK837A
NEW HP 1 m PremierFlex OM3+ LC/LC Optical Cable	BK838A
NEW HP 2 m PremierFlex OM3+ LC/LC Optical Cable	BK839A
NEW HP 5 m PremierFlex OM3+ LC/LC Optical Cable	BK840A
NEW HP 15 m PremierFlex OM3+ LC/LC Optical Cable	BK841A
NEW HP 30 m PremierFlex OM3+ LC/LC Optical Cable	BK842A
NEW HP 50 m PremierFlex OM3+ LC/LC Optical Cable	BK843A

Accessory Product Details

HP X124 1G SFP LC SX Transceiver (JD493A) JD493A HP X124 1G SFP LC SX Transceiver that provides a full duplex Gigabit solution up to 550m on Multi Mode fiber.	Ports	1 LC 1000BASE-SX port	
	Connectivity	Connector type	LC
		Wavelength	850 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • 220m-550m	
		Fiber type	Multi Mode
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

HP X120 1G SFP LC SX Transceiver (JD118B) A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550m on a Multimode fiber.	Ports	1 LC 1000BASE-SX port	
	Connectivity	Connector type	LC
		Wavelength	850 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • FDDI Grade distance = 220m • OM1 = 275m • OM2 = 500m • OM3 = Not Specified by standard	
		Cable length	up to 550m
		Fiber type	Multi Mode
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

Accessory Product Details

HP X120 1G SFP LC LX Transceiver (JD119B) A small form-factor pluggable (SFP) Gigabig LX transceiver that provides a full duplex Gigabit solution up to 550m on MMF or 10Km on SMF	Ports	1 SFP 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX)	
	Connectivity	Connector type	LC
		Wavelength	1300 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Either single mode or multimode; Maximum distance: • 550m for Multimode • 10km for Singlemode	
		Fiber type	Both
	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 X125 1G SFP LC LH70 Transceiver (JD063B) A small form-factor pluggable (SFP) Gigabit LH70 transceiver that provides a full-duplex Gigabit solution up to 70km on a single-mode fiber.	Ports	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)	
	Connectivity	Connector type	LC
		Wavelength	1550 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 70km	
		Fiber type	Single Mode
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

Accessory Product Details

HP X125 1G SFP RJ45 T Transceiver (JD089B) A small form factor pluggable (SFP) Gigabit 1000Base-T transceiver that provides a full duplex Gigabit solution up to 100m on a Cat-5+ cable.	Ports	1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T)	
	Connectivity	Connector type	RJ-45
	Physical characteristics	Dimensions	2.71(d) x 0.54(w) x 0.55(h) in. (6.88 x 1.37 x 1.4 cm)
		Full configuration weight	0.07 lb. (0.03 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 Ù differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T; Maximum distance: • 100m	
	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 X110 100M SFP LC FX Dual Mode Transceiver(JD497A) A small form-factor pluggable (SFP) 100 MB/s Dual mode transceiver that provides a full duplex 100Mb/s solution up to 2km on a multi mode fiber.	Ports	1 LC 100 Mbps port	
	Connectivity	Connector type	LC
		Wavelength	1310 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable length	2km
		Fiber type	Multi Mode
	Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

Accessory Product Details

HP X110 100M SFP LC LX10 Transceiver(JD498A) A small form-factor pluggable (SFP) 100Mb/s transceiver that provides a full duplex 100Mb/s solution for up to 10km on a single mode cable.			
	Ports	1 LC 100 Mbps port	
	Connectivity	Connector type	LC
		Wavelength	1310 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable length	10km
		Fiber type	Single Mode
	Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

HP X124 1G SFP LC LX Transceiver (JD494A) A small form-factor pluggable (SFP) Gigabig LX transceiver that provides a full duplex Gigabit solution up to 550m on MMF or 10Km on SMF			
	Ports	1 LC 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX)	
	Connectivity	Connector type	LC
		Wavelength	1300 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
		Transceiver form factor	SFP
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • 500m for Multimode • 10km for Singlemode	
	Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

Accessory Product Details

HP 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A)	Cabling	**Cable type**: 50/125 μm (core/cladding) diameter, mulitimode 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: 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 www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP 1 m Multimode OM3 LC/LC Optical Cable (AJ834A)	Cabling	**Cable type**: 50/125 μm (core/cladding) diameter, mulitimode 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 for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP 2 m Multimode OM3 LC/LC Optical Cable (AJ835A)	Cabling	**Cable type**: 50/125 μm (core/cladding) diameter, mulitimode 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 for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP 5 m Multimode OM3 LC/LC Optical Cable (AJ836A)	Cabling	**Cable type**: 50/125 μm core/cladding) diameter, mulitimode 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.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP 15 m Multimode OM3 LC/LC Optical Cable (AJ837A)	Cabling	**Cable type**: 50/125 μm (core/cladding) diameter, mulitimode 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 for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP 30 m Multimode OM3 LC/LC Optical Cable (AJ838A)	Cabling	**Cable type**: 50/125 μm (core/cladding) diameter, mulitimode 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 for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP 50 m Multimode OM3 LC/LC Optical Cable (AJ839A)	Cabling	**Cable type**: 50/125 μm (core/cladding) diameter, mulitimode 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 for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP 0.5 m PremierFlex OM3+ LC/LC Optical Cable (BK837A)	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end. • Core diameter: 50um ± 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 longitudal white stripe that runs the entire length of the cable. • Insertion Loss: less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
HP 1 m PremierFlex OM3+ LC/LC Optical Cable (BK838A)	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end. • Core Diameter: 50um ±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.

Accessory Product Details

HP 2 m PremierFlex OM3+ LC/LC Optical Cable (BK839A)	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
		• Core diameter: 50um ±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 5 m PremierFlex OM3+ LC/LC Optical Cable (BK840A)	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
		• Core diameter: 50um ±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.

Accessory Product Details

HP 15 m PremierFlex OM3+ LC/LC Optical Cable (BK841A)	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end. • Core diameter: 50um ±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 30 m PremierFlex OM3+ LC/LC Optical Cable (BK842A)	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end. • Core diameter: 50um ±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.

Accessory Product Details

HP 50 m PremierFlex OM3+ LC/LC Optical Cable (BK843A)	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
		• Core diameter: 50um ±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.

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