



HP 5500 HI Switch Series



Key features

- High expandability for investment protection
- Premium resiliency and integrated management
- Enhanced MPLS/VPLS support
- Full-featured IPv4/IPv6 dual stack
- 1440 W of PoE+ power using dual power supplies for high resiliency

Product overview

The HP 5500 HI Switch Series comprises Gigabit Ethernet switches that deliver outstanding resiliency, security, and multiservice support capabilities at the edge layer of data center, large campus, and metro Ethernet networks. The switches can also be used in the core layer of SMB networks.

With Intelligent Resilient Fabric (IRF) support and available dual power supplies, the HP 5500 HI Switch Series can deliver the highest levels of resiliency and manageability. In addition, the PoE+ models provide up to 1,440 W of PoE+ power with the dual power supply configuration.

Designed with two fixed 10GbE ports and extension module flexibility, these switches can provide up to six 10GbE uplink or 70 GbE ports. With complete IPv4/IPv6 and MPLS/VPLS features, the series provides investment protection with an easy transition from IPv4 to IPv6 networks.

Features and benefits

Quality of Service (QoS)

- **Advanced classifier-based QoS**
classifies traffic using multiple match criteria based on Layer 2, 3, and 4 information; applies QoS policies such as setting priority level and rate limit to selected traffic on a per-port or per-VLAN basis
- **Traffic policing**
supports Committed Access Rate (CAR) and line rate
- **Powerful QoS feature**
creates traffic classes based on access control lists (ACLs), IEEE 802.1p precedence, IP, and DSCP or Type of Service (ToS) precedence; supports filter, redirect, mirror, or remark; supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), weighted random early discard (WRED), weighted deficit round robin (WDRR), SP+WDRR, and SP+WFQ
- **Storm restraint**
allows limitation of broadcast, multicast, and unknown unicast traffic rate to reduce unwanted broadcast traffic on the network

Management

- **Friendly port names**
allows assignment of descriptive names to ports
- **sFlow (RFC 3176)**
provides scalable ASIC-based wire-speed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes
- **Complete session logging**
provides detailed information for problem identification and resolution
- **Remote configuration and management**
enables configuration and management through a secure Web browser or a CLI located on a remote device
- **Manager and operator privilege levels**
provides read-only (operator) and read/write (manager) access on CLI and Web browser management interfaces
- **Management VLAN**
segments traffic to and from management interfaces, including CLI/telnet, a Web browser interface, and SNMP
- **Command authorization**
leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; an audit trail documents activity
- **Secure Web GUI**
provides a secure, easy-to-use graphical interface for configuring the module via HTTPS

- **SNMPv1, v2c, and v3**
facilitate centralized discovery, monitoring, and secure management of networking devices
- **Remote monitoring (RMON)**
uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- **Remote intelligent mirroring**
mirrors ingress/egress ACL-selected traffic from a switch port or VLAN to a local or remote switch port anywhere on the network
- **In-service software upgrade (ISSU)**
enables operators to perform upgrades in the shortest possible amount of time with reduced risk to network operations or traffic disruptions

Connectivity

- **Auto-MDIX**
provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- **Packet storm protection**
protects against broadcast, multicast, or unicast storms with user-defined thresholds
- **Ethernet operations, administration and maintenance (OAM)**
detects data link layer problems that occurred in the "last mile" using the IEEE 802.3ah OAM standard; monitors the status of the link between the two devices
- **Flow control**
provides back pressure using standard IEEE 802.3x, reducing congestion in heavy traffic situations
- **Fixed 10GbE ports**
provides two fixed SFP+ ports for a 20 GbE connection to the network without the need for additional extension interface modules
- **Optional 10GbE ports**
deliver, through the use of optional modules, additional 10GbE connections, which are available for uplinks or high-bandwidth server connections; flexibly supports XFP, SFP+, or CX4 local connections
- **Optional 8-port SFP module**
adds up to eight additional wire-speed Gigabit Ethernet ports for unprecedented Gigabit density in a single 1U enclosure
- **Jumbo packet support**
supports up to 12288-byte frame size to improve the performance of large data transfers
- **High-bandwidth CX4 local stacking**
achieves 12 Gb/s per connection when using local CX4 stacking, allowing for up to 96 Gb/s total stacking bandwidth (full duplex) in a resilient stacking configuration

- **IEEE 802.3at Power over Ethernet (PoE+)**
provides up to 30 W per port that allows support of the latest PoE+-capable devices such as IP phones, wireless access points, and security cameras, as well as any IEEE 802.3af-compliant end device; eliminates the cost of additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments

Performance

- **Hardware-based wire-speed access control lists (ACLs)**
help provide high levels of security and ease of administration without impacting network performance with a feature-rich TCAM-based ACL implementation
- **Nonblocking architecture**
delivers up to 224 Gb/s of wire-speed switching with a nonblocking switching fabric and up to 167 million pps throughput

Resiliency and high availability

- **Separate data and control paths**
separates control from services and keeps service processing isolated; increases security and performance
- **Device Link Detection Protocol (DLDP)**
monitors link connectivity and shuts down ports at both ends if unidirectional traffic is detected, preventing loops in STP-based networks
- **Intelligent Resilient Framework (IRF)**
creates virtual resilient switching fabrics, where two or more switches perform as a single L2 switch and L3 router; switches do not have to be co-located and can be part of a disaster-recovery system; servers or switches can be attached using standard LACP for automatic load balancing and high availability; can eliminate the need for complex protocols like Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP, thereby simplifying network operation
- **Rapid Ring Protection Protocol (RRPP)**
connects multiple switches in a high-performance ring using standard Ethernet technology; traffic can be rerouted around the ring in less than 50 ms, reducing the impact on traffic and applications
- **Smart link**
allows 50 ms failover between links
- **Virtual Router Redundancy Protocol (VRRP)**
allows groups of two routers to dynamically back each other up to create highly available routed environments

Manageability

- **Dual flash images**
provides independent primary and secondary operating system files for backup while upgrading
- **Multiple configuration files**
allow multiple configuration files to be stored to a flash image
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP)**
facilitates easy mapping using network management applications with LLDP automated device discovery protocol

- **Troubleshooting**
allows ingress and egress port monitoring, enabling network problem solving; virtual cable tests provide visibility into cable problems
- **IPv6 management**
future-proofs 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

- **GARP VLAN Registration Protocol**
allows automatic learning and dynamic assignment of VLANs
- **IP multicast snooping and data-driven IGMP**
automatically prevents flooding of IP multicast traffic
- **Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) protocol snooping**
controls and manages the flooding of multicast packets in a Layer 2 network
- **32K MAC addresses**
provide access to many Layer 2 devices
- **IEEE 802.1ad QinQ and selective QinQ**
increase the scalability of an Ethernet network by providing a hierarchical structure; connect multiple LANs on a high-speed campus or metro network
- **10GbE port aggregation**
allows grouping of ports to increase overall data throughput to a remote device
- **Spanning Tree/MSTP, RSTP, and STP root guard**
prevent network loops
- **32 MSTP instances**
allow multiple configurations of STP per VLAN group

Layer 3 services

- **Loopback interface address**
defines an address in Routing Information Protocol (RIP) and Open Standard Path First (OSPF), improving diagnostic capability
- **Address Resolution Protocol (ARP)**
determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network
- **Dynamic Host Configuration Protocol (DHCP)**
simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- **User Datagram Protocol (UDP) helper function**
allows UDP broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents server spoofing for UDP services such as DHCP

Layer 3 routing

- **IPv4 routing protocols**
support static routes, RIP, OSPF, ISIS, and BGP
- **IPv6 routing protocols**
provide routing of IPv6 at wire speed; support static routes, RIPng, OSPFv3, IS-ISv6, and BGP4+ for IPv6
- **PIM-SSM, PIM-DM, and PIM-SM (for IPv4 and IPv6)**
support IP Multicast address management and inhibition of DoS attacks
- **MPLS support**
provides extended support of MPLS, including MPLS VPNs and MPLS Traffic Engineering (MPLS TE)
- **Virtual Private LAN Service (VPLS)**
establishes point-to-multipoint Layer 2 VPNs across a provider network
- **Bidirectional Forwarding Detection (BFD)**
enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, MPLS, and IRF
- **Policy-based routing**
makes routing decisions based on policies set by the network administrator
- **Equal-Cost Multipath (ECMP)**
enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- **IPv6 tunneling**
allows a smooth transition from IPv4 to IPv6 by encapsulating IPv6 traffic over an existing IPv4 infrastructure

Security

- **Access control lists (ACLs)**
provide IP Layer 2 to Layer 4 traffic filtering; support global ACL, VLAN ACL, port ACL, and IPv6 ACL; can support up to 6,144 ingress ACLs and 1,024 egress ACLs
- **IEEE 802.1X**
defines an industry-standard method of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
- **MAC-based authentication**
authenticates the client with the RADIUS server based on the client's MAC address
- **Identity-driven security and access control**
 - **Per-user ACLs**
permit or deny user access to specific network resources based on user identity and time of day, allowing multiple types of users on the same network to access specific network services without risking network security or providing unauthorized access to sensitive data
 - **Automatic VLAN assignment**
assigns users automatically to the appropriate VLAN based on their identities

- **Port security**
allows access only to specified MAC addresses, which can be learned or specified by the administrator
- **Secure FTP**
allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file
- **STP BPDU port protection**
blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **DHCP protection**
blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **DHCP snooping**
helps ensure that DHCP clients receive IP addresses from authorized DHCP servers and maintain a list of DHCP entries for trusted ports; prevents reception of fake IP addresses and reduces ARP attacks, improving security
- **DHCPv6 snooping**
ensures that DHCPv6 clients obtain IPv6 addresses from authorized DHCPv6 servers and record IP-to-MAC mappings of DHCPv6 clients
- **Dynamic ARP protection**
blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- **STP root guard**
protects the root bridge from malicious attacks or configuration mistakes
- **Guest VLAN**
provides a browser-based environment to authenticated clients that is similar to IEEE 802.1X
- **Port isolation**
secures and adds privacy, and prevents malicious attackers from obtaining user information
- **Endpoint Admission Defense (EAD)**
provides security policies to users accessing a network
- **RADIUS/HWTACACS**
eases switch management security administration by using a password authentication server
- **Secure management access**
delivers secure encryption of all access methods (CLI, GUI, or MIB) through SSHv2 and SNMPv3
- **Unicast Reverse Path Forwarding (URPF)**
allows normal packets to be forwarded correctly, but discards the attaching packet due to lack of reverse path route or incorrect inbound interface; prevents source spoofing and distributed attacks; supports distributed URPFF
- **IP source guard**
helps prevent IP spoofing attacks

- **IPv6 source guard**
help prevent IPv6 spoofing attacks using ND Snooping as well as DHCPv6 Snooping
- **ND Snooping**
allows only packets with a legally obtained IPv6 address to pass

Virtual private network (VPN)

- **Generic Routing Encapsulation (GRE)**
transports Layer 2 connectivity over a Layer 3 path in a secured way; enables the segregation of traffic from site to site

Convergence

- **LLDP-MED (Media Endpoint Discovery)**
defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
- **Internet Group Management Protocol (IGMP)**
utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3
- **Multicast Source Discovery Protocol (MSDP)**
allows multiple PIM-SM domains to interoperate; is used for inter-domain multicast applications
- **Multicast Border Gateway Protocol (MBGP)**
allows multicast traffic to be forwarded across BGP networks and kept separate from unicast traffic
- **Multicast VLAN**
allows multiple VLANs to receive the same IPv4 or IPv6 multicast traffic, lessening network bandwidth demand by reducing or eliminating multiple streams to each VLAN
- **LLDP-CDP compatibility**
receives and recognizes CDP packets from Cisco's IP phones for seamless interoperation

Additional information

- **Green initiative support**
provides support for RoHS and WEEE regulations
- **Green IT and power**
improves energy efficiency through the use of the latest advances in silicon development; shuts off unused ports and utilizes variable-speed fans, reducing energy costs

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; to reach our support centers, refer to www.hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to www.hp.com/networking/warrantysummary

- **Software releases**
to find software for your product, refer to www.hp.com/networking/support; for details on the software releases available with your product purchase, refer to www.hp.com/networking/warrantysummary

†HP warranty includes repair or replacement of hardware for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP AllianceOne Advanced Services and Services z1 Modules, HP Threat Management Services z1 Module, HP AllianceOne Extended z1 Module with Riverbed Steelhead, HP MSM765z1 Mobility Controller and HP Survivable Branch Communication z1 Module powered by Microsoft Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at www.hp.com/networking/warranty.

HP 5500 HI Switch Series

Specifications



	HP 5500-24G-4SFP HI Switch with 2 Interface Slots (JG311A)	HP 5500-48G-4SFP HI Switch with 2 Interface Slots (JG312A)	HP 5500-24G-PoE+-4SFP HI Switch with 2 Interface Slots (JG541A)
Ports	<p>24 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>4 fixed Gigabit Ethernet SFP ports</p> <p>2 SFP+ 10GbE ports</p> <p>2 port expansion module slots</p> <p>1 RJ-45 serial console port</p> <p>1 RJ-45 out-of-band management port</p> <p>Supports a maximum of 38 autosensing 100/1000 ports, with optional module</p>	<p>48 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>4 fixed Gigabit Ethernet SFP ports</p> <p>2 SFP+ 10GbE ports</p> <p>2 port expansion module slots</p> <p>1 RJ-45 serial console port</p> <p>1 RJ-45 out-of-band management port</p> <p>Supports a maximum of 70 autosensing 100/1000 ports, with optional module</p>	<p>24 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only</p> <p>4 fixed Gigabit Ethernet SFP ports</p> <p>2 SFP+ 10GbE ports</p> <p>2 port expansion module slots</p> <p>1 RJ-45 serial console port</p> <p>1 RJ-45 out-of-band management port</p> <p>Supports a maximum of 38 autosensing 100/1000 ports, with optional module</p>
Power supplies	<p>2 power supply slots</p> <p>1 minimum power supply required (ordered separately)</p>	<p>2 power supply slots</p> <p>1 minimum power supply required (ordered separately)</p>	<p>2 power supply slots</p> <p>1 minimum power supply required (ordered separately)</p>
Physical characteristics	<p>17.32(w) x 14.17(d) x 1.72(h) in (44.0 x 36.00 x 4.37 cm) (1U height)</p> <p>Weight: 16.53 lb (7.5 kg), Fully loaded</p>	<p>17.32(w) x 16.54(d) x 1.72(h) in (44.0 x 42.0 x 4.37 cm) (1U height)</p> <p>Weight: 18.74 lb (8.5 kg)</p>	<p>17.32(w) x 18.11(d) x 1.72(h) in (43.99 x 46 x 4.37 cm) (1U height)</p> <p>Weight: 22.05 lb (10 kg), Fully loaded</p>
Memory and processor	1 GB SDRAM, 512 MB flash; packet buffer size: 3 MB	1 GB SDRAM, 512 MB flash; packet buffer size: 6 MB	1 GB SDRAM, 512 MB flash; packet buffer size: 3 MB
Mounting	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)
Performance	<p>1000 Mb Latency < 5 μs</p> <p>10 Gb/s Latency < 3 μs</p> <p>Throughput up to 130.9 million pps</p> <p>Routing/Switching capacity 176 Gb/s</p> <p>Routing table size 12000 entries (IPv4), 6000 entries (IPv6)</p> <p>MAC address table size 32000 entries</p>	<p>1000 Mb Latency < 5 μs</p> <p>10 Gb/s Latency < 3 μs</p> <p>Throughput up to 166.6 million pps</p> <p>Routing/Switching capacity 224 Gb/s</p> <p>Routing table size 12000 entries (IPv4), 6000 entries (IPv6)</p> <p>MAC address table size 32000 entries</p>	<p>1000 Mb Latency < 5 μs</p> <p>10 Gb/s Latency < 3 μs</p> <p>Throughput up to 130.9 million pps</p> <p>Routing/Switching capacity 176 Gb/s</p> <p>Routing table size 12000 entries (IPv4), 6000 entries (IPv6)</p> <p>MAC address table size 32000 entries</p>
Environment	<p>Operating temperature 32°F to 122°F (0°C to 50°C)</p> <p>Operating relative humidity 5% to 95%, noncondensing</p> <p>Nonoperating/Storage temperature -40°F to 158°F (-40°C to 70°C)</p> <p>Nonoperating/Storage relative humidity 5% to 95%, noncondensing</p> <p>Acoustic Low-speed fan: 47.9 dB, High-speed fan: 51.1 dB ISO 7779</p>	<p>Operating temperature 32°F to 122°F (0°C to 50°C)</p> <p>Operating relative humidity 5% to 95%, noncondensing</p> <p>Nonoperating/Storage temperature -40°F to 158°F (-40°C to 70°C)</p> <p>Nonoperating/Storage relative humidity 5% to 95%, noncondensing</p> <p>Acoustic Low-speed fan: 48.6 dB, High-speed fan: 57.6 dB; ISO 7779</p>	<p>Operating temperature 32°F to 113°F (0°C to 45°C)</p> <p>Operating relative humidity 5% to 95%, noncondensing</p> <p>Nonoperating/Storage temperature -40°F to 158°F (-40°C to 70°C)</p> <p>Nonoperating/Storage relative humidity 5% to 95%, noncondensing</p> <p>Acoustic Low-speed fan: 41.0 dB, High-speed fan: 64.0 dB; ISO 7779</p>
Electrical characteristics	<p>Frequency 50/60 Hz</p> <p>Maximum heat dissipation 481 BTU/hr (507.46 kJ/hr)</p> <p>Maximum power rating 141 W</p> <p>PoE power</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>	<p>Frequency 50/60 Hz</p> <p>Maximum heat dissipation 651 BTU/hr (686.81 kJ/hr)</p> <p>Maximum power rating 191 W</p> <p>PoE power</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>	<p>Frequency 50/60 Hz</p> <p>Maximum heat dissipation 460 BTU/hr (485.3 kJ/hr)</p> <p>Maximum power rating 150 W</p> <p>PoE power 740 W</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. PoE power is the maximum power available from the required power supply or supplies. Device supports 1 or 2 internal modular power supplies. JG544A will supply up to 435 watts of PoE+ power per installed unit. JG545A will supply up to 800 watts of PoE+ power per installed unit to the extent needed by the installation.</p>

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Specifications (continued)

	HP 5500-24G-4SFP HI Switch with 2 Interface Slots (JG311A)	HP 5500-48G-4SFP HI Switch with 2 Interface Slots (JG312A)	HP 5500-24G-PoE+-4SFP HI Switch with 2 Interface Slots (JG541A)
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; ROHS Compliance; AS/NZS 60950-1; GB 4943	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; ROHS Compliance; AS/NZS 60950-1; GB 4943	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; ROHS Compliance; AS/NZS 60950-1; GB 4943
Emissions	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993
Notes	8-port Gig-T and SFP modules (JG313A and JG314A) are supported only in slot 1 of this switch.		8-port Gig-T and SFP modules (JG313A and JG314A) are supported only in slot 1 of this switch.
Services	<p>3-year, 4-hour onsite, 13x5 coverage for hardware (UV870E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware (UV873E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV876E)</p> <p>3-year, 24x7 SW phone support, software updates (UV879E)</p> <p>1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR574E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR575E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR576E)</p> <p>Installation with minimum configuration, system-based pricing (UW451E)</p> <p>4-year, 4-hour onsite, 13x5 coverage for hardware (UV871E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware (UV874E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV877E)</p> <p>4-year, 24x7 SW phone support, software updates (UV880E)</p> <p>5-year, 4-hour onsite, 13x5 coverage for hardware (UV872E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware (UV875E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV878E)</p> <p>5-year, 24x7 SW phone support, software updates (UV881E)</p> <p>3 Yr 6 hr Call-to-Repair Onsite (UW966E)</p> <p>4 Yr 6 hr Call-to-Repair Onsite (UW967E)</p> <p>5 Yr 6 hr Call-to-Repair Onsite (UW968E)</p> <p>1-year, 6 hour Call-To-Repair Onsite for hardware (HR578E)</p> <p>1-year, 24x7 software phone support, software updates (HR577E)</p> <p>1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS658E)</p> <p>1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS659E)</p> <p>3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS660E)</p> <p>3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS661E)</p>	<p>3-year, 4-hour onsite, 13x5 coverage for hardware (HQ80E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware (HQ81E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (HQ84E)</p> <p>3-year, 24x7 SW phone support, software updates (HQ83E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR580E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR581E)</p> <p>Installation with minimum configuration, system-based pricing (UW451E)</p> <p>4-year, 4-hour onsite, 13x5 coverage for hardware (HQ85E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware (HQ86E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HQ93E)</p> <p>4-year, 24x7 SW phone support, software updates (HQ91E)</p> <p>5-year, 4-hour onsite, 13x5 coverage for hardware (HQ88E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware (HQ89E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HQ94E)</p> <p>5-year, 24x7 SW phone support, software updates (HQ92E)</p> <p>3 Yr 6 hr Call-to-Repair Onsite (HQ82E)</p> <p>4 Yr 6 hr Call-to-Repair Onsite (HQ87E)</p> <p>5 Yr 6 hr Call-to-Repair Onsite (HQ90E)</p> <p>1-year, 4-hour onsite, 13x5 coverage for hardware (HR579E)</p> <p>1-year, 6 hour Call-To-Repair Onsite for hardware (HR583E)</p> <p>1-year, 24x7 software phone support, software updates (HR582E)</p> <p>1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS674E)</p> <p>1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS675E)</p> <p>3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS676E)</p> <p>3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS677E)</p>	<p>3-year, 4-hour onsite, 13x5 coverage for hardware (UV870E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware (UV873E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV876E)</p> <p>3-year, 24x7 SW phone support, software updates (UV879E)</p> <p>1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR574E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR575E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR576E)</p> <p>Installation with minimum configuration, system-based pricing (UW451E)</p> <p>4-year, 4-hour onsite, 13x5 coverage for hardware (UV871E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware (UV874E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV877E)</p> <p>4-year, 24x7 SW phone support, software updates (UV880E)</p> <p>5-year, 4-hour onsite, 13x5 coverage for hardware (UV872E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware (UV875E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV878E)</p> <p>5-year, 24x7 SW phone support, software updates (UV881E)</p> <p>3 Yr 6 hr Call-to-Repair Onsite (UW966E)</p> <p>4 Yr 6 hr Call-to-Repair Onsite (UW967E)</p> <p>5 Yr 6 hr Call-to-Repair Onsite (UW968E)</p> <p>1-year, 6 hour Call-To-Repair Onsite for hardware (HR578E)</p> <p>1-year, 24x7 software phone support, software updates (HR577E)</p> <p>1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS658E)</p> <p>1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS659E)</p> <p>3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS660E)</p> <p>3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS661E)</p>

HP 5500 HI Switch Series

Specifications (continued)

HP 5500-24G-4SFP HI Switch with 2 Interface Slots (JG311A)	HP 5500-48G-4SFP HI Switch with 2 Interface Slots (JG312A)	HP 5500-24G-PoE+-4SFP HI Switch with 2 Interface Slots (JG541A)
<p>4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS662E)</p> <p>4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS663E)</p> <p>5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS664E)</p> <p>5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS665E)</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>	<p>4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS678E)</p> <p>4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS679E)</p> <p>5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS680E)</p> <p>5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS681E)</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>	<p>4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS662E)</p> <p>4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS663E)</p> <p>5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS664E)</p> <p>5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS665E)</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>

HP 5500 HI Switch Series

Specifications (continued)



	HP 5500-48G-PoE+-4SFP HI Switch with 2 Interface Slots (JG542A)	HP 5500-24G-SFP HI Switch with 2 Interface Slots (JG543A)
Ports	48 RJ-45 autosensing 10/100/1000 PoE+ ports; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 fixed Gigabit Ethernet SFP ports 2 SFP+ 10GbE ports 2 port expansion module slots 1 RJ-45 serial console port 1 RJ-45 out-of-band management port Supports a maximum of 70 autosensing 100/1000 ports, with optional module	24 fixed Gigabit Ethernet SFP ports 4 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); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 SFP+ 10GbE ports 2 port expansion module slots 1 RJ-45 serial console port 1 RJ-45 out-of-band management port Supports a maximum of 12 autosensing 10/100/1000 ports, with optional module
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	2 power supply slots 1 minimum power supply required (ordered separately)
Physical characteristics	17.32(w) x 18.11(d) x 1.72(h) in (43.99 x 46 x 4.37 cm) (1U height) Weight 23.15 lb (10.5 kg)	17.32(w) x 14.17(d) x 1.72(h) in (43.99 x 35.99 x 4.37 cm) (1U height) Weight 16.53 lb (7.5 kg)
Memory and processor	1 GB SDRAM, 512 MB flash; packet buffer size: 6 MB	1 GB SDRAM, 512 MB flash; packet buffer size: 3 MB
Mounting	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)
Performance	1000 Mb Latency < 5 μ s 10 Gb/s Latency < 3 μ s Throughput up to 166.6 million pps Routing/Switching capacity 224 Gb/s Routing table size 12000 entries (IPv4), 6000 entries (IPv6) MAC address table size 32000 entries	< 5 μ s < 3 μ s up to 130.9 million pps 176 Gb/s 12000 entries (IPv4), 6000 entries (IPv6) 32000 entries
Environment	Operating temperature 32°F to 113°F (0°C to 45°C) Operating relative humidity 5% to 95%, noncondensing Nonoperating/Storage temperature -40°F to 158°F (-40°C to 70°C) Nonoperating/Storage relative humidity 5% to 95%, noncondensing Acoustic Low-speed fan: 43.1 dB, High-speed fan: 66.1 dB; ISO 7779	32°F to 122°F (0°C to 50°C) 5% to 95%, noncondensing -40°F to 158°F (-40°C to 70°C) 5% to 95%, noncondensing Low-speed fan: 48.3 dB, High-speed fan: 54.0 dB; ISO 7779
Electrical characteristics	Frequency 50/60 Hz Maximum heat dissipation 666 BTU/hr (702.63 kJ/hr) Maximum power rating 195 W PoE power 1440 W 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. PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies. Device supports 1 or 2 internal modular power supplies. JG544A will supply 435 watts of PoE+ power per installed unit. JG545A will supply up to 800 watts of PoE+ power per installed unit.	50/60 Hz 460 BTU/hr (485.3 kJ/hr) 135 W 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	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; ROHS Compliance; AS/NZS 60950-1; GB 4943	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; ROHS Compliance; AS/NZS 60950-1; GB 4943
Emissions	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993
Notes		8-port Gig-T and SFP modules (JG313A and JG314A) are supported only in slot 1 of this switch.
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (HQ080E)	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 5500 HI Switch Series

Specifications (continued)

HP 5500-48G-PoE+-45FP HI Switch with 2 Interface Slots (JG542A)	HP 5500-24G-SFP HI Switch with 2 Interface Slots (JG543A)
<p>3-year, 4-hour onsite, 24x7 coverage for hardware (HQ081E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (HQ084E)</p> <p>3-year, 24x7 SW phone support, software updates (HQ083E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR580E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR581E)</p> <p>Installation with minimum configuration, system-based pricing (UW451E)</p> <p>4-year, 4-hour onsite, 13x5 coverage for hardware (HQ085E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware (HQ086E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HQ093E)</p> <p>4-year, 24x7 SW phone support, software updates (HQ091E)</p> <p>5-year, 4-hour onsite, 13x5 coverage for hardware (HQ088E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware (HQ089E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HQ094E)</p> <p>5-year, 24x7 SW phone support, software updates (HQ092E)</p> <p>3 Yr 6 hr Call-to-Repair Onsite (HQ082E)</p> <p>4 Yr 6 hr Call-to-Repair Onsite (HQ087E)</p> <p>5 Yr 6 hr Call-to-Repair Onsite (HQ090E)</p> <p>1-year, 4-hour onsite, 13x5 coverage for hardware (HR579E)</p> <p>1-year, 6 hour Call-To-Repair Onsite for hardware (HR583E)</p> <p>1-year, 24x7 software phone support, software updates (HR582E)</p> <p>1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS674E)</p> <p>1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS675E)</p> <p>3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS676E)</p> <p>3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS677E)</p> <p>4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS678E)</p> <p>4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS679E)</p> <p>5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS680E)</p> <p>5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS681E)</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>	

Standards and Protocols

(applies to all products in series)

BGP	RFC 1657 Definitions of Managed Objects for BGPv4	RFC 1771 BGPv4 RFC 2385 BGP Session Protection via TCP MD5	RFC 2858 BGP-4 Multi-Protocol Extensions
Device management	RFC 1157 SNMPv1/v2c RFC 1305 NTPv3 RFC 1901 (Community based SNMPv2) RFC 2452 MIB for TCP6	RFC 2454 MIB for UDP6 RFC 2573 (SNMPv3 Applications) RFC 2576 (Coexistence between SNMP V1, V2, V3) RFC 2819 (RMON groups Alarm, Event, History and Statistics only) RFC 3410 (Management Framework)	RFC 3416 (SNMP Protocol Operations v2) RFC 3417 (SNMP Transport Mappings) HTML and telnet management Multiple Configuration Files SNMP v3 and RMON RFC support
General protocols	IEEE 802.1ad Q-in-Q IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q (GVRP) IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.3ab 1000BASE-T IEEE 802.3ad Link Aggregation (LAG) IEEE 802.3ae 10-Gigabit Ethernet IEEE 802.3af Power over Ethernet IEEE 802.3at PoE+ IEEE 802.3az Energy Efficient 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 791 IP RFC 792 ICMP RFC 793 TCP RFC 854 TELNET RFC 925 Multi-LAN Address Resolution RFC 950 Internet Standard Subnetting Procedure RFC 951 BOOTP RFC 1058 RIPv1	RFC 1122 Host Requirements RFC 1141 Incremental updating of the Internet checksum RFC 1213 Management Information Base for Network Management of TCP/IP-based internets RFC 1256 ICMP Router Discovery Protocol (IRDP) RFC 1305 NTPv3 RFC 1350 TFTP Protocol (revision 2) RFC 1519 CIDR RFC 1542 BOOTP Extensions RFC 1723 RIP v2 RFC 1812 IPv4 Routing RFC 1887 An Architecture for IPv6 Unicast Address Allocation RFC 2131 DHCP RFC 2236 IGMP Snooping RFC 2338 VRRP RFC 2375 IPv6 Multicast Address Assignments RFC 2616 Hypertext Transfer Protocol -- HTTP/1.1 RFC 2644 Directed Broadcast Control RFC 2784 Generic Routing Encapsulation (GRE) RFC 2865 Remote Authentication Dial In User Service (RADIUS) RFC 2866 RADIUS Accounting RFC 3209 RSVP-TE Extensions to RSVP for LSP Tunnels RFC 3246 Expedited Forwarding PHB RFC 3410 Applicability Statements for SNMP	RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3) RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP) RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP) RFC 3484 Default Address Selection for Internet Protocol version 6 (IPv6) RFC 3493 Basic Socket Interface Extensions for IPv6 RFC 3542 Advanced Sockets Application Program Interface (API) for IPv6 RFC 3587 IPv6 Global Unicast Address Format RFC 3596 DNS Extensions to Support IP Version 6 RFC 3623 Graceful OSPF Restart RFC 3704 Unicast Reverse Path Forwarding (URPF) RFC 3768 Virtual Router Redundancy Protocol (VRRP) RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6 RFC 4090 Fast Reroute Extensions to RSVP-TE for LSP Tunnels RFC 4113 Management Information Base for the User Datagram Protocol (UDP) RFC 4213 Basic IPv6 Transition Mechanisms RFC 4443 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification RFC 4762 Virtual Private LAN Service (VPLS) Using Label Distribution Protocol (LDP) Signaling 802.1r - GARP Proprietary Attribute Registration Protocol (GPRP)
IP multicast	RFC 2236 IGMPv2 RFC 2710 Multicast Listener Discovery (MLD) for IPv6	RFC 2858 Multiprotocol Extensions for BGP-4 RFC 3376 IGMPv3	RFC 3569 An Overview of Source-Specific Multicast (SSM) RFC 3618 Multicast Source Discovery Protocol (MSDP) RFC 3973 PIM Dense Mode
IPv6	RFC 1881 IPv6 Address Allocation Management RFC 1887 IPv6 Unicast Address Allocation Architecture RFC 1981 IPv6 Path MTU Discovery RFC 2080 RIPng for IPv6 RFC 2373 IPv6 Addressing Architecture RFC 2375 IPv6 Multicast Address Assignments RFC 2460 IPv6 Specification RFC 2461 IPv6 Neighbor Discovery RFC 2462 IPv6 Stateless Address Auto-configuration RFC 2463 ICMPv6	RFC 2464 Transmission of IPv6 over Ethernet Networks RFC 2473 Generic Packet Tunneling in IPv6 RFC 2475 IPv6 DiffServ Architecture RFC 2710 Multicast Listener Discovery (MLD) for IPv6 RFC 2740 OSPFv3 for IPv6 RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only) RFC 3162 RADIUS and IPv6 RFC 3306 Unicast-Prefix-based IPv6 Multicast Addresses RFC 3307 IPv6 Multicast Address Allocation	RFC 3315 DHCPv6 (client and relay) RFC 3484 Default Address Selection for IPv6 RFC 3493 Basic Socket Interface Extensions for IPv6 RFC 3513 IPv6 Addressing Architecture RFC 3542 Advanced Sockets API for IPv6 RFC 3587 IPv6 Global Unicast Address Format RFC 3596 DNS Extension for IPv6 RFC 3810 MLDv2 for IPv6 RFC 4113 MIB for UDP RFC 4443 ICMPv6 RFC 4541 IGMP & MLD Snooping Switch
MIBs	RFC 1212 Concise MIB Definitions RFC 1213 MIB II RFC 1657 BGP-4 MIB RFC 1724 RIPv2 MIB RFC 1757 Remote Network Monitoring MIB RFC 1850 OSPFv2 MIB RFC 2012 SNMPv2 MIB for TCP RFC 2013 SNMPv2 MIB for UDP	RFC 2233 Interface MIB RFC 2452 IPV6-TCP-MIB RFC 2454 IPV6-UDP-MIB RFC 2465 IPV6 MIB RFC 2466 ICMPv6 MIB RFC 2571 SNMP Framework MIB RFC 2572 SNMP-MPD MIB RFC 2573 SNMP-Target MIB RFC 2574 SNMP USM MIB	RFC 2618 RADIUS Authentication Client MIB RFC 2620 RADIUS Accounting Client MIB 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 4113 UDP MIB

Standards and Protocols (continued)

(applies to all products in series)

Network management	IEEE 802.1AB Link Layer Discovery Protocol (LLDP) IEEE 802.1D (STP) RFC 1157 SNMPv1 RFC 1212 Concise MIB definitions RFC 1215 Convention for defining traps for use with the SNMP RFC 1757 RMON 4 groups: Stats, History, Alarms and Events RFC 1901 SNMPv2 Introduction RFC 1918 Private Internet Address Allocation	RFC 2373 Remote Network Monitoring Management Information Base for High Capacity Networks RFC 2571 An Architecture for Describing SNMP Management Frameworks RFC 2572 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP) RFC 2573 SNMP Applications RFC 2574 SNMPv3 User-based Security Model (USM) RFC 2575 SNMPv3 View-based Access Control Model (VACM) RFC 2576 Coexistence between SNMP versions RFC 2578 SMIPv2 RFC 2581 TCP6	RFC 2819 Remote Network Monitoring Management Information Base RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations RFC 3176 sFlow RFC 3410 Introduction to Version 3 of the Internet-standard Network Management Framework RFC 3414 SNMPv3 User-based Security Model (USM) RFC 3415 SNMPv3 View-based Access Control Model (VACM) ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED) SNMPv1/v2c/v3
OSPF		RFC 1587 OSPF NSSA	RFC 1850 OSPFv2 Management Information Base (MIB), traps
QoS/CoS	IEEE 802.1P (CoS)	RFC 2474 DSCP DiffServ RFC 2475 DiffServ Architecture	RFC 2597 DiffServ Assured Forwarding (AF) RFC 2598 DiffServ Expedited Forwarding (EF)
Security	IEEE 802.1X Port Based Network Access Control RFC 1492 TACACS+	RFC 1918 Address Allocation for Private Internets RFC 2865 RADIUS Authentication RFC 2866 RADIUS Accounting	Access Control Lists (ACLs) MAC Authentication Port Security

HP 5500 HI Switch Series accessories

Modules

HP 5500 2-port 10GbE XFP Module (JD359B)
 HP 5500 2-port 10GbE Local Connect Module (JD360B)
 HP 5500 1-port 10GbE XFP Module (JD361B)
 HP 5500/4800 2-port GbE SFP Module (JD367A)
 HP 5500/5120 2-port 10GbE SFP+ Module (JD368B)
 HP 5500 HI 8-port Gig-T Module (JG313A)
 HP 5500 HI 8-port SFP Module (JG314A)

Transceivers

HP X125 1G SFP LC LH40 1310nm Transceiver (JD061A)
 HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A)
 HP X125 1G SFP LC LH70 Transceiver (JD063B)
 HP X120 1G SFP RJ45 T Transceiver (JD089B)
 HP X110 100M SFP LC LH40 Transceiver (JD090A)
 HP X110 100M SFP LC LH80 Transceiver (JD091A)
 HP X130 10G SFP+ LC SR Transceiver (JD092B)
 HP X130 10G SFP+ LC LRM Transceiver (JD093B)
 HP X130 10G SFP+ LC LR Transceiver (JD094B)
 HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable (JD095C)
 HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable (JD096C)
 HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable (JD097C)
 HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable (JG081C)
 HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable (JC784C)
 HP X120 1G SFP LC BX 10-U Transceiver (JD098B)
 HP X120 1G SFP LC BX 10-D Transceiver (JD099B)
 HP X110 100M SFP LC FX Transceiver (JD102B)
 HP X130 10G XFP LC LR Transceiver (JD108B)
 HP X130 10G XFP LC SR Transceiver (JD117B)
 HP X120 1G SFP LC SX Transceiver (JD118B)
 HP X110 100M SFP LC LX Transceiver (JD120B)
 HP X135 10G XFP LC ER Transceiver (JD121A)
 HP X110 100M SFP LC FX Dual Mode Transceiver (JD497A)
 HP X110 100M SFP LC LX10 Transceiver (JD498A)
 HP X120 1G SFP LC LX Transceiver (JD119B)

Cables

HP 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A)
 HP 1 m Multimode OM3 LC/LC Optical Cable (AJ834A)
 HP 2 m Multimode OM3 LC/LC Optical Cable (AJ835A)
 HP 5 m Multimode OM3 LC/LC Optical Cable (AJ836A)
 HP 15 m Multimode OM3 LC/LC Optical Cable (AJ837A)
 HP 30 m Multimode OM3 LC/LC Optical Cable (AJ838A)
 HP 50 m Multimode OM3 LC/LC Optical Cable (AJ839A)
 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)
 HP X230 Local Connect 50cm CX4 Cable (JD363B)
 HP X230 Local Connect 100cm CX4 Cable (JD364B)
 HP X230 CX4 to CX4 3m Cable (JD365A)

HP 5500-24G-4SFP HI Switch with 2 Interface Slots (JG311A)

HP 5800/5500 150W AC Power Supply (JD362A)
 HP 5800/5500 150W DC Power Supply (JD366A)

HP 5500-48G-4SFP HI Switch with 2 Interface Slots (JG312A)

HP 5800/5500 150W AC Power Supply (JD362A)
 HP 5800/5500 150W DC Power Supply (JD366A)

HP 5500-24G-PoE+-4SFP HI Switch with 2 Interface Slots (JG541A)

HP X362 720W 100-240VAC to 56VDC PoE Power Supply (JG544A)
 HP X362 1110W 115-240VAC to 56VDC PoE Power Supply (JG545A)

HP 5500-48G-PoE+-4SFP HI Switch with 2 Interface Slots (JG542A)

HP X362 720W 100-240VAC to 56VDC PoE Power Supply (JG544A)
 HP X362 1110W 115-240VAC to 56VDC PoE Power Supply (JG545A)

HP 5500-24G-SFP HI Switch with 2 Interface Slots (JG543A)

HP 5800/5500 150W AC Power Supply (JD362A)
 HP 5800/5500 150W DC Power Supply (JD366A)

SOLO NETWORK

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