

### Overview

## Models

HP 7510 Switch Chassis	JD238B
HP 7506-V Switch Chassis	JD241B
HP 7506 Switch Chassis	JD239B
HP 7503 Switch Chassis	JD240B
HP 7503-S Switch Chassis with 1 Fabric Slot	JD243B
HP 7502 Switch Chassis	JD242B

## Key features

- High-end modular chassis
- For enterprise LAN core, data centers, MANs
- Extensive switching and routing, IPv6, MPLS
- Added functionality with service modules
- Robust network and service virtualization

## Product overview

The HP 7500 Switch Series comprises 10-Gigabit modular chassis switches designed for campus LAN and small/midsize enterprise data center applications. These multilayer switches meet the evolving needs of integrated services networks and can be deployed in multiple network environments, including the enterprise LAN core, aggregation layer, and wiring closet edge, as well as in metropolitan area networks (MANs) and data centers. They feature cost-effective wire-speed 10-Gigabit Ethernet ports to provide the throughput and bandwidth necessary for mission-critical data and high-speed communications. A passive backplane, support for load sharing, and redundant management and fabrics help HP 7500 series switches offer high availability. Moreover, these switches deliver wire-speed Layer 2 and Layer 3 routing services for the most demanding applications.

## Features and benefits

### Quality of Service (QoS)

- **IEEE 802.1p prioritization:** delivers data to devices based on the priority and type of traffic
- **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
- **Bandwidth shaping:**
  - Port-based rate limiting: provides per-port ingress-/egress-enforced maximum bandwidth
  - Classifier-based rate limiting: uses an access control list (ACL) to enforce maximum bandwidth for ingress traffic on each port
  - Guaranteed minimum: provides per-port, per-queue egress-based guaranteed minimum bandwidth
- **Congestion avoidance:** Weighted Random Early Detection (WRED)/Random Early Detection (RED)
- **Powerful QoS feature:** supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), and WRED
- **Traffic policing:** supports Committed Access Rate (CAR) and line rate

### Intrusion detection/prevention system (IDS/IPS)

- **Deep packet inspection:** module supports deep packet inspection and examines the packet payload as well as the frame and packet headers; packets are dropped if attacks or intrusions are detected using signature-based or protocol anomaly-based detection



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- **Signature-based detection:** detects attacks that have known attack patterns; IPS maintains a signature database that contains the pattern definitions for known attacks that can be automatically updated using a subscription service
- **Protocol anomaly-based detection:** detects attacks that use anomalies in application protocol payloads
- **Severity-based action policies:** involve action taken against attacks based on their severity; available actions are "allow," "block," and "terminate connection" to provide appropriate mitigation
- **Signature update service:** provides regular updates to the signature database, helping to ensure that the latest available signatures are installed

### Firewall

- **Stateful firewall:** enforces firewall policies to control traffic and filter access to network services; maintains session information for every connection passing through it, enabling the firewall to control packets based on existing sessions
- **Zone-based access policies:** logically groups virtual LANs (VLANs) into zones that share common security policies; allows both unicast and multicast policy settings by zones instead of by individual VLANs
- **Application-level gateway (ALG):** deep packet inspection in the firewall discovers the IP address and service port information embedded in the application data; the firewall then dynamically opens appropriate connections for specific applications
- **NAT/PAT:** choice of dynamic or static network address translation (NAT) preserves a network's IP address pool or conceals the private address of network resources, such as Web servers, which are made accessible to users of a guest or public wireless LAN

### Virtual private network (VPN)

- **IPsec:** provides secure tunneling over an untrusted network such as the Internet or a wireless network; offers data confidentiality, authenticity, and integrity between two endpoints of the network
- **Generic Routing Encapsulation (GRE):** can be used to transport Layer 2 connectivity over a Layer 3 path in a secured way; enables the segregation of traffic from site to site
- **Manual or automatic Internet Key Exchange (IKE):** provides both manual or automatic key exchange required for the algorithms used in encryption or authentication; auto-IKE allows automated management of the public key exchange, providing the highest levels of encryption

### Management

- **Management interface control:** provides management access through a modem port and terminal interface, as well as in-band and out-of-band Ethernet ports; provides access through terminal interface, telnet, or Secure Shell (SSH)
- **Industry-standard CLI with a hierarchical structure:** reduces training time and expenses, and increases productivity in multivendor installations
- **Management security:** multiple privilege levels with password protection restrict access to critical configuration commands; ACLs provide telnet and SNMP access; local and remote syslog capabilities allow logging of all access
- **SNMPv1, v2, and v3:** provide complete support of SNMP; provide full support of industry-standard Management Information Base (MIB) plus private extensions; SNMPv3 supports increased security using encryption
- **Web management:** embedded HTML management tool with secure access (SSHv2)
- **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
- **Remote monitoring (RMON):** uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- **FTP, TFTP, and SFTP support:** FTP allows bidirectional transfers over a TCP/IP network and is used for configuration updates; Trivial FTP is a simpler method using User Datagram Protocol (UDP)
- **Debug and sampler utility:** supports ping and traceroute for both IPv4 and IPv6
- **Network Time Protocol (NTP):** synchronizes timekeeping among distributed time servers and clients; keeps consistent timekeeping among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time



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- **Network Quality Analyzer (NQA):** analyzes network performance and service quality by sending test packets, and provides network performance and service quality parameters such as jitter, TCP, or FTP connection delays and file transfer rates; allows network manager to determine overall network performance and to diagnose and locate network congestion points or failures
- **Info center:** provides a central information center for system and network information; aggregates all logs, traps, and debugging information generated by the system and maintains them in order of severity; outputs the network information to multiple channels based on user-defined rules
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** automated device discovery protocol provides easy mapping by network management applications
- **Dual flash images:** provide independent primary and secondary operating system files for backup while upgrading
- **Multiple configuration files:** can be stored to the flash image

### Connectivity

- **High-density port connectivity:** up to 10 interface module slots; up to 84 10-GbE ports, 480 Fiber Gigabit, or 480 PoE-enabled ports per 7500 series system
- **Jumbo frames:** are supported on 10-GbE and GbE ports; up to 9,000 sizes allow high-performance backups and disaster-recovery systems
- **Loopback:** supports internal loopback testing for maintenance purposes and an increase in availability; loopback detection protects against incorrect cabling or network configurations and can be enabled on a per-port or per-VLAN basis for added flexibility
- **Ethernet OAM:** provides a Layer 2 link performance and fault detection monitoring tool, which reduces failover and network convergence times
- **Flexible port selection:** 100/1000BASE-X auto speed selection, 10/100/1000BASE-T auto speed detection plus auto duplex and MDI/MDI-X
- **Monitor link:** collects statistics on performance and errors on physical links, increasing system availability
- **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
- **Dual-personality functionality:** includes four 10/100/1000 ports or SFP slots for optional fiber connectivity such as Gigabit-SX, -LX, and -LH, or 100-FX
- **Packet storm protection:** protects against unknown broadcast, unknown multicast, or unicast storms with user-defined thresholds
- **Flow control:** using standard IEEE 802.3x, it provides back pressure to reduce congestion in heavy traffic situations
- **IEEE 802.3at Power over Ethernet (PoE+) support:** provides up to 30 W of power at the power sourcing equipment (PSE)

### Performance

- **High-speed fully distributed architecture:**
  - 2.4 Tbps backplane supports 1152 Gbps switching capacity maximum, providing enhanced performance and future expansion capability; with dual fabrics, the switch delivers up to 714 Mpps throughput
  - All switching and routing performed in the I/O modules
  - Meets today's and future demand of enterprise's bandwidth-intensive applications
- **Scalable system design:** backplane is designed for bandwidth increases; provides investment protection to support future technologies and higher-speed connectivity
- **Flexible chassis selection:** enables customers to tailor their product selection to their budget with a choice of six chassis, ranging from a 10-slot to a 2-slot

### Resiliency and high availability

- **Redundant/Load-sharing fabrics, management, fan assemblies, and power supplies:** increase total performance and power available while providing hitless, stateful failover
- **All modules are hot swappable:** allows replacement of modules without any impact on other modules



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- **Dual internal power supply:** provides high reliability
- **Separate data and control paths:** keeps control separated from services and keeps service processing isolated; increases security and performance
- **Passive design system:** backplane has no active components for increased system reliability
- **IEEE 802.3ad Link Aggregation Control Protocol (LACP):** supports up to 128 trunks, each with 8 links per trunk; supports static or dynamic groups and user-selectable hashing algorithm
- **Intelligent Resilient Framework (IRF):** creates virtual resilient switching fabrics, where two or more switches perform as a single Layer 2 switch and Layer 3 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; simplifies network operation by eliminating the complexity of Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP
- **Ring Resiliency Protection Protocol (RRPP):** provides standard sub-100 ms recovery for ring Ethernet-based topology
- **Virtual Router Redundancy Protocol (VRRP):** allows a group of routers to dynamically back each other up to create highly available routed environments
- **Hitless patch upgrades:** allow patches and new service features to be installed without restarting the equipment, increasing network uptime and facilitating maintenance
- **Graceful restart:** features are fully supported, including graceful restart for OSPF, IS-IS, BGP, LDP, and RSVP; network remains stable during the active-standby switchover; after the switchover, the device quickly learns the network routes by communicating with adjacent routers; forwarding remains uninterrupted during the switchover to realize nonstop forwarding (NSF)
- **Ultrafast protocol convergence with standard-based failure detection—Bidirectional Forwarding Detection (BFD):** enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, MPLS, and IRF
- **Smart link:** allows 50 ms failover between links
- **IP/LDP FRR:** nodes are configured with backup ports, routes, and LSPs; local implementation requires no cooperation of adjacent devices, simplifying the deployment; solves the traditional convergence faults in IP forwarding and MPLS forwarding, protecting the links, nodes, and paths without establishing respective backup LSPs for them; realizes restoration within 50 ms, with the restoration time independent of the number of routes and fast link switchovers, without route convergence

### Layer 2 switching

- **VLAN:** supports up to 4096 port or IEEE 802.1Q-based VLANs; also supports MAC-based VLANs, protocol-based VLANs, and IP-subnet-based VLANs for added flexibility
- **Port isolation:** increases security by isolating ports within a VLAN while still allowing them to communicate with other VLANs
- **Bridge Protocol Data Unit (BPDU) tunneling:** transmits Spanning Tree Protocol BPDUs transparently, allowing correct tree calculations across service providers, WANs, or MANs
- **GARP VLAN Registration Protocol:** allows automatic learning and dynamic assignment of VLANs
- **Port mirroring:** duplicates port traffic (ingress and egress) to a local or remote monitoring port; supports four mirroring groups, with an unlimited number of ports per group
- **Spanning Tree:** fully supports standard IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol
- **Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) protocol snooping:** effectively control and manage the flooding of multicast packets in a Layer 2 network
- **Device Link Detection Protocol (DLDP):** monitors link connectivity and shuts down ports at both ends if uni-directional traffic is detected, preventing loops in STP-based networks
- **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
- **Super VLAN:** RFC 3069 standard, also called VLAN aggregation, is used to save IP address space
- **Per-VLAN Spanning Tree Plus (PVST+):** allows each virtual LAN (VLAN) to build a separate spanning tree to improve link bandwidth usage in network environments where multiple VLANs exist

### Layer 3 services

- **Address Resolution Protocol (ARP):** determines the MAC address of another IP host in the same subnet; supports static ARPs;



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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

- **User Datagram Protocol (UDP) helper:** redirects UDP broadcasts to specific IP subnets to prevent server spoofing
- **Dynamic Host Configuration Protocol (DHCP):** simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- **Domain Name System (DNS):** is a distributed database that provides translation between a domain name and an IP address, which simplifies network design; supports client and server

### Layer 3 routing

- **Static IPv4 routing:** provides simple, manually configured IPv4 routing
- **Routing Information Protocol:** uses a distance vector algorithm with UDP packets for route determination; supports RIPv1 and RIPv2 routing; includes loop protection
- **OSPF:** Interior Gateway Protocol (IGP) using link-state protocol for faster convergence; supports ECMP, NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery
- **Intermediate system to intermediate system (IS-IS):** Interior Gateway Protocol (IGP) using path vector protocol, which is defined by the ISO organization for IS-IS routing and extended by IETF RFC 1195 to operate in both TCP/IP and the OSI reference model (Integrated IS-IS)
- **Border Gateway Protocol 4 (BGP-4):** Exterior Gateway Protocol (EGP) with path vector protocol uses TCP for enhanced reliability for the route discovery process, reduces bandwidth consumption by advertising only incremental updates, and supports extensive policies for increased flexibility, as well as scales to very large networks
- **Policy-based routing:** makes routing decisions based on policies set by the network administrator
- **IP performance optimization:** is a set of tools to improve the performance of IPv4 networks; includes directed broadcasts, customization of TCP parameters, support of ICMP error packets, and extensive display capabilities
- **Unicast Reverse Path Forwarding (uRPF):** is defined by RFC 3704 and limits erroneous or malicious traffic
- **Static IPv6 routing:** provides simple, manually configured IPv6 routing
- **Dual IP stack:** maintains separate stacks for IPv4 and IPv6 to ease transition from an IPv4-only network to an IPv6-only network design
- **Routing Information Protocol next generation (RIPng):** extends RIPv2 to support IPv6 addressing
- **OSPFv3:** provides OSPF support for IPv6
- **IS-IS for IPv6:** extends IS-IS to support IPv6 addressing
- **BGP+:** extends BGP-4 to support Multiprotocol BGP (MBGP), including support for IPv6 addressing
- **IPv6 tunneling:** is an important element for the transition from IPv4 to IPv6; allows IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet; supports manually configured, 6to4, and Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnels
- **Multiprotocol Label Switching (MPLS):** uses BGP to advertise routes across Label Switched Paths (LSPs), but uses simple labels to forward packets from any Layer 2 or Layer 3 protocol, thus reducing complexity and increasing performance; supports graceful restart for reduced failure impact; supports LSP tunneling and multilevel stacks
- **Multiprotocol Label Switching (MPLS) Layer 3 VPN:** allows Layer 3 VPNs across a provider network; uses MP-BGP to establish private routes for increased security; supports RFC 2547bis multiple autonomous system VPNs for added flexibility
- **Multiprotocol Label Switching (MPLS) Layer 2 VPN:** establishes simple Layer 2 point-to-point VPNs across a provider network using only MPLS Label Distribution Protocol (LDP); requires no routing and therefore decreases complexity, increases performance, and allows VPNs of non-routable protocols; uses no routing information for increased security; supports Circuit Cross Connect (CCC), Static Virtual Circuits (SVCs), Martini draft, and Kompella-draft technologies
- **Virtual Private LAN Service (VPLS):** establishes point-to-multipoint Layer 2 VPNs across a provider network
- **Service loopback:** allows any module to take advantage of higher featured modules, including Open Application Architecture (OAA) modules, by redirecting traffic; reduces investment and enables higher bandwidth and load sharing; supported for IPv6, IPv6 multicast, tunneling, and MPLS

### Security

- **Access control list (ACL):** supports powerful ACLs for both IPv4 and IPv6; ACLs are used for filtering traffic to prevent illegal



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users from accessing the network, or for controlling network traffic to save resources; rules can either deny or permit traffic to be forwarded; rules can be based on a Layer 2 header or a Layer 3 protocol header; rules can be set to operate on specific dates or times

- **RADIUS:** eases switch security access administration by using a password authentication server
- **TACACS+:** is an authentication tool using TCP with encryption of the full authentication request that provides additional security
- **Switch management logon security:** can require either RADIUS or TACACS+ authentication for secure switch CLI logon
- **Secure Shell (SSHv2):** uses external servers to securely log in to a remote device; with authentication and encryption, it protects against IP spoofing and plain-text password interception; increases the security of Secure FTP (SFTP) transfers
- **Dynamic Host Configuration Protocol (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 receiving fake IP addresses and reduces ARP attacks, improving security
- **IP source guard:** filters packets on a per-port basis to prevent illegal packets from being forwarded
- **ARP attack protection:** protects from attacks using a large number of ARP requests by using a host-specific, user-selectable threshold
- **Port security:** allows access only to specified MAC addresses, which can be learned or specified by the administrator
- **IEEE 802.1X:** provides port-based user authentication with support for Extensible Authentication Protocol (EAP) MD5, TLS, TTLS, and PEAP with choice of AES, TKIP, and static or dynamic WEP encryption for protecting wireless traffic between authenticated clients and the access point
- **Media access control (MAC) authentication:** provides simple authentication based on a user's MAC address; supports local or RADIUS-based authentication
- **Multiple user authentication methods:**
  - IEEE 802.1X: is an industry-standard method of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
  - Web-based authentication: similar to IEEE 802.1X, it provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant
  - MAC-based authentication: client is authenticated with the RADIUS server based on the client's MAC address
- **DHCP protection:** blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **Endpoint Admission Defense (EAD):** provides security policies to users accessing a network
- **Port isolation:** secures and adds privacy, and prevents malicious attackers from obtaining user information

### 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
- **Multicast Source Discovery Protocol (MSDP):** is used for inter-domain multicast applications, allowing multiple PIM-SM domains to interoperate
- **Internet Group Management Protocol (IGMP):** is used by IP hosts to establish and maintain multicast groups; supports v1, v2, and v3; utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks
- **Protocol Independent Multicast (PIM):** is used for IPv4 and IPv6 multicast applications; supports PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM)
- **Multicast Border Gateway Protocol (MBGP):** allows multicast traffic to be forwarded across BGP networks and kept separate from unicast traffic
- **Multicast Listener Discovery (MLD) protocol:** is used by IP hosts to establish and maintain multicast groups; supports v1 and v2 and utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv6 multicast networks
- **Multicast VLAN:** allows multiple VLANs to receive the same IPv4 or IPv6 multicast traffic, reducing network bandwidth demand by eliminating multiple streams to each VLAN
- **Voice VLAN:** automatically assigns VLAN and priority for IP phones, simplifying network configuration and maintenance

### Integration

- **Open Application Architecture (OAA):** provides high-performance application-specific modules fully integrated with the



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switching architecture; uses the chassis high-speed backplane to access network-related data; increases performance, reduces costs, and simplifies network management

- **VPN firewall module:**
  - Provides enhanced stateful packet inspection and filtering; supports flexible security zones and virtual firewall containment
  - Advanced VPN services with 3DES and AES encryption at high performance and low latency
  - Web content filtering
  - Application prioritization and optimization
- **Load-balancing module:** local and global server load-balancing module improves traffic distribution using powerful scheduling algorithms, including Layer 4 to 7 services; monitors the health status of servers and firewalls
- **NetStream module:** provides traffic analysis and statistics capture to allow network administrators to rapidly identify network anomalies and B105 security threats, as well as capacity planning information; supports NetFlow v5 and v9
- **Wireless controller module:**
  - Integrated wireless controller module supporting up to 640 access points per module
  - Supports IEEE 802.11a/b/g/n access points (APs)
  - Provides full user access management and QoS policies on a per-user basis; supports enterprise-class encryption
  - Supports radio frequency monitoring and control, managed access point (MAP) control, rogue AP detection, and location policy enforcement

### Additional information

- **Green initiative support:** provides support for RoHS and WEEE regulations
- **Low power consumption:** is rated as one of the lowest in power consumption in the industry by Miercom independent tests
- **Unified, modular Comware operating system with modular architecture:** all switching, routing, and security platforms leverage Comware, a common unified modular operating system; provides an easy-to-enhance-and-extend feature set without wholesale changes
- **OPEX savings:** a common operating system simplifies and streamlines deployment, management, and training, thereby cutting costs as well as reducing the chance for human errors associated with having to manage multiple operating systems across different platforms and network layers

### Warranty and support

- **1-year warranty:** with advance replacement and 10-calendar-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](http://www.hp.com/networking/warranty) for details on the support provided and the period during which support is available
- **Software releases:** refer to: [www.hp.com/networking/warranty](http://www.hp.com/networking/warranty) for details on the software releases provided and the period during which software releases are available for your product(s)



### Technical Specifications

#### HP 7510 Switch Chassis (JD238B)

Included accessories	1 HP 7510 Spare Fan Assembly (JD216A)	
Ports	2 switch fabric slots	
	10 I/O module slots	
	Supports a maximum of 84 10-GbE ports or 480 autosensing 10/100/1000 ports or 480 SFP ports, or a combination	
Power supplies	2 power-supply slots	
	1 minimum power-supplies required (ordered separately)	
Fan tray	includes: 1 x JD216A	
	1 fan tray slot	
Physical characteristics	<b>Dimensions</b>	16.54(d) x 17.17(w) x 27.87(h) in. (42.0 x 43.6 x 70.8 cm) (16U height)
	<b>Weight</b>	211 lb. (95.71 kg), Fully loaded chassis, two fabrics, two power supplies, and a full complement of typical I/O modules
Memory and processor	<b>Fabric</b>	MIPS64 @ 600 MHz, 64 MB flash, 512 MB RAM
	<b>I/O Module</b>	MIPS64 @ 400 MHz, 512 MB RAM
Mounting	Mounts in an EIA-standard 19 in. rack or other equipment cabinet (hardware included); horizontal surface mounting only	
Performance	<b>Throughput</b>	714 million pps
	<b>Routing/Switching capacity</b>	1152 Gbps
	<b>Routing table size</b>	256000 entries
	<b>MAC address table size</b>	512000 entries
	<b>Availability</b>	99.999%
Reliability	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)
Environment	<b>Operating relative humidity</b>	10% to 95%, non-condensing
	<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
	<b>Nonoperating/Storage relative humidity</b>	5% to 95%, non-condensing
	<b>Acoustic</b>	Low-speed fan: 53.5 dB, High-speed fan: 56.7 dB
Electrical characteristics	Achieved Miercom Certified Green Award*	
	<a href="#">* Products within this series have achieved sufficient scores in each of the rated criteria to achieve the Miercom Certified Green distinction Award. See the Specifications section of this series for more information.</a>	
	<b>Description</b>	The H3C S7506E (HP 7506) is Certified Green in the 2009 Miercom Green Switches Industry Assessment.
	<b>Voltage</b>	100-120 / 200-240 VAC
	<b>DC Voltage</b>	-48 V / -60 V
	<b>Current</b>	16 / 50 A
	<b>Power output</b>	1400 W
	<b>Frequency</b>	50 / 60 Hz





### Technical Specifications

	Notes
<b>Safety</b>	Based on common power supply 1400 W (AC/DC) UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001 +A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
<b>Immunity</b>	<b>Generic</b> ETSI EN 300 386 V1.3.3 <b>EN</b> EN 61000-4-2:1995+A1:1998+A2:2001 <b>ESD</b> EN 61000-4-2 <b>Radiated</b> EN 61000-4-3 <b>EFT/Burst</b> EN 61000-4-4 <b>Surge</b> EN 61000-4-5 <b>Conducted</b> EN 61000-4-6 <b>Power frequency magnetic field</b> IEC 61000-4-8 <b>Voltage dips and interruptions</b> EN 61000-4-11 <b>Harmonics</b> EN 61000-3-2, IEC 61000-3-2 <b>Flicker</b> EN 61000-3-3, IEC 61000-3-3
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB
<b>Notes</b>	For non-TAA environment, IPS/IDS functionality provided by HP S1200E IPS 7500 Module (JC527A) For non-TAA environment, IKE/IPsec functionality provided by HP 7500 VPN Firewall Module (JD249A) IRF functionality not supported on 7502 and 7503-S chassis
<b>Services</b>	3-year, parts only, global next-day advance exchange (HP781E) 3-year, 4-hour onsite, 13x5 coverage for hardware (HP782E) 3-year, 4-hour onsite, 24x7 coverage for hardware (HP785E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HP788E) 3-year, 24x7 SW phone support, software updates (HP791E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR511E) Installation with minimum configuration, system-based pricing (UX032E) 4-year, 4-hour onsite, 13x5 coverage for hardware (HP783E) 4-year, 4-hour onsite, 24x7 coverage for hardware (HP786E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP789E) 4-year, 24x7 SW phone support, software updates (HP792E) 5-year, 4-hour onsite, 13x5 coverage for hardware (HP784E) 5-year, 4-hour onsite, 24x7 coverage for hardware (HP787E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP790E) 5-year, 24x7 SW phone support, software updates (HP793E) 3 Yr 6 hr Call-to-Repair Onsite (HP795E) 3 Yr 6 hr Call-to-Repair Onsite (HP794E) 5 Yr 6 hr Call-to-Repair Onsite (HP796E) 1-year, 4-hour onsite, 13x5 coverage for hardware (HR509E) 1-year, 4-hour onsite, 24x7 coverage for hardware (HR510E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR513E) 1-year, 24x7 software phone support, software updates (HR512E)



### Technical Specifications

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

#### HP 7506-V Switch Chassis (JD241B)

<b>Included accessories</b>	1 HP 7506-V Spare Fan Assembly (JD215A)	
<b>Ports</b>	2 switch fabric slots 6 I/O module slots Supports a maximum of 52 10-GbE ports or 288 autosensing 10/100/1000 ports or 288 SFP ports, or a combination	
<b>Power supplies</b>	2 power-supply slots 1 minimum power-supplies required (ordered separately)	
<b>Fan tray</b>	includes: 1 x JD215A 1 fan tray slot	
<b>Physical characteristics</b>	<b>Dimensions</b>	16.54(d) x 17.17(w) x 36.61(h) in. (42.0 x 43.6 x 93.0 cm) (21U height)
	<b>Weight</b>	222 lb. (100.7 kg), Fully loaded chassis, two fabrics, two power supplies, and a full complement of typical I/O modules
<b>Memory and processor</b>	<b>Fabric</b>	MIPS64 @ 600 MHz, 64 MB flash, 512 MB RAM
	<b>I/O Module</b>	MIPS64 @ 400 MHz, 512 MB RAM
<b>Mounting</b>	Mounts in an EIA-standard 19 in. rack or other equipment cabinet (hardware included); horizontal surface mounting only	
<b>Performance</b>	<b>Throughput</b>	488 million pps
	<b>Routing/Switching capacity</b>	768 Gbps
	<b>Routing table size</b>	256000 entries
	<b>MAC address table size</b>	512000 entries
<b>Reliability</b>	<b>Availability</b>	99.999%
<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)
	<b>Operating relative humidity</b>	10% to 95%, non-condensing
	<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
	<b>Nonoperating/Storage relative humidity</b>	5% to 95%, non-condensing
	<b>Acoustic</b>	Low-speed fan: 52.1 dB, High-speed fan: 56.2 dB
<b>Electrical characteristics</b>	Achieved Miercom Certified Green Award*	
	* Products within this series have achieved sufficient scores in each of the rated criteria to achieve the Miercom Certified Green distinction Award. See the Specifications section of this series for more information.	
	<b>Description</b>	The H3C S7506E (HP 7506) is Certified Green in the 2009 Miercom Green Switches Industry Assessment.
	<b>Voltage</b>	100-120 / 200-240 VAC
	<b>DC Voltage</b>	-48 V / -60 V



### Technical Specifications

	<b>Current</b>	16 / 50 A
	<b>Power output</b>	1400 W
	<b>Frequency</b>	50 / 60 Hz
	<b>Notes</b>	Based on common power supply 1400 W (AC/DC)
<b>Safety</b>		UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11
<b>Emissions</b>		VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
<b>Immunity</b>	<b>Generic</b>	ETSI EN 300 386 V1.3.3
	<b>EN</b>	EN 61000-4-2:1995+A1:1998+A2:2001
	<b>ESD</b>	EN 61000-4-2
	<b>Radiated</b>	EN 61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4
	<b>Surge</b>	EN 61000-4-5
	<b>Conducted</b>	EN 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
	<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3
<b>Management</b>		IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB
<b>Notes</b>		For non-TAA environment, IPS/IDS functionality provided by HP S1200E IPS 7500 Module (JC527A) For non-TAA environment, IKE/IPsec functionality provided by HP 7500 VPN Firewall Module (JD249A) IRF functionality not supported on 7502 and 7503-S chassis
<b>Services</b>		3-year, parts only, global next-day advance exchange (UW999E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UX001E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UX004E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UX007E) 3-year, 24x7 SW phone support, software updates (UX010E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR514E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR515E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR516E) Installation with minimum configuration, system-based pricing (UX032E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UX002E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UX005E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UX008E) 4-year, 24x7 SW phone support, software updates (UX011E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UX003E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UX006E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UX009E) 5-year, 24x7 SW phone support, software updates (UX012E) 3 Yr 6 hr Call-to-Repair Onsite (UX013E) 4 Yr 6 hr Call-to-Repair Onsite (UX014E)



### Technical Specifications

5 Yr 6 hr Call-to-Repair Onsite (UX015E)  
1-year, 6 hour Call-To-Repair Onsite for hardware (HR518E)  
1-year, 24x7 software phone support, software updates (HR517E)

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

#### HP 7506 Switch Chassis (JD239B)

Included accessories	1 HP 7506 Spare Fan Assembly (JD214A)	
Ports	2 switch fabric slots	
	6 I/O module slots	
	Supports a maximum of 52 10-GbE ports or 288 autosensing 10/100/1000 ports or 288 SFP ports, or a combination	
Power supplies	2 power-supply slots	
	1 minimum power-supplies required (ordered separately)	
Fan tray	includes: 1 x JD214A	
	1 fan tray slot	
Physical characteristics	Dimensions	16.54(d) x 17.17(w) x 22.64(h) in. (42.0 x 43.6 x 57.5 cm) (13U height)
	Weight	207 lb. (93.9 kg), Fully loaded chassis, two fabrics, two power supplies, and a full complement of typical I/O modules
Memory and processor	Fabric	MIPS64 @ 600 MHz, 64 MB flash, 512 MB RAM
	I/O Module	MIPS64 @ 400 MHz, 512 MB RAM
Mounting	Mounts in an EIA-standard 19 in. rack or other equipment cabinet (hardware included); horizontal surface mounting only	
Performance	Throughput	488 million pps
	Routing/Switching capacity	768 Gbps
	Routing table size	256000 entries
	MAC address table size	512000 entries
Reliability	Availability	99.999%
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, non-condensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, non-condensing
	Acoustic	Low-speed fan: 53.6 dB, High-speed fan: 57.7 dB
Electrical characteristics	Achieved Miercom Certified Green Award*	

\* Products within this series have achieved sufficient scores in each of the rated criteria to achieve the Miercom Certified Green distinction Award. See the Specifications section of this series for more information.



### Technical Specifications

	<b>Description</b>	The H3C S7506E (HP 7506) is Certified Green in the 2009 Miercom Green Switches Industry Assessment.
	<b>Voltage</b>	100-120 / 200-240 VAC
	<b>DC Voltage</b>	-48 V / -60 V
	<b>Current</b>	16 / 50 A
	<b>Power output</b>	1400 W
	<b>Frequency</b>	50 / 60 Hz
	<b>Notes</b>	Based on common power supply 1400 W (AC/DC)
<b>Safety</b>		UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11
<b>Emissions</b>		VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001 +A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
<b>Immunity</b>	<b>Generic</b>	ETSI EN 300 386 V1.3.3
	<b>EN</b>	EN 61000-4-2:1995+A1:1998+A2:2001
	<b>ESD</b>	EN 61000-4-2
	<b>Radiated</b>	EN 61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4
	<b>Surge</b>	EN 61000-4-5
	<b>Conducted</b>	EN 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
	<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3
<b>Management</b>		IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB
<b>Notes</b>		For non-TAA environment, IPS/IDS functionality provided by HP S1200E IPS 7500 Module (JC527A) For non-TAA environment, IKE/IPsec functionality provided by HP 7500 VPN Firewall Module (JD249A) IRF functionality not supported on 7502 and 7503-S chassis
<b>Services</b>		3-year, parts only, global next-day advance exchange (UW999E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UX001E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UX004E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UX007E) 3-year, 24x7 SW phone support, software updates (UX010E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR514E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR515E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR516E) Installation with minimum configuration, system-based pricing (UX032E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UX002E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UX005E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UX008E) 4-year, 24x7 SW phone support, software updates (UX011E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UX003E)



### Technical Specifications

- 5-year, 4-hour onsite, 24x7 coverage for hardware (UX006E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UX009E)
- 5-year, 24x7 SW phone support, software updates (UX012E)
- 3 Yr 6 hr Call-to-Repair Onsite (UX013E)
- 4 Yr 6 hr Call-to-Repair Onsite (UX014E)
- 5 Yr 6 hr Call-to-Repair Onsite (UX015E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR518E)
- 1-year, 24x7 software phone support, software updates (HR517E)

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

#### HP 7503 Switch Chassis (JD240B)

<b>Included accessories</b>	1 HP 7503 Spare Fan Assembly (JD212A)	
<b>Ports</b>	2 switch fabric slots 3 I/O module slots Supports a maximum of 28 10-GbE ports or 144 autosensing 10/100/1000 ports or 144 SFP ports, or a combination	
<b>Power supplies</b>	2 power-supply slots 1 minimum power-supplies required (ordered separately)	
<b>Fan tray</b>	includes: 1 x JD212A 1 fan tray slot	
<b>Physical characteristics</b>	<b>Dimensions</b>	16.54(d) x 17.17(w) x 17.36(h) in. (42.0 x 43.6 x 44.1 cm) (10U height)
	<b>Weight</b>	147 lb. (66.68 kg), Fully loaded chassis, two fabrics, two power supplies, and a full complement of typical I/O modules
<b>Memory and processor</b>	<b>Fabric</b>	MIPS64 @ 600 MHz, 64 MB flash, 512 MB RAM
	<b>I/O Module</b>	MIPS64 @ 400 MHz, 512 MB RAM
<b>Mounting</b>	Mounts in an EIA-standard 19 in. rack or other equipment cabinet (hardware included); horizontal surface mounting only	
<b>Performance</b>	<b>Throughput</b>	274 million pps
	<b>Routing/Switching capacity</b>	480 Gbps
	<b>Routing table size</b>	256000 entries
	<b>MAC address table size</b>	512000 entries
<b>Reliability</b>	<b>Availability</b>	99.999%
<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)
	<b>Operating relative humidity</b>	10% to 95%, non-condensing
	<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
	<b>Nonoperating/Storage relative humidity</b>	5% to 95%, non-condensing
	<b>Acoustic</b>	Low-speed fan: 51.6 dB, High-speed fan: 56.1 dB
<b>Electrical characteristics</b>	Achieved Miercom Certified Green Award*	



### Technical Specifications

\* Products within this series have achieved sufficient scores in each of the rated criteria to achieve the Miercom Certified Green distinction Award. See the Specifications section of this series for more information.

<b>Description</b>	The H3C S7506E (HP 7506) is Certified Green in the 2009 Miercom Green Switches Industry Assessment.
<b>Voltage</b>	100-120 / 200-240 VAC
<b>DC Voltage</b>	-48 V / -60 V
<b>Current</b>	16 / 50 A
<b>Power output</b>	1400 W
<b>Frequency</b>	50 / 60 Hz
<b>Notes</b>	Based on common power supply 1400 W (AC/DC)

**Safety** UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11

**Emissions** VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A

<b>Immunity</b>	<b>Generic</b> ETSI EN 300 386 V1.3.3
	<b>EN</b> EN 61000-4-2:1995+A1:1998+A2:2001
	<b>ESD</b> EN 61000-4-2
	<b>Radiated</b> EN 61000-4-3
	<b>EFT/Burst</b> EN 61000-4-4
	<b>Surge</b> EN 61000-4-5
	<b>Conducted</b> EN 61000-4-6
	<b>Power frequency magnetic field</b> IEC 61000-4-8
	<b>Voltage dips and interruptions</b> EN 61000-4-11
	<b>Harmonics</b> EN 61000-3-2, IEC 61000-3-2
	<b>Flicker</b> EN 61000-3-3, IEC 61000-3-3

**Management** IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB

**Notes** For non-TAA environment, IPS/IDS functionality provided by HP S1200E IPS 7500 Module (JC527A)  
For non-TAA environment, IKE/IPsec functionality provided by HP 7500 VPN Firewall Module (JD249A)  
IRF functionality not supported on 7502 and 7503-S chassis

**Services** 3-year, parts only, global next-day advance exchange (HP799E)  
3-year, 4-hour onsite, 13x5 coverage for hardware (HP800E)  
3-year, 4-hour onsite, 24x7 coverage for hardware (HP803E)  
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HP806E)  
3-year, 24x7 SW phone support, software updates (HP809E)  
Installation with minimum configuration, system-based pricing (UX032E)  
4-year, 4-hour onsite, 13x5 coverage for hardware (HP801E)  
4-year, 4-hour onsite, 24x7 coverage for hardware (HP804E)  
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP807E)  
4-year, 24x7 SW phone support, software updates (HP810E)  
5-year, 4-hour onsite, 13x5 coverage for hardware (HP802E)  
5-year, 4-hour onsite, 24x7 coverage for hardware (HP805E)



### Technical Specifications

- 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP808E)
- 5-year, 24x7 SW phone support, software updates (HP811E)
- 3 Yr 6 hr Call-to-Repair Onsite (HP812E)
- 4 Yr 6 hr Call-to-Repair Onsite (HP813E)
- 5 Yr 6 hr Call-to-Repair Onsite (HP814E)
- 1-year, 4-hour onsite, 13x5 coverage for hardware (HR519E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware (HR520E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR523E)
- 1-year, 24x7 software phone support, software updates (HR522E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR521E)

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

#### HP 7503-S Switch Chassis with 1 Fabric Slot (JD243B)

Included accessories	1 HP 7503-S Spare Fan Assembly (JC672A)	
Ports	1 switch fabric slot 2 I/O module slots Supports a maximum of 16 10-GbE ports or 120 autosensing 10/100/1000 ports or 120 SFP ports, or a combination	
Power supplies	2 power-supply slots 1 minimum power-supplies required (ordered separately)	
Fan tray	includes: 1 x JC672A 1 fan tray slot	
Physical characteristics	<b>Dimensions</b>	16.54(d) x 17.17(w) x 6.89(h) in. (42.0 x 43.6 x 17.5 cm) (4U height)
	<b>Weight</b>	59 lb. (26.76 kg), Fully loaded chassis, one fabric, two power supplies, and a full complement of typical I/O modules
Memory and processor	<b>Fabric</b>	MIPS64 @ 400 MHz, 64 MB flash, 512 MB RAM
	<b>I/O Module</b>	MIPS64 @ 400 MHz, 512 MB RAM
Mounting	Mounts in an EIA-standard 19 in. rack or other equipment cabinet (hardware included); horizontal surface mounting only	
Performance	<b>Throughput</b>	107 million pps
	<b>Routing/Switching capacity</b>	144 Gbps
	<b>Routing table size</b>	256000 entries
	<b>MAC address table size</b>	512000 entries
Reliability	<b>Availability</b>	99.999%
Environment	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)
	<b>Operating relative humidity</b>	10% to 95%, non-condensing
	<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)





### Technical Specifications

	<b>Nonoperating/Storage relative humidity</b>	5% to 95%, non-condensing
	<b>Acoustic</b>	High-speed fan: 56.7 dB
<b>Electrical characteristics</b>	Achieved Miercom Certified Green Award*	
	* Products within this series have achieved sufficient scores in each of the rated criteria to achieve the Miercom Certified Green distinction Award. See the Specifications section of this series for more information.	
	<b>Description</b>	The H3C S7506E (HP 7506) is Certified Green in the 2009 Miercom Green Switches Industry Assessment.
	<b>Voltage</b>	100-120 / 200-240 VAC
	<b>DC Voltage</b>	-48 V / -60 V
	<b>Current</b>	5 / 10 A
	<b>Power output</b>	300 W
	<b>Frequency</b>	50 / 60 Hz
	<b>Notes</b>	Based on common power supply 300 W (AC/DC)
<b>Safety</b>	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001 +A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
<b>Immunity</b>	<b>Generic</b>	ETSI EN 300 386 V1.3.3
	<b>EN</b>	EN 61000-4-2:1995+A1:1998+A2:2001
	<b>ESD</b>	EN 61000-4-2
	<b>Radiated</b>	EN 61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4
	<b>Surge</b>	EN 61000-4-5
	<b>Conducted</b>	EN 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
	<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
<b>Notes</b>	For non-TAA environment, IPS/IDS functionality provided by HP S1200E IPS 7500 Module (JC527A) For non-TAA environment, IKE/IPsec functionality provided by HP 7500 VPN Firewall Module (JD249A) IRF functionality not supported on 7502 and 7503-S chassis	
<b>Services</b>	3-year, parts only, global next-day advance exchange (HP799E) 3-year, 4-hour onsite, 13x5 coverage for hardware (HP800E) 3-year, 4-hour onsite, 24x7 coverage for hardware (HP803E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HP806E) 3-year, 24x7 SW phone support, software updates (HP809E) Installation with minimum configuration, system-based pricing (UX032E) 4-year, 4-hour onsite, 13x5 coverage for hardware (HP801E)	



### Technical Specifications

- 4-year, 4-hour onsite, 24x7 coverage for hardware (HP804E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP807E)
- 4-year, 24x7 SW phone support, software updates (HP810E)
- 5-year, 4-hour onsite, 13x5 coverage for hardware (HP802E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware (HP805E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP808E)
- 5-year, 24x7 SW phone support, software updates (HP811E)
- 3 Yr 6 hr Call-to-Repair Onsite (HP812E)
- 4 Yr 6 hr Call-to-Repair Onsite (HP813E)
- 5 Yr 6 hr Call-to-Repair Onsite (HP814E)
- 1-year, 4-hour onsite, 13x5 coverage for hardware (HR519E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware (HR520E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR523E)
- 1-year, 24x7 software phone support, software updates (HR522E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR521E)

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

#### HP 7502 Switch Chassis (JD242B)

<b>Included accessories</b>	1 HP 7502 Spare Fan Assembly (JD213A)	
<b>Ports</b>	2 MPU (for management modules) slots 2 I/O module slots Supports a maximum of 16 10-GbE ports or 96 autosensing 10/100/1000 ports or 96 SFP ports, or a combination	
<b>Power supplies</b>	2 power-supply slots 1 minimum power-supplies required (ordered separately)	
<b>Fan tray</b>	includes: 1 x JD213A 1 fan tray slot	
<b>Physical characteristics</b>	<b>Dimensions</b>	16.54(d) x 17.17(w) x 6.89(h) in. (42.0 x 43.6 x 17.5 cm) (4U height)
	<b>Weight</b>	59 lb. (26.76 kg), Fully loaded chassis, two management modules, two power supplies, and a full complement of typical I/O modules
<b>Memory and processor</b>	<b>Fabric</b>	MIPS64 @ 600 MHz, 64 MB flash, 512 MB RAM
	<b>I/O Module</b>	MIPS64 @ 400 MHz, 512 MB RAM
<b>Mounting</b>	Mounts in an EIA-standard 19 in. rack or other equipment cabinet (hardware included); horizontal surface mounting only	
<b>Performance</b>	<b>Throughput</b>	143 million pps
	<b>Routing/Switching capacity</b>	192 Gbps
	<b>Routing table size</b>	256000 entries
	<b>MAC address table size</b>	512000 entries
<b>Reliability</b>	<b>Availability</b>	99.999%
<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)



### Technical Specifications

	<b>Operating relative humidity</b>	10% to 95%, non-condensing
	<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
	<b>Nonoperating/Storage relative humidity</b>	5% to 95%, non-condensing
	<b>Acoustic</b>	Low-speed fan: 49.8 dB, High-speed fan: 56.7 dB
<b>Electrical characteristics</b>	Achieved Miercom Certified Green Award*	
	* Products within this series have achieved sufficient scores in each of the rated criteria to achieve the Miercom Certified Green distinction Award. See the Specifications section of this series for more information.	
	<b>Description</b>	The H3C S7506E (HP 7506) is Certified Green in the 2009 Miercom Green Switches Industry Assessment.
	<b>Voltage</b>	100-120 / 200-240 VAC
	<b>DC Voltage</b>	-48 V / -60 V
	<b>Current</b>	5 / 10 A
	<b>Power output</b>	300 W
	<b>Frequency</b>	50 / 60 Hz
	<b>Notes</b>	Based on common power supply 300 W (AC/DC)
<b>Safety</b>	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001 +A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
<b>Immunity</b>	<b>Generic</b>	ETSI EN 300 386 V1.3.3
	<b>EN</b>	EN 61000-4-2:1995+A1:1998+A2:2001
	<b>ESD</b>	EN 61000-4-2
	<b>Radiated</b>	EN 61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4
	<b>Surge</b>	EN 61000-4-5
	<b>Conducted</b>	EN 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
	<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
<b>Notes</b>	For non-TAA environment, IPS/IDS functionality provided by HP S1200E IPS 7500 Module (JC527A) For non-TAA environment, IKE/IPsec functionality provided by HP 7500 VPN Firewall Module (JD249A) IRF functionality not supported on 7502 and 7503-S chassis	
<b>Services</b>	3-year, parts only, global next-day advance exchange (HP799E) 3-year, 4-hour onsite, 13x5 coverage for hardware (HP800E)	



### Technical Specifications

3-year, 4-hour onsite, 24x7 coverage for hardware (HP803E)  
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HP806E)  
3-year, 24x7 SW phone support, software updates (HP809E)  
Installation with minimum configuration, system-based pricing (UX032E)  
4-year, 4-hour onsite, 13x5 coverage for hardware (HP801E)  
4-year, 4-hour onsite, 24x7 coverage for hardware (HP804E)  
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP807E)  
4-year, 24x7 SW phone support, software updates (HP810E)  
5-year, 4-hour onsite, 13x5 coverage for hardware (HP802E)  
5-year, 4-hour onsite, 24x7 coverage for hardware (HP805E)  
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP808E)  
5-year, 24x7 SW phone support, software updates (HP811E)  
3 Yr 6 hr Call-to-Repair Onsite (HP812E)  
4 Yr 6 hr Call-to-Repair Onsite (HP813E)  
5 Yr 6 hr Call-to-Repair Onsite (HP814E)  
1-year, 4-hour onsite, 13x5 coverage for hardware (HR519E)  
1-year, 4-hour onsite, 24x7 coverage for hardware (HR520E)  
1-year, 6 hour Call-To-Repair Onsite for hardware (HR523E)  
1-year, 24x7 software phone support, software updates (HR522E)  
1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR521E)

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

### Standards and protocols (applies to all products in series)

#### BGP

RFC 1771 BGPv4  
RFC 1772 Application of the BGP  
RFC 1965 BGP4 confederations  
RFC 1997 BGP Communities Attribute  
RFC 1998 PPP Gandalf FZA Compression Protocol  
RFC 2385 BGP Session Protection via TCP MD5  
RFC 2439 BGP Route Flap Damping  
RFC 2796 BGP Route Reflection  
RFC 2858 BGP-4 Multi-Protocol Extensions  
RFC 2918 Route Refresh Capability  
RFC 3065 Autonomous System Confederations for BGP  
RFC 3392 Capabilities Advertisement with BGP-4  
RFC 4271 A Border Gateway Protocol 4 (BGP-4)  
RFC 4272 BGP Security Vulnerabilities Analysis  
RFC 4273 Definitions of Managed Objects for BGP-4  
RFC 4274 BGP-4 Protocol Analysis  
RFC 4275 BGP-4 MIB Implementation Survey  
RFC 4276 BGP-4 Implementation Report  
RFC 4277 Experience with the BGP-4 Protocol  
RFC 4360 BGP Extended Communities Attribute  
RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP)  
RFC 5291 Outbound Route Filtering Capability for

#### MIBs

RFC 1156 (TCP/IP MIB)  
RFC 1157 A Simple Network Management Protocol (SNMP)  
RFC 1215 A Convention for Defining Traps for use with the SNMP  
RFC 1229 Interface MIB Extensions  
RFC 1493 Bridge MIB  
RFC 1573 SNMP MIB II  
RFC 1643 Ethernet MIB  
RFC 1657 BGP-4 MIB  
RFC 1724 RIPv2 MIB  
RFC 1757 Remote Network Monitoring MIB  
RFC 1850 OSPFv2 MIB  
RFC 1907 SNMPv2 MIB  
RFC 2011 SNMPv2 MIB for IP  
RFC 2012 SNMPv2 MIB for TCP  
RFC 2013 SNMPv2 MIB for UDP  
RFC 2096 IP Forwarding Table MIB  
RFC 2233 Interfaces 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



### Technical Specifications

BGP-4  
RFC 5292 Address-Prefix-Based Outbound Route Filter for BGP-4

#### Denial of service protection

RFC 2267 Network Ingress Filtering  
Automatic filtering of well-known denial-of-service packets  
CPU DoS Protection  
Rate Limiting by ACLs

#### Device management

RFC 1157 SNMPv1/v2c  
RFC 1305 NTPv3  
RFC 1902 (SNMPv2)  
RFC 2271 FrameWork  
RFC 2579 (SMLv2 Text Conventions)  
RFC 2580 (SMLv2 Conformance)  
RFC 2819 (RMON groups Alarm, Event, History and Statistics only)  
HTTP, SSHv1, and Telnet  
Multiple Configuration Files  
Multiple Software Images  
SSHv1/SSHv2 Secure Shell  
TACACS/TACACS+  
Web UI

#### General protocols

IEEE 802.1ad Q-in-Q  
IEEE 802.1ag Service Layer OAM  
IEEE 802.1p Priority  
IEEE 802.1Q VLANs  
IEEE 802.1s Multiple Spanning Trees  
IEEE 802.1w Rapid Reconfiguration of Spanning Tree  
IEEE 802.1X PAE  
IEEE 802.3ab 1000BASE-T  
IEEE 802.3ac (VLAN Tagging Extension)  
IEEE 802.3ad Link Aggregation Control Protocol (LACP)  
IEEE 802.3ae 10-Gigabit Ethernet  
IEEE 802.3af Power over Ethernet  
IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber - EFMF  
IEEE 802.3at  
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 2573 SNMP-Notification MIB  
RFC 2573 SNMP-Target MIB  
RFC 2578 Structure of Management Information Version 2 (SMLv2)  
RFC 2580 Conformance Statements for SMLv2  
RFC 2618 RADIUS Client MIB  
RFC 2620 RADIUS Accounting MIB  
RFC 2665 Ethernet-Like-MIB  
RFC 2668 802.3 MAU MIB  
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB  
RFC 2787 VRRP MIB  
RFC 2819 RMON MIB  
RFC 2925 Ping MIB  
RFC 2932IP (Multicast Routing MIB)  
RFC 2933 IGMP MIB  
RFC 2934 Protocol Independent Multicast MIB for IPv4  
RFC 3414 SNMP-User based-SM MIB  
RFC 3415 SNMP-View based-ACM MIB  
RFC 3417 Simple Network Management Protocol (SNMP) over IEEE 802 Networks  
RFC 3418 MIB for SNMPv3  
RFC 3595 Textual Conventions for IPv6 Flow Label  
RFC 3621 Power Ethernet MIB  
RFC 3813 MPLS LSR MIB  
RFC 3814 MPLS FTN MIB  
RFC 3815 MPLS LDP MIB  
RFC 3826 AES for SNMP's USM MIB  
RFC 4133 Entity MIB (Version 3)  
RFC 4444 Management Information Base for Intermediate System to Intermediate System (IS-IS)

#### MPLS

RFC 2205 Resource ReSerVation Protocol  
RFC 2209 Resource ReSerVation Protocol (RSVP)  
RFC 2702 Requirements for Traffic Engineering Over MPLS  
RFC 2858 Multiprotocol Extensions for BGP-4  
RFC 2961 RSVP Refresh Overhead Reduction Extensions  
RFC 3031 Multiprotocol Label Switching Architecture  
RFC 3032 MPLS Label Stack Encoding  
RFC 3107 Carrying Label Information in BGP-4  
RFC 3209 RSVP-TE: Extensions to RSVP for LSP Tunnels  
RFC 3212 Constraint-Based LSP Setup using LDP  
RFC 3479 Fault Tolerance for the Label Distribution Protocol (LDP)  
RFC 3487 Graceful Restart Mechanism for LDP  
RFC 3564 Requirements for Support of Differentiated Service-aware MPLS Traffic



### Technical Specifications

RFC 793 TCP	Engineering
RFC 826 ARP	RFC 4364 BGP/MPLS IP Virtual Private Networks (VPNs)
RFC 854 TELNET	RFC 4379 Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures
RFC 894 IP over Ethernet	RFC 4447 Pseudowire Setup and Maintenance Using LDP
RFC 903 RARP	RFC 4448 Encapsulation Methods for Transport of Ethernet over MPLS Networks
RFC 906 TFTP Bootstrap	RFC 4664 Framework for Layer 2 Virtual Private Networks
RFC 925 Multi-LAN Address Resolution	RFC 4665 Service Requirements for Layer 2 Provider Provisioned Virtual Private Networks
RFC 950 Internet Standard Subnetting Procedure	RFC 4761 Virtual Private LAN Service (VPLS) Using BGP for Auto-Discovery and Signaling
RFC 951 BOOTP	RFC 4762 Virtual Private LAN Service (VPLS) Using Label Distribution Protocol (LDP) Signaling
RFC 959 File Transfer Protocol (FTP)	RFC 5036 LDP Specification
RFC 1027 Proxy ARP	
RFC 1035 Domain Implementation and Specification	<b>Network management</b>
RFC 1042 IP Datagrams	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 1058 RIPv1	RFC 1155 Structure of Management Information
RFC 1142 OSI IS-IS Intra-domain Routing Protocol	RFC 1157 SNMPv1
RFC 1195 OSI ISIS for IP and Dual Environments	RFC 1448 Protocol Operations for version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 1213 Management Information Base for Network Management of TCP/IP-based internets	RFC 2211 Controlled-Load Network
RFC 1256 ICMP Router Discovery Protocol (IRDP)	RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 1293 Inverse Address Resolution Protocol	RFC 3176 sFlow
RFC 1305 NTPv3	RFC 3411 SNMP Management Frameworks
RFC 1350 TFTP Protocol (revision 2)	RFC 3412 SNMPv3 Message Processing
RFC 1393 Traceroute Using an IP Option	RFC 3414 SNMPv3 User-based Security Model (USM)
RFC 1519 CIDR	RFC 3415 SNMPv3 View-based Access Control Model VACM)
RFC 1531 Dynamic Host Configuration Protocol	ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
RFC 1533 DHCP Options and BOOTP Vendor Extensions	
RFC 1591 DNS (client only)	<b>OSPF</b>
RFC 1624 Incremental Internet Checksum	RFC 1245 OSPF protocol analysis
RFC 1701 Generic Routing Encapsulation	RFC 1246 Experience with OSPF
RFC 1721 RIP-2 Analysis	RFC 1765 OSPF Database Overflow
RFC 1723 RIP v2	RFC 1850 OSPFv2 Management Information Base (MIB), traps
RFC 1812 IPv4 Routing	RFC 2154 OSPF w/ Digital Signatures (Password, MD-5)
RFC 2030 Simple Network Time Protocol (SNTP) v4	RFC 2328 OSPFv2
RFC 2082 RIP-2 MD5 Authentication	RFC 2370 OSPF Opaque LSA Option
RFC 2091 Trigger RIP	RFC 3101 OSPF NSSA
RFC 2131 DHCP	RFC 3137 OSPF Stub Router Advertisement
RFC 2138 Remote Authentication Dial In User Service (RADIUS)	RFC 3623 Graceful OSPF Restart
RFC 2236 IGMP Snooping	RFC 3630 Traffic Engineering Extensions to
RFC 2338 VRRP	
RFC 2453 RIPv2	
RFC 2644 Directed Broadcast Control	
RFC 2763 Dynamic Name-to-System ID mapping support	
RFC 2784 Generic Routing Encapsulation (GRE)	
RFC 2865 Remote Authentication Dial In User Service (RADIUS)	
RFC 2966 Domain-wide Prefix Distribution with Two-Level IS-IS	
RFC 2973 IS-IS Mesh Groups	



### Technical Specifications

RFC 3022 Traditional IP Network Address Translator (Traditional NAT)  
RFC 3277 IS-IS Transient Blackhole Avoidance  
RFC 3567 Intermediate System to Intermediate System (IS-IS) Cryptographic Authentication  
RFC 3719 Recommendations for Interoperable Networks using Intermediate System to Intermediate System (IS-IS)  
RFC 3784 ISIS TE support  
RFC 3786 Extending the Number of IS-IS LSP Fragments Beyond the 256 Limit  
RFC 3787 Recommendations for Interoperable IP Networks using Intermediate System to Intermediate System (IS-IS)  
RFC 3847 Restart signaling for IS-IS  
RFC 4251 The Secure Shell (SSH) Protocol Architecture  
RFC 4884 Extended ICMP to Support Multi-Part Messages  
RFC 4941 Privacy Extensions for Stateless Address Autoconfiguration in IPv6  
RFC 5130 A Policy Control Mechanism in IS-IS Using Administrative Tags

#### IP multicast

RFC 2236 IGMPv2  
RFC 2283 Multiprotocol Extensions for BGP-4  
RFC 2362 PIM Sparse Mode  
RFC 3376 IGMPv3  
RFC 3446 Anycast Rendezvous Point (RP) mechanism using Protocol Independent Multicast (PIM) and Multicast Source Discovery Protocol (MSDP)  
RFC 3618 Multicast Source Discovery Protocol (MSDP)  
RFC 3973 PIM Dense Mode  
RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches  
RFC 4601 Draft 10 PIM Sparse Mode  
RFC 4604 Using Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Protocol Version 2 (MLDv2) for Source-Specific Multicast  
RFC 4605 IGMP/MLD Proxying  
RFC 4607 Source-Specific Multicast for IP  
RFC 4610 Anycast-RP Using Protocol Independent Multicast (PIM)  
RFC 5059 Bootstrap Router (BSR) Mechanism for Protocol Independent Multicast (PIM)

OSPFv2  
RFC 4061 Benchmarking Basic OSPF Single Router Control Plane Convergence  
RFC 4062 OSPF Benchmarking Terminology and Concepts  
RFC 4063 Considerations When Using Basic OSPF Convergence Benchmarks  
RFC 4222 Prioritized Treatment of Specific OSPF Version 2 Packets and Congestion Avoidance  
RFC 4577 OSPF as the Provider/Customer Edge Protocol for BGP/MPLS IP Virtual Private Networks (VPNs)  
RFC 4811 OSPF Out-of-Band LSDB Resynchronization  
RFC 4812 OSPF Restart Signaling  
RFC 4813 OSPF Link-Local Signaling  
RFC 4940 IANA Considerations for OSPF

#### QoS/CoS

IEEE 802.1P (CoS)  
RFC 1349 Type of Service in the Internet Protocol Suite  
RFC 2211 Specification of the Controlled-Load Network Element Service  
RFC 2212 Guaranteed Quality of Service  
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 1321 The MD5 Message-Digest Algorithm  
RFC 1334 PPP Authentication Protocols (PAP)  
RFC 1492 TACACS+  
RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)  
RFC 2082 RIP-2 MD5 Authentication  
RFC 2104 Keyed-Hashing for Message Authentication  
RFC 2408 Internet Security Association and Key Management Protocol (ISAKMP)  
RFC 2409 The Internet Key Exchange (IKE)  
RFC 2716 PPP EAP TLS Authentication Protocol  
RFC 2865 RADIUS Authentication  
RFC 2866 RADIUS Accounting  
RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support  
RFC 2868 RADIUS Attributes for Tunnel Protocol Support  
RFC 2869 RADIUS Extensions



### Technical Specifications

#### IPv6

RFC 1886 DNS Extension for IPv6  
RFC 1887 IPv6 Unicast Address Allocation Architecture  
RFC 1981 IPv6 Path MTU Discovery  
RFC 2080 RIPng for IPv6  
RFC 2081 RIPng Protocol Applicability Statement  
RFC 2292 Advanced Sockets API 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 2526 Reserved IPv6 Subnet Anycast Addresses  
RFC 2529 Transmission of IPv6 Packets over IPv4  
RFC 2545 Use of MP-BGP-4 for IPv6  
RFC 2553 Basic Socket Interface Extensions for IPv6  
RFC 2710 Multicast Listener Discovery (MLD) for IPv6  
RFC 2740 OSPFv3 for IPv6  
RFC 2767 Dual stacks IPv4 & IPv6  
RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers  
RFC 3056 Connection of IPv6 Domains via IPv4 Clouds  
RFC 3307 IPv6 Multicast Address Allocation  
RFC 3315 DHCPv6 (client and relay)  
RFC 3484 Default Address Selection for IPv6  
RFC 3513 IPv6 Addressing Architecture  
RFC 3736 Stateless Dynamic Host Configuration Protocol (DHCP) Service for IPv6  
RFC 3810 MLDv2 for IPv6  
RFC 4214 Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)  
RFC 4861 IPv6 Neighbor Discovery  
RFC 4862 IPv6 Stateless Address Auto-configuration

#### Access Control Lists (ACLs)

Guest VLAN for 802.1x  
MAC Authentication  
Port Security  
SSHv1/SSHv2 Secure Shell

#### VPN

RFC 2403 - HMAC-MD5-96  
RFC 2404 - HMAC-SHA1-96  
RFC 2405 - DES-CBC Cipher algorithm  
RFC 2407 - Domain of interpretation  
RFC 2547 BGP/MPLS VPNs  
RFC 2917 A Core MPLS IP VPN Architecture  
RFC 3947 - Negotiation of NAT-Traversal in the IKE  
RFC 4302 - IP Authentication Header (AH)  
RFC 4303 - IP Encapsulating Security Payload (ESP)

#### IPsec

RFC 1828 IP Authentication using Keyed MD5  
RFC 1829 The ESP DES-CBC Transform  
RFC 2085 HMAC-MD5 IP Authentication with Replay Prevention  
RFC 2401 IP Security Architecture  
RFC 2402 IP Authentication Header  
RFC 2406 IP Encapsulating Security Payload  
RFC 2410 - The NULL Encryption Algorithm and its use with IPsec  
RFC 2411 IP Security Document Roadmap





### Accessories

#### HP A7500 Switch Series accessories

#### Modules

HP 7500 48-port 100Base-FX SA Module	JD197B
HP 7500 48-port 10/100Base-TX PoE-upgradable SA Module	JD198B
HP 7500 48-port Gig-T PoE-upgradable SA Module	JD199B
HP 7500 16-port GbE SFP / 8-port GbE Combo SA Module	JC667A
HP 7500 20-port Gig-T / 4-port GbE PoE-upgradable Combo SA Module	JC668A
HP 7500 2-port 10-GbE XFP SC Module	JD201A
HP 7500 24-port GbE SFP SC Module	JD203B
HP 7500 24-port Gig-T SC Module	JD204B
HP 7500 24-port GbE SFP/2-port 10-GbE XFP SC Module	JD205A
HP 7500 12-port GbE SFP SC Module	JD207A
HP 7500 24-port Gig-T/2-port 10-GbE XFP SC Module	JD206A
HP 7500 48-port Gig-T PoE-upgradable SC Module	JD210A
HP 7500 48-port GbE SFP SC Module	JD211B
HP 7500 16-port GbE SFP/8-port GbE Combo SC Module	JD223A
HP 7500 40-port Gig-T/8-port GbE SFP PoE-upgradable SC Module	JD228B
HP 7500 8-port 10-GbE SFP+ SC Module	JF290A
HP 7500 20-port Gig-T / 4-port GbE Combo PoE-upgradable SC Module	JC669A
HP 7500 8-port 10-GbE XFP SD Module	JD191A
HP 7500 48-port Gig-T PoE+ SD Module	JD229B
HP 7500 24-port GbE SFP/2-port 10-GbE XFP SD Module	JD230A
HP 7500 16-port GbE SFP/8-port GbE Combo SD Module	JD234A
HP 7500 4-port 10-GbE XFP SD Module	JD235A
HP 7500 2-port 10-GbE XFP SD Module	JD236A
HP 7500 48-port GbE SFP SD Module	JD237A
HP 7500 12-port GbE SFP EA Module	JD202A
HP 7500 1-port 10-GbE XFP EA Module	JD200A
HP 7500 48-port GbE SFP EB Module	JD221A
HP 7500 16-port GbE SFP/8-port GbE Combo EB Module	JD231A
HP 7500 4-port 10-GbE XFP EB Module	JD232A
HP 7500 2-port 10-GbE XFP EB Module	JD233A

#### Transceivers

HP X124 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 X125 1G SFP RJ45 T Transceiver	JD089B
HP X120 1G SFP LC BX 10-U Transceiver	JD098B
HP X120 1G SFP LC BX 10-D Transceiver	JD099B
HP X120 1G SFP LC LH100 Transceiver	JD103A
HP X170 1G SFP LC LH70 1550 Transceiver	JD109A
HP X170 1G SFP LC LH70 1570 Transceiver	JD110A
HP X170 1G SFP LC LH70 1590 Transceiver	JD111A
HP X170 1G SFP LC LH70 1610 Transceiver	JD112A
HP X170 1G SFP LC LH70 1470 Transceiver	JD113A
HP X170 1G SFP LC LH70 1490 Transceiver	JD114A



### Accessories

HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
HP X170 1G SFP LC LH70 1530 Transceiver	JD116A
HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X110 100M SFP LC LH40 Transceiver	JD090A
HP X110 100M SFP LC LH80 Transceiver	JD091A
HP X115 100M SFP LC BX 10-U Transceiver	JD100A
HP X115 100M SFP LC BX 10-D Transceiver	JD101A
HP X110 100M SFP LC FX Transceiver	JD102B
HP X110 100M SFP LC LX Transceiver	JD120B
HP X130 10G XFP LC ZR Transceiver	JD107A
HP X130 10G XFP LC LR Transceiver	JD108B
HP X130 10G XFP LC SR Transceiver	JD117B
HP X135 10G XFP LC ER Transceiver	JD121A
HP X130 SFP+ LC SR Transceiver	JD092B
HP X130 SFP+ LC LRM Transceiver	JD093B
HP X130 SFP+ LC LR Transceiver	JD094B
HP X240 SFP+ SFP+ 0.65 m Direct Attach Cable	JD095B
HP X240 SFP+ SFP+ 1.2 m Direct Attach Cable	JD096B
HP X240 SFP+ SFP+ 3 m Direct Attach Cable	JD097B
HP X240 SFP+ SFP+ 5m Direct Attach Cable	JG081B
HP X180 10G XFP LC LH 80km 1538.98nm DWDM Transceiver	JG226A
HP X180 10G XFP LC LH 80km 1539.77nm DWDM Transceiver	JG227A
HP X180 10G XFP LC LH 80km 1540.56nm DWDM Transceiver	JG228A
HP X180 10G XFP LC LH 80km 1542.14nm DWDM Transceiver	JG229A
HP X180 10G XFP LC LH 80km 1542.94nm DWDM Transceiver	JG230A
HP X180 10G XFP LC LH 80km 1558.98nm DWDM Transceiver	JG231A
HP X180 10G XFP LC LH 80km 1559.79nm DWDM Transceiver	JG232A
HP X180 10G XFP LC LH 80km 1560.61nm DWDM Transceiver	JG233A
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A

### Cables

HP 50 m Multimode OM3 LC/LC Optical Cable	AJ839A
HP 30 m Multimode OM3 LC/LC Optical Cable	AJ838A
HP 15 m Multimode OM3 LC/LC Optical Cable	AJ837A
HP 5 m Multimode OM3 LC/LC Optical Cable	AJ836A
HP 2 m Multimode OM3 LC/LC Optical Cable	AJ835A
HP 1 m Multimode OM3 LC/LC Optical Cable	AJ834A
HP 0.5 m Multimode OM3 LC/LC Optical Cable	AJ833A
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

### License



### Accessories

HP WX Blade 128 AP License Upgrade	JD464B
<b>WLAN</b>	
HP 7500 Access Controller Module	JD440A
<b>Appliance</b>	
HP TippingPoint S1200N IPS A7500 Module	JC527A
<b>Memory</b>	
HP 7500 48-Port PoE DIMM	JD192B
HP 7500 24-port PoE DIMM	JC671A
HP 7500 1G Compact Flash Card	JC684A
HP 7500 512M Compact Flash Card	JC685A
HP 7500 256M Compact Flash Card	JC686A
<b>HP 7510 Switch Chassis (JD238B)</b>	
HP 7500 384Gbps Fabric Module with 2 XFP Ports	JD193B
HP 7500 384Gbps Fabric Module	JD194B
HP 7500 384Gbps Advanced Fabric Module	JD195A
HP 7500 768Gbps Fabric Module	JD220A
HP 7500 1400W DC Power Supply	JD208A
HP 7500 1400W AC Power Supply	JD218A
HP 7500 2800W AC Power Supply	JD219A
HP 7500 6000W AC Power Supply	JD227A
HP 7510 Spare Fan Assembly	JD216A
<b>HP 7506-V Switch Chassis (JD241B)</b>	
HP 7500 384Gbps Fabric Module with 2 XFP Ports	JD193B
HP 7500 384Gbps Fabric Module	JD194B
HP 7500 384Gbps Advanced Fabric Module	JD195A
HP 7500 768Gbps Fabric Module	JD220A
HP 7500 1400W DC Power Supply	JD208A
HP 7500 1400W AC Power Supply	JD218A
HP 7500 2800W AC Power Supply	JD219A
HP 7500 6000W AC Power Supply	JD227A
HP A7506-V Spare Fan Assembly	JD215A
<b>HP 7506 Switch Chassis (JD239B)</b>	
HP 7500 384Gbps Fabric Module with 2 XFP Ports	JD193B
HP 7500 384Gbps Fabric Module	JD194B
HP 7500 384Gbps Advanced Fabric Module	JD195A
HP 7500 768Gbps Fabric Module	JD220A
HP 7500 1400W DC Power Supply	JD208A
HP 7500 1400W AC Power Supply	JD218A
HP 7500 2800W AC Power Supply	JD219A
HP 7500 6000W AC Power Supply	JD227A
HP A7506 Spare Fan Assembly	JD214A
<b>HP 7503 Switch Chassis (JD240B)</b>	
HP 7500 384Gbps Fabric Module with 2 XFP Ports	JD193B
HP 7500 384Gbps Fabric Module	JD194B
HP 7500 384Gbps Advanced Fabric Module	JD195A
HP 7500 768Gbps Fabric Module	JD220A



### Accessories

HP 7500 1400W DC Power Supply	JD208A
HP 7500 1400W AC Power Supply	JD218A
HP 7500 2800W AC Power Supply	JD219A
HP 7500 6000W AC Power Supply	JD227A
HP 7503 Spare Fan Assembly	JD212A
<b>HP 7503-S Switch Chassis with 1 Fabric Slot (JD243B)</b>	
HP 7503-S 144Gbps Fabric/Main Processing Unit with 16 GbE SFP Ports and 8 GbE Combo Ports	JD222A
HP 7503-S 144 Gbps Fabric / Main Processing Unit with PoE-upgradable 20p Gig-T / 4p GbE Combo	JC666A
HP 7503-S 144 Gbps TAA Fabric/Main Processing Unit with 16 GbE SFP Ports and 8 GbE Combo Ports	JC698A
HP 7500 650W AC Power Supply	JD217A
HP 7500 650W DC Power Supply	JD209A
HP 7502 300W AC Power Supply	JD226A
HP 7502 300W DC Power Supply	JD225A
HP RPS 800 Redundant Power Supply	JD183A
HP 7503-S Spare Fan Assembly	JC672A
<b>HP 7502 Switch Chassis (JD242B)</b>	
HP 7502 Main Processing Unit	JD196A
HP 7502 TAA-compliant Main Processing Unit	JC697A
HP 7500 650W AC Power Supply	JD217A
HP 7500 650W DC Power Supply	JD209A
HP 7502 300W AC Power Supply	JD226A
HP 7502 300W DC Power Supply	JD225A
HP RPS 800 Redundant Power Supply	JD183A
HP 7502 Spare Fan Assembly	JD213A



### Accessory Product Details

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

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<b>HP 7500 48-port 100BASE-FX Module (JD197B)</b>	<b>Ports</b>	48 SFP 100BASE-FX ports (IEEE 802.3u Type 100BASE-FX); Duplex: full only	
	<b>Physical characteristics</b>	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.72 lb. (3.05 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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<b>HP 7500 48-port 10/100BASE-T Module (JD198B)</b>	<b>Ports</b>	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	
	<b>Physical characteristics</b>	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.37 lb. (2.89 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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<b>HP 7500 48-port Gig-T PoE-ready Module (JD199B)</b>	<b>Ports</b>	48 RJ-45 autosensing 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	<b>Physical characteristics</b>	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.81 lb. (3.09 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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### Accessory Product Details

HP 7500 16-port GbE SFP / 8-port GbE Combo SA Module (JC667A)	Ports	16 SFP 1000 Mbps ports 8 dual-personality ports; Each composed of a 10/100/1000Base-T Gigabit Ethernet port and an SFP port, which cannot be simultaneously used
	Physical characteristics	Dimensions 13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm) Weight 6.11 lb. (2.77 kg)
	Services	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
HP 7500 20-port Gig-T / 4-port GbE PoE-upgradable Combo SA Module (JC668A)	Ports	20 RJ-45 auto-negotiating 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 dual-personality ports; Each composed of a 10/100/1000Base-T Gigabit Ethernet port and an SFP port, which cannot be simultaneously used
	Physical characteristics	Dimensions 13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm) Weight 6.17 lb. (2.8 kg)
	Services	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
HP 7500 2-port 10GbE XFP Module (JD201A)	Ports	2 XFP 10-GbE ports; Duplex: full only
	Physical characteristics	Dimensions 13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm) Weight 6.5 lb. (2.95 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
HP 7500 24-port GbE SFP Module (JD203B)	Ports	24 SFP 100/1000 Mbps ports
	Physical characteristics	Dimensions 13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm) Weight 6.13 lb. (2.78 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.



### Accessory Product Details

HP 7500 24-port Gig-T Module (JD204B)	Ports	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); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6 lb. (2.72 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP 7500 24-port GbE SFP / 2-port 10GbE XFP Module (JD205A)	Ports	24 SFP 100/1000 Mbps ports 2 XFP 10-GbE ports; Duplex: full only	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.5 lb. (2.95 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP 7500 12-port GbE SFP Module (JD207A)	Ports	12 SFP 100/1000 Mbps ports	
	Physical characteristics	Dimensions	13.98(d) x 1.18(w) x 1.57(h) in. (35.5 x 3 x 4 cm)
		Weight	5.86 lb. (2.66 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP 7500 24-port Gig-T / 2-port 10GbE XFP Module (JD206A)	Ports	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); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 XFP 10-GbE ports; Duplex: full only	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.44 lb. (2.92 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	



### Accessory Product Details

HP 7500 48-port Gig-T Module (JD210A)	Ports	48 RJ-45 autosensing 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.81 lb. (3.09 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP 7500 48-port GbE SFP Module (JD211B)	Ports	48 SFP 100/1000 Mbps ports	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.7 lb. (3.04 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP 7500 24-port GbE SFP Module with 8 Combo Ports (JD223A)	Ports	16 SFP 100/1000 Mbps ports 8 dual-personality ports; 1000M Combo ports (SFP or RJ-45)	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.11 lb. (2.77 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP 7500 40-port Gig-T / 8-port SFP PoE-ready Module (JD228B)	Ports	40 RJ-45 autosensing 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 8 SFP 100/1000 Mbps ports	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.66 lb. (3.02 kg)
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	





### Accessory Product Details

<b>HP 7500 8-port 10G SFP+ Module (JF290A)</b>	<b>Ports</b>	8 SFP+ 10-GbE ports; Duplex: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		<b>Weight</b>	6.97 lb. (3.16 kg)
	<b>Notes</b>	The module (JF290A) only support 10-GbE SFP+ transceiver, not support 1GbE SFP transceiver.	
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

<b>HP 7500 20-port Gig-T / 4-port GbE Combo PoE-upgradable SC Module (JC669A)</b>	<b>Ports</b>	20 RJ-45 auto-negotiating 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	<b>Physical characteristics</b>	4 dual-personality ports; Each composed of a 10/100/1000Base-T Gigabit Ethernet port and an SFP port, which cannot be simultaneously used	
		<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
	<b>Weight</b>	6.17 lb. (2.8 kg)	
<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

<b>HP 7500 8-port 10GbE XFP Extended Module (JD191A)</b>	<b>Ports</b>	8 XFP 10-GbE ports; Duplex: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		<b>Weight</b>	7.12 lb. (3.23 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	



### Accessory Product Details

<b>HP 7500 48-port Gig-T PoE+ Extended Module (JD229B)</b>	<b>Ports</b>	48 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+); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		<b>Weight</b>	7.3 lb. (3.31 kg)
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

<b>HP 7500 24-port GbE SFP / 2-port 10GbE XFP Extended Module (JD230A)</b>	<b>Ports</b>	16 SFP 1000 Mbps ports 8 dual-personality ports; 1000M Combo ports (SFP or RJ-45) 2 XFP 10-GbE ports; Duplex: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		<b>Weight</b>	6.79 lb. (3.08 kg)
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

<b>HP 7500 24-port GbE SFP Extended Module (JD234A)</b>	<b>Ports</b>	16 SFP 100/1000 Mbps ports 8 dual-personality ports; 1000M Combo ports (SFP or RJ-45)	
	<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		<b>Weight</b>	6.64 lb. (3.01 kg)
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

<b>HP 7500 4-port 10GbE XFP Extended Module (JD235A)</b>	<b>Ports</b>	4 XFP 10-GbE ports; Duplex: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		<b>Weight</b>	6.46 lb. (2.93 kg)
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		



### Accessory Product Details

HP 7500 2-port 10GbE XFP Extended Module (JD236A)	Ports	2 XFP 10-GbE ports; Duplex: full only	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.46 lb. (2.93 kg)
Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

HP 7500 48-port GbE SFP Extended Module (JD237A)	Ports	48 SFP 100/1000 Mbps ports	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	7.16 lb. (3.25 kg)
Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

HP 7500 12-port GbE SFP Advanced Module (JD202A)	Ports	12 SFP 1000 Mbps ports	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.35 lb. (2.88 kg)
Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

HP 7500 1-port 1/10GbE Ports XFP Module (JD200A)	Ports	1 XFP 10-GbE port; Duplex: full only	
	Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm)
		Weight	6.17 lb. (2.8 kg)
Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		



### Accessory Product Details

<b>HP 7500 48-port GbE SFP Enhanced Module (JD221A)</b>	<b>Ports</b>	48 SFP 100/1000 Mbps ports
	<b>Physical characteristics</b>	Dimensions 13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm) Weight 7.16 lb. (3.25 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

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<b>HP 7500 24-port GbE SFP Enhanced Module (JD231A)</b>	<b>Ports</b>	16 XFP 100/1000 Mbps ports 8 dual-personality ports; 1000M Combo ports (SFP or RJ-45)
	<b>Physical characteristics</b>	Dimensions 13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm) Weight 6.7 lb. (3.04 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

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<b>HP 7500 24-port GbE SFP Enhanced Module (JD231A)</b>	<b>Ports</b>	16 XFP 100/1000 Mbps ports 8 dual-personality ports; 1000M Combo ports (SFP or RJ-45)
	<b>Physical characteristics</b>	Dimensions 13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm) Weight 6.7 lb. (3.04 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

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<b>HP 7500 2-port 10GbE XFP Enhanced Module (JD233A)</b>	<b>Ports</b>	2 XFP 10-GbE ports; Duplex: full only
	<b>Physical characteristics</b>	Dimensions 13.98(d) x 14.84(w) x 1.57(h) in. (35.5 x 37.7 x 4 cm) Weight 6.46 lb. (2.93 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

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### Accessory Product Details

#### HP X124 1G SFP LC LH40 Ports 1310nm Transceiver (JD061A)

A small form-factor pluggable SFP Gigabit LH40 transceiver that provides a full duplex Gigabit solution up to 40km on a single-mode fiber.

<b>Connectivity</b>	1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics)
	Connector type LC
	Wavelength 1310 nm
<b>Physical characteristics</b>	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)
<b>Electrical characteristics</b>	Power consumption typical 0.8 W
	Power consumption maximum 1.0 W
<b>Cabling</b>	Cable type: Single-mode fiber optic, complying with ITU-T G.652;
	Maximum distance: <ul style="list-style-type: none"><li>• 40km distance</li></ul>
<b>Services</b>	Fiber type Single Mode Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

#### HP X120 1G SFP LC LH40 Ports 1550nm Transceiver (JD062A)

A small form-factor pluggable (SFP) Gigabit LH40 transceiver that provides a full-duplex Gigabit solution up to 40 km on a single mode fiber.

<b>Connectivity</b>	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)
	Connector type LC
	Wavelength 1550 nm
<b>Physical characteristics</b>	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)
<b>Electrical characteristics</b>	Power consumption typical 0.8 W
	Power consumption maximum 1.0 W
<b>Cabling</b>	Cable type: Single-mode fiber optic, complying with ITU-T G.652;
	Maximum distance: <ul style="list-style-type: none"><li>• 40km distance</li></ul>
<b>Services</b>	Fiber type Single Mode Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.



### Accessory Product Details

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

<b>HP X125 1G SFP RJ45 T Transceiver (JD089B)</b>	<b>Ports</b>	1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T)
	<b>Connectivity</b>	<b>Connector type</b> RJ-45
<p>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.</p>	<b>Physical characteristics</b>	<b>Dimensions</b> 2.71(d) x 0.54(w) x 0.55(h) in. (6.88 x 1.37 x 1.4 cm) <b>Full configuration weight</b> 0.07 lb. (0.03 kg)
	<b>Electrical characteristics</b>	<b>Power consumption typical</b> 0.8 W <b>Power consumption maximum</b> 1.0 W
	<b>Cabling</b>	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;  Maximum distance: • 100m
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.



### Accessory Product Details

<b>HP X120 1G SFP LC BX 10-U Transceiver (JD098B)</b>	<b>Ports</b>	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only	
A small form-factor pluggable (SFP) Gigabit LX-BX10-U transceiver that provides a full duplex Gigabit solution up to 10km on a single mode cable.	<b>Connectivity</b>	<b>Connector type</b>	LC
	<b>Physical characteristics</b>	<b>Dimensions</b>	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
	<b>Electrical characteristics</b>	<b>Full configuration weight</b>	0.04 lb. (0.02 kg)
	<b>Electrical characteristics</b>	<b>Power consumption typical</b>	0.8 W
		<b>Power consumption maximum</b>	1.0 W
	<b>Cabling</b>	Maximum distance: <ul style="list-style-type: none"><li>• 10km</li></ul> Fiber type	Single Mode
	<b>Notes</b>	TX 1310nm RX 1490nm	
	<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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<b>HP X120 1G SFP LC BX 10-D Transceiver (JD099B)</b>	<b>Ports</b>	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-D); Duplex: full only	
A small form-factor pluggable (SFP) Gigabit LX-BX10-D transceiver that provides a full duplex Gigabit solution up to 10km on a single mode cable.	<b>Connectivity</b>	<b>Connector type</b>	LC
	<b>Physical characteristics</b>	<b>Dimensions</b>	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
	<b>Electrical characteristics</b>	<b>Full configuration weight</b>	0.04 lb. (0.02 kg)
	<b>Electrical characteristics</b>	<b>Power consumption typical</b>	0.8 W
		<b>Power consumption maximum</b>	1.0 W
	<b>Cabling</b>	Maximum distance: <ul style="list-style-type: none"><li>• Up to 10km</li></ul> Fiber type	Single Mode
	<b>Notes</b>	TX 1490nm RX 1310nm	
	<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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### Accessory Product Details

<b>HP X120 1G SFP LC LH100 Transceiver (JD103A)</b>	<b>Ports</b>	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)	
	<b>Connectivity</b>	<b>Connector type</b>	LC
A small form factor pluggable (SFP) Gigabit LH100 transceiver that provides a full-duplex Gigabit solution up to 100km on a single mode fiber.	<b>Electrical characteristics</b>	<b>Wavelength</b>	1550 nm
		<b>Power consumption typical</b>	0.8 W
	<b>Cabling</b>	<b>Power consumption maximum</b>	1.0 W
		Cable type:	Single-mode fiber optic, complying with ITU-T G.652;
<b>Services</b>	Maximum distance:	• Up to 100km	
	Fiber type	Single Mode	
Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.			

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





## Accessory Product Details

<b>HP X120 1G SFP LC LX Transceiver (JD119B)</b>  A small form-factor pluggable (SFP) Gigabit LX transceiver that provides a full duplex Gigabit solution up to 550m on MMF or 10Km on SMF	<b>Ports</b>	1 SFP 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX)
	<b>Connectivity</b>	<b>Connector type</b>
<b>Physical characteristics</b>	<b>Wavelength</b>	1300 nm
	<b>Dimensions</b>	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
<b>Electrical characteristics</b>	<b>Full configuration weight</b>	0.04 lb. (0.02 kg)
	<b>Power consumption typical</b>	0.8 W
<b>Power consumption maximum</b>	<b>Power consumption maximum</b>	1.0 W
	<b>Cabling</b>	Cable type: Either single mode or multimode;  Maximum distance: <ul style="list-style-type: none"> <li>• 550m for Multimode</li> <li>• 10km for Singlemode</li> </ul> Fiber type
<b>Services</b>	Both	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

<b>HP 50 m Multimode OM3 LC/LC Optical Cable (AJ839A)</b>	<b>Cabling</b>	<b>Cable type:</b> 50/125 $\mu\text{m}$ (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m;
	<b>Notes</b>	<b>Maximum distance:</b> 10Gbps Transfer Rate (Ethernet): 300m  Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 $\mu\text{m}$ fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end. <ul style="list-style-type: none"> <li>• Dimensions: Core diameter: 50 <math>\pm</math> 3.0<math>\mu\text{m}</math> Cladding diameter: 125 <math>\pm</math> 2.0<math>\mu\text{m}</math> Coating diameter: 245 <math>\pm</math> 10<math>\mu\text{m}</math></li> <li>• Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.</li> <li>• 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.</li> <li>• 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.</li> <li>• BULK CABLE &amp; CABLE ASSEMBLY CONFIGURATION:</li> <li>• Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.</li> <li>• Jacket Color: Aqua for OM3 multimode per TIA 598</li> <li>• Boot Color: White</li> </ul>



### Accessory Product Details

- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

#### Services

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

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

#### Cabling

##### Cable type:

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

##### Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

#### Notes

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

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

#### Services

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



### Accessory Product Details

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

#### Cabling

#### Cable type:

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

#### Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

#### Notes

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

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

#### Services

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



### Accessory Product Details

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

#### Cable type:

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

#### Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

#### Notes

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

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

#### Services

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



### Accessory Product Details

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

**Cable type:**

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

**Maximum distance:**

10Gbps Transfer Rate (Ethernet): 300m

**Notes**

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

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

**Services**

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



### Accessory Product Details

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

**Cable type:**

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

**Maximum distance:**

10Gbps Transfer Rate (Ethernet): 300m

**Notes**

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

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

**Services**

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



### Accessory Product Details

HP 0.5 m Multimode  
OM3 LC/LC Optical  
Cable (AJ833A)

Cabling

**Cable type:**

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

**Maximum distance:**

10Gbps Transfer Rate (Ethernet): 300m

Notes

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

- Dimensions: Core diameter:  $50 \pm 3.0\mu\text{m}$  Cladding diameter:  $125 \pm 2.0\mu\text{m}$  Coating diameter:  $245 \pm 10\mu\text{m}$
- Optical glass: Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical glass: 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 50/125 $\mu\text{m}$  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](http://www.hp.com/networking/services) for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.



### Accessory Product Details

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

Notes

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

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

Services

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

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

Notes

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

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

Services

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





### Accessory Product Details

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

Notes

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

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

Services

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

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

Notes

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

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

Services

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



### Accessory Product Details

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

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

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

**Services**

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

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

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

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

**Services**

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



### 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](http://www.hp.com/networking/services) for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

### HP A7500 Access Controller Module (JD440A)

Ports	1 RJ-45 serial console port 1 RJ-45 out-of-band management port 2 USB 1.0 12 Mbps ports
Physical characteristics	<b>Dimensions</b> 14.45(d) x 13.39(w) x 1.6(h) in. (36.7 x 34 x 4.06 cm) (1U height) <b>Weight</b> 7.28 lb. (3.3 kg)
Memory and processor	<b>Processor</b> Eight core @ 950 MHz, 256 MB compact flash, 1 GB DDR2 DIMM
Performance	<b>Switch fabric speed</b> 20 Gbps <b>MAC address table size</b> 24000 entries
Environment	<b>Operating temperature</b> 32°F to 113°F (0°C to 45°C) <b>Operating relative humidity</b> 5% to 95%, noncondensing <b>Nonoperating/Storage temperature</b> -40°F to 158°F (-40°C to 70°C) <b>Nonoperating/Storage relative humidity</b> 5% to 95%, noncondensing
Electrical characteristics	<b>Maximum heat dissipation</b> 273 BTU/hr (288.02 kJ/hr) <b>Maximum power rating</b> 80 W
Safety	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; GOST; C-Tick; NOM; IEC 60950-1 (with CB report)
Emissions	EN 55022; VCCI; ICES-003; AS/NZS CISPR 22; EN 300 386; FCC Part 15; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001 +A2:2005; EMC Directive 2004/108/EC



### Accessory Product Details

<b>Immunity</b>	EN	EN 61000-4-2:1995+A1:1998+A2:2001; EN 61000-4-3:2006; EN 61000-4-4:2004; EN 61000-4-5:2006; EN 61000-4-6: 1996 +A1:2001:A2:2007; EN 61000-4-8:2001; EN 61000-4-11:2004; EN 55024:1998+ A1:2001 + A2:2003
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; configuration menu; SNMP Manager; Telnet; HTTPS; RMON1; FTP; in-line and out-of-band; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
<b>Features</b>	A7500 ACM License system - The A7500 ACM is an access controller module for the HP A7500 series Ethernet switches. It supports 128 APs by default. After license upgrade, the access controller module can support up to 640 APs.	
<b>Notes</b>	Max. number of users: 20K. Max. number of users that are supported by local authentication: 1K. Max. number of SSIDs that can be configured: 512. Max. number of users that are supported by local portal authentication: 4K. Number of ACLs: 32K.	
<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
<b>Standards and protocols</b>	<b>General protocols</b> RFC 768 UDP RFC 791 IP RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 854 TELNET RFC 855 Telnet Option Specification RFC 858 Telnet Suppress Go Ahead Option RFC 894 IP over Ethernet RFC 950 Internet Standard Subnetting Procedure RFC 959 File Transfer Protocol (FTP) RFC 1122 Host Requirements RFC 1141 Incremental updating of the Internet checksum RFC 1144 Compressing TCP/IP headers for low-speed serial links RFC 1256 ICMP Router Discovery Protocol (IRDP) RFC 1321 The MD5 Message-Digest Algorithm RFC 1334 PPP Authentication Protocols (PAP) RFC 1350 TFTP Protocol (revision 2) RFC 1812 IPv4 Routing RFC 1944 Benchmarking Methodology for Network Interconnect Devices RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP) RFC 2104 HMAC: Keyed-Hashing for Message Authentication RFC 2246 The TLS Protocol Version 1.0 RFC 2284 EAP over LAN RFC 2644 Directed Broadcast Control RFC 2864 The Inverted Stack Table Extension to the Interfaces Group MIB	<b>MIBs</b> RFC 1229 Interface MIB Extensions RFC 1643 Ethernet MIB RFC 1757 Remote Network Monitoring MIB RFC 2011 SNMPv2 MIB for IP RFC 2012 SNMPv2 MIB for TCP RFC 2013 SNMPv2 MIB for UDP RFC 2571 SNMP Framework MIB RFC 2572 SNMP-MPD MIB RFC 2613 SMON MIB RFC 2863 The Interfaces Group MIB RFC 2932IP (Multicast Routing MIB) RFC 2933 IGMP MIB  <b>Mobility</b> IEEE 802.11a High Speed Physical Layer in the 5 GHz Band IEEE 802.11b Higher-Speed Physical Layer Extension in the 2.4 GHz Band IEEE 802.11d Global Harmonization IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band IEEE 802.11i Medium Access Control (MAC) Security Enhancements IEEE 802.11n WLAN Enhancements for Higher Throughput  <b>Network management</b> RFC 1155 Structure of Management Information RFC 1905 SNMPv2 Protocol Operations RFC 2573 SNMPv3 Applications RFC 2574 SNMPv3 User-based Security Model (USM)



### Accessory Product Details

RFC 2866 RADIUS Accounting  
RFC 2869 RADIUS Extensions  
RFC 3268 Advanced Encryption Standard (AES)  
Ciphersuites for Transport Layer Security (TLS)  
RFC 3619 Ethernet Automatic Protection Switching (EAPS)

#### IP multicast

RFC 1112 IGMP  
RFC 2236 IGMPv2  
RFC 2934 Protocol Independent Multicast MIB for IPv4

#### IPv6

RFC 1350 TFTP  
RFC 1881 IPv6 Address Allocation Management  
RFC 1887 IPv6 Unicast Address Allocation Architecture  
RFC 1981 IPv6 Path MTU Discovery  
RFC 2292 Advanced Sockets API 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 2526 Reserved IPv6 Subnet Anycast Addresses  
RFC 2563 ICMPv6  
RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)  
RFC 3484 Default Address Selection for IPv6  
RFC 3587 IPv6 Global Unicast Address Format  
RFC 4443 ICMPv6  
RFC 4541 IGMP & MLD Snooping Switch  
RFC 4861 IPv6 Neighbor Discovery  
RFC 4862 IPv6 Stateless Address Auto-configuration  
RFC 5095 Deprecation of Type 0 Routing Headers in IPv6

RFC 2575 VACM for SNMP  
SNMPv1/v2c

#### QoS/CoS

RFC 2474 DS Field in the IPv4 and IPv6 Headers  
RFC 2474 DSCP DiffServ  
RFC 2475 DiffServ Architecture  
RFC 3168 The Addition of Explicit Congestion Notification (ECN) to IP  
WiFi MultiMedia (WMM), IEEE 802.11e

#### Security

IEEE 802.1X Port Based Network Access Control  
RFC 3394 Advanced Encryption Standard (AES)  
Key Wrap Algorithm  
RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)  
Access Control Lists (ACLs)  
Guest VLAN for 802.1x  
Secure Sockets Layer (SSL)  
SSHv1.5 Secure Shell  
SSHv2 Secure Shell  
Web Authentication  
WPA (Wi-Fi Protected Access)/WPA2

#### IPv6

RFC 3748 - Extensible Authentication Protocol (EAP)



### Accessory Product Details

<b>HP TippingPoint S1200N Ports IPS A7500 Module (JC527A)</b>	2 SFP 1000 Mbps ports 2 RJ-45 1000 Mbps ports 1 Compact Flash port 1 RJ-45 serial console port (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
<b>Physical characteristics</b>	<b>Dimensions</b> 13.7(d) x 15.7(w) x 1.6(h) in. (34.8 x 39.88 x 4.06 cm)
<b>Electrical characteristics</b>	<b>Weight</b> 7.7 lb. (3.49 kg), Fully loaded <b>Throughput</b> up to 1.3 Gbps <b>IPS/IDS throughput</b> 1.3 Gbps inspected throughput <b>Concurrent sessions</b> 6,500,000 <b>New sessions/second</b> 78K
<b>Environment</b>	<b>Operating temperature</b> 32°F to 113°F (0°C to 45°C) <b>Operating relative humidity</b> 10% to 95%, noncondensing <b>Nonoperating/Storage temperature</b> -20°F to 45°F (-28.9°C to 7.2°C)
<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
<b>Standards and protocols</b>	<b>Denial of service protection</b> Automatic filtering of well-known denial-of-service packets Rate Limiting by ACLs <b>IPv6</b> RFC 2460 IPv6 Specification

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<b>HP 7500 384Gbps Fabric Ports Module with 2 XFP Ports (JD193B)</b>	1 RJ-45 dual-personality port; One console port, used for local or remote configuration and management 1 RJ-45 autosensing 10/100 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 1 Compact Flash port 2 XFP 10-GbE ports; Duplex: full only
<b>Physical characteristics</b>	<b>Dimensions</b> 13.98(d) x 14.84(w) x 1.77(h) in. (35.5 x 37.7 x 4.5 cm) <b>Weight</b> 7.94 lb. (3.6 kg)
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

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### Accessory Product Details

#### HP 7500 384Gbps Fabric Ports Module (JD194B)

1 RJ-45 dual-personality port; One console port, used for local or remote configuration and management  
1 RJ-45 autosensing 10/100 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full  
1 Compact Flash port

<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.77(h) in. (35.5 x 37.7 x 4.5 cm)
	<b>Weight</b>	7.94 lb. (3.6 kg)
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

#### HP 7500 384Gbps Advanced Fabric Module (JD195A)

**Ports**  
1 RJ-45 dual-personality port; One console port, used for local or remote configuration and management  
1 RJ-45 autosensing 10/100 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full  
1 Compact Flash port

<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.77(h) in. (35.5 x 37.7 x 4.5 cm)
	<b>Weight</b>	7.94 lb. (3.6 kg)
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

#### HP 7500 768Gbps Fabric Ports Module (JD220A)

1 RJ-45 dual-personality port; One console port, used for local or remote configuration and management  
1 RJ-45 autosensing 10/100 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full  
1 Compact Flash port

<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 14.84(w) x 1.77(h) in. (35.5 x 37.7 x 4.5 cm)
	<b>Weight</b>	7.85 lb. (3.56 kg)
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	



### Accessory Product Details

HP 7500 1400W DC Power Supply (JD208A)	Physical characteristics	Dimensions	14.06(d) x 7.72(w) x 5.04(h) in. (35.7 x 19.6 x 12.8 cm) (3U height)
		Weight	20.39 lb. (9.25 kg)
	Electrical characteristics	Voltage	0~-48/-60V
		Current	0/50 A
		Idle power	168 W
		Maximum power rating	1400 W
		PoE power	140 W
		Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

HP 7500 1400W AC Power Supply (JD218A)	Physical characteristics	Dimensions	14.06(d) x 7.72(w) x 5.04(h) in. (35.7 x 19.6 x 12.8 cm) (3U height)
		Weight	14 lb. (6.35 kg)
	Electrical characteristics	Voltage	100-120/200-240 VAC
		Current	0/16 A
		Idle power	196 W
		Maximum power rating	1400 W
		PoE power	0 W
		Frequency	50/60 Hz
	Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. 1400W AC Power Supply uses a 16-A AC power cable	
	Notes	US order needs to indicate either #ABA option (for 110V) or #B2E (for 220V). This will determine which power cord the distribution centres include with the product.	





### Accessory Product Details

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

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HP 7500 2800W AC Power Supply (JD219A)	Physical characteristics	<b>Dimensions</b>	13.98(d) x 7.72(w) x 5.04(h) in. (35.5 x 19.6 x 12.8 cm) (3U height)
		<b>Weight</b>	18.08 lb. (8.2 kg)
	Electrical characteristics	<b>Voltage</b>	100-120/200-240 VAC
		<b>Current</b>	0/16 A
		<b>Idle power</b>	210 W
		<b>Maximum power rating</b>	2800 W
		<b>PoE power</b>	1400 W
		<b>Frequency</b>	50/60 Hz
		<b>Notes</b>	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. 2800W AC Power Supply uses a 16-A AC power cable.
	<b>Notes</b>	US order needs to indicate either #ABA option (for 110V) or #B2E (for 220V). This will determine which power cord the distribution centres include with the product.	
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

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### Accessory Product Details

HP 7500 6000W AC Power Supply (JD227A)	Physical characteristics	Dimensions	14.06(d) x 7.72(w) x 5.04(h) in. (35.7 x 19.6 x 12.8 cm) (3U height)
		Weight	28.22 lb. (12.8 kg)
	Electrical characteristics	Voltage	100-120/200-240 VAC
		Current	0/16 A
		Idle power	105 W
		Maximum power rating	6000 W
		PoE power	5300 W
		Frequency	50/60 Hz
		Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. 6000W AC Power Supply uses a 16-A AC power cable.
	Notes	US order needs to indicate either #ABA option (for 110V) or #B2E (for 220V). This will determine which power cord the distribution centres include with the product.	
Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

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HP 7503 Fabric Module with 24 GbE Ports (JD222A)	Ports	1 RJ-45 dual-personality port; One console port, used for local or remote configuration and management
		1 RJ-45 autosensing 10/100 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full
		16 SFP 100/1000 Mbps ports
		8 dual-personality ports; Combo ports (RJ45 or SFP)
Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.77(h) in. (35.5 x 37.7 x 4.5 cm)
	Weight	6.17 lb. (2.8 kg)
Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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### Accessory Product Details

HP 7503-S 144 Gbps Ports  
Fabric / Main Processing  
Unit with PoE-upgradable  
20p Gig-T / 4p GbE  
Combo (JC666A)

1 RJ-45 serial console port; One console port, used for local or remote configuration and management of the switch through a dialup connection  
1 RJ-45 autosensing 10/100 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full  
20 RJ-45 auto-negotiating 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only  
4 dual-personality ports; each of which consists of a 10/100/1000Base-T port and an SFP port. The two ports comprising a Combo port cannot operate at the same time.

Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.77(h) in. (35.5 x 37.7 x 4.5 cm)
	Weight	6.31 lb. (2.86 kg)
Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

HP 7503-S 144 Gbps Ports  
TAA Fabric/Main  
Processing Unit with 16  
GbE SFP Ports and 8 GbE  
Combo Ports (JC698A)

1 RJ-45 dual-personality port; One console port, used for local or remote configuration and management  
1 RJ-45 autosensing 10/100 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full  
16 SFP 100/1000 Mbps ports  
8 dual-personality ports; Combo ports (RJ45 or SFP)

Physical characteristics	Dimensions	13.98(d) x 14.84(w) x 1.77(h) in. (35.5 x 37.7 x 4.5 cm)
	Weight	6.17 lb. (2.8 kg)
Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	



### Accessory Product Details

HP 7500 650W AC Power Supply (JD217A)	Physical characteristics	Dimensions	13.78(d) x 5.51(w) x 1.57(h) in. (35 x 14 x 4 cm) (1U height)
		Weight	5.34 lb. (2.42 kg)
	Electrical characteristics	Voltage	100-120/200-240 VAC
		Current	0/10 A
		Idle power	97.5 W
		Maximum power rating	650 W
		PoE power	0 W
		Frequency	50/60 Hz
		Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. 650W AC Power Supply uses a 10-A AC power cable
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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HP 7500 650W DC Power Supply (JD209A)	Physical characteristics	Dimensions	13.78(d) x 5.51(w) x 1.57(h) in. (35 x 14 x 4 cm) (1U height)
		Weight	4.96 lb. (2.25 kg)
	Electrical characteristics	Voltage	0~-48/-60V
		Current	0/25 A
		Idle power	97.5 W
		Maximum power rating	650 W
		PoE power	0 W
		Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
		Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

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### Accessory Product Details

HP 7502 300W AC Power Supply (JD226A)	Physical characteristics	Dimensions	13.78(d) x 5.51(w) x 1.57(h) in. (35 x 14 x 4 cm) (1U height)	
		Weight	4.17 lb. (1.89 kg)	
		Electrical characteristics	Voltage	100-120/200-240 VAC
			Current	0/5 A
			Idle power	54 W
			Maximum power rating	300 W
			PoE power	0 W
			Frequency	50/60 Hz
			Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. 300W AC Power Supply uses a 10-A AC power cable
		Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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HP 7502 300W DC Power Supply (JD225A)	Physical characteristics	Dimensions	13.78(d) x 5.51(w) x 1.57(h) in. (35 x 14 x 4 cm) (1U height)	
		Weight	4.08 lb. (1.85 kg)	
		Electrical characteristics	Voltage	0~-48/-60V
			Current	0/10 A
			Idle power	60 W
			Maximum power rating	300 W
			PoE power	0 W
			Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
		Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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### Accessory Product Details

<b>HP 7502 Fabric Module</b> (JD196A)	<b>Ports</b>	1 RJ-45 dual-personality port; One console port, used for local or remote configuration and management 1 RJ-45 autosensing 10/100 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 1 Compact Flash port	
	<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 7.83(w) x 1.77(h) in. (35.5 x 19.9 x 4.5 cm)
		<b>Weight</b>	2.98 lb. (1.35 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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<b>HP 7502 TAA-compliant Main Processing Unit</b> (JC697A)	<b>Ports</b>	1 RJ-45 dual-personality port; One console port, used for local or remote configuration and management 1 RJ-45 autosensing 10/100 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 1 Compact Flash port	
	<b>Physical characteristics</b>	<b>Dimensions</b>	13.98(d) x 7.83(w) x 1.77(h) in. (35.5 x 19.9 x 4.5 cm)
		<b>Weight</b>	2.98 lb. (1.35 kg)
	<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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