

### Overview

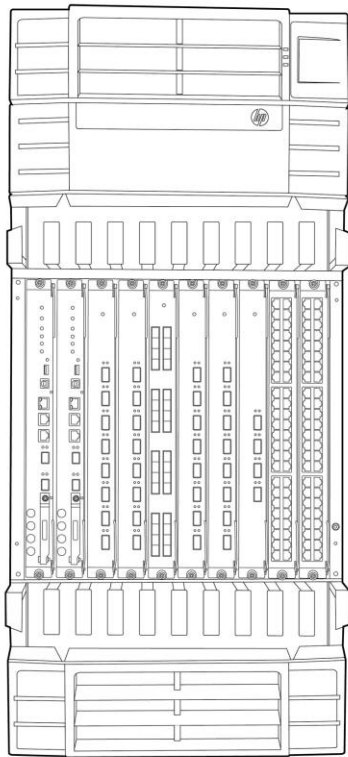
### HP 12500 Switch Series

#### Product overview

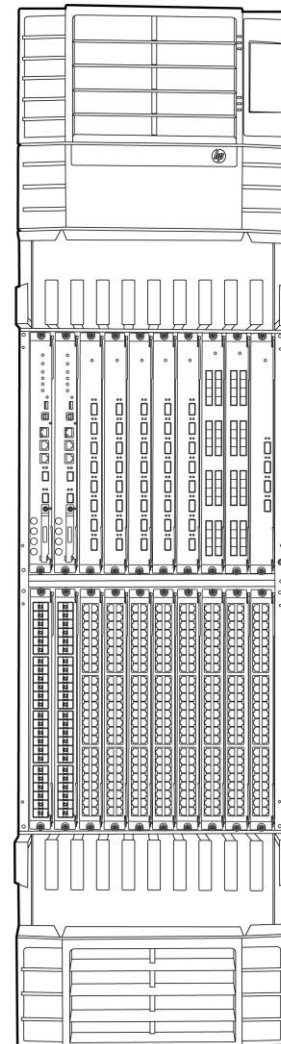
The HP 12500 Switch Series is a family of powerful, next-generation routing switches with outstanding capacity and scale for the network core or data center.

Designed for high performance with nonblocking and distributed Clos architecture, these switches deliver up to 24.3 Tbps switching capacity and 10.8 Bpps throughput with up to 400 Gbps per line card slot.

The 12500 switches also have energy-efficiency features that drive down operational expenses and are ideal for organizations contemplating large-scale data center consolidations, business continuity and disaster recovery sites, metropolitan area network deployments, and other applications requiring a robust, reliable and highly available switching platform.



HP 12508 Switch



HP 12518 Switch

#### Key features

- Optimized for data centers with extensive virtualization and convergence featured

### Overview

- Broad interface options from 1G to 100G scaling up to 24.3 Tbps switching capacity
- SDN ready with Open Flow 1.3 support
- Large Layer 2 and Layer 3 tables to support large scale deployments
- Fully redundant architecture with hot swappable components

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## Features and benefits

### Data center optimized

- **NEW Scalable Layer 2 fabrics**  
build flexible, resilient, and scalable Layer 2 fabrics with SPB and HP IRF
- **Multitenant Device Context (MDC)**  
is an innovative data center virtualization solution that enables multi-tenancy, giving customers the ability to virtualize a physical switch into multiple logical devices, with each logical switch having its own tenants
- **HP Ethernet Virtual Interconnect (EVI)**  
is an HP Virtual Application Network innovation that provides a Layer 2 extension across the data center to simplify the interconnectivity of geographically disperse data centers
- **NEW Data Center Bridging (DCB) protocols**  
provide support for IEEE 802.1Qaz Data Center Bridging Exchange (DCBX), Enhanced Transmission Selection (ETS), and IEEE 802.1Qbb Priority Flow Control (PFC) for converged fabrics
- **NEW Fibre Channel over Ethernet (FCoE) features**  
deliver support for FCoE, including expansion, fabric, trunk VF and N ports, and aggregation of E-port and N-port virtualization
- **Accelerated performance with jumbo frames**  
for intra-data-center communication, or for data center to data center traffic (disaster recovery), reducing the amount of time required for data backup and recovery
- **Network load balancing (NLB) multicast ARP**  
Microsoft® NLB co-works with multicast ARP to provide servers with load balancing and fault switchover, which lowers costs and investment

### Software-defined networking

- **NEW Supports OpenFlow 1.3 specifications**  
to enable SDN by allowing separation of the data (packet forwarding) and control (routing decision) paths

### Performance

- **NEW High performance design with nonblocking and distributed Clos architecture**  
delivers up to 24.3 Tbps switching capacity and 10.8 Bpps throughput with up to 400 Gbps per line card slot
- **NEW High-density 1GbE, 10GbE and 40GbE interface connectivity**  
offers up to 18 interface module slots to scale up to 864 1GbE and 1/10GbE and 288 40GbE ports
- **Hardware-based wirespeed access control lists (ACLs)**  
help provide high levels of security and ease of administration without impacting network performance with a feature-rich TCAM-based ACL implementation
- **High-performance processor system**  
the supervisor module uses three different processors to isolate key tasks: control plane (STP, OSPF, BGP, MPLS, etc.), fast recovery protocols (RRPP, BFD, etc.), and chassis management (temperature, power, etc.)

### Product architecture

- **Distributed architecture with separation of data and control planes**  
delivers enhanced fault tolerance and facilitates continuous operation and zero service disruption during planned or unplanned control-plane events

### Overview

- **Advanced Comware modular operating system**  
brings modularity, enhanced serviceability, stability and independent process monitoring through modern Comware v7 Operating System
- **In-Service Software Upgrade (ISSU)**  
provides an upgrade of the entire chassis, or an individual task or process, with zero packet loss

### Resiliency and high availability

- **Intelligent Resilient Fabric (IRF)**  
creates virtual resilient switching fabrics, where two or more switches perform as a single L2 switch and L3 router; switches do not have to be co-located and can be part of a disaster-recovery system; servers or switches can be attached using standard LACP for automatic load balancing and high availability; can eliminate the need for complex protocols like Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP, thereby simplifying network operation
- **Ultrafast protocol convergence**  
enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, MPLS, and IRF
- **Device Link Detection Protocol (DLDP)**  
monitors link connectivity and shuts down ports at both ends if unidirectional traffic is detected, preventing loops in STP-based networks
- **Complete set of routing protocols (Layer 3 IPv4 and IPv6)**  
support virtually all existing routing protocols (RIP, OSPF, IS-IS, and BGP) for both Layer 3 IPv4 and Layer 3 IPv6; complete support of PIM-DM, PIM-SM, PIM-SSM, and MSDP
- **Hot patching**  
the 12500 switch series supports hot patching, allowing in-service patching for some isolated software problems
- **Non Stop Forwarding/Graceful Restart (NSF/GR)**  
using standardized-based IETF protocols, the 12500 switch series provides nonstop forwarding (switching/routing) for Layer 3 routing protocols (control plane – OSPF, BGP, and MPLS), providing hitless failover
- **Fully redundant and hot swappable components**  
providing full hardware redundancy for each component including power supplies, fan trays, supervisor modules and fabric modules to enable the highest level of availability
- **Rapid Ring Protection Protocol (RRPP)**  
provides fast recovery for ring Ethernet-based topology

### Quality of Service (QoS)

- **Virtual Output Queue (VOQ)**  
prevents head-of-line (HOL) blocking per port at peak time and distributes it over a period of time, increasing switch performance
- **IEEE 802.1p prioritization**  
delivers data to devices based on the priority and type of traffic
- **Layer 4 prioritization**  
enables prioritization based on TCP/UDP port numbers
- **Broadcast control**  
allows limitation of broadcast traffic rate to cut down on unwanted network broadcast traffic
- **Advanced classifier-based QoS**  
classifies traffic using multiple match criteria based on Layer 2, 3, and 4 information; applies QoS policies such as setting priority level and rate limit to selected traffic on a per-port or per-VLAN basis
- **Bandwidth shaping**
  - **Port-based rate limiting**  
provides per-port ingress-/egress-enforced maximum bandwidth
  - **Classifier-based rate limiting**  
uses access control lists (ACLs) to enforce maximum bandwidth for ingress/egress traffic on each port

### Overview

#### Compartmentalization

- **Department protection**  
using network virtualization standards (QinQ, VRF, and MPLS), the 12500 switch series allows organizations to isolate different business units with different resources (VRFs); using standard-based mechanisms, the network is completely virtualized, reducing cost and operations
- **IEEE 802.1ah Provider Backbone Bridge (MAC in MAC)**  
Provider Backbone Bridge (PBB) is a Layer 2 VPN technology that allows a complete separation of customer and provider domains by sealing the user MAC in the service provider MAC, which enhances the scalability of an Ethernet network

#### Layer 2 switching

- **Multiple VLAN Registration Protocol (MVRP)**  
helps to maintain VLAN configuration dynamically based on current network configurations
- **GARP VLAN Registration Protocol**  
allows automatic learning and dynamic assignment of VLANs
- **IP multicast snooping and data-driven IGMP**  
automatically prevents flooding of IP multicast traffic
- **IEEE 802.1ad QinQ**  
increases the scalability of an Ethernet network by providing a hierarchical structure; connects multiple LANs on a high-speed campus or metro network
- **Bridge Protocol Data Unit (BPDU) tunneling**  
transmits Spanning Tree Protocol BPDUs transparently, allowing correct tree calculations across service providers, WANs, or MANs
- **VLAN support and tagging**  
supports IEEE 802.1Q (4K VLAN IDs)
- **Spanning Tree**  
the 12500 switch series supports the entire set of STP protocols (STP, RSTP, and MSTP), facilitating a complete integration with standard networks

#### Layer 3 routing

- **Layer 3 IPv4 routing**  
provides routing of IPv4 at media speed; supports static routes, RIP and RIPv2, OSPF, IS-IS, and BGP
- **RIP and RIPng support**  
provides complete support of RIP for both IPv4 and IPv6
- **OSPF and OSPFv3 support**  
provides complete support of OSPF for both IPv4 and IPv6
- **IS-IS and IS-ISv6 support**  
provides complete support of IS-IS for both IPv4 and IPv6
- **Equal-Cost Multipath (ECMP)**  
enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- **Layer 3 IPv6 routing**  
provides routing of IPv6 at media speed; supports static routes, RIPng, OSPFv3, IS-ISv6, and BGP4+
- **IPv6 tunneling**  
allows a smooth transition from IPv4 to IPv6 by encapsulating IPv6 traffic over an existing IPv4 infrastructure
- **Complete multicast protocol stack**  
PIM-DM, PIM-SM, PIM-SSM, MSDP, and extensions to BGP provide one of the most complete multicast protocol stacks
- **Policy routing**  
allows custom filters for increased performance and security; supports ACLs, IP prefix, AS paths, community lists, and aggregate policies
- **MPLS support**  
provides extended support of MPLS, including MPLS VPNs and MPLS Traffic Engineering (MPLS TE)
- **VPLS support**

### Overview

provides extended support of VPLS for data center to data center communication at Layer 2; provides support of hierarchical VPLS for scalability

### Management

- **sFlow**  
provides scalable, ASIC-based network monitoring and accounting; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes
- **IEEE 802.1ab LLDP discovery**  
advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications
- **USB support**
  - **File copy**  
allows users to copy switch files to and from a USB flash drive
- **Multiple configuration files**  
can be stored to the flash image
- **Command-line interface (CLI)**  
provides a secure, easy-to-use CLI for configuring the module via SSH or a switch console; provides direct real-time session visibility
- **Logging**  
provides local and remote logging of events via SNMP (v2c and v3) and syslog; provides log throttling and log filtering to reduce the number of log events generated
- **Management interface control**  
enables or disables each of the following interfaces depending on security preferences: console port, Telnet port, and SSH port
- **Out-of-band interface**  
isolates management traffic from user data plane traffic for complete isolation and total reachability, no matter what happens in the data plane
- **Network management**  
Intelligent Management Console (IMC) centrally configures, updates, monitors, and troubleshoots
- **Network management**  
SNMP v2c/v3 MIB-II with traps
- **RADIUS accounting**  
logs all session details that can be used to generate usage reports or interface to a billing system
- **RMON**  
provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Remote Intelligent Mirroring**  
mirrors ingress ACL-selected traffic from a switch port or VLAN to a local or remote switch port anywhere on the network

### Connectivity

- **IPv6 native support:**
  - **IPv6 host**  
enables switches to be managed and deployed at the IPv6 network's edge
  - **Dual stack (IPv4 and IPv6)**  
transitions from IPv4 to IPv6, supporting connectivity for both protocols
  - **Multicast Listener Discovery (MLD) snooping**  
forwards IPv6 multicast traffic to the appropriate interface
  - **IPv6 ACL/QoS**  
supports ACL and QoS for IPv6 network traffic, preventing traffic flooding
  - **IPv6 routing**  
supports IPv6 static routes and IPv6 versions of RIP and OSPF routing protocols

### Overview

#### Security

- **Control Plane Policing (CoPP)**  
provides protection against DoS attacks at infrastructure routers and switches and ease of configuration for control plane policies
- **IEEE 802.1X and RADIUS network logins**  
control port-based access for authentication and accountability
- **Secure FTP**  
allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file
- **Switch management logon security**  
can require either RADIUS or TACACS+ authentication for secure switch CLI logon
- **DHCP protection**  
blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **Dynamic ARP protection**  
blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- **Secure Shell (SSHv2)**  
encrypts all transmitted data for secure, remote CLI access over IP networks
- **Secure management access**  
securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2 and SNMPv3
- **Access control lists (ACLs)**  
provide IPv4 and IPv6 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
- **Media access control (MAC) authentication**  
provides simple authentication based on a user's MAC address; supports local or RADIUS-based authentication

#### Convergence

- **Layer 2, 3, and 4 QoS mechanisms**  
support DiffServ priority tagging based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, and source port
- **IP multicast snooping and data-driven IGMP**  
automatically prevent flooding of IP multicast traffic
- **LLDP-MED**  
is a standard extension that automatically configures network devices, including LLDP-capable IP phones
- **Internet Group Management Protocol (IGMP)**  
is used by IP hosts to establish and maintain multicast groups; supports IGMPv1, 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 Source Discovery Protocol (MSDP)**  
is used for inter-domain multicast applications, allowing multiple PIM-SM domains to interoperate
- **Multicast VLAN**  
allows multiple VLANs to receive the same IPv4 or IPv6 multicast traffic, lessening network bandwidth demand by reducing or eliminating multiple streams to each VLAN

#### Monitor and diagnostics

- **Port mirroring**  
enables traffic on a port to be simultaneously sent to a network analyzer for monitoring
- **Connectivity fault detection (IEEE 802.1ag)**  
connectivity fault detection (CFD) provides a Layer 2 link Operations, Administration, and Maintenance (OAM) mechanism

### Overview

used for link connectivity detection and fault locating

### Integration

- **12500 VPN 20 Gb/s Firewall Module**  
provides enhanced stateful packet inspection and filtering; supports flexible security zones and virtual firewall containment; delivers advanced VPN services with 3DES and AES encryption at high performance and low latency; offers Web content filtering and application prioritization and optimization

### Investment protection

- **Modular switch fabric**  
provides investment protection by enabling future performance upgrades and increased port density
- **Environmentally friendly**  
RoHS support and low power consumption based on the latest technology provide outstanding power efficiency

### 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 business-hours telephone support is available from HP for the entire warranty period; to reach our support centers, refer to <http://www.hp.com/networking/contact-support>; for details on the duration of support provided with your product purchase, refer to [www.hp.com/networking/warrantysummary](http://www.hp.com/networking/warrantysummary)
- **Software releases**  
to find software for your product, refer to <http://www.hp.com/networking/support>; for details on the software releases available with your product purchase, refer to [www.hp.com/networking/warrantysummary](http://www.hp.com/networking/warrantysummary)

### Configuration

#### Build To Order:

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

#### HP 12504 AC Switch Chassis

JC654A

- 2 - MPUx (Management Ports)
- 4 - I/O module slots
- 4 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- Must select min 1 PEM
- Must select Min 1 Fans
- Must select Min 4 Fabric Modules
- 10U - Height Rack

#### HP 12504 DC Switch Chassis

JC655A

- 2 - MPUx (Management Ports)
- 4- I/O module slots
- 4 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- 1 PEM included
- Must select Min 1 Fans
- Must select Min 4 Fabric Modules
- 10U - Height Rack

#### HP 12508 AC Switch Chassis

JF431C

- 2 - MPUx (Management Ports)
- 8- I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- Must select min 1 PEM
- Must select Min 2 Fans
- Must select Min 8 Fabric Modules
- 22U - Height Rack

#### HP FlexFabric 12508E AC Switch Chassis

JG782A

See Configuration  
Note:1

- 2 - MPUx (Management Ports)
- 8- I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- PEM included
- Must select Min 2 Fans
- Must select Min 8 Fabric Modules
- 22U - Height Rack



### Configuration

PDU Cable NA/MEX/TW/JP	JG782A#B2B
<ul style="list-style-type: none"><li>C19 PDU Jumper Cord (NA/MEX/TW/JP)</li></ul>	
PDU Cable ROW	JG782A#B2C
<ul style="list-style-type: none"><li>C19 PDU Jumper Cord (ROW)</li></ul>	
High Volt Power Entry Module to Wall Power Cord	JG782A#B2E
<ul style="list-style-type: none"><li>NEMA L6-20P Cord (NA/MEX/JP/TW)</li></ul>	
HP 12508 DC Switch Chassis	JC652A
<ul style="list-style-type: none"><li>2 - MPUx (Management Ports)</li><li>8- I/O module slots</li><li>9 - Fabric module slots</li><li>Must select min 1 Management Module</li><li>Must select min 3 Power Supply</li><li>1 PEM included</li><li>Must select Min 2 Fans</li><li>Must select Min 8 Fabric Modules</li><li>22U - Height Rack</li></ul>	
HP FlexFabric 12508E DC Switch Chassis	JG783A
<ul style="list-style-type: none"><li>2 - MPUx (Management Ports)</li><li>8- I/O module slots</li><li>9 - Fabric module slots</li><li>Must select min 1 Management Module</li><li>Must select min 3 Power Supply</li><li>PEM included</li><li>Must select Min 2 Fans</li><li>Must select Min 8 Fabric Modules</li><li>22U - Height Rack</li></ul>	
HP 12518 AC Switch Chassis	JF430C
<ul style="list-style-type: none"><li>2 - MPUx (Management Ports)</li><li>18 - I/O module slots</li><li>9 - Fabric module slots</li><li>Must select min 1 Management Module</li><li>Must select min 6 Power Supply</li><li>Must select min 2 PEM</li><li>Must select min 2 Fans</li><li>Must select Min 8 Fabric Modules</li><li>38U - Height Rack</li></ul>	
HP FlexFabric 12518E AC Switch Chassis	JG784A

### Configuration

- 2 - MPUx (Management Ports)
- 18 - I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 6 Power Supply
- PEM included
- Must select min 2 Fans
- Must select Min 8 Fabric Modules
- 38U - Height Rack

See Configuration  
Note:1

#### PDU Cable NA/MEX/TW/JP

JG784A#B2B

- C19 PDU Jumper Cord (NA/MEX/TW/JP)

#### PDU Cable ROW

JG784A#B2C

- C19 PDU Jumper Cord (ROW)

#### High Volt Power Entry Module to Wall Power Cord

JG784A#B2E

- NEMA L6-20P Cord (NA/MEX/JP/TW)

#### HP 12518 DC Switch Chassis

JC653A

- 2 - MPUx (Management Ports)
- 18 - I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 6 Power Supply
- 2 PEM included
- Must select min 2 Fans
- Must select Min 8 Fabric Modules
- 38U - Height Rack

#### HP FlexFabric 12518E DC Switch Chassis

JG785A

- 2 - MPUx (Management Ports)
- 18 - I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 6 Power Supply
- PEM included
- Must select min 2 Fans
- Must select Min 8 Fabric Modules
- 38U - Height Rack

#### Configuration Rules:

Note 1      Localization required on orders without #B2B, #B2C or #B2E options.

### Configuration

#### Box Level Integration CTO Models

##### CTO Solution Sku

HP 125xx CTO Switch Solution

JG477A

- [SSP trigger sku](#)

##### CTO Switch Chassis

HP 12504 AC Switch Chassis

JC654A

See Configuration  
Note:1, 2

- 2 - MPUx (Management Ports)
- 4 - I/O module slots
- 4 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- Must select min 1 PEM
- Must select Min 1 Fans
- Must select Min 4 Fabric Modules
- 10U - Height Rack

HP 12504 DC Switch Chassis

JC655A

See Configuration  
Note:2, 3

- 2 - MPUx (Management Ports)
- 4- I/O module slots
- 4 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- 1 PEM included
- Must select Min 1 Fans
- Must select Min 4 Fabric Modules
- 10U - Height Rack

#### Configuration Rules:

Note 1 If this Switch is selected at least one of these Power Supply is required: (Use #0D1 if switch is CTO)  
[JF429A - HP 12500 2000W AC Power Supply](#)

Note 2 If the Switch Chassis is to be Box Level Factory Integrated (CTO)), Then the #0D1 is required on the Switch Chassis and integrated to the JG477A - HP 125xx CTO Switch Solution (Min 1/Max 1 Switch per SSP)

Note 3 If this Switch is selected at least one of these Power Supplies is required: (Use #0D1 if switch is CTO)  
[JC651A - HP 12500 1800W DC Power Supply](#)

#### Rack Level Integration CTO Models

HP 12504 AC Switch Chassis

JC654A

See Configuration

- 2 - MPUx (Management Ports)

### Configuration

- 4 - I/O module slots
- 4 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- Must select min 1 PEM
- Must select Min 1 Fans
- Must select Min 4 Fabric Modules
- 10U - Height Rack

Note:1, 2, 3

#### HP 12504 DC Switch Chassis

- 2 - MPUx (Management Ports)
- 4 - I/O module slots
- 4 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- 1 PEM included
- Must select Min 1 Fans
- Must select Min 4 Fabric Modules
- 10U - Height Rack

JC655A  
See Configuration  
Note: 3, 4

#### HP 12508 AC Switch Chassis

- 2 - MPUx (Management Ports)
- 8- I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- Must select min 1 PEM
- Must select Min 2 Fans
- Must select Min 8 Fabric Modules
- 22U - Height Rack

JF431C  
See Configuration  
Note:1, 2, 3

#### HP FF 12508E AC Switch Chassis

- 2 - MPUx (Management Ports)
- 8- I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- PEM included
- Must select Min 2 Fans
- Must select Min 8 Fabric Modules
- 22U - Height Rack

JG782A  
See Configuration  
Note:1, 3, 5

#### PDU Cable NA/MEX/TW/JP

- C19 PDU Jumper Cord (NA/MEX/TW/JP)

JG782A#B2B

#### PDU Cable ROW

JG782A#B2C

### Configuration

- C19 PDU Jumper Cord (ROW)

#### HP 12508 DC Switch Chassis

- 2 - MPUx (Management Ports)
- 8- I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- 1 PEM included
- Must select Min 2 Fans
- Must select Min 8 Fabric Modules
- 22U - Height Rack

JC652A  
See Configuration  
Note: 3, 4

#### HP FF 12508E DC Switch Chassis

- 2 - MPUx (Management Ports)
- 8- I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 3 Power Supply
- PEM included
- Must select Min 2 Fans
- Must select Min 8 Fabric Modules
- 22U - Height Rack

JG783A  
See Configuration  
Note: 3, 4

#### HP 12518 AC Switch Chassis

- 2 - MPUx (Management Ports)
- 18 - I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 6 Power Supply
- Must select min 2 PEM
- Must select min 2 Fans
- Must select Min 8 Fabric Modules
- 38U - Height Rack

JF430C  
See Configuration  
Note:1, 2, 3

#### HP FF 12518E AC Switch Chassis

- 2 - MPUx (Management Ports)
- 18 - I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 6 Power Supply
- PEM included
- Must select min 2 Fans
- Must select Min 8 Fabric Modules
- 38U - Height Rack

JG784A  
See Configuration  
Note:1, 3, 5

### Configuration

#### PDU Cable NA/MEX/TW/JP

JG784A#B2B

- C19 PDU Jumper Cord (NA/MEX/TW/JP)

#### PDU Cable ROW

JG784A#B2C

- C19 PDU Jumper Cord (ROW)

#### HP 12518 AC Switch Chassis

JC653A

See Configuration  
Note: 3, 4

- 2 - MPUx (Management Ports)
- 18 - I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 6 Power Supply
- 2 PEM included
- Must select min 2 Fans
- Must select Min 8 Fabric Modules
- 38U - Height Rack

#### HP FF 12518E DC Switch Chassis

JG785A

See Configuration  
Note: 3, 4

- 2 - MPUx (Management Ports)
- 18 - I/O module slots
- 9 - Fabric module slots
- Must select min 1 Management Module
- Must select min 6 Power Supply
- PEM included
- Must select min 2 Fans
- Must select Min 8 Fabric Modules
- 38U - Height Rack

### Configuration Rules:

- Note 1 If this Switch is selected at least one of these Power Supply is required: (Use #0D1 if switch is CTO)  
JF429A - HP 12500 2000W AC Power Supply
- Note 2 When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power Cable option on the Power Electrical Module. (See Drop down remark in the "Internal Power Supplies" section.)
- Note 3 If HP CTO Switch Chassis is selected to be Rack Level Integration, Then the CTO Switch Chassis needs to integrate (with #0D1) to the BW966A or BW968A HP Universal Rack Only. (Default to the BW966A.)
- Note 4 If this Switch is selected at least one of these Power Supplies is required: (Use #0D1 if switch is CTO)  
JC651A - HP 12500 1800W DC Power Supply
- Note 5 Localization required on orders without #B2B or #B2C options.

### Internal Power Supplies

### Configuration

12508 and 12504 - System (std 0 // max 6) User Selection (min 3 // max 6)

12508E - System (std 0 // max 8) User Selection (min 3 // max 8)

12518 - System (std 0 // max 12) User Selection (min 6 // max 12)

12518E - System (std 0 // max 16) User Selection (min 6 // max 16)

HP 12500 2000W AC Power Supply

JF429A  
See Configuration  
Note:1

HP 12500 1800W DC Power Supply

JC651A  
See Configuration  
Note:2

### Configuration Rules:

Note 1 Supported on Switches JC654A, JF431C, JF430C, JG782A and JG784A only.

Note 2 Supported on Switches JC655A, JC652A, JC653A, JG783A and JG785A only.

Remarks: 12504 and 12508 only - Default 6 power supplies and allow the user to change down to 3.

12508E only - Default 6 power supplies and allow the user to change down to 3.

12518 only - Default 12 power supplies and allow the user to change down to 6.

12518E only - Default 12 power supplies and allow the user to change down to 6.

The power module support load balancing and N+1/N+M redundancy. Deploying N+1 power redundancy  
The total number of power modules (JF431C, JF430C) = Ceiling (total power load of the chassis/2000) + 1  
For example, if the total load of the chassis is 3000 W, the number of power modules must be  $2 + 1 = 3$ .

Deploying 1:1 power redundancy

JF431C-Requires 6 power modules.

JF430C-Total number of power modules =  $[\text{Ceiling}(\text{total power load of the chassis}/2000)] \times 2$

For example, if the total power load of the chassis is 7000 W, the total number of power modules must be  $(4 + 1) \times 2 = 10$ .

Localization is not required on these internal AC power supplies. Localization is covered on the chassis for the 125x8E AC models (JG782A, JG784A), or on the PEMs listed below for the AC 125xx models (JC654A, JF431C, JF430C).

### Localization

HP 12500 AC Power Entry Module - Chile - English localization

JF426A#A1X

- Power Cord: Quantity :6, CEI 23-50, C19 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet, Store Part#:8121-0923

HP 12500 AC Power Entry Module - U.S. - English localization

JF426A#ABA

### Configuration

- Power Cord: Quantity :6, NEMA 5-20P, C19 STRAIGHT, 125 V, 15 A, 2.5 meters, 8.21 feet, Store Part# :8120-6361

HP 12500 AC Power Entry Module - Europe - English localization

JF426A#ABA

- Power Cord: Quantity :6, NEMA 6-20P / L6-20P, C19 STRAIGHT, 250 V, 20 A, 2.5 meters, 8.21 feet, Store Part# :8120-6360

HP 12500 AC Power Entry Module - Europe - English localization

JF426A#ABB

- Power Cord: Quantity :6, CEE 7-VII, C19 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet, Store Part# :8120-6352

HP 12500 AC Power Entry Module - Australia - English localization

JF426A#ABG

- Power Cord: Quantity :6, AS/NZS 3112, C19 STRAIGHT, 250 V, 15 A, 2.5 meters, 8.21 feet, Store Part# :8120-6351

HP 12500 AC Power Entry Module - Brazil - Portuguese localization

JF426A#AC4

- Power Cord: Quantity :6, NBR 14136 Fig13, C19 STRAIGHT, 250 V, 2.5 A, 2.5 meters, 8.21 feet, Store Part# :8121-1101

HP 12500 AC Power Entry Module - Korea - English localization

JF426A#AC6

- Power Cord: Quantity :6, CEE 7-VII, C19 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet, Store Part# :8120-6352

HP 12500 AC Power Entry Module - United Kingdom - English localization

JF426A#ACC

- Power Cord: Quantity :6, BS 1363/A, C19 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet, Store Part# :8120-6353

HP 12500 AC Power Entry Module - Switzerland - English localization

JF426A#ACD

- Power Cord: Quantity :6, IEC 309, C19 STRAIGHT, 250 V, 16 A, 2.5 meters, 8.21 feet, Store Part# :8121-1287

HP 12500 AC Power Entry Module - Denmark - English localization

JF426A#ACE

- Power Cord: Quantity :6, IEC 309, C19 STRAIGHT, 250 V, 16 A, 2.5 meters, 8.21 feet, Store Part# :8121-1287

HP 12500 AC Power Entry Module - Japan - English localization

JF426A#ACF

- Power Cord: Quantity :6, NEMA 5-20P, C19 STRAIGHT, 125 V, 15 A, 2.5 meters, 8.21 feet, Store Part# :8120-6361



### Configuration

HP 12500 AC Power Entry Module - India - English localization	JF426A#ACJ
<ul style="list-style-type: none"><li>Power Cord: Quantity :6, SABS 164, C19 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet, Store Part# :8121-0915</li></ul>	
HP 12500 AC Power Entry Module - South Africa - English localization	JF426A#ACQ
<ul style="list-style-type: none"><li>Power Cord: Quantity :6, SABS 164, C19 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet, Store Part# :8121-0915</li></ul>	
HP 12500 AC Power Entry Module - Israel - English localization	JF426A#AKJ
<ul style="list-style-type: none"><li>Power Cord: Quantity :6, SI 32 90-DEG, C19 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet, Store Part# :8121-1010</li></ul>	
HP 12500 AC Power Entry Module - Thailand - English localization	JF426A#AKL
<ul style="list-style-type: none"><li>Power Cord: Quantity :6, NEMA 5-15P, C19 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet, Store Part# :8121-0922</li></ul>	
HP 12500 AC Power Entry Module - China - English localization	JF426A#AKM
<ul style="list-style-type: none"><li>Power Cord: Quantity :6, GB 1002, C19 STRAIGHT, 250 V, 16 A, 2.5 meters, 8.21 feet, Store Part# :8121-0924</li></ul>	
HP 12500 AC Power Entry Module - Taiwan - English localization	JF426A#ARB
<ul style="list-style-type: none"><li>Power Cord: Quantity :6, CNS 690 Type 2(3), C19 STRAIGHT, 125 V, 15 A, 2.5 meters, 8.21 feet, Store Part# :8121-1286</li></ul>	
HP 12500 AC Power Entry Module - Argentina - English localization	JF426A#ARM
<ul style="list-style-type: none"><li>Power Cord: Quantity :6, IRAM 2073, C19 STRAIGHT, 250 V, 16 A, 2.5 meters, 8.21 feet, Store Part# :8121-0925</li></ul>	
HP 12500 AC Power Entry Module - L6-20 220V-NA	JF426A#B2E
<ul style="list-style-type: none"><li>Power Cord: Quantity :6, NEMA 6-20P / L6-20P, C19 STRAIGHT, 250 V, 20 A, 2.5 meters, 8.21 feet, Store Part# :8120-6360</li></ul>	

Part Store URL: <http://h20141.www2.hp.com/Hpparts/CountryChoice.aspx?mscssid=&valid=False>

#### Configuration Rules:

Note 1 Supported on Switches JC654A, JF431C and JF430C only.

Note 2 Supported on Switches JC655A, JC652A and JC653A only.

Remarks: 12504 and 12508 only - Default 6 power supplies and allow the user to change down to 3.

### Configuration

12518 only - Default 12 power supplies and allow the user to change down to 6.

- The power module support load balancing and N+1/N+M redundancy. Deploying N+1 power redundancy
- The total number of power modules (JF431C, JF430C) = Ceiling (total power load of the chassis/2000) + 1  
For example, if the total load of the chassis is 3000 W, the number of power modules must be  $2 + 1 = 3$ .
- Deploying 1:1 power redundancy
- JF431C-Requires 6 power modules.
- JF430C-Total number of power modules = [Ceiling (total power load of the chassis/2000) ] x 2  
For example, if the total power load of the chassis is 7000 W, the total number of power modules must be  $(4 + 1) \times 2 = 10$ .

### Power Electrical Module

12504 and 12508 Only - System (std 0 // max 1) User Selection (min 1 // max 1)

12518 - System (std 0 // max 2) User Selection (min 2 // max 2)

HP 12500 AC Power Entry Module

JF426A

See Configuration  
Note:1, 2, 3,4

PDU Cable NA/MEX/TW/JP

JF426A#B2B

- C19 PDU Jumper Cord (NA/MEX/TW/JP)

PDU Cable ROW

JF426A #B2C

- C19 to C20 Jumper Cord

High Volt Power Entry Module to Wall Power Cord

JF426A #B2E

- NEMA L6-20P Cord (NA/MEX/JP/TW)

### Configuration Rules:

Note 1 Supported on Switch JC654x, JF431x and JF430x only.

Note 2 Localization required on orders without #B2B, #B2C or #B2E options.

Note 3 When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power Cable option on the Power Electrical Module. (See Drop down remark in the "Internal Power Supplies" section.)

Note 4 #B2E is Offered only in NA, Mexico, Taiwan and Japan.

### Remarks:

Drop down under power supply should offer the following options and results:

Power Electrical Module to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW.  
(Watson Default B2B or B2C for Rack Level CTO)

Power Electrical Module to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO)

High Volt Power Electrical Module to Wall Power Cord - #B2E Option. (Offered only in North America, Mexico, Taiwan,

### Configuration

and Japan)

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

### Modules

#### Fabric Modules

12504 - System (std 0 // max 4) User Selection (min 4 // max 4) per Switch

12508 and 12518 System (std 0 // max 9) User Selection (min 8 // max 9) per Switch

HP 12508 Fabric Module

JC067B  
See Configuration  
Note:1, 4

HP 12518 Fabric Module

JC066A  
See Configuration  
Note:2, 4

HP 1250x G2 Fabric Module

JC658A  
See Configuration  
Note:1, 3, 4

HP 12518 G2 Fabric Module

JC657A  
See Configuration  
Note:2, 4

HP FF 12508E Fabric Mod

JG798A  
See Configuration  
Note:4, 6

HP FF 12518E Fabric Mod

JG800A  
See Configuration  
Note:4, 7

#### Configuration Rules:

Note 1 Supported on Switch JF431C and JC652A Switch Chassis only.

Note 2 Supported on Switch JF430C and JC653A Switch Chassis only.

Note 3 Supported on Switch JC654A and JC655A Switch Chassis only.

Note 4 Fabric Modules cannot be mixed, They must all be the same SKU.

Note 6 Supported on Switch JG782A and JG783A Switch Chassis only.

Note 7 Supported on Switch JG784A and JG785A Switch Chassis only.

### Configuration

Remarks: 12504 Only - Default 4 of the JC658A Fabric Modules.

12508 and 12518 Only - Default 9 of the JC658A or JC657A Fabric Modules and allow the user to change to 8 if desired.

12508E and 12518E Only - Default 9 of the JG798A or JG800A Fabric Modules and allow the user to change to 8 if desired.

### Management Modules

System (std 0 // max 2) User Selection (min 1 // max 2) per Switch

HP 12500 Main Processing Unit

- No supported Transceivers

JC072B  
See Configuration  
Note:1, 3

HP 12500 TAA Main Processing Unit

- No supported Transceivers

JC808A  
See Configuration  
Note:1, 2, 3

HP 12500 Type A MPU w/Comware v7 OS

- No supported Transceivers

JG497A  
See Configuration  
Note:1, 3, 4

HP FF 12500E MPU

- No supported Transceivers

JG802A  
See Configuration  
Note:1, 3, 4

### Configuration Rules:

Note 1 Management Modules cannot be mixed, They must all be the same SKU.

Note 2 TAA Modules are available in the US, India, South Korea, Vietnam and Taiwan only.

Note 3 Supported on JF431C, JC652A, JF430C, JC653A, JC654A and JC655A Switch Chassis only.

Note 4 Supported on JG782A, JG783A, JG784A and JG785A Switch Chassis only.

Remarks: Default 2 of the JG497A's for JF431C, JC652A, JF430C, JC653A, JC654A and JC655A, but allow to go down 1.  
Default 2 of the JG802A's for JG782A, JG783A, JG784A and JG785A, but allow to go down 1.

### I/O Modules

12504 - System (std 0 // max 4) User Selection (min 0 // max 4)

12508 - System (std 0 // max 8) User Selection (min 0 // max 8)

12518 - System (std 0 // max 18) User Selection (min 0 // max 18)

HP 12500 48-port GbE SFP LEB Module

JC075B

### Configuration

<ul style="list-style-type: none"><li>Min 0 // Max 48 SFP Transceivers</li></ul>	See Configuration Note:3, 10
HP 12500 48-port GbE SFP LEC Module <ul style="list-style-type: none"><li>Min 0 // Max 48 SFP Transceivers</li></ul>	JC069B See Configuration Note:3, 10
HP 12500 8-port 10GbE XFP LEB Module <ul style="list-style-type: none"><li>Min 0 // Max 8 XFP Transceivers</li></ul>	JC073B See Configuration Note:1, 5, 10
HP 12500 32-port 10GbE SFP+ REB Module <ul style="list-style-type: none"><li>Min 0 // Max 32 SFP+ Transceivers</li></ul>	JC064B See Configuration Note:1, 4, 10
HP 12500 8-port 10GbE XFP LEC Module <ul style="list-style-type: none"><li>Min 0 // Max 8 XFP Transceivers</li></ul>	JC068B See Configuration Note:1, 5, 10
HP 12500 32-port 10GbE SFP+ REC Module <ul style="list-style-type: none"><li>Min 0 // Max 32 SFP+ Transceivers</li></ul>	JC476B See Configuration Note:1, 4, 10
HP 12500 48-port Gig-T LEB Module <ul style="list-style-type: none"><li>No supported Transceivers</li></ul>	JC074B See Configuration Note:10
HP 12500 48-port Gig-T LEC Module <ul style="list-style-type: none"><li>No supported Transceivers</li></ul>	JC065B See Configuration Note:10
HP 12500 20Gbps VPN Firewall Module <ul style="list-style-type: none"><li>min=0 \ max=2 SFP Transceivers</li></ul>	JG371A See Configuration Note:7,9,10
HP 12500 VPN Firewall Module <ul style="list-style-type: none"><li>min=0 \ max=2 SFP Transceivers</li></ul>	JC635A See Configuration Note:7, 10
HP 12500 8-port 10GbE SFP+ LEF Module <ul style="list-style-type: none"><li>Min 0 // Max 8 SFP+ Transceivers</li></ul>	JC659A See Configuration Note:4, 10
HP 12500 48-port GbE SFP LEF Module <ul style="list-style-type: none"><li>Min 0 // Max 48 SFP Transceivers</li></ul>	JC660A See Configuration Note:3, 10
HP 12500 8-port 10GbE SFP+ LEB Module	JC780A

### Configuration

<ul style="list-style-type: none"><li>Min 0 // Max 8 SFP+ Transceivers</li></ul>	See Configuration Note:4, 10
HP 12500 8-port 10GbE SFP+ LEC Module <ul style="list-style-type: none"><li>Min 0 // Max 8 SFP+ Transceivers</li></ul>	JC781A See Configuration Note:4, 10
HP 12500 16-port 10GbE SFP+ LEB Module <ul style="list-style-type: none"><li>Min 0 // Max 16 SFP+ Transceivers</li></ul>	JC782A See Configuration Note:4, 6, 10
HP 12500 16-port 10GbE SFP+ LEC Module <ul style="list-style-type: none"><li>Min 0 // Max 16 SFP+ Transceivers</li></ul>	JC783A See Configuration Note:4, 6, 10
HP 12500 48-port Gig-T LEC TAA Module <ul style="list-style-type: none"><li>No supported Transceivers</li></ul>	JC809A See Configuration Note:8, 10
HP 12500 8-port 10GbE XFP LEC TAA Mod <ul style="list-style-type: none"><li>Min 0 // Max 8 XFP Transceivers</li></ul>	JC810A See Configuration Note:5, 8, 10
HP 12500 48-port GbE SFP LEC TAA Module <ul style="list-style-type: none"><li>Min 0 // Max 48 SFP Transceivers</li></ul>	JC811A See Configuration Note:3, 8, 10
HP 12500 32p 10GbE SFP+ REC TAA Module <ul style="list-style-type: none"><li>Min 0 // Max 32 SFP+ Transceivers</li></ul>	JC812A See Configuration Note:4, 8, 1
HP 12500 8-port 10GbE SFP+ LEC TAA Mod <ul style="list-style-type: none"><li>Min 0 // Max 8 SFP+ Transceivers</li></ul>	JC813A See Configuration Note:4, 8, 10
HP 12500 16p 10GbE SFP+ LEC TAA Module <ul style="list-style-type: none"><li>Min 0 // Max 16 SFP+ Transceivers</li></ul>	JC814A See Configuration Note:4, 6, 8, 10
HP 12500 8-port 10GbE SFP+ LEF TAA Mod <ul style="list-style-type: none"><li>Min 0 // Max 8 SFP+ Transceivers</li></ul>	JC817A See Configuration Note:4, 8, 10
HP 12500 48-port GbE SFP LEF TAA Module <ul style="list-style-type: none"><li>Min 0 // Max 48 SFP Transceivers</li></ul>	JC818A See Configuration Note:3, 8, 10
HP FF 12500 16p 40GbE QSFP+ FD Mod	JG790A

### Configuration

<ul style="list-style-type: none"> <li>• Min 0 // Max 16 QSFP+ Transceivers</li> </ul>	<p>See Configuration Note:2, 6, 10, 11</p>
<p>HP FF 12500 48p 1/10GbE SFP+ FD Mod</p> <ul style="list-style-type: none"> <li>• Min 0 // Max 48 SFP+ Transceivers</li> </ul>	<p>JG796A See Configuration Note:3, 4, 6, 10, 11</p>
<p>HP FF 12500 40p 1/10GbE SFP+ FD Mod</p> <ul style="list-style-type: none"> <li>• Min 0 // Max 40 SFP+ Transceivers</li> </ul>	<p>JG792A See Configuration Note:3, 4, 6, 10, 11</p>
<p>HP FF 12500 40p 1/10GbE SFP+ FG Mod</p> <ul style="list-style-type: none"> <li>• Min 0 // Max 40 SFP+ Transceivers</li> </ul>	<p>JG794A See Configuration Note:3, 4, 6, 10, 11</p>

### Configuration Rules:

<p>Note 1</p>	<p>If this Modules is selected with the JF430C - HP A12518 Switch Chassis and ANY of the below Fabric Modules, Then its Max = 14:</p> <p>HP 12518 Fabric Module</p> <p>HP 12518 TAA-compliant Fabric Module</p>	<p>JC066A JC819A</p>
<p>Note 2</p>	<p>The following 40G Transceivers install into this Module:</p> <p>HP X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver</p> <p>HP X140 40G QSFP+ MPO SR4 Transceiver</p> <p>HP X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver</p>	<p>JG661A JG325B JG709A</p>
<p>Note 3</p>	<p>The following Transceivers install into this Module:</p> <p>HP X170 1G SFP LC LH70 1550 Transceiver</p> <p>HP X170 1G SFP LC LH70 1570 Transceiver</p> <p>HP X170 1G SFP LC LH70 1590 Transceiver</p> <p>HP X170 1G SFP LC LH70 1610 Transceiver</p> <p>HP X170 1G SFP LC LH70 1470 Transceiver</p> <p>HP X170 1G SFP LC LH70 1490 Transceiver</p> <p>HP X170 1G SFP LC LH70 1510 Transceiver</p> <p>HP X170 1G SFP LC LH70 1530 Transceiver</p> <p>HP X120 1G SFP LC LH100 Transceiver</p> <p>HP X125 1G SFP LC LH40 1310nm Transceiver</p> <p>HP X120 1G SFP LC LH40 1550nm Transceiver</p> <p>HP X120 1G SFP RJ45 T Transceiver</p> <p>HP X120 1G SFP LC SX Transceiver</p> <p>HP X120 1G SFP LC LX Transceiver</p> <p>HP X125 1G SFP LC LH70 Transceiver</p> <p>HP X120 1G SFP LC BX 10-U Transceiver</p> <p>HP X120 1G SFP LC BX 10-D Transceiver</p> <p>HP X114 100M SFP LC FX Transceiver</p> <p>HP X120 100M/1G SFP LC LX Transceiver</p>	<p>JD109A JD110A JD111A JD112A JD113A JD114A JD115A JD116A JD103A JD061A JD062A JD089B JD118B JD119B JD063A JD098B JD099B JF833A JF832A</p>

### Configuration

- Note 4** The following Transceivers install into this Module:
- |  |        |
|--|--------|
| HP X130 10G SFP+ LC SR Transceiver                     | JD092A |
| HP X130 10G SFP+ LC LRM Transceiver                    | JD093A |
| HP X130 10G SFP+ LC LR Transceiver                     | JD094A |
| HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable | JD097B |
| HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable | JD097C |
| HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable | JG081C |
| HP X130 10G SFP+ LC ER 40km Transceiver                | JG234A |
| HP X130 10G SFP+ LC LH 80km Transceiver                | JG915A |
| HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable    | JC784C |
- Note 5** The following Transceivers install into this Module:
- |   |        |
|---|--------|
| HP X135 10G XFP LC ER Transceiver                         | JD121A |
| HP X130 10G XFP LC LR Single Mode 10km 1310nm Transceiver | JD108B |
| HP X130 10G XFP LC SR Transceiver                         | JD117B |
| HP X130 10G XFP LC ZR Single Mode 80km 1550nm Transceiver | JD107A |
| 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 |
- Note 6** If this Module is selected then ONLY the following Fabric Modules must be selected as well:
- |   |        |
|---|--------|
| HP 12518 G2 Fabric Module               | JC657A |
| HP 1250x G2 Fabric Module               | JC658A |
| HP 1250x TAA-compliant G2 Fabric Module | JC815A |
| HP 12518 TAA-compliant G2 Fabric Module | JC816A |
| HP FlexFabric 12508E Fabric Module      | JG798A |
| HP FlexFabric 12518E Fabric Module      | JG800A |
- Note 7** The following Transceivers install into this Module: (Use #0D1 if switch is CTO) - if applicable
- |   |        |
|---|--------|
| HP X125 1G SFP LC LH40 1310nm Transceiver | JD061A |
| HP X120 1G SFP LC LH40 1550nm Transceiver | JD062A |
| HP X125 1G SFP LC LH70 Transceiver        | JD063B |
| HP X120 1G SFP LC SX Transceiver          | JD118B |
| HP X120 1G SFP LC LX Transceiver          | JD119B |
- Note 8** TAA Modules are available in the US, India, South Korea, Vietnam and Taiwan only.
- Note 9** "These modules are Not Supported with Management Module JG497A - HP 12500 Type A MPU w/Comware v7 OS.  
They are Only Supported with Management Modules JC072B - HP 12500 Main Processing Unit, JC808A - HP 12500 TAA Main Processing Unit and JG802A HP FF 12500E MPU ."
- Note 10** Supported on JF431C, JC652A, JF430C, JC653A, JC654A, JC655A, JG782A, JG783A, JG784A and JG785A Switch Chassis only.



### Configuration

**Note 11** These modules require JG800A, JG798A, JC658A, JG657A, JC815A, JC816A, JG497A or JG802A MPU.

**Remarks** JC073B, JC064B, JC068B, and JC476B - Do not install the card in any of the following slots: slot 16, 17, 18, or 19 of the S12518.

### Transceivers

#### SFP Transceivers

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
HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
HP X170 1G SFP LC LH70 1530 Transceiver	JD116A
HP X120 1G SFP LC LH100 Transceiver	JD103A
HP X125 1G SFP LC LH40 1310nm XCVR	JD061A
HP X120 1G SFP LC LH40 1550nm XCVR	JD062A
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP RJ45 T Transceiver	JD089B
HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X120 1G SFP LC BX 10-U Transceiver	JD098B
HP X120 1G SFP LC BX 10-D Transceiver	JD099B
HP X110 100M SFP LC FX Transceiver	JF833A
HP X120 100M/1G SFP LC LX Transceiver	JF832A

#### SFP+ Transceivers

HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC LRM Transceiver	JD093B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X130 10G SFP+ LC LH 80km XVCR	JG915A
HP X240 10G SFP+ SFP+ 3m DAC Cable	JD097C#B01
HP X240 10G SFP+ SFP+ 5m DAC Cable	JG081C#B01
HP X240 10G SFP+ 7m DAC Cable	JC784C#B01

#### QSFP+ Transceivers

HP X140 40G QSFP+ LC LR4 SM XCVR	JG661A
HP X140 40G QSFP+ MPO SR4 XCVR	JG325B
HP X140 40G QSFP+ CSR4 300m XCVR	JG709A

#### XFP Transceivers

### Configuration

HP X135 10G XFP LC ER Transceiver	JD121A
HP X130 10G XFP LC ZR 1550nm Transceiver	JD107A
HP X130 10G XFP LC SR Transceiver	JD117B
HP X130 10G XFP LC LR 1310nm Transceiver	JD108B
HP X135 10G XFP LC ER Transceiver	JG226A
HP X130 10G XFP SC ZR Transceiver	JG227A
HP X130 10G XFP LC SR Transceiver	JG228A
HP X130 10G XFP SC LR Transceiver	JG229A
HP X135 10G XFP LC ER Transceiver	JG230A
HP X130 10G XFP SC ZR Transceiver	JG231A
HP X130 10G XFP LC SR Transceiver	JG232A
HP X130 10G XFP SC LR Transceiver	JG233A

### Server Specific Options

HP Premier Flex LC/LC OM4 2f 1m Cbl	QK732A
HP Premier Flex LC/LC OM4 2f 2m Cbl	QK733A
HP Premier Flex LC/LC OM4 2f 5m Cbl	QK734A
HP Premier Flex LC/LC OM4 2f 15m Cbl	QK735A
HP Premier Flex LC/LC OM4 2f 30m Cbl	QK736A
HP Premier Flex LC/LC OM4 2f 50m Cbl	QK737A

### Cable Guides

#### System (std 0 // max 1) User Selection (min 0 // max 1) Per Switch

HP 12500 Side Cable Management Guide	JC084A
HP 12508 Cable Guides for AC Pwr Switch	JC785A <a href="#">See Configuration Note:1</a>
HP 12518 Cable Guides for AC Pwr Switch	JC786A <a href="#">See Configuration Note:2</a>
HP 12508 Cable Guides for DC Pwr Switch	JC787A <a href="#">See Configuration Note:3</a>
HP 12518 Cable Guides for DC Pwr Switch	JC788A <a href="#">See Configuration Note:4</a>
HP 12508E Optional Cbl Guide for AC Swch	JG830A <a href="#">See Configuration Note:5</a>
HP 12518E Optional Cbl Guide for AC Swch	JG831A

### Configuration

	<a href="#">See Configuration Note:6</a>
HP 12508E Optional Cbl Guide for DC Swch	JG832A <a href="#">See Configuration Note:7</a>
HP 12518E Optional Cbl Guide for DC Swch	JG833A <a href="#">See Configuration Note:8</a>

### Configuration Rules:

- Note 1 Supported on Switch JF431x - HP 12508 AC Switch Chassis only.
- Note 2 Supported on Switch JF430x - HP 12518 AC Switch Chassis only.
- Note 3 Supported on Switch JC652x -HP 12508 DC Switch Chassis only.
- Note 4 Supported on Switch JC653x - HP 12518 DC Switch Chassis only.
- Note 5 Supported on Switch JG782A - HP FF 12508E AC Switch Chassis only.
- Note 6 Supported on Switch JG784A - HP FF 12518E AC Switch Chassis only.
- Note 7 Supported on Switch JG783A - HP FF 12508E DC Switch Chassis only.
- Note 8 Supported on Switch JG785A - HP FF 12518E DC Switch Chassis only.

Remarks: These items are optional .and used by customers for I/O cabling management.

### Fan Assemblies

12504 Only - System (std 0 // max 1) User Selection (min 1 // max 1) Per Switch

12508 and 12518 Only - System (std 0 // max 2) User Selection (min 2 // max 2) Per Switch

HP 12504 Fan Assembly	JC664A <a href="#">See Configuration Note:3</a>
HP 12518 Fan Assembly	JC080A <a href="#">See Configuration Note:2</a>
HP 12508 Fan Assembly	JC081A <a href="#">See Configuration Note:1</a>
HP FF 12500E Fan Tray Assembly	JG805A

### Configuration

See Configuration  
Note:4

#### Configuration Rules:

- Note 1 Supported on Switch JF431C and JC652A Switch Chassis only.
- Note 2 Supported on Switch JF430C and JC653A Switch Chassis only.
- Note 3 Supported on Switch JC654A and JC655A Switch Chassis only.
- Note 4 Supported on JG782A, JG783A, JG784A and JG785A Switch Chassis only

#### Air Filter Assemblies

System (std 0 // max 1) User Selection (min 0 // max 1)

HP 12508 Optional Air Filter	JC082A See Configuration Note:1
HP 12518 Optional Air Filter	JC083A See Configuration Note:2
HP FF 12508E Optional Air Filter	JG808A See Configuration Note:3
HP FF 12518E Optional Air Filter	JG809A See Configuration Note:4

#### Configuration Rules:

- Note 1 Supported on Switch JF431C and JC652A Switch Chassis only.
- Note 2 Supported on Switch JF430C and JC653A Switch Chassis only.
- Note 3 Supported on Switch JF431C, JC652A, JG782A and JG783A Switch Chassis only.
- Note 4 Supported on Switch JF430C, JC653A, JG784A and JG785A Switch Chassis only.

#### Power Monitor Module

12508E and 12518E only-System (std 0 // max 1) User Selection (min 0 // max 1) Per Switch

12504 and 12508 only-System (std 0 // max 1) User Selection (min 0 // max 1) Per Switch

12518 only-System (std 0 // max 2) User Selection (min 0 // max 2) Per Switch

### Configuration

HP 12500 Spare Power Monitor Module

JC502A  
See Configuration  
Note:1

HP FF 12500E Spare Pwr Monitor Mod

JG804A  
See Configuration  
Note:2

#### Configuration Rules:

Note 1 This item is only used to replace the Power Monitor Module of an JF431C, JF430C, JC652A and JC653A . A host is delivered with the Power Monitor Module.

Note 2 This item is only used to replace the Power Monitor Module of an JG782A, JG784A, JG783A and JG785A . A host is delivered with the Power Monitor Module.

#### Power Cables

12500 only-System (std 0 // max 6 or 12) User Selection (min 0 // max 6 or 12)

12500E only-System (std 0 // max 8 or 16) User Selection (min 0 // max 8 or 16)

HP X210 10m JG-to-bare 72v DC Pwr Cable

JG280A  
See Configuration  
Note:1

#### Configuration Rules:

Note 1 If the DC Power Supplies are selected, Then the number of DC power cables should match the number of DC power supplies.

#### Compact Flash cards

HP X600 1G Compact Flash Card

- [Parts List Only](#)

JC684A

HP FF 4GB Compact Flash Card

JG806A  
See Configuration  
Note:1

#### Configuration Rules:

Note 1 Supported on MPU Module JG802A only. (std 0 // max 1) User Selection (min 0 // max 1)

#### SDRAM

HP X610 1GB DDR2 SDRAM Memory

JC071A

### Configuration

- [Parts List Only](#)

HP FF 4GB DDR3 SDRAM

JG807A  
[See Configuration Note:1](#)

#### Configuration Rules:

Note 1      [Supported on MPU Module JG802A only. \(std 0 // max 1\) User Selection \(min 0 // max 1\)](#)

### Mounting Kit

HP X421 Chassis Universal 4-post Rack Mounting Kit

JC665A

#### Configuration Rules:

Remarks:      [This item is optional and used by customers to allow the chassis to slide in and out of the rack](#)

### Technical Specifications

#### HP 12504 AC Switch Chassis (JC654A)

<b>I/O ports and slots</b>	4 open module slots Supports a maximum of 192 Gigabit Ethernet ports or 192 1/10GbE ports or 64 40GbE ports, or a combination										
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 4 switch fabric slots										
<b>Physical characteristics</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Dimensions</b></td> <td>17.4(w) x 27.87(d) x 17.4(h) in (44.2 x 70.8 x 44.2 cm) (10U height)</td> </tr> <tr> <td style="vertical-align: top;"><b>Weight</b></td> <td>132.28 lb (60 kg)</td> </tr> <tr> <td style="vertical-align: top;"><b>Full configuration weight</b></td> <td>220.46 lb (100 kg)</td> </tr> </table>	<b>Dimensions</b>	17.4(w) x 27.87(d) x 17.4(h) in (44.2 x 70.8 x 44.2 cm) (10U height)	<b>Weight</b>	132.28 lb (60 kg)	<b>Full configuration weight</b>	220.46 lb (100 kg)				
<b>Dimensions</b>	17.4(w) x 27.87(d) x 17.4(h) in (44.2 x 70.8 x 44.2 cm) (10U height)										
<b>Weight</b>	132.28 lb (60 kg)										
<b>Full configuration weight</b>	220.46 lb (100 kg)										
<b>Memory and processor</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Gigabit Module</b></td> <td>PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)</td> </tr> <tr> <td style="vertical-align: top;"><b>10G Module</b></td> <td>PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)</td> </tr> <tr> <td style="vertical-align: top;"><b>Management Module</b></td> <td>Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM</td> </tr> <tr> <td style="vertical-align: top;"><b>Fabric</b></td> <td>PowerPC @ 400 MHz, 128 MB RAM</td> </tr> </table>	<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)	<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)	<b>Management Module</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM	<b>Fabric</b>	PowerPC @ 400 MHz, 128 MB RAM		
<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)										
<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)										
<b>Management Module</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM										
<b>Fabric</b>	PowerPC @ 400 MHz, 128 MB RAM										
<b>Mounting and enclosure</b>	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet										
<b>Performance</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Throughput</b></td> <td>1920 Mpps</td> </tr> <tr> <td style="vertical-align: top;"><b>Routing/Switching capacity</b></td> <td>3240 Gb/s</td> </tr> </table>	<b>Throughput</b>	1920 Mpps	<b>Routing/Switching capacity</b>	3240 Gb/s						
<b>Throughput</b>	1920 Mpps										
<b>Routing/Switching capacity</b>	3240 Gb/s										
<b>Environment</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Operating temperature</b></td> <td>32°F to 104°F (0°C to 40°C)</td> </tr> <tr> <td style="vertical-align: top;"><b>Operating relative humidity</b></td> <td>5% to 95%, non-condensing</td> </tr> <tr> <td style="vertical-align: top;"><b>Nonoperating/Storage temperature</b></td> <td>-40°F to 158°F (-40°C to 70°C)</td> </tr> <tr> <td style="vertical-align: top;"><b>Nonoperating/Storage relative humidity</b></td> <td>5% to 95%, non-condensing</td> </tr> </table>	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)	<b>Operating relative humidity</b>	5% 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>Operating temperature</b>	32°F to 104°F (0°C to 40°C)										
<b>Operating relative humidity</b>	5% to 95%, non-condensing										
<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)										
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<b>Electrical characteristics</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Frequency</b></td> <td>50/60 Hz</td> </tr> <tr> <td style="vertical-align: top;"><b>Maximum heat dissipation</b></td> <td>8123 BTU/hr (8569.77 kJ/hr)</td> </tr> <tr> <td style="vertical-align: top;"><b>Voltage</b></td> <td>100 - 120 / 200 - 240 VAC, rated (depending on power supply chosen)</td> </tr> <tr> <td style="vertical-align: top;"><b>Maximum power rating</b></td> <td>2380 W</td> </tr> <tr> <td style="vertical-align: top;"><b>Notes</b></td> <td>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.</td> </tr> </table>	<b>Frequency</b>	50/60 Hz	<b>Maximum heat dissipation</b>	8123 BTU/hr (8569.77 kJ/hr)	<b>Voltage</b>	100 - 120 / 200 - 240 VAC, rated (depending on power supply chosen)	<b>Maximum power rating</b>	2380 W	<b>Notes</b>	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.
<b>Frequency</b>	50/60 Hz										
<b>Maximum heat dissipation</b>	8123 BTU/hr (8569.77 kJ/hr)										
<b>Voltage</b>	100 - 120 / 200 - 240 VAC, rated (depending on power supply chosen)										
<b>Maximum power rating</b>	2380 W										
<b>Notes</b>	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.										
<b>Safety</b>	CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance										
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A										
<b>Immunity</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Generic</b></td> <td>ETSI EN 300 386 V1.3.3</td> </tr> <tr> <td style="vertical-align: top;"><b>EN</b></td> <td>EN 55024:1998+ A1:2001 + A2:2003</td> </tr> <tr> <td style="vertical-align: top;"><b>ESD</b></td> <td>EN 61000-4-2; IEC61000-4-2</td> </tr> <tr> <td style="vertical-align: top;"><b>Radiated</b></td> <td>EN 61000-4-3; IEC61000-4-3</td> </tr> <tr> <td style="vertical-align: top;"><b>EFT/Burst</b></td> <td>EN 61000-4-4; IEC61000-4-4</td> </tr> </table>	<b>Generic</b>	ETSI EN 300 386 V1.3.3	<b>EN</b>	EN 55024:1998+ A1:2001 + A2:2003	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
<b>Generic</b>	ETSI EN 300 386 V1.3.3										
<b>EN</b>	EN 55024:1998+ A1:2001 + A2:2003										
<b>ESD</b>	EN 61000-4-2; IEC61000-4-2										
<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3										
<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4										

### Technical Specifications

	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11
	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface	
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

#### HP 12504 DC Switch Chassis (JC655A)

<b>I/O ports and slots</b>	4 open module slots Supports a maximum of 192 Gigabit Ethernet ports or 192 1/10GbE ports or 64 40GbE ports, or a combination	
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 4 switch fabric slots	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.4(w) x 27.87(d) x 17.4(h) in (44.2 x 70.8 x 44.2 cm) (10U height)
	<b>Weight</b>	132.28 lb (60 kg)
	<b>Full configuration weight</b>	220.46 lb (100 kg)
<b>Memory and processor</b>	<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)
	<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)
	<b>Management Module</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM
	<b>Fabric</b>	PowerPC @ 400 MHz, 128 MB RAM
<b>Mounting and enclosure</b>	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet	
<b>Performance</b>	<b>Throughput</b>	1920 Mpps
	<b>Routing/Switching capacity</b>	3240 Gb/s
<b>Environment</b>	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)
	<b>Operating relative humidity</b>	5% 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>Electrical characteristics</b>	<b>Maximum heat dissipation</b>	8123 BTU/hr (8569.77 kJ/hr)
	<b>Voltage</b>	-48 to -60 VDC, rated (depending on power supply chosen)
	<b>Maximum power rating</b>	2380 W
	<b>Notes</b>	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



### Technical Specifications

all modules populated.

<b>Safety</b>	CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; 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 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11
	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface	
<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 12508 AC Switch Chassis (JF431C)

<b>I/O ports and slots</b>	8 open module slots Supports a maximum of 384 Gigabit Ethernet ports or 384 1/10GbE ports or 128 40GbE ports, or a combination	
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 9 switch fabric slots	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.4(d) x 29.13(w) x 38.39(h) in. (44.2 x 73.99 x 97.51 cm) (22U height)
	<b>Weight</b>	209.44 lb (95 kg)
	<b>Full configuration weight</b>	374.78 lb. (170 kg)
<b>Memory and processor</b>	<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)
	<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)
	<b>Management Module</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM
	<b>Fabric</b>	PowerPC @ 400 MHz, 128 MB RAM
<b>Mounting and enclosure</b>	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet	
<b>Performance</b>	<b>Throughput</b>	3840 Mpps
	<b>Routing/Switching capacity</b>	6120 Gb/s
<b>Environment</b>	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)
	<b>Operating relative</b>	5% to 95%, non-condensing

### Technical Specifications

	<b>humidity</b>	
	<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>Electrical characteristics</b>	<b>Frequency</b>	50/60 Hz
	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>	10GbE modules consume half the power compared to competitive products; redundant, scalable, 90% efficient power supplies deliver high reliability in the data center; new ASIC technology has low power consumption when providing rich features.
	<b>Maximum heat dissipation</b>	14587 BTU/hr (15389.29 kJ/hr)
	<b>Voltage</b>	100 - 120 / 200 - 240 VAC, rated (depending on power supply chosen)
	<b>Maximum power rating</b>	4750 W
	<b>Notes</b>	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.
<b>Safety</b>	CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; 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 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11
	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface	
<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office	

### Technical Specifications

#### HP 12508 DC Switch Chassis (JC652A)

<b>I/O ports and slots</b>	8 open module slots Supports a maximum of 384 Gigabit Ethernet ports or 384 1/10GbE ports or 128 40GbE ports, or a combination	
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 9 switch fabric slots	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.4(d) x 29.13(w) x 38.39(h) in. (44.2 x 73.99 x 97.51 cm) (22U height)
	<b>Weight</b>	209.44 lb (95 kg)
	<b>Full configuration weight</b>	374.78 lb. (170 kg)
<b>Memory and processor</b>	<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)
	<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)
	<b>Management Module</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM
	<b>Fabric</b>	PowerPC @ 400 MHz, 128 MB RAM MB
<b>Mounting</b>	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet	
<b>Performance</b>	<b>Throughput</b>	3840 Mpps
	<b>Routing/Switching capacity</b>	6120 Gb/s
<b>Environment</b>	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)
	<b>Operating relative humidity</b>	5% 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>Electrical characteristics</b>	<b>Maximum heat dissipation</b>	14587 BTU/hr (15389.29 kJ/hr)
	<b>Voltage</b>	-48 to -60 VDC, rated (depending on power supply chosen)
	<b>Maximum power rating</b>	4750 W
	<b>Notes</b>	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.
<b>Safety</b>	CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; 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 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6

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	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11
	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface	
<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 12518 AC Switch Chassis (JF430C)

<b>I/O ports and slots</b>	18 open module slots Supports a maximum of 864 Gigabit Ethernet ports or 864 1/10GbE ports or 288 40GbE ports, or a combination	
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 9 switch fabric slots	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.4(d) x 29.13(w) x 66.38(h) in. (44.2 x 73.99 x 168.61 cm) (38U height)
	<b>Weight</b>	352.74 lb (160 kg)
	<b>Full configuration weight</b>	639.33 lb (290 kg)
<b>Memory and processor</b>	<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)
	<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)
	<b>Management Module</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM
	<b>Fabric</b>	PowerPC @ 400 MHz, 128 MB RAM
<b>Mounting and enclosure</b>	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet	
<b>Performance</b>	<b>Throughput</b>	8640 Mpps
	<b>Routing/Switching capacity</b>	13.3 Tb/s
<b>Environment</b>	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)
	<b>Operating relative humidity</b>	5% 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>Electrical characteristics</b>	<b>Frequency</b>	50/60 Hz
	<b>Maximum heat dissipation</b>	32859 BTU/hr (34666.24 kJ/hr)
	<b>Voltage</b>	100 - 120 / 200 - 240 VAC, rated (depending on power supply chosen)
	<b>Maximum power rating</b>	10700 W
	<b>Notes</b>	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.

### Technical Specifications

<b>Safety</b>	CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; 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 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11
	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface	
<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office	

### HP 12518 DC Switch Chassis (JC653A)

<b>I/O ports and slots</b>	18 open module slots Supports a maximum of 864 Gigabit Ethernet ports or 864 1/10GbE ports or 288 40GbE ports, or a combination	
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 9 switch fabric slots	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.4(d) x 29.13(w) x 66.38(h) in. (44.2 x 73.99 x 168.61 cm) (38U height)
	<b>Weight</b>	352.74 lb (160 kg)
	<b>Full configuration weight</b>	639.33 lb (290 kg)
<b>Memory and processor</b>	<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)
	<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)
	<b>Management Module</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM
	<b>Fabric</b>	PowerPC @ 400 MHz, 128 MB RAM
<b>Mounting and enclosure</b>	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet	
<b>Performance</b>	<b>Throughput</b>	8640 Mpps
	<b>Routing/Switching capacity</b>	13.3 Tb/s
<b>Environment</b>	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)
	<b>Operating relative humidity</b>	5% to 95%, non-condensing

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	<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>Electrical characteristics</b>	<b>Maximum heat dissipation</b>	32859 BTU/hr (34666.24 kJ/hr)
	<b>Maximum power rating</b>	10700 W
	<b>Voltage</b>	-48 to -60 VDC, rated (depending on power supply chosen)
	<b>Notes</b>	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.
<b>Safety</b>	CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; 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 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11
	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface	
<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 FlexFabric 12508E AC Switch Chassis (JG782A)

<b>I/O ports and slots</b>	8 open module slots Supports a maximum of 384 Gigabit Ethernet ports or 384 1/10GbE ports or 128 40GbE ports	
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 9 switch fabric slots	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.4(w) x 29.13(d) x 38.39(h) in (44.2 x 74.0 x 97.51 cm) (22U height)
	<b>Weight</b>	242.51 lb (110 kg)
	<b>Full configuration weight</b>	374.78 lb (170 kg)
<b>Memory and processor</b>	<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress,

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		shared by 24 1-GbE ports)
	<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)
	<b>Management Module Fabric</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM PowerPC @ 400 MHz, 128 MB RAM
<b>Mounting and enclosure</b>	Mounts in an EIA-standard	19 in. Telco rack or equipment cabinet
<b>Performance</b>	<b>Throughput</b>	4800 Mpps
	<b>Routing/Switching capacity</b>	10.8 Tb/s
	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)
<b>Environment</b>	<b>Operating relative humidity</b>	5% 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>Electrical characteristics</b>	<b>Frequency</b>	50/60 Hz Achieved Miercom Certified Green Award
	<b>Description</b>	10GbE modules consume half the power compared to competitive products; redundant, scalable, 90% efficient power supplies deliver high reliability in the data center; new ASIC technology has low power consumption when providing rich features.
	<b>Maximum heat dissipation</b>	14587 BTU/hr (15389.29 kJ/hr)
	<b>Voltage</b>	100 - 120 / 200 - 240 VAC, rated (depending on power supply chosen)
	<b>Maximum power rating</b>	4750 W
	<b>Notes</b>	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.
	<b>Safety</b>	CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; 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 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11



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	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface	
<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office	

### HP FlexFabric 12508E DC Switch Chassis (JG783A)

<b>I/O ports and slots</b>	8 open module slots Supports a maximum of 384 Gigabit Ethernet ports or 384 1/10GbE ports or 128 40GbE ports	
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 9 switch fabric slots	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.4(w) x 29.13(d) x 38.39(h) in (44.2 x 73.99 x 97.51 cm) (22U height)
	<b>Weight</b>	209.44 lb (95 kg)
	<b>Full configuration weight</b>	374.78 lb (170 kg)
<b>Memory and processor</b>	<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)
	<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)
	<b>Management Module</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM
	<b>Fabric</b>	PowerPC @ 400 MHz, 128 MB RAM
<b>Mounting and enclosure</b>	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet	
<b>Performance</b>	<b>Throughput</b>	4800 Mpps
	<b>Routing/Switching capacity</b>	10.8 Tb/s
<b>Environment</b>	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)
	<b>Operating relative humidity</b>	5% 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>Electrical characteristics</b>	<b>Maximum heat dissipation</b>	14587 BTU/hr (15389.29 kJ/hr)
	<b>Maximum power rating</b>	4750 W
	<b>Voltage</b>	-48 to -60 VDC, rated (depending on power supply chosen)
	<b>Notes</b>	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.
<b>Safety</b>	CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	



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<b>Immunity</b>	<b>Generic</b>	ETSI EN 300 386 V1.3.3
	<b>EN</b>	EN 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11
	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface	
<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 FlexFabric 12518E AC Switch Chassis (JG784A)

<b>I/O ports and slots</b>	18 open module slots Supports a maximum of 864 Gigabit Ethernet ports or 864 1/10GbE ports or 288 40GbE ports, or a combination	
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 9 switch fabric slots	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.4(w) x 29.13(d) x 66.38(h) in (44.2 x 73.99 x 168.61 cm) (38U height)
	<b>Weight</b>	352.74 lb (160 kg)
	<b>Full configuration weight</b>	639.33 lb (290 kg)
<b>Memory and processor</b>	<b>Gigabit Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports)
	<b>10G Module</b>	PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)
	<b>Management Module Fabric</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM PowerPC @ 400 MHz, 128 MB RAM
<b>Mounting and enclosure</b>	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet	
<b>Performance</b>	<b>Throughput</b>	10.8 Bpps
	<b>Routing/Switching capacity</b>	24.3 Tb/s
	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)
<b>Environment</b>	<b>Operating relative humidity</b>	5% 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>Electrical characteristics</b>	<b>Frequency</b>	50/60 Hz

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<b>Maximum heat dissipation</b>	32859 BTU/hr (34666.24 kJ/hr)
<b>Voltage</b>	100 - 120 / 200 - 240 VAC, rated (depending on power supply chosen)
<b>Maximum power rating</b>	10700 W
<b>Notes</b>	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.

**Safety** CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance

**Emissions** VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; 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 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11
	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface

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

### HP FlexFabric 12518E DC Switch Chassis (JG785A)

<b>I/O ports and slots</b>	18 open module slots Supports a maximum of 864 Gigabit Ethernet ports or 864 1/10GbE ports or 288 40GbE ports, or a combination
<b>Additional ports and slots</b>	2 MPU (for management modules) slots 9 switch fabric slots
<b>Physical characteristics</b>	<b>Dimensions</b> 17.4(w) x 29.13(d) x 66.38(h) in (44.2 x 73.99 x 168.61 cm) (38U height) <b>Weight</b> 352.74 lb (160 kg) <b>Full configuration weight</b> 639.33 lb (290 kg)
<b>Memory and processor</b>	<b>Gigabit Module</b> PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress, shared by 24 1-GbE ports) <b>10G Module</b> PowerPC @ 667 MHz, 1 GB RAM; Packet buffer size: 512 MB (Ingress/shared by 2 10GbE ports)

### Technical Specifications

	<b>Management Module</b>	Quad Core CPU @ 1800 MHz, 512 MB flash, 4 GB compact flash, 8 GB RAM
	<b>Fabric</b>	PowerPC @ 400 MHz, 128 MB RAM
<b>Mounting and enclosure</b>		Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet
<b>Performance</b>	<b>Throughput</b>	10.8 Bpps
	<b>Routing/Switching capacity</b>	24.3 Tb/s
<b>Environment</b>	<b>Operating temperature</b>	32°F to 104°F (0°C to 40°C)
	<b>Operating relative humidity</b>	5% 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>Electrical characteristics</b>	<b>Maximum heat dissipation</b>	32859 BTU/hr (34666.24 kJ/hr)
	<b>Maximum power rating</b>	10700 W
	<b>Voltage</b>	-48 to -60 VDC, rated (depending on power supply chosen)
	<b>Notes</b>	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.
<b>Safety</b>		CE Labeled; cUL Certified; UL Listed; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60825; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; UL 60950-1:2003; EN 60950-1:2001; ROHS Compliance
<b>Emissions</b>		VCCI Class A; EN 55022 Class A; VCCI V-3/2000.04; ICES-003 Class A; AS/NZS CISPR22 Class A; 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 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC61000-4-11
	<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; out-of-band management (serial RS-232C); SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface
<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

### Technical Specifications

#### Standards and protocols

(applies to all products in series)

#### BGP

RFC 1657 Definitions of Managed Objects for BGPv4  
 RFC 1771 BGPv4  
 RFC 1772 Application of the BGP  
 RFC 1773 Experience with the BGP-4 Protocol  
 RFC 1774 BGP-4 Protocol Analysis  
 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 2842 Capability Advertisement with BGP-4  
 RFC 2858 BGP-4 Multi-Protocol Extensions  
 RFC 2918 Route Refresh Capability

#### 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 1155 Structure and Mgmt Information (SMIv1)  
 RFC 1157 SNMPv1/v2c  
 RFC 1305 NTPv3  
 RFC 1945 Hypertext Transfer Protocol -- HTTP/1.0  
 RFC 2452 MIB for TCP6  
 RFC 2454 MIB for UDP6  
 RFC 2573 (SNMPv3 Applications)  
 RFC 2578-2580 SMIv2  
 RFC 2579 (SMIv2 Text Conventions)  
 RFC 2580 (SMIv2 Conformance)  
 RFC 2819 (RMON groups Alarm, Event, History and Statistics only)  
 RFC 2819 RMON  
 RFC 3417 (SNMP Transport Mappings)  
 SNMP v3 and RMON RFC support  
 SSHv1/SSHv2 Secure Shell  
 TACACS/TACACS+

#### General protocols

IEEE 802.1ad Q-in-Q  
 IEEE 802.1ag Service Layer OAM  
 IEEE 802.1ah Provider Backbone Bridges  
 IEEE 802.1D MAC Bridges  
 IEEE 802.1p Priority  
 IEEE 802.1Q VLANs  
 IEEE 802.1s Multiple Spanning Trees  
 IEEE 802.1v VLAN classification by Protocol and Port  
 IEEE 802.1w Rapid Reconfiguration of Spanning Tree  
 IEEE 802.1X PAE  
 IEEE 802.3ab 1000BASE-T

RFC 2466 ICMPv6 MIB  
 RFC 2571 SNMP Framework MIB  
 RFC 2572 SNMP-MPD MIB  
 RFC 2573 SNMP-Target MIB  
 RFC 2613 SMON MIB  
 RFC 2618 RADIUS Client MIB  
 RFC 2620 RADIUS Accounting MIB  
 RFC 2665 Ethernet-Like-MIB  
 RFC 2674 802.1p and IEEE 802.1Q Bridge MIB  
 RFC 2737 Entity MIB (Version 2)  
 RFC 2787 VRRP MIB  
 RFC 2819 RMON MIB  
 RFC 2863 The Interfaces Group MIB  
 RFC 2925 Ping MIB  
 RFC 2932IP (Multicast Routing MIB)  
 RFC 2933 IGMP MIB  
 RFC 3273 HC-RMON MIB  
 RFC 3414 SNMP-User based-SM MIB  
 RFC 3415 SNMP-View based-ACM MIB  
 RFC 3418 MIB for SNMPv3  
 RFC 3621 Power Ethernet MIB  
 RFC 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)  
 LLDP-EXT-DOT1-MIB  
 LLDP-EXT-DOT3-MIB  
 LLDP-MIB

#### MPLS

RFC 2205 Resource ReSerVation Protocol (RSVP) - Version 1 Functional Specification  
 RFC 2209 Resource ReSerVation Protocol (RSVP)  
 RFC 2702 Requirements for Traffic Engineering Over MPLS  
 RFC 2858 Multiprotocol Extensions for BGP-4  
 RFC 3031 Multiprotocol Label Switching Architecture  
 RFC 3032 MPLS Label Stack Encoding  
 RFC 3036 LDP Specification  
 RFC 3107 Carrying Label Information in BGP-4  
 RFC 3209 RSVP-TE: Extensions to RSVP for LSP Tunnels  
 RFC 3479 Fault Tolerance for the Label Distribution Protocol (LDP)  
 RFC 3487 Graceful Restart Mechanism for LDP  
 RFC 4090 Fast Reroute Extensions to RSVP-TE for LSP Tunnels  
 RFC 4364 BGP/MPLS IP Virtual Private Networks (VPNs)  
 RFC 4379 Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures  
 RFC 4447 Pseudowire Setup and Maintenance Using LDP  
 RFC 4448 Encapsulation Methods for Transport of

### Technical Specifications

IEEE 802.3ad Link Aggregation (LAG)  
IEEE 802.3ae 10-Gigabit Ethernet  
IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber – EFMF  
IEEE 802.3ba 40 and 100 Gigabit Ethernet Architecture  
IEEE 802.3i 10BASE-T  
IEEE 802.3u 100BASE-X  
IEEE 802.3x Flow Control  
IEEE 802.3z 1000BASE-X  
RFC 768 UDP  
RFC 783 TFTP Protocol (revision 2)  
RFC 791 IP  
RFC 792 ICMP  
RFC 793 TCP  
RFC 826 ARP  
RFC 854 TELNET  
RFC 868 Time Protocol  
RFC 903 RARP  
RFC 951 BOOTP  
RFC 959 File Transfer Protocol (FTP)  
RFC 1027 Proxy ARP  
RFC 1042 IP Datagrams  
RFC 1350 TFTP Protocol (revision 2)  
RFC 1519 CIDR  
RFC 1542 BOOTP Extensions  
RFC 1812 IPv4 Routing  
RFC 2131 DHCP  
RFC 2338 VRRP  
RFC 2784 Generic Routing Encapsulation (GRE)  
RFC 2865 Remote Authentication Dial In User Service (RADIUS)

#### **IP multicast**

RFC 1112 IGMP  
RFC 2236 IGMPv2  
RFC 2283 Multiprotocol Extensions for BGP-4  
RFC 2362 PIM Sparse Mode  
RFC 2934 Protocol Independent Multicast MIB for IPv4  
RFC 3376 IGMPv3  
RFC 3618 Multicast Source Discovery Protocol (MSDP)  
RFC 4601 PIM Sparse Mode

#### **IPv6**

RFC 1350 TFTP  
RFC 1981 IPv6 Path MTU Discovery  
RFC 2080 RIPng for IPv6  
RFC 2460 IPv6 Specification  
RFC 2461 IPv6 Neighbor Discovery  
RFC 2462 IPv6 Stateless Address Auto-configuration  
RFC 2463 ICMPv6  
RFC 2473 Generic Packet Tunneling in IPv6

Ethernet over MPLS Networks  
RFC 4664 Framework for Layer 2 Virtual Private Networks  
RFC 4665 Service Requirements for Layer 2 Provider Provisioned Virtual Private Networks  
RFC 4761 Virtual Private LAN Service (VPLS) Using BGP for Auto-Discovery and Signaling  
RFC 4762 Virtual Private LAN Service (VPLS) Using Label Distribution Protocol (LDP) Signaling

#### **Network management**

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)  
IEEE 802.1D (STP)  
RFC 1155 Structure of Management Information  
RFC 1157 SNMPv1  
RFC 1215 SNMP Generic traps  
RFC 1757 RMON 4 groups: Stats, History, Alarms and Events  
RFC 1905 SNMPv2 Protocol Operations  
RFC 2211 Controlled-Load Network  
RFC 2272 SNMPv3 Management Protocol  
RFC 2273 SNMPv3 Applications  
RFC 2274 USM for SNMPv3  
RFC 2571 SNMP Management Frameworks  
RFC 2572 SNMPv3 Message Processing  
RFC 2573 SNMPv3 Applications  
RFC 2576 Coexistence between SNMP versions  
RFC 2578 SMIv2  
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)  
RFC 3164 BSD syslog Protocol  
RFC 3415 SNMPv3 View-based Access Control Model VACM)  
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)  
SNMPv1/v2c/v3

#### **OSPF**

RFC 1245 OSPF protocol analysis  
RFC 1246 Experience with OSPF  
RFC 1587 OSPF NSSA  
RFC 1765 OSPF Database Overflow  
RFC 1850 OSPFv2 Management Information Base (MIB), traps  
RFC 2328 OSPFv2  
RFC 2370 OSPF Opaque LSA Option  
RFC 3101 OSPF NSSA  
RFC 3623 Graceful OSPF Restart

#### **QoS/CoS**

IEEE 802.1p (CoS)  
RFC 2212 Guaranteed Quality of Service  
RFC 2474 DS Field in the IPv4 and IPv6 Headers  
RFC 2475 DiffServ Architecture  
RFC 2597 DiffServ Assured Forwarding (AF)

### Technical Specifications

RFC 2475 IPv6 DiffServ Architecture  
RFC 2529 Transmission of IPv6 Packets over IPv4  
RFC 2710 Multicast Listener Discovery (MLD) for IPv6  
RFC 2740 OSPFv3 for IPv6  
RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers  
RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)  
RFC 3315 DHCPv6 (client only)  
RFC 3484 Default Address Selection for IPv6  
RFC 3513 IPv6 Addressing Architecture  
RFC 3587 IPv6 Global Unicast Address Format  
RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6  
RFC 4251 SSHv6 Architecture  
RFC 4252 SSHv6 Authentication  
RFC 4253 SSHv6 Transport Layer  
RFC 4254 SSHv6 Connection  
RFC 4541 IGMP & MLD Snooping Switch  
RFC 4862 IPv6 Stateless Address Auto-configuration

#### **MIBS**

IEEE8023-LAG-MIB  
RFC 1213 MIB II  
RFC 1229 Interface MIB Extensions  
RFC 1286 Bridge MIB  
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 2011 SNMPv2 MIB for IP  
RFC 2012 SNMPv2 MIB for TCP  
RFC 2013 SNMPv2 MIB for UDP  
RFC 2021 RMONv2 MIB  
RFC 2096 IP Forwarding Table MIB  
RFC 2233 Interfaces MIB  
RFC 2273 SNMP-NOTIFICATION-MIB  
RFC 2452 IPV6-TCP-MIB  
RFC 2454 IPV6-UDP-MIB  
RFC 2465 IPV6 MIB

RFC 2598 DiffServ Expedited Forwarding (EF)  
RFC 2697 A Single Rate Three Color Marker  
RFC 2698 A Two Rate Three Color Marker  
Bi-directional Rate Shaping

#### **Security**

IEEE 802.1AE MAC Security Standard (MACSec)  
IEEE 802.1X Port Based Network Access Control  
RFC 1321 The MD5 Message-Digest Algorithm  
RFC 2082 RIP-2 MD5 Authentication  
RFC 2104 Keyed-Hashing for Message Authentication  
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  
RFC 3567 Intermediate System (IS) to IS Cryptographic Authentication  
Access Control Lists (ACLs)  
Guest VLAN for 802.1X  
MAC Authentication  
SSHv2 Secure Shell  
Web Authentication

#### **IKEv1**

RFC 2865 - Remote Authentication Dial In User Service (RADIUS)



### Accessories

#### HP 12500 Switch Series accessories

#### Modules

HP FlexFabric 12500E Main Processing Unit	JG802A
HP 12500 MPU w/Comware V7 OS	JG497A
HP 12500 Main Processing Unit	JC072B
HP FlexFabric 12500 4-port 100GbE CFP FD Module	JG786A
<a href="#">HP FlexFabric 12500 4-port 100GbE CFP FG Module</a>	JG788A
<a href="#">HP FlexFabric 12500 16-port 40GbE QSFP+ FD Module</a>	JG790A
HP FlexFabric 12500 48-port 1/10GbE SFP+ FD Module	JG796A
HP FlexFabric 12500 40-port 1/10GbE SFP+ FD Module	JG792A
HP FlexFabric 12500 40-port 1/10GbE SFP+ FG Module	JG794A
HP 12500 16-port 10GbE SFP+ LEB Module	JC782A
HP 12500 16-port 10GbE SFP+ LEC Module	JC783A
<a href="#">HP 12500 32-port 10GbE SFP+ REB Module</a>	JC064B
<a href="#">HP 12500 32-port 10GbE SFP+ REC Module</a>	JC476B
HP 12500 8-port 10GbE SFP+ LEB Module	JC780A
HP 12500 8-port 10GbE SFP+ LEC Module	JC781A
HP 12500 8-port 10GbE SFP+ LEF Module	JC659A
<a href="#">HP 12500 8-port 10GbE XFP LEB Module</a>	JC073B
<a href="#">HP 12500 8-port 10GbE XFP LEC Module</a>	JC068B
<a href="#">HP 12500 48-port Gig-T LEB Module</a>	JC074B
<a href="#">HP 12500 48-port Gig-T LEC Module</a>	JC065B
<a href="#">HP 12500 48-port GbE SFP LEB Module</a>	JC075B
<a href="#">HP 12500 48-port GbE SFP LEC Module</a>	JC069B
HP 12500 48-port GbE SFP LEF Module	JC660A
HP 12500 Spare Power Monitor Module	JC502A

#### Transceivers

HP X120 100M/1G SFP LC LX Transceiver	JF832A
HP X114 100M SFP LC FX Transceiver	JF833A
HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
<a href="#">HP X120 1G SFP LC LH40 1550nm Transceiver</a>	JD062A
<a href="#">HP X125 1G SFP LC LH70 Transceiver</a>	JD063B
HP X120 1G SFP RJ45 T Transceiver	JD089B
<a href="#">HP X120 1G SFP LC BX 10-U Transceiver</a>	JD098B
<a href="#">HP X120 1G SFP LC BX 10-D Transceiver</a>	JD099B
<a href="#">HP X120 1G SFP LC LH100 Transceiver</a>	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
HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
HP X170 1G SFP LC LH70 1530 Transceiver	JD116A
<a href="#">HP X120 1G SFP LC SX Transceiver</a>	JD118B
<a href="#">HP X120 1G SFP LC LX Transceiver</a>	JD119B
HP X130 10G XFP LC ZR Single Mode 80km 1550nm Transceiver	JD107A
HP X130 10G XFP LC LR Single Mode 10km 1310nm Transceiver	JD108B
HP X130 10G XFP LC SR Transceiver	JD117B

### Accessories

HP X135 10G XFP LC ER Transceiver	JD121A
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 SR Transceiver	JD092B
HP X130 10G SFP+ LC LRM Transceiver	JD093B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X130 10G SFP+ LC LH 80km Transceiver	JG915A
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
HP X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HP X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
HP X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
<b>Cables</b>	
<a href="#">HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable</a>	QK732A
<a href="#">HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable</a>	QK733A
<a href="#">HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable</a>	QK734A
<a href="#">HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable</a>	QK735A
<a href="#">HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable</a>	QK736A
<a href="#">HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable</a>	QK737A
<b>Mounting Kit</b>	
HP X421 Chassis Universal 4-post Rack Mounting Kit	JC665A
<b>Appliance</b>	
<a href="#">HP 12500 20Gbps VPN Firewall Module</a>	JG371A
<b>Memory</b>	
HP FlexFabric 4GB Compact Flash Card	JG806A
HP FlexFabric 4GB DDR3 SDRAM	JG807A
HP X600 1G Compact Flash Card	JC684A
HP A-Series 2GB Registered DDR2 SDRAM	JC609A
HP X610 1GB DDR2 SDRAM Memory	JC071A
<b>HP 12504 AC Switch Chassis (JC654A)</b>	
HP 1250x G2 Fabric Module	JC658A
HP 12500 AC Power Entry Module	JF426A
HP 12500 2000W AC Power Supply	JF429A
HP 12504 Fan Assembly	JC664A
<b>HP 12504 DC Switch Chassis (JC655A)</b>	
HP 1250x G2 Fabric Module	JC658A
HP X210 10-meter JG connector to bare wire 6AWG gauge 37	JG280A
HP 12500 1800W DC Power Supply	JC651A
HP 12504 Fan Assembly	JC664A
<b>HP 12508 AC Switch Chassis (JF431C)</b>	
HP 12508 Fabric Module	JC067B



### Accessories

HP 1250x G2 Fabric Module	JC658A
HP 12508 Top and Bottom Cable Guides for AC Powered Switch	JC785A
HP 12500 Side Cable Management Guide	JC084A
HP 12500 2000W AC Power Supply	JF429A
HP 12500 AC Power Entry Module	JF426A
HP 12508 Fan Assembly	JC081A
HP 12508 Optional Air Filter	JC082A
<b>HP 12508 DC Switch Chassis (JC652A)</b>	
HP 12508 Fabric Module	JC067B
HP 1250x G2 Fabric Module	JC658A
HP 12508 Top and Bottom Cable Guides for DC Powered Switch	JC787A
HP 12500 Side Cable Management Guide	JC084A
HP X210 10-meter JG connector to bare wire 6AWG gauge 37	JG280A
HP 12500 1800W DC Power Supply	JC651A
HP 12508 Fan Assembly	JC081A
HP 12508 Optional Air Filter	JC082A
<b>HP 12518 AC Switch Chassis (JF430C)</b>	
HP 12518 G2 Fabric Module	JC657A
HP 12518 Fabric Module	JC066A
HP 12518 Top and Bottom Cable Guides for AC Powered Switch	JC786A
HP 12500 Side Cable Management Guide	JC084A
HP 12500 2000W AC Power Supply	JF429A
HP 12500 AC Power Entry Module	JF426A
HP 12518 Fan Assembly	JC080A
HP 12518 Optional Air Filter	JC083A
<b>HP 12518 DC Switch Chassis (JC653A)</b>	
HP 12518 G2 Fabric Module	JC657A
HP 12518 Fabric Module	JC066A
HP 12518 Top and Bottom Cable Guides for DC Powered Switch	JC788A
HP 12500 Side Cable Management Guide	JC084A
HP X210 10-meter JG connector to bare wire 6AWG gauge 37	JG280A
HP 12500 1800W DC Power Supply	JC651A
HP 12518 Fan Assembly	JC080A
HP 12518 Optional Air Filter	JC083A
<b>HP FlexFabric 12508E AC Switch Chassis (JG782A)</b>	
HP FlexFabric 12508E Fabric Module	JG798A
HP FlexFabric 12508E Optional Extended Cable Guide for AC Powered Switch	JG830A
HP FlexFabric 12508E Optional Extended Cable Guide for DC Powered Switch	JG832A
HP 12500 2000W AC Power Supply	JF429A
HP FlexFabric 12500E Spare Power Monitor Module	JG804A
HP FlexFabric 12500E Fan Tray Assembly	JG805A
HP FlexFabric 12508E Optional Air Filter	JG808A
<b>HP FlexFabric 12508E DC Switch Chassis (JG783A)</b>	
HP FlexFabric 12508E Fabric Module	JG798A
HP 12508 Top and Bottom Cable Guides for DC Powered Switch	JC787A
HP 12500 Side Cable Management Guide	JC084A
HP X210 10-meter JG connector to bare wire 6AWG gauge 37	JG280A
HP FlexFabric 12508E Optional Extended Cable Guide for DC Powered Switch	JG832A
HP 12500 1800W DC Power Supply	JC651A

### Accessories

HP FlexFabric 12500E Spare Power Monitor Module	JG804A
HP FlexFabric 12500E Fan Tray Assembly	JG805A
HP FlexFabric 12508E Optional Air Filter	JG808A
<b>HP FlexFabric 12518E AC Switch Chassis (JG784A)</b>	
HP FlexFabric 12518E Fabric Module	JG800A
HP 12518 Top and Bottom Cable Guides for AC Powered Switch	JC786A
HP 12500 Side Cable Management Guide	JC084A
HP FlexFabric 12518E Optional Extended Cable Guide for AC Powered Switch	JG831A
HP 12500 2000W AC Power Supply	JF429A
HP 12500 AC Power Entry Module	JF426A
HP FlexFabric 12500E Spare Power Monitor Module	JG804A
HP FlexFabric 12500E Fan Tray Assembly	JG805A
HP FlexFabric 12518E Optional Air Filter	JG809A
<b>HP FlexFabric 12518E DC Switch Chassis (JG785A)</b>	
HP FlexFabric 12518E Fabric Module	JG800A
HP 12518 Top and Bottom Cable Guides for DC Powered Switch	JC788A
HP 12500 Side Cable Management Guide	JC084A
HP X210 10-meter JG connector to bare wire 6AWG gauge 37	JG280A
HP FlexFabric 12518E Optional Extended Cable Guide for DC Powered Switch	JG833A
HP 12500 1800W DC Power Supply	JC651A
HP FlexFabric 12500E Spare Power Monitor Module	JG804A
HP FlexFabric 12500E Fan Tray Assembly	JG805A
HP FlexFabric 12518E Optional Air Filter	JG809A

### Accessory Product Details

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

#### Modules

<b>HP FlexFabric 12500 4-port 100GbE CFP FG Module</b> (JG788A)	<b>I/O ports and slots</b>	4 CFP 100GbE ports
	<b>Physical characteristics</b>	<b>Dimensions</b> 15.75(w) x 18.39(d) x 1.57(h) in (40.0 x 46.7 x 4.0 cm)
		<b>Weight</b> 13.12 lb (5.95 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
<b>HP FlexFabric 12500 4-port 100GbE CFP FD Module</b> (JG786A)	<b>I/O ports and slots</b>	4 CFP 100GbE ports
	<b>Physical characteristics</b>	<b>Dimensions</b> 15.75(w) x 18.39(d) x 1.57(h) in (40.0 x 46.7 x 4.0 cm)
		<b>Weight</b> 12.68 lb (5.75 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 12500 48-port Gig-T LEB Module</b> (JC074B)	<b>Ports</b>	48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
	<b>Physical characteristics</b>	<b>Dimensions</b> 18.39(d) x 15.75(w) x 1.57(h) in. (46.7 x 40 x 4 cm)
		<b>Weight</b> 9.37 lb. (4.25 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
<b>HP 12500 48-port Gig-T LEC Module</b> (JC065B)	<b>Ports</b>	48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
	<b>Physical characteristics</b>	<b>Dimensions</b> 18.39(d) x 15.75(w) x 1.57(h) in. (46.7 x 40 x 4 cm)
		<b>Weight</b> 9.79 lb. (4.44 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 12500 48-port GbE SFP LEB Module</b> (JC075B)	<b>Ports</b>	48 SFP 100/1000 Mbps ports
	<b>Physical characteristics</b>	<b>Dimensions</b> 18.39(d) x 15.75(w) x 1.57(h) in. (46.7 x 40 x 4 cm)
		<b>Weight</b> 9.96 lb. (4.52 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details

### Accessory Product Details

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

<b>HP 12500 48-port GbE SFP LEC Module (JC069B)</b>	<b>Ports</b>	48 SFP 100/1000 Mbps 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	
	<b>Physical characteristics</b>	<b>Dimensions</b>	18.39(d) x 15.75(w) x 1.57(h) in. (46.7 x 40 x 4 cm)
		<b>Weight</b>	10.03 lb. (4.55 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 12500 8-port 10GbE XFP LEB Module (JC073B)</b>	<b>Ports</b>	8 XFP 10-GbE ports Duplex: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	18.39(d) x 15.75(w) x 1.57(h) in. (46.7 x 40 x 4 cm)
		<b>Weight</b>	10.87 lb. (4.93 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

<b>HP 12500 8-port 10GbE XFP LEC Module (JC068B)</b>	<b>Ports</b>	8 XFP 10-GbE ports Duplex: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	18.39(d) x 15.75(w) x 1.57(h) in. (46.7 x 40 x 4 cm)
		<b>Weight</b>	11.33 lb. (5.14 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 12500 32-port 10GbE SFP+ LEB Module (JC064B)</b>	<b>Ports</b>	32 SFP+ 10-GbE ports Duplex: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	18.39(d) x 15.75(w) x 1.57(h) in. (46.7 x 40 x 4 cm)
		<b>Weight</b>	13.45 lb. (6.10 kg)
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

<b>HP 32-port 10GbE SFP+ LEC Module (JC476A)</b>	<b>Ports</b>	32 SFP+ 10-GbE ports Duplex: full only	
	<b>Physical characteristics</b>	<b>Dimensions</b>	18.39(d) x 15.75(w) x 1.57(h) in. (46.7 x 40 x 4 cm)
		<b>Weight</b>	13.89 lb. (6.30 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	

### Accessory Product Details

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

#### Transceivers

<b>HP X124 1G SFP LC LH40 1310nm Transceiver (JD061A)</b>	<b>Ports</b> <b>Connectivity</b>	1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics) Connector type LC
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>Physical characteristics</b>	Wavelength 1310 nm Dimensions 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>	Full configuration weight 0.04 lb. (0.02 kg) 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">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
<b>HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A)</b>	<b>Ports</b> <b>Connectivity</b>	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics) Connector type LC
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>Physical characteristics</b>	Wavelength 1550 nm Dimensions 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>	Full configuration weight 0.04 lb. (0.02 kg) 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 X125 1G SFP LC LH70** **Ports** 1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)

### Accessory Product Details

<b>Transceiver (JD063B)</b>  A small form-factor pluggable (SFP) Gigabit LH70 transceiver that provides a full-duplex Gigabit solution up to 70km on a single-mode fiber.	<b>Connectivity</b>	<b>Connector type</b>	LC
	<b>Physical characteristics</b>	<b>Wavelength</b>	1550 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>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	
	<b>Services</b>	Fiber type Single Mode	
		Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

<b>HP X125 1G SFP RJ45 T Transceiver (JD089B)</b>  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.	<b>Ports</b>	1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T)		
	<b>Connectivity</b>	<b>Connector type</b>	RJ-45	
	<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.		

<b>HP X120 1G SFP LC BX 10-U Transceiver (JD098B)</b>  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	<b>Ports</b>	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only		
	<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>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	

### Accessory Product Details

cable.	<b>Cabling</b>	Maximum distance: • 10km	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">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		
<b>HP 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>Electrical characteristics</b>	<b>Power consumption maximum</b>	1.0 W	
	<b>Cabling</b>	Maximum distance: • Up to 10km	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.		
<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)		
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>Connectivity</b>	<b>Connector type</b>	LC	
	<b>Electrical characteristics</b>	<b>Wavelength</b>	1550 nm	
	<b>Electrical characteristics</b>	<b>Power consumption typical</b>	0.8 W	
	<b>Electrical characteristics</b>	<b>Power consumption maximum</b>	1.0 W	
	<b>Cabling</b>	Cable type: Single-mode fiber optic, complying with ITU-T G.652;		
	<b>Services</b>	Maximum distance: • Up to 100km	Fiber type	Single Mode
	<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		
<b>HP X120 1G SFP LC SX Transceiver (JD118B)</b>	<b>Ports</b>	1 LC 1000BASE-SX port		
	<b>Connectivity</b>	<b>Connector type</b>	LC	
	<b>Connectivity</b>	<b>Wavelength</b>	850 nm	

### Accessory Product Details

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>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>	Maximum distance:	
	• FDDI Grade distance = 220m	
	• OM1 = 275m	
	• OM2 = 500m	
	• OM3 = Not Specified by standard	
	Cable length	up to 550m
	Fiber type	Multi 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.	

#### HP X120 1G SFP LC LX Transceiver (JD119B)

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>	LC
	<b>Wavelength</b>	1300 nm
<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:	Either single mode or multimode;
	Maximum distance:	
	• 550m for Multimode	
	• 10km for Singlemode	
	Fiber type	Both
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

### Cables

#### HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable (QK732A)

<b>Notes</b>	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
	<ul style="list-style-type: none"> <li>• Core Diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>• Jacket Color: Blue</li> </ul>



### Accessory Product Details

- 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 Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable (QK733A)

#### Notes

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

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

#### Services

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

#### HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable (QK734A)

#### 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

### Accessory Product Details

<b>Services</b>	<ul style="list-style-type: none"> <li>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul> <p>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>
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<b>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable (QK735A)</b>	<b>Notes</b>	<p>Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.</p> <ul style="list-style-type: none"> <li>• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>• Jacket Color: Blue</li> <li>• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>• Boot Color: White</li> <li>• Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.</li> <li>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul>
	<b>Services</b>	<p>Refer to the HP website at <a href="http://www.hp.com/networking/services">http://www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>

<b>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable (QK736A)</b>	<b>Notes</b>	<p>Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.</p> <ul style="list-style-type: none"> <li>• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>• Jacket Color: Blue</li> <li>• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>• Boot Color: White</li> <li>• Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.</li> <li>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul>
	<b>Services</b>	<p>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>

<b>HP Premier Flex LC/LC</b>	<b>Notes</b>	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+
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### Accessory Product Details

#### Multi-mode OM4 2 fiber 50m Cable (QK737A)

50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

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

#### Services

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

### Cables

#### HP 12500 20Gbps VPN Firewall Module (JG371A)

#### Ports

2 RJ-45 auto-negotiating 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T)  
2 RJ-45 dual-personality ports; auto-sensing 10/100/1000BASE-T or SFP  
1 RJ-45 serial console port  
1 Compact Flash port

#### Physical characteristics

#### Dimensions

19.65(w) x 15.71(d) x 1.57(h) in (49.91 x 39.9 x 3.99 cm)

#### Weight

7.72 lb (3.5 kg)

#### Environment

#### Operating temperature

32°F to 113°F (0°C to 45°C)

#### Operating relative humidity

10% to 95%, noncondensing

#### Management

IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP

#### Features

PerfoPerformance

- 10 Gbps firewall throughput
- 2 million concurrent connections
- 60,000 new connections per second
- Maximum 20,480 security policies
- 2 Gbps 3DES/AES VPN throughput
- 5,000 IPsec tunnels
- 4,000 VLANs

Firewall operation mode

- Routing mode
- Transparent mode
- Hybrid mode

AAA service

- Local authentication
- Standard RADIUS
- HWTACACS+

### Accessory Product Details

- RADIUS domain authentication
- ASPF
  - General TCP/UDP application
  - FTP/SFTP/HTTP/RTSP/H323 Protocol State Detection
  - SIP/MGCP/QQ/MSN Protocol State Detection
  - Java/ActiveX blocking and detection
  - Port mapping
  - Support for the fragmented packets
- Virtualization
  - 256 virtual firewalls
  - 4 default security zones
  - Maximum 256 security zones
- NAT
  - NAT
  - NAT
  - PAT
  - NAT server
  - Port mapping
  - Bidirectional NAT
  - Static NAT
- Network security
  - Add blacklist by hand or automatically
  - IP+MAC binding
  - ARP Reverse Query
  - ARP Cheat Check
  - Management ports closed by default
- DDOS
  - DNS Query flood
  - SYN flood
  - Autostarts TCP Proxy when detects SYN flood
  - ICMP flood
  - UDP flood
  - IP spoofing
  - SQL injection filter
- L2TP VPN
  - LNS, LAC
  - L2TP Multi-instance
- GRE
  - GRE tunneling protocol
- IPSec
  - AH/ESP
  - ESP
  - Transport/tunnel
  - NAT traversal
  - Strategy template
- IKE
  - DH
  - Preshare key authentication method
  - Support aggressive mode and main exchange mode
  - IKE DPD, PKI/CA
- Network feature
  - IEEE 802.1q VLAN
  - 4,000 subinterfaces
  - Static and dynamic ARP
  - Multicast, PIM
  - IGMPv1/v2/v3
- Routing

### Accessory Product Details

- RIP
- OSPF
- BGP
- Static route
- Policy route
- High availability
- Active-active mode
- Active-passive mode
- Session synchronization for firewall
- System management
- Web management support for Internet Explorer/Firefox
- Command-line interface (Console/Telnet/SSH)
- Classification Manager
- Unified management through iMC
- SNMPv1/v2c/v3
- Administration
- Software upgrades
- Configuration backup and restore
- Logging/Monitoring
- Syslog
- Mini RMON
- NTP
- NAT/ASPF/firewall log stream (Binary log)
- IPv6 routing and multicast
- RIPng
- OSPFv3
- BGP4+
- Static route
- Policy route
- PIM-SM/DM
- IPv6 security
- NAT-PT
- Manual tunnel
- IPv6 over IPv4 GRE tunnel
- 6to4 tunnel (RFC 3056)
- ISATAP tunnel
- IPv6 packet filter
- RADIUS
- NAT64

#### 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.

#### Standards and protocols

- IPv6**
- RFC 1981 IPv6 Path MTU Discovery
- RFC 2465 Management Information Base for IP Version 6: Textual Conventions and General Group (partially support, only "IPv6 Interface Statistics table")
- RFC 3587 IPv6 Global Unicast Address Format
- RFC 2460 IPv6 Specification
- RFC 3484 Default Address Selection for IPv6
- RFC 4007 IPv6 Scoped Address Architecture
- RFC 3513 IPv6 Addressing Architecture
- RFC 4862 IPv6 Stateless Address Auto-configuration

### Accessory Product Details

#### **Security**

IEEE 802.1X:Port-Based Network Access Control (2001)  
RFC 2104 Keyed-Hashing for Message Authentication  
RFC 2866 RADIUS Accounting  
RFC 1321 The MD5 Message-Digest Algorithm  
RFC 2138 RADIUS Authentication  
RFC 2867 RADIUS Accounting Modifications for Tunnel  
RFC 1334 PPP Authentication Protocols (PAP)  
RFC 2618 RADIUS Authentication Client MIB Protocol Support  
RFC 1994 PPP Challenge Handshake Authentication  
RFC 2868 RADIUS Attributes for Tunnel Protocol Support  
Protocol (CHAP)  
RFC 2620 RADIUS Accounting Client MIB  
RFC 2716 PPP EAP TLS Authentication Protocol  
RFC 2869 RADIUS Extensions  
RFC 2865 RADIUS Authentication draft-grant-tacacs-02 (TACACS)

#### **VPN**

RFC 1701 Generic Routing Encapsulation (GRE)  
RFC 2402 IP Authentication Header  
RFC 2473 Generic Packet Tunneling in IPv6 Specification  
RFC 1702 Generic Routing Encapsulation over IPv4 networks.  
RFC 2403 The Use of HMAC-MD5-96 within ESP and AH RFC 2529  
Transmission of IPv6 over IPv4 Domains without Explicit Tunnels  
RFC 1828 IP Authentication using Keyed MD5  
RFC 2404 The Use of HMAC-SHA-1-96 within ESP and AH  
RFC 2661 Layer Two Tunneling Protocol "L2TP"  
RFC 1829 The ESP DES-CBC Transform  
RFC 2405 The ESP DES-CBC Cipher Algorithm With  
Explicit IV RFC 2784 Generic Routing Encapsulation (GRE)  
RFC 1853 IP in IP Tunneling  
RFC 2406 IP Encapsulating Security Payload (ESP) RFC 2868 RADIUS  
Attributes for Tunnel Protocol Support  
RFC 2085 HMAC-MD5 IP Authentication with Replay Prevention  
RFC 2410 The NULL Encryption Algorithm and Its Use With IPsec  
RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers  
RFC 2401 Security Architecture for the Internet Protocol RFC 2411 IP  
Security Document Roadmap RFC 3602 The AES-CBC Cipher Algorithm and  
Its Use with RFC 2451 The ESP CBC-Mode Cipher Algorithms IPsec

#### **IKEv1**

RFC 2407 The Internet IP Security Domain of Interpretation for ISAKMP  
RFC 2408 Internet Security Association and Key Management Protocol  
(ISAKMP).  
RFC 3526 More Modular Exponential (MODP)  
Diffie-Hellman groups for Internet Key Exchange (IKE)  
RFC 2409 The Internet Key Exchange (IKE) RFC 3706 A Traffic-Based  
Method of Detecting Dead  
RFC 2412 The OAKLEY Key Determination Protocol Internet Key Exchange  
(IKE) Peers

#### **PKI**

RFC 2510 Internet X.509 Public Key Infrastructure Certificate Management  
Protocols  
RFC 3279 Algorithms and Identifiers for the Internet  
X.509 Public Key Infrastructure Certificate and Certificate Revocation List

### Accessory Product Details

(CRL) Profile  
RFC 2511 Internet X.509 Certificate Request Message  
Format RFC 3280 Internet X.509 Public Key Infrastructure  
Certificate and Certificate Revocation List (CRL) Profile  
draft-nourse-scep-06:  
PKCS#1  
PKCS#7  
PKCS#10  
PKCS#12

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**HP 12500 Type A Main  
Processing Unit with  
Comware v7 Operating  
System (JG497A)**

**Physical characteristics**

**Dimensions**

23.2(w) x 30.7(d) x 11.2(h) in (58.93 x 77.98 x  
28.45 cm)

**Weight**

22.16 lb (10.05 kg)

**Services**

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

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### Summary of Changes

Date	Version History	Action	Description of Change:
August 21, 2015	From Version 29 to 30	Changed	Configuration Menu updated
March 30, 2015	From Version 28 to 29	Added	Transceiver added: <ul style="list-style-type: none"> <li>JG915A</li> </ul>
		Changed	Changes made on the entire QuickSpecs
January 20, 2015	From Version 27 to 28	Changed	Minor changes made on Technical Specifications
January 15, 2015	From Version 26 to 27	Changed	Minor changes made on Technical Specifications
August, 13 2014	From Version 25 to 26	Changed	General protocols and Security updated on Technical Specifications
July 3, 2014	From Version 23 to 25	Changed	Configuration menu updated.
May 12, 2014	From Version 22 to 23	Added	Added two new modules to the Accessories section.
April 14, 2014	From Version 21 to 22	Changed	Configuration was revised.
March 31, 2014	From Version 20 to 21	Changed	Configuration was revised.
January 16, 2014	From Version 19 to 20	Changed	Corrected the descriptions of the images.
November 12, 2013	From Version 18 to 19	Changed	Notes were revised in Configuration.
October 18, 2013	From Version 17 to 18	Changed	Configuration was revised.
September 30, 2013	From Version 16 to 17	Added	HP 12504 DC Switch Chassis, HP 125008 DC Switch Chassis, HP 12518 AC Switch Chassis, HP 12500 8-port 10GbE XFP LEC Module, HP 12500 20Gbps VPN Fire Module were added to Configuration
July 15, 2013	From Version 14 to 16	Changed	Corrected the new Configuration section.
June 10, 2013	From Version 13 to 14	Added	OM4 cables were added, as well as mounting kit information in the Configuration section.
March 19, 2013	From Version 12 to 13	Changed	Corrected the new Configuration section.
March 1, 2013	From Version 11 to 12	Changed	Corrected the formatting in the new Configuration section.
February 19, 2013	From Version 10 to 11	Added	Added the Configuration section, as well as several images.
December 4, 2012	From Version 9 to 10	Changed	Significant changes were made to the first half of Features and Benefits. The model specifications had minor updates, as did the Accessories section.
November 2, 2012	From Version 8 to 9	Changed	Updated Jumbo frames in Features and Benefits.
September 24, 2012	From Version 7 to 8	Changed	Updated Features and Benefits, Introduction, the specifications, and Accessories.
March 26, 2012	From Version 6 to 7	Changed	The Accessories and specifications sections were updated.
February 13, 2012	From Version 5 to 6	Added	Some new modules were added.
		Changed	The model numbers were updated, as well as the part numbers for some of the modules.



### Summary of Changes

November 14, 2011	From Version 4 to 5	Changed	Changes were made throughout, including changing the title.
September 7, 2011	From Version 3 to 4	Added	Jumps were added to the Accessory Product Details.
August 30, 2011	From Version 2 to 3	Added	Added the Accessories Product Details section.
March 15, 2011	From Version 1 to 2	Changed	Accessories was revised.

### Summary of Changes

To learn more, visit: [www.hp.com/networking](http://www.hp.com/networking)

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