

### Overview

#### Models

HP 5820-14XG-SFP+ Switch with 2 Slots	JC106A
HP 5820X-24XG-SFP+ Switch	JC102A
HP 5820AF-24XG Switch	JG219A

#### Key features

- For enterprise edge, or distribution/data center
- Up to 24 ports of 10GbE per unit/194 per stack
- Flex chassis—modular resiliency
- Cut-through switching for very low latency
- Hot-swappable I/O, power supplies, and fans

#### Product overview

The HP 5820 Switch Series supports advanced features that deliver a unique combination of unmatched 10 Gigabit Ethernet; Fibre Channel over Ethernet (FCoE) connectivity; high-availability architecture; full Layer 2/3 dual-stack IPv4/IPv6; and line-rate, low-latency performance on all ports. Extensible embedded application capabilities enable these switches to integrate services into the network, consolidating devices and appliances to simplify deployment and reduce power consumption and rack space. Extremely versatile, the switches can be used in high-performance, high-density building or department cores as part of a consolidated network; for data center top-of-rack server access; or as high-performance Layer 3, 10GbE aggregation switches in campus and data center networks.

#### Features and benefits

##### Quality of Service (QoS)

- **Powerful QoS feature**  
creates traffic classes based on access control lists (ACLs), IEEE 802.1p precedence, IP, and DSCP or Type of Service (ToS) precedence; supports filter, redirect, mirror, or remark; supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), weighted random early discard (WRED), weighted deficit round robin (WDRR), and SP+WDRR
- **Integrated network services**  
with support for open application architecture (OAA) modules, extends and integrates application capability into the network
- **Ring Resiliency Protection Protocol (RRPP)**  
provides fast recovery for ring Ethernet-based topology; helps ensure consistent application performance for applications such as VoIP

##### Management

- **Remote configuration and management**  
is available through a secure Web browser or a command-line interface (CLI)
- **IEEE 802.1ab LLDP discovery**  
advertises and receives management information from adjacent devices on a network
- **USB support**
  - **File copy**  
allows users to copy switch files to and from a USB flash drive
- **DHCP options**

### Overview

- provides server (RFC 2131), client, snooping, and relay options
- **SNMPv1, v2c, and v3**  
facilitate centralized discovery, monitoring, and secure management of networking devices
- **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
- **Network Time Protocol (NTP)**  
synchronizes timekeeping among distributed time servers and clients; keeps consistent timekeeping among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time

### Connectivity

- **High-density port connectivity**  
194 10-GbE ports with a 40 Gbps resilient backplane
- **Data center I/O consolidation**  
the 5820-14XG FCoE module supports two 4x8/4/2 Gbps FCoE modules (up to eight FC ports total) to reduce cost and complexity while boosting network performance
- **Auto-MDIX**  
provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- **Jumbo frames**  
on Gigabit Ethernet and 10-Gigabit ports, jumbo frames allow high-performance remote backup and disaster-recovery services
- **IPv6 native support**
  - **IPv6 host**  
enables switches to be managed and deployed at the IPv6 network's edge
  - **Dual stack (IPv4/IPv6)**  
transitions from IPv4 to IPv6, supporting connectivity for both protocols
  - **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, OSPF, IS-IS, and Border Gateway Protocol (BGP) routing protocols

### Performance

- **Hardware-based wire-speed access control lists (ACLs)**  
helps provide high levels of security and ease of administration without impacting network performance with a feature-rich TCAM-based ACL implementation
- **Unique versatile architecture**  
supports the best of both fixed-port and modular configurations
- **Cut-through switching**  
delivers wire-speed, line-rate performance on all ports, as well as cut-through switching for low latency

### Resiliency and high availability

- **Data center-optimized design**  
HP 5820AF-24XG Switch (JG219A) supports front-to-back/back-to-front airflow for hot/cold aisles, rear rack mounts, and redundant hot-swappable AC or DC power and fans

### Manageability



### Overview

- **Full-featured console**  
provides complete control of the switch with a familiar CLI
- **Web interface**  
allows configuration of the switch from any Web browser on the network
- **RMON and sFlow**  
provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Multiple configuration files**  
allow multiple configuration files to be stored to a flash image
- **Troubleshooting**
  - **Ingress and egress port monitoring**  
enable network problem solving
  - **Traceroute and ping**  
enable testing of network connectivity
  - **Virtual cable tests**  
provide visibility to cable problems

### Layer 2 switching

- **32K MAC addresses**  
provide access to many Layer 2 devices
- **4,094 port-based VLANs**  
provide security between workgroups
- **IEEE 802.1ad QinQ and Selective QinQ**  
increase the scalability of an Ethernet network by providing a hierarchical structure; connect multiple LANs on a high-speed campus or metro network
- **Gigabit Ethernet port aggregation**  
allows grouping of ports to increase overall data throughput to a remote device
- **10 GbE port aggregation**  
allows grouping of ports to increase overall data throughput to a remote device
- **Spanning Tree/MSTP, RSTP, and STP Root Guard**  
prevent network loops
- **sFlow**  
allows traffic sampling
- **GVRP VLAN Registration Protocol**  
allows automatic learning and dynamic assignment of VLANs

### Layer 3 services

- **Address Resolution Protocol (ARP)**  
determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network
- **Dynamic Host Configuration Protocol (DHCP)**  
simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets

### 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

### Overview

- **Routing Information Protocol (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
- **Layer 3 IPv6 routing**  
provides routing of IPv6 at media speed; supports static routes, RIPng, OSPFv3, IS-ISv6, and BGP4+
- **Bidirectional Forwarding Detection (BFD)**  
enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, MPLS, and IRF
- **Virtual Router Redundancy Protocol (VRRP) and VRRP Extended**  
allow quick failover of router ports
- **Policy-based routing**  
makes routing decisions based on policies set by the network administrator
- **IGMPv1, v2, and v3**  
allow individual hosts to be registered on a particular VLAN
- **PIM-SSM, PIM-DM, and PIM-SM (for IPv4 and IPv6)**  
support IP Multicast address management and inhibition of DoS attacks
- **Equal-Cost Multipath (ECMP)**  
enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth

### Security

- **Defense-in-depth security**  
provides integrated and distributed security enforcement that can be managed from a central location, such as the HP Intelligent Management Center (IMC)
- **Advanced processor queuing mechanism**  
helps prevent denial-of-service (DoS) attacks, while DHCP snooping helps ensure that devices can only receive an IP address from a legitimate DHCP server on the network
- **RADIUS/HWTACACS**  
eases switch management security administration by using a password authentication server
- **Secure Shell (SSHv2)**  
encrypts all transmitted data for secure, remote CLI access over IP networks
- **IEEE 802.1X-based dynamic delivery of QoS, ACLs, and VLANs**  
allows complete control over user network access
- **Guest VLAN**  
provides a browser-based environment to authenticated clients, similar to IEEE 802.1X
- **Port isolation**  
secures and adds privacy, and prevents malicious attackers from obtaining user information
- **Port security**  
allows access only to specified MAC addresses, which can be learned or specified by the administrator
- **MAC-based authentication**  
allows or denies access to the switch based on a client MAC address
- **IP Source Guard**  
helps prevent IP spoofing attacks
- **HTTPS management**  
provides secure Web management
- **URPF**  
limits malicious traffic on a network
- **Multi-Customer Edge (MCE)-Multicast Virtual Routing and Forwarding (MVRF)**

### Overview

- provide MPLS Edge router support
- **Public Key Infrastructure (PKI)**  
is used to control access

### Convergence

- **Voice VLAN**  
automatically assigns VLAN and priority for IP phones, simplifying network configuration and maintenance
- **LLDP-MED**  
is a standard extension that automatically configures network devices, including LLDP-capable IP phones
- **Internet Group Management Protocol (IGMP)**  
utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3
- **Protocol Independent Multicast (PIM)**  
defines modes of Internet multicasting to allow one-to-many and many-to-many transmission of information; PIM Dense Mode (DM), Sparse Mode (SM), and Source-Specific Mode (SSM) are support

### Monitor and diagnostics

- **Port mirroring**  
enables traffic on a port to be simultaneously sent to a network analyzer for monitoring
- **OAM (802.3ah)**  
operations, administration and maintenance (OAM) management capability detects data link layer problems that occurred in the "last mile"; monitors the status of the link between the two devices
- **CFD (802.1ag)**  
connectivity fault detection (CFD) provides a Layer 2 link OAM (operations, administration, and maintenance) mechanism used for link connectivity detection and fault locatin

### Additional information

- **Intelligent Resilient Framework (IRF)**
  - Creates virtual resilient switching fabrics, where two or more switches perform as a single Layer 2 switch and Layer 3 router
  - Does not require switches to be co-located and allows them to be part of a disaster-recovery system
  - Allows servers or switches to be attached using standard LACP for automatic load balancing and high availability
  - Simplifies network operation by eliminating the complexity of Spanning Tree Protocol, ECMP, or VRRP
- **OAA modules**  
support wireless network management and high-performance security applications; leverage network infrastructure investment
- **Green IT and power**  
improves energy efficiency through the use of the latest advances in silicon development; shuts off unused ports and utilizes variable-speed fans, reducing energy costs
- **High scalability with IRF**  
HP Intelligent Resilient Framework (IRF) technology simplifies the architecture of server access networks; up to nine HP 5820/5820AF stackable switches can be combined to deliver unmatched scalability of virtualized access layer switches and flatter, two-tier FlexFabric networks using IRF, which reduces cost and complexity

### Warranty and support

- **1-year warranty**  
with advance replacement and 10-calendar-day delivery (available in most countries)

### Overview

- **Electronic and telephone support**

limited electronic and telephone support is available from HP; to reach our support centers, refer to [www.hp.com/networking/contact-support](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 [www.hp.com/networking/support](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.

#### Standard Switch Chassis

##### HP 5820-14XG-SFP+ Switch with 2 Slots

- 4 RJ-45 autosensing 10/100/1000 ports
- 2 module slots
- 14 fixed 1000/10000 SFP+ ports
- min=0 \ max=14 SFP+ Transceivers
- 1 Power Supply Required
- 2U - Height

JC106A  
See  
Configuration  
Note:1

##### HP 5820-24XG-SFP+ Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 24 fixed 1000/10000 SFP+ ports
- min=0 \ max=24 SFP+ Transceivers
- 1 Power Supply Required
- 1U - Height

JC102A  
See  
Configuration  
Note:1

##### HP 5820AF-24XG Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 24 fixed 1000/10000 SFP+ ports
- min=0 \ max=24 SFP+ Transceivers
- 1 Power Supply Required
- 2 Fan Trays Required
- 1U - Height

JG219A  
See  
Configuration  
Note:1

#### Configuration Rules:

Note 1 The following Transceivers install into this Switch (Max = 14 or 24 depending on Switch) (Use #0D1 or #B01 if switch is CTO):

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 X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HP 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
HP X120 1G SFP RJ45 T Transceiver	JD089B

### Configuration

#### Box Level Integration CTO Models

##### CTO Solution Sku

HP 58xx CTO Switch Solution	JG478A
<ul style="list-style-type: none"><li>SSP trigger sku</li></ul>	

##### CTO Base Sku

HP 5820-14XG-SFP+ w/2 Slots CTO Switch	JC106AC
<ul style="list-style-type: none"><li>4 RJ-45 autosensing 10/100/1000 ports</li><li>2 module slots</li><li>14 fixed 1000/10000 SFP+ ports</li><li>min=0 \ max=14 SFP+ Transceivers</li><li>1 Power Supply Required</li><li>2U - Height</li></ul>	See Configuration Note:1,4
HP 5820-24XG-SFP+ CTO Switch	JC102AC
<ul style="list-style-type: none"><li>4 RJ-45 autosensing 10/100/1000 ports</li><li>24 fixed 1000/10000 SFP+ ports</li><li>min=0 \ max=24 SFP+ Transceivers</li><li>1 Power Supply Required</li><li>1U - Height</li></ul>	See Configuration Note:1,4
HP 5820AF-24XG Switch	JG219A
<ul style="list-style-type: none"><li>4 RJ-45 autosensing 10/100/1000 ports</li><li>24 fixed 1000/10000 SFP+ ports (min=0 \ max=24 SFP+ Transceivers)</li><li>1 Power Supply Required</li><li>2 Fan Trays Required</li><li>1U - Height</li></ul>	See Configuration Note:1, 4

#### Configuration Rules:

Note 1	The following Transceivers install into this Switch (Max = 14 or 24 depending on Switch): (Use #0D1 if switch is CTO)	
	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 X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A



### Configuration

HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X120 1G SFP RJ45 T Transceiver	JD089B

Note 4 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 JG478A - HP 58xx CTO Enablement. (Max 1 switch per SSP)

### Rack Level Integration CTO Models

#### Standard Switch Chassis

<p>HP 5820-14XG-SFP+ Switch with 2 Slots</p> <ul style="list-style-type: none"> <li>• 4 RJ-45 autosensing 10/100/1000 ports</li> <li>• 2 module slots</li> <li>• 14 fixed 1000/10000 SFP+ ports</li> <li>• min=0 \ max=14 SFP+ Transceivers</li> <li>• 1 Power Supply Required</li> <li>• 2U - Height</li> </ul>	<p>JC106A See Configuration Note:1, 11</p>
<p>HP 5820-24XG-SFP+ Switch</p> <ul style="list-style-type: none"> <li>• 4 RJ-45 autosensing 10/100/1000 ports</li> <li>• 24 fixed 1000/10000 SFP+ ports</li> <li>• min=0 \ max=24 SFP+ Transceivers</li> <li>• 1 Power Supply Required</li> <li>• 1U - Height</li> </ul>	<p>JC102A See Configuration Note:1, 11</p>
<p>HP 5820AF-24XG Switch</p> <ul style="list-style-type: none"> <li>• 4 RJ-45 autosensing 10/100/1000 ports</li> <li>• 24 fixed 1000/10000 SFP+ ports (min=0 \ max=24 SFP+ Transceivers)</li> <li>• 1 Power Supply Required</li> <li>• 2 Fan Trays Required</li> <li>• 1U - Height</li> </ul>	<p>JG219A See Configuration Note:1, 4, 11</p>

#### Configuration Rules:

Note 1 The following Transceivers install into this Switch (Max = 14 or 24 depending on Switch):

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 X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A

### Configuration

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
HP X120 1G SFP RJ45 T Transceiver	JD089B

Note 4 Switch Height is 2U if the JC682A - HP A58x0AF Bck(pwr)-Frt(ports) Fan Tray is ordered #0D1 with this switch.  
REMARK: This only applies for CTO Rack Level Integration.

Note 11 If HP CTO Switch Chassis is selected for Rack Level Integration, Then the Switch needs to integrate (with #0D1) to the HP Rack.

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

## Modules

### Ethernet Modules

(JC106x and JG259x Switch Only ) System (std 0 // max 2) User Selection (min 0 // max 2) per chassis

HP 5800 4-port 10GbE SFP+ Module	JC091A
<ul style="list-style-type: none"> <li>min=0 \ max=4 SFP + Transceivers</li> </ul>	See Configuration Note:1
HP 5800 2-port 10GbE SFP+ Module	JC092B
<ul style="list-style-type: none"> <li>min=0 \ max=2 SFP + Transceivers</li> </ul>	See Configuration Note:1
HP 5820 4-port 8/4/2 Gbps FCoE SFP+ Mod	JC530A
<ul style="list-style-type: none"> <li>min=0 \ max=4 SFP + Transceivers</li> </ul>	See Configuration Note:1

### Configuration Rules:

Note 1 The following Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO)

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 X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C

### Configuration

#### Access Control Modules

(JC106x and JG259x Switch Only) System (std 0 // max 1) User Selection (min 0 // max 1) per chassis

HP A5800 Access Controller Module for 32-64 Aps	JD443A
• No Transceivers	
HP 5820 VPN Firewall Module	JD255A
• No Transceivers	

Configuration Rules:

Note 1                      This Module install to the following switches only:  
JC106x - HP 5820-14XG-SFP+ Switch with 2 Slots

### Transceivers

#### 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 X240 10G SFP+ SFP+ 0.65m DAC Cable	JD095C#B01
HP X240 10G SFP+ SFP+ 1.2m DAC Cable	JD096C#B01
HP X240 10G SFP+ SFP+ 3m DAC Cable	JD097C#B01
HP X240 10G SFP+ SFP+ 5m DAC Cable	JG081C#B01

#### SFP Transceivers

HP X125 1G SFP LC LH40 1310nm XCVR	JD061A
HP X120 1G SFP LC LH40 1550nm XCVR	JD062A
HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP RJ45 T Transceiver	JD089B

### Internal Power Supplies

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

HP A5800 300W DC Power Supply	JC090A
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### Configuration

	<a href="#">See Configuration Note:1, 2</a>
HP A5800 300W AC Power Supply <ul style="list-style-type: none"><li>includes 1 x c13, 300w</li></ul>	JC087A <a href="#">See Configuration Note:1, 2, 3, 4</a>
PDU Cable NA/MEX/TW/JP <ul style="list-style-type: none"><li>C15 PDU Jumper Cord (NA/MEX/TW/JP)</li></ul>	JC087A#B2B
PDU Cable ROW <ul style="list-style-type: none"><li>C15 PDU Jumper Cord (ROW)</li></ul>	JC087A#B2C
HP A58x0AF 650W AC Power Supply <ul style="list-style-type: none"><li>includes 1 x c13, 650w</li></ul>	JC680A <a href="#">See Configuration Note:1, 3, 5</a>
PDU Cable NA/MEX/TW/JP <ul style="list-style-type: none"><li>C15 PDU Jumper Cord (NA/MEX/TW/JP)</li></ul>	JC680A#B2B
PDU Cable ROW <ul style="list-style-type: none"><li>C15 PDU Jumper Cord (ROW)</li></ul>	JC680A#B2C
HP 58x0AF 650W DC Power Supply	JC681A <a href="#">See Configuration Note:1, 5</a>

#### Configuration Rules:

- Note 1 If 2 power supplies are selected they must be the same Sku number.
- Note 2 Supported only on the JC102x, JC106x, JG243x, and JG259x Switches
- Note 3 Localization required on orders without #B2B or #B2C options.
- Note 4 Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) .  
(See Localization Menu)  
REMARK: When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power Cable option on the Switches/Routers.
- Note 5 Supported only on the JG219A Switch

#### Remarks:



### Configuration

Drop down under power supply should offer the following options and results:  
Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW. (Watson Default B2B or B2C for Rack Level CTO)  
Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO)

### Switch Options

#### Fan Trays

(JG219A only) System (std 0 // max 2) User Selection (min 2 // max 2) per switch

HP 58x0AF Bck(pwr)-Frt(ports) Fan Tray

JC682A  
See  
Configuration  
Note:1

HP 58x0AF Frt(ports)-Bck(pwr) Fan Tray

JC683A  
See  
Configuration  
Note:1

#### Configuration Rules:

Note 1 Fan Trays cannot be mixed in the same switch enclosure

Remarks: **Watson Blue Text:**  
If there is any empty space below the switch in a rack when using Back to Front Fan Trays, JC682A, the rack will receive an Air Plenum kit that takes up 1U of additional space in the rack. The Air Plenum kit is not required on fully configured racks. This only applies for CTO Rack Level Integration. The Air Plenum Kit is a non-saleable SKU, and is brought in automatically for CTO Factory Rack Level Integration.

### Configuration AF Model

**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.

#### Standard Switch Chassis

HP 5820AF-24XG Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 24 fixed 1000/10000 SFP+ ports
- min=0 \ max=24 SFP+ Transceivers
- 1 Power Supply Required
- 2 Fan Trays Required
- 1U - Height

JG219A

See Configuration Note:1

#### Configuration Rules:

Note 1	The following Transceivers install into this Module (Max = 24 depending on Switch):	
	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 X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
	HP 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
	HP X120 1G SFP RJ45 T Transceiver	JD089B

### Box Level Integration CTO Models

#### CTO Solution Sku

HP 58xx CTO Switch Solution	JG478A
• SSP trigger sku	

#### CTO Switch Chassis

HP 5820AF-24XG Switch	JG219A
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### Configuration AF Model

- 4 RJ-45 autosensing 10/100/1000 ports
- 24 fixed 1000/10000 SFP+ ports (min=0 \ max=24 SFP+ Transceivers)
- 1 Power Supply Required
- 2 Fan Trays Required
- 1U - Height

See Configuration  
Note:1, 10

#### Configuration Rules:

Note 1	The following Transceivers install into this Switch: (Use #0D1 or #B01 quoted to switch if switch is CTO) - if applicable	
	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 X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
	HP 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
	HP X120 1G SFP RJ45 T Transceiver	JD089B

Note 10 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 JG478A - HP 58xx CTO Enablement. (Min 1/Max 1 Switch per SSP)

### Rack Level Integration CTO Models

#### CTO Switch Chassis

##### HP 5820AF-24XG Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 24 fixed 1000/10000 SFP+ ports (min=0 \ max=24 SFP+ Transceivers)
- 1 Power Supply Required
- 2 Fan Trays Required
- 1U - Height

JG219A  
See Configuration  
Note:1, 4, 11

#### Configuration Rules:

Note 1	The following Transceivers install into this Switch: (Use #0D1 or #B01 quoted to switch if switch is CTO) - if applicable	
	HP X130 10G SFP+ LC SR Transceiver	JD092B
	HP X130 10G SFP+ LC LRM Transceiver	JD093B

### Configuration AF Model

HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
HP 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
HP X120 1G SFP RJ45 T Transceiver	JD089B

**Note 4** Switch Height is 2U if the JC682A - HP A58x0AF Bck(pwr)-Frt(ports) Fan Tray is ordered #0D1 with this switch.  
REMARK: This only applies for CTO Rack Level Integration.

**Note 11** If HP CTO Switch Chassis is selected for Rack Level Integration, Then the JG219A - HP 5820AF-24XG Switch needs to integrate (with #0D1) to the HP Rack.

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

## Transceivers

### 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 X240 10G SFP+ SFP+ 0.65m DAC Cable	JD095C#B01
HP X240 10G SFP+ SFP+ 1.2m DAC Cable	JD096C#B01
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

### SFP Transceivers

HP X125 1G SFP LC LH40 1310nm XCVR	JD061A
HP X120 1G SFP LC LH40 1550nm XCVR	JD062A
HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP RJ45 T Transceiver	JD089B



### Configuration AF Model

#### Internal Power Supplies

(JG219A only) System (std 0 // max 2) User Selection (min 1 // max 2) per switch enclosure

HP A58x0AF 650W AC Power Supply

- includes 1 x c13, 650w

JC680A

See Configuration  
Note:1, 2

PDU Cable NA/MEX/TW/JP

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

#B2B

PDU Cable ROW

- C15 PDU Jumper Cord (ROW)

#B2C

HP 58x0AF 650W DC Power Supply

JC681A

See Configuration  
Note:1

#### Configuration Rules:

**Note 1** If 2 power supplies are selected they must be the same Sku number.

**Note 2** Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) . (See Localization Menu)  
REMARK: When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power Cable option on the Switches/Routers.

**Remarks:** Drop down under power supply should offer the following options and results:  
Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW. (Watson Default B2B or B2C for Rack Level CTO)  
Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO)

#### Switch Options

##### Fan Trays

(JG219A only) System (std 0 // max 2) User Selection (min 2 // max 2) per switch

HP 58x0AF Bck(pwr)-Frt(ports) Fan Tray

JC682A

See Configuration  
Note:1, 2

HP 58x0AF Frt(ports)-Bck(pwr) Fan Tray

JC683A

### Configuration AF Model

See Configuration Note:1

#### Configuration Rules:

- Note 1 Fan Trays cannot be mixed in the same switch enclosure
- Note 2 This Fan Tray requires an Air Plenum kit for better air flow. The Air Plenum kit requires 1U of additional space in the rack.  
REMARK: This only applies for CTO Rack Level Integration. The Air Plenum Kit is a non-saleable SKU, and is brought in automatically in the factory for CTO Rack Level Integration)

#### External Redundant Power Supplies

##### HP RPS1600 Redundant Power System

- Height = 1U
- includes 1 x c13, 1600w and Power Supply port

JG136A  
See Configuration Note:2, 3, 5

##### HP RPS1600 1600W AC Power Supply

- Installs into JG136A only

JG137A  
See Configuration Note:1, 3

#### Configuration Rules:

- Note 1 If this power supply is selected, The JG136A - HP A-RPS1600 Redundant Power System must be on order or onsite.
- Note 2 Localization required.
- Note 3 Each switch will only support 1 JG136A and 1 JG137A Power supply systems.
- Note 5 This power supply only supported on switches JC102A and JC106A.

#### Options for the HP RPS1600 Redundant Power System

##### HP X290 1000 A JD5 2m RPS Cable

JD187A  
See Configuration Note: 3

##### HP X290 1000 B JD5 2m RPS Cable

JD189A  
See Configuration Note: 4

#### Configuration Rules:

- Note 3 This Cable is only supported on switches JC102A and, JC106A when used with the RPS 1600 (JG136A).

### Configuration AF Model

Note 4                      This Cable is only supported on switches JC102A and JC106A when used with the RPS 1600 (JG136A).

Remarks:  
                                    These cables are used to connect the External Power System to Switch.

### Technical Specifications

#### HP 5820-14XG-SFP+ Switch with 2 Slots (JC106A)

<b>Ports</b>	14 SFP+ 10-GbE ports; Duplex: full only 2 extended module slots 1 open module slot 4 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) 1 RJ-45 serial console port Supports a maximum of 14 SFP+ ports plus 8 8/4/2 Gbps Fibre Channel SFP+ ports, with optional module
<b>Power supplies</b>	2 power-supply slots 1 minimum power-supplies required (ordered separately)
<b>Fan tray</b>	includes: 1 x JC096A 1 fan tray slot Base product includes fan tray
<b>Physical characteristics</b>	<b>Dimensions</b> 17.32(w) x 18.39(d) x 3.39(h) in (43.99 x 46.7 x 8.61 cm) (2U height) <b>Weight</b> 33.29 lb (15.1 kg)
<b>Memory and processor</b>	1024 MB SDRAM, 512 MB flash; packet buffer size: 2 MB
<b>Performance</b>	<b>Latency</b> 2.02 $\mu$ s (Cut Through) 2.02 $\mu$ s, (Store and Forward) (64-byte packets) <b>Throughput</b> up to 363 million pps (64-byte packets) <b>Routing/Switching capacity</b> 488 Gbps <b>Routing table size</b> 12000 entries <b>MAC address table size</b> 32000 entries
<b>Environment</b>	<b>Operating temperature</b> 32°F to 113°F (0°C to 45°C) <b>Operating relative humidity</b> 10% to 90%, noncondensing <b>Acoustic</b> Low-speed fan: 44.3 dB, High-speed fan: 54.1 dB
<b>Electrical characteristics</b>	<b>Maximum heat dissipation</b> 836 BTU/hr (881.98 kJ/hr) <b>Voltage</b> 100-120/200-240 VAC <b>DC voltage</b> 300 W DC: -48 VDC to -60 VDC <b>Frequency</b> 50/60 Hz
<b>Safety</b>	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
<b>Immunity</b>	<b>Generic</b> ETSI EN 300 386 V1.3.3 <b>EN</b> EN 55024:1998+ A1:2001 + A2:2003 <b>ESD</b> EN 61000-4-2; IEC 61000-4-2 <b>Radiated</b> EN 61000-4-3; IEC 61000-4-3

### Technical Specifications

<b>EFT/Burst</b>	EN 61000-4-4; IEC 61000-4-4
<b>Surge</b>	EN 61000-4-5; IEC 61000-4-5
<b>Conducted</b>	EN 61000-4-6; IEC 61000-4-6
<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN 61000-4-8
<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC 61000-4-11
<b>Harmonics</b>	EN 61000-3-2; IEC 61000-3-2
<b>Flicker</b>	EN 61000-3-3; IEC 61000-3-3

#### Management

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

#### Notes

The customer must order a power supply, as the device does not come with a PSU. At least one JC087A or JC090A is required.

#### Services

3-year, parts only, global next-day advance exchange (UY832E)  
 3-year, 4-hour onsite, 13x5 coverage for hardware (UV894E)  
 3-year, 4-hour onsite, 24x7 coverage for hardware (UV897E)  
 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV900E)  
 3-year, 24x7 SW phone support, software updates (UV903E)  
 Installation with minimum configuration, system-based pricing (UW451E)  
 4-year, 4-hour onsite, 13x5 coverage for hardware (UV895E)  
 4-year, 4-hour onsite, 24x7 coverage for hardware (UV898E)  
 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV901E)  
 4-year, 24x7 SW phone support, software updates (UV904E)  
 5-year, 4-hour onsite, 13x5 coverage for hardware (UV896E)  
 5-year, 4-hour onsite, 24x7 coverage for hardware (UV899E)  
 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV902E)  
 5-year, 24x7 SW phone support, software updates (UV905E)  
 3 Yr 6 hr Call-to-Repair Onsite (UW972E)  
 4 Yr 6 hr Call-to-Repair Onsite (UW973E)  
 5 Yr 6 hr Call-to-Repair Onsite (UW974E)  
 1-year, 4-hour onsite, 13x5 coverage for hardware (HR559E)  
 1-year, 4-hour onsite, 24x7 coverage for hardware (HR560E)  
 1-year, 6 hour Call-To-Repair Onsite for hardware (HR563E)  
 1-year, 24x7 software phone support, software updates (HR562E)  
 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR561E)  
 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U4D06E)  
 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (U0S83E)  
 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U4D57E)  
 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (U0T34E)  
 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U4E08E)  
 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (U0T85E)  
 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U0S32E)  
 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (U0U36E)

### Technical Specifications

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

#### HP 5820X-24XG-SFP+ Switch (JC102A)

<b>Ports</b>	24 SFP+ 10-GbE ports; Duplex: full only	
	4 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)	
	1 RJ-45 serial console port	
	Supports a maximum of 24 SFP+ ports plus 4 autosensing 10/100/1000 ports	
<b>Power supplies</b>	2 power-supply slots	
	1 minimum power-supplies required (ordered separately)	
<b>Fan tray</b>	includes: 1 x JC098A	
	1 fan tray slot	
	Base product includes fan tray	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.32(w) x 16.81(d) x 1.73(h) in (44.0 x 42.7 x 4.4 cm) (1U height)
	<b>Weight</b>	18.74 lb (8.5 kg)
<b>Memory and processor</b>	1024 MB SDRAM, 512 MB flash; packet buffer size: 2 M	
<b>Performance</b>	<b>Latency</b>	2.02 $\mu$ s (Cut Through) 2.02 $\mu$ s, (Store and Forward) (64-byte packets)
	<b>Throughput</b>	up to 363 million pps (64-byte packets)
	<b>Routing/Switching capacity</b>	488 Gbps
	<b>Routing table size</b>	12000 entries
	<b>MAC address table size</b>	32000 entries
<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)
	<b>Operating relative humidity</b>	10% to 90%, noncondensing
	<b>Acoustic</b>	Low-speed fan: 48.4 dB, High-speed fan: 59.7 dB
<b>Electrical characteristics</b>	<b>Maximum heat dissipation</b>	631 BTU/hr (665.71 kJ/hr)
	<b>Voltage</b>	100-120/200-240 VAC
	<b>DC voltage</b>	300 W DC: -48 VDC to -60 VDC
	<b>Frequency</b>	50/60 Hz
<b>Safety</b>	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
<b>Immunity</b>	<b>Generic</b>	ETSI EN 300 386 V1.3.3
	<b>EN</b>	EN 55024:1998+ A1:2001 + A2:2003

### Technical Specifications

<b>ESD</b>	EN 61000-4-2; IEC 61000-4-2
<b>Radiated</b>	EN 61000-4-3; IEC 61000-4-3
<b>EFT/Burst</b>	EN 61000-4-4; IEC 61000-4-4
<b>Surge</b>	EN 61000-4-5; IEC 61000-4-5
<b>Conducted</b>	EN 61000-4-6; IEC 61000-4-6
<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN 61000-4-8
<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC 61000-4-11
<b>Harmonics</b>	EN 61000-3-2; IEC 61000-3-2
<b>Flicker</b>	EN 61000-3-3; IEC 61000-3-3

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

**Notes** The customer must order a power supply, as the device does not come with a PSU. At least one JC087A or JC090A is required.

**Services**

- 3-year, parts only, global next-day advance exchange (UY832E)
- 3-year, 4-hour onsite, 13x5 coverage for hardware (UV894E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (UV897E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV900E)
- 3-year, 24x7 SW phone support, software updates (UV903E)
- Installation with minimum configuration, system-based pricing (UW451E)
- 4-year, 4-hour onsite, 13x5 coverage for hardware (UV895E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware (UV898E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV901E)
- 4-year, 24x7 SW phone support, software updates (UV904E)
- 5-year, 4-hour onsite, 13x5 coverage for hardware (UV896E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware (UV899E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV902E)
- 5-year, 24x7 SW phone support, software updates (UV905E)
- 3 Yr 6 hr Call-to-Repair Onsite (UW972E)
- 4 Yr 6 hr Call-to-Repair Onsite (UW973E)
- 5 Yr 6 hr Call-to-Repair Onsite (UW974E)
- 1-year, 4-hour onsite, 13x5 coverage for hardware (HR559E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware (HR560E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR563E)
- 1-year, 24x7 software phone support, software updates (HR562E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR561E)
- 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U4D06E)
- 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (U0S83E)
- 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U4D57E)
- 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (U0T34E)
- 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U4E08E)
- 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (U0T85E)

### Technical Specifications

5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U0S32E)

5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (U0U36E)

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

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#### HP 5820AF-24XG Switch (JG219A)

<b>Ports</b>	24 fixed 1000/10000 SFP+ ports 2 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 1 RJ-45 serial console port 1 RJ-45 out-of-band management port 1 USB 2.0
<b>Power supplies</b>	2 power-supply slots 1 minimum power-supplies required (ordered separately)
<b>Fan tray</b>	2 fan tray slots  The customer must order fan trays, as fan trays are not included with the switch. This system requires two same-direction airflow fan trays to function properly. The system should not be operated with only one fan tray for more than 24 hours. The system should not be operated without a fan tray more than two minutes. The system should not be operated outside of the temperature range of 32°F (0°C) to 113°F (45°C). Failure to comply with these operating requirements may void the product warranty.
<b>Physical characteristics</b>	<b>Dimensions</b> 25.98(w) x 17.32(d) x 1.72(h) in (65.99 x 43.99 x 4.37 cm) (1U height) <b>Weight</b> 22.05 lb (10 kg), Fully loaded
<b>Memory and processor</b>	1024 MB flash, 512 MB SDRAM; packet buffer size: 2 MB
<b>Performance</b>	<b>Latency</b> 3 µs(64-byte packets) <b>Throughput</b> 360 million pps <b>Routing/Switching capacity</b> 484 Gbps <b>Routing table size</b> 12000 entries <b>MAC address table size</b> 32000 entries
<b>Environment</b>	<b>Operating temperature</b> 32°F to 113°F (0°C to 45°C) <b>Operating relative humidity</b> 10% to 90%, noncondensing <b>Acoustic</b> Low-speed fan: 60.1 dB, High-speed fan: 69.9 dB
<b>Electrical characteristics</b>	<b>Maximum heat dissipation</b> 607 BTU/hr (640.39 kJ/hr) <b>Voltage</b> 100-120/200-240 VAC <b>DC voltage</b> 650W DC: -36 VDC to -72 VDC <b>Frequency</b> 50/60 Hz



### Technical Specifications

<b>Safety</b>	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
<b>Immunity</b>	<b>Generic</b>	ETSI EN 300 386 V1.3.3
	<b>EN</b>	EN 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC 61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC 61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC 61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC 61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN 61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
	<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP	
<b>Notes</b>	The customer must order power supply, as the device does not come with a PSU. At least one JC680A or JC681A is required	
<b>Services</b>	3-year, parts only, global next-day advance exchange (UY832E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UV894E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV897E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV900E) 3-year, 24x7 SW phone support, software updates (UV903E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV895E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV898E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV901E) 4-year, 24x7 SW phone support, software updates (UV904E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV896E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV899E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV902E) 5-year, 24x7 SW phone support, software updates (UV905E) 3 Yr 6 hr Call-to-Repair Onsite (UW972E) 4 Yr 6 hr Call-to-Repair Onsite (UW973E) 5 Yr 6 hr Call-to-Repair Onsite (UW974E) 1-year, 4-hour onsite, 13x5 coverage for hardware (HR559E) 1-year, 4-hour onsite, 24x7 coverage for hardware (HR560E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR563E) 1-year, 24x7 software phone support, software updates (HR562E) 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR561E) 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange	

### Technical Specifications

(U4D06E)

1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (U0S83E)

3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U4D57E)

3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (U0T34E)

4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U4E08E)

4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (U0T85E)

5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (U0S32E)

5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (U0U36E)

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

#### Standards and protocols

(applies to all products in series)

#### General protocols

IEEE 802.1ag Service Layer OAM

IEEE 802.1D MAC Bridges

IEEE 802.1p Priority

IEEE 802.1Q VLANs

IEEE 802.1s (MSTP)

IEEE 802.1v VLAN classification by Protocol and Port

IEEE 802.1w Rapid Reconfiguration of Spanning Tree

IEEE 802.3ad Link Aggregation Control Protocol (LACP)

IEEE 802.3ae 10-Gigabit Ethernet

IEEE 802.3x Flow Control

RFC 768 UDP

RFC 792 ICMP

RFC 793 TCP

RFC 826 ARP

RFC 854 TELNET

RFC 925 Multi-LAN Address Resolution

RFC 951 BOOTP

RFC 1058 RIPv1

RFC 1350 TFTP Protocol (revision 2)

RFC 1519 CIDR

RFC 1542 BOOTP Extensions

RFC 2131 DHCP

RFC 2453 RIPv2

RFC 3046 DHCP Relay Agent Information Option

RFC 3576 Ext to RADIUS (CoA only)

RFC 3768 VRRP

RFC 4675 RADIUS VLAN & Priority

RFC3323 A Privacy Mechanism for the Session Initiation

Protocol (SIP)

802.1r - GARP Proprietary Attribute Registration Protocol (GPRP)

#### IP multicast

RFC 4443 ICMPv6

RFC 4541 IGMP & MLD Snooping Switch

RFC 4861 IPv6 Neighbor Discovery

RFC 4862 IPv6 Stateless Address Auto-configuration

#### MIBs

IEEE8021-PAE-MIB

IEEE8023-LAG-MIB

RFC 1213 MIB II

RFC 1493 Bridge MIB

RFC 1657 BGP-4 MIB

RFC 1724 RIPv2 MIB

RFC 1850 OSPFv2 MIB

RFC 2011 SNMPv2 MIB for IP

RFC 2013 SNMPv2 MIB for UDP

RFC 2233 Interface MIB

RFC 2273 SNMP-NOTIFICATION-MIB

RFC 2452 IPV6-TCP-MIB

RFC 2454 IPV6-UDP-MIB

RFC 2465 IPv6 MIB

RFC 2466 ICMPv6 MIB

RFC 2571 SNMP Framework MIB

RFC 2572 SNMP-MPD MIB

RFC 2573 SNMP-Notification 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 2688 MAU-MIB

RFC 2787 VRRP MIB

RFC 2819 RMON MIB

RFC 2925 Ping MIB

RFC 3414 SNMP-User based-SM MIB

RFC 3415 SNMP-View based-ACM MIB

RFC 3418 MIB for SNMPv3

RFC 3621 Power Ethernet MIB

### Technical Specifications

RFC 2934 Protocol Independent Multicast MIB for IPv4  
RFC 3376 IGMPv3 (host joins only)  
RFC 3618 Multicast Source Discovery Protocol (MSDP)  
RFC 3973 Draft 2 PIM Dense Mode  
RFC 4601 Draft 10 PIM Sparse Mode

#### **IPv6**

RFC 2080 RIPng for IPv6  
RFC 2460 IPv6 Specification  
RFC 2710 Multicast Listener Discovery (MLD) for IPv6  
RFC 2740 OSPFv3 for IPv6  
RFC 2925 Remote Operations MIB (Ping only)  
RFC 3019 MLDv1 MIB  
RFC 3162 RADIUS and IPv6  
RFC 3315 DHCPv6 (client and relay)  
RFC 3315 DHCPv6 (client only)  
RFC 3810 MLDv2 (host joins only)  
RFC 4022 MIB for TCP  
RFC 4251 SSHv6 Architecture  
RFC 4252 SSHv6 Authentication  
RFC 4253 SSHv6 Transport Layer  
RFC 4254 SSHv6 Connection  
RFC 4293 MIB for IP  
RFC 4419 Key Exchange for SSH

RFC 3826 AES for SNMP's USM MIB  
RFC 4133 Entity MIB (Version 3)  
LLDP-EXT-DOT1-MIB  
LLDP-EXT-DOT3-MIB  
LLDP-MIB

#### **Network management**

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)  
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)  
RFC 3176 sFlow  
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)  
SNMPv1/v2c/v3

#### **OSPF**

RFC 2328 OSPFv2  
RFC 3101 OSPF NSSA

#### **Security**

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

### Accessories

<b>HP 5820 Switch Series accessories</b>	<b>Transceivers</b>	
	<a href="#">HP X124 1G SFP LC LH40 1310nm Transceiver</a>	JD061A
	<a href="#">HP X120 1G SFP LC LH40 1550nm Transceiver</a>	JD062A
	<a href="#">HP X125 1G SFP LC LH70 Transceiver</a>	JD063B
	<a href="#">HP X120 1G SFP RJ45 T Transceiver</a>	JD089B
	<a href="#">HP X120 1G SFP LC SX Transceiver</a>	JD118B
	<a href="#">HP X120 1G SFP LC LX Transceiver</a>	JD119B
	HP X130 SFP+ LC SR Transceiver	JD092B
	HP X130 SFP+ LC LRM Transceiver	JD093B
	HP X130 SFP+ LC LR Transceiver	JD094B
	HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
	HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
	<b>Power Supply</b>	
	HP 5800 300W AC Power Supply	JC087A
	HP 5800 300W DC Power Supply	JC090A
	<a href="#">HP RPS1600 Redundant Power System</a>	JG136A
	<a href="#">HP RPS1600 1600W AC Power Supply</a>	JG137A
	<b>Appliance</b>	
	<a href="#">HP 5820 VPN Firewall Module</a>	JD255A
	<b>HP 5820-14XG-SFP+ Switch with 2 Slots (JC106A)</b>	
	<a href="#">HP 5820 4-port 8/4/2 Gbps FCoE SFP+ Module</a>	JC530A
	HP 5800 4-port 10GbE SFP+ Module	JC091A
	HP 5800 2-port 10GbE SFP+ Module	JC092B
	HP 5800 2RU Spare Fan Assembly	JC096A
	<a href="#">HP 5820 VPN Firewall Module</a>	JD255A
	<b>HP 5820X-24XG-SFP+ Switch (JC102A)</b>	
	HP 5800 1RU Spare Fan Assembly	JC098A
	<b>HP 5820AF-24XG Switch (JG219A)</b>	
	HP 58x0AF 650W AC Power Supply	JC680A
HP 58x0AF 650W DC Power Supply	JC681A	
HP 58x0AF Back (power side) to Front (port side) Airflow Fan Tray	JC682A	
HP 58x0AF Front (port side) to Back (power side) Airflow Fan Tray	JC683A	

### Additional HP Storage Options

<b>Converged Network Adapters (CNAs)</b>	HP CN1100E Dual Port Converged Network Adapter	BK835A
	HP CN1000E Dual Port Converged Network Adapter	AW520A
	<b>NOTE:</b> Please visit the <a href="#">HP Converged Network Adapter QuickSpecs</a> at: <a href="http://www.hp.com/go/cna">www.hp.com/go/cna</a>	

### Accessory Product Details

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

<b>HP X124 1G SFP LC LH40 1310nm Transceiver (JD061A)</b>  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>Ports</b>	1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics)	
	<b>Connectivity</b>	Connector type	LC
		Wavelength	1310 nm
	<b>Physical characteristics</b>	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	<b>Electrical characteristics</b>	Power consumption typical	0.8 W
	Power consumption maximum	1.0 W	
<b>Cabling</b>	Cable type:	Single-mode fiber optic, complying with ITU-T G.652;	
	Maximum distance:	<ul style="list-style-type: none"> <li>● 40km distance</li> </ul>	
<b>Services</b>	Fiber type	Single Mode	
	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

<b>HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A)</b>  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>Ports</b>	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)	
	<b>Connectivity</b>	Connector type	LC
		Wavelength	1550 nm
	<b>Physical characteristics</b>	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	<b>Electrical characteristics</b>	Power consumption typical	0.8 W
	Power consumption maximum	1.0 W	
<b>Cabling</b>	Cable type:	Single-mode fiber optic, complying with ITU-T G.652;	
	Maximum distance:	<ul style="list-style-type: none"> <li>● 40km distance</li> </ul>	
<b>Services</b>	Fiber type	Single Mode	
	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

### Accessory Product Details

#### HP X125 1G SFP LC LH70 Transceiver (JD063B)

A small form-factor pluggable (SFP) Gigabit LH70 transceiver that provides a full-duplex Gigabit solution up to 70km on a single-mode fiber.

<b>Ports</b>	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)
<b>Connectivity</b>	<b>Connector type</b> LC
<b>Physical characteristics</b>	<b>Wavelength</b> 1550 nm
<b>Electrical 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>Cabling</b>	<b>Full configuration weight</b> 0.04 lb. (0.02 kg)
<b>Services</b>	<b>Power consumption typical</b> 0.8 W
	<b>Power consumption maximum</b> 1.0 W
	Cable type: Single-mode fiber optic, complying with ITU-T G.652;
	Maximum distance: • 70km
	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 RJ45 T Transceiver (JD089B)

A small form factor pluggable (SFP) Gigabit 1000Base-T transceiver that provides a full duplex Gigabit solution up to 100m on a Cat-5+ cable.

<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>Electrical characteristics</b>	<b>Full configuration weight</b> 0.07 lb. (0.03 kg)
<b>Cabling</b>	<b>Power consumption typical</b> 0.8 W
<b>Services</b>	<b>Power consumption maximum</b> 1.0 W
	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
	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

### Accessory Product Details

<b>HP X120 1G SFP LC SX Transceiver (JD118B)</b>	<b>Ports</b>	1 LC 1000BASE-SX port
	<b>Connectivity</b>	<b>Connector type</b> LC
<p>A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550m on a Multimode fiber.</p>	<b>Physical characteristics</b>	<b>Wavelength</b> 850 nm
	<b>Electrical 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>Power consumption typical</b> 0.8 W
<b>Cabling</b>		<b>Power consumption maximum</b> 1.0 W
		Maximum distance: <ul style="list-style-type: none"> <li>• FDDI Grade distance = 220m</li> <li>• OM1 = 275m</li> <li>• OM2 = 500m</li> <li>• OM3 = Not Specified by standard</li> </ul>
<b>Services</b>		Cable length up to 550m
		Fiber type Multi Mode
		Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

<b>HP X120 1G SFP LC LX Transceiver (JD119B)</b>	<b>Ports</b>	1 SFP 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX)
	<b>Connectivity</b>	<b>Connector type</b> LC
<p>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</p>	<b>Physical characteristics</b>	<b>Wavelength</b> 1300 nm
	<b>Electrical 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>Power consumption typical</b> 0.8 W
<b>Cabling</b>		<b>Power consumption maximum</b> 1.0 W
		Cable type: Either single mode or multimode;
<b>Services</b>		Maximum distance: <ul style="list-style-type: none"> <li>• 550m for Multimode</li> <li>• 10km for Singlemode</li> </ul>
		Fiber type Both
		Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

### Accessory Product Details

<b>HP RPS1600 Redundant Power System (JG136A)</b>	<b>Ports</b>	8 redundant power supply ports Restrictions: two -56V/25A DC(PoE); six -56V/8A DC(non-PoE)																				
	<b>Physical characteristics</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Dimensions</b></td> <td>15.63(d) x 17.32(w) x 1.74(h) in. (39.7 x 44 x 4.42 cm)</td> </tr> <tr> <td style="vertical-align: top;"><b>Weight</b></td> <td>14.11 lb. (6.4 kg)</td> </tr> <tr> <td style="vertical-align: top;"><b>Full configuration weight</b></td> <td>16.75 lb. (7.6 kg)</td> </tr> </table>	<b>Dimensions</b>	15.63(d) x 17.32(w) x 1.74(h) in. (39.7 x 44 x 4.42 cm)	<b>Weight</b>	14.11 lb. (6.4 kg)	<b>Full configuration weight</b>	16.75 lb. (7.6 kg)														
<b>Dimensions</b>	15.63(d) x 17.32(w) x 1.74(h) in. (39.7 x 44 x 4.42 cm)																					
<b>Weight</b>	14.11 lb. (6.4 kg)																					
<b>Full configuration weight</b>	16.75 lb. (7.6 kg)																					
	<b>Environment</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Operating temperature</b></td> <td>14°F to 122°F (-10°C to 50°C)</td> </tr> <tr> <td style="vertical-align: top;"><b>Operating relative humidity</b></td> <td>5% to 95%</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%</td> </tr> <tr> <td style="vertical-align: top;"><b>Altitude</b></td> <td>up to 13,123 ft. (4 km)</td> </tr> <tr> <td style="vertical-align: top;"><b>Acoustic</b></td> <td>Pressure: 53 dB; ISO 7779, ISO 9296</td> </tr> </table>	<b>Operating temperature</b>	14°F to 122°F (-10°C to 50°C)	<b>Operating relative humidity</b>	5% to 95%	<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)	<b>Nonoperating/Storage relative humidity</b>	5% to 95%	<b>Altitude</b>	up to 13,123 ft. (4 km)	<b>Acoustic</b>	Pressure: 53 dB; ISO 7779, ISO 9296								
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<b>Nonoperating/Storage relative humidity</b>	5% to 95%																					
<b>Altitude</b>	up to 13,123 ft. (4 km)																					
<b>Acoustic</b>	Pressure: 53 dB; ISO 7779, ISO 9296																					
	<b>Electrical characteristics</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Voltage</b></td> <td>100-120/200-240 VAC</td> </tr> <tr> <td style="vertical-align: top;"><b>Current</b></td> <td>30/60 A</td> </tr> <tr> <td style="vertical-align: top;"><b>Idle power</b></td> <td>38 W</td> </tr> <tr> <td style="vertical-align: top;"><b>Maximum power rating</b></td> <td>3550 W</td> </tr> <tr> <td style="vertical-align: top;"><b>RPS power</b></td> <td>3200 W</td> </tr> <tr> <td style="vertical-align: top;"><b>PoE power</b></td> <td>2800 W</td> </tr> <tr> <td style="vertical-align: top;"><b>RPS</b></td> <td>-55 V</td> </tr> <tr> <td style="vertical-align: top;"><b>PoE</b></td> <td>-55 V</td> </tr> <tr> <td style="vertical-align: top;"><b>Frequency</b></td> <td>50/60 Hz</td> </tr> <tr> <td style="vertical-align: top;"><b>Notes</b></td> <td> <p>Idle power is the actual power consumption of the device with no ports connected.</p> <p>Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.</p> <p>With one RPS1600 Power Supply, the PRS1600 Redundant Power System can provide 1600W power output; With two PRS1600 Power Supplies, the output power is 3200W.</p> </td> </tr> </table>	<b>Voltage</b>	100-120/200-240 VAC	<b>Current</b>	30/60 A	<b>Idle power</b>	38 W	<b>Maximum power rating</b>	3550 W	<b>RPS power</b>	3200 W	<b>PoE power</b>	2800 W	<b>RPS</b>	-55 V	<b>PoE</b>	-55 V	<b>Frequency</b>	50/60 Hz	<b>Notes</b>	<p>Idle power is the actual power consumption of the device with no ports connected.</p> <p>Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.</p> <p>With one RPS1600 Power Supply, the PRS1600 Redundant Power System can provide 1600W power output; With two PRS1600 Power Supplies, the output power is 3200W.</p>
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	<b>Safety</b>	CE Labeled; UL 60950-1; IEC 60950-1; ICES-003; FCC Part 15, Subpart B; EU RoHS Compliant; EN 60950-1/A11; C-Tick; VCCI Class A; ROHS Compliance; EN 300386																				
	<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.																				



### Accessory Product Details

<b>HP RPS1600 1600W AC Power Supply (JG137A)</b>	<b>Physical characteristics</b>	<b>Dimensions</b>	8.19(d) x 4.96(w) x 1.63(h) in. (20.8 x 12.6 x 4.15 cm)
		<b>Weight</b>	3.02 lb. (1.37 kg)
	<b>Environment</b>	<b>Operating temperature</b>	14°F to 122°F (-10°C to 50°C)
		<b>Operating relative humidity</b>	5% to 95%
		<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
		<b>Nonoperating/Storage relative humidity</b>	5% to 95%
	<b>Electrical characteristics</b>	<b>Voltage</b>	100-120/200-240 VAC
		<b>Current</b>	15/30 A
		<b>Maximum power rating</b>	1600 W
		<b>Frequency</b>	50/60 Hz
	<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>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 5800 VPN Firewall Module (JD255A)

<b>Ports</b>	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 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port 1 Compact Flash port		
<b>Physical characteristics</b>	<b>Dimensions</b>	9.84(d) x 9.84(w) x 14.45(h) in. (25 x 25 x 36.7 cm)	
	<b>Weight</b>	7.72 lb. (3.5 kg)	
<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)	
	<b>Operating relative humidity</b>	10% to 95%, noncondensing	
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP		
<b>Features</b>	Performance - 6.5Gbps Firewall Throughput - 1.8M Concurrent connection - 50K New connection per second - Max 20480 security policies - 2Gbps 3DES/AES VPN Throughput - 5000 IPSec tunnel		

### Accessory Product Details

- 4K VLAN
- Firewall operation mode
  - Routing mode
  - Transparent mode
  - Hybrid mode
- AAA service
  - Local Authentication
  - Standard Radius
  - HWTACACS+
  - RADIUS domain Authentication
- ASPF
  - General TCP / UDP application
  - FTP/SMTP/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 Firewall
  - 4 default Security Zone
  - Max 256 Security Zone
- NAT
  - NAT
  - 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
  - Auto start TCP Proxy when Detect 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

### Accessory Product Details

- NAT traversal
- Strategy template
- IKE
  - DH
  - Pre-share Key authentication-method
  - Support aggressive mode and main exchange mode
  - IKE DPD, PKI / CA
- Network Feature
  - 802.1q VLAN
  - 4K sub-interface
  - Static and dynamic ARP
  - Multicast, PIM
  - IGMP v1/v2/v3
- Routing
  - RIP
  - OSPF
  - BGP
  - Static Route
  - policy Route
- High Availability
  - Active/Active mode
  - Active/Passive mode
  - Session Synchronization for Firewall
- System management
  - Web Management support IE/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 & Multicast
  - RIPng
  - OSPFv3
  - BGP4+
  - Static Route
  - Policy Route
  - PIM-SM/DM
- IPv6 Security
  - NAT-PT
  - Manual tunnel
  - IPV6 OVER ipv4 GRE tunnel
  - 6to4 tunnel (RFC3056)
  - ISATAP Tunnel
  - IPv6 Packet Filter

### Accessory Product Details

- Radius
- NAT64

### Services

- 3-year, parts only, global next-day advance exchange (UZ914E)
- 3-year, 4-hour onsite, 13x5 coverage for hardware (UZ915)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (UZ918E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UZ922E)
- 3-year, 24x7 SW phone support, software updates (UZ925E)
- 4-year, 4-hour onsite, 13x5 coverage for hardware (UZ916E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware (UZ919E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UZ923E)
- 4-year, 24x7 SW phone support, software updates (UZ926E)
- 5-year, 4-hour onsite, 13x5 coverage for hardware (UZ917E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware (UZ920E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UZ924E)
- 5-year, 24x7 SW phone support, software updates (UZ927E)
- 3 Yr 6 hr Call-to-Repair Onsite (UZ928E)
- 4 Yr 6 hr Call-to-Repair Onsite (UZ929E)
- 5 Yr 6 hr Call-to-Repair Onsite (UZ930E)

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

#### Security

- RFC 1321 The MD5 Message-Digest Algorithm
- RFC 1334 PPP Authentication Protocols (PAP)
- RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)
- RFC 2104 Keyed-Hashing for Message Authentication
- RFC 2138 RADIUS Authentication
- RFC 2618 RADIUS Authentication Client MIB
- RFC 2620 RADIUS Accounting Client MIB
- 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 2405 The ESP DES-CBC Cipher Algorithm With Explicit IV
- RFC 2406 IP Encapsulating Security Payload (ESP)
- RFC 2410 The NULL Encryption Algorithm and Its Use With IPsec
- RFC 2411 IP Security Document Roadmap
- RFC 2451 The ESP CBC-Mode Cipher Algorithms
- RFC 2473 Generic Packet Tunneling in IPv6 Specification
- RFC 2529 Transmission of IPv6 over IPv4 Domains without Explicit Tunnels
- RFC 2661 Layer Two Tunneling Protocol "L2TP"
- RFC 2784 Generic Routing Encapsulation (GRE)
- RFC 2868 RADIUS Attributes for Tunnel Protocol Support
- RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers
- RFC 3602 The AES-CBC Cipher Algorithm and Its Use with IPsec
- RFC 4214 Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)

#### IKEv1

- RFC 2407 The Internet IP Security Domain of Interpretation for ISAKMP
- RFC 2408 Internet Security Association and Key Management Protocol (ISAKMP).
- RFC 2409 The Internet Key Exchange (IKE)

### Accessory Product Details

RFC 2868 RADIUS Attributes for Tunnel Protocol Support  
 RFC 2869 RADIUS Extensions  
 draft-grant-tacacs-02 (TACACS)

#### VPN

RFC 1701 Generic Routing Encapsulation (GRE)  
 RFC 1702 Generic Routing Encapsulation over IPv4 networks.  
 RFC 1828 IP Authentication using Keyed MD5  
 RFC 1829 The ESP DES-CBC Transform  
 RFC 1853 IP in IP Tunneling  
 RFC 2085 HMAC-MD5 IP Authentication with Replay Prevention  
 RFC 2401 Security Architecture for the Internet Protocol  
 RFC 2402 IP Authentication Header  
 RFC 2403 The Use of HMAC-MD5-96 within ESP and AH  
 RFC 2404 The Use of HMAC-SHA-1-96 within ESP and AH

RFC 2412 The OAKLEY Key Determination Protocol  
 RFC 3526 More Modular Exponential (MODP) Diffie-Hellman groups for Internet Key Exchange (IKE)  
 RFC 3706 A Traffic-Based Method of Detecting Dead Internet Key Exchange (IKE) Peers

#### PKI

RFC 2510 Internet X.509 Public Key Infrastructure Certificate Management Protocols  
 RFC 2511 Internet X.509 Certificate Request Message Format  
 RFC 3279 Algorithms and Identifiers for the Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile  
 RFC 3280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile  
 draft-nourse-scep-06:  
 PKCS#1  
 PKCS#10  
 PKCS#12  
 PKCS#7

#### HP 5820 4-port 8/4/2 Gbps FCoE SFP+ Module (JC530A)

<b>Physical characteristics</b>	<b>Dimensions</b>	8.27(d) x 6.3(w) x 1.46(h) in. (21 x 16 x 3.7 cm)	
	<b>Weight</b>	1.65 lb. (0.75 kg)	
	<b>Full configuration weight</b>	2.76 lb. (1.25 kg)	
	<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)
		<b>Operating relative humidity</b>	5% to 95%
		<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
		<b>Nonoperating/Storage relative humidity</b>	5% to 95%
		<b>Shock and vibration</b>	halt 30g rms
		<b>Altitude</b>	up to 13,123 ft. (4 km)
	<b>Notes</b>	FCoE Features <ul style="list-style-type: none"> <li>• FCoE Compliance: Fibre Channel on Ethernet (FC-BB-5)/ IETF RFC 3643 draft standard</li> <li>• FCoE Support: FIP FCoE initialization protocol/ FIP snooping/ Auto negotiation, full-duplex FC operation/ NPIV transparent connections to FC fabrics</li> <li>• Ethernet Interface Compliance/Support: 10Gbps XAUI ports x 4 (internal)/ ETS - Enhanced transmission Selection (802.1Qaz)/ PFC - Class-based Flow Control (802.1Qbb)/ DCBX (802.1Qbb)</li> <li>• Electrical: Connected and Activity LED controls in Ethernet mode</li> <li>• Fibre Channel Standards: Physical Interface (FC-PI-3)/ Line Services (FC LS)/</li> </ul>	

### Accessory Product Details

- Framing & Signaling (FC-FS-2)/ Virtual Interface Architecture Mapping (FC-VI)
- Fibre Channel Standards Continued.: Fabric Element MIB Specification (RFC 2837)/ Fibre Alliance MIB Specification (Version 4.0)/ Methodologies for Interconnects (FC-MI-2)/ Device Attach (FC-DA)
- Fibre Channel Classes of Service: Class 2/ Class 3/ Class F (inter-switch frames) connectionless Fibre Channel protocol support
- NPIV support:FC-DA-2/ FC-MT/ FC-FS clause 5.2.41/ FC-LS table 141 clause 5.2.41/ 04-075v0/ 03-184v1/ 03-046
- External Customer Interfaces: Four external SFP+ Flex Ports which configure to assume either of the following identities/ 10 Gigabit Converged Enhanced Ethernet (CEE)/ 8/4/2 Gbps Fibre Channel
- External Customer Interfaces Continued: RJ-45 Ethernet management port/ Unit power and system status LEDs/ Port login and activity LEDs/Recessed reset switch
- Media Support - Fibre Channel: Hot-pluggable/ 3.3 volt 8Gb SFP+ transceivers/ Also compatible with 4-Gbps and 2-Gbps SFPs/ Shortwave/ longwave optical
- Media Support - Ethernet: Hot-pluggable, 3.3 volt 10 Gigabit SFP+ transceivers/ TwinAx copper cables
- Other Features: SMI-S 1.1 support in firmware/ SAN boot support/Advanced Security (RADIUS, SSH, SSL)
- Diagnostics: Telnet/ Web browser interface/ SNMP (status only)/ Telnet/ CLI/ Web browser interface/ API interface
- Software/ Firmware Management Interfaces: Simple Network Management Protocol (SNMP)/ Management Information Base (MIB)/ CIM Provider/ Telnet/ CLI/Web Browser Management Interface/ API Interface
- Safety: USA/ Canada/ EU/ Australia/ New Zealand/ China

### Services

- 3-year, 4-hour onsite, 13x5 coverage for hardware (UY943E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (UY946E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UY950E)
- 3-year, 24x7 SW phone support, software updates (UY953E)
- 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR770E)
- 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR771E)
- 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR772E)
- 4-year, 4-hour onsite, 13x5 coverage for hardware (UY944E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware (UY947E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY951E)
- 4-year, 24x7 SW phone support, software updates (UY954E)
- 5-year, 4-hour onsite, 13x5 coverage for hardware (UY945E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware (UY948E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY952E)
- 5-year, 24x7 SW phone support, software updates (UY955E)
- 3 Yr 6 hr Call-to-Repair Onsite (UY956E)
- 4 Yr 6 hr Call-to-Repair Onsite (UY957E)
- 5 Yr 6 hr Call-to-Repair Onsite (UY958E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR774E)
- 1-year, 24x7 software phone support, software updates (HR773E)

### Accessory Product Details

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 5800 Access Controller Module for 64–256 Access Points (JD441A)

<b>Ports</b>	1 RJ-45 out-of-band management port	
<b>Physical characteristics</b>	<b>Dimensions</b>	9.57(d) x 9.84(w) x 1.38(h) in. (24.3 x 25 x 3.5 cm)
	<b>Weight</b>	3.64 lb. (1.65 kg)
<b>Memory and processor</b>	<b>Processor</b>	Eight core @ 1000 MHz, 1 GB compact flash, 2 GB DDR2 SDRAM
<b>Performance</b>	<b>Switch fabric speed</b>	8 Gbps
	<b>MAC address table size</b>	8,000 entries
<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)
	<b>Operating relative humidity</b>	5% to 95%, non-condensing
	<b>Non-operating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
<b>Electrical characteristics</b>	<b>Non-operating/Storage relative humidity</b>	5% to 95%, non-condensing
	<b>Maximum heat dissipation</b>	273 BTU/hr (288.02 kJ/hr)
<b>Safety</b>	<b>Maximum power rating</b>	80 W
	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; GOST; C-Tick; NOM; IEC 60950-1 (with CB report)	
<b>Emissions</b>	EN 55022; VCCI; ICES-003; AS/NZS CISPR 22; EN 300 386; FCC Part 15; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC	
<b>Immunity</b>	<b>EN</b>	EN 61000-4-2:1995+A1:1998+A2:2001; EN 61000-4-3:2006; EN 61000-4-4:2004; EN 61000-4-5:2006; EN 61000-4-6: 1996 +A1:2001:A2:2007; EN 61000-4-8:2001; EN 61000-4-11:2004; EN 55024:1998+ A1:2001 + A2:2003
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; configuration menu; SNMP Manager; Telnet; HTTPS; RMON1; FTP; in-line and out-of-band; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
<b>Notes</b>	Max. number of users: 4K. Max. number of users that are supported by local authentication: 1K. Max. number of SSIDs that can be configured: 256. Max. number of users that are supported by local portal authentication: 2K. Number of ACLs: 8K.	
<b>Services</b>	Refer to the HP website at: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
<b>Standards and protocols</b>	<b>General protocols</b>	<b>MIBs</b>
	RFC 768 UDP RFC 791 IP RFC 792 ICMP RFC 793 TCP RFC 826 ARP	RFC 1229 Interface MIB Extensions RFC 1643 Ethernet MIB RFC 1757 Remote Network Monitoring MIB RFC 2011 SNMPv2 MIB for IP RFC 2012 SNMPv2 MIB for TCP



### Accessory Product Details

RFC 854 TELNET  
RFC 855 Telnet Option Specification  
RFC 858 Telnet Suppress Go Ahead Option  
RFC 894 IP over Ethernet  
RFC 950 Internet Standard Subnetting Procedure  
RFC 959 File Transfer Protocol (FTP)  
RFC 1122 Host Requirements  
RFC 1141 Incremental updating of the Internet checksum  
RFC 1144 Compressing TCP/IP headers for low-speed serial links  
RFC 1256 ICMP Router Discovery Protocol (IRDP)  
RFC 1321 The MD5 Message-Digest Algorithm  
RFC 1334 PPP Authentication Protocols (PAP)  
RFC 1350 TFTP Protocol (revision 2)  
RFC 1812 IPv4 Routing  
RFC 1944 Benchmarking Methodology for Network Interconnect Devices  
RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)  
RFC 2104 HMAC: Keyed-Hashing for Message Authentication  
RFC 2246 The TLS Protocol Version 1.0  
RFC 2284 EAP over LAN  
RFC 2644 Directed Broadcast Control  
RFC 2864 The Inverted Stack Table Extension to the Interfaces Group MIB  
RFC 2866 RADIUS Accounting  
RFC 2869 RADIUS Extensions  
RFC 3268 Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS)  
RFC 3619 Ethernet Automatic Protection Switching (EAPS)  
draft-ietf-capwap-protocol-specification-00.txt:CAPW  
AP Protocol Specification  
draft-ohara-capwap-lwapp-03.txt:Light Weight Access Point Protocol

#### **IP multicast**

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

#### **IPv6**

RFC 1350 TFTP  
RFC 1881 IPv6 Address Allocation Management  
RFC 1887 IPv6 Unicast Address Allocation Architecture  
RFC 1981 IPv6 Path MTU Discovery

RFC 2013 SNMPv2 MIB for UDP  
RFC 2571 SNMP Framework MIB  
RFC 2572 SNMP-MPD MIB  
RFC 2613 SMON MIB  
RFC 2863 The Interfaces Group MIB  
RFC 2932IP (Multicast Routing MIB)  
RFC 2933 IGMP MIB

#### **Mobility**

IEEE 802.11a High Speed Physical Layer in the 5 GHz Band  
IEEE 802.11b Higher-Speed Physical Layer Extension in the 2.4 GHz Band  
IEEE 802.11d Global Harmonization  
IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band  
IEEE 802.11i Medium Access Control (MAC) Security Enhancements  
IEEE 802.11n WLAN Enhancements for Higher Throughput

#### **Network management**

RFC 1155 Structure of Management Information  
RFC 1905 SNMPv2 Protocol Operations  
RFC 2573 SNMPv3 Applications  
RFC 2574 SNMPv3 User-based Security Model (USM)  
RFC 2575 VACM for SNMP  
SNMPv1/v2c

#### **QoS/CoS**

RFC 2474 DS Field in the IPv4 and IPv6 Headers  
RFC 2475 DiffServ Architecture  
RFC 3168 The Addition of Explicit Congestion Notification (ECN) to IP

#### **Security**

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



### Accessory Product Details

RFC 2292 Advanced Sockets API for IPv6	<b>IKEv1</b>
RFC 2373 IPv6 Addressing Architecture	RFC 3748 - Extensible Authentication Protocol (EAP)
RFC 2375 IPv6 Multicast Address Assignments	
RFC 2460 IPv6 Specification	
RFC 2461 IPv6 Neighbor Discovery	
RFC 2462 IPv6 Stateless Address Auto-configuration	
RFC 2463 ICMPv6	
RFC 2464 Transmission of IPv6 over Ethernet Networks	
RFC 2526 Reserved IPv6 Subnet Anycast Addresses	
RFC 2563 ICMPv6	
RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)	
RFC 3484 Default Address Selection for IPv6	
RFC 3587 IPv6 Global Unicast Address Format	
RFC 4443 ICMPv6	
RFC 4541 IGMP & MLD Snooping Switch	
RFC 4861 IPv6 Neighbor Discovery	
RFC 4862 IPv6 Stateless Address Auto-configuration	
RFC 5095 Deprecation of Type 0 Routing Headers in IPv6	

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