Overview

HP 5820 Switch Series

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**
  provides server (RFC 2131), client, snooping, and relay options
- **SNMPv1, v2c, and v3**
  facilitate centralized discovery, monitoring, and secure management of networking devices

Overview

- **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

- **Full-featured console**
  provides complete control of the switch with a familiar CLI

Overview

- **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
- **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

Overview

- **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)**
  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**

Overview

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)
- **Electronic and telephone support**
  limited electronic and telephone support is available from HP; to reach our support centers, refer to www.hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to www.hp.com/networking/warrantysummary
- **Software releases**
  to find software for your product, refer to www.hp.com/networking/support; for details on the software releases available with your product purchase, refer to www.hp.com/networking/warrantysummary

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 — JC106A

- 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

See Configuration Note:1

HP 5820-24XG-SFP+ Switch — JC102A

- 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

See Configuration Note:1

HP 5820AF-24XG Switch — JG219A

- 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

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

Box Level Integration CTO Models

CTO Solution Sku

HP 58xx CTO Switch Solution — JG478A
- SSP trigger sku

CTO Base Sku

HP 5820-14XG-SFP+ w/2 Slots CTO Switch — JC106AC — See Configuration Note:1,4
- 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

HP 5820-24XG-SFP+ CTO Switch — JC102AC — See Configuration Note:1,4
- 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

HP 5820AF-24XG Switch — JG219A — See Configuration Note:1, 4
- 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

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
HP X125 1G SFP LC LH70 Transceiver	JD063B

Configuration

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

HP 5820-14XG-SFP+ Switch with 2 Slots — JC106A

- 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

See Configuration Note:1, 11

HP 5820-24XG-SFP+ Switch — JC102A

- 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

See Configuration Note:1, 11

HP 5820AF-24XG Switch — JG219A

- 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, 4, 11

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
HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HP X125 1G SFP LC LH70 Transceiver	JD063B

Configuration

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
• min=0 \ max=4 SFP + Transceivers	See Configuration Note:1
HP 5800 2-port 10GbE SFP+ Module	JC092B
• min=0 \ max=2 SFP + Transceivers	See Configuration Note:1
HP 5820 4-port 8/4/2 Gbps FCoE SFP+ Mod	JC530A
• min=0 \ max=4 SFP + Transceivers	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

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

Configuration

- 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
See Configuration Note:1, 2

HP A5800 300W AC Power Supply JC087A
- includes 1 x c13, 300w

See Configuration Note:1, 2, 3

PDU Cable NA/MEX/TW/JP JC087A#B2B

Configuration

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

PDU Cable ROW JC087A#B2C
- C15 PDU Jumper Cord (ROW)

HP A58x0AF 650W AC Power Supply JC680A
- includes 1 x c13, 650w

See Configuration Note:1, 3, 5

PDU Cable NA/MEX/TW/JP JC680A#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU Cable ROW JC680A#B2C
- C15 PDU Jumper Cord (ROW)

HP 58x0AF 650W DC Power Supply JC681A

See Configuration Note:1, 5

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 (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:

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

Configuration

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 — JG219A
- 4 RJ-45 autosensing 10/100/1000 ports — See Configuration Note:1
- 24 fixed 1000/10000 SFP+ ports
- min=0 \ max=24 SFP+ Transceivers
- 1 Power Supply Required
- 2 Fan Trays Required
- 1U - Height

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
- 4 RJ-45 autosensing 10/100/1000 ports — See Configuration Note:1, 10
- 24 fixed 1000/10000 SFP+ ports (min=0 \ max=24 SFP+ Transceivers)
- 1 Power Supply Required
- 2 Fan Trays Required

Configuration AF Model

- 1U - Height

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 — JG219A

See Configuration Note:1, 4, 11

- 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

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

Configuration AF Model

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

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	#B2B

Configuration AF Model

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

PDU Cable ROW #B2C

- C15 PDU Jumper Cord (ROW)

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
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)

Opacity Shield Kit

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

HP 5800-24XG-SFP+ Opcty Shld Kit JG564A

Configuration AF Model

- Supported on JG243A — See Configuration Note:1

Configuration Rules:

Note 1 If selected with a CTO Switch Solution, Quantity 1 of JG585A#B01 must also be ordered.

Tamper Evidence Labels

HP 12mm x 60mm Tmpr-Evidence (30) Lbl — JG585A
- Supported on JG243A

Configuration Rules:

Note 1 If selected with a CTO Switch Solution, Quantity 1 of JG564A#B01 must also be ordered.

Remarks: Each JG564A would use 1 of JG585A.

External Redundant Power Supplies

HP RPS1600 Redundant Power System — JG136A
- Height = 1U
- includes 1 x c13, 1600w and Power Supply port

See Configuration Note:2, 3, 5

HP RPS1600 1600W AC Power Supply — JG137A
- Installs into JG136A only

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 AF Model

Configuration Rules:

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

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)

Ports	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	
Power supplies	2 power-supply slots	
	1 minimum power-supplies required (ordered separately)	
Fan tray	includes: 1 x JC096A	
	1 fan tray slot	
	Base product includes fan tray	
Physical characteristics	**Dimensions**	17.32(w) x 18.39(d) x 3.39(h) in (43.99 x 46.7 x 8.61 cm) (2U height)
	Weight	33.29 lb (15.1 kg)
Memory and processor	1024 MB SDRAM, 512 MB flash; packet buffer size: 2 MB	
Performance	**Latency**	2.02 µs (Cut Through) 2.02 µs, (Store and Forward) (64-byte packets)
	Throughput	up to 363 million pps (64-byte packets)
	Routing/Switching capacity	488 Gbps
	Routing table size	12000 entries
	MAC address table size	32000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Acoustic	Low-speed fan: 44.3 dB, High-speed fan: 54.1 dB
Electrical characteristics	**Maximum heat dissipation**	836 BTU/hr (881.98 kJ/hr)
	Voltage	100-120/200-240 VAC
	DC voltage	300 W DC: –48 VDC to –60 VDC
	Frequency	50/60 Hz
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	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	
Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 55024:1998+ A1:2001 + A2:2003
	ESD	EN 61000-4-2; IEC 61000-4-2
	Radiated	EN 61000-4-3; IEC 61000-4-3
	EFT/Burst	EN 61000-4-4; IEC 61000-4-4
	Surge	EN 61000-4-5; IEC 61000-4-5
	Conducted	EN 61000-4-6; IEC 61000-4-6

Technical Specifications

	Power frequency magnetic field	IEC 61000-4-8; EN 61000-4-8
	Voltage dips and interruptions	EN 61000-4-11; IEC 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	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) Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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

Ports	24 SFP+ 10-GbE ports; Duplex: full only

Technical Specifications

	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	
Power supplies	2 power-supply slots	
	1 minimum power-supplies required (ordered separately)	
Fan tray	includes: 1 x JC098A	
	1 fan tray slot	
	Base product includes fan tray	
Physical characteristics	**Dimensions**	17.32(w) x 16.81(d) x 1.73(h) in (44.0 x 42.7 x 4.4 cm) (1U height)
	Weight	18.74 lb (8.5 kg)
Memory and processor	1024 MB SDRAM, 512 MB flash; packet buffer size: 2 M	
Performance	**Latency**	2.02 µs (Cut Through) 2.02 µs, (Store and Forward) (64-byte packets)
	Throughput	up to 363 million pps (64-byte packets)
	Routing/Switching capacity	488 Gbps
	Routing table size	12000 entries
	MAC address table size	32000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Acoustic	Low-speed fan: 48.4 dB, High-speed fan: 59.7 dB
Electrical characteristics	**Maximum heat dissipation**	631 BTU/hr (665.71 kJ/hr)
	Voltage	100-120/200-240 VAC
	DC voltage	300 W DC: –48 VDC to –60 VDC
	Frequency	50/60 Hz
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	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	
Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 55024:1998+ A1:2001 + A2:2003
	ESD	EN 61000-4-2; IEC 61000-4-2
	Radiated	EN 61000-4-3; IEC 61000-4-3
	EFT/Burst	EN 61000-4-4; IEC 61000-4-4
	Surge	EN 61000-4-5; IEC 61000-4-5
	Conducted	EN 61000-4-6; IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8; EN 61000-4-8
	Voltage dips and interruptions	EN 61000-4-11; IEC 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3

Technical Specifications

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

HP 5820AF-24XG Switch (JG219A)

Ports	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
Power supplies	2 power-supply slots

Technical Specifications

	1 minimum power-supplies required (ordered separately)	
Fan tray	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.	
Physical characteristics	**Dimensions**	25.98(w) x 17.32(d) x 1.72(h) in (65.99 x 43.99 x 4.37 cm) (1U height)
	Weight	22.05 lb (10 kg), Fully loaded
Memory and processor	1024 MB flash, 512 MB SDRAM; packet buffer size: 2 MB	
Performance	**Latency**	3 µs(64-byte packets)
	Throughput	360 million pps
	Routing/Switching capacity	484 Gbps
	Routing table size	12000 entries
	MAC address table size	32000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Acoustic	Low-speed fan: 60.1 dB, High-speed fan: 69.9 dB
Electrical characteristics	**Maximum heat dissipation**	607 BTU/hr (640.39 kJ/hr)
	Voltage	100-120/200-240 VAC
	DC voltage	650W DC: -36 VDC to -72 VDC
	Frequency	50/60 Hz
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	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	
Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 55024:1998+ A1:2001 + A2:2003
	ESD	EN 61000-4-2; IEC 61000-4-2
	Radiated	EN 61000-4-3; IEC 61000-4-3
	EFT/Burst	EN 61000-4-4; IEC 61000-4-4
	Surge	EN 61000-4-5; IEC 61000-4-5
	Conducted	EN 61000-4-6; IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8; EN 61000-4-8
	Voltage dips and interruptions	EN 61000-4-11; IEC 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	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 power supply, as the device does not come with a PSU. At least one JC680A	

Technical Specifications

or JC681A 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)
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)

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

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 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 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 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 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
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

HP 5820 Switch Series accessories	**Transceivers**	
	HP X124 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP X125 1G SFP LC LH70 Transceiver	JD063B
	HP X120 1G SFP RJ45 T Transceiver	JD089B
	HP X120 1G SFP LC SX Transceiver	JD118B
	HP X120 1G SFP LC LX Transceiver	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
	Power Supply	
	HP 5800 300W AC Power Supply	JC087A
	HP 5800 300W DC Power Supply	JC090A
	HP RPS1600 Redundant Power System	JG136A
	HP RPS1600 1600W AC Power Supply	JG137A
	Appliance	
	HP 5820 VPN Firewall Module	JD255A
	HP 5820-14XG-SFP+ Switch with 2 Slots (JC106A)	
	HP 5820 4-port 8/4/2 Gbps FCoE SFP+ Module	JC530A
	HP 5800 4-port 10GbE SFP+ Module	JC091A
	HP 5800 2-port 10GbE SFP+ Module	JC092B
	HP 5800 2RU Spare Fan Assembly	JC096A
	HP 5820 VPN Firewall Module	JD255A
	HP 5820X-24XG-SFP+ Switch (JC102A)	
	HP 5800 1RU Spare Fan Assembly	JC098A
	HP 5820AF-24XG Switch (JG219A)	
	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

Converged Network Adapters (CNAs)	HP CN1100E Dual Port Converged Network Adapter	BK835A
	HP CN1000E Dual Port Converged Network Adapter	AW520A
	NOTE: Please visit the HP Converged Network Adapter QuickSpecs at: www.hp.com/go/cna	

Accessory Product Details

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

HP X124 1G SFP LC LH40 1310nm Transceiver (JD061A) A small form-factor pluggable SFP Gigabit LH40 transceiver that provides a full duplex Gigabit solution up to 40km on a single-mode fiber.	**Ports**	1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics)	
	Connectivity	Connector type	LC
		Wavelength	1310 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 40km distance	
		Fiber type	Single Mode
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A) A small form-factor pluggable (SFP) Gigabit LH40 transceiver that provides a full-duplex Gigabit solution up to 40 km on a single mode fiber.	**Ports**	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)	
	Connectivity	Connector type	LC
		Wavelength	1550 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 40km distance	
		Fiber type	Single Mode
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP X125 1G SFP LC LH70	**Ports**	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)	
	Connectivity	**Connector type**	LC

Accessory Product Details

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.		**Wavelength**	1550 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 70km	
		Fiber type	Single Mode
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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

HP X120 1G SFP LC SX Transceiver (JD118B) A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550m on a Multimode fiber.	**Ports**	1 LC 1000BASE-SX port	
	Connectivity	**Connector type**	LC
		Wavelength	850 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • FDDI Grade distance = 220m • OM1 = 275m	

Accessory Product Details

		• OM2 = 500m • OM3 = Not Specified by standard	
		Cable length	up to 550m
		Fiber type	Multi Mode
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP X120 1G SFP LC LX Transceiver (JD119B) A small form-factor pluggable (SFP) Gigabig LX transceiver that provides a full duplex Gigabit solution up to 550m on MMF or 10Km on SMF	**Ports**	1 SFP 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX)	
	Connectivity	**Connector type**	LC
		Wavelength	1300 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Either single mode or multimode; Maximum distance: • 550m for Multimode • 10km for Singlemode	
		Fiber type	Both
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP RPS1600 Redundant Power System (JG136A)	**Ports**	8 redundant power supply ports Restrictions: two -56V/25A DC(PoE); six -56V/8A DC(non-PoE)	
	Physical characteristics	**Dimensions**	15.63(d) x 17.32(w) x 1.74(h) in. (39.7 x 44 x 4.42 cm)
		Weight	14.11 lb. (6.4 kg)
		Full configuration weight	16.75 lb. (7.6 kg)
	Environment	**Operating temperature**	14°F to 122°F (-10°C to 50°C)
		Operating relative humidity	5% to 95%
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	5% to 95%
		Altitude	up to 13,123 ft. (4 km)
		Acoustic	Pressure: 53 dB; ISO 7779, ISO 9296
	Electrical characteristics	**Voltage**	100-120/200-240 VAC
		Current	30/60 A
		Idle power	38 W

Accessory Product Details

		Maximum power rating	3550 W
		RPS power	3200 W
		PoE power	2800 W
		RPS	-55 V
		PoE	-55 V
		Frequency	50/60 Hz
		Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. 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.
	Safety	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	
	Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP RPS1600 1600W AC Power Supply (JG137A)	**Physical characteristics**	**Dimensions**	8.19(d) x 4.96(w) x 1.63(h) in. (20.8 x 12.6 x 4.15 cm)
		Weight	3.02 lb. (1.37 kg)
	Environment	**Operating temperature**	14°F to 122°F (-10°C to 50°C)
		Operating relative humidity	5% to 95%
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	5% to 95%
	Electrical characteristics	**Voltage**	100-120/200-240 VAC
		Current	15/30 A
		Maximum power rating	1600 W
		Frequency	50/60 Hz
		Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
	Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

Accessory Product Details

HP 5800 VPN Firewall Module (JD255A)

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 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP	
	1 RJ-45 serial console port	
	1 Compact Flash port	
Physical characteristics	**Dimensions**	9.84(d) x 9.84(w) x 14.45(h) in. (25 x 25 x 36.7 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	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 - 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 - NAPT - 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	

Accessory Product Details

- 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
- 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

Accessory Product Details

- 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
- 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 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 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

Accessory Product Details

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 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
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)
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)	**Physical characteristics**	**Dimensions**	8.27(d) x 6.3(w) x 1.46(h) in. (21 x 16 x 3.7 cm)
		Weight	1.65 lb. (0.75 kg)
		Full configuration weight	2.76 lb. (1.25 kg)
	Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
		Operating relative humidity	5% to 95%
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	5% to 95%
		Shock and vibration	halt 30g rms
		Altitude	up to 13,123 ft. (4 km)
	Notes	FCoE Features • FCoE Compliance: Fibre Channel on Ethernet (FC-BB-5)/ IETF RFC 3643 draft standard • FCoE Support: FIP FCoE initialization protocol/ FIP snooping/ Auto negotiation, full-duplex FC operation/ NPIV transparent connections to FC fabrics • 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) • Electrical: Connected and Activity LED controls in Ethernet mode • Fibre Channel Standards: Physical Interface (FC-PI-3)/ Line Services (FC LS)/ 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)

Accessory Product Details

	1-year, 6 hour Call-To-Repair Onsite for hardware (HR774E) 1-year, 24x7 software phone support, software updates (HR773E) Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

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

Ports	1 RJ-45 out-of-band management port	
Physical characteristics	**Dimensions**	9.57(d) x 9.84(w) x 1.38(h) in. (24.3 x 25 x 3.5 cm)
	Weight	3.64 lb. (1.65 kg)
Memory and processor	**Processor**	Eight core @ 1000 MHz, 1 GB compact flash, 2 GB DDR2 SDRAM
Performance	**Switch fabric speed**	8 Gbps
	MAC address table size	8,000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%, non-condensing
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	5% to 95%, non-condensing
Electrical characteristics	**Maximum heat dissipation**	273 BTU/hr (288.02 kJ/hr)
	Maximum power rating	80 W
Safety	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; GOST; C-Tick; NOM; IEC 60950-1(with CB report)	
Emissions	EN 55022; VCCI; ICES-003; AS/NZS CISPR 22; EN 300 386; FCC Part 15; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC	
Immunity	**EN**	EN 61000-4-2:1995+A1:1998+A2:2001; EN 61000-4-3:2006; EN 61000-4-4:2004; EN 61000-4-5:2006; EN 61000-4-6: 1996 +A1:2001:A2:2007; EN 61000-4-8:2001; EN 61000-4-11:2004; EN 55024:1998+ A1:2001 + A2:2003
Management	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	
Notes	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.	
Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

Standards and protocols	**General protocols**	**MIBs**
	RFC 768 UDP	RFC 1229 Interface MIB Extensions
	RFC 791 IP	RFC 1643 Ethernet MIB
	RFC 792 ICMP	RFC 1757 Remote Network Monitoring MIB
	RFC 793 TCP	RFC 2011 SNMPv2 MIB for IP
	RFC 826 ARP	RFC 2012 SNMPv2 MIB for TCP
	RFC 854 TELNET	RFC 2013 SNMPv2 MIB for UDP
	RFC 855 Telnet Option Specification	RFC 2571 SNMP Framework MIB

Accessory Product Details

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 2292 Advanced Sockets API for IPv6
RFC 2373 IPv6 Addressing Architecture
RFC 2375 IPv6 Multicast Address Assignments
RFC 2460 IPv6 Specification
RFC 2461 IPv6 Neighbor Discovery
RFC 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

IKEv1
RFC 3748 - Extensible Authentication Protocol (EAP)

Accessory Product Details

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

Summary of Changes

Date	Version History	Action	Description of Change:
July 3, 2014	From Version 22 to 23	Changed	Configuration menu updated.
June 10, 2014	From Version 21 to 22	Changed	Switch Options were revised in Configuration.
March 19, 2014	From Version 20 to 21	Changed	Fan Trays were revised in Configuration.
February 17, 2014	From Version 19 to 20	Changed	Transceivers were revised.
January 16, 2014	From Version 18 to 19	Changed	Notes were revised throughout Configuration and Configuration AF Model and External Redundant Power Supplies and Options for the HP RPS1600 Redundant Power System were added to Configuration SF Model.
November 22, 2013	From Version 17 to 18	Changed	Configuration was completely revised.
October 31, 2013	From Version 16 to 17	Changed	Configuration AF Model was completely revised.
October 9, 2013	From Version 17 to 18	Changed	Configuration was completely revised.
October 31, 2013	From Version 16 to 17	Changed	Configuration AF Model was completely revised.
October 9, 2013	From Version 15 to 16	Removed	HP X124 1G SFP LC SX and HP X124 1G SFP LC LX Transceivers were removed.
September 11, 2013	From Version 14 to 15	Changed	Minor edit was made in Configuration
August 19, 2013	From Version 13 to 14	Changed	Notes sections were revised in Configuration
June 21, 2013	From Version 12 to 13	Changed	HP 5820AF-24XG Switch was revised in Configuration
June 10, 2013	From Version 11 to 12	Removed	Accessory Product Details: Removed Hp 0.5 - 50 m PremierFlex OM3+LC/LC Optical Cables.
		Added	Added Configuration and Configurations AF Model sections.
		Changed	Accessories: Updated HP 5820 Switch Series accessories section.
August 24, 2012	From Version 9 to 11	Changed	Updated the Features and Benefits, Introduction and Accessories sections.
March 22, 2012	From Version 8 to 9	Changed	The formatting in one of the models in Specifications was updated.
November 16, 2011	From Version 7 to 8	Changed	Specifications were revised.
September 30, 2011	From Version 6 to 7	Added	Accessory Product Details was added.
September 26, 2011	From Version 5 to 6	Changed	Accessories was revised, a new model was added, and the verbiage in the other models, as well as the Features and Benefits section was updated.
September 20, 2011	From Version 4 to 5	Changed	Accessories was revised.
May 9, 2011	From Version 3 to 4	Changed	Accessories was revised.
April 19, 2011	From Version 2 to 3	Changed	Accessories was revised.
March 16, 2011	From Version 1 to 2	Changed	Monitor and Diagnostics was revised.

Summary of Changes

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