

## HP 5800-24G-PoE+ Switch



HP 5800-24G Switch


HP 5800-24G-SFP Switch


HP 5800-48G-PoE Switch


HP 5800-48G Switch


HP 5800-48G Switch with 2 Slots

HP 5800 Switch Series

## Overview



## HP 5800AF-48G Switch

## Models

HP 5800-24G-PoE+ Switch ..... JC099A
HP 5800-24G Switch ..... JC100A
HP 5800-24G-SFP Switch ..... JC103A
HP 5800-48G-PoE Switch ..... JC104A
HP 5800-48G Switch ..... JC105A
HP 5800-48G Switch with 2 Slots ..... JC101A
HP 5800AF-48G Switch ..... JG225A

## Key features

- For enterprise edge, distribution, data center
- Cut-through design with low latency
- Support for up to 84 ports
- OAA module for flexible deployment
- Redundant, hot-swappable power supplies, fans


## Product overview

HP 5800 series switches offer an unmatched combination of Gigabit and 10-Gigabit Ethernet port density, high-availability architecture, and full Layer 2 and Layer 3 dual-stack IPv4 and IPv6 capabilities. In addition to wire-speed line-rate performance on all ports, the switches include patented Intelligent Resilient Framework (IRF) technology and Rapid Ring Protection Protocol (RRPP), which allow local or geographically distributed HP 5800 switches to be interconnected for higher resiliency and performance. Available in PoE and non-PoE models as well as 1 RU and 2 RU form factor configurations, HP 5800 switches are built on open standards and include an open application architecture (OAA) module slot that enables flexible deployment options for new services. These versatile switches are ideal for use in the network core of buildings or departments, or as high-performance switches in the convergence layer or network edge of enterprise campus networks.

## Features and benefits

Quality of Service (QoS)

- Powerful QoS feature


## Overview

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; provides consistent application performance for applications such as VolP


## 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:
- DNS Relay and SMTP Redirection
- DHCP: Server (RFC 2131), Client, and Option-82 Relay (RFC 3046)
- 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
- SNMPv1, v2c, and v3
facilitate centralized discovery, monitoring, and secure management of networking devices
- 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
supports up to 84 1-Gigabit ports per unit (612 per stack)
- Auto-MDIX
automatically adjusts for straight-through or crossover cables on all 10/100 ports
- Jumbo frames
on Gigabit Ethernet and 10-Gigabit ports, jumbo frames of 9k size allow high-performance remote backup and disaster-recovery services
- IEEE 802.3af Power over Ethernet (PoE)
provides up to 15.4 W per port to IEEE 802.3 af-compliant PoE-powered devices such as IP phones, wireless access points, and security cameras
- IEEE 802.3at Power over Ethernet (PoE+) support
simplifies deployment and dramatically reduces installation costs by helping to eliminate the time and cost involved in supplying local power at each access point location
- IPv6 native support


## O IPv6 host

enables switches to be managed and deployed at the IPv6 network's edge

- Dual stack (IPv4/IPv6)


## Overview

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 BGP routing protocols


## Performance

- Hardware-based wire-speed access control lists (ACLs)
feature-rich ACL implementation (TCAM-based) helps provide high levels of security and ease of administration without impacting network performance
- Unique versatile architecture
supports the best of both fixed-port and modular configurations


## Resiliency and high availability

- Data center-optimized design
the HP 5800AF-48G Switch (JG225A) 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 command-line interface (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

O 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

- GARP VLAN Registration Protocol:
allows automatic learning and dynamic assignment of VLANs
- 32K MAC addresses
provide access to many Layer 2 devices
- 4,094 port-based VLANs
provide security between workgroups
- IEEE 802.1 ad 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


## Overview

- 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
- IPFIX/sFlow
allows traffic sampling
- Spanning Tree Protocols (STP, MSTP, and RSTP) and STP root guard helps prevent network loops; up to 32 MSTP instances available


## 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
- 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
- NEW MPLS support
provides extended support of MPLS, including MPLS VPNs and MPLS Traffic Engineering (MPLS TE)
- NEW VPLS support
provides extended support of VPLS for data center to data center communication at Layer 2; provides support of hierarchical VPLS for scalability


## Overview

## Security

- Unicast Reverse Path Forwarding (URPF)
allows normal packets to be forwarded correctly, but discards the attaching packet due to lack of reverse path route or incorrect inbound interface; prevents source spoofing and distributed attacks; supports distributed UFPF
- 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
- IEEE 802.1X-based dynamic delivery of QoS, ACLs, and VLANs
allows complete control over user network access
- Guest VLAN
similar to IEEE 802.1X, it provides a browser-based environment to authenticated clients
- Port isolation
secures and adds privacy, and prevents malicious attackers from obtaining user information
- MAC-based authentication
allows or denies access to the switch based on client MAC address
- HTTPS management
provides secure Web management
- Multi-Customer Edge (MCE)-Multicast Virtual Routing and Forwarding (MVRF)
provide MPLS Edge router support
- Public Key Infrastructure (PKI)
is used to control access
- RADIUS/HWTACACS
eases switch management security administration by using a password authentication server
- Secure Shell (SSHvz)
encrypts all transmitted data for secure, remote CLI access over IP networks
- IP Source Guard
helps prevent IP spoofing attacks; filters packets on a per-port basis, which prevents illegal packets from being forwarded
- Access control lists (ACLs)
helps provide high levels of security and ease of administration; 6k ingress entries and 1k egress entries (IPv4 and IPv6)


## Convergence

- Voice VLAN
automatically assigns VLAN and priority for IP phones, simplifying network configuration and maintenance
- Internet Group Management Protocol (IGMP)
is used by IP hosts to establish and maintain multicast groups; supports v1, v2, and v3; utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks
- Protocol Independent Multicast (PIM)
is used for IPv4 and IPv6 multicast applications; supports PIM Dense Mode (DM), Sparse Mode (SM), and Source-Specific Mode (SSM)
- LLDP-MED (Media Endpoint Discovery)
is a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones


## Monitor and diagnostics

## Overview

## - Port mirroring

enables traffic on a port to be simultaneously sent to a network analyzer for monitoring

- OAM (IEEE 802.3ah)
operational, administration and maintenance (OAM) management capabilities detects data link layer problems that occurred in the "last mile"; monitors the status of the link between the two devices
- CFD (IEEE 802.1ag)
connectivity fault detection (CFD) provides a Layer 2 link OAM mechanism used for link connectivity detection and fault locating


## Additional information

- HP Intelligent Resilient Framework (IRF)
- Creates virtual resilient switching fabrics, where two or more switches perform as a single Layer 2 switch and Layer 3 router
- Switches do not have to be co-located and can be part of a disaster-recovery system
- Servers or switches can be attached using standard LACP for automatic load balancing and high availability
- Simplifies network operation by eliminating the complexity of Spanning Tree Protocol, ECMP, or VRRP
- OAA modules
support wireless network management and high-performance security applications; leverage network infrastructure investment
- Green IT and power
use the latest advances in silicon development, shut off unused ports, and use variable-speed fans to improve energy efficiency
- Higher scalability with IRF
simplifies the architecture of server access networks and reduces cost and complexity; up to nine 5800 Switches can be combined to deliver unmatched scalability of virtualized access layer switches and flatter, two-tier FlexFabric networks


## Warranty and support

- Lifetime warranty
for as long as you own the product with advance replacement and next-business-day delivery (available in most countries) $\dagger$
- 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
$\dagger$ HP warranty includes repair or replacement of hardware for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP AllianceOne Advanced Services and Services zl Modules, HP Threat Management Services zl Module, HP AllianceOne Extended zl Module with Riverbed Steelhead, HP MSM765zl Mobility Controller and HP Survivable Branch Communication zl Module powered by Microsoft Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at: www.hp.com/networking/warranty.

## 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 5800-24G Switch
JC100A

- 24 RJ-45 autosensing 10/100/1000 ports
- 1 extended module slot

Note:1, 3

- 4 fixed 1000/10000 SFP+ ports
- min=0 $\backslash$ max=4 SFP+ Transceivers
- Power Supply included
- 1U-Height

PDU Cable NA/MEX/TW/JP
JC100A\#B2B

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

PDU Cable ROW JC100A\#B2C

- C15 PDU Jumper Cord (ROW)

HP 5800-24G-PoE Switch
JC099A

- 24 RJ-45 autosensing 10/100/1000 ports See Configuration
- 1 extended module slot

Note:1, 3

- 4 fixed 1000/10000 SFP+ ports
- min=0 $\backslash$ max=4 SFP+ Transceivers
- Power Supply included
- 1U-Height

PDU Cable NA/MEX/TW/JP
JC099A\#B2B

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

PDU Cable ROW JCO99A\#B2C

- C15 PDU Jumper Cord (ROW)

HP 5800-24G-SFP Switch
JC103A

- 24 100/1000 SFP ports
- min=0 $\backslash$ max=24 SFP Transceivers
- 1 extended module slot
- 4 fixed 1000/10000 SFP+ ports
- min=0 $\backslash$ max=4 SFP+ Transceivers
- Must select min 1 Power Supply
- 1U-Height


## Configuration

- 48 RJ-45 autosensing 10/100/1000 ports
- 1 extended module slot

See Configuration
Note:1, 3

- 4 fixed $1000 / 10000$ SFP+ ports
- $\min =0 \backslash$ max $=4$ SFP+ Transceivers
- Power Supply included
- 1U-Height

PDU Cable NA/MEX/TW/JP
JC105A\#B2B

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

PDU Cable ROW
JC105A\#B2C

- C15 PDU Jumper Cord (ROW)

HP 5800AF-48G Switch

- 48 RJ-45 autosensing 10/100/1000 ports
- 6 fixed 1000/10000 SFP+ ports
- min=0 \max=6 SFP+ Transceivers
- Must select min 1 Power Supply
- Must select min 2 Fan Trays
- 1U- Height

HP 5800-48G-PoE Switch
JC104A

- 48 RJ-45 autosensing 10/100/1000 ports

See Configuration

- 1 extended module slot

Note:1, 3

- 4 fixed $1000 / 10000$ SFP+ ports
- min=0 $\backslash$ max $=4$ SFP+ Transceivers
- Power Supply included
- 1U-Height

PDU Cable NA/MEX/TW/JP
JC104A\#B2B

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

PDU Cable ROW
JC104A\#B2C

- C15 PDU Jumper Cord (ROW)

HP 5800-48G Switch with 2 Slots
JC101A

- 48 RJ-45 autosensing 10/100/1000 ports See Configuration
- 2 extended module slot

Note:4

- 4 fixed 1000 SFP ports
- min=0 \max=4 SFP Transceivers
- Must select min 1 Power Supply
- 2 U -Height

Configuration Rules
Note 1
The following Transceivers install into this 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

## Configuration

HP X130 10G SFP+ LC ER 40km Transceiver ..... JG234A
HP X125 1G SFP LC LH40 1310nm Transceiver ..... JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver ..... 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
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
Note 3 Localization required on orders without \#B2B, \#B2C or \#B2E options.
Note 4 The following Transceivers install into this Switch:
HP X125 1G SFP LC LH40 1310nm Transceiver ..... JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver ..... JD062A
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 X110 100M SFP LC LH40 Transceiver ..... JD090A
HP X110 100M SFP LC LH80 Transceiver ..... JD091A
HP X115 100M SFP LC FX Transceiver ..... JD102B
HP X110 100M SFP LC LX Transceiver ..... JD120B
HP X115 100M SFP LC BX 10-U Transceiver ..... JD100A
HP X115 100M SFP LC BX 10-D Transceiver ..... JD101A
HP X125 1G SFP LC LH70 Transceiver ..... JD063B
Note 7 \#B2E is Offered only NA, Mexico, Taiwan, and Japan.
Box Level Integration CTO Models
CTO Solution Sku
HP 58xx CTO Switch Solution ..... JG478A

- SSP trigger sku
CTO Base Sku
HP 5800-24G Switch ..... JC100A


## Configuration

- 24 RJ-45 autosensing 10/100/1000 ports

See Configuration

- 1 extended module slot Note:1, 3, 6,10
- 4 fixed $1000 / 10000$ SFP+ ports
- min=0 \max=4 SFP+ Transceivers
- Power Supply included
- 1U-Height

PDU Cable NA/MEX/TW/JP
JC100A\#B2B

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

PDU Cable ROW
JC100A\#B2C

- C15 PDU Jumper Cord (ROW)

HP 5800-24G-PoE Switch
JC099A

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

PDU Cable NA/MEX/TW/JP
JC099A\#B2B

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

PDU Cable ROW
JC099A\#B2C

- C15 PDU Jumper Cord (ROW)

HP 5800-24G-SFP Switch
JC103A

- 24 100/1000 SFP ports
- min=0 \max=24 SFP Transceivers

See Configuration

- 1 extended module slot
- 4 fixed $1000 / 10000$ SFP+ ports
- min=0 \max=4 SFP+ Transceivers
- Must select min 1 Power Supply
- 1U-Height

HP 5800-48G Switch
JC105A

- 48 RJ-45 autosensing 10/100/1000 ports

See Configuration

- 1 extended module slot

Note:1, 3, 6,10

- 4 fixed $1000 / 10000$ SFP+ ports
- $\min =0 \backslash$ max $=4$ SFP+ Transceivers
- Power Supply included
- 1U- Height

PDU Cable NA/MEX/TW/JP
JC105A\#B2B

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


## Configuration

- C15 PDU Jumper Cord (ROW)


## HP 5800AF-48G Switch

JG225A

- 48 RJ-45 autosensing 10/100/1000 ports
- 6 fixed 1000/10000 SFP+ ports (min=0 \max=6 SFP+ Transceivers)
- Must select min 1 Power Supply
- Must select min 2 Fan Trays
- 1U-Height

HP 5800-48G-PoE Switch
JC104A

- 48 RJ-45 autosensing 10/100/1000 ports
- 1 extended module slot See Configuration
- 4 fixed $1000 / 10000$ SFP+ ports
- min=0 \max=4 SFP+ Transceivers
- Power Supply included
- 1U-Height

PDU Cable NA/MEX/TW/JP
JC104A\#B2B

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

C15 PDU ROW
JC104A\#B2C

- C15 PDU Jumper Cord (ROW)

HP 5800-48G Switch with 2 Slots
JC101A

- 48 RJ-45 autosensing 10/100/1000 ports
- 2 extended module slot See Configuration
- 4 fixed 1000 SFP ports
- min=0 \max=4 SFP Transceivers
- Must select min 1 Power Supply
- 2U-Height

Configuration Rules
Note 1 The following Transceivers install into this switch: (Use \#OD1 or \#B01 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 X125 1G SFP LC LH40 1310nm Transceiver ..... JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver ..... 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
HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable ..... JD095C

## Configuration



## Rack Level Integration CTO Models

## Standard Switch Chassis

HP 5800 Switch Series

## Configuration

HP 5800-24G Switch- 24 RJ-45 autosensing 10/100/1000 ports- 1 extended module slot- 4 fixed 1000/10000 SFP+ ports
- min=0 \max=4 SFP+ Transceivers
- Power Supply included
- 1U-HeightJC100A

PDU Cable NA/MEX/TW/JP
JC100A\#B2B

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

PDU Cable ROW
JC100A\#B2C

- C15 PDU Jumper Cord (ROW)

HP 5800-24G-PoE Switch

- 24 RJ-45 autosensing 10/100/1000 ports
- 1 extended module slot JC099A
- 4 fixed 1000/10000 SFP+ ports
- min=0 $\backslash$ max=4 SFP+ Transceivers
- Power Supply included
- 1U-Height

PDU Cable NA/MEX/TW/JP
JC099A\#B2B

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

PDU Cable ROW
JC099A\#B2C

- C15 PDU Jumper Cord (ROW)

HP 5800-24G-SFP Switch
JC103A

- 24 100/1000 SFP ports
- min=0 $\backslash$ max=24 SFP Transceivers

See Configuration

- 1 extended module slot
- 4 fixed 1000/10000 SFP+ ports
- min=0 \max=4 SFP+ Transceivers
- Must select min 1 Power Supply
- 1U-Height

HP 5800-48G Switch

- 48 RJ-45 autosensing 10/100/1000 ports

JC105A

- 1 extended module slot
- 4 fixed 1000/10000 SFP+ ports
- min=0 $\backslash$ max=4 SFP+ Transceivers
- Power Supply included
- 1U-Height

JC105A\#B2B

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

HP 5800 Switch Series

## Configuration

PDU Cable ROWJC105A\#B2C- C15 PDU Jumper Cord (ROW)HP 5800AF-48G SwitchJG225A

- 48 RJ-45 autosensing 10/100/1000 ports
- 6 fixed 1000/10000 SFP+ ports (min=0 \ max=6 SFP+ Transceivers)
- Must select min 1 Power Supply
- Must select min 2 Fan Trays
- 1U-Height
HP 5800-48G-PoE SwitchJC104A
- 48 RJ-45 autosensing 10/100/1000 ports ..... See Configuration
- 1 extended module slot Note:1, 3, 10
- 4 fixed $1000 / 10000$ SFP+ ports
- min=0 $\backslash$ max $=4$ SFP+ Transceivers
- Power Supply included
- 1U-Height
PDU Cable NA/MEX/TW/JP
JC104A\#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)
PDU Cable ROW
JC104A\#B2C
- C15 PDU Jumper Cord (ROW)


## HP 5800-48G Switch with 2 Slots

- 48 RJ-45 autosensing 10/100/1000 ports
- 2 extended module slot
- 4 fixed 1000 SFP ports
- min=0 $\backslash$ max=4 SFP Transceivers
- Must select min 1 Power Supply
- 2U-Height
Configuration Rules:

Note 1
The following Transceivers install into this 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 X125 1G SFP LC LH40 1310nm Transceiver JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver 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

Note 3

Note 4

Note 8

Note 10

| 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 |

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.

The following Transceivers install into this Switch:
HP X125 1G SFP LC LH40 1310nm Transceiver JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver JD062A
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 X110 100M SFP LC LH40 Transceiver JD090A
HP X110 100M SFP LC LH80 Transceiver JD091A
HP X115 100M SFP LC FX Transceiver JD102B
HP X110 100M SFP LC LX Transceiver JD120B
HP X115 100M SFP LC BX 10-U Transceiver JD100A
HP X115 100M SFP LC BX 10-D Transceiver JD101A
HP X125 1G SFP LC LH70 Transceiver JD063B

Switch Height is 2 U 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.

If HP CTO Switch Chassis is selected for Rack Level Integration, Then the Switch needs to integrate (with \#OD1) 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

(JC101x, JG242x, Switch Only ) System (std 0 // max 2) User Selection (min 0 // max 2) per chassis
(JC100x, JC099x, JC103x, JC105x, JC104x, JG254x, JG255x, JG256x, JG257x, JG258x, Switch Only ) System (std 0 // max 1) User Selection (min $0 / / \max 1$ ) per chassis

HP 5800 16-port SFP Module

- min=0 \max=16 SFP Transceivers


## Configuration

HP 5800 4-port 10GbE SFP+ Module ..... JC091A

- min=0 \max=4 SFP and SFP + Transceivers
HP 5800 2-port 10GbE SFP+ Module
- min=0 \max=2 SFP and SFP + Transceivers
HP 5800 16-port Gig-T Module ..... JC094A
- No Transceivers
Configuration Rules:
Note 1 The following Transceivers install into this Module: (Use \#OD1 if switch is CTO) IfApplicable -
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 X125 1G SFP LC LH40 1310nm Transceiver ..... JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver ..... 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
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 10 G SFP+ to SFP+5m Direct Attach Copper Cable ..... JG081C
Note 2 The following Transceivers install into this Module: (Use \#OD1 if switch is CTO) IfApplicable-
HP X125 1G SFP LC LH40 1310nm Transceiver ..... JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver ..... JD062A
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 X110 100M SFP LC LH40 Transceiver ..... JD090A
HP X110 100M SFP LC LH80 Transceiver ..... JD091A
HP X115 100M SFP LC FX Transceiver ..... JD102B
HP X110 100M SFP LC LX Transceiver ..... JD120B
HP X115 100M SFP LC BX 10-U Transceiver ..... JD100A
HP X115 100M SFP LC BX 10-D Transceiver ..... JD101A


## Configuration

HP X125 1G SFP LC LH70 Transceiver
JD063B

## Access Control Modules

(JC101x and JG242x Switch Only ) System (std 0 // max 1) User Selection (min 0 // max 1) per chassis

HP 5800 ACM for 32-64 Aps
JD443A

- No Transceivers

HP 5800 ACM for 64-256 Aps
JD441A

- No Transceivers

HP 5820 VPN Firewall Module
JD255A

- No Transceivers

Configuration Rules:

Note 1
This Module install to the following switches only: JC101x - HP 5800-48G Switch with 2 Slots

## PoE Modules

(JC101x and JG242x Switch Only ) System (std 0 // max 1) User Selection (min 0 // max 1) per chassis

HP 5800 PoE Module
JC097B

- No Transceivers


## 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 X110 100M SFP LC LH40 Transceiver
JD090A

HP 5800 Switch Series

## Configuration

HP X110 100M SFP LC LH80 Transceiver ..... JD091A
HP X115 100M SFP LC FX Transceiver ..... JD102B
HP X110 100M SFP LC LX Transceiver ..... JD120B
HP X110 100M SFP LC BX 10-U Transceiver ..... JD100A
HP X110 100M SFP LC BX 10-D Transceiver ..... JD101A
HP X120 1G SFP LC LH40 1550nm XCVR ..... JD062A
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 X125 1G SFP LC LH40 1310nm XCVR ..... JD061A
HP X125 1G SFP LC LH70 Transceiver ..... JD063B
Internal Power Supplies(JC103x and JG256x Only) System (std 0 // max 2) User Selection (min 1 // max 2) per switch(JC101x and JG242x Only) System (std 0 // max 2) User Selection (min 1 // max 2) per switch
(JG225A only) System (std 0 // max 2) User Selection (min 1 // max 2) per switch
HP 5500 150WAC Power Supply ..... JD362A
PDU Cable NA/MEX/TW/JP ..... JD362A\#B2B- C15 PDU Jumper Cord (NA/MEX/TW/JP)
PDU Cable ROW ..... JD362A\#B2C- C15 PDU Jumper Cord (ROW)
HP 5500 150WDC Power SupplyJD366A
HP 5800 300W AC Power Supply ..... JC087A
See Configuration Note:1, 2, 4
PDU Cable NA/MEX/TW/JP ..... JC087A\#B2B

- C15 PDU Jumper Cord (NA/MEX/TW/JP)
PDU Cable ROW ..... JC087A\#B2C- C15 PDU Jumper Cord (ROW)
HP 5800 300W DC Power Supply ..... JCO90A


## Configuration

|  | See Configuration Note:1, 4 |
| :---: | :---: |
| HP 5800 750W AC PoE Power Supply | JC089A |
|  | See Configuration Note:1, 2, 4 |
| PDU Cable NA/MEX/TW/JP <br> - C15 PDU Jumper Cord (NA/MEX/TW/JP) |  |
|  |  |
| PDU Cable ROW <br> - C15 PDU Jumper Cord (ROW) |  |
|  |  |
| HP A58x0AF 650W AC Power Supply <br> - includes 1 xc13,650w | JC680A |
|  | See Configuration Note:1, 2, 6 |
| PDU Cable NA/MEX/TW/JP <br> - C15 PDU Jumper Cord (NA/MEX/TW/JP) | JC680A\#B2B |
|  |  |
|  | JC680A\#B2C |
| PDU Cable ROW |  |
| - C15 PDU Jumper Cord (ROW) |  |
| HP 58x0AF 650W DC Power Supply | JC681A |
|  | See Configuration Note:1, 6 |

Configuration Rules:
Note 1 If 2 power supplies are selected then 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.

Note 3 This power supply only supported on JC103x and JG256x Only.

Note 4 This power supply only supported on JC101x and JG242x Only.
Note 6 This power supply only supported on JG225A Only.

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

(JG225A only) System (std 0 // max 2) User Selection (min 2 // max 2) per switch

| HP 58x0AF Bck(pwr)-Frt(ports) Fan Tray | JC682A <br> See Configuration <br> 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

| Remark: | 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 1 U 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. |  |

## Fan Options

| HP 5800 2RU Spare Fan Assembly | JCO96A |
| :---: | :---: |
|  | See Configuration |
| Note:1 |  |
| HP 5800 1RU Spare Fan Assembly | JCO98A |
|  | See Configuration |
| Note:2 |  |

Configuration Rules:

Note 1
This Spare Fan is only supported on switches JC101A and JG242A.

Note 2 This Spare Fan is only supported on switches JC099A, JC100A, JC103A, JC104A, JC105A, JG254A, JG255A, JG256A, JG257A and JG258A.

## Configuration

## License

HP WX5000 32 AP License Upgrade
JD463A
See Configuration
Note:1

Configuration Rules:

Note 1
If this license is selected, Then one of these modules should be selected or be on site:
JD443A - HP A5800 Access Controller Module for 32-64 Aps
JD441A - HP A5800 Access Controller Module for 64-256 Aps

## External Redundant Power Supplies

HP RPS 800 Redundant Power Supply
JD183A

- Height = 1 U
- includes $1 \times \mathrm{c} 13$

See Configuration
Note:2, 4

HP RPS1600 Redundant Power System
JG136A

- Height = 1U
- includes $1 \times$ c13, 1600w and Power Supply port

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 $4 \quad$ This power supply only supported on switches JC105A and JC100A.

Note 5 This power supply only supported on switches JC099A, JC101A, JC103A, JC104A.

Options for the HP RPS 800 and 1600 External RPS Power Supplies

HP X290 1000 A JD5 2m RPS Cable
JD187A
See Configuration Note:3

## Configuration

| HP X290 1000 A JD5 Non-PoE 2m RPS Cable | JD188A <br> See Configuration <br> Note:2 |
| :--- | ---: |
| HP X290 1000 B JD5 2m RPS Cable | JD189A |
|  | See Configuration |
| Note:4 |  |

Configuration Rules:

Note 1
This Cable is only supported on switches JC105A and JC100A when used with the RPS 800 (JD183A)

Note 2 This Cable is only supported on switch JC103A when used with the RPS 1600 (JG136A)

Note 3 This Cable is only supported on switches JC099A, JC101A, JC104A, and when used with the RPS 1600 (JG136A).

Note 4 This Cable is only supported on switches JC101A (Runing On Non-PoE mode), JC103A when used with the RPS 1600 (JG136A)

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

## Technical Specifications

| HP 5800-24G-PoE+ Switch (JCO99A) |  |  |
| :---: | :---: | :---: |
| Ports | 24 RJ-45 autosensing 10 802.3 ab Type 1000 BASE 1 extended module slot 4 fixed 1000/10000 SFP+ 1 RJ-45 serial console po | 00/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE ; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only <br> orts |
| Physical characteristics | Dimensions Weight | $17.3(\mathrm{w}) \times 16.8(\mathrm{~d}) \times 1.71(\mathrm{~h})$ in $(43.94 \times 42.67 \times 4.34 \mathrm{~cm})$ ( 1 U height) 17.64 lb ( 8 kg ) |
| Memory and processor | 1024 MB SDRAM, 512 MB flash; packet buffer size: 4 MB |  |
| Performance | Latency | $4.02 \mu \mathrm{~s}$ (Store and Forward) (64-byte packets) |
|  | Throughput | 155 million pps |
|  | Routing/Switching capacity | 208 Gbps |
|  | Routing table size | 16000 entries |
|  | MAC address table size | 32000 entries |
| Environment | Operating temperature | $32^{\circ} \mathrm{F}$ to $113^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right.$ to $\left.45^{\circ} \mathrm{C}\right)$ |
|  | Operating relative humidity | 10\% to 90\% |
|  | Acoustic | Low-speed fan: 47.5 dB , High-speed fan: 52.4 dB |
| Electrical characteristics | Maximum heat dissipation | 2968 BTU/hr (3131.24 kJ/hr) |
|  | Voltage | 100-120/200-240 VAC |
|  | Frequency | $50 / 60 \mathrm{~Hz}$ |
| 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 CISPR22 Class A; EN 61000-32:2006; 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 300386 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 |

## Technical Specifications

## Flicker

EN 61000-3-3, IEC 61000-3-3

## Management

## Services

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

3-year, 4-hour onsite, $13 \times 5$ coverage for hardware (UV882E)
3 -year, 4-hour onsite, $24 \times 7$ coverage for hardware (UV885E)
3 -year, 4-hour onsite, 24×7 coverage for hardware, $24 \times 7$ SW phone support and SW updates (UV888E)
3 -year, 24×7 SW phone support, software updates (UV891E)
1 -year, post-warranty, 4-hour onsite, $24 \times 7$ coverage for hardware (HR565E)
1 -year, post-warranty, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone support (HR566E)
4-year, 4-hour onsite, $13 \times 5$ coverage for hardware (UV883E)
4 -year, 4 -hour onsite, $24 \times 7$ coverage for hardware (UV886E)
4 -year, 4 -hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (UV889E)
4 -year, 24×7 SW phone support, software updates (UV892E)
5 -year, 4 -hour onsite, $13 \times 5$ coverage for hardware (UV884E)
5 -year, 4 -hour onsite, $24 \times 7$ coverage for hardware (UV887E)
5 -year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (UV890E)
5 -year, $24 \times 7$ SW phone support, software updates (UV893E)
3 Yr 6 hr Call-to-Repair Onsite (UW969E)
4 Yr 6 hr Call-to-Repair Onsite (UW970E)
5 Yr 6 hr Call-to-Repair Onsite (UW971E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR568E)
1 -year, 24×7 software phone support, software updates (HR567E)
1 -year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS650E)
1 -year, $24 \times 7$ software phone support, software updates +4 hour hardware exchange (HS651E)
3 -year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS652E)
3 -year, $24 \times 7$ software phone support, software updates +4 hour Hardware Exchange (HS653E)
4 -year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS654E)
4 -year, $24 \times 7$ software phone support, software updates +4 hour Hardware Exchange (HS655E)
5 -year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS656E)
5 -year, $24 \times 7$ software phone support, software updates +4 hour Hardware Exchange (HS657E)
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.

| Physical characteristics | Dimensions | $17.32(\mathrm{w}) \times 14.35(\mathrm{~d}) \times 1.72(\mathrm{~h})$ in $(44.0 \times 36.45 \times 4.36 \mathrm{~cm})(1 \mathrm{U}$ height $)$ |
| :--- | :--- | :--- |
|  | Weight | $13.23 \mathrm{lb}(6 \mathrm{~kg})$ |

HP 5800 Switch Series

## Technical Specifications

| Memory and processor Performance | 1024 MB SDRAM, 512 MB flash; packet buffer size: 4 MB |  |
| :---: | :---: | :---: |
|  | Latency | $4.02 \mu \mathrm{~s}$ (Store and Forward) (64-byte packets) |
|  | Throughput | 155 million pps |
|  | Routing/Switching capacity | 208 Gbps |
|  | Routing table size | 16000 entries |
|  | MAC address table size | 32000 entries |
| Environment | Operating temperature | $32^{\circ} \mathrm{F}$ to $113^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right.$ to $\left.45^{\circ} \mathrm{C}\right)$ |
|  | Operating relative humidity | 10\% to 90\% |
|  | Acoustic | Low-speed fan: 42.3 dB , High-speed fan: 52.9 dB |
| Electrical characteristics | Maximum heat dissipation | 358 BTU/hr ( $377.69 \mathrm{~kJ} / \mathrm{hr}$ ) |
|  | Voltage | 100-120-240 VAC |
|  | Frequency | $50 / 60 \mathrm{~Hz}$ |


| 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 CISPR22 Class A; EN 61000-32:2006; 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 300386 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 |
|  | Voltage dips and interruptions |
|  | 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 |
| Services | 3-year, 4-hour onsite, 13x5 coverage for hardware (UV882E) |
|  | 3-year, 4-hour onsite, $24 \times 7$ coverage for hardware (UV885E) |
|  | 3-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ SW phone support and SW updates (UV888E) |
|  | 3-year, 24x7 SW phone support, software updates (UV891E) |
|  | 1-year, post-warranty, 4-hour onsite, $24 \times 7$ coverage for hardware (HR565E) |
|  | 1 -year, post-warranty, 4 -hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone support (HR566E) |
|  | Installation with minimum configuration, system-based pricing (UW451E) |

## Technical Specifications

4-year, 4-hour onsite, $13 \times 5$ coverage for hardware (UV883E)
4-year, 4-hour onsite, $24 \times 7$ coverage for hardware (UV886E)
4-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (UV889E)
4-year, $24 \times 7$ SW phone support, software updates (UV892E)
5-year, 4-hour onsite, $13 \times 5$ coverage for hardware (UV884E)
5 -year, 4-hour onsite, $24 \times 7$ coverage for hardware (UV887E)
5-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (UV890E)
5-year, 24x7 SW phone support, software updates (UV893E)
3 Yr 6 hr Call-to-Repair Onsite (UW969E)
4 Yr 6 hr Call-to-Repair Onsite (UW970E)
5 Yr 6 hr Call-to-Repair Onsite (UW971E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR568E)
1-year, $24 \times 7$ software phone support, software updates (HR567E)
1-year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS650E)
1-year, $24 \times 7$ software phone support, software updates +4 hour hardware exchange (HS651E)
3-year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS652E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS653E)
4-year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS654E)
4-year, $24 \times 7$ software phone support, software updates + 4 hour Hardware Exchange (HS655E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS656E)
5-year, $24 \times 7$ software phone support, software updates + 4 hour Hardware Exchange (HS657E)
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 5800-24G-SFP Switch with 1 Interface Slot (JC103A) |  |  |
| :---: | :---: | :---: |
| Ports | 24 SFP fixed Gigabit Ethernet SFP ports |  |
|  | 1 extended module slot |  |
|  | 4 fixed 1000/10000 SFP+ ports |  |
|  | 1 RJ-45 serial console port |  |
| Power supplies | 2 power supply slots <br> 1 minimum power supplies required (ordered separately) |  |
| Physical characteristics | Dimensions | 17.32 (w) $\times 16.81$ (d) $\times 1.72$ (h) in ( $44.0 \times 42.7 \times 4.36 \mathrm{~cm})(1 \mathrm{U}$ height) |
|  | Weight | 18.74 lb ( 8.5 kg ) |
| Memory and processor | 1024 MB SDRAM, 512 MB flash; packet buffer size: 4 MB |  |
| Performance | Latency | $4.02 \mu \mathrm{~s}$ (Store and Forward) (64-byte packets) |
|  | Throughput | 155 million pps |
|  | Routing/Switching capacity | 208 Gbps |
|  | Routing table size | 16000 entries |
|  | MAC address table size | 32000 entries |

## Technical Specifications

| Environment | Operating temperature | $32^{\circ} \mathrm{F}$ to $113^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right.$ to $\left.45^{\circ} \mathrm{C}\right)$ |
| :---: | :---: | :---: |
|  | Operating relative humidity | 10\% to 90\% |
|  | Acoustic | Low-speed fan: 49.6 dB, High-speed fan: 58.1 dB |
| Electrical characteristics | Maximum heat dissipation | 498 BTU/hr (525.39 kJ/hr) |
|  | Voltage | 100-120/200-240 VAC |
|  | DC voltage | -48 VDC to -60 VDC |
|  | Frequency | $50 / 60 \mathrm{~Hz}$ |
| 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 Cla 2:2006; EN 61000-3-3:19 | ass A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR22 Class A; EN 61000-35 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A |
| Immunity | Generic | ETSI EN 300386 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 | Customer must order a power supply, as the device does not come with a PSU. At least one JD362A or JD366A is required. |  |
| Services | 3-year, 4-hour onsite, 13x5 coverage for hardware (UV882E) |  |
|  | 3-year, 4-hour onsite, $24 \times 7$ coverage for hardware (UV885E) |  |
|  | 3 -year, 4 -hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ SW phone support and SW updates (UV888E) 3-year, 24×7 SW phone support, software updates (UV891E) |  |
|  |  |  |
|  | 1-year, post-warranty, 4-hour onsite, $24 \times 7$ coverage for hardware (HR565E) |  |
|  | 1 -year, post-warranty, 4 -hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone support (HR566E) |  |
|  | Installation with minimum configuration, system-based pricing (UW451E) |  |
|  | 4-year, 4-hour onsite, 13x5 coverage for hardware (UV883E) |  |
|  | 4-year, 4-hour onsite, $24 \times 7$ coverage for hardware (UV886E) |  |
|  | 4-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (UV889E) |  |
|  | 4-year, 24x7 SW phone support, software updates (UV892E) |  |
|  | 5-year, 4-hour onsite, 13x5 coverage for hardware (UV884E) |  |

## Technical Specifications

5-year, 4-hour onsite, $24 \times 7$ coverage for hardware (UV887E)
5-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (UV890E)
5-year, 24×7 SW phone support, software updates (UV893E)
3 Yr 6 hr Call-to-Repair Onsite (UW969E)
4 Yr 6 hr Call-to-Repair Onsite (UW970E)
5 Yr 6 hr Call-to-Repair Onsite (UW971E)
1-year, $24 \times 7$ software phone support, software updates (HR567E)
1-year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS650E)
1-year, $24 \times 7$ software phone support, software updates +4 hour hardware exchange (HS651E)
3-year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS652E)
3-year, 24x7 software phone support, software updates +4 hour Hardware Exchange (HS653E)
4-year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS654E)
4-year, $24 \times 7$ software phone support, software updates + 4 hour Hardware Exchange (HS655E)
5-year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS656E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS657E)
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 5800-48G-PoE+ Switch with 1 Interface Slot (JC104A) |  |  |
| :---: | :---: | :---: |
| Ports | 48 RJ-45 autosensing 10 802.3 ab Type 1000BASE 1 extended module slot 4 fixed 1000/10000 SFP 1 RJ-45 serial console porter | 00/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE ;) Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only orts |
| Physical characteristics | Dimensions Weight | $\begin{aligned} & 17.32(\mathrm{w}) \times 16.81(\mathrm{~d}) \times 1.72(\mathrm{~h}) \text { in }(44.0 \times 42.7 \times 4.36 \mathrm{~cm}) \text { (1U height) } \\ & 18.74 \mathrm{lb}(8.5 \mathrm{~kg}) \end{aligned}$ |
| Memory and processor | 1024 MB SDRAM, 512 MB flash; packet buffer size: 8 MB |  |
| Performance | Latency | $4.02 \mu \mathrm{~s}$ (Store and Forward) (64-byte packets) |
|  | Throughput | 190 million pps |
|  | Routing/Switching capacity | 256 Gbps |
|  | Routing table size | 16000 entries |
|  | MAC address table size | 32000 entries |
| Environment | Operating temperature | $32^{\circ} \mathrm{F}$ to $113^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right.$ to $\left.45^{\circ} \mathrm{C}\right)$ |
|  | Operating relative humidity | 10\% to 90\% |
|  | Acoustic | Low-speed fan: 50.5 dB , High-speed fan: 57.9 dB |

## Technical Specifications

| Electrical characteristics | Maximum heat dissipation | 3320 BTU/hr (3502.6 kJ/hr) |
| :---: | :---: | :---: |
|  | Voltage | 100-120/200-240 VAC |
|  | Frequency | $50 / 60 \mathrm{~Hz}$ |
| 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 CISPR22 Class A; EN 61000-32:2006; 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 300386 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 |  |
| Services |  |  |
|  | 3-year, 4-hour onsite, $13 \times 5$ coverage for hardware (HQ063E) <br> 3 -year, 4-hour onsite, $24 \times 7$ coverage for hardware (HQ064E) |  |
|  | 3 -year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ SW phone support and SW updates (HQ067E) |  |
|  | 3-year, 24x7 SW phone support, software updates (HQ066E) |  |
|  | 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR569E) |  |
|  | 1-year, post-warranty, 4-hour onsite, $24 \times 7$ coverage for hardware (HR570E) |  |
|  | Installation with minimum configuration, system-based pricing (UW451E) |  |
|  | 4 -year, 4 -hour onsite, $13 \times 5$ coverage for hardware (HQ068E) |  |
|  | 4-year, 4-hour onsite, $24 \times 7$ coverage for hardware (HQ069E) |  |
|  | 4-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (HQ076E) |  |
|  | 4-year, 24x7 SW phone support, software updates (HQ074E) |  |
|  | 5-year, 4-hour onsite, 13x5 coverage for hardware (HQ071E) |  |
|  | 5-year, 4-hour onsite, $24 \times 7$ coverage for hardware (HQ072E) |  |
|  | 5 -year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (HQ077E) |  |
|  | 5-year, 24x7 SW phone support, software updates (HQ075E) |  |
|  | 3 Yr 6 hr Call-to-Repair Onsite (HQ065E) |  |
|  | 4 Yr 6 hr Call-to-Repair Onsite (HQ070E) |  |
|  | $5 \mathrm{Yr} 6 \mathrm{hr} \mathrm{Call-to-Repair} \mathrm{Onsite} \mathrm{(HQ073E)}$ |  |
|  | 1-year, 6 hour Call-To-Repair Onsite for hardware (HR573E) |  |
|  | 1-year, 24x7 software phone support, software updates (HR572E) |  |
|  | 1 -year, 4 -hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone support and software updates (HR571E) |  |

## Technical Specifications

1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS666E)
1-year, $24 \times 7$ software phone support, software updates + 4 hour hardware exchange (HS667E)
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 5800-48G Switch with 1 Interface Slot (JC105A) |  |  |
| :---: | :---: | :---: |
| Ports | 48 RJ-45 autosensing 10 802.3 ab Type 1000BASE 1 extended module slot 4 fixed 1000/10000 SFP+ 1 RJ-45 serial console po | 00/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE ;) Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only <br> orts |
| Physical characteristics | Dimensions Weight | $\begin{aligned} & 17.32(\mathrm{w}) \times 14.45(\mathrm{~d}) \times 1.72(\mathrm{~h}) \text { in }(44.0 \times 36.7 \times 4.36 \mathrm{~cm}) \text { (1U height) } \\ & 14.33 \mathrm{lb}(6.5 \mathrm{~kg}) \end{aligned}$ |
| Memory and processor | 1024 MB SDRAM, 512 MB flash; packet buffer size: 8 MB |  |
| Performance | Latency | $4.02 \mu \mathrm{~s}$ (Store and Forward) (64-byte packets) |
|  | Throughput | 190 million pps |
|  | Routing/Switching capacity | 256 Gbps |
|  | Routing table size | 16000 entries |
|  | MAC address table size | 32000 entries |
| Environment | Operating temperature | $32^{\circ} \mathrm{F}$ to $113^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right.$ to $\left.45^{\circ} \mathrm{C}\right)$ |
|  | Operating relative humidity | 10\% to 90\% |
|  | Acoustic | Low-speed fan: 45.3 dB , High-speed fan: 56.5 dB |
| Electrical characteristics | Maximum heat dissipation | 557 BTU/hr (587.64 kJ/hr) |
|  | Voltage | 100-120/200-240 VAC |
|  | Frequency | $50 / 60 \mathrm{~Hz}$ |
| 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 CISPR22 Class A; EN 61000-32:2006; 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 300386 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 |

## Technical Specifications

|  | 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 |  |
| Services | 3-year, 4-hour onsite, 13x5 coverage for hardware (HQ063E) |  |
|  | 3-year, 4-hour onsite, $24 \times 7$ coverage for hardware (HQ064E) |  |
|  | 3 -year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ SW phone support and SW updates (HQ067E) 3-year, $24 \times 7$ SW phone support, software updates (HQ066E) |  |
|  |  |  |
|  | 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR569E) |  |
|  | 1-year, post-warranty, 4-hour onsite, $24 \times 7$ coverage for hardware (HR570E) |  |
|  | Installation with minimum configuration, system-based pricing (UW451E) |  |
|  | 4-year, 4-hour onsite, 13x5 coverage for hardware (HQ068E) |  |
|  | 4-year, 4-hour onsite, $24 \times 7$ coverage for hardware (HQ069E) |  |
|  | 4-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (HQ076E) |  |
|  | 4-year, 24x7 SW phone support, software updates (HQ074E) |  |
|  | 5-year, 4-hour onsite, 13x5 coverage for hardware (HQ071E) |  |
|  | 5-year, 4-hour onsite, $24 \times 7$ coverage for hardware (HQ072E) |  |
|  | 5-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (HQ077E) |  |
|  | 5-year, 24x7 SW phone support, software updates (HQ075E) |  |
|  | 3 Yr 6 hr Call-to-Repair Onsite (HQ065E) |  |
|  | $4 \mathrm{Yr} 6 \mathrm{hr} \mathrm{Call-to-Repair} \mathrm{Onsite} \mathrm{(HQ070E)}$ |  |
|  | 5 Yr 6 hr Call-to-Repair Onsite (HQ073E) |  |
|  | 1-year, 6 hour Call-To-Repair Onsite for hardware (HR573E) |  |
|  | 1-year, $24 \times 7$ software phone support, software updates (HR572E) |  |
|  | 1 -year, 4 -hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone support and software updates (HR571E) |  |
|  | 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS666E) |  |
|  | 1 -year, $24 \times 7$ software phone support, software updates +4 hour hardware exchange (HS667E) |  |

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 5800-48G Switch with 2 Slots (JC101A)

Ports
48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only

2 extended module slots
1 open module slot
4 SFP fixed Gigabit Ethernet SFP ports
1 RJ-45 serial console port

## Technical Specifications

| Power supplies | 2 power supply slots <br> 1 minimum power supplies required (ordered separately) |  |
| :---: | :---: | :---: |
| Physical characteristics | Dimensions | $17.32(\mathrm{w}) \times 18.31$ (d) $\times 3.39(\mathrm{~h})$ in ( $44.0 \times 46.5 \times 8.61 \mathrm{~cm}$ ) ( 2 U height) |
|  | Weight | 39.7 lb (18.0 kg) |
| Memory and processor | 1024 MB SDRAM, 512 MB flash; packet buffer size: 8 MB |  |
| Performance | Latency | $4.02 \mu \mathrm{~s}$ (Store and Forward) (64-byte packets) |
|  | Throughput | 211 million pps |
|  | Routing/Switching capacity | 284 Gbps |
|  | Routing table size | 16000 entries |
|  | MAC address table size | 32000 entries |
| Environment | Operating temperature | $32^{\circ} \mathrm{F}$ to $113^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right.$ to $\left.45^{\circ} \mathrm{C}\right)$ |
|  | Operating relative humidity | 10\% to 90\% |
|  | Acoustic | Low-speed fan: 54 dB , High-speed fan: 58.5 dB |
| Electrical characteristics | Maximum heat dissipation | 6278 BTU/hr (6623.29 kJ/hr) |
|  | Voltage | 100-120/200-240 VAC |
|  | DC Voltage | 300 W DC: -48 VDC to -60 VDC; 750 W DC: -54 VDC to -57 VDC |
|  | Frequency | $50 / 60 \mathrm{~Hz}$ |
| 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 CISPR22 Class A; EN 61000-32:2006; 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 300386 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 |  |

## Technical Specifications

| Notes | Customer must order power supply, as the device does not come with a PSU. At least one JC087A/JCO90A/JC089A is required. |
| :---: | :---: |
| Services | 3 -year, 4-hour onsite, $13 \times 5$ coverage for hardware (HQ063E) |
|  | 3 -year, 4-hour onsite, $24 \times 7$ coverage for hardware (HQ064E) |
|  | 3 -year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ SW phone support and SW updates (HQ067E) |
|  | 3 -year, $24 \times 7$ SW phone support, software updates (HQ066E) |
|  | 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR569E) |
|  | 1 -year, post-warranty, 4-hour onsite, $24 \times 7$ coverage for hardware (HR570E) |
|  | Installation with minimum configuration, system-based pricing (UW451E) |
|  | 4-year, 4-hour onsite, 13x5 coverage for hardware (HQ068E) |
|  | 4 -year, 4-hour onsite, 24x7 coverage for hardware (HQ069E) |
|  | 4 -year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (HQ076E) |
|  | 4 -year, $24 \times 7$ SW phone support, software updates (HQ074E) |
|  | 5 -year, 4-hour onsite, 13x5 coverage for hardware (HQ071E) |
|  | 5 -year, 4-hour onsite, 24×7 coverage for hardware (HQ072E) |
|  | 5 -year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (HQ077E) |
|  | 5 -year, $24 \times 7$ SW phone support, software updates (HQ075E) |
|  | $3 \mathrm{Yr} 6 \mathrm{hr} \mathrm{Call-to-Repair} \mathrm{Onsite} \mathrm{(HQ065E)}$ |
|  | $4 \mathrm{Yr} 6 \mathrm{hr} \mathrm{Call-to-Repair} \mathrm{Onsite} \mathrm{(HQO7OE)}$ |
|  | $5 \mathrm{Yr} 6 \mathrm{hr} \mathrm{Call-to-Repair} \mathrm{Onsite} \mathrm{(HQ073E)}$ |
|  | 1-year, 6 hour Call-To-Repair Onsite for hardware (HR573E) |
|  | 1 -year, $24 \times 7$ software phone support, software updates (HR572E) |
|  | 1 -year, 4 -hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone support and software updates (HR571E) |
|  | 1 -year, $24 \times 7$ software phone support, software updates + Next Business Day Hardware Exchange (HS666E) |
|  | 1 -year, $24 \times 7$ software phone support, software updates +4 hour hardware exchange (HS667E) |

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 5800AF-48G Switch (JG225A)

| Ports | 48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only |
| :---: | :---: |
|  | 6 fixed 1000/10000 SFP+ ports |
|  | 1 RJ-45 serial console port |
|  | 1 RJ-45 out-of-band management port |
|  | 1 USB 2.0 |
| Power supplies | 2 power supply slots <br> 1 minimum power supply required (ordered separately) |
| Fan tray | 2 fan tray slots <br> 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 $32^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right)$ to $113^{\circ} \mathrm{F}$ $\left(45^{\circ} \mathrm{C}\right)$. Failure to comply with these operating requirements may void the product warranty. |

## Technical Specifications

| Physical characteristics | Dimensions | $17.32(\mathrm{w}) \times 25.98(\mathrm{~d}) \times 1.72$ (h) in ( $43.99 \times 65.99 \times 4.37 \mathrm{~cm})$ (1U height) |
| :---: | :---: | :---: |
|  | Weight | $22.05 \mathrm{lb}(10 \mathrm{~kg})$, Fully loaded |
| Memory and processor | 1024 MB flash, 512 MB SDRAM; packet buffer size: 8 MB |  |
| Performance | Latency | < 5 ¢ (64-byte packets) |
|  | Throughput | 161 million pps |
|  | Routing/Switching capacity | 216 Gbps |
|  | Routing table size | 16000 entries |
|  | MAC address table size | 32000 entries |
| Environment | Operating temperature | $32^{\circ} \mathrm{F}$ to $113^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right.$ to $\left.45^{\circ} \mathrm{C}\right)$ |
|  | Operating relative humidity | 10\% to 90\% |
|  | Acoustic | Low-speed fan: 60.1 dB, High-speed fan: 69.9 dB |
| Electrical characteristics | Maximum heat dissipation | $426 \mathrm{BTU} / \mathrm{hr}$ (449.43 kJ/hr) |
|  | Voltage | 100-120/200-240 VAC |
|  | DC Voltage | 650W DC: -36 VDC to -72 VDC |
|  | Frequency | $50 / 60 \mathrm{~Hz}$ |
| 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 Cl <br> 2:2006; EN 61000-3-3:19 | ass A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR22 Class A; EN 61000-35 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A |
| Immunity | Generic | ETSI EN 300386 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 JC681A is required. | power supply, as the device does not come with a PSU. At least one JC680A or |

## Technical Specifications

## 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
(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 802.1X PAE
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3ae 10-Gigabit Ethernet
IEEE 802.3af Power over Ethernet
IEEE 802.3at
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 1812 IPv4 Routing
RFC 2131 DHCP
RFC 2236 IGMP Snooping
RFC 2370 OSPF Opaque LSA Option
RFC 2385 TCP MD5 Authentication for BGPv4 RFC 2453 RIPv2
RFC 2475 Architecture for Differentiated Services
RFC 2597 Assured Forwarding PHB Group
RFC 3046 DHCP Relay Agent Information Option
RFC 3209 RSVP-TE Extensions to RSVP for LSP
Tunnels
RFC 3576 Ext to RADIUS (CoA only)
RFC 3584 Coexistence between Version 1 and
Version 2 of the Internet-standard Network
Management Framework
RFC 3623 Graceful OSPF Restart
RFC 3768 VRRP
RFC 4090 Fast Reroute Extensions to RSVP-TE for LSP Tunnels

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 4443 ICMPv6
RFC 4541 IGMP \& MLD Snooping Switch
RFC 4861 IPv6 Neighbor Discovery
RFC 4862 IPv6 Stateless Address Auto-configuration

## MIBs

IEEE 8021-PAE-MIB
IEEE 8023-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
RFC 3826 AES for SNMP's USM MIB
RFC 4133 Entity MIB (Version 3)
LLDP-EXT-DOT1-MIB
LLDP-EXT-DOT3-MIB

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| RFC 4291 IP Version 6 Addressing Architecture | LLDP-MIB |
| :--- | :--- |
| RFC 4675 RADIUS VLAN \& Priority |  |
| RFC 4762 Virtual Private LAN Service (VPLS) Using | Network management |
| Label Distribution Protocol (LDP) Signaling | IEEE 802.1AB Link Layer Discovery Protocol (LLDP) |
|  | RFC 2819 Four groups of RMON: 1 (statistics), 2 |
| IP multicast | (history), 3 (alarm) and 9 (events) |
| RFC 2934 Protocol Independent Multicast MIB for | RFC 3176 sFlow |
| IPv4 | ANSI/TIA-1057 LLDP Media Endpoint Discovery |
| RFC 3376 IGMPv3 (host joins only) | (LLDP-MED) |
| RFC 3618 Multicast Source Discovery Protocol | SNMPv1/v2c/v3 |
| (MSDP) |  |
| RFC 3973 Draft 2 PIM Dense Mode | OSPF |
| RFC 4601 PIM Sparse Mode | RFC 2328 0SPFv2 |
|  | RFC 3101 OSPF NSSA |
| IPv6 |  |
| RFC 2080 RIPng for IPv6 | Security |
| RFC 2460 IPv6 Specification | IEEE 802.1X Port Based Network Access Control |
| RFC 2710 Multicast Listener Discovery (MLD) for | RFC 1492 TACACS+ |
| IPv6 | RFC 2865 RADIUS (client only) |
| RFC 2740 0SPFv3 for IPv6 | RFC 2866 RADIUS Accounting |
| RFC 2925 Remote Operations MIB (Ping only) | Access Control Lists (ACLs) |
| RFC 3019 MLDv1 MIB | Secure Sockets Layer (SSL) |
| RFC 3162 RADIUS and IPv6 | SSHv2 Secure Shell |
| RFC 3315 DHCPv6 (client and relay) |  |
| RFC 3315 DHCPv6 (client only) |  |
| RFC 3810 MLDv2 (host joins only) |  |

HP 5800 Switch Series

## Accessories

## HP 5800 Switch Series accessories

Modules
HP 5800 4-port 10GbE SFP+ Module ..... JC091A
HP 5800 2-port 10GbE SFP+ Module ..... JC092B
HP 5800 16-port Gig-T Module ..... JC094A
HP 5800 16-port GbE SFP Module ..... JC095A
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 LC SX Transceiver ..... JD118B
HP X120 1G SFP LC LX Transceiver ..... JD119B
HP X120 1G SFP RJ45 T Transceiver ..... JD089B
HP X120 1G SFP LC BX 10-U Transceiver ..... JD098B
HP X120 1G SFP LC BX 10-D Transceiver ..... JD099B
HP X110 100M SFP LC LH40 Transceiver ..... JD090A
HP X110 100M SFP LC LH80 Transceiver ..... JD091A
HP X115 100M SFP LC BX 10-U Transceiver ..... JD100A
HP X115 100M SFP LC BX 10-D Transceiver ..... JD101A
HP X110 100M SFP LC FX Transceiver ..... JD102B
HP X110 100M SFP LC LX Transceiver ..... JD120B
HP X130 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 10 G SFP+ SFP+ 7 m Direct Attach Copper Cable ..... JC784C
Cables
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable ..... QK732A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable ..... QK733A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5 m Cable ..... QK734A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable ..... QK735A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable ..... QK736A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable ..... QK737A
Power Supply
HP 5800/5500 150W AC Power Supply ..... JD362A
HP 5800/5500 150W DC Power Supply ..... JD366A
HP 5800 300W AC Power Supply ..... JC087A
HP 5800 300W DC Power Supply ..... JC090A
HP 5800 750W AC PoE Power Supply ..... JC089A
HP RPS 800 Redundant Power Supply ..... JD183A
HP RPS1600 Redundant Power System ..... JG136A

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Accessories
HP RPS1600 1600W AC Power Supply ..... JG137A
EPS/RPS
HP 5800 PoE Module ..... JC097B
Fan Tray
HP 5800 2RU Spare Fan Assembly ..... JC096A
HP 5800 1RU Spare Fan Assembly ..... JC098A
Appliance
HP 5820 VPN Firewall Module ..... JD255A
HP 5800-48G Switch with 2 Slots (JC101A)
HP 5820 VPN Firewall Module ..... JD255A
HP 5800AF-48G Switch (JG225A)
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

HP 5800 Switch Series

## Accessory Product Details

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

| HP X125 1G SFP LC LH40 | Ports |
| :--- | :--- |
| 1310nm Transceiver <br> (JD061A) | Connectivity |
|  |  |
| A small form-factor <br> pluggable SFP Gigabit LH40 <br> transceiver that provides a <br> full duplex Gigabit solution <br> up to 40km on a single- <br> mode fiber. |  |
|  | Clectrical characteristics |

Services

1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics)
Connector type
Wavelength
Dimensions

Full configuration weight $0.04 \mathrm{lb} .(0.02 \mathrm{~kg})$
Power consumption typical 0.8 W
Power consumption 1.0 W
maximum
Cable type:
Single-mode fiber optic, complying with ITU-T G.652;

Maximum distance:

- 40km distance

Fiber type
Single Mode
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

Connectivity

Physical characteristics

Electrical characteristics

1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics) Connector type LC Wavelength $\quad 1550 \mathrm{~nm}$
2.17(d) $\times 0.6(w) \times 0.46(h)$ in. ( $5.51 \times 1.52 \times 1.17$
cm)

Full configuration weight $0.04 \mathrm{lb} .(0.02 \mathrm{~kg})$
Power consumption typical 0.8 W
Power consumption 1.0 W
maximum
Cable type:
Single-mode fiber optic, complying with ITU-T G.652;
Maximum distance:

- 40km distance

Fiber type Single Mode
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 Switch Series
Accessory Product Details

| HP X125 1G SFP LC LH70 | Ports | 1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics) |  |
| :---: | :---: | :---: | :---: |
| Transceiver (JD063B) | Connectivity | Connector type | LC |
| 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 | $\begin{aligned} & 2.17(\mathrm{~d}) \times 0.6(\mathrm{w}) \times 0.46(\mathrm{~h}) \text { in. }(5.51 \times 1.52 \times 1.17 \\ & \mathrm{cm}) \end{aligned}$ |
|  |  | Full configuration weight | $0.04 \mathrm{lb} .(0.02 \mathrm{~kg})$ |
|  | Electrical characteristics | Power consumption typical | 0.8 W |
|  |  | Power consumption maximum | 1.0 W |
|  | Cabling | Cable type: <br> Single-mode fiber optic, com | mplying with ITU-T G.652; |
|  |  | Maximum distance: <br> -70km |  |
|  |  | Fiber type | Single Mode |
|  | Services | Refer to the HP website at: the service-level description and response times in your | www.hp.com/networking/services for details on ns and product numbers. For details about services 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.
$\qquad$

## Ports

Connectivity

Physical characteristics

Electrical characteristics
Full configuration weight
Power consumption 0.8 W typical
Power consumption 1.0 W maximum

## Cabling

Services
1 LC 1000BASE-SX port
Connector type LC
Wavelength 850 nm
cm)

Maximum distance:

- FDDI Grade distance $=220 \mathrm{~m}$
- OM1 = 275m
- $0 M 2=500 \mathrm{~m}$
- 0 M3 $=$ Not Specified by standard

| Cable length | up to 550 m |
| :--- | :--- |
| Fiber type | Multi Mode |

Dimensions $\quad 2.17(\mathrm{~d}) \times 0.6(\mathrm{w}) \times 0.46(\mathrm{~h}) \mathrm{in} .(5.51 \times 1.52 \times 1.17$

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 Switch Series
Accessory Product Details

| HP X120 1G SFP LC LX | Ports | 1 SFP 1000BASE-LX port (IE | EE 802.3z Type 1000BASE-LX) |
| :---: | :---: | :---: | :---: |
| Transceiver (JD119B) | Connectivity | Connector type | LC |
| A small form-factor |  | Wavelength | 1300 nm |
| pluggable (SFP) Gigabig LX transceiver that provides a | Physical characteristics | Dimensions | $\begin{aligned} & 2.17(\mathrm{~d}) \times 0.6(\mathrm{w}) \times 0.46(\mathrm{~h}) \text { in. }(5.51 \times 1.52 \times 1.17 \\ & \mathrm{cm}) \end{aligned}$ |
| full duplex Gigabit solution |  | Full configuration weight | $0.04 \mathrm{lb} .(0.02 \mathrm{~kg}$ ) |
| up to 550 m on MMF or 10Km on SMF | Electrical characteristics | Power consumption typical | 0.8 W |
|  |  | Power consumption maximum | 1.0 W |
|  | Cabling | Cable type: |  |
|  |  | Either single mode or multim | mode; |
|  |  | Maximum distance: |  |
|  |  | - 550m for Multimode |  |
|  |  | - 10km for Singlemode |  |
|  |  | Fiber type | Both |
|  | Services | Refer to the HP website at: the service-level description and response times in your | www.hp.com/networking/services for details on ns and product numbers. For details about services area, please contact your local HP sales office. |
| HP X125 1G SFP RJ45 T | Ports | 1 RJ-45 1000BASE-T port (IE | EEE 802.3ab Type 1000BASE-T) |
| Transceiver (JD089B) | Connectivity | Connector type | RJ-45 |
| A small form factor pluggable (SFP) Gigabit | Physical characteristics | Dimensions | $\begin{aligned} & 2.71(\mathrm{~d}) \times 0.54(\mathrm{w}) \times 0.55(\mathrm{~h}) \text { in. }(6.88 \times 1.37 \times 1.4 \\ & \mathrm{cm}) \end{aligned}$ |
| 1000Base-T transceiver |  | Full configuration weight | $0.07 \mathrm{lb} .(0.03 \mathrm{~kg})$ |
| that provides a full duplex Gigabit solution up to | Electrical characteristics | Power consumption typical | $0.8 \text { W }$ |
| 100 m on a Cat-5+ cable. |  | Power consumption maximum | 1.0 W |
|  | Cabling | Cable type: <br> 1000BASE-T: Category 5 (5E pair unshielded twisted pair complying with IEEE 802.3ab | E or better recommended), 100 Ù differential 4(UTP) or shielded twisted pair (STP) balanced, b 1000BASE-T; |
|  |  | Maximum distance: - 100m |  |
|  | Services | Refer to the HP website at: the service-level description and response times in your | www.hp.com/networking/services for details on ns and product numbers. For details about services area, please contact your local HP sales office. |

## Accessory Product Details

HP X120 1G SFP LC BX 10- Ports
U Transceiver (JD098B)

|  | Connectivity |
| :--- | :--- |
| A small form-factor | Physical characteristics |
| pluggable (SFP) Gigabit LX- |  |
| BX10-U transceiver that |  |
| provides a full duplex |  |
| Gigabit solution up to |  |
| 10km on a single mode |  | cable.

1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only

## Connector type LC

Dimensions
2.17 (d) $\times 0.6(w) \times 0.46(h)$ in. ( $5.51 \times 1.52 \times 1.17$ cm)

Full configuration weight 0.04 lb . ( 0.02 kg )
Power consumption 0.8 W
typical
Power consumption 1.0 W
maximum
Cabling Maximum distance:
-10km
Fiber type Single Mode
TX 1310nm RX 1490nm
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 BX 10- Ports

D Transceiver (JD099B)
A small form-factor pluggable (SFP) Gigabit LX-BX10-D transceiver that provides a full duplex Gigabit solution up to 10 km on a single mode cable.

Connectivity
Physical characteristics

1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-D); Duplex: full only

## Connector type <br> LC

Dimensions
2.17 (d) $\times 0.6(w) \times 0.46(h)$ in. ( $5.51 \times 1.52 \times 1.17$ cm)

Full configuration weight 0.04 lb . ( 0.02 kg )
Electrical characteristics
Power consumption 0.8 W
typical
Power consumption 1.0 W maximum
Cabling

Notes
Services

Maximum distance:

- Up to 10 km

Fiber type Single Mode
TX 1490 nm RX 1310 nm
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.

Multi-mode OM4 2 fiber
1m Cable (QK732A)

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

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

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

## Notes

## Services

Cable Specs: Graded-index, "bendable" fiber optic multimode 0M3+50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

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

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 Premier Flex LC/LC<br>Multi-mode OM4 2 fiber<br>5m Cable (QK734A)

## HP Premier Flex LC/LC <br> Multi-mode OM4 2 fiber

15m Cable (QK735A)

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

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

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.

## Notes

services

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

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

Multi-mode OM4 2 fiber
30m Cable (QK736A)
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|  | - Core diameter: 50 um $\pm 3 u m$, Cladding diameter: $125 u m \pm 2 u m$; Coating diameter: $245 \pm 10$ um <br> - Bandwidth: 3000 MHz-km @ 850nm (Laser) <br> - Jacket Color: Blue <br> - Jacket Material: Riser Grade - Low Smoke Zero Halogen (LSZH) thermoplastic <br> - Boot Color: White <br> - Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. <br> - Insertion Loss: Less than 0.5 dB @ 850 nm with LED source, $0.003 \mathrm{~dB} / \mathrm{m}$ added for lengths $>30 \mathrm{~m}$ <br> - Maximum Cable Attenuation: $3.0 \mathrm{~dB} / \mathrm{km} @ 850 \mathrm{~nm}, 1.0 \mathrm{~dB} / \mathrm{km}$ @ 1310nm @ $23^{\circ} \mathrm{C}$ as tested in accordance with EIA 455-45 |
| :---: | :---: |
| 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. |

- Core diameter: $50 \mathrm{um} \pm 3 \mathrm{um}$, Cladding diameter: $125 \mathrm{um} \pm 2 \mathrm{um}$; Coating diameter: $245 \pm 10$ um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade - Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5 dB @ 850 nm with LED source, $0.003 \mathrm{~dB} / \mathrm{m}$ added for lengths $>30 \mathrm{~m}$
- Maximum Cable Attenuation: $3.0 \mathrm{~dB} / \mathrm{km}$ @ 850nm, $1.0 \mathrm{~dB} / \mathrm{km}$ @ 1310nm @ $23^{\circ} \mathrm{C}$ as tested in accordance with EIA 455-45
Refer to the HP website at www.hp.com/networking/services for details on and response times in your area, please contact your local HP sales office.
Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.


## HP Premier Flex LC/LC <br> Multi-mode OM4 2 fiber <br> 50m Cable (QK737A)

## Notes

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

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Accessory Product Details

HP RPS1600 Redundant Ports
Power System (JG136A)

Physical characteristics

Environment

Electrical characteristics
Voltage
Current
Idle power
Maximum power rating
RPS power 3200 W
PoE power 2800 W
RPS -55 V
PoE
-55 V
Frequency
Notes
8 redundant power supply ports

Dimensions
cm)

Weight $\quad 14.11 \mathrm{lb} .(6.4 \mathrm{~kg})$
Full configuration weight $16.75 \mathrm{lb} .(7.6 \mathrm{~kg})$
Operating temperature $14^{\circ} \mathrm{F}$ to $122^{\circ} \mathrm{F}\left(-10^{\circ} \mathrm{C}\right.$ to $\left.50^{\circ} \mathrm{C}\right)$
Operating relative $5 \%$ to $95 \%$
humidity temperature

Nonoperating/Storage 5\% to 95\%
relative humidity
Altitude up to $13,123 \mathrm{ft}$. ( 4 km )

30/60 A
38 W
3550 W
$50 / 60 \mathrm{~Hz}$

Restrictions: two -56V/25A DC(PoE); six -56V/8A DC(non-PoE)
15.63(d) $\times 17.32$ (w) $\times 1.74$ (h) in. ( $39.7 \times 44 \times 4.42$

Nonoperating/Storage $-40^{\circ} \mathrm{F}$ to $158^{\circ} \mathrm{F}\left(-40^{\circ} \mathrm{C}\right.$ to $\left.70^{\circ} \mathrm{C}\right)$

Acoustic Pressure: 53 dB ; ISO 7779, ISO 9296
100-120/200-240 VAC

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 5800 Switch Series
Accessory Product Details

| HP RPS1600 1600W AC Power Supply (JG137A) | Physical characteristics | Dimensions | $8.19(\mathrm{~d}) \times 4.96(\mathrm{w}) \times 1.63(\mathrm{~h}) \text { in. }(20.8 \times 12.6 \times 4.15$ cm) |
| :---: | :---: | :---: | :---: |
|  |  | Weight | $3.02 \mathrm{lb} .(1.37 \mathrm{~kg}$ ) |
|  | Environment | Operating temperature | $14^{\circ} \mathrm{F}$ to $122^{\circ} \mathrm{F}\left(-10^{\circ} \mathrm{C}\right.$ to $\left.50^{\circ} \mathrm{C}\right)$ |
|  |  | Operating relative humidity | 5\% to 95\% |
|  |  | Nonoperating/Storage temperature | $-40^{\circ} \mathrm{F}$ to $158^{\circ} \mathrm{F}\left(-40^{\circ} \mathrm{C}\right.$ to $\left.70^{\circ} \mathrm{C}\right)$ |
|  |  | 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 | $50 / 60 \mathrm{~Hz}$ |
|  |  | 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 the service-level descripti and response times in you | www.hp.com/networking/services for details on ns and product numbers. For details about services area, please contact your local HP sales office. |
| HP A5820 VPN Firewall Module (JD255A) |  |  |  |
| Ports | 2 RJ-45 auto-negotiating 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3 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) $\times 9.84(\mathrm{w}) \times 14.45$ | in. ( $25 \times 25 \times 36.7 \mathrm{~cm}$ ) |
|  | Weight | $7.72 \mathrm{lb} .(3.5 \mathrm{~kg}$ ) |  |
| Environment | Operating temperature | $32^{\circ} \mathrm{F}$ to $113^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right.$ to $\left.45^{\circ} \mathrm{C}\right)$ |  |
|  | Operating relative humidity | 10\% to 95\%, noncondensi |  |
| Management | IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP |  |  |
| Features | Performance <br> -6.5Gbps Firewall Throughput <br> - 1.8M Concurrent connection <br> - 50K New connection per second <br> - Max 20480 security policies <br> - 2Gbps 3DES/AES VPN Throughput <br> - 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

- 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
- 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
- 6 to4 tunnel (RFC3056)
- ISATAP Tunnel
- IPv6 Packet Filter


## Accessory Product Details

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- Radius <br> - NAT64 <br> \section*{Services} <br> 3-year, parts only, global next-day advance exchange (UZ914E) <br> 3-year, 4-hour onsite, 13x5 coverage for hardware (UZ915) <br> 3-year, 4-hour onsite, 24x7 coverage for hardware (UZ918E) <br> 3-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ SW phone support and SW updates (UZ922E) <br> 3-year, 24x7 SW phone support, software updates (UZ925E) <br> 4-year, 4-hour onsite, $13 \times 5$ coverage for hardware (UZ916E) <br> 4-year, 4-hour onsite, $24 \times 7$ coverage for hardware (UZ919E) <br> 4-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (UZ923E) <br> 4-year, 24x7 SW phone support, software updates (UZ926E) <br> 5-year, 4-hour onsite, 13x5 coverage for hardware (UZ917E) <br> 5-year, 4-hour onsite, $24 \times 7$ coverage for hardware (UZ920E) <br> 5-year, 4-hour onsite, $24 \times 7$ coverage for hardware, $24 \times 7$ software phone (UZ924E) <br> 5-year, 24x7 SW phone support, software updates (UZ927E) <br> 3 Yr 6 hr Call-to-Repair Onsite (UZ928E) <br> 4 Yr 6 hr Call-to-Repair Onsite (UZ929E) <br> 5 Yr 6 hr Call-to-Repair Onsite (UZ930E)
}

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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)

HP 5800 Switch Series

## Accessory Product Details

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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\mathrm{ The ESP DES-CBC Transform
RFC 1853 IP in IP Tunneling
RFC }2085\mathrm{ 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\mathrm{ Public Key Infrastructure
Certificate Management Protocols
RFC 2511 Internet X. }509\mathrm{ Certificate Request
Message Format
RFC 3279 Algorithms and Identifiers for the Internet
X. }509\mathrm{ Public Key Infrastructure Certificate and
Certificate Revocation List (CRL) Profile
RFC 3280 Internet X. }509\mathrm{ Public Key Infrastructure
Certificate and Certificate Revocation List (CRL)
Profile
draft-nourse-scep-06:
PKCS#1
PKCS#10
PKCS#12
PKCS#7
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