Overview

Models

HP 5830AF-48G Switch with 1 Interface Slot	JC691A
HP 5830AF-96G Switch	JC694A

Key features

- Stackable, high port density for high scalability
- HP IRF technology for simpler two-tier networks
- Ultradeep (1 GB and 3 GB) packet buffers
- Full L2/L3 features, IPv4 and IPv6 dual stack
- Lower OpEx and greener data centers

Product overview

The HP 5830AF Switch Series is a family of high-density 1 GbE top-of-rack data center and campus switches that are a part of the HP FlexFabric solution module of the HP FlexNetwork architecture. The two models, the 5830AF-48G and 5830AF-96G switches, are ideally suited for deployments at the server access layer in medium-sized and large enterprise data centers and campus networks. The HP 5830AF-48G Switch delivers 48 1-GbE ports and up to four 10-GbE ports in a space-saving 1RU package, while the HP 5830AF-96G Switch provides an industry-leading 96 1-GbE ports and up to 10 10-GbE uplink ports in a 2RU form factor.

Features and benefits

Quality of Service (QoS)

- **Traffic policing**: supports Committed Access Rate (CAR) and line rate
- **Powerful QoS feature**: creates traffic classes based on access control lists (ACLs), IEEE 802.1p precedence, IP, 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), SP+WRR, and SP+WFQ

Management

- **sFlow** (RFC 3176): provides scalable ASIC-based wire-speed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes
- **Remote configuration and management**: is available through a secure Web browser or a command-line interface (CLI)
- **Manager and operator privilege levels**: enable read-only (operator) and read/write (manager) access on CLI and Web browser management interfaces
- **Management VLAN**: segments traffic to and from management interfaces, including CLI/telnet, a Web browser interface, and SNMP
- **Multiple configuration files**: can be stored to the flash image
- **Secure Web GUI**: provides a secure, easy-to-use graphical interface for configuring the module via HTTPS
- **SNMPv1, v2c, and v3**: facilitate centralized discovery, monitoring, and secure management of networking devices
- **Remote monitoring** (RMON): uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- **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

Overview

on the consistent time

- **Out-of band-interface**: isolates management traffic from user data plane traffic for complete isolation and total reachability, no matter what happens in the data plane
- **Remote intelligent mirroring**: mirrors ingress/egress ACL-selected traffic from a switch port or VLAN to a local or remote switch port anywhere on the network

Connectivity

- **Jumbo frames**
  on Gigabit Ethernet and 10-Gigabit ports, jumbo frames allow high-performance remote backup and disaster-recovery services
- **Auto-MDIX**
  automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports
- **IPv6 native support**
  - **IPv6 host**
    enables switches to be managed and deployed at the IPv6 network's edge
  - **Dual stack (IPv4 & IPv6)**
    transitions from IPv4 to IPv6, supporting connectivity for both protocols
  - **Multicast Listener Discovery (MLD) snooping**
    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, RIP, BGP4+v6, IS-ISv6, and OSPF routing protocols

Performance

- **Extraordinarily high port density**: the HP 5830AF-96G Switch is a single box-type switch that can provide 96 GbE ports and 10 10-GbE ports simultaneously with full line-rate switching and forwarding
- **Ultradeep packet buffering**: provides up to a 3GB packet buffer to help eliminate network congestion at the I/O associated with heavy use of server virtualization, as well as bursty multimedia, storage applications, and other critical services
- **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
- **Local Address Resolution Protocol** (ARP): ARP fast reply feature provides an outstanding utilization of air-interface resources by first issuing an ARP request locally before the AP broadcasts over the radio interface

Resiliency and high availability

- **Device Link Detection Protocol** (DLDP): monitors link connectivity and shuts down ports at both ends if unidirectional traffic is detected, preventing loops in STP-based networks
- **Virtual Router Redundancy Protocol** (VRRP): allows groups of two routers to dynamically back each other up to create highly available routed environments
- **Intelligent Resilient Framework** (IRF): creates virtual resilient switching fabrics, where two or more switches perform as a single L2 switch and L3 router; switches do not have to be co-located and can be part of a disaster recovery system; servers or switches can be attached using standard LACP for automatic load balancing and high availability; can eliminate the need for complex protocols like Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP, thereby simplifying network operation
- **Rapid Ring Protection Protocol** (RRPP): connects multiple switches in a high-performance ring using standard Ethernet technology; traffic can be rerouted around the ring in less than 200 ms, reducing the impact on traffic and applications
- **Smart link**: allows 200 ms failover between links
- **Data center optimized design**: 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

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Manageability

- **Troubleshooting**: ingress and egress port monitoring enable network problem solving

Layer 2 switching

- **Spanning Tree/MSTP and RSTP**: prevent network loops
- **Internet Group Management Protocol** (IGMP) **and Multicast Listener Discovery** (MLD) **protocol snooping**: effectively control and manage the flooding of multicast packets in a Layer 2 network
- **32K MAC addresses**: provide access to many Layer 2 devices
- **IEEE 802.1ad QinQ and Selective QinQ**: increase the scalability of an Ethernet network by providing a hierarchical structure; connect multiple LANs on a high-speed campus or metro network
- **10 GbE port aggregation**: allows grouping of ports to increase overall data throughput to a remote device
- **Port isolation**: increases security by isolating ports within a VLAN while still allowing them to communicate with other VLANs
- **Per-VLAN Spanning Tree Plus** (PVST+): allows each virtual LAN (VLAN) to build a separate spanning tree to improve link bandwidth usage in network environments where multiple VLANs exist
- **GVRP VLAN Registration Protocol**: allows automatic learning and dynamic assignment of VLANs

Layer 3 services

- **Loopback interface address**: defines an address in Routing Information Protocol (RIP) and OSPF, improving diagnostic capability
- **User Datagram Protocol** (UDP) **helper function**: allows UDP broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents server spoofing for UDP services such as DHCP
- **Route maps**: provide more control during route redistribution; allow filtering and altering of route metrics
- **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

- **IPv6 tunneling**: is an important element for the transition from IPv4 to IPv6; allows IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet; supports manually configured, 6to4, and Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnels
- **Bidirectional Forwarding Detection** (BFD): enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, and IRF
- **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
- **Layer 3 IPv4 routing**: provides routing of IPv4 at media speed; supports static routes, RIP and RIPv2, OSPF, IS-IS, and BGP
- **Equal-Cost Multipath** (ECMP): enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- **Layer 3 IPv6 routing**: provides routing of IPv6 at media speed; supports static routes, RIPng, OSPFv3, IS-ISv6, and MP-BGP

Security

- **Access control lists** (ACLs): provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
- **Secure Shell**: encrypts all transmitted data for secure remote CLI access over IP networks
- **Port security**: allows access only to specified MAC addresses, which can be learned or specified by the administrator
- **Secure FTP**: allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized

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copying of a switch configuration file

- **Secure management access**: securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- **Identity-driven security and access control**:
  - Per-user ACLs: permits or denies user access to specific network resources based on user identity, location, and time of day, allowing multiple types of users on the same network to access specific network services without risk to network security or unauthorized access to sensitive data
  - Automatic VLAN assignment: automatically assigns users to the appropriate VLAN based on their identity and location, and the time of day
- **STP BPDU port protection**: blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **DHCP protection**: blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **Dynamic ARP protection**: blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- **STP Root Guard**: protects the root bridge from malicious attacks or configuration mistakes
- **Guest VLAN**: similar to IEEE 802.1X, it provides a browser-based environment to authenticated clients
- **MAC-based authentication**: allows or denies access to the switch based on client MAC address
- **IP Source Guard**: helps prevent IP spoofing attacks
- **Endpoint Admission Defense** (EAD): provides security policies to users accessing a network
- **RADIUS/HWTACACS**: eases switch management security administration by using a password authentication server

Convergence

- **IP multicast snooping** (data-driven IGMP): automatically prevents flooding of IP multicast traffic
- **IEEE 802.1AB Link Layer Discovery Protocol** (LLDP): is an automated device discovery protocol that provides easy mapping of network management applications
- **Internet Group Management Protocol** (IGMP): is used by IP hosts to establish and maintain multicast groups; supports v1, v2, and v3; utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks
- **Protocol Independent Multicast** (PIM): is used for IPv4 and IPv6 multicast applications; supports PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM)
- **Multicast Source Discovery Protocol** (MSDP): is used for inter-domain multicast applications, allowing multiple PIM-SM domains to interoperate
- **Multicast Border Gateway Protocol** (MBGP): allows multicast traffic to be forwarded across BGP networks and kept separate from unicast traffic
- **Multicast VLAN**: allows multiple VLANs to receive the same IPv4 or IPv6 multicast traffic, lessening network bandwidth demand by reducing or eliminating multiple streams to each VLAN
- **LLDP-MED**: is a standard extension that automatically configures network devices, including LLDP-capable IP phones
- **LLDP-CDP compatibility**: receives and recognizes CDP packets from Cisco's IP phones for seamless interoperation

Monitor and diagnostics

- **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

Overview

Additional information

- **Green initiative support**: provides support for RoHS and WEEE regulations
- **Green IT and power**: use the latest advances in silicon development, shut off unused ports, and use variable-speed fans to improve energy efficiency

Warranty and support

- **1-year warranty**: with advance replacement and next-business-day delivery (available in most countries)
- **Electronic and telephone support**: limited electronic and telephone support is available from HP; to reach our support centers, refer to www.hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to www.hp.com/networking/warrantysummary
- **Software releases**: to find software for your product, refer to www.hp.com/networking/support; for details on the software releases available with your product purchase, refer to www.hp.com/networking/warrantysummary

Configuration AF Model

Build To Order:

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

Standard Switch Chassis

HP 5830AF-48G Switch w/1 Interface Slot — JC691A

- 48 RJ-45 autosensing 10/100/1000 ports
- 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP (Min 0 // Max 2 SFP Transceivers)
- 1 extended module slot
- 2 fixed 1000/10000 SFP+ ports (Min 0 // Max 2 SFP or SFP+ Transceivers)
- Must select min 1 Power Supply
- Must select min 1 Fan Tray
- 1U - Height

See Configuration Note:1, 2

HP 5830AF-96G Switch — JC694A

- 96 RJ-45 autosensing 10/100/1000 ports
- 10 fixed 1000/10000 SFP+ ports (Min 0 // Max 10 SFP or SFP+ Transceivers)
- Must select min 1 Power Supply
- Must select min 1 Fan Tray
- 2U - Height

See Configuration Note:2

Configuration Rules:

Note 1 — The following Transceivers install into the SFP Ports:

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 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 X170 1G SFP LC LH70 1550 Transceiver	JD109A
HP X170 1G SFP LC LH70 1570 Transceiver	JD110A
HP X170 1G SFP LC LH70 1590 Transceiver	JD111A
HP X170 1G SFP LC LH70 1610 Transceiver	JD112A
HP X170 1G SFP LC LH70 1470 Transceiver	JD113A
HP X170 1G SFP LC LH70 1490 Transceiver	JD114A
HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
HP X170 1G SFP LC LH70 1530 Transceiver	JD116A

Note 2 — The following Transceivers install into the SFP+ Ports:

HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A

Configuration AF Model

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 X170 1G SFP LC LH70 1550 Transceiver	JD109A
HP X170 1G SFP LC LH70 1570 Transceiver	JD110A
HP X170 1G SFP LC LH70 1590 Transceiver	JD111A
HP X170 1G SFP LC LH70 1610 Transceiver	JD112A
HP X170 1G SFP LC LH70 1470 Transceiver	JD113A
HP X170 1G SFP LC LH70 1490 Transceiver	JD114A
HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
HP X170 1G SFP LC LH70 1530 Transceiver	JD116A
HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC LRM Transceiver	JD093B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C

Box Level Integration CTO Models

CTO Solution Sku

HP 58xx CTO Switch Solution — JG478A

- SSP trigger sku

CTO Switch Chassis

HP 5830AF-48G Switch w/1 Interface Slot — JC691A

- 48 RJ-45 autosensing 10/100/1000 ports
- 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP (Min 0 // Max 2 SFP Transceivers)
- 1 extended module slot
- 2 fixed 1000/10000 SFP+ ports (Min 0 // Max 2 SFP or SFP+ Transceivers)
- Must select min 1 Power Supply
- Must select min 1 Fan Tray
- 1U - Height

See Configuration Note:1, 2, 10

HP 5830AF-96G Switch — JC694A

- 96 RJ-45 autosensing 10/100/1000 ports
- 10 fixed 1000/10000 SFP+ ports (Min 0 // Max 10 SFP or SFP+ Transceivers)
- Must select min 1 Power Supply
- Must select min 1 Fan Tray
- 2U - Height

See Configuration Note:2, 10

Configuration AF Model

Configuration Rules

Note 1 The following Transceivers install into the SFP Ports : (Use #0D1 or #B01 if switch is CTO) - if applicable

HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HP 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 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 X170 1G SFP LC LH70 1550 Transceiver	JD109A
HP X170 1G SFP LC LH70 1570 Transceiver	JD110A
HP X170 1G SFP LC LH70 1590 Transceiver	JD111A
HP X170 1G SFP LC LH70 1610 Transceiver	JD112A
HP X170 1G SFP LC LH70 1470 Transceiver	JD113A
HP X170 1G SFP LC LH70 1490 Transceiver	JD114A
HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
HP X170 1G SFP LC LH70 1530 Transceiver	JD116A

Note 2 The following Transceivers install into the SFP+ Ports : (Use #0D1 or #B01 if switch is CTO) - if applicable

HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HP 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 X170 1G SFP LC LH70 1550 Transceiver	JD109A
HP X170 1G SFP LC LH70 1570 Transceiver	JD110A
HP X170 1G SFP LC LH70 1590 Transceiver	JD111A
HP X170 1G SFP LC LH70 1610 Transceiver	JD112A
HP X170 1G SFP LC LH70 1470 Transceiver	JD113A
HP X170 1G SFP LC LH70 1490 Transceiver	JD114A
HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
HP X170 1G SFP LC LH70 1530 Transceiver	JD116A
HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC LRM Transceiver	JD093B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C

Configuration AF Model

	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
Note 10	If the Switch Chassis is to be Box Level Factory Integrated (CTO)), Then the #0D1 is required on the Switch Chassis and integrated to the JG478A - HP 58xx CTO Switch Solution. (Min 1/Max 1 Switch per SSP)	

Rack Level Integration CTO Models

CTO Switch Chassis

HP 5830AF-48G Switch w/1 Interface Slot — JC691A

- 48 RJ-45 autosensing 10/100/1000 ports
- 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP (Min 0 // Max 2 SFP Transceivers)
- 1 extended module slot
- 2 fixed 1000/10000 SFP+ ports (Min 0 // Max 2 SFP or SFP+ Transceivers)
- Must select min 1 Power Supply
- Must select min 1 Fan Tray
- 1U - Height

See Configuration Note:1, 2, 10

HP 5830AF-96G Switch — JC694A

- 96 RJ-45 autosensing 10/100/1000 ports
- 10 fixed 1000/10000 SFP+ ports (Min 0 // Max 10 SFP or SFP+ Transceivers)
- Must select min 1 Power Supply
- Must select min 1 Fan Tray
- 2U - Height

See Configuration Note:2, 10

Configuration Rules:

Note 1	The following Transceivers install into the SFP Ports : (Use #0D1 if switch is CTO) - if applicable	
	HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP 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 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 X170 1G SFP LC LH70 1550 Transceiver	JD109A
	HP X170 1G SFP LC LH70 1570 Transceiver	JD110A
	HP X170 1G SFP LC LH70 1590 Transceiver	JD111A
	HP X170 1G SFP LC LH70 1610 Transceiver	JD112A
	HP X170 1G SFP LC LH70 1470 Transceiver	JD113A
	HP X170 1G SFP LC LH70 1490 Transceiver	JD114A
	HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
	HP X170 1G SFP LC LH70 1530 Transceiver	JD116A

Note 2	The following Transceivers install into the SFP+ Ports : (Use #0D1 or #B01 if switch is CTO) - if applicable	
	HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP 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 X170 1G SFP LC LH70 1550 Transceiver	JD109A
	HP X170 1G SFP LC LH70 1570 Transceiver	JD110A
	HP X170 1G SFP LC LH70 1590 Transceiver	JD111A
	HP X170 1G SFP LC LH70 1610 Transceiver	JD112A
	HP X170 1G SFP LC LH70 1470 Transceiver	JD113A
	HP X170 1G SFP LC LH70 1490 Transceiver	JD114A
	HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
	HP X170 1G SFP LC LH70 1530 Transceiver	JD116A
	HP X130 10G SFP+ LC SR Transceiver	JD092B
	HP X130 10G SFP+ LC LRM Transceiver	JD093B
	HP X130 10G SFP+ LC LR Transceiver	JD094B
	HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
	HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
	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 10	If HP CTO Switch Chassis is selected for Rack Level Integration, Then the Switch needs to integrate (with #0D1) to the Rack.	

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

Modules

Ethernet Modules

(JC691A and JG316A Switches Only) System (std 0 // max 1) User Selection (min 0 // max 1) per enclosure

HP 5500/5120 2-port 10GbE SFP+ Module — JD368B
- min=0 \ max=2 SFP + Transceivers — See Configuration Note:1

Configuration Rules:

Note 1	The following Transceivers install into this Module: But integrate on quote to the Switch: (Use #0D1 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 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+ SFP+ 7m Direct Attach Copper Cable	JC784C
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C

Transceivers

SFP+ Transceivers

HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC LRM Transceiver	JD093B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X240 10G SFP+ SFP+ 0.65m DAC Cable	JD095C#B01
HP X240 10G SFP+ SFP+ 1.2m DAC Cable	JD096C#B01
HP X240 10G SFP+ SFP+ 3m DAC Cable	JD097C#B01
HP X240 10G SFP+ SFP+ 5m DAC Cable	JG081C#B01
HP X240 10G SFP+ 7m DAC Cable	JC784C#B01

SFP Transceivers

HP X125 1G SFP LC LH40 1310nm XCVR	JD061A
HP X120 1G SFP LC LH40 1550nm XCVR	JD062A
HP X120 1G SFP 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 LH70 Transceiver	JD063B
HP X110 100M SFP LC LH40 Transceiver	JD090A
HP X110 100M SFP LC LH80 Transceiver	JD091A
HP X110 100M SFP LC FX Transceiver	JD102B
HP X110 100M SFP LC LX Transceiver	JD120B
HP X170 1G SFP LC LH70 1550 Transceiver	JD109A
HP X170 1G SFP LC LH70 1570 Transceiver	JD110A
HP X170 1G SFP LC LH70 1590 Transceiver	JD111A
HP X170 1G SFP LC LH70 1610 Transceiver	JD112A
HP X170 1G SFP LC LH70 1470 Transceiver	JD113A
HP X170 1G SFP LC LH70 1490 Transceiver	JD114A
HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
HP X170 1G SFP LC LH70 1530 Transceiver	JD116A

Configuration AF Model

Internal Power Supplies

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

HP 58x0AF 650W DC Power Supply	JC681A See Configuration Note:1
HP A58x0AF 650W AC Power Supply • includes 1 x c13, 650w	JC680A See Configuration Note:1, 2
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JC680A#B2B
PDU Cable ROW • C15 PDU Jumper Cord (ROW)	JC680A#B2C

Configuration Rules:

Note 1	Power Supplies cannot be mixed for a switch enclosure
Note 2	Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord). (See Localization Menu) REMARK: When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power Cable option on the Switches/Routers.

Remarks:

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

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

Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO)

Switch Options

Fan Tray

See Configuration Note:System (std 0 // max 1) User Selection (min 1 // max 1) per switch enclosure

HP 5830AF-48G Bck(pwr)-Frt(prt) Fan Tray • These modules provide power side to port side airflow.	JC692A See Configuration Note:1
HP 5830AF-48G Frt(prt)-Bck(pwr) Fan Tray	JC693A

Configuration AF Model

- These modules provide port side to power side airflow. See Configuration Note:1

HP A5830AF-96G bck(pwr)-frt(prt) Fn Tray JC695A
- These modules provide power side to port side airflow. See Configuration Note:2

HP A5830AF-96G frt(prt)-bck(pwr) Fn Tray JC696A
- These modules provide port side to power side airflow. See Configuration Note:2

Configuration Rules:

Note 1 Only supported onJC691A and JG316A.

Note 2 Only supported onJC694A and JG374A.

Note 3 If HP CTO Switch Chassis is selected for Rack Level Integration , Then JC692A#0D1 or JC695A#0D1 is required. (Depending on Switch Base Model)

Note 4 Fan Trays cannot be mixed in the same switch enclosure

Remarks: Watson Blue Text:
If there is any empty space below the switch in a rack when using Back to Front Fan Trays, JC692A or JC695A, the rack will receive an Air Plenum kit that takes up 1U of additional space in the rack. The Air Plenum kit is not required on fully configured racks. This only applies for CTO Rack Level Integration. The Air Plenum Kit is a non-saleable SKU, and is brought in automatically for CTO Factory Rack Level Integration.

Technical Specifications

HP 5830AF-48G Switch with 1 Interface Slot (JC691A)

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 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP	
	2 fixed 1000/10000 SFP+ ports	
	1 RJ-45 serial console port	
	1 RJ-45 out-of-band management port	
	1 extended module slot	
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	1 fan tray slot Base product does not include fan tray	
Physical Characteristics	**Dimensions**	17.32(w) x 18.11(d) x 1.72(h) in (43.99 x 46 x 4.37 cm) (1U height)
	Weight	14.53 lb (6.59 kg)
Memory and Processor	64 MB flash, 1 GB SDRAM; packet buffer size: 1 GB	
Performance	**Throughput**	119 million pps (64-byte packets)
	Switching capacity	160 Gbps
	Routing table size	12000 entries
	MAC address table size	32000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%
	Acoustic	Low-speed fan: 58 dB, High-speed fan: 65 dB
Electrical Characteristics	**Maximum heat dissipation**	440 BTU/hr (464.2 kJ/hr)
	Voltage	100-240 VAC
	DC voltage	-40 to -60 VDC
	Frequency	50/60 Hz
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EMC Directive 2004/108/EC; EN 55024:1998+ A1:2001 + A2:2003; FCC (CFR 47, Part 15) Subpart B Class A	
Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 55024:1998+ A1:2001 + A2:2003
	ESD	EN 61000-4-2; IEC 61000-4-2
	Radiated	EN 61000-4-3; IEC 61000-4-3
	EFT/Burst	EN 61000-4-4; IEC 61000-4-4
	Surge	EN 61000-4-5; IEC 61000-4-5
	Conducted	EN 61000-4-6; IEC 61000-4-6

Technical Specifications

	Power frequency magnetic field	IEC 61000-4-8; IEC 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; out-of-band management; SNMP Manager; Telnet; RMON1; FTP; IEEE 802.3 Ethernet MIB	
Notes	Additional specifications • Static MAC table: 5120 • Max VLAN interface: 1,000 • Multicast L2 entries for IPv4: 2,000 • Multicast L2 entries for IPv6: 1,000 • Multicast L3 entries for IPv4: 2,000 • Multicast L3 entries for IPv6: 1,000 • VLAN table: 4,000 • QoS forward queue number: 8 • Static ARP number: 1,000 • Dynamic ARP number: 8,000 • MAX number in one link group: 8 • Link group number: 128 • ACL number: 4,000 (ingress); 512 (egress)	
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 5830AF-96G Switch (JC694A)

Ports	96 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	
	10 fixed 1000/10000 SFP+ ports	
	1 RJ-45 serial console port	
	1 RJ-45 out-of-band management port	
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	1 fan tray slot Base product does not include fan tray	
Physical Characteristics	**Dimensions**	17.32(w) x 25.98(d) x 3.39(h) in (43.99 x 65.99 x 8.61 cm)
	Weight	31.75 lb (14.4 kg)
Memory and Processor	64 MB flash, 1 GB SDRAM; packet buffer size: 3 GB	
Performance	**Throughput**	291.6 million pps (64-byte packets)
	Switching capacity	392 Gbps
	Routing table size	12000 entries
	MAC address table size	32000 entries

Technical Specifications

Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%
	Acoustic	Low-speed fan: 58 dB, High-speed fan: 65 dB
Electrical Characteristics	**Maximum heat dissipation**	1209 BTU/hr (1275.49 kJ/hr)
	Voltage	100-240 VAC
	DC voltage	-40 to -60 VDC
	Frequency	50/60 Hz
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EMC Directive 2004/108/EC; EN 55024:1998+ A1:2001 + A2:2003; FCC (CFR 47, Part 15) Subpart B Class A	
Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 55024:1998+ A1:2001 + A2:2003
	ESD	EN 61000-4-2; IEC 61000-4-2
	Radiated	EN 61000-4-3; IEC 61000-4-3
	EFT/Burst	EN 61000-4-4; IEC 61000-4-4
	Surge	EN 61000-4-5; IEC 61000-4-5
	Conducted	EN 61000-4-6; IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8; IEC 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; out-of-band management; SNMP Manager; Telnet; RMON1; FTP; IEEE 802.3 Ethernet MIB	
Notes	Additional specifications • Static MAC table: 5120 • Max VLAN interface: 1,000 • Multicast L2 entries for IPv4: 2,000 • Multicast L2 entries for IPv6: 1,000 • Multicast L3 entries for IPv4: 2,000 • Multicast L3 entries for IPv6: 1,000 • VLAN table: 4,000 • QoS forward queue number: 8 • Static ARP number: 1,000 • Dynamic ARP number: 8,000 • MAX number in one link group: 8 • Link group number: 128 • ACL number (GbE ports): 8,000 (ingress); 1,000 (egress) • ACL number(10 GbE ports): 2,000 (ingress); 512 (egress)	

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)

BGP

RFC 1771 BGPv4
RFC 1772 Application of the BGP
RFC 1965 BGP4 confederations
RFC 1997 BGP Communities Attribute
RFC 1998 PPP Gandalf FZA Compression Protocol
RFC 2385 BGP Session Protection via TCP MD5
RFC 2439 BGP Route Flap Damping
RFC 2796 BGP Route Reflection
RFC 2858 BGP-4 Multi-Protocol Extensions
RFC 2918 Route Refresh Capability
RFC 3065 Autonomous System Confederations for BGP
RFC 3392 Capabilities Advertisement with BGP-4
RFC 4271 A Border Gateway Protocol 4 (BGP-4)
RFC 4272 BGP Security Vulnerabilities Analysis
RFC 4273 Definitions of Managed Objects for BGP-4
RFC 4274 BGP-4 Protocol Analysis
RFC 4275 BGP-4 MIB Implementation Survey
RFC 4276 BGP-4 Implementation Report
RFC 4277 Experience with the BGP-4 Protocol
RFC 4360 BGP Extended Communities Attribute
RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP)
RFC 5291 Outbound Route Filtering Capability for BGP-4
RFC 5292 Address-Prefix-Based Outbound Route Filter for BGP-4

Denial of service protection

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

Device management

RFC 1157 SNMPv1/v2c
RFC 1305 NTPv3
RFC 1902 (SNMPv2)
RFC 2271 FrameWork
RFC 2579 (SMIv2 Text Conventions)
RFC 2580 (SMIv2 Conformance)
RFC 2819 (RMON groups Alarm, Event, History and Statistics only)
HTTP, SSHv1, and Telnet

RFC 2081 RIPng Protocol Applicability Statement
RFC 2292 Advanced Sockets API for IPv6
RFC 2373 IPv6 Addressing Architecture
RFC 2375 IPv6 Multicast Address Assignments
RFC 2460 IPv6 Specification
RFC 2461 IPv6 Neighbor Discovery
RFC 2462 IPv6 Stateless Address Auto-configuration
RFC 2463 ICMPv6
RFC 2464 Transmission of IPv6 over Ethernet Networks
RFC 2473 Generic Packet Tunneling in IPv6
RFC 2526 Reserved IPv6 Subnet Anycast Addresses
RFC 2529 Transmission of IPv6 Packets over IPv4
RFC 2545 Use of MP-BGP-4 for IPv6
RFC 2553 Basic Socket Interface Extensions for IPv6
RFC 2710 Multicast Listener Discovery (MLD) for IPv6
RFC 2740 OSPFv3 for IPv6
RFC 2767 Dual stacks IPv46 & IPv6
RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers
RFC 3056 Connection of IPv6 Domains via IPv4 Clouds
RFC 3307 IPv6 Multicast Address Allocation
RFC 3315 DHCPv6 (client and relay)
RFC 3484 Default Address Selection for IPv6
RFC 3513 IPv6 Addressing Architecture
RFC 3736 Stateless Dynamic Host Configuration Protocol (DHCP) Service for IPv6
RFC 3810 MLDv2 for IPv6
RFC 4214 Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)

MIBs

RFC 1156 (TCP/IP MIB)
RFC 1157 A Simple Network Management Protocol (SNMP)
RFC 1213 MIB II
RFC 1215 A Convention for Defining Traps for use with the SNMP
RFC 1229 Interface MIB Extensions
RFC 1493 Bridge MIB
RFC 1573 SNMP MIB II
RFC 1643 Ethernet MIB
RFC 1657 BGP-4 MIB
RFC 1724 RIPv2 MIB
RFC 1757 Remote Network Monitoring MIB

Multiple Configuration Files
Multiple Software Images
SSHv1/SSHv2 Secure Shell
TACACS/TACACS+
Web UI

General protocols
IEEE 802.1ad Q-in-Q
IEEE 802.1ag Service Layer OAM
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s Multiple Spanning Trees
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.1X PAE
IEEE 802.3ab 1000BASE-T
IEEE 802.3ac (VLAN Tagging Extension)
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3ae 10-Gigabit Ethernet
IEEE 802.3at
IEEE 802.3u 100BASE-X
IEEE 802.3z 1000BASE-X
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 894 IP over Ethernet
RFC 903 RARP
RFC 906 TFTP Bootstrap
RFC 925 Multi-LAN Address Resolution
RFC 950 Internet Standard Subnetting Procedure
RFC 951 BOOTP
RFC 959 File Transfer Protocol (FTP)
RFC 1027 Proxy ARP
RFC 1035 Domain Implementation and Specification
RFC 1042 IP Datagrams
RFC 1058 RIPv1
RFC 1142 OSI IS-IS Intra-domain Routing Protocol
RFC 1213 Management Information Base for Network Management of TCP/IP-based internets
RFC 1256 ICMP Router Discovery Protocol (IRDP)
RFC 1293 Inverse Address Resolution Protocol
RFC 1305 NTPv3
RFC 1350 TFTP Protocol (revision 2)
RFC 1393 Traceroute Using an IP Option
RFC 1519 CIDR
RFC 1531 Dynamic Host Configuration Protocol
RFC 1533 DHCP Options and BOOTP Vendor
RFC 1850 OSPFv2 MIB
RFC 1907 SNMPv2 MIB
RFC 2011 SNMPv2 MIB for IP
RFC 2012 SNMPv2 MIB for TCP
RFC 2013 SNMPv2 MIB for UDP
RFC 2096 IP Forwarding Table MIB
RFC 2233 Interface MIB
RFC 2452 IPV6-TCP-MIB
RFC 2454 IPV6-UDP-MIB
RFC 2571 SNMP Framework MIB
RFC 2572 SNMP-MPD MIB
RFC 2573 SNMP-Target MIB
RFC 2578 Structure of Management Information Version 2 (SMIv2)
RFC 2580 Conformance Statements for SMIv2
RFC 2618 RADIUS Client MIB
RFC 2620 RADIUS Accounting MIB
RFC 2665 Ethernet-Like-MIB
RFC 2668 802.3 MAU MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2787 VRRP MIB
RFC 2819 RMON MIB
RFC 2925 Ping MIB
RFC 2932IP (Multicast Routing MIB)
RFC 2933 IGMP MIB
RFC 2934 Protocol Independent Multicast MIB for IPv4
RFC 3414 SNMP-User based-SM MIB
RFC 3415 SNMP-View based-ACM MIB
RFC 3417 Simple Network Management Protocol (SNMP) over IEEE 802 Networks
RFC 3418 MIB for SNMPv3
RFC 3595 Textual Conventions for IPv6 Flow Label
RFC 3826 AES for SNMP's USM MIB
RFC 4133 Entity MIB (Version 3)
RFC 4444 Management Information Base for Intermediate System to Intermediate System (IS-IS)

Network management
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 1155 Structure of Management Information
RFC 1157 SNMPv1
RFC 1448 Protocol Operations for version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 2211 Controlled-Load Network
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 3176 sFlow
RFC 3411 SNMP Management Frameworks
RFC 3412 SNMPv3 Message Processing
RFC 3414 SNMPv3 User-based Security Model

Extensions
RFC 1591 DNS (client only)
RFC 1624 Incremental Internet Checksum
RFC 1701 Generic Routing Encapsulation
RFC 1721 RIP-2 Analysis
RFC 1723 RIP v2
RFC 1812 IPv4 Routing
RFC 2091 Trigger RIP
RFC 2131 DHCP
RFC 2138 Remote Authentication Dial In User Service (RADIUS)
RFC 2453 RIPv2
RFC 2644 Directed Broadcast Control
RFC 2763 Dynamic Name-to-System ID mapping
RFC 2784 Generic Routing Encapsulation (GRE)
RFC 2865 Remote Authentication Dial In User Service (RADIUS)
RFC 2966 Domain-wide Prefix Distribution with Two-Level IS-IS
RFC 2973 IS-IS Mesh Groups
RFC 3277 IS-IS Transient Blackhole Avoidance
RFC 3567 Intermediate System to Intermediate System (IS-IS) Cryptographic Authentication
RFC 3719 Recommendations for Interoperable Networks using Intermediate System to Intermediate System (IS-IS)
RFC 3784 ISIS TE support
RFC 3786 Extending the Number of IS-IS LSP Fragments Beyond the 256 Limit
RFC 3787 Recommendations for Interoperable IP Networks using Intermediate System to Intermediate System (IS-IS)
RFC 3847 Restart signaling for IS-IS
RFC 4251 The Secure Shell (SSH) Protocol Architecture
RFC 5130 A Policy Control Mechanism in IS-IS Using Administrative Tags

IP multicast
RFC 2236 IGMPv2
RFC 2283 Multiprotocol Extensions for BGP-4
RFC 2362 PIM Sparse Mode (Premium Edge License)
RFC 3376 IGMPv3
RFC 3446 Anycast Rendezvous Point (RP) mechanism using Protocol Independent Multicast (PIM) and Multicast Source Discovery Protocol (MSDP)
RFC 3618 Multicast Source Discovery Protocol (MSDP)
RFC 3973 PIM Dense Mode

(USM)
RFC 3415 SNMPv3 View-based Access Control Model VACM)
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)

OSPF
RFC 1245 OSPF protocol analysis
RFC 1246 Experience with OSPF
RFC 1765 OSPF Database Overflow
RFC 1850 OSPFv2 Management Information Base (MIB), traps
RFC 2154 OSPF w/ Digital Signatures (Password, MD-5)
RFC 2328 OSPFv2
RFC 2370 OSPF Opaque LSA Option
RFC 3101 OSPF NSSA
RFC 3137 OSPF Stub Router Advertisement
RFC 3630 Traffic Engineering Extensions to OSPF Version 2
RFC 4061 Benchmarking Basic OSPF Single Router Control Plane Convergence
RFC 4062 OSPF Benchmarking Terminology and Concepts
RFC 4063 Considerations When Using Basic OSPF Convergence Benchmarks
RFC 4222 Prioritized Treatment of Specific OSPF Version 2 Packets and Congestion Avoidance
RFC 4811 OSPF Out-of-Band LSDB Resynchronization
RFC 4812 OSPF Restart Signaling
RFC 4813 OSPF Link-Local Signaling
RFC 4940 IANA Considerations for OSPF

QoS/CoS
IEEE 802.1P (CoS)
RFC 1349 Type of Service in the Internet Protocol Suite
RFC 2211 Specification of the Controlled-Load Network Element Service
RFC 2212 Guaranteed Quality of Service
RFC 2474 DSCP DiffServ
RFC 2475 DiffServ Architecture
RFC 2597 DiffServ Assured Forwarding (AF)
RFC 2598 DiffServ Expedited Forwarding (EF)

Security
IEEE 802.1X Port Based Network Access Control
RFC 1321 The MD5 Message-Digest Algorithm
RFC 1334 PPP Authentication Protocols (PAP)
RFC 1492 An Access Control Protocol, Sometimes

RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches
RFC 4601 Draft 10 PIM Sparse Mode
RFC 4604 Using Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Protocol Version 2 (MLDv2) for Source-Specific Multicast
RFC 4605 IGMP/MLD Proxying
RFC 4607 Source-Specific Multicast for IP
RFC 4610 Anycast-RP Using Protocol Independent Multicast (PIM)
RFC 5059 Bootstrap Router (BSR) Mechanism for Protocol Independent Multicast (PIM)

IPv6

RFC 1886 DNS Extension for IPv6
RFC 1887 IPv6 Unicast Address Allocation Architecture
RFC 1981 IPv6 Path MTU Discovery
RFC 2080 RIPng for IPv6

Called TACACS
RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)
RFC 2082 RIP-2 MD5 Authentication
RFC 2104 Keyed-Hashing for Message Authentication
RFC 2408 Internet Security Association and Key Management Protocol (ISAKMP)
RFC 2409 The Internet Key Exchange (IKE)
RFC 2716 PPP EAP TLS Authentication Protocol
RFC 2865 RADIUS Authentication
RFC 2866 RADIUS Accounting
RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support
RFC 2868 RADIUS Attributes for Tunnel Protocol Support
RFC 2869 RADIUS Extensions
Access Control Lists (ACLs)
Guest VLAN for 802.1x
MAC Authentication
Port Security
SSHv1/SSHv2 Secure Shell

HP 5830 Switch Series accessories

Transceivers

HP X110 100M SFP LC LH40 Transceiver	JD090A
HP X110 100M SFP LC LH80 Transceiver	JD091A
HP X110 100M SFP LC FX Transceiver	JD102B
HP X110 100M SFP LC LX Transceiver	JD120B
HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
X125 1G SFP RJ45 T Transceiver	JD089B
HP X170 1G SFP LC LH70 1550 Transceiver	JD109A
HP X170 1G SFP LC LH70 1570 Transceiver	JD110A
HP X170 1G SFP LC LH70 1590 Transceiver	JD111A
HP X170 1G SFP LC LH70 1610 Transceiver	JD112A
HP X170 1G SFP LC LH70 1470 Transceiver	JD113A
HP X170 1G SFP LC LH70 1490 Transceiver	JD114A
HP X170 1G SFP LC LH70 1510 Transceiver	JD115A
HP X170 1G SFP LC LH70 1530 Transceiver	JD116A
HP X130 SFP+ LC SR Transceiver	JD092B
HP X130 SFP+ LC LRM Transceiver	JD093B
HP X130 SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
Power Supply	
HP 58x0AF 650W AC Power Supply	JC680A
HP 58x0AF 650W DC Power Supply	JC681A
HP 5830AF-48G Switch with 1 Interface Slot (JC691A)	
HP 5500/5120 2-port 10GbE SFP+ Module	JD368B
HP 5830AF-48G Back (power side) to Front (port side) Airflow Fan Tray	JC692A
HP 5830AF-48G Front (port side) to Back (power side) Airflow Fan Tray	JC693A
HP 5830AF-96G Switch (JC694A)	
HP 5830AF-96G back (power side) to front (port side) airflow Fan Tray	JC695A
HP 5830AF-96G front (port side) to back (power side) airflow Fan Tray	JC696A

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

Accessory Product Details

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

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

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

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