

### Overview

## HPE FlexFabric 5830 Switch Series

### Models

HPE FlexFabric 5830AF 48G 1-slot Switch

JC691A

HPE FlexFabric 5830AF 96G Switch

JC694A

### Key features

- Stackable, high port density for high scalability
- HPE 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 HPE FlexFabric 5830AF Switch Series is a family of high-density GbE top-of-rack data center and campus switches that is a part of the HPE FlexNetwork architecture's HPE FlexFabric solution module. 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 HPE 5830AF-48G Switch delivers 48 GbE ports and up to four 10GbE ports in a space-saving 1RU package, while the HPE 5830AF-96G Switch provides an industry-leading 96 GbE ports and up to 10 10GbE 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

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timekeeping among all clock-dependent devices within the network so that the devices can provide diverse applications based 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 HPE 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 Fabric (IRF):** creates virtual resilient switching fabrics, where two or more switches perform as a single L2 switch and L3 router; switches do not have to be co-located and can be part of a disaster recovery system; servers or switches can be attached using standard LACP for automatic load balancing and high availability; can eliminate the need for complex protocols like Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP, thereby simplifying network operation
- **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

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redundant hot-swappable AC or DC power and fans

## 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, RIPv6, 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

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- **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 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

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mechanism used for link connectivity detection and fault locating

### 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**  
see <http://www.hpe.com/networking/warrantysummary> for warranty and support information included with your product purchase.
- **Software releases**  
to find software for your product, refer to <http://www.hpe.com/networking/support>; for details on the software releases available with your product purchase, refer to <http://www.hpe.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

#### HPE FlexFabric 5830AF 48G 1-slot Switch

- 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

JC691A

See Configuration  
**NOTE:1, 2**

#### HPE FlexFabric 5830AF 96G Switch

- 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

JC694A

See Configuration  
**NOTE:2**

### Configuration Rules:

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

|  |        |
|--|--------|
| HPE X125 1G SFP LC LH40 1310nm Transceiver | JD061A |
| HPE X120 1G SFP LC LH40 1550nm Transceiver | JD062A |
| HPE X120 1G SFP LC SX Transceiver          | JD118B |
| HPE X120 1G SFP LC LX Transceiver          | JD119B |
| HPE X125 1G SFP LC LH70 Transceiver        | JD063B |
| HPE X120 1G SFP RJ45 T Transceiver         | JD089B |
| HPE X110 100M SFP LC LH40 Transceiver      | JD090A |
| HPE X110 100M SFP LC LH80 Transceiver      | JD091A |
| HPE X115 100M SFP LC FX Transceiver        | JD102B |
| HPE X110 100M SFP LC LX Transceiver        | JD120B |
| HPE X170 1G SFP LC LH70 1550 Transceiver   | JD109A |
| HPE X170 1G SFP LC LH70 1570 Transceiver   | JD110A |
| HPE X170 1G SFP LC LH70 1590 Transceiver   | JD111A |
| HPE X170 1G SFP LC LH70 1610 Transceiver   | JD112A |
| HPE X170 1G SFP LC LH70 1510 Transceiver   | JD115A |

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

|  |        |
|--|--------|
| HPE X125 1G SFP LC LH40 1310nm Transceiver | JD061A |
| HPE X120 1G SFP LC LH40 1550nm Transceiver | JD062A |
| HPE X120 1G SFP LC SX Transceiver          | JD118B |
| HPE X120 1G SFP LC LX Transceiver          | JD119B |

## Configuration AF Model

|  |        |
|--|--------|
| HPE X125 1G SFP LC LH70 Transceiver                                    | JD063B |
| HPE X120 1G SFP RJ45 T Transceiver                                     | JD089B |
| HPE X170 1G SFP LC LH70 1550 Transceiver                               | JD109A |
| HPE X170 1G SFP LC LH70 1570 Transceiver                               | JD110A |
| HPE X170 1G SFP LC LH70 1590 Transceiver                               | JD111A |
| HPE X170 1G SFP LC LH70 1610 Transceiver                               | JD112A |
| HPE X170 1G SFP LC LH70 1510 Transceiver                               | JD115A |
| HPE X130 10G SFP+ LC SR Transceiver                                    | JD092B |
| HPE X130 10G SFP+ LC LRM Transceiver                                   | JD093B |
| HPE X130 10G SFP+ LC LR Transceiver                                    | JD094B |
| HPE X130 10G SFP+ LC SR Data Center Transceiver                        | JL437A |
| HPE X130 10G SFP+ LC LRM Data Center Transceiver                       | JL438A |
| HPE X130 10G SFP+ LC LR Data Center Transceiver                        | JL439A |
| HPE X130 10G SFP+ LC ER 40km Transceiver                               | JG234A |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable | JD095C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable  | JD096C |
| HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable       | JC784C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable    | JD097C |
| HPE X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Campus-Cable      | JH693A |
| HPE X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Campus-Cable       | JH694A |
| HPE X240 10G SFP+ to SFP+ 3m Direct Attach Copper Campus-Cable         | JH695A |
| HPE X240 10G SFP+ to SFP+ 7m Direct Attach Copper Campus-Cable         | JH696A |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable    | JG081C |

## Box Level Integration CTO Models

### CTO Solution SKU

|   |        |
|---|--------|
| HPE FlexFabric 58xx Configure-to-order Switch Solution            | JG478A |
| <ul style="list-style-type: none"> <li>SSP trigger SKU</li> </ul> |        |

### CTO Switch Chassis

|   |   |
|---|---|
| HPE FlexFabric 5830AF 48G 1-slot Switch   | JC691A                                    |
| <ul style="list-style-type: none"> <li>48 RJ-45 autosensing 10/100/1000 ports</li> <li>2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP (Min 0 // Max 2 SFP Transceivers)</li> <li>1 extended module slot</li> <li>2 fixed 1000/10000 SFP+ ports (Min 0 // Max 2 SFP or SFP+ Transceivers)</li> <li>Must select min 1 Power Supply</li> <li>Must select min 1 Fan Tray</li> <li>1U - Height</li> </ul> | See Configuration<br><b>NOTE:1, 2, 10</b> |
| HPE FlexFabric 5830AF 96G Switch  | JC694A                                    |
| <ul style="list-style-type: none"> <li>96 RJ-45 autosensing 10/100/1000 ports</li> <li>10 fixed 1000/10000 SFP+ ports (Min 0 // Max 10 SFP or SFP+ Transceivers)</li> <li>Must select min 1 Power Supply</li> <li>Must select min 1 Fan Tray</li> </ul>   | See Configuration<br><b>NOTE:2, 10</b>    |

## Configuration AF Model

- 2U - Height

### Configuration Rules

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

|  |        |
|--|--------|
| HPE X125 1G SFP LC LH40 1310nm Transceiver | JD061A |
| HPE X120 1G SFP LC LH40 1550nm Transceiver | JD062A |
| HPE X120 1G SFP LC SX Transceiver          | JD118B |
| HPE X120 1G SFP LC LX Transceiver          | JD119B |
| HPE X125 1G SFP LC LH70 Transceiver        | JD063B |
| HPE X120 1G SFP RJ45 T Transceiver         | JD089B |
| HPE X110 100M SFP LC LH40 Transceiver      | JD090A |
| HPE X110 100M SFP LC LH80 Transceiver      | JD091A |
| HPE X115 100M SFP LC FX Transceiver        | JD102B |
| HPE X110 100M SFP LC LX Transceiver        | JD120B |
| HPE X170 1G SFP LC LH70 1550 Transceiver   | JD109A |
| HPE X170 1G SFP LC LH70 1570 Transceiver   | JD110A |
| HPE X170 1G SFP LC LH70 1590 Transceiver   | JD111A |
| HPE X170 1G SFP LC LH70 1610 Transceiver   | JD112A |
| HPE X170 1G SFP LC LH70 1510 Transceiver   | JD115A |

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

|  |        |
|--|--------|
| HPE X125 1G SFP LC LH40 1310nm Transceiver                             | JD061A |
| HPE X120 1G SFP LC LH40 1550nm Transceiver                             | JD062A |
| HPE X120 1G SFP LC SX Transceiver                                      | JD118B |
| HPE X120 1G SFP LC LX Transceiver                                      | JD119B |
| HPE X125 1G SFP LC LH70 Transceiver                                    | JD063B |
| HPE X120 1G SFP RJ45 T Transceiver                                     | JD089B |
| HPE X170 1G SFP LC LH70 1550 Transceiver                               | JD109A |
| HPE X170 1G SFP LC LH70 1570 Transceiver                               | JD110A |
| HPE X170 1G SFP LC LH70 1590 Transceiver                               | JD111A |
| HPE X170 1G SFP LC LH70 1610 Transceiver                               | JD112A |
| HPE X170 1G SFP LC LH70 1510 Transceiver                               | JD115A |
| HPE X130 10G SFP+ LC SR Transceiver                                    | JD092B |
| HPE X130 10G SFP+ LC LRM Transceiver                                   | JD093B |
| HPE X130 10G SFP+ LC LR Transceiver                                    | JD094B |
| HPE X130 10G SFP+ LC SR Data Center Transceiver                        | JL437A |
| HPE X130 10G SFP+ LC LRM Data Center Transceiver                       | JL438A |
| HPE X130 10G SFP+ LC LR Data Center Transceiver                        | JL439A |
| HPE X130 10G SFP+ LC ER 40km Transceiver                               | JG234A |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable | JD095C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable  | JD096C |
| HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable       | JC784C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable    | JD097C |
| HPE X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Campus-Cable      | JH693A |
| HPE X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Campus-Cable       | JH694A |
| HPE X240 10G SFP+ to SFP+ 3m Direct Attach Copper Campus-Cable         | JH695A |
| HPE X240 10G SFP+ to SFP+ 7m Direct Attach Copper Campus-Cable         | JH696A |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable    | JG081C |



## Configuration AF Model

**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 - HPE 58xx CTO Switch Solution. (Min 1/Max 1 Switch per SSP)

## Rack Level Integration CTO Models

### CTO Switch Chassis

#### HPE FlexFabric 5830AF 48G 1-slot Switch

- 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

JC691A

See Configuration  
**NOTE:1, 2, 10**

#### HPE FlexFabric 5830AF 96G Switch

- 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

JC694A

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

|  |        |
|--|--------|
| HPE X125 1G SFP LC LH40 1310nm Transceiver | JD061A |
| HPE X120 1G SFP LC LH40 1550nm Transceiver | JD062A |
| HPE X120 1G SFP LC SX Transceiver          | JD118B |
| HPE X120 1G SFP LC LX Transceiver          | JD119B |
| HPE X125 1G SFP LC LH70 Transceiver        | JD063B |
| HPE X120 1G SFP RJ45 T Transceiver         | JD089B |
| HPE X110 100M SFP LC LH40 Transceiver      | JD090A |
| HPE X110 100M SFP LC LH80 Transceiver      | JD091A |
| HPE X115 100M SFP LC FX Transceiver        | JD102B |
| HPE X110 100M SFP LC LX Transceiver        | JD120B |
| HPE X170 1G SFP LC LH70 1550 Transceiver   | JD109A |
| HPE X170 1G SFP LC LH70 1570 Transceiver   | JD110A |
| HPE X170 1G SFP LC LH70 1590 Transceiver   | JD111A |
| HPE X170 1G SFP LC LH70 1610 Transceiver   | JD112A |
| HPE X170 1G SFP LC LH70 1510 Transceiver   | JD115A |

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

|  |        |
|--|--------|
| HPE X125 1G SFP LC LH40 1310nm Transceiver | JD061A |
| HPE X120 1G SFP LC LH40 1550nm Transceiver | JD062A |
| HPE X120 1G SFP LC SX Transceiver          | JD118B |
| HPE X120 1G SFP LC LX Transceiver          | JD119B |
| HPE X125 1G SFP LC LH70 Transceiver        | JD063B |

## Configuration AF Model

|  |        |
|--|--------|
| HPE X120 1G SFP RJ45 T Transceiver                                     | JD089B |
| HPE X170 1G SFP LC LH70 1550 Transceiver                               | JD109A |
| HPE X170 1G SFP LC LH70 1570 Transceiver                               | JD110A |
| HPE X170 1G SFP LC LH70 1590 Transceiver                               | JD111A |
| HPE X170 1G SFP LC LH70 1610 Transceiver                               | JD112A |
| HPE X170 1G SFP LC LH70 1510 Transceiver                               | JD115A |
| HPE X130 10G SFP+ LC SR Transceiver                                    | JD092B |
| HPE X130 10G SFP+ LC LRM Transceiver                                   | JD093B |
| HPE X130 10G SFP+ LC LR Transceiver                                    | JD094B |
| HPE X130 10G SFP+ LC SR Data Center Transceiver                        | JL437A |
| HPE X130 10G SFP+ LC LRM Data Center Transceiver                       | JL438A |
| HPE X130 10G SFP+ LC LR Data Center Transceiver                        | JL439A |
| HPE X130 10G SFP+ LC ER 40km Transceiver                               | JG234A |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable | JD095C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable  | JD096C |
| HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable       | JC784C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable    | JD097C |
| HPE X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Campus-Cable      | JH693A |
| HPE X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Campus-Cable       | JH694A |
| HPE X240 10G SFP+ to SFP+ 3m Direct Attach Copper Campus-Cable         | JH695A |
| HPE X240 10G SFP+ to SFP+ 7m Direct Attach Copper Campus-Cable         | JH696A |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable    | JG081C |

**Note 10** If HPE 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

HPE FlexNetwork 5500/5120 2-port 10GbE SFP+ Module

- min=0 \ max=2 SFP + Transceivers

JD368B

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

|  |        |
|--|--------|
| HPE X130 10G SFP+ LC SR Transceiver              | JD092B |
| HPE X130 10G SFP+ LC LRM Transceiver             | JD093B |
| HPE X130 10G SFP+ LC LR Transceiver              | JD094B |
| HPE X130 10G SFP+ LC SR Data Center Transceiver  | JL437A |
| HPE X130 10G SFP+ LC LRM Data Center Transceiver | JL438A |
| HPE X130 10G SFP+ LC LR Data Center Transceiver  | JL439A |

## Configuration AF Model

|  |        |
|--|--------|
| HPE X130 10G SFP+ LC ER 40km Transceiver                               | JG234A |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable | JD095C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable  | JD096C |
| HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable       | JC784C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable    | JD097C |
| HPE X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Campus-Cable      | JH693A |
| HPE X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Campus-Cable       | JH694A |
| HPE X240 10G SFP+ to SFP+ 3m Direct Attach Copper Campus-Cable         | JH695A |
| HPE X240 10G SFP+ to SFP+ 7m Direct Attach Copper Campus-Cable         | JH696A |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable    | JG081C |

## Transceivers

### SFP+ Transceivers

|   |         |
|---|---------|
| HPE X130 10G SFP+ LC SR Transceiver                                   | JD092B  |
| HPE X130 10G SFP+ LC LRM Transceiver                                  | JD093B  |
| HPE X130 10G SFP+ LC LR Transceiver                                   | JD094B  |
| HPE X130 10G SFP+ LC SR Data Center Transceiver                       | JL437A  |
| HPE X130 10G SFP+ LC LRM Data Center Transceiver                      | JL438A  |
| HPE X130 10G SFP+ LC LR Data Center Transceiver                       | JL439A  |
| HPE X130 10G SFP+ LC ER 40km Transceiver                              | JG234A  |
| HPE X130 10G SFP+ LC SR Data Center Transceiver                       | JL437A  |
| HPE X130 10G SFP+ LC LRM Data Center Transceiver                      | JL438A  |
| HPE X130 10G SFP+ LC LR Data Center Transceiver                       | JL439A  |
| HPE X240 10G SFP+ SFP+ 0.65m DAC Cable                                | JD095C1 |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable | JD096C  |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable   | JD097C  |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable   | JG081C  |
| HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable      | JC784C  |
| HPE X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Campus-Cable     | JH693A  |
| HPE X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Campus-Cable      | JH694A  |
| HPE X240 10G SFP+ to SFP+ 3m Direct Attach Copper Campus-Cable        | JH695A  |
| HPE X240 10G SFP+ to SFP+ 7m Direct Attach Copper Campus-Cable        | JH696A  |

### SFP Transceivers

|  |        |
|--|--------|
| HPE X125 1G SFP LC LH40 1310nm Transceiver | JD061A |
| HPE X120 1G SFP LC LH40 1550nm Transceiver | JD062A |
| HPE X120 1G SFP RJ45 T Transceiver         | JD089B |
| HPE X120 1G SFP LC SX Transceiver          | JD118B |
| HPE X120 1G SFP LC LX Transceiver          | JD119B |
| HPE X125 1G SFP LC LH70 Transceiver        | JD063B |
| HPE X110 100M SFP LC LH40 Transceiver      | JD090A |
| HPE X110 100M SFP LC LH80 Transceiver      | JD091A |
| HPE X115 100M SFP LC FX Transceiver        | JD102B |
| HPE X110 100M SFP LC LX Transceiver        | JD120B |
| HPE X170 1G SFP LC LH70 1550 Transceiver   | JD109A |
| HPE X170 1G SFP LC LH70 1570 Transceiver   | JD110A |

## Configuration AF Model

|  |        |
|--|--------|
| HPE X170 1G SFP LC LH70 1590 Transceiver | JD111A |
| HPE X170 1G SFP LC LH70 1610 Transceiver | JD112A |
| HPE X170 1G SFP LC LH70 1510 Transceiver | JD115A |

## Internal Power Supplies

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

|   |   |
|---|---|
| HPE 58x0AF 650W DC Power Supply   | JC681A<br>See Configuration<br><b>NOTE:1</b>    |
| HPE FlexFabric Switch 650W 48V Hot Plug NEBS-compliant DC Power Supply                                      | JH336A<br>See Configuration<br><b>NOTE:1</b>    |
| HPE 58x0AF 650W AC Power Supply <ul style="list-style-type: none"> <li>includes 1 x c13, 650w</li> </ul>    | JC680A<br>See Configuration<br><b>NOTE:1, 2</b> |
| PDU Cable NA/MEX/TW/JP <ul style="list-style-type: none"> <li>C15 PDU Jumper Cord (NA/MEX/TW/JP)</li> </ul> | JC680A#B2B                                      |
| PDU Cable ROW <ul style="list-style-type: none"> <li>C15 PDU Jumper Cord (ROW)</li> </ul>                   | JC680A#B2C                                      |

### 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

## Configuration AF Model

### Fan Tray

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

HPE 5830AF 48G Back (Power Side) to Front (Port Side) Airflow Fan Tray

- These modules provide power side to port side airflow.

JC692A

See Configuration **NOTE:1**

HPE 5830AF 48G Front (Port Side) to Back (Power Side) Airflow Fan Tray

- These modules provide port side to power side airflow.

JC693A

See Configuration **NOTE:1**

HPE 5830AF 96G Back (Power Side) to Front (Port Side) Fan Tray

- These modules provide power side to port side airflow.

JC695A

See Configuration **NOTE:2**

HPE A5830AF 96G Front (Port Side) to Back (Power Side) Airflow Fan Tray

- These modules provide port side to power side airflow.

JC696A

See Configuration **NOTE:2**

#### Configuration Rules:

Note 1 Only supported on JC691A and JG316A.

Note 2 Only supported on JC694A and JG374A.

Note 3 If HPE 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

### HPE FlexFabric 5830AF 48G 1-slot Switch (JC691A)

|                                   |   |   |
|-----------------------------------|---|---|
| <b>Ports</b>                      | 48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only                                |   |
|                                   | 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  |   |
| <b>Power supplies</b>             | 2 power supply slots  |   |
|                                   | 1 minimum power supply required (ordered separately)  |   |
| <b>Fan tray</b>                   | 1 fan tray slot   |   |
|                                   | Base product does not include fan tray  |   |
| <b>Physical Characteristics</b>   | <b>Dimensions</b>   | 17.32(w) x 18.11(d) x 1.72(h) in (43.99 x 46.00 x 4.37 cm) (1U height)              |
|                                   | <b>Weight</b>   | 14.53 lb (6.59 kg)  |
| <b>Memory and Processor</b>       | 64 MB flash; Packet buffer size: 1 GB, 1 GB SDRAM   |   |
| <b>Performance</b>                | <b>Throughput</b>   | up to 119 Mpps (64-byte packets)  |
|                                   | <b>Switching capacity</b>   | 160 Gbps  |
|                                   | <b>Routing table size</b>   | 12000 entries   |
|                                   | <b>MAC address table size</b>   | 32000 entries   |
| <b>Environment</b>                | <b>Operating temperature</b>  | 32°F to 113°F (0°C to 45°C)   |
|                                   | <b>Operating relative humidity</b>  | 5% to 95%   |
|                                   | <b>Acoustic</b>   | Low-speed fan: 58 dB, High-speed fan: 65 dB   |
| <b>Electrical Characteristics</b> | <b>Maximum heat dissipation</b>   | 440 BTU/hr (464.2 kJ/hr)  |
|                                   | <b>Voltage</b>  | 100 - 240 VAC, rated<br>-40 to -60 VDC, rated<br>(depending on power supply chosen) |
|                                   | <b>Frequency</b>  | 50/60 Hz  |
| <b>Safety</b>                     | UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance |   |
| <b>Emissions</b>                  | VCCI Class A; EN 55022 Class A; ICES-003 Class A; 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                        |   |
| <b>Immunity</b>                   | <b>Generic</b>  | ETSI EN 300 386 V1.3.3  |
|                                   | <b>EN</b>   | EN 55024:1998+ A1:2001 + A2:2003  |
|                                   | <b>ESD</b>  | EN 61000-4-2; IEC 61000-4-2   |
|                                   | <b>Radiated</b>   | EN 61000-4-3; IEC 61000-4-3   |
|                                   | <b>EFT/Burst</b>  | EN 61000-4-4; IEC 61000-4-4   |
|                                   | <b>Surge</b>  | EN 61000-4-5; IEC 61000-4-5   |
|                                   | <b>Conducted</b>  | EN 61000-4-6; IEC 61000-4-6   |
|                                   | <b>Power frequency</b>  | IEC 61000-4-8; IEC 61000-4-8  |

## Technical Specifications

|                   |   |                               |
|-------------------|---|-------------------------------|
|                   | <b>magnetic field</b>   |                               |
|                   | <b>Voltage dips and interruptions</b>   | EN 61000-4-11; IEC 61000-4-11 |
|                   | <b>Harmonics</b>  | EN 61000-3-2, IEC 61000-3-2   |
|                   | <b>Flicker</b>  | EN 61000-3-3, IEC 61000-3-3   |
| <b>Management</b> | IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management; SNMP Manager; Telnet; RMON1; FTP; IEEE 802.3 Ethernet MIB   |                               |
| <b>Notes</b>      | <p>Additional specifications</p> <ul style="list-style-type: none"> <li>• Static MAC table: 5120</li> <li>• Max VLAN interface: 1,000</li> <li>• Multicast L2 entries for IPv4: 2,000</li> <li>• Multicast L2 entries for IPv6: 1,000</li> <li>• Multicast L3 entries for IPv4: 2,000</li> <li>• Multicast L3 entries for IPv6: 1,000</li> <li>• VLAN table: 4,000</li> <li>• QoS forward queue number: 8</li> <li>• Static ARP number: 1,000</li> <li>• Dynamic ARP number: 8,000</li> <li>• MAX number in one link group: 8</li> <li>• Link group number: 128</li> <li>• ACL number: 4,000 (ingress); 512 (egress)</li> </ul> |                               |
| <b>Services</b>   | Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.   |                               |

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### HPE FlexFabric 5830AF 96G Switch (JC694A)

|                                   |  |  |
|-----------------------------------|--|--|
| <b>Ports</b>                      | 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  |  |
| <b>Power supplies</b>             | 2 power supply slots   |  |
|                                   | 1 minimum power supply required (ordered separately)   |  |
| <b>Fan tray</b>                   | 1 fan tray slot  |  |
|                                   | Base product does not include fan tray   |  |
| <b>Physical Characteristics</b>   | <b>Dimensions</b>  | 17.32(w) x 25.98(d) x 3.39(h) in (43.99 x 65.99 x 8.61 cm) |
|                                   | <b>Weight</b>  | 31.75 lb (14.4 kg)   |
| <b>Memory and Processor</b>       | 64 MB flash; Packet buffer size: 3 GB, 1 GB SDRAM  |  |
| <b>Performance</b>                | <b>Throughput</b>  | up to 291.6 Mpps (64-byte packets)                         |
|                                   | <b>Switching capacity</b>  | 392 Gbps   |
|                                   | <b>Routing table size</b>  | 12000 entries  |
|                                   | <b>MAC address table size</b>  | 32000 entries  |
| <b>Environment</b>                | <b>Operating temperature</b>   | 32°F to 113°F (0°C to 45°C)                                |
|                                   | <b>Operating relative humidity</b>   | 5% to 95%  |
|                                   | <b>Acoustic</b>  | Low-speed fan: 58 dB, High-speed fan: 65 dB                |
| <b>Electrical Characteristics</b> | <b>Maximum heat dissipation</b>  | 1209 BTU/hr (1275.49 kJ/hr)                                |

## Technical Specifications

|   |   |   |
|---|---|---|
|   | <b>Voltage</b>                                | 100 - 240 VAC, rated<br>-40 to -60 VDC, rated<br>(depending on power supply chosen)   |
|   | <b>Frequency</b>                              | 50/60 Hz  |
| <b>Safety</b>   |   | UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance   |
| <b>Emissions</b>  |   | VCCI Class A; EN 55022 Class A; ICES-003 Class A; 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  |
| <b>Immunity</b>   | <b>Generic</b>                                | ETSI EN 300 386 V1.3.3  |
|   | <b>EN</b>                                     | EN 55024:1998+ A1:2001 + A2:2003  |
|   | <b>ESD</b>                                    | EN 61000-4-2; IEC 61000-4-2   |
|   | <b>Radiated</b>                               | EN 61000-4-3; IEC 61000-4-3   |
|   | <b>EFT/Burst</b>                              | EN 61000-4-4; IEC 61000-4-4   |
|   | <b>Surge</b>                                  | EN 61000-4-5; IEC 61000-4-5   |
|   | <b>Conducted</b>                              | EN 61000-4-6; IEC 61000-4-6   |
|   | <b>Power frequency magnetic field</b>         | IEC 61000-4-8; IEC 61000-4-8  |
|   | <b>Voltage dips and interruptions</b>         | EN 61000-4-11; IEC 61000-4-11   |
|   | <b>Harmonics</b>                              | EN 61000-3-2; IEC 61000-3-2   |
|   | <b>Flicker</b>                                | EN 61000-3-3; IEC 61000-3-3   |
| <b>Management</b>   |   | IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management; SNMP Manager; Telnet; RMON1; FTP; IEEE 802.3 Ethernet MIB   |
| <b>Notes</b>  |   | Additional specifications <ul style="list-style-type: none"> <li>• Static MAC table: 5120</li> <li>• Max VLAN interface: 1,000</li> <li>• Multicast L2 entries for IPv4: 2,000</li> <li>• Multicast L2 entries for IPv6: 1,000</li> <li>• Multicast L3 entries for IPv4: 2,000</li> <li>• Multicast L3 entries for IPv6: 1,000</li> <li>• VLAN table: 4,000</li> <li>• QoS forward queue number: 8</li> <li>• Static ARP number: 1,000</li> <li>• Dynamic ARP number: 8,000</li> <li>• MAX number in one link group: 8</li> <li>• Link group number: 128</li> <li>• ACL number (GbE ports): 8,000 (ingress); 1,000 (egress)</li> <li>• ACL number(10 GbE ports): 2,000 (ingress); 512 (egress)</li> </ul> |
| <b>Services</b>   |   | Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.   |
| <b>Standards and protocols</b><br>(applies to all products in series) | <b>BGP</b>                                    | RFC 2081 RIPng Protocol Applicability Statement<br>RFC 2292 Advanced Sockets API for IPv6<br>RFC 2373 IPv6 Addressing Architecture<br>RFC 2375 IPv6 Multicast Address Assignments<br>RFC 2460 IPv6 Specification<br>RFC 2461 IPv6 Neighbor Discovery<br>RFC 2462 IPv6 Stateless Address Auto-configuration  |
|   | 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               |   |



## Technical Specifications

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  
 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)

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 IPv4 & 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  
 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

## Technical Specifications

|   |   |
|---|---|
| IEEE 802.3ad Link Aggregation Control Protocol (LACP)                                 | Version 2 (SMLv2)   |
| IEEE 802.3ae 10-Gigabit Ethernet  | RFC 2580 Conformance Statements for SMLv2   |
| IEEE 802.3at  | RFC 2618 RADIUS Client MIB  |
| IEEE 802.3u 100BASE-X   | RFC 2620 RADIUS Accounting MIB  |
| IEEE 802.3z 1000BASE-X  | RFC 2665 Ethernet-Like-MIB  |
| RFC 768 UDP   | RFC 2668 802.3 MAU MIB  |
| RFC 783 TFTP Protocol (revision 2)  | RFC 2674 802.1p and IEEE 802.1Q Bridge MIB  |
| RFC 791 IP  | RFC 2787 VRRP MIB   |
| RFC 792 ICMP  | RFC 2819 RMON MIB   |
| RFC 793 TCP   | RFC 2925 Ping MIB   |
| RFC 826 ARP   | RFC 2932IP (Multicast Routing MIB)  |
| RFC 854 TELNET  | RFC 2933 IGMP MIB   |
| RFC 894 IP over Ethernet  | RFC 2934 Protocol Independent Multicast MIB for IPv4  |
| RFC 903 RARP  | RFC 3414 SNMP-User based-SM MIB   |
| RFC 906 TFTP Bootstrap  | RFC 3415 SNMP-View based-ACM MIB  |
| RFC 925 Multi-LAN Address Resolution  | RFC 3417 Simple Network Management Protocol (SNMP) over IEEE 802 Networks                     |
| RFC 950 Internet Standard Subnetting Procedure  | RFC 3418 MIB for SNMPv3   |
| RFC 951 BOOTP   | RFC 3595 Textual Conventions for IPv6 Flow Label  |
| RFC 959 File Transfer Protocol (FTP)  | RFC 3826 AES for SNMP's USM MIB   |
| RFC 1027 Proxy ARP  | RFC 4133 Entity MIB (Version 3)   |
| RFC 1035 Domain Implementation and Specification                                      | RFC 4444 Management Information Base for Intermediate System to Intermediate System (IS-IS)   |
| 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 | <b>Network management</b>   |
| RFC 1256 ICMP Router Discovery Protocol (IRDP)  | IEEE 802.1AB Link Layer Discovery Protocol (LLDP)   |
| RFC 1293 Inverse Address Resolution Protocol  | RFC 1155 Structure of Management Information  |
| RFC 1305 NTPv3  | RFC 1157 SNMPv1   |
| RFC 1350 TFTP Protocol (revision 2)   | RFC 1448 Protocol Operations for version 2 of the Simple Network Management Protocol (SNMPv2) |
| RFC 1393 Traceroute Using an IP Option  | RFC 2211 Controlled-Load Network  |
| RFC 1519 CIDR   | RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)           |
| RFC 1531 Dynamic Host Configuration Protocol  | RFC 3176 sFlow  |
| RFC 1533 DHCP Options and BOOTP Vendor Extensions                                     | RFC 3411 SNMP Management Frameworks   |
| RFC 1591 DNS (client only)  | RFC 3412 SNMPv3 Message Processing  |
| RFC 1624 Incremental Internet Checksum  | RFC 3414 SNMPv3 User-based Security Model (USM)   |
| RFC 1701 Generic Routing Encapsulation  | RFC 3415 SNMPv3 View-based Access Control Model VACM)   |
| RFC 1721 RIP-2 Analysis   | ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)  |
| 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   | <b>OSPF</b>   |
| RFC 2763 Dynamic Name-to-System ID mapping  | RFC 1245 OSPF protocol analysis   |
| RFC 2784 Generic Routing Encapsulation (GRE)  | RFC 1246 Experience with OSPF   |
| RFC 2865 Remote Authentication Dial In User Service (RADIUS)                          | RFC 1765 OSPF Database Overflow   |
| RFC 2966 Domain-wide Prefix Distribution with Two-Level IS-IS                         | RFC 1850 OSPFv2 Management Information Base (MIB), traps                                      |
| RFC 2973 IS-IS Mesh Groups  | RFC 2154 OSPF w/ Digital Signatures (Password, MD-5)  |
|   | RFC 2328 OSPFv2   |

## Technical Specifications

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  
 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

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 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

## Technical Specifications

MAC Authentication  
Port Security  
SSHv1/SSHv2 Secure Shell

## Accessories

### HPE FlexFabric 5830 Switch Series accessories

#### Transceivers

|  |        |
|--|--------|
| HPE X110 100M SFP LC LH40 Transceiver                                  | JD090A |
| HPE X110 100M SFP LC LH80 Transceiver                                  | JD091A |
| HPE X115 100M SFP LC FX Transceiver                                    | JD102B |
| HPE X110 100M SFP LC LX Transceiver                                    | JD120B |
| <a href="#">HPE X125 1G SFP LC LH40 1310nm Transceiver</a>             | JD061A |
| <a href="#">HPE X120 1G SFP LC LH40 1550nm Transceiver</a>             | JD062A |
| <a href="#">HPE X125 1G SFP LC LH70 Transceiver</a>                    | JD063B |
| <a href="#">HPE X120 1G SFP LC SX Transceiver</a>                      | JD118B |
| <a href="#">HPE X120 1G SFP LC LX Transceiver</a>                      | JD119B |
| HPE X120 1G SFP RJ45 T Transceiver                                     | JD089B |
| HPE X170 1G SFP LC LH70 1550 Transceiver                               | JD109A |
| HPE X170 1G SFP LC LH70 1570 Transceiver                               | JD110A |
| HPE X170 1G SFP LC LH70 1590 Transceiver                               | JD111A |
| HPE X170 1G SFP LC LH70 1610 Transceiver                               | JD112A |
| HPE X170 1G SFP LC LH70 1510 Transceiver                               | JD115A |
| HPE X130 10G SFP+ LC SR Transceiver                                    | JD092B |
| HPE X130 10G SFP+ LC SR Data Center Transceiver                        | JL437A |
| HPE X130 10G SFP+ LC LRM Transceiver                                   | JD093B |
| HPE X130 10G SFP+ LC LRM Data Center Transceiver                       | JL438A |
| HPE X130 10G SFP+ LC LR Transceiver                                    | JD094B |
| HPE X130 10G SFP+ LC LR Data Center Transceiver                        | JL439A |
| HPE X130 10G SFP+ LC ER 40km Transceiver                               | JG234A |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable | JD095C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable  | JD096C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable    | JD097C |
| HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable    | JG081C |
| HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable       | JC784C |

#### Power Supply

|                                 |        |
|---------------------------------|--------|
| HPE 58x0AF 650W AC Power Supply | JC680A |
| HPE 58x0AF 650W DC Power Supply | JC681A |

#### HPE FlexFabric 5830AF 48G 1-slot Switch (JC691A)

|  |        |
|--|--------|
| HPE FlexNetwork 5500/5120 2-port 10GbE SFP+ Module                     | JD368B |
| HPE 5830AF 48G Back (Power Side) to Front (Port Side) Airflow Fan Tray | JC692A |
| HPE 5830AF 48G Front (Port Side) to Back (Power Side) Airflow Fan Tray | JC693A |

#### HPE FlexFabric 5830AF 96G Switch (JC694A)

|   |        |
|---|--------|
| HPE 5830AF 96G Back (Power Side) to Front (Port Side) Fan Tray          | JC695A |
| HPE A5830AF 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.

|   |  |   |
|---|--|---|
| <b>HPE X125 1G SFP LC LH40 1310nm Transceiver</b> (JD061A)  | <b>Ports</b><br><b>Connectivity</b>                                  | 1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics)<br>Connector type LC<br>Wavelength 1310 nm   |
| A small form-factor pluggable SFP Gigabit LH40 transceiver that provides a full duplex Gigabit solution up to 40km on a single-mode fiber.    | <b>Physical characteristics</b><br><b>Electrical characteristics</b> | Dimensions 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)<br>Full configuration weight 0.04 lb. (0.02 kg)<br>Power consumption typical 0.8 W<br>Power consumption maximum 1.0 W   |
|   | <b>Cabling</b>   | Cable type:<br>Single-mode fiber optic, complying with ITU-T G.652;<br><br>Maximum distance: <ul style="list-style-type: none"> <li>40km distance</li> </ul>  |
|   | <b>Services</b>  | Fiber type Single Mode<br>Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. |
| <b>HPE X120 1G SFP LC LH40 1550nm Transceiver</b> (JD062A)  | <b>Ports</b><br><b>Connectivity</b>                                  | 1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)<br>Connector type LC<br>Wavelength 1550 nm   |
| A small form-factor pluggable (SFP) Gigabit LH40 transceiver that provides a full-duplex Gigabit solution up to 40 km on a single mode fiber. | <b>Physical characteristics</b><br><b>Electrical characteristics</b> | Dimensions 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)<br>Full configuration weight 0.04 lb. (0.02 kg)<br>Power consumption typical 0.8 W<br>Power consumption maximum 1.0 W   |
|   | <b>Cabling</b>   | Cable type:<br>Single-mode fiber optic, complying with ITU-T G.652;<br><br>Maximum distance: <ul style="list-style-type: none"> <li>40km distance</li> </ul>  |
|   | <b>Services</b>  | Fiber type Single Mode<br>Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. |
| <b>HPE X125 1G SFP LC</b>   | <b>Ports</b>   | 1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)  |

## Accessory Product Details

|   |                                   |   |  |  |
|---|-----------------------------------|---|--|--|
| <b>LH70 Transceiver</b><br>(JD063B)<br><br>A small form-factor pluggable (SFP) Gigabit LH70 transceiver that provides a full-duplex Gigabit solution up to 70km on a single-mode fiber. | <b>Connectivity</b>               | <b>Connector type</b>   | LC   |  |
|   |                                   | <b>Wavelength</b>   | 1550 nm  |  |
|   | <b>Physical characteristics</b>   | <b>Dimensions</b>   | 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm) |  |
|   |                                   | <b>Full configuration weight</b>  | 0.04 lb. (0.02 kg)                                     |  |
|   | <b>Electrical characteristics</b> | <b>Power consumption typical</b>  | 0.8 W  |  |
|   |                                   | <b>Power consumption maximum</b>  | 1.0 W  |  |
|   | <b>Cabling</b>                    | Cable type:<br>Single-mode fiber optic, complying with ITU-T G.652;   |  |  |
|   |                                   | Maximum distance:<br>• 70km   |  |  |
|   |                                   | Fiber type  | Single Mode  |  |
|   | <b>Services</b>                   | Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. |  |  |

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

|   |                                 |   |  |  |
|---|---------------------------------|---|--|--|
| <b>HPE X120 1G SFP LC LX Transceiver</b><br>(JD119B)<br><br>A small form-factor pluggable (SFP) Gigabit | <b>Ports</b>                    | 1 SFP 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX) |  |  |
|   | <b>Connectivity</b>             | <b>Connector type</b>                                 | LC   |  |
|   |                                 | <b>Wavelength</b>                                     | 1300 nm  |  |
|   | <b>Physical characteristics</b> | <b>Dimensions</b>                                     | 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm) |  |

## Accessory Product Details

LX transceiver that provides a full duplex Gigabit solution up to 550m on MMF or 10Km on SMF

|                                   |   |                                  |
|-----------------------------------|---|----------------------------------|
| <b>Electrical characteristics</b> | <b>Full configuration weight</b>  | 0.04 lb. (0.02 kg)               |
|                                   | <b>Power consumption typical</b>  | 0.8 W                            |
| <b>Cabling</b>                    | <b>Power consumption maximum</b>  | 1.0 W                            |
|                                   | Cable type:   | Either single mode or multimode; |
| <b>Services</b>                   | Maximum distance:   |                                  |
|                                   | • 550m for Multimode  |                                  |
|                                   | • 10km for Singlemode   |                                  |
|                                   | Fiber type  | Both                             |
|                                   | Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. |                                  |

### HPE X120 1G SFP RJ45 T Transceiver (JD089B)

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

|                                   |   |
|-----------------------------------|---|
| <b>Ports</b>                      | 1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T)  |
| <b>Connectivity</b>               | <b>Connector type</b> RJ-45   |
| <b>Physical characteristics</b>   | <b>Dimensions</b> 2.71(d) x 0.54(w) x 0.55(h) in. (6.88 x 1.37 x 1.4 cm)  |
|                                   | <b>Full configuration weight</b> 0.07 lb. (0.03 kg)   |
| <b>Electrical characteristics</b> | <b>Power consumption typical</b> 0.8 W  |
|                                   | <b>Power consumption maximum</b> 1.0 W  |
| <b>Cabling</b>                    | Cable type:<br>1000BASE-T: Category 5 (5E or better recommended), 100 Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;  |
|                                   | Maximum distance:<br>• 100m   |
| <b>Services</b>                   | Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. |



## Summary of Changes

| Date        | Version History                      | Action  | Description of Change  |
|-------------|--------------------------------------|---------|--|
| 18-Apr-2017 | From Version 18 to 19                | Added   | Transceivers added on the Configuration section: JH693A; JH694A; JH695A; JH696A; JL437A; JL438A; JL439A  |
| 06-Mar-2017 | From Version 17 to 18                | Added   | SKUs added: JL437A, JL438A, JL439A   |
|             |                                      | Changed | Document name updated to HPE FlexFabric 5830 Switch Series   |
| 08-Jan-2016 | From Version 16 to 17                | Changed | Warranty and support updated   |
| 12-Oct-2015 | From Version 15 to 16                | Added   | Added new DC power supply: JH336A  |
|             |                                      | Changed | Configuration and technical Specification sections updated   |
| 19-Mar-2014 | From Version 14 to 15                | Changed | Transceivers and Fan Trays were revised in Configuration AF Model.   |
| 17-Dec-2013 | From Version 13 to 14                | Changed | Ethernet Modules was revised in Configuration AF Model.  |
| 22-Nov-2013 | From Version 12 to 13                | Changed | Configuration AF Models was reorganized.   |
| 13-Nov-2013 | From Version 11 to 12                | Changed | Box Level Integration CTO Models, Rack Level Integration CTO Models, Internal Power Supplies, Modules, and Switch Options were revised in Configuration AF Models. |
| 27-Sep-2013 | From Version 10 to 11                | Added   | Extended module slot was added to Configuration - AF Models.   |
| 12-Jul-2013 | From Version 9 to 10                 | Removed | Configuration Modules were removed.  |
| 05-Jul-2013 | From Version 8 to 9                  | Added   | Configuration Modules were added.  |
| 10-Jun-2013 | From Version 7 to 8                  | Added   | Configuration AF Models was added.   |
| 24-Aug-2012 | From Version 6 to 7                  | Changed | Updated the Features and Benefits, Introduction and Accessories sections.  |
|             | August 20, 2012- From Version 5 to 6 | Changed | Updated Accessories and Features and Benefits.   |
| 14-May-2012 | From Version 4 to 5                  | Changed | Updated the Features and Benefits section, as well as the weight and dimensions and Accessories.   |
| 14-Nov-2011 | From Version 3 to 4                  | Changed | Changes were made throughout, including changing the title.  |
| 30-Sep-2011 | From Version 2 to 3                  | Added   | Accessory Product Details was added.   |
| 02-Sep-2011 | From Version 1 to 2                  | Changed | Accessories was revised.   |

## Summary of Changes



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