



# HP 5830 Switch Series



## 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 FlexNetwork architecture's HP 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 HP 5830AF-48G Switch delivers 48 1-GbE ports and up to four 10GbE 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 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 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 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 Ethernet 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 10GbE ports simultaneously with full line-rate switching and forwarding
- **Ultradeep packet buffering**  
provides up to a 3 GB 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

## 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
- **10GbE 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 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 Open Standard Path First (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 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 a 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 IGMPv1, 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)**  
operations, administration and maintenance (OAM) management capability detects data link layer problems that occurred in the "last mile"; monitors the status of the link between the two devices
- **CFD (IEEE 802.1ag)**  
connectivity fault detection (CFD) provides a Layer 2 link OAM 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**

with advance replacement and next-business-day delivery  
(available in most countries)

- **Electronic and telephone support**

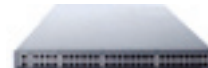
limited electronic and telephone support is available from HP; to reach our support centers, refer to **[www.hp.com/networking/contact-support](http://www.hp.com/networking/contact-support)**; for details on the duration of support provided with your product purchase, refer to **[www.hp.com/networking/warrantysummary](http://www.hp.com/networking/warrantysummary)**

- **Software releases**

to find software for your product, refer to **[www.hp.com/networking/support](http://www.hp.com/networking/support)**; for details on the software releases available with your product purchase, refer to **[www.hp.com/networking/warrantysummary](http://www.hp.com/networking/warrantysummary)**

# HP 5830 Switch Series

## Specifications



	HP 5830AF-48G Switch with 1 Interface Slot (JC691A)	HP 5830AF-96G Switch (JC694A)
<b>Ports</b>	<p>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</p> <p>2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP</p> <p>2 fixed 1000/10000 SFP+ ports</p> <p>1 RJ-45 serial console port</p> <p>1 RJ-45 out-of-band management port</p> <p>1 extended module slot</p>	<p>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</p> <p>10 fixed 1000/10000 SFP+ ports</p> <p>1 RJ-45 serial console port</p> <p>1 RJ-45 out-of-band management port</p>
<b>Power supplies</b>	<p>2 power supply slots</p> <p>1 minimum power supply required (ordered separately)</p>	<p>2 power supply slots</p> <p>1 minimum power supply required (ordered separately)</p>
<b>Fan tray</b>	<p>1 fan tray slot</p> <p>Base product does not include fan tray.</p>	<p>1 fan tray slot</p> <p>Base product does not include fan tray.</p>
<b>Physical characteristics</b>	<p>17.32(w) x 18.11(d) x 1.72(h) in (43.99 x 46 x 4.37 cm) (1U height)</p> <p>Weight 14.53 lb (6.59 kg)</p>	<p>17.32(w) x 25.98(d) x 3.39(h) in (43.99 x 65.99 x 8.61 cm)</p> <p>Weight 31.75 lb (14.4 kg)</p>
<b>Memory and processor</b>	<p>64 MB flash, 1 GB SDRAM; packet buffer size: 1 GB</p>	<p>64 MB flash, 1 GB SDRAM; packet buffer size: 3 GB</p>
<b>Performance</b>	<p>Throughput 119 million pps (64-byte packets)</p> <p>Switching capacity 160 Gbps</p> <p>Routing table size 12000 entries</p> <p>MAC address table size 32000 entries</p>	<p>Throughput 291.6 million pps (64-byte packets)</p> <p>Switching capacity 392 Gbps</p> <p>Routing table size 12000 entries</p> <p>MAC address table size 32000 entries</p>
<b>Environment</b>	<p>Operating temperature 32°F to 113°F (0°C to 45°C)</p> <p>Operating relative humidity 5% to 95%</p> <p>Acoustic Low-speed fan: 58 dB, High-speed fan: 65 dB</p>	<p>Operating temperature 32°F to 113°F (0°C to 45°C)</p> <p>Operating relative humidity 5% to 95%</p> <p>Acoustic Low-speed fan: 58 dB, High-speed fan: 65 dB</p>
<b>Electrical characteristics</b>	<p>Maximum heat dissipation 440 BTU/hr (464.2 kJ/hr)</p> <p>Voltage 100-240 VAC</p> <p>DC voltage -40 to -60 VDC</p> <p>Frequency 50/60 Hz</p>	<p>Maximum heat dissipation 1209 BTU/hr (1275.49 kJ/hr)</p> <p>Voltage 100-240 VAC</p> <p>DC voltage -40 to -60 VDC</p> <p>Frequency 50/60 Hz</p>
<b>Safety</b>	<p>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</p>	<p>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</p>
<b>Emissions</b>	<p>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</p>	<p>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</p>
<b>Immunity</b>	<p>Generic ETSI EN 300 386 V1.3.3</p> <p>EN EN 55024:1998 + A1:2001 + A2:2003</p> <p>ESD EN 61000-4-2; IEC 61000-4-2</p> <p>Radiated EN 61000-4-3; IEC 61000-4-3</p> <p>EFT/Burst EN 61000-4-4; IEC 61000-4-4</p> <p>Surge EN 61000-4-5; IEC 61000-4-5</p> <p>Conducted EN 61000-4-6; IEC 61000-4-6</p> <p>Power frequency magnetic field IEC 61000-4-8; IEC 61000-4-8</p> <p>Voltage dips and interruptions EN 61000-4-11; IEC 61000-4-11</p> <p>Harmonics EN 61000-3-2; IEC 61000-3-2</p> <p>Flicker EN 61000-3-3; IEC 61000-3-3</p>	<p>Generic ETSI EN 300 386 V1.3.3</p> <p>EN EN 55024:1998 + A1:2001 + A2:2003</p> <p>ESD EN 61000-4-2; IEC 61000-4-2</p> <p>Radiated EN 61000-4-3; IEC 61000-4-3</p> <p>EFT/Burst EN 61000-4-4; IEC 61000-4-4</p> <p>Surge EN 61000-4-5; IEC 61000-4-5</p> <p>Conducted EN 61000-4-6; IEC 61000-4-6</p> <p>Power frequency magnetic field IEC 61000-4-8; IEC 61000-4-8</p> <p>Voltage dips and interruptions EN 61000-4-11; IEC 61000-4-11</p> <p>Harmonics EN 61000-3-2; IEC 61000-3-2</p> <p>Flicker EN 61000-3-3; IEC 61000-3-3</p>
<b>Management</b>	<p>IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management; SNMP Manager; Telnet; RMON1; FTP; IEEE 802.3 Ethernet MIB</p>	<p>IMC - Intelligent Management Center; command-line interface; Web browser; out-of-band management; SNMP Manager; Telnet; RMON1; FTP; IEEE 802.3 Ethernet MIB</p>

# HP 5830 Switch Series

## Specifications (continued)

	HP 5830AF-48G Switch with 1 Interface Slot (JC691A)	HP 5830AF-96G Switch (JC694A)
<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>	<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 (GbE ports): 8,000 (ingress); 1,000 (egress)</li><li>• ACL number (10GbE ports): 2,000 (ingress); 512 (egress)</li></ul>
<b>Services</b>	<p>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>	<p>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.</p>

# HP 5830 Switch Series

## Specifications (continued)

	HP 5830AF-48G Switch with 1 Interface Slot (JC691A)	HP 5830AF-96G Switch (JC694A)
<b>Standards and protocols</b> (applies to all products in series)	<p><b>BGP</b></p> <p>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</p> <p><b>Denial of service protection</b></p> <p>RFC 2267 Network Ingress Filtering            Automatic filtering of well-known denial-of-service packets            CPU DoS Protection            Rate Limiting by ACLs</p> <p><b>Device management</b></p> <p>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</p> <p><b>General protocols</b></p> <p>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</p>	<p>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 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</p> <p><b>IP multicast</b></p> <p>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</p> <p>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)</p> <p><b>IPv6</b></p> <p>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 2081 RIPng Protocol Applicability Statement            RFC 2292 Advanced Sockets API for IPv6            RFC 2373 IPv6 Addressing Architecture            RFC 2460 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 IPv4 &amp; 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)</p> <p><b>MIBs</b></p> <p>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 2465 IPv6 MIB            RFC 2466 ICMPv6 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</p>



# HP 5830 Switch Series

## Specifications (continued)

	HP 5830AF-48G Switch with 1 Interface Slot (JC691A)	HP 5830AF-96G Switch (JC694A)	
<b>Standards and protocols</b> (applies to all products in series)	<p>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)</p> <p><b>Network management</b>  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 (USM)  RFC 3415 SNMPv3 View-based Access Control Model (VACM)  ANSI/TIA-1057 LLDP Media Endpoint Discovery</p>	<p>(LLDP-MED)  <b>OSPF</b>  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</p> <p><b>QoS/CoS</b>  IEEE 802.1P (CoS)  RFC 1349 Type of Service in the Internet Protocol Suite  RFC 2211 Specification of the Controlled-Load Network Element Service</p>	<p>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)</p> <p><b>Security</b>  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 MDS 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</p>

## HP 5830 Switch Series accessories

### Modules

HP 5500/5120 2-port 10GbE SFP+ Module (JD368B)

### 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)  
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+ 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)

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