

# C-Series C5

## Gigabit Ethernet Stackable L2/L3/L4 Switch

### BENEFITS

#### BUSINESS ALIGNMENT

- Aligns network resource utilization with business goals and priorities
- Reliable network operation for mission-critical applications

#### OPERATIONAL EFFICIENCY

- Management automation capabilities reduce network operational expenses
- Automatic discovery and deployment of VoIP services

#### SECURITY

- Ability to audit network for adherence to compliance regulations, such as PCI or HIPAA
- Network resources securely allocated according to user roles
- Network security maintained concurrently with user mobility

#### SUPPORT AND SERVICE

- Industry-leading customer satisfaction and first call resolution rates
- Personalized services, including site surveys, network design, installation, and training
- Comprehensive lifetime warranty, including feature upgrades and more



- Future-proofed with 802.3at high-power PoE and IPv6 routing support
- Automatic discovery and deployment of VoIP services
- High-availability stacking assures reliable network operations
- Automated management features reduce operational costs
- Investment protection via comprehensive lifetime warranty
- 2.11Tbps capacity and 809.5Mpps

### Product Overview

The Extreme Networks C5 is a scalable, high-performance Gigabit Ethernet switch that provides support for the bandwidth-intensive and latency-sensitive requirements of today's demanding business applications. The C5 is an excellent choice for environments that require complete multi-layer switching capabilities and support for high density 10/100/1000 Ethernet ports and 10GE uplinks. The C5 also includes dynamic IPv4 and IPv6 routing and switching built into the hardware and policy-based automation capabilities for advanced edge deployments.

The C5 incorporates the new 802.3at high-power PoE on all ports, which translates into increased power provisioning for power-hungry devices such as Pan/Tilt/Zoom (PTZ) IP surveillance cameras, IP videophones, third party 802.11n access points and virtual desktops. Built-in high-power PoE support is a cost effective alternative for customers in place of purchasing separate PoE midspans, which can take away valuable rack space, add cost and contribute more cabling to the wiring closet.

The C5 provides high port density in a 1U footprint and is environmentally friendly by design. The C5's overall energy efficiency is further enhanced by a low current draw and an extreme tolerance for high environmental temperatures. A highly-scalable architecture and a comprehensive lifetime warranty ensure that a C5 network investment will sustain a secure, feature-rich and cost-effective network well into the future.

The C5's highly customizable Layer 2/3/4 packet classification capabilities work together with the 8 hardware-based priority queues associated with each Ethernet port to support a suite of differentiated services with as many as 8 distinct priority levels to provide guaranteed Quality of Service (QoS) for critical voice and video network traffic. In conjunction with its non-blocking L2 switching and L3 routing architecture, the C5's intelligent queuing mechanisms ensure that mission-critical applications receive prioritized access to network resources.

## Reliability and Availability

The C5 design incorporates redundancy and failure protection mechanisms complete with automatic failover and recovery capabilities to provide a reliable network. An integral power supply is the primary source of power for the C5 and complete power redundancy is provided by an optional external power supply. The C5 redundant power supply provides load sharing, backup, or additive PoE power to a C5 stackable switch. With the power supply connected, the power requirement for the switch is equally shared by the two power supplies thereby stressing the power supplies less and increasing the lifetime and reliability of the power supplies.

A virtual switch can be created by interconnecting as many as eight C5s in a single stack, which can be managed via a single IP address with redundant management connections. The C5's closed-loop stacking capability utilizes bi-directional switch interconnects to maintain connectivity within the virtual switch despite any physical failures, which includes switches, cables and connections. Flexible Link Aggregation Groups (6 groups of 8, 12 groups of 4 or 24 groups of 2) are supported which allow multiple Ethernet ports (8, 4 or 2) to be grouped together to create a LAG. A LAG's Ethernet ports can be co-located on a single C5 or they can be distributed across multiple C5s within a stack to prevent a switch-level failure from disrupting data communications. The C5 also supports equal cost multipath protocol (ECMP) and virtual router redundancy protocol (VRRP) to strengthen its ability to quickly recover from a network failure. The C5 also includes Host CPU Protection support to help prevent Denial of Service (DoS) and BPDU attacks.

## Advanced Quality of Service

Robust Quality of Service features enable strong support for integrated multimedia networks, as well as all types of data-intensive applications. The C5 is a standards-based solution optimized for multimedia applications, including VoIP, videoconferencing and real-time collaboration. The C5 uses multiple standards-based discovery methods with Extreme Networks policy capabilities to automatically identify and provision VoIP services for IP phones from all major vendors. C5 switches provide dynamic mobility for VoIP clients and reduce operating costs; when an IP phone moves and plugs in

elsewhere in the enterprise network, its VoIP service provisioning, security and traffic priority settings move with it, with no manual administration required.

Advanced packet buffering on the C5 means less jitter on the network and a greater level of QoS for time-sensitive applications, such as VoIP and IP video, resulting in better network performance.

## Security

The C5 enables strong network security by utilizing its authentication and security features, which can be applied at the port level or at the user level. Making use of the Extreme Network Management Suite's Policy Manager or a standard CLI, the Extreme Networks role-based architecture enables a network administrator to define distinct roles or profiles that represent operational groups within a business (e.g., employee, executive, guest, etc). Multiple users/devices per port can be authenticated via IEEE 802.1X, MAC address, or web authentication, and then assigned a pre-defined operational role. The C5 now supports increased password security via increased complexity, history tracking and aging. Passwords can now be encrypted using a FIPS 1402 approved algorithm.

Administrators can easily transition from RFC 3580 and complex access control list (ACL) deployments to the Extreme Networks role-based policy framework in a seamless fashion, without the need to make changes to their RADIUS infrastructure (e.g., adding filter-ID). In addition, the C5 also supports ACLs for supplementary network security. Network operations can be easily tailored to meet business-oriented requirements by providing each role with individualized access to network services and applications (e.g., a guest should have different network access privileges than an employee). Utilizing Extreme Networks role-based policy, administrators are able to manipulate DSCP and 802.1p rewrite for classification and prioritization of network traffic.

The C5 allows administrators even more network visibility, with the ability to audit their network for adherence to compliance regulations, such as PCI or HIPAA. The C5 is able to segment roles down to specific business functions, such as marketing, finance, HR or corporate, tailoring employee access to sensitive information.

The C5 switching line has also successfully completed the Department of Defense's Unified Capabilities (UC) Certification testing at the U.S. Army Technology Integration Center (TIC) in accordance with the Joint Interoperability Test Command (JITC) and is listed on the Unified Capabilities Approved Products List (UC APL). This important milestone means Extreme Networks' premier policy-enabled modular and stackable switches are now available for use in DoD critical infrastructure applications.

## Investment Protection

The C5 is a cost-effective, feature-rich, stackable switch that provides a broad set of features today and will continue to deliver benefits well into the future. All C-Series products include a lifetime warranty that includes warranty and support services for which many competitors charge additional fees – adding up to 10% of initial deployment costs on an annual basis. Included benefits, such as advanced hardware return, firmware feature upgrades (which most vendors cover at most for 90 days) and telephone support (which most don't include or severely limit) combine to significantly decrease operational costs for customers over the life of their network. For more information regarding warranty terms and conditions please go to: <http://www.extremenetworks.com/support/warranty.aspx>.

## Performance & Scalability

The C5, with support for 32,000 MAC addresses, provides scalable, wire-rate performance in support of the bandwidth-intensive and delay-sensitive requirements of today's demanding applications. Along with a switch capacity of 264 Gbps, the C5 provides up to 48 10/100/1000 Ethernet ports as well as 2 SFP+ ports, with the ability to support both 1GE and 10GE uplinks on the same port. Leveraging the C5's stacking capability, as many as 8 C5s (both 24-port and 48-port combinations) can be interconnected in a single stack to create a virtual switch that provides 2.11 Tbps of capacity and up to 384 10/100/1000 Ethernet ports as well as 16 10GE uplink ports.

## Features / Standards and Protocols

### MAC ADDRESS TABLE SIZE

32,000

### VLANS

4,094 VLAN IDs

1,024 VLAN Entries per Stack

### SWITCHING SERVICES PROTOCOLS

IEEE 802.1AB – LLDP

ANSI/TIA-1057 – LLDP-MED

IEEE 802.1D – MAC Bridges

IEEE 802.1s – Multiple Spanning Trees

IEEE 802.1t – 802.1D Maintenance

IEEE 802.1w – Rapid Spanning Tree Reconvergence

IEEE 802.3 – Ethernet

IEEE 802.3ab – GE over Twisted Pair

IEEE 802.3ad – Link Aggregation

IEEE 802.3ae – 10 Gigabit Ethernet (fiber)

IEEE 802.3af – PoE

IEEE 802.3at – High Power PoE (up to 30W per port)

IEEE 802.3i – 10Base-T

IEEE 802.3u – 100Base-T, 100Base-FX

IEEE 802.3z – GE over Fiber

Full/half duplex auto-sense support on all ports

IGMP Snooping v1/v2/v3

Jumbo Frame support (9,216 bytes)

Loop Protection

One-to-One and Many-to-One Port Mirroring

Port Description

Protected Ports

Selectable LAG Configuration (6 x 8, 12 x 4, 24 x 2)

Host CPU Protection – Broadcast/ Multicast/

Unknown Unicast Suppression

Spanning Tree Backup Root

STP Pass Thru

### VLANS SUPPORT

Generic Attribute Registration Protocol (GARP)

Generic VLAN Registration Protocol (GVRP)

IEEE 802.1p – Traffic classification

IEEE 802.1Q – VLAN Tagging

Protocol-based VLANs with Extreme Networks Policy

IEEE 802.3ac – VLAN Tagging Extensions

Port-based VLAN (private port/private VLAN)

Tagged-based VLAN

VLAN Marking of Mirror Traffic

Standalone VLAN Association application for subnet, protocol and MAC based VLAN classification

### SECURITY

ARP Spoof Protection

DHCP Spoof Protection

IEEE 802.1X Port Authentication

MAC-based Port Authentication

RADIUS Accounting for network access

RADIUS Client

IPsec for RADIUS transactions

RFC 3580 – IEEE 802.1X RADIUS Usage Guidelines

Multi-user Authentication

Pre-login banner

Password Protection (encrypted using a FIPS 1402 approved algorithm)

Secure Networks Policy

Secured Shell (SSHv2)

Secured Socket Layer (SSL)

User and IP Phone Authentication

Web-based Port Authentication

Auto Console Disconnect

Security Log

Secure Directory

### IPV4 ROUTING

Standard Access Control List (ACLs)

Extended ACLs

VLAN-based ACLs  
Service ACLs  
MAC-based ACLs - not simultaneously supported with policy  
ARP & ARP Redirect  
DVMPRP  
IP Helper Address  
OSPF Passive Interface  
VRRP master-icmp-reply  
RFC 826 - Ethernet ARP  
RFC 1058 - RIP v1  
RFC 1256 - ICMP Router Discovery Messages  
RFC 1519 Classless Inter-Domain Routing  
RFC 1724 - RIPv2 MIB Extension  
RFC 2236 - IGMPv2  
RFC 2328 - OSPF version 2  
RFC 2338 - IP Redundancy VRRP  
RFC 2362 - PIM-SM  
RFC 2453 - RIP v2  
RFC 3046 - DHCP/BootP Relay  
RFC 3376 - IGMPv3  
RFC 3768 - Virtual Router Redundancy Protocol Static Routes

## IPV6 ROUTING

IPv6 ACLs - not simultaneously supported with policy  
RFC 1981 - Path MTU for IPv6  
RFC 2373 - IPv6 Addressing  
RFC 2460 - IPv6 Protocol Specification  
RFC 2461 - Neighbor Discovery  
RFC 2462 - Stateless Autoconfiguration  
RFC 2463 - ICMPv6  
RFC 2464 - IPv6 over Ethernet  
RFC 2473 - Generic Packet Tunneling in IPv6  
RFC 2271 - SNMP Framework MIB  
RFC 2711 - IPv6 Router Alert  
RFC 2740 - OSPFv3  
RFC 2893 - Transition Mechanisms for IPv6 Hosts and Routers (6 over 4 configured)  
RFC 3315 - DHCPv6 (stateless + relay)  
RFC 3484 - Default Address Selection for IPv6  
RFC 3493 - Basic Socket Interface for IPv6  
RFC 3513 - Addressing Architecture for IPv6  
RFC 3542 - Advanced Sockets API for IPv6  
RFC 3587 - IPv6 Global Unicast Address Format  
RFC 3736 - Stateless DHCPv6  
Dual IPv4/IPv6 TCP/IP Stack  
RFC 4007 - IPv6 Scoped Address Architecture  
RFC 4291 - IPv6 Addressing Architecture

## MIB SUPPORT

Extreme Networks Entity MIB  
Extreme Networks Policy MIB  
Extreme Networks VLAN Authorization MIB  
Extreme Networks Spanning Tree Diagnostic MIB  
ANSI/TIA-1057 - LLDP-MED MIB

IEEE 802.1AB - LLDP MIB  
IEEE 802.1X MIB - Port Access  
IEEE 802.3ad MIB - LAG MIB  
RFC 826 - ARP and ARP Redirect  
RFC 951, RFC 1542 - DHCP/  
BOOTP Relay  
RFC 1213 - MIB/MIB II  
RFC 1493 - BRIDGE-MIB  
RFC 1643 - Ethernet-like MIB  
RFC 1724 - RIPv2 MIB Extension  
RFC 1850 - OSPF MIB  
RFC 2096 - IP Forwarding Table MIB  
RFC 2131, RFC 3046 - DHCPClient/Relay  
RFC 2233 - IF-MIB  
RFC 2465 - IPv6 MIB  
RFC 2466 - ICMPv6 MIB  
RFC 2571 - SNMP Framework MIB  
RFC 2618 - RADIUS Authentication Client MIB  
RFC 2620 - RADIUS Accounting Client MIB  
RFC 2668 - Managed Object Definitions for 802.3 MAUs  
RFC 2674 - P-BRIDGE-MIB  
RFC 2674 - QBRIDGE-MIB VLAN Bridge MIB  
RFC 2737 - Entity MIB (physical branch only)  
RFC 2787 - VRRP-MIB  
RFC 2819 - RMON-MIB  
RFC 2933 - IGMP MIB  
RFC 2934 - PIM MIB for IPv4  
RFC 3413 - SNMP v3 Applications MIB  
RFC 3414 - SNMP v3 User-based Security Module (USM) MIB  
RFC 3584 - SNMP Community MIB  
RFC 3621 - Power over Ethernet MIB

## QUALITY OF SERVICE

8 Priority Queues per Port  
802.3x Flow Control  
Class of Service (CoS)  
Ingress Rate Limiting  
IP ToS/DSCP Marking/Remarking  
IP Precedence  
IP Protocol  
Layer 2/3/4 Classification  
Multi-layer Packet Processing  
Mixed Queuing Control - Strict and Weighted Round Robin  
Source/Destination IP Address  
Source/Destination MAC Address  
Dynamic and Static MAC Locking  
EAP Pass-Thru  
RFC 2474 Definition of Differentiated Services Field

## MANAGEMENT

Alias Port Naming  
Command Line Interface (CLI)  
Configuration Upload/Download  
Dual IPv4/IPv6 Management Support  
Editable Text-based Configuration File  
TFTP Client  
Command Logging  
Multi-configuration File Support  
NMS Automated Security Manager  
NMS Console  
NMS Inventory Manager  
NMS Policy Manager  
Node/Alias Table  
RFC 768 - UDP  
RFC 783 - TFTP  
RFC 791 - IP  
RFC 792 - ICMP  
RFC 793 - TCP  
RFC 826 - ARP  
RFC 854 - Telnet  
RFC 951 - BootP  
RFC 1157 - SNMP  
RFC 1321 - The MD5 Message-Digest Algorithm  
RFC 1901 - Community-based SNMPv2  
RFC 2030 Simple Network Time Protocol (SNTP)  
RFC 2933 - IGMP MIB  
RFC 3176 - sFlow  
RFC 3413 - SNMPV3 Applications  
RFC 3414 -User-based Security Module (USM) for SNMPv3  
RFC 3415 - View-based Access Control Model for SNMP

RFC 3826 - Advanced Encryption  
Standard (AES) for SNMP  
RMON (Stats, History, Alarms, Events, Filters, Packet Capture)  
Secure Copy (SCP)  
Secure FTP (SFTP)  
Simple Network Management Protocol  
(SNMP) v1/v2c/v3  
SSHv2  
RFC 3164 - The BSD Syslog Protocol  
TACACS+ support  
Authentication, Authorization and Auditing  
Web-based Management  
Webview via SSL Interface

# Switch Model Specifications

|  | C5G124-24   | C5G124-24P2   | C5G124-48   | C5G124-48P2   |
|--|---|---|---|---|
| <b>PERFORMANCE</b>                                   |   |   |   |   |
| Throughput Capacity wire-speed Mpps (switch / stack) | 35.7 Mpps / 285.7 Mpps  | 35.7 Mpps / 285.7 Mpps  | 71.4 Mpps / 571.4 Mpps  | 71.4 Mpps / 571.4 Mpps  |
| Switching Capacity (switch / stack)                  | 48 Gbps (35.7 Mpps) / 384 Gbps (285.7 Mpps)   | 48 Gbps (35.7 Mpps) / 384 Gbps (285.7 Mpps)   | 96 Gbps (71.4 Mpps) / 768 Gbps (571.4 Mpps)   | 96 Gbps (71.4 Mpps) / 768 Gbps (571.4 Mpps)   |
| Stacking Capacity (switch / stack)                   | 128 Gbps (95.2 Mpps) / 1,024 Gbps (761.8 Mpps)  | 128 Gbps (95.2 Mpps) / 1,024 Gbps (761.8 Mpps)  | 128 Gbps (95.2 Mpps) / 1,024 Gbps (761.8 Mpps)  | 128 Gbps (95.2 Mpps) / 1,024 Gbps (761.8 Mpps)  |
| Aggregate Throughput Capacity (switch / stack)       | 176 Gbps (130.9 Mpps) / 1,408 Gbps (1,047.5 Mpps)   | 176 Gbps (130.9 Mpps) / 1,408 Gbps (1,047.5 Mpps)   | 224 Gbps (166.6 Mpps) / 1,792 Gbps (1,333.2 Mpps)   | 224 Gbps (166.6 Mpps) / 1,792 Gbps (1,333.2 Mpps)   |
| <b>POE SPECIFICATIONS</b>                            |   |   |   |   |
| 802.3af Interoperable                                | N/A   | Yes   | N/A   | Yes   |
| 802.3at Interoperable                                | N/A   | Yes   | N/A   | Yes   |
| System Power   | N/A   | 850 watts per switch with up to 30 watts per port<br>Per-port switch power monitor:<br>• Enable/disable<br>• Priority safety<br>• Overload & short circuit protection   | N/A   | 850 watts per switch with up to 30 watts per port<br>Per-port switch power monitor:<br>• Enable/disable<br>• Priority safety<br>• Overload & short circuit protection   |
| <b>PHYSICAL SPECIFICATIONS</b>                       |   |   |   |   |
| Dimensions (H x W x D)                               | H: 4.4 cm (1.73")<br>W: 44.1 cm (17.36")<br>D: 36.85 cm (14.51")  | H: 4.4 cm (1.73")<br>W: 44.1 cm (17.36")<br>D: 36.85 cm (14.51")  | H: 4.4 cm (1.73")<br>W: 44.1 cm (17.36")<br>D: 36.85 cm (14.51")  | H: 4.4 cm (1.73")<br>W: 44.1 cm (17.36")<br>D: 36.85 cm (14.51")  |
| Net Weight   | 5.03 kg (11.10 lb)  | 6.21 kg (13.70 lb)  | 5.42 kg (11.95 lb)  | 6.60 kg (14.55 lb)  |
| MTBF   | 395,557 hours   | 289,425 hours   | 311,897 hours   | 229,532 hours   |
| Physical Ports                                       | <ul style="list-style-type: none"> <li>• (24) 10/100/1000 auto-sensing, auto-negotiating MDI/MDI-X RJ45 ports</li> <li>• (4) Combo SFP ports</li> <li>• (2) dedicated stacking ports</li> <li>• (1) DB9 console port</li> <li>• (1) RPS port</li> </ul> | <ul style="list-style-type: none"> <li>• (24) 10/100/1000 PoE (.af+.at) auto-sensing, auto-negotiating MDI/MDI-X RJ45 ports</li> <li>• (4) Combo SFP ports</li> <li>• (2) dedicated stacking ports</li> <li>• (1) DB9 console port</li> <li>• (1) RPS port</li> </ul> | <ul style="list-style-type: none"> <li>• (48) 10/100/1000 auto-sensing, auto-negotiating MDI/MDI-X RJ45 ports</li> <li>• (4) Combo SFP ports</li> <li>• (2) dedicated stacking ports</li> <li>• (1) DB9 console port</li> <li>• (1) RPS port</li> </ul> | <ul style="list-style-type: none"> <li>• (48) 10/100/1000 PoE (.af+.at) auto-sensing, auto-negotiating MDI/MDI-X RJ45 ports</li> <li>• (4) Combo SFP ports</li> <li>• (2) dedicated stacking ports</li> <li>• (1) DB9 console port</li> <li>• (1) RPS port</li> </ul> |
| <b>POWER REQUIREMENTS</b>                            |   |   |   |   |
| Normal Input Voltage                                 | 100 - 240 VAC   | 100 - 240 VAC   | 100 - 240 VAC   | 100 - 240 VAC   |
| Input Frequency                                      | 50 - 60 Hz  | 50 - 60 Hz  | 50 - 60 Hz  | 50 - 60 Hz  |
| Input Current  | 2 A Max   | 12 A Max  | 2 A Max   | 12 A Max  |
| Power Consumption                                    | 65 watts  | 125 watts   | 101 watts   | 150 watts   |

## Switch Model Specifications (cont.)

|  | C5G124-24  | C5G124-24P2  | C5G124-48  | C5G124-48P2  |
|--|--|--|--|--|
| <b>TEMPERATURE</b>                                   |  |  |  |  |
| IEC 6-2-1 Standard Operating Temperature             | 0° to 50° C (32° to 122° F)  | 0° to 50° C (32° to 122° F)  | 0° to 50° C (32° to 122° F)  | 0° to 50° C (32° to 122° F)  |
| IEC 6-2-14 Non-Operating Temperature                 | -40° to 70° C (-40° to 158° F)   | -40° to 70° C (-40° to 158° F)   | -40° to 70° C (-40° to 158° F)   | -40° to 70° C (-40° to 158° F)   |
| Heat Dissipation                                     | 222 BTUs/Hr  | 428 BTUs/Hr  | 345 BTUs/Hr  | 513 BTUs/Hr  |
| <b>HUMIDITY</b>                                      |  |  |  |  |
| Operating Humidity                                   | 5% - 95% non-condensing  | 5% - 95% non-condensing  | 5% - 95% non-condensing  | 5% - 95% non-condensing  |
| <b>VIBRATION</b>                                     |  |  |  |  |
|  | IEC 68-2-6, IEC68-2-36   | IEC 68-2-6, IEC68-2-36   | IEC 68-2-6, IEC68-2-36   | IEC 68-2-6, IEC68-2-36   |
| <b>SHOCK</b>   |  |  |  |  |
|  | IEC 68-2-29  | IEC 68-2-29  | IEC 68-2-29  | IEC 68-2-29  |
| <b>DROP</b>  |  |  |  |  |
|  | IEC 68-2-32  | IEC 68-2-32  | IEC 68-2-32  | IEC 68-2-32  |
| <b>ACOUSTICS</b>                                     |  |  |  |  |
| Front of switch (normal operation)                   | 44 dB  | 45.5 dB  | 46 dB  | 45.5 dB  |
| <b>ALTITUDE</b>                                      |  |  |  |  |
| Operating  | 10,000 ft (3,048 m)  | 10,000 ft (3,048 m)  | 10,000 ft (3,048 m)  | 10,000 ft (3,048 m)  |
| Non-operating  | 15,000 ft (4,572 m)  | 15,000 ft (4,572 m)  | 15,000 ft (4,572 m)  | 15,000 ft (4,572 m)  |
| <b>AGENCY AND REGULATORY STANDARD SPECIFICATIONS</b> |  |  |  |  |
| Safety   | UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1  | UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1  | UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1  | UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1  |
| EMC  | FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3 | FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3 | FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3 | FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3 |
| Environmental  | 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)   | 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)   | 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)   | 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)   |



## Switch Model Specifications (cont.)

|  | C5K125-24   | C5K125-24P2   | C5K125-48   | C5K125-48P2   | C5K175-24  |
|--|---|---|---|---|--|
| <b>PERFORMANCE</b>                                   |   |   |   |   |  |
| Throughput Capacity wire-speed Mpps (switch / stack) | 65.5 Mpps / 523.8 Mpps  | 65.5 Mpps / 523.8 Mpps  | 101.2 Mpps / 809.5 Mpps   | 101.2 Mpps / 809.5 Mpps   | 65.5 Mpps / 523.8 Mpps   |
| Switching Capacity (switch / stack)                  | 88 Gbps (65.5 Mpps) / 704 Gbps (523.8 Mpps)   | 88 Gbps (65.5 Mpps) / 704 Gbps (523.8 Mpps)   | 136 Gbps (101.2 Mpps) / 1,088 Gbps (809.5 Mpps)   | 136 Gbps (101.2 Mpps) / 1,088 Gbps (809.5 Mpps)   | 88 Gbps (65.5 Mpps) / 704 Gbps (523.8 Mpps)  |
| Stacking Capacity (switch / stack)                   | 128 Gbps (95.2 Mpps) / 1,024 Gbps (761.8 Mpps)  | 128 Gbps (95.2 Mpps) / 1,024 Gbps (761.8 Mpps)  | 128 Gbps (95.2 Mpps) / 1,024 Gbps (761.8 Mpps)  | 128 Gbps (95.2 Mpps) / 1,024 Gbps (761.8 Mpps)  | 128 Gbps (95.2 Mpps) / 1,024 Gbps (761.8 Mpps)   |
| Aggregate Throughput Capacity (switch / stack)       | 216 Gbps (160.7 Mpps) / 1,728 Gbps (1,285.6 Mpps)   | 216 Gbps (160.7 Mpps) / 1,728 Gbps (1,285.6 Mpps)   | 264 Gbps (196.4 Mpps) / 2,112 Gbps (1,571.3 Mpps)   | 264 Gbps (196.4 Mpps) / 2,112 Gbps (1,571.3 Mpps)   | 216 Gbps (160.7 Mpps) / 1,728 Gbps (1,285.6 Mpps)  |
| <b>POE SPECIFICATIONS</b>                            |   |   |   |   |  |
| 802.3af Interoperable                                | N/A   | Yes   | N/A   | Yes   | N/A  |
| 802.3at Interoperable                                | N/A   | Yes   | N/A   | Yes   | N/A  |
| System Power   | N/A   | 850 watts per switch with up to 30 watts per port<br>Per-port switch power monitor:<br>• Enable/disable<br>• Priority safety<br>• Overload & short circuit protection   | N/A   | 850 watts per switch with up to 30 watts per port<br>Per-port switch power monitor:<br>• Enable/disable<br>• Priority safety<br>• Overload & short circuit protection   | N/A  |
| <b>PHYSICAL SPECIFICATIONS</b>                       |   |   |   |   |  |
| Dimensions (H x W x D)                               | H: 4.4 cm (1.73")<br>W: 44.1 cm (17.36")<br>D: 36.85 cm (14.51")  | H: 4.4 cm (1.73")<br>W: 44.1 cm (17.36")<br>D: 36.85 cm (14.51")  | H: 4.4 cm (1.73")<br>W: 44.1 cm (17.36")<br>D: 36.85 cm (14.51")  | H: 4.4 cm (1.73")<br>W: 44.1 cm (17.36")<br>D: 36.85 cm (14.51")  | H: 4.4 cm (1.73")<br>W: 44.1 cm (17.36")<br>D: 36.85 cm (14.51")   |
| Net Weight   | 4.92 kg (10.85 lb)  | 6.10 kg (13.45 lb)  | 5.31 kg (11.70 lb)  | 6.49 kg (14.30 lb)  | 4.97 kg (10.95 lb)   |
| MTBF   | 365,615 hours   | 273,083 hours   | 284,345 hours   | 213,965 hours   | 395,839 hours  |
| Physical Ports                                       | <ul style="list-style-type: none"> <li>• (24) 10/100/1000 auto-sensing, auto-negotiating MDI/MDI-X RJ45 ports</li> <li>• (2) Combo SFP ports</li> <li>• (2) SFP+ ports</li> <li>• (2) dedicated stacking ports</li> <li>• DB9 console port</li> <li>• (1) RPS port</li> </ul> | <ul style="list-style-type: none"> <li>• (24) 10/100/1000 PoE (.af + .at) auto-sensing, auto-negotiating MDI/MDI-X RJ45 ports</li> <li>• (2) Combo SFP ports</li> <li>• (2) SFP+ ports</li> <li>• (2) dedicated stacking ports</li> <li>• DB9 console port</li> <li>• (1) RPS port</li> </ul> | <ul style="list-style-type: none"> <li>• (48) 10/100/1000 auto-sensing, auto-negotiating MDI/MDI-X RJ45 ports</li> <li>• (2) Combo SFP ports</li> <li>• (2) SFP+ ports</li> <li>• (2) dedicated stacking ports</li> <li>• (1) DB9 console port</li> <li>• (1) RPS port</li> </ul> | <ul style="list-style-type: none"> <li>• (48) 10/100/1000 PoE (.af + .at) auto-sensing, auto-negotiating MDI/MDI-X RJ45 ports</li> <li>• (2) Combo SFP ports</li> <li>• (2) SFP+ ports</li> <li>• (2) dedicated stacking ports</li> <li>• (1) DB9 console port</li> <li>• (1) RPS port</li> </ul> | <ul style="list-style-type: none"> <li>• (24) SFP</li> <li>• (2) SFP+ ports</li> <li>• (2) dedicated stacking ports</li> <li>• (1) DB9 console port</li> <li>• (1) RPS port</li> </ul> |
| <b>POWER REQUIREMENTS</b>                            |   |   |   |   |  |
| Normal Input Voltage                                 | 100 - 240 VAC   | 100 - 240 VAC   | 100 - 240 VAC   | 100 - 240 VAC   | 100 - 240 VAC  |
| Input Frequency                                      | 50 - 60 Hz  | 50 - 60 Hz  | 50 - 60 Hz  | 50 - 60 Hz  | 50 - 60 Hz   |
| Input Current  | 2 A Max   | 12 A Max  | 2 A Max   | 12 A Max  | 2 A Max  |
| Power Consumption                                    | 74 watts  | 130 watts   | 120 watts   | 165 watts   | 69 watts   |
| <b>TEMPERATURE</b>                                   |   |   |   |   |  |
| IEC 6-2-1 Standard Operating Temperature             | 0° to 50° C (32° to 122° F)   | 0° to 50° C (32° to 122° F)   | 0° to 50° C (32° to 122° F)   | 0° to 50° C (32° to 122° F)   | 0° to 50° C (32° to 122° F)  |
| IEC 6-2-14 Non-Operating Temperature                 | -40° to 70° C (-40° to 158° F)  | -40° to 70° C (-40° to 158° F)  | -40° to 70° C (-40° to 158° F)  | -40° to 70° C (-40° to 158° F)  | -40° to 70° C (-40° to 158° F)   |
| Heat Dissipation                                     | 253 BTUs/Hr   | 445 BTUs/Hr   | 408 BTUs/Hr   | 565 BTUs/Hr   | 234 BTUs/Hr  |
| <b>HUMIDITY</b>                                      |   |   |   |   |  |
| Operating Humidity                                   | 5% - 95% non-condensing   | 5% - 95% non-condensing   | 5% - 95% non-condensing   | 5% - 95% non-condensing   | 5% - 95% non-condensing  |
| <b>VIBRATION</b>                                     |   |   |   |   |  |
|  | IEC 68-2-6, IEC68-2-36  | IEC 68-2-6, IEC68-2-36  | IEC 68-2-6, IEC68-2-36  | IEC 68-2-6, IEC68-2-36  | IEC 68-2-6, IEC68-2-36   |
| <b>SHOCK</b>   |   |   |   |   |  |
|  | IEC 68-2-29   | IEC 68-2-29   | IEC 68-2-29   | IEC 68-2-29   | IEC 68-2-29  |
| <b>DROP</b>  |   |   |   |   |  |
|  | IEC 68-2-32   | IEC 68-2-32   | IEC 68-2-32   | IEC 68-2-32   | IEC 68-2-32  |



## Switch Model Specifications (cont.)

|  | C5K125-24  | C5K125-24P2  | C5K125-48  | C5K125-48P2  | C5K175-24  |
|--|--|--|--|--|--|
| <b>ACOUSTICS</b>                                     |  |  |  |  |  |
| Front of switch (normal operation)                   | 45 dB  | 45.5 dB  | 47 dB  | 46 dB  | 46 dB  |
| <b>ALTITUDE</b>                                      |  |  |  |  |  |
| Operating  | 10,000 ft (3,048 m)  | 10,000 ft (3,048 m)  | 10,000 ft (3,048 m)  | 10,000 ft (3,048 m)  | 10,000 ft (3,048 m)  |
| Non-operating  | 15,000 ft (4,572 m)  | 15,000 ft (4,572 m)  | 15,000 ft (4,572 m)  | 15,000 ft (4,572 m)  | 15,000 ft (4,572 m)  |
| <b>AGENCY AND REGULATORY STANDARD SPECIFICATIONS</b> |  |  |  |  |  |
| Safety   | UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1  | UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1  | UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1  | UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1  | UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1  |
| EMC  | FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3 | FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3 | FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3 | FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3 | FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3 |
| Environmental  | 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)   | 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)   | 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)   | 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)   | 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)   |

## Redundant Power Supply Equipment Specifications

### STK-RPS-1005CH3 POWER SHELF

**Power Supply Slots:** 3

**Dimensions (H x W x D)\***

5.5 cm (2.2") x 44.0 cm (17.3") x 35.1 cm (13.8")

**Weight**

0.95 kg (2.09 lbs)

### STK-RPS-150CH2 POWER SHELF

**Power Supply Slots:** 2

**Dimensions (H x W x D)\***

5.5 cm (2.2") x 44.0 cm (17.3") x 18.0 cm (7.0")

**Weight**

5.27 kg (11.6 lbs)

### STK-RPS-150CH8 POWER SHELF

**Power Supply Slots:** 8

**Dimensions (H x W x D)\***

22.26 cm (8.77") x 44.0 cm (17.3") x 26.4 cm (10.4")

**Weight**

5.27 kg (11.6 lbs)

\*Note: dimensions include integrated rack mount ears

## STK-RPS-150PS POWER SUPPLY

**Dimensions (H x W x D)**

19.6 cm (7.7") x 5.2 cm (2.04") x 25.7 cm (10.1")

**Net Weight (Unit Only)**

1.75 kg (3.85 lbs)

**Gross Weight (Packaged Unit)**

3.20 kg (7.04 lbs)

**MTBF**

300,000 hours

**Operating Temperature**

0° C to 50° C (32° F to 122° F)

**Storage Temperature**

-30° C to 73° C (-22° F to 164° F)

**Operating Relative Humidity**

5% to 95%

**AC Input Frequency Range**

50 - 60 Hz

**AC Input Voltage Range**

100 - 240 VAC

**Maximum Output Power**

156 W continuous

## STK-RPS-1005PS POWER SUPPLY

### Dimensions (H x W x D)\*

4.3 cm (1.7") x 15.4 cm (6.06") x 34.0 cm (13.39")

### Net Weight (Unit Only)

2.1 kg (4.63 lb)

### Gross Weight (Packaged Unit)

3.53 kg (7.77 lb)

### MTBF

800,000 hours

### Operating Temperature

0° C to 50° C (32° F to 122° F)

### Storage Temperature

-40° C to 70° C (-40° F to 158° F)

### Operating Relative Humidity

5% to 95%

### AC Input Frequency Range

50-60 Hz

### AC Input Voltage Range

100 - 240 VAC

### Maximum Output Power

1005 W continuous

## Ordering Information

| PART NUMBER  | DESCRIPTION  |
|--|--|
| <b>C5 SWITCHES</b>   |  |
| C5G124-24  | (24) 10/100/1000 RJ45 ports, (4) combo SFP ports, (2) dedicated high-speed stacking ports and external RPS connector. Total active ports per switch: (24) Gigabit ports  |
| C5G124-24P2  | (24) 10/100/1000 PoE (.at + .af) RJ45 ports, (4) combo SFP ports, (2) dedicated high-speed stacking ports and external RPS connector. Total active ports per switch: (24) Gigabit ports  |
| C5G124-48  | (48) 10/100/1000 RJ45 ports, (4) combo SFP ports, (2) dedicated high-speed stacking ports and external RPS connector. Total active ports per switch: (48) Gigabit ports  |
| C5G124-48P2  | (48) 10/100/1000 PoE (.at + .af) RJ45 ports, (4) combo SFP ports, (2) dedicated high-speed dedicated stacking ports and external RPS connector. Total active ports per switch: (48) Gigabit ports                              |
| C5K125-24  | (24) 10/100/1000 RJ45 ports, (2) combo SFP ports, (2) SFP+, (2) dedicated high-speed stacking ports and external RPS connector. Total active ports per switch: (24) Gigabit ports + (2) 1GE or 10GE SFP+ ports                 |
| C5K125-24P2  | (24) 10/100/1000 PoE (.at + .af) RJ45 ports, (2) combo SFP ports, (2) SFP+, (2) dedicated high-speed stacking ports and external RPS connector. Total active ports per switch: (24) Gigabit ports + (2) 1GE or 10GE SFP+ ports |
| C5K125-48  | (48) 10/100/1000 RJ45 ports, (2) combo SFP ports, (2) SFP+, (2) dedicated high-speed stacking ports and external RPS connector. Total active ports per switch: (48) Gigabit ports + (2) 1GE or 10GE SFP+ ports                 |
| C5K125-48P2  | (48) 10/100/1000 PoE (.at + .af) RJ45 ports, (2) combo SFP ports, (2) SFP+, (2) dedicated high-speed stacking ports and external RPS connector. Total active ports per switch: (48) Gigabit ports + (2) 1GE or 10GE SFP+ ports |
| C5K175-24  | (24) SFP, (2) SFP+ ports, (2) dedicated high-speed stacking ports and external RPS connector. Total active ports per switch: (24) SFP, (2) 1GE or 10GE SFP+ ports  |
| <b>OPTIONAL SOFTWARE LICENSES</b>  |  |
| C5L3-LIC   | C5 advanced IPv4 (OSPF, PIM-SM, DVMRP and VRRP) and IPv6 routing licensing (OSPF) (per switch)   |
| <b>CABLES</b>  |  |
| STK-CAB-SHORT  | Stacking cable for connecting adjacent B5/C5 switches (30cm)   |
| STK-CAB-LONG   | Stacking cable for connecting top switch to bottom switch in a B5 or C5 stack (1m)   |
| STK-CAB-2M   | Stacking cable for B5/C5 models (2m)   |
| STK-CAB-5M   | Stacking cable for B5/C5 models (5m)   |
| SSCON-CAB  | Spare DB9 Console Cable  |
| <b>REDUNDANT POWER SUPPLIES</b>  |  |
| STK-RPS-1005CH3  | 3-slot modular power supply chassis (power supply STK-RPS-1005PS sold separately)  |
| STK-RPS-1005PS   | 1005W 802.3at PoE redundant power supply with load-balancing support   |
| STK-RPS-150CH2   | 2-slot modular power supply shelf (power supply STK-RPS-150PS sold separately)   |
| STK-RPS-150CH8   | 8-slot modular power supply shelf (power supply STK-RPS-150PS sold separately)   |
| STK-RPS-150PS  | 150W non-PoE redundant power supply  |
| <b>POWER CORDS</b>   |  |
| In support of its expanding Green initiatives as of July 1st 2014, Extreme Networks will no longer ship power cords with products. Power cords can be ordered separately but need to be specified at the time order. Please refer to <a href="http://www.extremenetworks.com/product/powercords/">www.extremenetworks.com/product/powercords/</a> for details on power cord availability for this product. |  |

## Transceivers

Extreme Networks transceivers provide connectivity options for Ethernet over twisted pair copper and fiber optic cables with transmission speeds from 100 Megabits per second to 10 Gigabits per second. The Extreme Networks C5 includes SFP+ transceivers that can support both 10GE and 1GE transceivers. All Extreme Networks transceivers meet the highest quality for extended life cycle and the best possible return on investment. For detailed specifications, compatibility and ordering information please go to:

<http://www.extremenetworks.com/products/transceivers-ds.pdf>.

## Warranty

As a customer-centric company, Extreme Networks is committed to providing quality products and solutions. In the event that one of our products fails due to a defect, we have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired or media replaced as soon as possible. C-Series switches come with the Extreme Networks lifetime warranty against manufacturing defects. For full warranty terms and conditions please go to:

[www.extremenetworks.com/support/warranty.aspx](http://www.extremenetworks.com/support/warranty.aspx).

## Service and Support

Extreme Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Extreme Networks account executive for more information about Extreme Networks Service and Support.



<http://www.extremenetworks.com/contact> / Phone +1-408-579-2800

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