

Cisco

C1-C4510RE-S7+96V+

Datasheet



Product Overview

- The Cisco Catalyst 4500 Series is an enterprise-class switching platform built for high performance and advanced networking features.
- Targeted at medium to large companies, service providers, and distributed campus networks demanding reliability and scalability.
- It features 96 Gigabit Ethernet ports, 4 SFP+ uplink ports for fast data transfer, and PoE+ power delivery in a robust rack-mountable 14U chassis.
- Supports hardware-based resiliency with supervisor engine redundancy, redundant fans, and dual power supplies for maximum uptime.
- Centralized architecture simplifies management, supporting virtualization and seamless upgrades across multiple switch generations.
- The Catalyst 4500E ensures scalable, secure network connectivity, offering strong protection of IT investments while adapting to growing business needs.

Product Highlights

- **Borderless Performance:** Delivers seamless high-speed access and secure Layer 2-4 switching with advanced security and mobile user support.
- **Resilient Infrastructure:** Redundant supervisor engines and power options reduce downtime, promoting stable, always-on operations.
- **Flexible Uplink Options:** 10 GE SFP+ uplinks and PoE+/UPOE support futureproof expansion and simplified device connectivity.
- **Simplified Management:** Forward and backward compatibility plus centralized management tools streamline large-scale network operations.

Detailed Features



C1-C4510RE-S7+96V+

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Component	Specification
Enclosure Type	Rack-mountable 14U
Ethernet Ports	96 x 10/100/1000 + 4 x SFP+



Intelligent Network Services

The Catalyst 4500E Series features advanced QoS, robust security, and comprehensive network management. These network services are optimized by specialized hardware, ensuring users experience reliable, high-speed communication with strict access control and traffic prioritization for critical applications.

High Scalability with TCAM

A dedicated ternary content-addressable memory (TCAM) architecture enables high feature capacity. With up to 384,000 entries, the switch maintains full wire-speed routing and switching performance even when multiple advanced features such as QoS and ACLs are running, ensuring no loss in throughput.

Flexible Chassis Options

Offering four chassis sizes and multiple supervisor engines, the platform allows for up to 388 ports per system. This versatility caters to scalable network growth, from small branch deployments to large campus cores, adapting to changing business or network requirements without hardware overhauls.

High Availability Design

R+E redundant chassis support dual supervisor engines, subsecond failover, dual hot-swap power, and In-Service Software Upgrades (ISSUs). Features like nonstop forwarding (NSF/SSO) guarantee continuous operation during software or hardware failures, maximizing service uptime and reliability.

Seamless Service Upgrades

The ISSU feature supports full-image software upgrades without stopping traffic, allowing software updates during business hours. This method keeps all network services running, which is essential for organizations with strict uptime necessities, such as financial services or enterprise telephony.

Comprehensive Protocol Support

Legacy Cisco Catalyst 4000 and 4500 line cards are compatible for investment protection. The 4500E supports a range of routing and network protocols, easing migration and enabling consistent operations across data, voice, and video.

Optimized for Collaboration and VoIP

The switch's nonstop forwarding, high capacity, and PoE+/UPOE options ensure crystal-clear voice and reliable collaboration application support, especially in converged campus or office environments where downtime can disrupt essential communication.

Enterprise-Grade Management

Integrated management and automation support streamline network administration. Enterprises benefit from simplified daily operations, policy implementation, and in-depth monitoring, making it easy to maintain network health, quickly isolate issues, and scale services as business demands grow.

Technical Specifications

Product Specifications

Feature	Value
Product Model	C1-C4510RE-S7+96V+
Device Type	Switch - 96 ports - managed - with Cisco Catalyst 4500E Supervisor Engine 7-E, 2x Cisco Line Cards (WS-X4748-RJ45V+E)
Enclosure Type	Rack-mountable 14U
Subtype	Gigabit Ethernet
Ports	96 x 10/100/1000 + 4 x SFP+
Power Over Ethernet (PoE)	PoE+
Performance	IPv4 switching: 250 Mpps
IPv6 switching: 125 Mpps	
Switching capacity: 848 Gbps	
Per-slot switching capacity: 48 Gbps	



Feature	Value
Capacity	IPv4 routes: 256000
IPv6 routes: 128000	
QoS hardware entries: 128000	
Active VLANs: 4094	
Spanning Tree Protocol instances: 10000	
Switched virtual interfaces (SVIs): 4094	
MAC Address Table Size	55K entries
Routing Protocol	PIM-SM, PIM-DM, PIM-SSM
Remote Management Protocol	RMON 1, RMON 2
Authentication Method	Secure Shell (SSH), RADIUS, TACACS+, Secure Shell v.2 (SSH2)
Features	Modular design, power over Ethernet (PoE), auto-negotiation, trunking, VLAN support, IPv6 support, Rapid Spanning Tree Protocol (RSTP) support, Multiple Spanning Tree Protocol (MSTP) support, Access Control List (ACL) support, Quality of Service (QoS), Jumbo Frames support, MLD snooping, Link Aggregation Control Protocol (LACP), Class of Service (CoS), Flexible NetFlow (FNF)
Compliant Standards	IEEE 802.3af, IEEE 802.3x, IEEE 802.1ae, IEEE 802.3at, IEEE 802.3az
Processor	1.5 GHz
RAM	2 GB (installed) / 4 GB (max) SDRAM
Expansion / Connectivity Interfaces	1 x console RJ-45 management
1 x management (Gigabit LAN) RJ-45	
96 x 1000Base-T RJ-45 PoE+	
1 x USB Type A	
4 x SFP+	
Expansion Slots	10 (total) / 7 (free) x expansion slot
1 (total) / 1 (free) x SD Memory Card	
Installed Modules Qty (Max)	3 (installed) / 10 (max)
Power Device	Internal power supply - hot-plug
Installed Qty	0 (installed) / 2 (max)
Power Redundancy	Optional
Power Redundancy Scheme	1+1 (with optional power supply)



Feature	Value
Miscellaneous	Rack Mounting Kit Included
Compliant Standards	NEBS level 3, FCC Class A certified, CISPR 22 Class A, EN 60950, EN 61000-3-2, EN55022, VCCI Class A ITE, IEC 60950, EN 61000-3-3, EN55024, EN55022 Class A, UL 60950, EN50082-1, CSA 22.2 No. 60950, EN 61000-6-1, ACA TS001, AS/NZS 3260, FCC Part 68, AS/NZ 3548 Class A, JATE, ICES-003 Class A, CS-03, FCC CFR47 Part 15
Dimensions & Weight	Width 17.3 in
Depth 12.5 in	
Height 24.3 in	
Environmental Parameters	Min Operating Temperature 32 °F
Max Operating Temperature 104 °F	
Humidity Range Operating 10 - 90%	

Product Comparison

Feature	C1-C4510RE-S7+96V+	C1-C4510RE-S8+96V+	C1-C4506-E
Switching Capacity	848 Gbps	928 Gbps	192 Gbps
Fixed Ports	96 x 10/100/1000 + 4 x SFP+	96 x 10/100/1000 + 4 x SFP+	48 x 10/100/1000 + 4 x SFP+
Supervisor Engine	7-E	8-E	Supervisor Engine IV or V
Chassis Slots	10-slot chassis	10-slot chassis	6-slot chassis
PoE Capability	PoE+	PoE+	PoE/PoE+
Max Power Redundancy	1+1 optional	1+1 optional	1+1 optional
Routing Table Size	IPv4: 256,000	256,000	32,000
Management & Upgrade	ISSU, NSF/SSO, centralized management	ISSU, NSF/SSO, centralized management	Manual upgrades, CLI, Web
Core Application	Core/distribution campus	Core/distribution campus	Mid-sized wiring closet/distribution



Accessories

Category	Accessories
Included Accessories	- Rack Mounting Kit - Console Cable - Documentation CD
Optional Accessories	- SFP+ Transceiver Module - Redundant Power Supply - Supervisor Engine Module



Support & Warranty



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Contact Us

Email

High Connectivity: sales@router-switch.com

Expert Technical Support: ccie-support@router-switch.com

Cooperative Partnerships: ccie-support@router-switch.com

Phone

USA: +1-626-655-0998

Hong Kong: +852-25925389 / +852-25925411

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Global Branches

Headquarters (Hong Kong)

Rm 605, 6/F, Fa Yuen Comm Bldg, 75-77 Fa Yuen St, Mongkok, Kowloon, Hong Kong, China

USA Branch

3592 Rosemead Blvd, B #220, Rosemead, CA 91770, USA

Shenzhen Branch

Jingfeng Building, 1001 Shangbu South Road, Futian District, Shenzhen, China

UK Branch

Third Floor, 207 Regent Street, London W1B 3HH, UK



References

[1] Cisco Systems. (2023). Cisco Catalyst 4500 Series Switches Data Sheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-4500-series-switches/product_data_sheet0900aecd801792b1.html