

ES4524C/ES4548C L2 Gigabit Ethernet Standalone Switch



Product Overview

The Edge-Core ES4524C, ES4548C are Gigabit Ethernet Layer 2/4 Standalone switches featuring 24 or 48 ports; 20 or 44 RJ-45 10/100/1000 ports and 4 combo Gigabit Ethernet RJ-45/SFP ports. They are ideal for high performance server aggregations, such as enterprise data centers, to connect high-end or network attached file servers over copper ports. High speed workgroups backbone upgrades, and Gigabit to the desktop for power users. This switch series offers the maximum bandwidth performance with up to 10 times the speed of 100Mb switches. Protect your investment while preparing for future growth.

Ethernet Switch

Key Features and Benefits

Performance and Scalability

With 48Gbps, 96Gbps switching capacity, the ES4524C/ES4548C delivers wire-speed switching performance on all gigabit ports, allowing users to take full advantage of existing high-performance, gigabit integrated Servers, PCs and laptops by significantly improving the responsiveness of applications and file transfer times.

There are four Gigabit Ethernet combo ports for uplink flexibility, allowing copper or fiber uplinks.

Continuous Availability

IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence, to ensure faster recovery from failed links, enhancing overall network stability and reliability.

IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing on redundant links.

IEEE 802.3ad Link Aggregation Control Protocol (LACP) increases bandwidth by automatically aggregating several physical links together as a logical trunk and providing load balancing and fault tolerance for uplink connections.

IGMP snooping prevents flooding of IP multicast traffic and limits bandwidth intensive video traffic to only the subscribers.

Broadcast Storm Control prevents faulty end stations from degrading overall system performance.

Optional Redundant Power Supply provides uninterrupted power.

Comprehensive QoS

8 egress queues per port enable differentiated management of up to 8 traffic types.

Traffic is prioritized according to 802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimal performance to real-time applications such as voice and video.

Asymmetric bidirectional rate-limiting, per port or per traffic class, preserves network bandwidth and allowing maximum control of network resources.

Enhanced Security

Port Security ensures access to switch ports based on MAC address, limits the total number of devices from using a switch port and protects against MAC flooding attacks.

IEEE 802.1X port-based access control ensures all users are authorized before being granted access to the network. User authentication is carried out using any standard-based RADIUS server.

Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on source and destination MAC addresses, IP addresses, TCP/UDP ports. This is done by hardware, so switching performance is not compromised.

Security Shell (SSH) and Secure Sockets Layer (SSL/HTTPS) encrypt network management information via Telnet and web, providing secure network management.

TACACS+/RADIUS Authentication enables centralized control of the switch and restricts unauthorized users from altering the configuration of the switch.

Private VLAN isolates edge ports to ensure user privacy.

Simple Management

Industry standard Command Line Interface (CLI) via console port or Telnet provides a common user interface and command set for users to manipulate the switch.

Embedded user friendly web interface helps users quickly and simply configure switches. Four groups of RMON are supported for traffic management, monitoring and analysis. When upgrading firmware or fine tuning configuration, the dual software images and multiple configuration files can be used for backup.

TFTP can be used to backup or restore firmware and configuration files.

ES4524C/ES4548C Product Specifications

Features

Physical Ports

- 20/44 RJ-45 10/100/1000Base-T ports
- 4 Combo G (RJ-45/SFP) ports
- 1 RS-232 DB-9 console port
- 1 Redundant Power Supply Connector

Performance

- Switching Capacity: 48Gbps/96Gbps
- Forwarding Rate: 35.7Mpps/71.4Mpps
- MAC Address Table Size: 16K
- Packet Buffer Size: 2MB

L2 Features

- Auto-negotiation for port speed and duplex mode
- Flow Control:
 - IEEE 802.3x for full duplex mode
 - Back-Pressure for half duplex mode
- Spanning Tree Protocol:
 - IEEE 802.1D Spanning Tree Protocol (STP)
 - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
 - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- VLANs:
 - Supports 255 IEEE 802.1Q VLANs
 - Port-based VLANs
 - IEEE 802.1v Protocol-based VLANs
 - Private VLAN
 - GVRP
- Link Aggregation:
 - Static Trunk
 - IEEE 802.3ad Link Aggregation Control Protocol
 - Trunk groups: 6, Trunk links: 2~8
- IGMP Snooping:
 - IGMP v1 and v2 snooping
 - IGMP Queried
- Supports jumbo frames up to 9KB

QoS Features

- Priority Queues: 8 hardware queues per port
- Supports Marking and Re-marking
- Traffic classification based on IEEE 802.1p CoS, IP Precedence, DSCP, TCP/UDP port number, Access Control List
- Supports WRR and Strict scheduling
- Bandwidth Control:
 - Egress rate limiting: 1Mbps granularity
 - Ingress rate limiting: 1Mbps granularity

Security

- Supports IEEE 802.1X port-based access control
- RADIUS authentication
- TACACS+
- Access Control List
- SSH (v1.5/v2.0)
- SSL

Management

- Switch Management:
 - CLI via console port or Telnet
 - WEB management
 - SNMP v1, v2c, v3
- Firmware & Configuration:
 - Dual firmware images
 - Firmware upgrade via TFTP server
 - Multiple configuration files
 - Configuration file upload/download via TFTP server
- Supports RMON (groups 1, 2, 3 and 9)
- Supports BOOTP, DHCP for IP address assignment
- Supports SNTp
- Event/Error Log/Syslog
- (Optional) ECview is a powerful network management system that maximizes the capabilities of Edge-Core devices with:
 - Topology Management
 - Performance Management
 - Configuration Management
 - Event Management
 - SNMP Management

Mechanical

- Dimensions (H x W x D): 4.3 x 44 x 31 cm (1RU) for ES4524C
- 4.3 x 44 x 41.5 cm (1RU) for ES4548C
- LED Indicators: Port, Uplink, System, Diagnostic

Safety

- CSA/NRTL (UL1950, CSA 22.2.9.50)
- TUV/GS (EN60950)

Electromagnetic Compatibility

- CE Mark
- FCC Class A
- VCCI Class A
- CISPR Class A

Environmental Specifications

- Temperature:
 - IEC 68-2-14
 - 0°C to 40°C (Standard Operating)
 - 40°C to 70°C (Non-Operating)
- Humidity: 5% to 95% (Non-condensing)
- Vibration: IEC 68-2-36, IEC 68-2-6
- Shock: IEC 68-2-29
- Drop: IEC 68-2-32

Warranty

- Limited lifetime warranty

Ordering Information

Optional Accessories

- RPS600WA
- ET4201-SX
- ET4201-LX
- ET4201-LHX
- ET4201-ZX
- ECview

Product Description

- 4 DC output redundant power supply connectors (Supports max. power output 150W/12V per port)
- Small Form Factor Pluggable (Distance: 500m; Wavelength: 850nm)
- Small Form Factor Pluggable (Distance: 10km; Wavelength: 1310nm)
- Small Form Factor Pluggable (Distance: 40km; Wavelength: 1310nm)
- Small Form Factor Pluggable (Distance: 80km; Wavelength: 1550nm)
- SNMP Network Management Software



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