

# CS462 /CS464 L3 Gigabit Ethernet Stackable Switch



## Key Features and Benefits

### Performance and Scalability

The CS462 /CS454 provides 1 optional 10 Gigabit Ethernet module for 10G uplink to fulfill any bandwidth-eager customer.

Optional 10 Gigabit Ethernet XENPAK transceivers can be chosen for different distance fiber uplinks.

Start stacking up to 8/4 units for a total of 192 10/100/1000 ports and 8/4 10G ports for pay as your network expands style.

A switch stack can be managed with a single IP address and as a single entity for greater management simplicity.

40Gbps stacking bandwidth for intra-switch data transfer.

Backup Master ensures the availability of a master controller for network control at any time.

Redundant Stacking ensures continued operation of other units while adding or removing a unit, or in the unlikely event of unit or stacking cable failure.

Firmware and configuration are automatically upgraded from master to slave units for management simplicity.

### Continuous Availability

IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence.

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.

Optional Redundant Power Supply provides uninterrupted power.

### L3 Features

The CS462 /CS464 delivers high-performance, hardware based IP routing.

RIP and OSPF provides dynamic routing by exchanging routing information with other Layer 3 switches or routers.

DVMRP, PIM-DM Multicast Routing Protocols send IP multicast traffic from one subnet to another.

VRRP prevents your system from failing by dynamically backing up multiple L3 switches for routing.

### 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.

Bidirectional rate-limiting, per port or traffic class, preserves network bandwidth and allows full control of network resources.

### Enhanced Security

IEEE 802.1X port-based access control ensures all users are authorized before being granted access to the network.

Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on L2/L3/L4 headers.

SSL, Web Management Encryption, RADIUS and TACACS+ protect data communication and ensure data privacy.

### Simple Management

Industry standard Command Line Interface (CLI) via console port or Telnet can be used for switch management.

Embedded user friendly web interface helps users quickly and simply configure switches.

Support four groups of RMON.

Backup and restore Firmware and configuration files via TFTP.

# Product Specifications

## Features

### Physical Ports

- 20 or 44 RJ-45 10/100/1000Base-T ports
- 4 Combo G (RJ-45/SFP) ports
- 1 optional I/O module for 10G uplink
- 2 Stacking Ports
- 1 RS-232 DB-9 console port
- 1 Redundant Power Supply Connector

### Performance

- Switching Capability: 108Gbps/156Gbps
- Forwarding Rate: 80.4Mpps/116Mpps
- MAC Address Table Size: 16K
- Packet Buffer Size: 2MB/4MB

### L2 Features

- Auto-negotiation for port speed and duplex mode
- Flow Control: IEEE 802.3x & Back-Pressure
- 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 IEEE802.1Q tagged VLANs of 4095 VLAN IDs
  - Support port-based VLAN
  - 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 and IGMP Querier
- Supports jumbo frames up to 9KB

### L3 Features

- 4K IP Host Routing entries
- 2K IP Net Routing entries
- 256 IP multicast groups
- ARP
- Multi-netting, Super-netting (CIDR)
- RIPv1, RIPv2
- OSPF
- DVMRP, PIM-DM
- VRRP
- DHCP/BootP relay, DHCP server
- DNS proxy

### Stacking Features

- Stacking Bandwidth: 40Gbps
- Stacking up to 8/4 units for ES4625/ES4649 thus increasing port density to 192 Gigabit Ethernet ports and 8/4 10GE ports
- Mixed stacking flexibility (ES4625/ES4649)

### QoS Features

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

### Security

- Supports IEEE 802.1X port-based access control
- RADIUS authentication
- TACACS+ authentication
- 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 SNMP
- Event/Error Log/Syslog
- (Optional) ECView is a powerful network management software that maximizes the managed capabilities of Edge-Core devices:
  - Topology Management
  - Performance Management
  - Configuration Management
  - Event Management
  - SNMP Management

### Mechanical

- Dimensions (H x W x D): 4.4 x 44 x 41 cm (1RU)
- LED Indicators: Port, Uplink, System, Diagnostic, Stack/Master

### Safety

- CSA/NRTL (UL60950, CSA 22.2.No 60950-00)
- TUV/GS (EN60950)
- CB

### Electromagnetic Compatibility

- CE Mark
- FCC Class A
- VCCI Class A

### Environmental Specifications

- Temperature:
  - IEC 68-2-14
  - 0°C to 50°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
- EM4626H-XG-XFP
- EM4625-STKCABLE-Short/EM4625-STKCABLE-Long
- ET5401A-LR
- ET4201-SX
- ET4201-LX
- ET4201-LHX
- ET4201-ZX

### Product Description

- 4 DC output redundant power supply connectors (Supports max. power output 150W/12V per port)
- 1 port 10GBase-LR module with XFP connector
- Stacking cables length 30cm/1.3m for inter switch stacking connection
- 10GE XENPAK Optical Transceiver (Link length: 10km; Laser: 1310nm)
- 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

