

# ES4704BD Chassis Core Routing Switch



## Product Overview

The Edge-Core ES4704BD is a high performance, 4-slot, Layer 3 chassis switch. It can work in redundant management module mode or single management module mode. Slot configuration can be any combination of network interface modules and 1 or 2 management modules. Furthermore, management modules also include network interfaces so total port density and slot usage is increased.

With redundant power supply, fans, and management modules, the Edge-Core ES4704BD ensures continuous operation and is a fully redundant system. Moreover, all parts are hot swappable. They can be added or exchanged without interrupting the whole system.

The ES4704BD is ideal for the core layer of campuses, enterprise networks and the aggregation layer of IP metropolitan networks.

Ethernet Switch

## Key Features and Benefits

### Performance and Scalability

The ES4704BD supports up to 6 10G ports, 48 Gigabit ports and 48 10/100 ports, providing flexibility and high port density.

10G modules support 1 or 2 ports for downlink to Gigabit L3 distribution layer switches or L2 Gigabit switches, aggregating them to the core layer, and preventing uplink port bottlenecks in Gigabit switches. Furthermore, the optional 10Gigabit Ethernet XENPAK transceivers can be chosen for different distance fiber uplinks.

The backplane capacity of the ES4704BD is 125Gbps, with 120Gbps switching capacity and 107Mpps forwarding rate, enabling forwarding of Layer 2, 3 and 4 packets at line speed.

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

Every module is hot swappable, ensuring continued operation of the system while adding or removing a module.

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

Intensive protocol support is included for MPLS, MPLS-VPN, MPLS-TE and IPv6 policy routing ensuring future investment protection.

### 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.

### L3 Features

The ES4704BD delivers high-performance hardware based IP routing.

RIP and OSPF provide 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.

Backup and restore Firmware and configuration files via TFTP.

# ES4704BD Product Specifications

## Features

### Physical Ports

4 open slots  
1 AC power supply and 1 additional open slot for optional power supply  
Max. number of 10 Gigabit ports: 6  
Max. number of Gigabit ports: 48  
Max. number of 10/100Base-T ports: 48

### Security

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

### Performance

Backplane Capacity: 125Gbps  
Switching Capacity: 144Gbps  
Forwarding Rate: 107Mpps  
Mac Address Table Size: 16K  
VLAN Number: 4K  
IP Routing Table: 64K

### 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  
EC View 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

### L2 Features

Auto-negotiation for port speed and duplex mode  
Flow Control:  
■ Provides IEEE 802.3x for full duplex mode  
■ Back-Pressure flow control 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  
■ Private VLAN  
■ GVRP  
Link Aggregation:  
■ Static Trunk  
■ IEEE 802.3ad Link Aggregation Control Protocol  
■ Load Balancing for both Unicast and Multicast  
■ Trunk groups: 6, Trunk links: 2~8  
IGMP Snooping:  
■ IGMP v1 and v2 snooping  
■ IGMP Query

### Mechanical

Dimensions (H x W x D): 226 x 445 x 421 mm (6RU)  
AC Power Input:  
■ 200 ~ 264VAC, 50 ~ 60Hz  
■ Built-in Universal Power Supplies  
■ Power Consumption: 300W (max)

### L3 Features

4K IP Address entries  
256 static routes  
ARP  
Multi-netting  
Super-netting (CIDR)  
RIPv1, RIPv2  
OSPF  
Equal Cost Multiple Path  
DVMRP, PIM-DM · PIM-SM  
VRRP  
DHCP/BootP relay, DHCP server  
DNS proxy

### Safety

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

### Electromagnetic Compatibility

CE Mark  
FCC Class A  
VCCI Class A

### 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

### Environmental Specifications

Temperature:  
■ IEC 68-2-14  
■ 0°C to 40°C (Standard Operating)  
■ -40°C to 70°C (Non-Operating)  
Humidity: 10% to 90% (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

EM4704BD-AC  
EM4704BD-M12GX-SFP  
EM4704BD-M24TX4GC  
EM4700BD-12GT-RJ45  
EM4700BD-12GX-SFP  
EM4700BD-2XG-Xenpak

ECview

### Product Description

220V AC Power Supply  
12 1000Base-X ports module (SFP interface) for management  
24 10/100Base-T ports and 4 Combo G ports module (RJ-45/SFP) for management  
12 10/100/1000Base-Tx ports module (RJ-45 interface)  
12 1000Base-X ports module (SFP interface)  
2 10G module (XENPAK interface)

SNMP Network Management Software



Powered by Accton

TEL: 886-3-5053801 FAX: 886-3-5780764  
No.1, Creation Rd. III, Science-based Industrial Park, Hsinchu 30077, Taiwan, R.O.C  
[sales\\_ec@edge-core.com](mailto:sales_ec@edge-core.com)  
[www.edge-core.com](http://www.edge-core.com)