

Business and Enterprise Solutions

DES-6500



Layer 2/3/4 Chassis Switch For Enterprise Network Connections

FEATURES

High Performance :

- 160Gbps Switching Capacity
- 9 Slot Modular Chassis
- 1 CPU & 8 Line Card Slot
- Up to 142 Mpps Forwarding Rate
- Up to 96 Gigabit Ethernet Ports
- Up to 192 Fast Ethernet Ports
- 3K IP Address
- 16K MAC Address
- 4K VLANs (max.)
- 8 Priority Queues Support
- 32 Trunk Group, 8 Port/Group
- Hot-Swappable Line Cards, PS
- Redundant Power Supply
- 9K Jumbo Frames Support

Network Management:

- Telnet/Console CLI
- Web/SNMP v1, v2c, v3/RMON I
- CPU Utilization Monitoring*
- TFTP Client
- Web GUI Traffic Monitoring
- SYSLOG Support

Advanced Features:

- RIP v1/v2 & OSPF
- IGMP v2/DVMRP/PIM-DM
- VRRP*
- TACACS+/SSL/SSH/RADIUS*
- L2/L3/L4 CoS/ACL
- 802.1d/802.1w, 802.1s*
- 802.1Q, GARP/GVRP Support
- DHCP/BootP/DNS Client
- DHCP/BootP/DNS Relay
- Port Mirroring & Security
- 802.1X port-based, MAC-based*
- Bandwidth Control
- Dual Image*, Port Description*
- SNTP

The DES-6500 is a Layer 3 backbone chassis-based Gigabit switch that provides everything a business needs for a switched network. This 9-slot chassis offers a high switch fabric capacity of 160Gbps supporting wire-speed L2/L3 packet switching in dynamic or static environment, high port density, comprehensive network media support with L2/L3/L4 Class of Service (CoS) and Access Control List (ACL), Multiple link aggregation, fault tolerance with hot-swappable CPU module/line card and redundant power supply, traffic monitoring, and comprehensive network management. Designed for performance and flexibility, this chassis offers you the price/performance ratio necessary to deploy a cost-effective enterprise backbone network.

High Scalability, Availability, & Security

With 8 line card slots and a wide range of user-selectable port types and speeds, the switch provides an easy scalable expansion as your needs grow. This switch provides redundancy of power supply, link aggregation, STP, and VRRP, which prevents single point of failure, minimizes possible network downtime, and increases the network's availability. Line card hot-swappable capability makes it easy to swap defective line cards, shorten the network restoration time, and simplify troubleshooting. Increase security by taking advantage of 802.1X, RADIUS authentication, TACACS+, SSL, and SSH network security features. The hardware and software features of the DES-6500 all work together to allow customers to build affordable, high performance, high availability, and highly secure networks.

Up to 96 Gigabit Ports, 192 Fast Ethernet Ports, 142 Mpps Forwarding Rate

You can configure the switch with up to 96 Gigabit ports, 192 twisted-pair Fast Ethernet ports or a combination of both. Copper and fiber Gigabit are supported. Built-in wire-speed switch fabric provides hardware-based packet filtering and forwarding, while packet routing is performed by on-board ASICs, which is many times faster than traditional CPU-based routers.

Network Management

The DES-6500 supports a variety of network management options including: console CLI, Telnet configuration, Web-based and SNMP v1, v2c, v3 management, RMON monitoring, TFTP firmware upgrade, TFTP configuration download/upload, Port Mirroring for troubleshooting, and BootP/DHCP IP assignment. It also supports advanced traffic management options including: 802.3x, Bandwidth Control, Broadcast Storm Control, Traffic Segmentation, Head of Line Blocking, and IGMP snooping. Live CPU utilization monitoring and port description are available to help troubleshoot when a performance degradation occurs.

Advanced Enterprise Features

The DES-6500 supports IP (RIP, OSPF) and IGMP, DVMRP, and PIM multicasting for logical network segmentation and traffic control. It also supports a complete set of Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol for Layer 2 redundancy. With Dual Image support the LAN switch provides options to boot from one image or another.

For more information, please contact your D-Link authorized reseller or visit us at <http://www.dlink.com>. For the latest firmware updates, product manuals, and support information, please visit <http://support.dlink.com>.

Authorized D-Link business partners should visit our exclusive partner site at <http://partners.dlink.com>.

Technical Specifications



DES-6500

Hardware

Port Standard/Function Support

Fully Compliant with IEEE 802.3/802.3u/802.3ab/802.3z Standard
ANSI/IEEE 802.3 NWay auto-negotiation
MDI/MDI-X Auto-detection
IEEE 802.3x Flow Control in Full-duplex, Back Pressure in Half-duplex

DES-6500 Chassis System

Number of User-configurable Slots: 8
2 Redundant Power Supply Bays
Backplane Switch Fabric Bandwidth: 160Gbps
Up to 96Gigabit Ethernet Ports
Up to 192 Fast Ethernet Ports
3k IP Address, 16K MAC address, 4K VLAN (max.)
8 Hardware Priority Queues
32 Trunking Group, 8 port/Group
RAM Buffer: 128MB per Line Card, 256MB of CPU card

DES-6502 CPU/Fabric Switching Module

RS-232 Console Port (DB9) : DCE, 115200, N, 8, 1
Reset, Alarm Off Buttons
System, Power LED
160 Gbps Switching Capacity
Up to 142 Mpps Forwarding Rate Support
256MB SDRAM
512KB for Boot code and 16 MB for Runtime code

DES-6507 12-port 10/100/1000Base-T + 2SFP Combo Module

Fully Compliant with IEEE 802.3/802.3u/802.3ab/802.3z Standard
ANSI/IEEE 802.3 NWay auto-negotiation
MDI/MDI-X Auto-detection
IEEE 802.3x Flow Control in Full-duplex
Copper Cables:
10BASE-T:
 2-pair UTP CAT 3,4, 5 (100m max)
 EIA/TIA-568 100-ohm STP (100m max.)
100BASE-TX/1000BASE-T:
 2-pair or 4 pair UTP CAT 5 or Better (100m max.)
 EIA/TIA-568 100-ohm STP (100m max.)
Fiber Cables: 50, 62.5/125 Micron Multimode Fiber, 9 Micron Singlemode Fiber
LED report (per port):
 Link/Act

DES-6509 12-port 1000Base-X SFP Fiber Module

Fully Compliant with IEEE 802.3z Standard
IEEE 802.3x Flow Control in Full-duplex
Fiber Cables: 50, 62.5/125 Micron Multimode Fiber, 9 Micron Singlemode Fiber
LED report (per port):
 Link/Act

DES-6511 Redundant Power Supply

Two Power Modules Design
Full Redundant Feature Design
Hot-swappable Power Source
Power Management Function Enabled
Removable Handle Design
Input: 90 ~ 264 VAC, 47 ~ 63 Hz
Output: 3.3V:4A ~ 80 A; 12V: 0.1A ~2A

Network Cable

10Base-T:
 2-pair UTP CAT 3,4, 5
 EIA/TIA-568 100-ohm STP
100Base-TX/1000Base-T:
 2-pair or 4 pair UTP CAT 5 or Better
 EIA/TIA-568 100-ohm STP
1000Base-SX:
 50, 62.5/125 Micron Multimode Fiber
1000Base-LX:
 50, 62.5/125 Micron Multimode Fiber
 9 Micron Singlemode Fiber



DES-6500

Software

VLAN (Layer 2)

IEEE 802.1Q VLAN Tagging, Up to 255 Dynamic & 4K Static VLANs
Multiple IPs Per VLAN*, GARP/GVRP, IGMP Snooping

Spanning Tree (Layer 2)

IEEE 802.1d Bridging STP, IEEE 802.1w Rapid Spanning Tree,
IEEE 802.1s Multiple Spanning Tree Group*

IP Routing (Layer 3)

IP Fragmentation Support, Static Routing, RIP-v1&v2, OSPF
IGMP v2, DVMRP, PIM-DM, , PIM-SM*, VRRP*, 802.1v (IPv6)*

Traffic Classification (CoS)

IEEE 802.1p, MAC SA/DA Address, IP TOS and DSCP bits
IP Destination Addresses, TCP/UDP Destination Port Number, IP v6 VLAN*
Number of Priority Queues: 8

Access Control/Security

IEEE 802.1x Port-based Access Control, Port Security, TACACS+/
SSL/SSH2/RADIUS*, IEEE 802.1x MAC-based Access Control*

Access Control List (ACL)

MAC Address, VLAN, IP Address, Protocol Type, 802.1p, DSCP,
TCP/UDP Port Number, Traffic to the Switch Management Interface*

Link Aggregation

802.3ad Compatible Link Aggregation, 32 Trunking Group, 8 Port/Group

Configuration

DHCP/BootP/DNS client, DHCP/BootP/DNS Relay
Telnet Server

Management Support

Web-based Management, Console & Telnet (CLI), RMON (statistic, history, alarms, events)
SNMP v1/v2c/ v3, TFTP Client, SYSLOG Support, Dual Image*,
Web GUI Traffic Monitoring, Web MAC Address Browsing, Port Description*,
3-level trigger logging*, D-Link SIM*

MIB

MIB II (RFC 1213), Bridge (RFC 1493), RMON (RFC1757), RMON2-MIB (RFC2021)
802.1p (RFC 2674), 802.1Q VLAN MIB (RFC 2674), Ethernet-like (RFC 1643)
IGMP MIB (RFC 2833), IPMROUTE-STD-MIB (RFC 2932), IGMP-STD-MIB (RFC 2933)
IF- MIB (RFC 2233), RIP (RFC 1724), OSPF (RFC 1850), PIM-MIB (RFC 2934), DVMRP
IP-FORWARD-MIB (RFC 2096), D-Link Private MIB (proprietary), dlkSysLog-MIB

Port Configuration & Monitoring

Auto-negotiation, Port Mirroring, Broadcast Storm Control,
9K Jumbo Frame Support, HOL Prevention
Traffic Segmentation, SNMP, CPU Utilization Monitoring*

Physical & Environmental

Power Input

90 - 264 VAC, 47 – 63 Hz (per power supply)

Power Output (per power supply unit)

3.3VDC; 4 - 80A max
12VDC; 0.1 - 2A max
296W Max. Power Consumption

Ventilation

80 x 80 mm DC Fans x 4 (built into chassis)

Chassis Dimensions

440 (W) x 294 (D) x 356 (H) mm (excluding rubber feet)
(17.32 x 11.57 x 14.01 inches)
Standard 19-inch Rack-mount Width, 9 U Height

Chassis Weight

13.16kg (23.20lb.) (includes Chassis, CPU module,
and 1 power supply)

Operating Temperature

0° – 40°C (32° –104°F)

Storage Temperature

-25° – 55°C (-13° –131°F)

Humidity

5% - 95% RH non-condensing

EMI Certification

FCC Class A
VCCI Class A
CE Class A
C-Tick Class A

Warranty and Support Information

Limited Lifetime Warranty (excluding power supplies and Fans) and Free Technical
Support. Power supplies and Fans carry a limited 3-Year warranty

Ordering Information

Part Number

DES-6500
DES-6507
DES-6509
DES-6511
DEM-310GT
DEM-311GT
DEM-314GT
DEM-315GT
DS-510P

Description

Base Chassis Unit w/ DES-6501, DES-6502, & DES-6511
12-port 1000Base-T + 2 SFP Comob Module
12-port 1000Base-X SFP Fiber Module
Redundant Power Supply
1000Base-LX, SFP 50, 62.5/125 Micron Multimode (550m max.) or Singlemode (10km max.)
1000Base-SX, SFP 50/125 Micron Multimode (550m max.)
1000Base-LH, SFP 9/125 Micron Singlemode (50Km max.)
1000Base-ZX, SFP 9/125 Micron Singlemode (80Km max.)
D-View 5.1 Professional SNMP Network Management System

*Future Firmware Release