Chassis Switch

For Enterprise Network Connection

- **9-Slot Modular Layer 3 Switch Chassis**
- **Configurable With High Density Gigabit Ports**
- **10-Gigabit Uplink Modules**
- **160Gbps Switch Fabric**
- **Advanced Software Features**

FEATURES

Modular Flexibility
- 9-Slot Modular Chassis
- 1 CPU & 8 Line Card Slots
- Up to 16 10-Gigabit Ports
- Up to 96 Gigabit Ports
- Up to 192 10/100Mbps Ethernet Ports
- Up to 96 Fiber Ethernet Ports
- Redundant Power Supply

High Performance Switching
- 160Gbps Switch Fabric
- 142Mpps Forwarding Rate
- 32 Trunk Groups, 8 Ports Per Group
- 9216Bytes Jumbo Frames
- 3K IP Addresses
- 16K MAC Addresses
- 4K VLANs
- 8 Priority Queues

Advanced Features
- RIP v.1/v.2, OSPF
- IGMP v.3, DVMRP, PIM-DM
- VRRP
- RADIUS, TACACS+, SSL/SSH
- L2/L3/L4 CoS/ACL
- Up to 100 ACL Per Port
- 802.1d/802.1w/802.1s
- 802.1Q, GARP/GVRP
- Bandwidth Control
- Broadcast/Multicast Storm Control
- Safeguard Engine
- STP Loopback Detection

XSTACK

The DES-6500 L3 chassis switch brings configuration flexibility and price/performance ratio necessary for deployment of a cost-effective enterprise, backbone and campus network. This chassis provides a high density of Gigabit ports, 10-Gigabit support, high switch fabric capacity, fault tolerance, Quality of Service (QoS), and network security critical for enterprise applications.

Wire-speed IP Packet Routing. Using standards-based routing, the DES-6500 provides instant support for Windows, Unix and Internet environments. Built-in wire-speed non-blocking switch fabric provides hardware-based packet filtering/forwarding.

High Gigabit/10-Gigabit Port Density. Users can configure this chassis with up to 96 Gigabit ports, 16 10-Gigabit ports, 192 10/100Mbps Ethernet ports, 96 fiber Ethernet ports, or a combination of these. With 8 line card slots and a wide range of selectable port types, users can easily add and change modules to suit their requirements.

Security, Performance & Availability. The DES-6500 series provides extensive VLAN support including GARP/GVRP, 802.1Q and asymmetric VLAN to enhance security and performance. To support converged applications including VoIP, ERP, Intranet and video conference, a robust set of L2/L3/L4 QoS/CoS features ensures that critical network services are served with proper priority. With Multi-layer L2/L3/L4 bandwidth control and D-Link Safeguard Engine, DES-6500 series can set limits to traffic flows from the edge of the network while automatically prevents broadcast packets and bulk traffic generated by Internet DoS-related activities from utilizing the switch's CPU resources. This prevention of unnecessary and harmful traffic can increase the overall network serviceability, reliability and availability of the stack.

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 Protocols (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol for Layer 2 redundancy.

Comprehensive Management. The DES-6500 supports a variety of network management options including console CLI, Telnet configuration, web-based and SNMP management, RMON monitoring and Single IP Management. The DES-6500 also supports a variety of advanced traffic management options including bandwidth control and broadcast/multicast storm control.

DES-6500

D-Link®
Building Networks for People

Technical Specifications

Hardware

Port Standard/Function Support
- Fully compliant with IEEE 802.3/802.3u/802.3ab/802.3z 802.3ae standards
- 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
- Back plane switch fabric bandwidth: 160Gbps
- Up to 16 10-Gigabit Ports
- Up to 96 Gigabit Ports
- Up to 192 10/100Mbps Ethernet Ports
- Up to 96 Fiber Ethernet Ports
- Up to 3K IP address table, up to 16K MAC address table, 4K VLAN (max.)
- 8 Priority Queues
- 32 Trunking Group, 8 ports per group
- RAM buffer: 128MB per line card, 256MB for CPU card

DES-6502 CPU/Fabric Switching Module
(Shipped with DES-6500)

- RS-232 console port
- Reset, alarm off buttons
- System, Power LEDs
- 160Gbps switching capacity
- Up to 142 Mpps forwarding rate
- 256MB SDRAM
- 512KB for boot codes and 16MB for runtime codes

DES-6504 12-Port 100BASE-FX MMF LC Module

- Fully compliant with IEEE 802.3u 100BASE-FX standard
- IEEE 802.3x compliant flow control support for full-duplex
- Supports (SFF) LC type connections
- Cable distances up to 2km in full duplex on multi-mode fiber

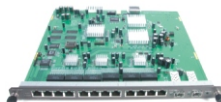### DES-6505 8-Port 1000BASE-SX Fiber SC Module

- Fully compliant with IEEE 802.3z standard
- 802.3x flow control in full-duplex
- Fiber cables: 50, 62.5/125-micron multi-mode fiber
- LED report (per port): Link/Act

DES-6506 24-port RJ-21 to RJ-45 Patch Panel

- Patch panel supports 2 RJ-21 ports to 24-port RJ-45 10/100 BASE-TX interface
- Compatible with the DES-6510 RJ-21 Telco module
- Use in conjunction with DES-6510 module
- Supports 2 RJ-21/Telco 50 connectors

### DES-6507 12-Port 10/100/1000BASE-T + 2 SFP Combo Module

- Fully compliant with IEEE 802.3/802.3u/802.3ab/802.3z standards
- ANSI/IEEE 802.3 NWay auto-negotiation
- MDI/MDI-X auto-detection
- IEEE 802.3x flow control in full-duplex
- 10BASE-T copper cable:
  2-pair UTP Cat. 3, 4, 5 cable (100m max)
  EIA/TIA-568 100-ohm STP cable (100m max.)
- 100BASE-TX/1000BASE-T copper cable:
  2-pair or 4 pair UTP CAT 5 or better (100m max.)
  EIA/TIA-568 100-ohm STP cable (100m max.)
- Fiber cables: 50, 62.5/125-micron multi-mode fiber, 9-micron single-mode fiber
- LED report (per port): Link/Act

DES-6508 16-Port 10/100Mbps RJ-45 Module

- Fully compliant with IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX standards
- All 10/100Mbps ports support auto-negotiation
- Back pressure support for half-duplex mode
- 802.3x compliant flow control support for full-duplex

DES-6509 12-Slot SFP Module
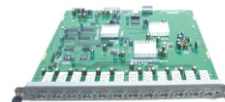
- Fully compliant with IEEE 802.3z standard
- 802.3x flow control in full-duplex
- Fiber cables: 50, 62.5/125-micron multi-mode fiber, 9-micron single-mode fiber
- LED report (per port): Link/Act

DES-6510 24 Port 10/100Mbps RJ-21 Telco 50 Module

- 2 RJ-21, each supports 12-port 10BASE-T/100BASE-TX ports
- Fully compliant with IEEE 802.3 10BASE-T, IEEE 802.3u
- 100BASE-TX standards
- All 10/100Mbps ports support auto-negotiation
- Back pressure for half-duplex mode
- 802.3x flow control support for full-duplex

DES-6511 Power Supply

- Full redundant feature design
- Hot-swappable power source
- Power management function enabled
- 2 fans included
- Removable handle design
- Input: 90 to 264 VAC, 47 to 63 Hz
- Output: 3.4V: 4A to 80 A; 12V: 0.1A to 2A

DES-6512 2-Slot 10G XFP Module

- Compliant with IEEE 802.3ae standard
- Supports full-duplex operation only
- Supports XFP MSA-compliant transceivers
- 256MB SDRAM
- Flash: 512KB for boot codes, 16MB for runtime codes
- LED indicators

FC CE CSA 950 UL 1950 IEC 950 EN 60950

Software Functions

L2 Features
- IGMP snooping
- Spanning Tree: 802.1D STP, 802.1W RSTP, 802.1S MSTP
- STP Loopback Detection
- 802.3ad Link Aggregation up to 32 groups
- Back Pressure Flow Control
- Port mirroring: one-to-one, multiple-to-one
- Trunking/mirroring across stack

VLAN
- 802.1Q
- 4K VLAN groups (4K static VLANs, 255 dynamic VLANs)
- GVRP/GARP
- 802.1V

L3 Features
- 128 IP v.4 Static Routing
- RIP v.1/v.2
- OSPF
- VRRP
- Floating Static Route
- Number of IP interfaces: 256 per system
- Multiple IP per VLAN (max. 2)
- IP v.4 routing table: max. 2K entries
- Multicast forwarding table: max. 256 entries
- IGMP v.1, v.2, v.3

QoS
- Bandwidth control: per port granularity of 64Kbit per second
- 802.1p support
- 8 queues per port
- Queue handling methods: WRR, Strict
- CoS based on:
  Switch port
  MAC address

  802.1p priority
  VLAN
  Protocol type
  TOS
  DSCP
  IP v.4/v.6 address
  IP v.6 traffic class
  IP v.6 flow label
  TCP/UDP port

ACL (Access Control List)
- Maximum 9600 rules based on:
  Switch port
  MAC address
  802.1p priority
  VLAN
  Protocol type
  TOS
  DSCP
  IP address
  IP v.4/v.6 address
  IP v.6 traffic class
  IP v.6 flow label
  TCP/UDP port
  TCP/UDP payload
- CPU interface filtering

Security
- RADIUS/TACACS/TACACS+
- SSH v.2
- SSL v.1
- Port security
- 802.1x port-based/MAC-based access control
- Broadcast storm control
- Multicast storm control
- Traffic segmentation
- D-Link Safeguard Engine

Management
- D-Link Single IP Management v.1.0
- Web-based GUI
- CLI
- Web GUI traffic monitoring
- Web MAC address browsing
- Telnet server
- TFTP client
- SNMP v.1, v.2c, v.3
- SNMP trap on MAC notification
- RMON v.1
- BootP/DHCP client
- DHCP auto-configuration
- DHCP relay option 82
- System log
- Trap/alarm/log severity control
- Dual Images
- Dual Configurations
- CPU Monitoring

MIBs
- MIB-II (RFC 1213)
- Bridge MIB (RFC 1493)
- RMON MIB (RFC 1757)
- 802.1p Priority Queues (RFC 2674)
- 802.1Q VLAN MIB (RFC 2674)
- IGMP MIB (RFC 2833)
- If MIB (RFC 2233)
- Ethernet-like MIB (RFC 1643)
- RIP MIB (RFC 1724)
- OSPF MIB (RFC 1850)
- CIDR MIB (RFC 2096)
- IP v.4 Multicast Routing MIB (RFC 2932)
- PIM MIB from IP v.4 (RFC 2934)
- VRRP MIB (RFC 2787)
- D-Link enterprise MIB

Optional Products

Optional Management Software
DS-510S — D-View 5.1 SNMP Network Management Program (standard version)
DS-510P — D-View 5.1 SNMP Network Management Program (professional version)

Optional 10-Gigabit XFP Transceivers
DEM-421XT — XFP transceiver, 10GBASE-SR standard, multi-mode fiber, max. distance 300 m, 3.3/5V
DEM-422XT — XFP transceiver, 10GBASE-LR standard, single-mode fiber, max. distance 10 km, 3.3/5V
DEM-423XT — XFP transceiver, 10GBASE-ER standard, single-mode fiber, max. distance 40 km, 3.3/5V

Optional SFP Transceivers
DEM-310GT — SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3V
DEM-311GT — SFP transceiver, 1000BASE-SX standard, multi-mode fiber, max. distance 550m, 3.3V
DEM-312GT2 — SFP transceiver 1000BASE-SX standard, multi-mode fiber, max. distance 2km, 3.3V
DEM-314GT — SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 50km, 3.3V
DEM-315GT — SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 80km, 3.3V

DEM-330T — WDM SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3V, Tx wavelength 1550 nm, Rx wavelength 1310 nm
DEM-330R — WDM SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3V, Tx wavelength 1310 nm, Rx wavelength 1550 nm
DEM-331T — WDM SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 40 km, 3.3V, Tx wavelength 1550 nm, Rx wavelength 1310 nm
DEM-331R — WDM SFP transceiver 1000BASE-LX standard, single-mode fiber, max. distance 40 km, 3.3V, Tx wavelength 1310 nm, Rx

D-Link Worldwide Offices

Country	TEL	FAX
U.S.A.	1-800-326-1688	1-866-743-4905
Canada	1-905-8295033	1-905-8295223
Europe (U. K.)	44-20-8731-5555	44-20-8731-5511
Germany	49-6196-77990	49-6196-7799300
France	33-1-30238688	33-1-30238689
Netherlands	31-10-282-1445	31-10-282-1331
Belgium	32(0)2-517-7111	32(0)2-517-6500
Italy	39-02-2900-0676	39-02-2900-1723
Sweden	46-(0)8564-61900	46-(0)8564-61901
Denmark	45-43-969040	45-43-424347
Norway	47-99-300-100	47-22-309580
Finland	358-9-2707 5080	358-9-2707-5081
Spain	34-93-4090770	34-93-4910795
Portugal	351-21-8688493	
Czech Republic	420-(603)-276-589	
Switzerland	41-(0)-1-832-11-00	41(0)-1-832-11-01
Greece	30-210-9914 512	30-210-9916902
Luxemburg	32-(0)2-517-7111	32-(0)2-517-6500
Poland	48-(0)-22-583-92-75	48-(0)-22-583-92-76
Hungary	36-(0)-1-461-30-00	36-(0)-1-461-30-09
Singapore	65-6774-6233	65-6774-6322
Australia	61-2-8899-1800	61-2-8899-1868
India	91-022-26526696	91-022-26528914
Middle East (Dubai)	971-4-3916480	971-4-3908881
Turkey	90-212-289-56-59	90-212-289-76-06
Egypt	202-414-4295	202-415-6704
Israel	972-9-9715700	972-9-9715601
LatinAmerica	56-2-232-3185	56-2-232-0923
Brazil	55-11-218-59300	55-11-218-59322
South Africa	27-12-665-2165	27-12-665-2186
Russia	7-495-744-0099	7-495-744-0099 #350
China	86-10-58635800	86-10-58635799
Taiwan	886-2-6600-0123	886-2-6600-8168
Headquarters	886-2-6600-0123	886-2-6600-9898

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DES-6500