



Advanced Switching Features

- + Triple Fiber XFP 10G Uplinking (Optional)
- + Dual Copper CX4 10G Uplinking (Optional)
- + Up to 48Gbps Total Stacking Bandwidth
- + Physical Redundant Stacking
- + Up to 8 Units Per Stack
- + Redundant Power Support (Optional)
- + Up to 32 Static IP Routes
- + IEEE 802.3ad (Link Aggregation)
- + IEEE 802.1v (Protocol-based VLANs)
- + Link Aggregation (64 groups/8 ports)
- + IEEE 802.1p Priority (8 WRR)
- + DiffServ QoS
- + 802.1X (Port-based Authentication)
- + 4000 IEEE 802.1q VLANs
- + IGMP Snooping
- + ACL L2/L3/L4
- + SNMPv1/v2/v3

Unified Wired/Wireless

- + 256 Wireless VLANs
- + Up to 50 APs per Switch/Stack
- + Up to 600 Simultaneous WLAN Users per Switch/Stack
- + Supports 802.11a/b/g Standards
- + Seamless Wireless Roaming
- + Supports 10, 25, or 50 AP License
- + Industry Standard Encryption: WEP, WPA™, WPA2™
- + Supports up to 16 SSIDs per AP
- + Centralized AP Management
- + GUI WLAN Monitoring & Logging
- + Automatic Channel Assignment
- + Dynamic WLAN Load Balancing
- + Rogue AP Detection & Containment

xStack® Managed 24-Port Gigabit Stackable L2+ Wireless Switch with 4 Combo SFP, 1 Fixed XFP Slot, 2 10-Gigabit Slots, and 10-AP License

Overview

The D-Link® xStack® 3200 Series switches are designed to provide effortless wireless convergence with traditional Layer 2 data access switching, emphasizing security, performance, and resiliency. Featuring the latest stacking technology from D-Link, the DWS-3227 can stack up to eight units, providing up to 200 Gigabit ports. It can stack with other D-Link switches such as the DXS-32 50, DXS-3227P, and DXS/DWS-3227, providing extraordinary flexibility. It provides 24 built-in copper Gigabit ports, including four combo SFP slots for easy, flexible connection to fiber-based Gigabit media. The DWS-3227 is also equipped with two module slots that support 10-Gigabit Ethernet for both copper CX-4 and fiber XFP connections, as well as one fixed 10-Gigabit XFP slot for a total switching capacity of up to 120Gbps. In addition, the DWS-3227 supports IP static routing, 4000 VLANs, up to 64 trunk groups, and is 'wireless-ready', making the DWS-3227 the most feature-rich, high-capacity switching solution in its class by far. The DWS-3227 comes standard with a 10-client AP license upgradeable to 50 and is capable of supporting 50 APs per switch/stack with up to 600 WLAN clients.

Unified Wired/Wireless Ready

In a mixed network of wired and wireless environments, predictable coverage and security become paramount. The need for a switching solution capable of addressing these needs in both the wired and wireless environment becomes key. The DWS-3227 is capable of meeting this demand and more. With a simple, optional firmware upgrade, the DWS-3227 transforms from a standard Layer 2 switch into an integrated wired and wireless switching solution capable of providing powerful wireless security, easy deployment, the ability to detect rogue access points, and centralized management for all compatible WLAN components. Centralized management is crucial for wireless technologies deployed in real-time inventory, data mining, and an array of personal electronics that demand mobility and seamless integration such as PDA and 3G/VoIP mobile phones. With an optional software upgrade, the DWS-3227 becomes a wireless switch providing secure, seamless roaming between access points ensuring clear, uninterrupted data and voice communication throughout your wireless network infrastructure.

DNA Stacking Architecture

Distributed Network Architecture (DNA) is a combination of hardware and software that is embedded in the latest 3200 Series of xStack switches. Switches built with DNA are easily stackable with little or no system downtime for expansion. For example, the xStack 3200 Series switches self-heal by quickly discovering failures in the stack and re-routing traffic to automatically avoid the failed device and discover the new topology. The flexibility of DNA lets network designers choose the right topology for connecting their devices whether it be through a 10-Gigabit interface or using a 1000Base-X port to connect between wiring closets. The switches can be used in a number of topologies such as ring or chain stacking. When changes are made to the stack, DNA automatically discovers the new topology and reconfigures the system to accommodate the changes. In the unlikely event of equipment failure, the switches rapidly reconfigure the stack to avoid the failed switch, resulting in extremely fast failover times and little to no downtime. In addition, the xStack 3200 Series switches allow the network administrator to maintain transparency of system features such as Port Mirroring, VLANs, and Link Aggregation across the stack. Unlike other stacking solutions, this feature allows an administrator to add and remove ports from VLANs without having to configure the VLAN on each switch and without the added hassle of creating VLAN trunks between devices. This also allows, through the use of port mirroring, the ability to monitor any port throughout the stack without having to be physically connected to the same device. This flexibility allows for better troubleshooting, faster configuration, and a lower risk of configuration errors.

Comprehensive Security

The DWS-3227 handles many security vulnerabilities previously delegated to standalone firewalls. It supports Access Control Lists (ACLs) based on MAC address, switch port, IP address, and/or TCP/UDP port numbers. The DWS-3227 also features 802.1X Authentication, Guest VLAN, and RADIUS and TACACS+ for strict access control over the network. Additionally, port-based security can help to protect network integrity. Port numbers can be pre-programmed for specific applications, allowing these applications to provide faster service and reduce load on the CPU.



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High Availability

The DWS-3227 supports “Shortest-Path” switching, which improves resiliency, uptime and network efficiency. It also supports an optional Redundant Power Supply (DPS-500). It includes support for 802.3ad Link Aggregation, and 802.1w Rapid Spanning Tree for increased network reliability and availability.

Network Management

The DWS-3227 features a variety of network management options: Console CLI, Telnet, Web GUI, SNMPv1/v2/v3, and RMON. It also supports a variety of advanced traffic management options including: Layer 3 Static Routing, Bandwidth Control, Broadcast Storm Control, Private VLANs, and support for IGMP Snooping. D-Link-exclusive DNA stacking technology allows up to eight DWS-3227 switches to be stacked together and managed as a single unit, regardless of its physical environment.

Advanced QoS

The DWS-3227 provides a robust and consistent set of QoS/CoS, supporting eight priority queues for 802.1p/ToS/DiffServ, with classification and marking based on MAC SA/DA, IP SA/DA, and/or TCP/UDP. It also provides extensive support for GARP/GVRP, 802.1q, and port-based VLANs for up to 4000 groups per device.

Wireless AP License

The DWS-3227 provides secure, seamless roaming between access points to ensure clear, uninterrupted data and voice communication throughout your wireless network. The DWS-3227 supports an optional 10, 25, or 50 client AP license and is capable of supporting up to 50 APs per switch/stack with up to 600 WLAN clients.

Unified Wireless Switching¹

Centralized AP Management

The DWS-3227 can also centrally manage compatible wireless access points. No longer will each individual access point need to be configured independently. Your entire wireless network can be managed through a single interface. The DWS-3227 includes support for automatic discovery of APs with real-time monitoring, providing visibility into utilization and performance of WLAN users and devices.

Wireless Security

The DWS-3227 provides enhanced wireless security features to protect your data. Support for WEP, WPA™ and WPA2™ encryption guarantees the privacy of your network data. Rogue AP detection and containment ensure that only the APs you install are able to function on your network. AP detection allows identification of APs into “known” and “rogue” classifications. The switch uses the APs to continuously scan radio channels in an attempt to identify transmissions of unauthorized WLAN nodes facilitating notification and/or jamming of the rogue signals.

Seamless Wireless Roaming

When a user roams between APs connected to different broadcast domains, the user's IP address is no longer valid after the move to the new AP. This means the user's device (laptop, PDA, VoIP phone) will need to change its IP address and break the active session. With “always connected” devices such as VoIP phones and PDAs, this can create a huge problem. The need for a solution to provide seamless roaming between APs on different subnets becomes essential to maintaining active sessions and VoIP calls.

The DWS-3227 addresses this problem by bringing AP configurations and support directly into the switch itself. This allows the user to move between access points with seamless mobility. To the user's PDA or VoIP phone, the move appears as if it were between APs on a single broadcast domain. The user's device retains its VLAN membership and IP address, guaranteeing uninterrupted communication.

Inter-switch Roaming

The DWS-3227 supports wireless roaming between access points attached to different switches. Seamless inter-switch roaming allows a station's VLAN membership (IP subnet) and QoS parameters to be retained when roaming between APs connected to multiple switches throughout the network. Inter-switch roaming is an extremely beneficial feature when creating a large WLAN environment such as a campus or multi-floor office. Inter-switch roaming allows the user complete freedom to roam between switches located in different buildings or on different floors without disconnection or need for re-authentication.



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Technical Specifications

Product Specifications

DWS-3227	xStack Managed 24-Port Gigabit Stackable L2+ Wireless Switch, 4 Combo SFP, 1 Fixed XFP Slot, 2 10-Gigabit Slots, 10-AP License
MAC Address Table	16K
Switch Fabric	120Gbps
VLANs	Supports Up to 4K VLAN Groups (Port-based, 802.1Q, GARP/GVRP, 802.1v Protocol-based Q-in-Q Tagging)
Priority Queues	8 Queues (802.1p/TOS/DiffServ) – Strict Priority or Weighted Round Robin Queue Scheduling
Classification QoS/ACLs	Based on: MAC, IP, TCP/UDP, Payload, Port, DSCP, 802.1p
Routing	32 Static Routes
Multicast Support	IGMP Snooping
End to End Flow Control	Flow Control Across Packet Processors
Link Aggregation Balancing	Based on MAC SA/DA, Based on IP SA/DA
MAC Table Search	Search MAC/IP to reveal source Unit/Port
Port Utilization	Measure Traffic, Total Port Capacity
Single Port Stacking	Chain/Ring Topology

Interface Options

RJ-45	10Base-T, 100Base-TX, & 1000Base-T
LC	With Optional Standard Small Form-Factor Pluggable (SFP) Gigabit Transceivers With Optional 10Gigabit XFP Transceivers.
CX-4	With Optional 10GBASE-CX-4 Module
RPS	Redundant Power Supply Via Optional DPS-500

Wireless Switching

AP License	10 standard, Firmware upgradeable to 25 or 50
Max Allowed APs	50 APs per switch. 50 APs per stack
WLAN Encryption	WPA™, WPA2™, WEP (64 & 128 bit)
WLAN Security	802.1X Authentication
Rogue AP Detection	Port-based & Radio-based
Supported Roaming	Intra-switch, Inter-band, Inter-switch
802.11 Support	802.11a, 802.11b, 802.11g (based on supporting AP)
Max Users per AP	30 WLAN simultaneous users, 800 max per switch / stack
Wireless VLANs	256
SSIDs	16 concurrent SSIDs per AP
WLAN Management	HTTP, HTTPS, Telnet, SSH, SNMP
SYSLOG Events	Connection success / failure, Station roaming / AP connection, Error rates above threshold, Encryption errors
Logging Filters	Errors only, all events, per station, per AP
Additional Features	Automatic Channel Assignment, Dynamic Load Balancing



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Network Protocols and Standards

In Band & Out of Band	Telnet, CLI/Console, RMON, Web-based HTTP, SNMPv1/v2/v3, Syslog, Port Mirroring, TFTP Client, BootP Client, DHCP Client, BootP/DHCP Relay Agent, and DNS Client
IEEE	802.3 Ethernet, 802.3u Fast Ethernet, 802.3ab Gigabit Ethernet, 802.3z Gigabit Ethernet, 802.3ak 10GBASE-CX-4, 802.3ae 10GbE, 802.1D Spanning Tree, 802.1w Rapid Spanning Tree, 802.1p Priority Tags, 802.1q VLANs, 802.3ad Link Aggregation, 802.3x Flow Control, 802.1X Port-based Authentication, 802.1X MAC-based Authentication, 802.1s Multiple Spanning Tree, 802.1v Protocol-based VLANs
IETF	RFC 1157 SNMP, RFC 1112/2236 IGMPv1/2, RFC 1757 RMON (4 Groups), RFC 1493 Bridge MIB, RFC 1213 MIB II, RFC 793 TCP, RFC 826 ARP, RFC 854 Telnet, Diffserv

Electrical & Emissions Summary

Emissions	CE Mark & FCC Class A
Power Supply	100-240VAC, 50/60 Hz Internal Universal
Power Consumption	60 Watts

Safety Agency Certifications and Environmental

Safety	CE/LVD, UL Listed (UL1950)/CUL
Temperature	Operating: 32° to 122°F (0° to 50°C)
	Storage: 14° to 149°F (-10° to 65°C)
Humidity	Operating: 10% ~ 85% RH, Non-condensing
	Storage: 0% ~ 95% RH, Non-condensing

Physical Specifications

Dimensions (W x D x H)	12.3in x 17.3in x 1.8in (311.2mm x 439mm x 44.9mm)
Height	1U
Weight	10.1lbs (4.6kg)

Warranty Information

Warranty	Lifetime ²
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Ordering Information

<u>Part Number</u>	<u>Description</u>
<u>Switch</u>	
DWS-3227	xStack Managed 24-Port Gigabit Stackable L2+ Wireless Switch, 4 Combo SFP, 1 Fixed XFP Slot, 2 10-Gigabit Slots, 10-AP License
DXS-3227	xStack Managed 24-Port Gigabit Stackable L2+ Switch, 4 Combo SFP, 1 Fixed XFP Slot, 2 10-Gigabit Slots
DXS-3227P	xStack Managed 24-Port Gigabit Stackable L2+ PoE Switch, 4 Combo SFP, 1 Fixed XFP Slot, 2 10-Gigabit Slots
DXS-3250	xStack Managed 48-Port Gigabit Stackable L2+ Switch, 4 Combo SFP, 2 10-Gigabit Slots
<u>Access Points</u>	
DWL-2230AP	xStack 3200 Series PoE Access Point, 802.11g



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Modules

DEM-411X	1-Port 10-Gigabit XFP Module for DXS-3227/DXS-3250
DEM-411T	1-Port 10-Gigabit CX4 Module for DXS-3227/DXS-3250
DEM-411S	Stacking Kit (2 DEM-411T Modules & 1 0.5m CX4 Cable) for DXS-3227/DXS-3250

Transceivers

DEM-310GT	1000BASE-LX SFP Module, up to 10Km
DEM-311GT	1000BASE-SX SFP Module, up to 550m
DEM-421XT	10GBASE-SR Multimode XFP, up to 300m
DEM-422XT	10GBASE-LR Singlemode XFP, up to 10Km

Redundant Power

DPS-500	Redundant Power Supply Unit, 140 Watt RPSU
DPS-800	2-Slot RPSU Open Chassis for DPS-200/DPS-500
DPS-900	8-Slot RPSU Open Chassis for DPS-200/DPS-500

AP License

DS-710	10 Access Point License, xStack Wireless Switching
DS-725	25 Access Point License, xStack Wireless Switching
DS-750	50 Access Point License, xStack Wireless Switching

¹ With purchase of AP license

² Lifetime warranty available only in the USA and Canada if purchased on or after March 30, 2009. Visit www.dlink.com for warranty details.

All references to speed are for comparison purposes only. Product specifications, size, and shape are subject to change without notice, and actual product appearance may differ from that depicted herein.