

Wireless Switch WS5100

High Performance Overlay Wireless Switch

WIRELESS LANS

Moving at the speed of business

The WS5100 Wireless Switch from Symbol Technologies provides enhanced support for enterprise mobility and multimedia applications, as well as increased security and manageability. Based on Symbol's Wi-NG (Wireless Next Generation) architecture, the WS5100 enables seamless campus-wide roaming, more robust failover capabilities, enhanced security, improved mobile client battery life, and increased voice capacity. Robust security features include integrated intrusion detection, an IPSec VPN gateway, and secure guest access provisioning. Automatic configuration and firmware updates, built-in process monitors, troubleshooting tools and a simple user interface make network deployment and management easy.

Robust enterprise mobility

Business needs should dictate network coverage, not the other way around. That's why the Symbol WS5100 allows you to deploy "thin" access ports in Layer 3 network designs, and enables campus-wide roaming of mobile clients across Layer 3 boundaries — without requiring additional client software or hardware. Used in concert with Symbol handheld devices, the WS5100 further enhances the fast roaming capabilities and extends client battery life. WMM (Wi-Fi Multimedia) with "power save" extensions also provides additional voice capacity. Supporting mobile workers has never been so easy.

End-to-end layered security

The WS5100's comprehensive security includes integrated features such as intrusion detection, an IPSec VPN gateway, AAA/RADIUS server (for WPA/WPA2 termination on the box) and "hotspot" provisioning capabilities for secure guest access. The stateful packet inspection firewall offers protection against denial of service attacks while optimizing network traffic. With support for the wireless security standards of today and the ability to easily upgrade to tomorrow's standards, the WS5100 delivers true value.

Simplified, centralized management

The WS5100 provides unified management of network hardware, software configuration, and network policies, and has built-in process monitors and troubleshooting tools. Symbol's Mobility Services Platform (sold separately) provides both device level management capabilities and centralized management of the WS5100 infrastructure in distributed locations. With active/active failover and clustering capabilities, as well as mobile unit load balancing, the WS5100 maximizes network uptime while minimizing network latency. Each WS5100 supports up to 48 access ports and 32 WLANs.

For more information, contact Symbol at +1.800.722.6234 or +1.631.738.2400, or visit us on the web at: www.symbol.com



FEATURES

BENEFITS

Centralized architecture

A single point of entry that can be centrally managed, easily secured, and lowers the overall cost of deployment and management.

L2 and L3 roaming: Supports inter-subnet roaming without additional client support

Seamless roaming of mobile clients within a simplified wireless network design

Security: Comprehensive, layered security capabilities including WPA2-CCMP (with 802.11i fast roaming options), integrated RADIUS Server, IPSec VPN Gateway, Secure Guest Access Provisioning and advanced wireless intrusion detection

Exceptional level of data and network protection without sacrificing fast roaming

Clustering and load balancing

Ensures loads are balanced between access ports to ensure quality application performance; supports multiple levels of redundancy in case of failure

Mobility enablers: Virtual AP, Pre-emptive roaming, transmit power control, power save protocol, self-healing (triggered on loss or disruption of RF coverage)

"Virtual AP" provides better control of broadcast traffic and enables multiple mobile and wireless applications with quality of service when network is congested. Pre-emptive roaming ensures Symbol mobile devices roam before signal quality degrades; PSP optimizes battery life; Self-healing provides continuous network coverage in the event of disruption.

Quality of Service (QoS)

Enhanced voice and video capabilities; prioritizes network traffic to minimize latency and provide optimal responsiveness to all users. Wi-Fi Multimedia Extensions (WMM-Power Save with Admission Control) for enhanced multimedia application support; improved battery life and capacity

WS5100 Specification Highlights

Packet Forwarding

802.1D-1999 Ethernet bridging; 802.11-802.3 bridging; 802.1Q VLAN tagging & trunking; proxy ARP; IP packet steering-redirection

Wireless Networking

Wireless LAN: Supports 32 WLANs; multi-ESS/BSSID traffic segmentation; VLAN to ESSID mapping; auto assignment of VLANs (on RADIUS authentication); power save protocol polling; pre-emptive roaming; congestion control

Access ports: Supports 1-48 "thin" access ports; automatic access port adoption with ACLs; access port load balancing; direct sequence access point-to-access port conversion

Layer 2 or Layer 3 deployment of access ports

Layer 3 mobility (inter-subnet roaming)

Supported access ports and access points: Access ports — AP100 (802.11b) (L2 deployment only); AP300 (802.11a/b/g ready) (L2 or L3 deployments)
Access points — AP4131 (L2 deployments only)

WLAN - GRE tunnel mapping

Radio frequency automatic channel select (ACS); transmit power control management (TPC); country code-based RF configuration; 802.11b - 3 non-overlapping channels; 802.11a-11 non-overlapping channels; 802.11g-3 non-overlapping channels

Network Security

Packet filtering/Access control lists (ACLs): L2/3/4 stateful packet analysis; network address translation (NAT)

Authentication: Access Control Lists (ACLs); pre-shared keys (PSK); 802.1x/EAP-transport layer security (TLS), tunneled transport layer security (TTLS), protected EAP (PEAP); Kerberos Integrated AAA/RADIUS server with native support for EAP-TTLS and EAP-PEAP (includes a built in user name/password database; supports LDAP)

Transport encryption: WEP 40/128 (RC4), KeyGuard, WPA-TKIP, WPA2-CCMP (AES), WPA2-TKIP

IPSec VPN gateway (support for up to 100 tunnels): Supports DES, 3DES and AES encryption

Secure guest access (HotSpot provisioning): Local Web-based authentication; URL redirection for user login; customizable login/welcome pages; support for external authentication/billing systems

RADIUS support (standard and Symbol vendor specific attributes):

- User-based VLANs (standard)
- MAC-based authentication (standard)
- User-based QoS (Symbol VSA)
- Location-based authentication (Symbol VSA)
- Allowed ESSIDs (Symbol VSA)

Optimized Wireless QoS

RF priority: 802.11 traffic prioritization and precedence

Wi-Fi multimedia extensions: WMM-power save with admission control

Classification & marking: Layer 1-4 packet classification; 802.1p VLAN priority; DiffServ/TOS

System Resiliency & Redundancy

Active:Standby, Active:Active and 1:Many redundancy with access port and MU load balancing; self healing (on detection of RF interference or loss of RF coverage)

Management

Command line interface (serial, telnet, SSH); secure Web-based GUI (SSL); SNMP v1/v2/v3; SNMP traps-40+ user configurable options; Syslog; TFTP Client; secure network time protocol (SNTP); text-based switch configuration files; DHCP (client/server/relay), switch auto-configuration and firmware updates with DHCP options; multiple user roles (for switch access); Syslog, MIBs (MIB-II, Etherstats, wireless switch specific monitoring and configuration)

Physical Characteristics

Form factor: Standard 1RU

Dimensions: 1.73 in. H x 16.89 in. W x 15.93 in. D
43.9 mm H x 429 mm W x 404.6 mm D

Weight: 13.75 lbs./6.25 kg

Physical interfaces: RS232 serial console port; 10/100/1000 Ethernet ports

MTBF: >75,000 Hours

Power Requirements

AC input voltage: 100-240 VAC

Max AC input current: 6A@115 VAC, 3A@230 VAC

Max power consumption: 100-240 VAC, 50/60 Hz, 3A, 240 VAC, 50/60 Hz, 1.5A

Input frequency: 47 Hz to 63 Hz

User Environment

Operating temperature: 50°F to 95°F/10°C to 35°C

Storage temperature: 40°F to 149°F/-40°C to 65°C

Operating humidity: 5%-85% (w/o condensation)

Storage humidity: 5%-95% (w/o condensation)

Operating altitude: 50 ft. to 10,000 ft./16 m to 3,048 m

Storage altitude: 50 ft. to 35,000 ft./16 m to 10,600 m

Regulatory

Safety certifications: FCC (Art.15, part B), Industry Canada, CE, VCCI, C-Tick, BSMI

EMI compliance: UL 1950, cUL (Canada), VDE GS, DENAN (Japan), CB Cert

Part Numbers

WS-5100-06-WWR	6 Port WS5100 Wireless Switch
WS-5100-12-WWR	12 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-18-WWR	18 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-24-WWR	24 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-30-WWR	30 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-36-WWR	36 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-42-WWR	42 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-48-WWR	48 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-RS-WWR	Redundant WS5100 Wireless Switch
WS-5100-UC-WWR	6 Port Upgrade

About Symbol Technologies

Symbol Technologies, Inc., The Enterprise Mobility Company™, is a recognized worldwide leader in enterprise mobility, delivering products and solutions that capture, move and manage information in real time to and from the point of business activity. Symbol enterprise mobility solutions integrate advanced data capture technology, mobile computing platforms, wireless infrastructure, mobility software and world-class services programs. Symbol enterprise mobility products and solutions are proven to increase workforce productivity, reduce operating costs, drive operational efficiencies and realize competitive advantages for the world's leading retailers, transportation and logistics companies, manufacturers, wholesale and distribution centers, government agencies and healthcare facilities. More information is available at www.symbol.com



Corporate Headquarters
Symbol Technologies, Inc.
One Symbol Plaza
Holtsville, NY 11742-1300
TEL: +1.800.722.6234
+1.631.738.2400
FAX: +1.631.738.5990

For Asia Pacific Area
Symbol Technologies Asia, Inc.
(Singapore Branch)
Asia Pacific Division
230 Victoria Street #12-06/10
Bugis Junction Office Tower
Singapore 188024
TEL: +65.6796.9600
FAX: +65.6796.7199

For Europe, Middle East and Africa
Symbol Technologies
EMEA Division
Symbol Place, Winners Triangle
Berkshire, England RG41 5TP
TEL: +44.118.9457000
FAX: +44.118.9457500

For North America, Latin America and Canada
Symbol Technologies
The Americas
One Symbol Plaza
Holtsville, NY 11742-1300
TEL: +1.800.722.6234
+1.631.738.2400
FAX: +1.631.738.5990

Symbol Web Site
For a complete list of Symbol subsidiaries and business partners worldwide contact us at:
www.symbol.com
E-mail
info@symbol.com



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BARCODING, WIRELESS AND DATA COLLECTION

Our customers turn to us to help them become more productive and profitable. TPI's expertise guarantees your project will be successful: on time, on budget and meet your ROI requirements.

TPI will facilitate your entire wireless and data collection project:

- ✓ *Business analysis*
- ✓ *Project justification & ROI*
- ✓ *Wireless design, RF site survey and spectrum analysis*
- ✓ *WWAN, WLAN design & installation*
- ✓ *Custom software*
- ✓ *Integration w/legacy systems*
- ✓ *Mobile computers*
- ✓ *Data collection terminals*
- ✓ *Barcode printers, labels and scanners*
- ✓ *RFID solutions*
- ✓ *Configuration and deployment*
- ✓ *Training and installation*
- ✓ *Service and upgrades*
- ✓ *Remote device management and support*

TPI can share best practices in data collection from a number of industries including wholesale distribution, manufacturing, healthcare and retail/consumer goods. Our expertise allows you to shorten your learning curve and increase your return on investment.

Product specification sheet provided by TPI

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