

WIRELESS SWITCH SYSTEM

Simple, cost-effective wired and wireless networking for enterprise branch offices

The WS2000 Wireless Switch is a powerful all-in-one solution that simplifies and reduces the costs of managing wired and wireless (802.11a/b/g) networks in enterprise branch offices. The integrated router, gateway, firewall, Power-over-Ethernet (PoE) and more eliminate the cost of purchasing and the complexity of managing multiple pieces of equipment. Support for Wi-Fi Multimedia extensions (WMM) enables the WS2000 to provide peak performance for even the most demanding applications, including voice and video. The ability to easily and cost-effectively scale to meet growing needs, as well as upgrade to support new security, radio and other standards provides the assurance that the WS2000 will meet your needs today and tomorrow. The WS2000 - enterprise-class networking functionality, priced for the small to medium-sized business or enterprise branch office.

End-to-end enterprise-class security

Protect your network and data with end-to-end enterprise-class security with support for WPA2, an integrated AAA (authentication, authorization and accounting) server for authenticating users, Rogue Access Port/Point (AP) detection, Stateful Packet Inspection Firewall and more. Your network resources are safe - only authorized users are granted access to your network. With the WS2000, your network perimeter and your resources are more secure.

Easy to manage and deploy

The WS2000 offers a level of management simplicity and flexibility that eliminates the need and cost for onsite IT personnel to manage the wireless networks. Less technical onsite staff in restaurants, retail stores, warehouses and healthcare clinics can easily manage the wired and wireless network through an intuitive web-based interface and centralized management and control of Access Ports. For larger corporations deploying the WS2000 in branch offices, secure remote management capabilities (with SSH and SNMP v3 support) and auto deployment capabilities (with DHCP options) enable staff in the centralized network operations or data center to easily control and manage devices anywhere in the world. Implementation is fast and easy: the plug-and-play WS2000 automatically detects and configures Access Ports with the best channel. And tight integration with the wired network simplifies the extension of wired virtual LANs (VLANs), improving network performance as well as providing added protection against unauthorized access.

Ideal for hotspots

The WS2000 is uniquely suited for hotspots, enabling, hotels, airports, lounges, restaurants and more to offer visitors convenient anywhere anytime access to the Internet, email, and corporate applications. Support for authentication and Radius accounting enables organizations and service providers to offer secure wireless public access, either as a complimentary service, or an additional revenue stream.



FEATURES

BENEFITS

Next-generation switch-based centralized upgradeable architecture	Enhanced performance and functionality; simplified deployment/management, investment protection; low TCO
802.11a/b/g compatibility	Lower cost; broad, flexible radio support
Wi-Fi Multimedia (WMM) extensions support	Standards based QoS services for voice/video applications with wired QoS extension support
Enterprise-class security: 802.1X/EAP Kerberos, WPA2 (802.11i)	Enterprise-class authentication and encryption; ensures privacy of data during transmission
AAA integrated server: verifies identify of users and administrators	Eliminates the cost/need to manage a separate RADIUS server
Integrated secure gateway: routing, DHCP, NAT, Stateful Packet Inspection Firewall and WAN uplink (with PPPoE support)	Eliminates need to purchase and manage additional equipment; simplifies provisioning of network services
Comprehensive features to enable public hot spots	Provides secure public access — complimentary or service-based
Rogue AP detection	Identifies and reports unauthorized access ports and points
Site-to-site security: IPSec VPN (Virtual Private Network)	Cost-effective secure point-to-point communications
Power-over-Ethernet (PoE) Support: Integrated 802.3af Ethernet Ports	Eliminates need and expense to power Access Ports and Points
Multiple management interfaces, secure shell telnet access and automatic update of firmware and configuration files	Secure, remote anytime anywhere management and troubleshooting
Active/standby configuration	Robust network redundancy through multiple links

Lower Total Cost of Ownership (TCO)

The WS2000 eliminates the complexities and reduces the costs associated with deploying, managing, securing, upgrading and scaling your wired and wireless network - delivering outstanding investment protection and a lower TCO. Symbol Enterprise Mobility Services provide the comprehensive support and technical expertise you need to design, deploy and maintain the most successful mobility solutions. For more information on the WS2000, contact us at +1.800.722.6234 or +1.631.738.2400, or visit: www.symbol.com/ws2000

WS2000 v2.1 Specifications

Packet Forwarding

802.1D-1999 Ethernet Bridging; 802.11-802.3 Bridging

Wireless Networking

Wireless LAN:	Supports 8 WLANs; Virtual AP - Multi-ESS/BSSID traffic segmentation; Pre-emptive Roaming; Automatic Load Balancing
VLAN Support:	Wireless LAN to VLAN mapping; auto assignment of VLANs based on user authentication
Access Port Radios:	Supports 1-6 802.11a/b/g Access Ports; Automatic Access Port Adoption with ACLs; Auto Channel Selection capability
Radio & Frequency Management:	Dynamic Frequency Selection and Transmit Power Control (TPC); Country Code based RF Configuration

Network Security

Packet Filtering:	L2/3/4 Stateful Packet Analysis; Network Address Translation (NAT)
Authentication Mechanisms:	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 server with native support for PEAP and TTLS
Transport Encryption:	WEP 40/128 (RC4), KeyGuard, WPA—TKIP, AES—CCMP; (802.11i/WPA2)
Key Exchange Management:	Extensible Authentication Protocol (EAP) Kerberos
Rogue AP Detection:	AP scanning on one or all channels; Symbol mobile client assist

Optimized Wireless QoS

Voice Prioritization; wireless bandwidth management; Power Save Protocol (PSP) integration; Wi-Fi Multimedia Extensions (WMM)

Management

Command Line Interface (Serial, Telnet, SSH); Admin authentication via RADIUS server; Java Applet (HTTP, Secure HTTP); Syslog; Text-Based Configuration Files; Remote configuration and firmware update (via TFTP, FTP); automatic update of configuration and firmware via DHCP options; SNMP v1/v2/v3; MIBs—MIB-II, Ping MIB, TraceRoute MIB, Symbol MIB

High Availability

Active/standby configuration support

Physical Characteristics

Form Factor:	Standard 1RU
Dimensions:	1.75 in. H x 11.25 in. W x 8 in. D 44.5 mm H x 286 mm W x 203 mm D
Weight:	1.41 lb/0.64 kg
Physical Interfaces:	1 - RS232 serial console port 7 - 10/100 Ethernet ports (including 1 WAN uplink port), 4 Ports support 802.3af Power-over-Ethernet CF Card (for storage)
MTBF:	>50,000 Hours

Power Requirements

AC Input Voltage:	100-250 VAC
Max AC Input Current:	3A@230 VAC
Max Power Consumption:	120 W
Input Frequency:	47 Hz to 63 Hz

User Environment

Operating Temperature:	32°F to 104°F/0°C to 40°C
Storage Temperature:	-40°F to 158°F/-40°C to 70°C
Operating Humidity:	5% - 95% (w/o condensation)
Storage Humidity:	5% - 95% (w/o condensation)
Operating Altitude:	50 ft. to 8,000 ft./16 m to 2,438 m
Storage Altitude:	50 ft. to 12,000 ft./16 m to 3,658 m

Regulatory

Safety Certifications:	UL, cUL (60950-1), EN60950-1, TUV/GS
EMI Compliance:	FCC (Part 15 Subpart B), VCCI, EN 55024, EN 61000-3-2, EN 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11

Part Numbers

WS-2000-SME-WW
WS-2000-1C-ABG-WW (WS2000 and 1 AP300 (802.11a/b/g) bundle)
WS-2000-2C-ABG-WW (WS2000 and 2 AP300 (802.11a/b/g) bundle)
WS-2000-2C-BG-WW (WS2000 and 2 AP300 (802.11b/g) bundle)

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 products, radio frequency identification technology, mobile computing platforms, wireless infrastructure, mobility software and world-class services programs under the Symbol Enterprise Mobility Services brand. 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 companies. More information is available at www.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

www.tpi1.com
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