



Wireless LAN Solutions

Extend the Reach of Your Information System
to the Point of Activity

Spectrum24[®] at a Glance





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For applications where mobility and real-time communications are essential, Spectrum24, Symbol's high-performance wireless LAN, offers high throughput, expandable capacity, easy installation, and superior interference immunity. Spectrum24's support for the IEEE 802.11 standard for wireless LANs "futureproofs" your wireless LAN investment by ensuring flexibility and broad industry support. A complete solution, Spectrum24 is a frequency hopping spread spectrum cellular network which integrates seamlessly with wired environments.

The Spectrum24 product family consists of wireless infrastructure products, SpectrumSoft™ Wireless Software and NetVision® wireless appliances and other wireless devices.

Wireless Infrastructure Products

Spectrum24 infrastructure products strategically placed in your facility create a wireless bridge between your wired LAN and any number of wireless devices equipped with Spectrum24 Wireless LAN PC Cards, Spectrum 24 radio cards or Spectrum24 ISA cards. These wireless devices include PC-compatible laptop and desktop computers, hand-held computers, Symbol portable data terminals with integrated scanners, Symbol's NetVision Phone, and other wireless Voice-Over-IP devices.



AP 3020 Ethernet Access Point

Designed for high levels of performance and speed, the AP 3020 provides a 2 Mbps data rate with full backward compatibility to existing Spectrum24 products such as AP 2410, LA 24XX, and EB 24XX series of products. Features include enhanced built-in diagnostics, MAC layer bridge (WLAN IEEE 802.11 to Ethernet), software upgrades, WEP encryption, Mobile IP support, UTP fiber and COAX connectivity options, and SNMP.



AP 2410 Token Ring Access Point

The AP 2410 Token Ring Access Point provides transparent access between Spectrum24 wireless devices and Token Ring wired networks. Mobile users roam freely throughout a facility while maintaining a continuous, seamless connection to the Token Ring wired network. Features include built-in diagnostics, MAC layer bridge (WLAN IEEE 802.11 to Token Ring), software upgrade via flash memory.



EB 2401 Ethernet Access Bridge (EAB)

Provides a Spectrum24 wireless LAN interface for Ethernet-enabled devices. The EB 2401 consists of a wireless LAN adapter and an Ethernet software interface. A variety of devices with Ethernet ports, such as printers, scales, portable computers, bar code readers, medical equipment, POS devices, time clocks, and data collection devices, can use the EAB to connect wirelessly to a Spectrum24 network.



SB 2401 Serial Client Bridge (SCB)

The SB 2401 SCB provides an interface between serial (RS-232) devices and a Spectrum24 wireless LAN. It is easily configured to fit application requirements.

Configuration information is stored in flash memory. Many types of devices with serial ports can be connected wirelessly to a Spectrum24 network. These devices include printers, scales, portable computers, bar code readers, medical equipment, POS devices, time clocks and data collection devices.



LA 3020 PC Card

Symbol Technologies' LA 3020 2 Mbps Wireless LAN PC Card lets mobile users easily configure and connect to the Spectrum24 wireless LAN from PC Card-equipped laptop computers, Spectrum24-compatible hand-held computers, or Symbol Spectrum24 hand-held computers with integrated scanners.

Designed to support the IEEE 802.11 standard for wireless LANs, the LA 3020 2 Mbps Wireless LAN PC Card includes features users want for today's networking environments. Among included features are high throughput/high network capacity, automatic rate selection, support for IEEE 802.11 protocols, very low power consumption, seamless roaming, and one-piece PC Card design.



LA 3025 Plug and Play (PnP) ISA Card

The LA 3025 ISA Wireless LAN Adapter is an ideal solution for users requiring network connectivity and flexibility to rearrange locations of ISA bus workstations – wirelessly and without interruption.

The LA 3025 easily installs in your desktop PC and PC-compatible point-of-sale systems with ISA bus interfaces. The Plug and Play (PnP) feature automatically configures the LA 3025, so users need not worry about configuration elements. Once installed, it quickly and accurately connects to the Symbol Spectrum24 Wireless LAN. With the LA 3025, you can easily accommodate temporary seasonal and capacity-driven activities that require changing your network layout.

Measuring just over 6" L x 4" W x .5" H/16.2cm L x 10.2cm W x 1.3cm H, the LA 3025's semi-slot form factor easily fits cash registers and other PC-compatible devices having limited space.

SpectrumSoft Family of Wireless Software

Symbol has developed a full suite of software that provides enhanced connectivity and functionality to help your business gain maximum advantage from the Spectrum24 wireless LAN.

SpectrumSoft Tools

A complete suite of Spectrum24 wireless LAN software tools, SpectrumSoft Tools uses a native 32-bit interface to access utilities, network administration, access point configuration and range analyzer applets. Use these tools and optimize your Spectrum24 wireless LAN for maximum performance.

Spectrum24 Web Client

Optimize the efficiency of Web-based application development and cost-efficient client administration. Symbol's Spectrum24 Web Client software that connects Symbol hand-held wireless computers on a Spectrum24 network to your corporate intranet to access vital applications and databases. It is compatible with standard Web application development tools such as Java, JavaScript, VB Script, LiveWire, Active Server Pages, and FrontPage. You can create dynamic HTML pages using data residing in ODBC-compliant databases. Web applications execute on the server and the user interface is downloaded to the hand-held computer so you can deploy a full range of applications without the constraints of memory size or download/upload time.

Spectrum24 Telnet Client Family Software

Using industry standard Telnet TCP/IP communication protocols, Spectrum24 Telnet Client software enables Symbol Series 3000 and WSS 1000 wireless hand-held computers to perform terminal emulation for popular host systems such as IBM, Hewlett-Packard, and Digital Equipment Corporation. With Telnet Client Software, Symbol Series 3000 and WSS 1000 wireless hand-held computer users can log directly onto a host TCP/IP Telnet server and instantly access host applications wirelessly via the Spectrum24 wireless network.

Spectrum24 Telnet Client Family Software is available in four configurations, TN3270, TN5250, TNVT and TNHP.

Spectrum24 STEP

Symbol's Spectrum24 STEP (Symbol Terminal Emulator Program) helps you quickly and easily customize a Spectrum24-based hand-held computer to emulate an ANSI terminal. It handles the terminal's input, output and display functions. An Enabler links your application to the Spectrum24 network through a set of predefined procedures or Application Programming Interface (API). This API is a consistent interface that ensures applications created on one platform can be easily migrated to another platform or environment.

WNMS – Wireless Network Management System

Enhance your network management capabilities and enjoy simplified enterprise management of Spectrum24 wireless LANs. WNMS allows you to configure your Spectrum24 wireless LAN and enables individual node management, providing detailed control of each node. Through a standard feature set supported via Simple Network Management Protocol (SNMP), included with the Spectrum24 Access Point, vital aspects of the access point are configured. These include IP address, AP ID, Net ID, SNMP traps and networking filters.

Key features of WNMS are its graphical user interface, which is an extension of your enterprise-wide network management system, Wireless Proxy Agent (WPA), network monitoring, and performance monitoring.

NetVision Appliances



NetVision Phone

Symbol Technologies' NetVision Phone adds voice communication to Spectrum24 wireless LANs, supporting voice and data simultaneously on one wireless network backbone.

The NetVision Phone system provides on-site wireless voice communication capability, and allows for integration into an existing phone system (via a gateway) for internal and external voice communication. Employing Voice-Over-IP technology based on the ITU standard H.323, the NetVision Phone converts analog voice into compressed digital packets that are sent via TCP/IP protocol over standard data networks.

Spectrum24®: More Features, More Benefits

Feature	Benefit
Commitment to Open Standards at Every Hardware and Software Interface	<ul style="list-style-type: none"> Bridges communications paths between multiple network segments, wired or wireless Uses diverse application tools in the same wireless LAN environment Supports technology that's already installed; integrates seamlessly with existing systems
Frequency Hopping	Spread Spectrum provides increased capacity, superior interference immunity, high-design throughput and multipath rejection for continuous, real-time data transfer
2.4 to 2.5 GHz Band	Worldwide acceptance is ideal for multinational users
2 Mbps Data Rate	Quick data transfer
Scalability	Adding an Access Point adds 2 Mbps—expanding geographic coverage and capacity to meet your needs
Ethernet Bridge Access Point	Seamlessly connects with all popular host environments
Broad Product Range	Symbol offers a full range of products that let you configure your Spectrum24 WLAN quickly and easily, and maintain it with troubleshooting and diagnostic management tools
Terminals with Wireless PC Cards	A complete line of Symbol-designed-and-manufactured Spectrum24-compatible terminals meets the needs of all your operations and application-specific products
Complete Service and Support, Including SymbolCare, the Software and Hardware Support Service Designed Especially for Wireless Network Customers	<ul style="list-style-type: none"> Count on Symbol to help you specify, configure and install your wireless LAN. Symbol offers ongoing support through a service contract to assure operation of mission-critical applications One telephone call accesses network support engineers, onsite service reps and network software experts

Radio Characteristics									
Frequency Range:	Worldwide product covering 2.4 to 2.5 GHz, programmable for different country regulations								
Frequency Hopping:	Number of hops: 78 in U.S. and Europe; 23 in Japan; programmable to meet regulations of all other countries. Hopping rate: 10 hops/sec. (per FCC part 15.247). Hopping sequence: 66								
Data Rate:	2 Mbps per channel with Dynamic Switch to 1 Mbps for extended range								
Output Power:	500 mW and 100 mW versions available								
Power Management:	<table border="0"> <tr> <td>Power Consumption: Continuous Aware Mode</td> <td>Power Saving Mode</td> </tr> <tr> <td>Sleep Mode: Less than 50 µA</td> <td>Average TX & RX: Less than 30 mA</td> </tr> <tr> <td>Receive: 500 mW = 300 mA, 100 mW = 300 mA both @ 5 V</td> <td></td> </tr> <tr> <td>Transmit: 500 mW = 650 mA, 100 mW = 400 mA both @ 5 V</td> <td></td> </tr> </table>	Power Consumption: Continuous Aware Mode	Power Saving Mode	Sleep Mode: Less than 50 µA	Average TX & RX: Less than 30 mA	Receive: 500 mW = 300 mA, 100 mW = 300 mA both @ 5 V		Transmit: 500 mW = 650 mA, 100 mW = 400 mA both @ 5 V	
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Range:	Up to 2,000 ft./606m in open environments; up to 180 to 250 ft./54.5 to 75.7m in a typical office or retail store								
TX Maximum Radiated EIRP:	FCC regulations part 15.247 in U.S.; ETS 300 328 in Europe; RCR STD-33 in Japan								
Modulation:	Binary GFSK, and 4GFSK for 2 Mbps								
TX Out-of-Band Emissions:	FCC regulations part 15.247, 15.205, 15.209 in U.S.; ETS 300 328 in Europe; RCR STD-33 in Japan								

Network Characteristics	
Driver Software Support:	ODI version 1.6, future enhancements to version 4.0; NDIS version 2.01, future enhancement to version 3.0
Access Protocol:	CSMA/CA
Roaming:	Virtually instantaneous

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For system, product or services availability and specific information within your country, please contact your local Symbol Technologies office or Certified Business Partner.



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