# SPEEDLAN 8000 Series

*11 Mb Wireless Ethernet Routers*

SPEEDLAN® 8000 series products are high-performance 11 Mb wireless broadband solutions tailored to fit the needs of Internet Service Providers, broadband telecommunications providers and enterprise users.

Service Providers utilize these products as alternatives to offering leased lines for subscriber access to Internet service. SPEEDLAN 8000 products offer a complete wireless connectivity solution with a choice of turnkey wireless bridges or single device adapters.

SPEEDLAN 8000 products go where cable cannot go, expanding the subscriber base without dependence upon the telephone company infrastructure and can be installed immediately without waiting for telephone company installation. As a provider's network grows, connections may be expanded incrementally to create entire wireless metropolitan area networks.

SPEEDLAN 8000 series products present an unparalleled level of performance and features, including, RIP2 routing, Network Address Translation (NAT), Dynamic Host Control Protocol (DHCP) Server, and fully configurable bandwidth.

Network Address Translation (NAT) helps increase network security and allows the occupants of an entire building to share a single global IP address for communication with the Internet. Using NAT at each remote location, a service provider can supply the building with just one global IP address regardless of the number of users at that location.

Dynamic Host Configuration Protocol (DHCP) Server provides efficient use of IP addresses by allowing their assignment to be made dynamically. By localizing the DHCP transactions within each remote building, this administrative traffic is kept off of the wireless segment and reduces the load on the entire wireless network.

Bandwidth configuration options are used to limit the traffic burst rate for each remote location to any increment of 1 Kb. Service providers can now gain a better level of control over their wireless network, increase customer satisfaction, and increase revenue generation for each broadband cell.

The 8000 series includes the outdoor, remote-mounted **SPEEDLAN 8100/8200**. The 8100 acts as a central base station and the 8200 acts as Customer Premise Equipment (CPE). The 8100 and 8200 are installed using a unique outdoor, remote-mounted design. The 8100 and 8200 allow up to 300' of specialized, outdoor Ethernet cable to be used between the LAN and the RF device, without introducing loss of any radio signal. This increases the effective wireless link distance and reduces or even eliminates the need for an amplifier.

The 8000 series includes the standard, shelf-mounted **SPEEDLAN 8300/8400**. The 8300 acts as a central base station and the 8400 acts as Customer Premise Equipment (CPE). The 8300 and 8400 are mounted inside the building and connect to the outdoor antenna using up to 200' of low loss RF antenna cable.

## SPEEDLAN 8000 Features

- 11 Mb radio
- Outdoor, remote-mount hardware
- Protocol independent
- Spanning Tree
- RIP2 routing
- Secure transmissions
- One year warranty
- 2.4 GHz
- Enhanced monitor and configuration screens
- Advanced packet and protocol filtering
- Wireless data encryption

## SPEEDLAN 8000 Advanced Features

- Bandwidth allocation - configurable bandwidth from 1Kb to 11Mb for each remote building
- Polling base station - supports up to 48 CPE units
- DHCP server
- NAT
- Radius authentication

## SPEEDLAN 8000 Benefits

- Cost effective
- Long links without need for amplifier
- Plug and play
- Highly secure
- Re-deployable
- Distances to 25 miles
- Outdoor mount reduces RF signal loss
- License-Free
- Rapid implementation

wave™ WIRELESS NETWORKING

**SPEEDLAN 11 Mb Wireless Connectivity**

# SPEEDLAN 8100/8200
## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **Radio** | |
| Type | Direct Sequence Spread Spectrum (DSSS) |
| Frequency | 2400MHz – 2483.5MHz (ISM band) |
| Channels | 11 |
| Modulation | CCK at 11 Mb |
| Processing Gain | 11dB (Nominal) |
| Communication Method | Half-duplex |
| Transmit Power | 15 dBm (typical) |
| Receiver Sensitivity | Max -93dBm |
| **Wired LAN Interface** | |
| Compliance | IEEE 802.3, 802.2 Ethernet |
| Physical Interface | 10Base-T |
| Network Operating Systems Supported | All |
| Network Protocols Supported | All |
| Ethernet Interface | 10 Mb Ethernet |
| Network Addressing | MAC address of Ethernet interface |
| Protocols | IEEE 802.3 Ethernet<br>RIP2 routing |
| **Wireless LAN Interface** | |
| Standard Wireless Interface | Single 11 Mb interface |
| RF Physical Interface | Reverse TNC bulkhead RF connector |
| Bit Error Rate | Better than $10^{-6}$ |
| RF MAC Protocol | Campus PRC |
| **Configuration and Management** | |
| Upgradeability | Firmware is upgradeable via in-band management |
| Configuration and Monitoring | In-band via SNMP to any unit |
| SNMP | Supported: MIB_II, Bridge MIB |
| **Mechanical** | |
| Cover | NEMA 4 Metal chassis; tower or pole-mount |
| Dimensions (H x W x D) | 9" x 7" x 3.5"<br>(22.9 cm x17.8 cm x 8.9 cm) |
| Weight | Approximately 5.4 Lbs.(4.85 kg) |
| **Environmental** | |
| Temperature Range | -10° C to +60° C (Storage)<br>-40° C to +70° C (Operation) |
| Humidity (Non-immersion Rain)(4"/hr) | 0 to 95% |
| **General** | |
| Power Supply | 24 VDC, 1.0 Amp., 24 Watts (300' CAT5) |
| Range | Up to 25 miles (with amplifier)* |
| Regulatory | FCC Part 15, ETSI, CE |
| Warranty | 1 year depot warranty, extended warranty available |
| **Options** | |
| *Remote Amplifier | Adds up to 1/2 watt for increased signal range |
| Wireless Encryption | USA and Canada Only |

# SPEEDLAN 8300/8400
## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **Radio** | |
| Type | Direct Sequence Spread Spectrum (DSSS) |
| Frequency | 2400MHz – 2483.5MHz (ISM band) |
| Channels | 11 |
| Modulation | CCK at 11 Mb |
| Processing Gain | 11dB (Nominal) |
| Communication Method | Half-duplex |
| Transmit Power | 15 dBm (typical) |
| Receiver Sensitivity | Max -93dBm |
| **Wired LAN Interface** | |
| Compliance | IEEE 802.3, 802.2 Ethernet |
| Physical Interface | 10/100Base-T |
| Network Operating Systems Supported | All |
| Network Protocols Supported | All |
| Ethernet Interface | 10/100 Mb Ethernet |
| Network Addressing | MAC address of Ethernet interface |
| Protocols | IEEE 802.3 Ethernet<br>RIP2 routing |
| **Wireless LAN Interface** | |
| Standard Wireless Interface | Single 11 Mb interface |
| RF Physical Interface | Reverse TNC bulkhead RF connector |
| Bit Error Rate | Better than $10^{-6}$ |
| RF MAC Protocol | Campus PRC |
| **Configuration and Management** | |
| Upgradeability | Firmware is upgradeable via in-band management |
| Configuration and Monitoring | In-band via SNMP to any unit |
| SNMP | Supported: MIB_II, Bridge MIB |
| **Mechanical** | |
| Cover | Metal chassis; desktop or rack-mount |
| Dimensions (H x W x D) | 11.2" x 8.6" x 2" (28.4 cm x 21.8 cm x 5 cm) |
| Weight | Approximately 5.6 Lbs.(2.54 kg) |
| LED Indicators | Power Wired Network Activity (Tx) (Rx)<br>Wireless Network Activity (Tx) (Rx)<br>Throughput indicator-% of wireless bandwidth in use |
| **Environmental** | |
| Temperature Range | 0° C to +60° C (Storage)<br>0° C to +40° C (Operation) |
| Humidity (Non-Condensing) | 10% to 90% |
| **General** | |
| Power Supply | 150 W, 110 VAC/230 VAC |
| Range | Up to 25 miles (with amplifier)* |
| Regulatory | FCC Part 15, ETSI, CE |
| Warranty | 1 year depot warranty, extended warranty available |
| **Options** | |
| *Remote Amplifier | Adds up to 1/2 watt for increased signal range |
| Wireless Encryption | USA and Canada Only |

WAVE WIRELESS NETWORKING

**www.wavewireless.com**
800-721-WAVE (9283) • 941-907-2300
FAX 941-355-0219