

Trailblazer™ Leased Line 4.9 GHz



Delivering Leased Lines, Voice and Ethernet Data



Trailblazer™ radios provide dedicated and secure connectivity in the licensed 4.9 GHz band. Trailblazer™ offers any combination of up to eight 2-wire (POTS), 4-wire (E&M) leased lines and/or Ethernet in point-to-point or multi-point system configurations. Trailblazer™ radios use Carlson's exclusive TrueTDM™ technology to provide perfect wireline quality solutions for last mile and dedicated links.

Applications:

- Public Safety Lines
- Two-Way Radio Backhaul
- Voter/Comparator Backhaul
- Private Networks
- Remote Monitoring
- Slow-Scan Video
- Disaster Restoration
- Security Installations
- Last-Mile Communications
- Paging System Backhaul

All Trailblazer™ models offer an unmatched set of features:

Flexible Platform

The Trailblazer™ is a fully integrated radio solution transporting 2-wire (POTS), 4-wire (E&M) and/or Ethernet data. Trailblazer™ offers direct phone line interfaces (no channel bank is required) and a direct Ethernet data interface is included. The transparent network interfaces support all PTSN services with Carrier Class/wireline quality of service.

Broadband Capability

Provides IP data up to 512 Kbps, fully synchronous.

Long Range

Distances of up to 32 miles can be achieved with proper antennas. Trailblazer™ repeater systems further extend system range.

Power Consumption

Trailblazer™ systems draw very low power, typically less than 3 Watts per client (CPE) terminal at 12 Volts, making them ideal for solar-powered operation. Trailblazer™ accepts any DC Voltage from 12V to 24V. Companion solar power kits are also available allowing up to 7 days of backup power.

Private and Secure

Fully encrypted, spread-spectrum CDMA modulation assures complete privacy.

Plug-and-Play Simplicity and Reliability

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Two-Way Radio Backhaul Solution

Carlson's exclusive TrueTDM™ technology offers fully synchronous, low fixed latency (less than 5ms), eliminating voter comparator/receiver conflicts. Trailblazer's™ low fixed latency also eliminates the need for jitter buffers or GPS oscillators. Trailblazer™ allows public safety agencies to own their own lines, saving valuable resources while providing a dedicated, private link to the mountain top two-way repeater system.

Trailblazer™ Series

Designed and Built for Plug-and-Play



Unit Dimensions:

ODU: 13 x 11 x 6 inches

IDU: 1.9" x 3U

Outdoor Unit Weight:

8 lbs/3.7 kg

Enclosure Material:

ODU: Fiberglass w/ Neoprene Gasket

Rackmount: Metal

Warranty:

1 year Parts and Labor

Certifications:

US, Canada, Brazil, Mexico, Philippines, Morocco

CARLSON WIRELESS™

Microwave Broadband and Telephone

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SYSTEM SPECIFICATIONS

Product Description	Digital Microwave Radio with 2-wire POTS, 4-wire Leased Line and/or Broadband Data Interface
Air Interface	Proprietary Time Division Duplexing with Direct Sequence Spread Spectrum CDMA
Overall Data Throughput Rate	Up to 1.024 Mbps
End to End System Latency	Fixed Latency, between 3 and 5 ms
Voice Coding	64 Kbps PCM, per ITUG.711, A or Mu-law

RF PERFORMANCE

RF Frequency Band	4.950 to 4.980 GHz (2.412 to 2.472 GHz, 5.25 to 5.925 GHz, and 900 MHz* also available)
RF Channels	20 MHz
Spreading Codes	Direct Sequence
Modulation Type	BPSK or QPSK
Transmitter Output Power	-20 to +20dBm, auto set for CDMA operation

*Extra equipment required

FXS SPECIFICATIONS

Line and Balance Impedance	600 Ohms, Loop start
Loop Current	24 mA, fixed
Maximum Loop Length	1200 ohms including instrument
Ringing Voltage	60-90 VAC rms
Ringing Frequency	20 Hz, optional 16-25 Hz
Ringing Load	3 REN
2-wire Return Loss (ERL)	Greater than 25 dB

FXO SPECIFICATIONS

Line and Balance Impedance	900 Ohms + 2.16 μ F
Maximum Loop Length	1500 ohms or 18mA
Ring Equivalent Number	0.38
Ring Detect Threshold	24-110 Vrms, 17-34 Hz
2-Wire Return Loss	Greater than 19 dB
Transmit Level, 4-wire	0 or +6 dBm, per channel
Receive Level, 4-wire	-10 to +10 dBm, adjustable per channel

POWER REQUIREMENTS & CONSUMPTION

Filtered DC Nominal	12-24 Volts, Earth Ground Required
Absolute Minimum-Maximum	10-16 Volts
FXS (Subscriber) End, On-Hook	2 Watts (Typical)
FXS (Subscriber) End, 2 Lines Off-Hook	2 Watts (Additional)
FXO (Office) End, On or Off Hook	2 Watts (Typical)
AC Adaptor	Supplied separately, Input 100-250 VAC, 50-60 Hz, Output 13.8V @ 1 amp

BASEBAND AUDIO PERFORMANCE

Signaling	All audio is passed through unrestricted
Modem Support	V.34 supported, V.90 compatible
FAX Support	G3, G4; Unrestricted
Line Interface	FXO, FXS, 4-wire E&M, Ethernet data
Connectors	Screw Terminals/RJ45

DATA SPECIFICATIONS

Interface	10BaseT Ethernet
Throughput	Up to 1.024 Mbps

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature and Humidity	-30° to 60° C, 0 to 90% Non-condensing
Exposure to the Elements (outside enclosure)	NEMA 4X, Rain, Wind and Ice Protected
Shock and Vibration	Mil Standard 810 D
Outdoor Mounting	25.4-57.15 mm (1 to 2.25") pipe/pole mount

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