



Tsunami.GX 32

Wireless Point-to-Point Ethernet Bridge



APPLICATIONS

- Enterprise LAN and PBX extension
- WAN connection redundancy
- ISP remote POP
- ISP direct customer connections using point-to-point
- Affordable multipoint backhaul
- Extension of an existing fiber network

Fast, Cost-Effective Extension of IP Networks

Proxim's Tsunami™.GX is a full-duplex point-to-point wireless Ethernet bridge with an innovative split-box design. This latest generation of high-capacity wireless bridges is designed to reduce the expense of extending IP networks and to simplify installation. Secure wireless technology significantly reduces total cost of ownership and speeds deployment, while a split-box design adds installation flexibility. The Tsunami.GX also provides best-in-class system performance with native IP interfaces by eliminating the overhead associated with T1/E1-to-Ethernet connections.

- Perfect for data and data/voice network backhaul applications and for replacing, extending or backing up leased lines
- Indoor-only installation facilitates quick maintenance and easier upgrades
- Indoor/outdoor installation improves system gain and reduces total cost of ownership

Easily Manage and Troubleshoot Your Wireless Network

Tsunami.GX bridges offer sophisticated, preventative management tools to simplify network maintenance and eliminate downtime. Advanced diagnostic tools identify and isolate potential issues before they impact the network.

- Standards-based SNMP management and web-based GUI simplifies remote management and integrates easily into existing software platforms
- Built-in spectrum analyzer and an alarm log facilitate RF planning and post-deployment tuning

Greater than leased line speeds with the Ease of Ethernet

Backed by more than 20 years of wireless design innovation, Proxim's Tsunami wireless bridge family

easily and affordably enables network extension, redundancy and backhaul. Tsunami wireless bridges eliminate fiber installation costs and leased line fees to bring you the capacity of more than eight leased lines with the TCO of Ethernet.

- High capacity for bandwidth-intensive applications such as PBX extension, data backhaul and critical link redundancy
- No expensive recurring leased line costs
- Superior system gain ensures consistent, high quality network operation

Deploy in Days

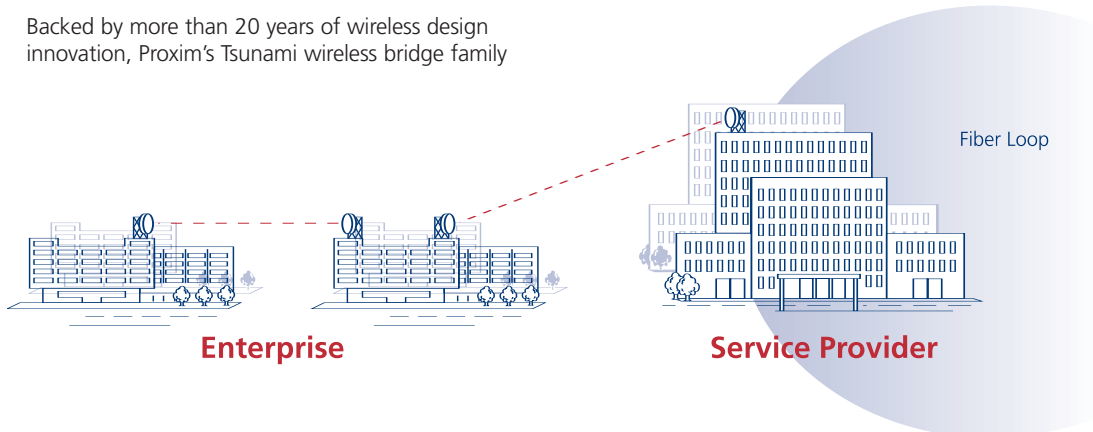
Because Tsunami bridges operate in license-exempt ISM frequency bands, they can be deployed quickly – eliminating the long lead times associated with leasing lines or trenching new fiber optic cable. This is especially useful in network redundancy and contingency planning.

- Rapid device deployment and flexible re-deployment
- ISPs maintain business continuity, even in severe conditions
- Enterprises minimize costly business application downtime

Reliable and Secure

A wireless alternative to a wired network yields quality as well as flexibility. Proxim's Tsunami bridges offer the highest security and reliability available in networking today.

- Over 99.999% reliable RF transmission
- Meets or exceeds wired network security
- Proprietary encryption methods ensure secure data transmission



Tsunami.GX 32 Specifications

About Proxim Wireless

Proxim Wireless is a global leader in networking equipment for Wi-Fi and broadband wireless networks. Proxim provides solutions for enterprise applications, last mile access, municipal broadband networks, and cellular backhaul. Product families include ORiNOCO and TeraStar Wi-Fi products; Tsunami, TeraBridge, Gigalink, and TeraOptic Ethernet bridges, and Lynx point-to-point digital radios.

| FREQUENCY | DIGITAL CAPACITY ¹ | NON-OVERLAPPING FREQUENCY PAIRS | FCC EMISSION DESIGNATOR | THRESHOLD (BER=1X10 ⁻⁶) | OUTPUT POWER | SYSTEM GAIN | DISTANCE (MILES/KM) |
|---------------|-------------------------------|---------------------------------|-------------------------|-------------------------------------|--------------|------------------------|---------------------|
| 5725-5850 MHz | 32 Mbps | 3 | 13M4G7D | ≥85 dBm | ≥23.5 dBm | ≥109.5 dB, 112 dB typ. | 42/68 |
| | 24 Mbps | 2 | | ≥86 dBm | | ≥108.5 dB, 111 dB typ. | 44/71 |

SYSTEM

| | |
|-------------------------------------|-------------------------------------|
| Configuration | Split-box: IDU, RF Unit |
| Modulation | DSSS; QPSK |
| Frequency Stability | ±10 ppm |
| RF Attenuation Range ¹ | 20 dB |
| Maximum Receive Signal | -20 dBm error free; 0 dBm no damage |
| Error Floor | <10 ⁻¹¹ |
| Latency (T1) ² , one-way | 325 µsec ±10% |
| Error Correction | Reed-Solomon |
| Security | 12 character Link ID (48 bits) |
| Regulatory Compliance | FCC Part 15.247; IC RS210 |
| FCC ID | HZB-S58-GX1 |
| Industry Canada ID | 1856A-U5358GX1 |

DIGITAL LINE INTERFACES

| | |
|--------------------------------|--|
| Main Data Channel ⁴ | |
| 3-Channel Mode | 32 Mbps aggregate; 16 Mbps full duplex |
| 2-Channel Mode | 24 Mbps aggregate; 12 Mbps full duplex |
| 10/100 Base T | RJ-45 modular jack; Auto-sense MDI/MDI-X |
| 10/100 Base FX | SC-Type, multi-mode Fiber |
| Compliance | IEEE 802.3 |

Wayside Data Channels

| | |
|-------|--|
| T1/E1 | DSX-1 (2 each) or CEPT-1 (2 each), software selectable RJ-48C modular jack |
|-------|--|

Compliance

| | |
|---------------------|---------------------------|
| Maximum Packet Size | 1536 bytes |
| T1 | ANSI-1987-T1, CCITT G.823 |
| E1 | G.703 |

AUXILIARY INTERFACES

| | |
|-------------------|---|
| Orderwire (DTMF) | RJ-11, 100 addresses |
| VF | 8 pin modular jack, 4-wire 0dBm @ 600 ohm, balanced |
| Aux Data (serial) | 8 pin modular jack, EIA-561 19.2kbps, selectable, DCE |

FAULT AND CONFIGURATION MANAGEMENT

| | |
|--------------------|--|
| Network Management | SNMP v2c (MIB II, Proxim enterprise MIBs), embedded HTML server, Telnet, VT-100 terminal |
| Far End Management | Via NMS (embedded router, gateway address, subnet mask), front panel display |

Physical Interfaces

| | |
|------------------------|------------------------------------|
| NMS 1 | 10/100BaseT, RJ-45, auto-sense |
| NMS 2 | 10/100BaseT, RJ-45, auto-sense |
| Configuration (serial) | EIA-574, 9600bps, 9-pin Sub-D, DTE |

External Alarm Interface

| | |
|-----------|--------------------------------|
| Connector | 9-pin Sub-D female |
| Outputs | 2 Form C Relays (Major, Minor) |
| Inputs | 2 TTL with internal pull-ups |

¹ Output power is specified at zero attenuation

² Does not include air latency of approximately 5.4 µsec/mile

³ RF Unit installed outdoors with 6ft. parabolic antenna, 99.995% one-way RF Link availability, average climate/terrain, no multipath reflection. Assumes FCC regulations for EIRP

⁴ No Waysides enabled

POWER/ENVIRONMENT

| | |
|------------------------|----------------------------------|
| Input Voltage Range | -20 to -60 Vdc or +20 to +60 Vdc |
| Power Consumption | <70 Watts |
| Power Connector | 3-pin terminal block |
| Operating Temperature | |
| IDU | 0°C to +50°C |
| RF Unit | -30°C to +55°C |
| Humidity | |
| IDU | 95%, non-condensing |
| RF Unit | 100%, condensing |
| Altitude | up to 15,000 ft/5000 m |
| Wind Loading (RF unit) | up to 110 mph/96 kts |
| MTBF IDU | >100,000 Hours |
| MTBF RF Unit | >100,000 Hours |

PHYSICAL DIMENSIONS

| | IDU | RF Unit |
|-----------------|--|---|
| Size (in/cm) | 17.2 X 10.9 X 1.72 (43.6 X 27.6 X 4.4) | 14.1 X 10.9 X 1.72/ (35.8 X 27.6 X 4.4) |
| Weight (lbs/kg) | 6.5/2.9 | 12.0/5.4 |

MECHANICAL

| | |
|-------------------------------|---|
| RF Unit | |
| Antenna Port | Type-N female (outdoor RF cable not provided) |
| IDU Port | TNC female |
| Cable to IDU | LMR-240 or equiv. <100m; LMR-400 or equiv. <200m; LMR-600 or equiv. <300m |
| Mounting | |
| IDU | EIA rackmount, 19" or 23", 1RU |
| RF Unit | EIA rackmount, 19" or 23", 1RU, or outdoor pole mount |
| Pole Mount Bracket (optional) | |

SELECTABLE NON-OVERLAPPING FREQUENCY PLANS

| | |
|----------------|--|
| 2-Channel Mode | A: 5734 / 5819 MHz B: 5756 / 5841 MHz |
| 3-Channel Mode | A: 5731.5 / 5816.5 MHz B: 5745.0 / 5830.0 MHz C: 5758.5 / 5843.0 MHz |

ORDERING INFORMATION

| | |
|------------------|---|
| 64765 | Low Band Terminal |
| 64766 | High Band Terminal |
| ACC-GX-RF-2 | Optional RF Unit Outdoor Mounting Kit |
| 201-31075-1 | Optional AC Adapter 110/220 VAC with cable and connector |
| Call for details | ServPak 24x7 Enhanced Service and Support contracts (1yr-3yr) |

SHIPPING CONFIGURATION

Tsunami.GX 32 IDU (Indoor Unit); ISM Low Band or High Band RF Unit; IDU Indoor Rack Management Kit; ACC-GX-RF-1 RF Unit Indoor Mounting Kit (includes 12" IDU to RFU TNC-to-TNC cable); Quick Install Guide; CD-User Documentation

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For detailed technical specifications, please go to http://www.proxim.com/products/bwa/point/tsunami/tsunami_gx_32/techspecs.html

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