Tsunami.GX® Series

Carrier-class Wireless Ethernet Bridges for Voice and Data Backhaul

Tsunami.GX Wireless Ethernet Bridge

High-Capacity Wireless Backhaul

Proxim Wireless offers extremely reliable, secure and easily-deployed solutions for interconnecting corporate and telecommunications networks. This portfolio includes:

- **GigaLink® –** Alternative to fiber, up to a Gigabit speed
- **Lynx.GX® –** Cellular voice and data backhaul, up to DS3 interface
- **Tsunami.GX® -** Carrier-class IP Ethernet bridge for voice and data backhaul for service providers and enterprise applications
- **QuickBridge® –** Complete "hop-in-a-box" Ethernet bridge for campus and small business networks

Proxim Wireless is a global provider in scalable broadband wireless networking. From Wi-Fi to wireless Gigabit Ethernet – our WLAN, mesh, point-to-multipoint and point-to-point products are available through our extensive global channel network.

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 (TCO) 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 DS3 or 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	TSUNAMI.GX 90	TSUNAMI.GX 200
PRODUCT MODEL			
LOW BAND RADIO	Tsunami.GX 32 5.8 GHz ISM System (Part# 64765)	Tsunami.GX 90 5.8 GHz ISM System (Part# 67255) Tsunami.GX 90 5.3 GHz UNII System (Part# 66722)	Tsunami.GX 200+2T1/2E1 5.8 GHz ISM System (Part# 66768)
HIGH BAND RADIO	Tsunami.GX 32 5.8 GHz ISM System (Part# 64766)	Tsunami.GX 90 5.8 GHz ISM System (Part# 67254) Tsunami.GX 90 5.3 GHz UNII System (Part# 66723)	Tsunami.GX 200+2T1/2E1 5.8 GHz ISM System (Part# 66769)
SYSTEM SPECS	**3 CHANNEL PAIRS** / **2 CHANNEL PAIRS**		
FREQUENCY	5,725 - 5,850 MHz / 5,725 - 5,850 MHz	5,725 - 5,850 MHz / 5,250 - 5,350 MHz	5,725 - 5,850 MHz
DIGITAL CAPACITY[1]	32 Mbps / 24 Mbps	98 Mbps[3] / 98 Mbps[3]	216 Mbps
FREQUENCY CHANNELS	A1: 5,731.5; A2: 5,186.5 MHz B1: 5,745.0; B2: 5,830.0 MHz C1: 5,758.5; C2 5,843.0 MHz / A1: 5,734; A2: 5,819 MHz B1: 5,756; B2: 5,841 MHz	A1: 5,745 MHz; A2: 5,830 MHz / A1: 5,275 MHz; A2: 5,350 MHz	A1: 5,725 MHz; A2: 5 850 MHz
THRESHOLD (BER+1X10^{-6})	≥-85 dBm / ≥-86 dBm	≤-80 dBm / ≤-80 dBm	≥-73 dBm
OUTPUT POWER[1]	≥+23.5 dBm	≥+23.5 dBm / ≥+10 dBm	≥+19 dBm
SYSTEM GAIN	≥ 109.5 dB, 112 dB typical / ≥ 108.5 dB, 111 dB typical	≥103.5 dB, 106 dB typical / ≥89 dB, 92 dB typical	≥92 dBm
RANGE[2]	42m (68 km) / 44m (71 km)	33.7 m (54.4 km) / 8.4 m (13.5 km)	20 m (32 km)
CONFIGURATION	Split-Box design: IDU, RF Unit	Split-Box design: IDU, RF Unit	Split-Box design: IDU, RF Unit
MODULATION	DSSS; QPSK	QPSK	DSSS; 16 QAM
MAX RECEIVE SIGNAL	-20 dBm error free; 0 dBm no damage	-20 dBm error free; 0 dBm no damage	-25 dBm error free; 0 dBm no damage
FCC EMISSION DESIGNATOR	13MAG7D	31M8G7D / 32M5G7D	32M5G1D
DIGITAL LINE INTERFACES	**3 CHANNEL MODE** / **2 CHANNEL MODE**		
MAIN DATA CHANNEL[3]	32 Mbps aggregate; 16 Mbps full-duplex / 24 Mbps aggregate; 12 Mbps full-duplex	96 Mbps aggregate; 48 Mbps full-duplex	204 Mbps aggregate; 102 Mbps full-duplex (No wayside enabled); 204 Mbps aggregate; 102 Mbps full-duplex (T1/E1 wayside enabled); 196 Mbps aggregate; 98 Mbps full-duplex (2 T1 waysides enabled); 196 Mbps aggregate; 98 Mbps full-duplex (2 E1 waysides enabled)
10/100 BASE T 10/100 BASE FX	RJ-45 modular jack; Auto-sense MDI/MDI-X SC-Type, multi-mode Fiber	RJ-45 modular jack; Auto-sense MDI/MDI-X SC-Type, multi-mode Fiber 1300 nm	RJ-45 modular jack; Auto-sense MDI/MDI-X SC-Type, multi-mode Fiber
WAYSIDE DATA CHANNEL			
T1/E1	DSX-1 (2 each) or CEPT-1 (2 each), software selectable RJ-48C modular jack	DSX-1 (2 each) or CEPT-1 (2 each), software selectable RJ-48C modular jack	DSX-1 (2 each) or CEPT-1 (2 each), software selectable RJ-48C modular jack
COMPLIANCE			
REGULATORY	FCC Part 15.247; IC RS210	FCC Part 15.247; IC RS210	FCC Part 15.247; IC RS210
FCC ID	HZB-S58-GX1	GX90 5.8 GHz; HZB-S58-GX1; GX90 5.3 GHz; HZB-US5358-GX1	HZB-US5358-GX1
INDUSTRY CANADA ID	1856A-U5358-GX1	1856A-U5358-GX1	1856A-U5358-GX1
PACKAGE CONTENTS[4]	• Tsunami GX.32 IDU (Qty 1) • Tsunami.GX 32 ISM Low Band or High Band RF Unit (Qty 1) • GX IDU installation kit- includes IDU rack mount kit (Qty 1) • GX RFU Installation Kit- includes RFU rack mount kit (Qty 1) • CD-Rom with Documentation and Software (Qty 1) • GX Quick Install Guide (Qty 1)	• Tsunami GX.90 IDU (Qty 1) • Tsunami.GX 90 5.8 ISM or 5.3 UNII Low Band or High Band RF Unit (Qty 1) • GX IDU installation kit- includes IDU rack mount kit (Qty 1) • GX RFU Installation Kit- includes RFU rack mount kit (Qty 1) • CD-Rom with Documentation and Software (Qty 1) • GX Quick Install Guide (Qty 1)	• Tsunami GX.200 IDU (Qty 1) • Tsunami.GX 200 ISM Low Band or High Band RF Unit (Qty 1) • GX IDU installation kit- includes IDU rack mount kit (Qty 1) • GX RFU Installation Kit- includes RFU rack mount kit (Qty 1) • CD-Rom with Documentation and Software (Qty 1) • GX Quick Install Guide (Qty 1)
OPTIONAL ACCESSORIES	Optional RF Unit Outdoor Mounting Kit (Part# ACC-GX-RF-2); Optional AC Power Adapter (Part# 201-3107-1)	Optional RF Unit Outdoor Mounting Kit (Part# ACC-GX-RF-2); Optional AC Power Adapter (Part# 201-3107-1)	Optional RF Unit Outdoor Mounting Kit (Part# ACC-GX-RF-2); Optional AC Power Adapter (Part# 201-31075-1)

TSUNAMI.GX SERIES SPECS (ALL MODELS)

MANAGEMENT	
NETWORK MGMT	SNMP v2c (MIBII, Proxim enterprise MIBs), embedded HTML server, Telnet, VT-100 terminal
FAR END MGMT	Via NMS (embedded router, gateway address, subnet mask), front panel display
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 TEMP	IDU: 0°C to 50°C; RF UNIT: -30°C to 55°C
HUMIDITY	Non-condensing - IDU: 95%; RF UNIT: 100%
ALTITUDE	Up to 15,000 ft (5,000 m)
WIND LOADING	Up to 110 mph (177 kph)
MECHANICAL	
RF UNIT	
ANTENNA PORT	Type-N Female (outdoor RF cable not included)
IDU PORT	TNC Female
RF UNIT (CONT'D)	
CABLE TO IDU	LMR-240 or equiv. <100 m LMR-400 or equiv. <200 m LMR-600 or equiv. <300 m
MOUNTING	
IDU	EIA rackmount, 19" or 23", 1RU
RF UNIT	EIA rackmount, 19" or 23", 1RU or outdoor pole mount bracket[5]
PHYSICAL SPECS	
DIMENSIONS	
IDU	17.2 x 10.9 x 1.72 in (436 x 276 x 44 mm)
RF UNIT	14.1 x 10.9 x 1.72 in (358 x 276 x 44 mm)
WEIGHTS	IDU: 6.5 lbs (2.9 kg); RF Unit: 12 lbs (5.4 kg)
MTBF & WARRANTY	>100,000 Hours; 2 year parts and labor
RELATED PRODUCTS	Tsunami MP.11 Series for point to multipoint broadband wireless access, ServPack for 24x7 Enhanced Service and Support (US/CAN Only)

[1] Output Power is specified at zero attenuation.
[2] RF Unit installed outdoors with 6 ft parabolic antenna, 99.995% one-way RF Link availability, average climate/terrain, no multipath reflection. Assumes FCC Regulations for EIRP.
[3] No waysides enabled.
[4] Complete link requires purchase of one High Band GX kit and one Low Band GX Kit.
[5] Outdoor Pole Mount bracket purchased separately.

For detailed technical specifications, please go to **http://www.proxim.com/products/bwa/point/**

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