



Tsunami™ Multipoint

Wireless Ethernet System



High-Capacity Point-To-Multipoint Wireless Connectivity

Tsunami Multipoint is a point-to-multipoint outdoor wireless system offering a high-capacity alternative to wired data networks.

Using IP packet radio transmitters, standard Ethernet interfaces, and an easy-to-deploy design, the Tsunami Multipoint system enables high-speed network connections to multiple Ethernet switches, routers or PCs from a single location. With Tsunami Multipoint, you can now avoid the delays and costs associated with wired connections such as DSL, cable modems, and leased T1/E1 lines. Tsunami Multipoint eliminates wire/fiber installation costs and recurring monthly fees—delivering carrier-class performance at an affordable price.

Tsunami Multipoint systems consist of one or more Subscriber Units (SU) that communicate with a Base Station Unit (BSU) to provide high-performance wireless network connections.

Extend or Enhance Your Network Overnight

With Tsunami Multipoint, there are no DSL, cable, or leased-line hassles to negotiate. You no longer have to worry about man-made barriers to overcome. Easy installation and operation allow network planners to quickly deploy up to 60 Mbps capacity between locations, making it the ideal solution for:

- Establishing high-speed connections between Internet Service Providers and their customers
- Organizations requiring high-capacity WAN connectivity between multiple buildings or campuses
- Organizations or service providers seeking network redundancy for mission-critical wired connections

About the Tsunami Product Family

The Tsunami family of Ethernet bridges provides wireless solutions that meet the growing demand for transparent and reliable high-speed network interconnectivity.

In addition to Tsunami Multipoint for point-to-multipoint connections, the Tsunami product line includes the following point-to-point offerings:

Tsunami 10BaseT, a cost-effective, high-capacity alternative to multiple wireline T1/E1 connections.

Tsunami 100BaseT/E, a cost-effective, high-capacity alternative to wireline DS-3 connections.

Tsunami 1000BaseSX, the world's first license-exempt Ethernet bridge to provide Gigabit, wireless connectivity for native IP connections.

PRODUCT HIGHLIGHTS

Up to 360 Mbps per hub site

- Speeds from 20 Mbps to 60 Mbps Time Division Duplex (TDD) per Base Station Unit for optimal network efficiency
- Configurable upstream/downstream capacity to optimize desired throughput
- Six Base Station Units provide 360 degree coverage, delivering up to 360 Mbps per hub site

Fast and Easy to Deploy & Manage

- Subscriber Unit simplicity enables self-installation to minimize deployment costs
- Audible beeper alignment eases installation
- Subscriber Unit with integrated antenna connects to indoor power & networks using a single CAT5 cable
- “Over the air” software upgrades minimize subscriber unit maintenance costs

Rapid Return on Investment

- Rapid, easy deployment enables quick service activation, reduced costs and faster payback
- High-capacity connection enables faster network traffic to deliver new service offerings

Pure Ethernet Connectivity

- Supports bridging and routing network topologies

KEY FEATURES

- Flexible throughput rates: 20, 30, 40, & 60 Mbps TDD
- 5.8 GHz license-exempt frequency band
- Compliant with industry standards
- Base Station Unit provides 60 degree antenna — six Base Station Units cover 360 degrees
- Point-to-multipoint communications from less than 1 mile/kilometer to 6 miles/10 kilometers

Product Specifications

PRODUCT	MODEL	MODEL NUMBER	AGGREGATE THROUGHPUT	THRESHOLD (BER=1X10 ⁻⁴)	OUTPUT EIRP	SYSTEM GAIN (INCL. ANTENNA)
Base Station Unit	60 Mbps	40400-65	17, 25.5, 34, 51 Mbps	-77 dBm	36 dBm	n/a
	20 Mbps	40400-25	17 Mbps	-89 dBm	36 dBm	n/a
Subscriber Unit	60 Mbps	40100-651/2	17, 25.5, 34, 51 Mbps	-89, -81, -77dBm	35 dBm	130 dB
	40 Mbps	40100-451/2	17, 25.5, 34 Mbps	-89, -81dBm	35 dBm	134 dB
	20 Mbps	40100-251/2	17 Mbps	-89 dBm	35 dBm	142 dB

System

Operating Frequency Range	5725-5825 MHz
Radio Access Method	TDMA
Duplexing	Time Division Duplex (TDD)
Integrated Antenna	
Base Station Unit (BSU)	18 dBi (60° x 6°)
Subscriber Unit (SU)	20 dBi (10° x 10°)
Max Subscriber Units/BSU	1,023
Distance/Capacity Limits (clear line of site)	60 Mbps at 3 miles/5 kilometers 40 Mbps at 4 miles/6.6 kilometers 30 Mbps at 5 miles/8.3 kilometers 20 Mbps at 6 miles/10 kilometers
Frequency Channels	4 non-overlapping, 6 available
Regulatory Compliance	FCC Part 15.400 (U-NII) FCC Part 15.247 (ISM) 20 Mbps only Industry Canada RSS210

Standards Compliance and Interfaces

Ethernet Interface	10/100BaseT
Ethernet Connector	RJ45 female
SU indoor-outdoor cable	RJ45 (outdoor) & DIN (indoor) over Category-5 cable
BSU indoor-outdoor cable	Weatherproof RJ45 connectors over Category-5 cable
Standards Compliance	IEEE 802.1d Bridging Mode IEEE 802.1q VLAN tag pass-through

Configuration and Management

Base Station Unit Configuration	via Ethernet
Subscriber Unit Configuration	Automatic
Security	Authentication, IP/MAC Filtering
Software Upgrades	Over-the-air Subscriber Unit reprogramming Downloadable Base Station Unit reprogramming

Power/Environment

Electrical	
Base Station Unit	+48 Volts DC, 1 Amp
Subscriber Unit	+28 Volts DC, 0.6 Amps
Base Station Unit Power Brick	100-240 Volts AC, 50/60 Hz
Subscriber Unit Power Brick	115 Volts AC
Operational Temperature	-33° to 55° C (BSU and SU only)
Humidity	5% to 100%, condensing
FCC	Part 15/Class B

Physical Dimensions

Subscriber Unit (Outdoor Unit)	
Size (WxHxD)	10.5 x 10.5 x 6.8 inches/26.5 x 26.5 x 17.4 cm
Weight	10 lbs/4.5 kg
Subscriber Unit Power Brick (Indoor Unit)	
Size (WxHxD)	3.6 x 5.1 x 2.6 inches/9.2 x 13 x 6.7 cm
Weight	2.7 lbs/1.2 kg
Base Station Unit (Outdoor Unit)	
Size (WxHxD)	10.2 x 24 x 6.6 inches/25.9 x 61 x 16.8 cm
Weight	20 lbs/9 kg
Base Station Unit Power Brick (Indoor Unit, for 1 Base Station Unit)	
Size (WxHxD)	3.7 x 7.1 x 2.5 inches/9.5 x 18 x 6.3 cm
Weight	1.5 lbs/0.7 kg

Mounting (Installation)

Base Station Unit	Pole Mount, 1.75-2.75" dia.
Subscriber Unit	Pole Mount, 1.25-1.75" dia. Wall mount kit available

Warranty

1-year limited parts and labor