



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 that communicate with a Base Station 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 for optimal network efficiency
- Configurable upstream/downstream bandwidth to optimize desired throughput
- Six Base Stations 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

- Operates in either Ethernet bridging or IP routing modes with direct connections to PCs, Fast Ethernet switches & routers
- Support for VLAN tagging

KEY FEATURES

- Flexible throughput rates: 20, 30, 40, & 60 Mbps TDD
- 5.8 GHz license-exempt frequency band
- Compliant with industry standards
- Base Station provides 60 degree antenna – six Base Stations cover 360 degrees
- Network management through SNMP & Java-based “Wireless Manager” software
- Point-to-multipoint communications from less than 1 mile/kilometer to 6 miles/10 kilometers



The Capacity to Do Great Things.

Product Specifications

PRODUCT	MODEL	MODEL NUMBER	AGGREGATE THROUGHPUT	THRESHOLD (BER=1X10 ⁻⁴)	OUTPUT EIRP	SYSTEM GAIN (INCL. ANTENNA)	MAX DISTANCE (MILES/KM)
Base Station Unit	60 Mbps	40400-65	20, 40, 60 Mbps	-77 dBm	36 dBm	n/a	6/10
	20 Mbps	40400-25	20 Mbps	-89 dBm	36 dBm	n/a	6/10
Subscriber Unit	60 Mbps	40100-651/2	20, 40, 60 Mbps	-77 dBm	35 dBm	130 dB	6/10
	40 Mbps	40100-451/2	20, 40 Mbps	-81 dBm	35 dBm	134 dB	6/10
	20 Mbps	40100-251/2	20 Mbps	-89 dBm	35 dBm	142 dB	6/10

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)	21 dBi (10°)
Max Subscriber Units/BSU	1,023
Distance/Capacity Limits (typical circumstances)	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) IC 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	Circular plastic connectors over Category-5 cable
Standards Compliance	IEEE 802.1d Bridging Mode IEEE 802.1q VLAN IEEE 802.16a Broadband Wireless Access (pending)

Configuration and Management

Base Station Configuration	via Ethernet, SNMP, or Wireless Manager
Subscriber Unit Configuration	Automatic
SNMP Agent	MIB II
Security	Authentication, IP/MAC Filtering
Software Upgrades	Over-the-air Subscriber Unit reprogramming Downloadable Base Station reprogramming

Power/Environment/Safety

Electrical	
Base Station Unit	-36 to -60 Volts DC, 1.25 Amps
Subscriber Unit	18 to 28 Volts DC, 0.8 Amps
Subscriber Unit Power Brick	115 Volts AC
Base Station Unit Power Brick	100-240 Volts AC
Base Station Unit Power Block	-48 Volts DC
Operational Temperature	-40° to 55° C (all units)
Humidity	5% to 100%, condensing
FCC	Part 15/Class B
Immunity & Emissions	EN55022, EN55024, EN61000 (pending)
Safety	UL1950, EN60950 (pending)

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 (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 Power Block (Indoor Unit, for up to 6 Base Stations)	
Size (WxHxD)	17.2 x 3.5 x 8.25 inches/43.7 x 8.9 x 21 cm
Weight	5 lbs/2.3 kg
Base Station Power Brick (Indoor Unit, for 1 Base Station)	
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 Unit	Pole Mount, 1.75-2.75" dia.
Subscriber Unit	Pole Mount, 1.25-1.75" dia. Wall mount kit available

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