

*TERABEAM*TM *WIRELESS*



Introducing

Marquee Series

Broadband Wireless Networking Solutions

Point-to-Point

Point-to-Multipoint

5.8 GHz

4.9 GHz

2.4 GHz

The Marquee Series broadband wireless base stations and clients are a powerful answer for customers seeking a reliable, high-speed connectivity solution. The Marquee line is the premium offering by Terabeam Wireless, which provides the best features and wireless reach in the business by combining industry leading outdoor point-to-point and point-to-multipoint optimized software with its patented amplifier technology. A member of the Marquee line, the '49' is specifically designed with Public Safety applications in mind, taking advantage of the uncluttered spectrum allocated by the FCC. Marquee products are ideally suited for a variety of applications from constructing public and private enterprise building-to-building wireless networks to providing far-reaching, high-speed wireless access.

Best of all, the Marquee line empowers you to quickly construct your own broadband wireless network without any dependence on the local wired communications infrastructure. No more connection delays waiting for your service to be established. No more recurring charges or long-term service contracts. In as little as a few hours you can install a Marquee solution connecting buildings across the street or across a city, at distances of up to 30 miles apart and more.

Powerful

Marquee offers an unprecedented combination of:

- ❖ over-the-air data rate (maximum 54 Mbps, suggested 24 Mbps)¹
- ❖ range (in excess of 30 miles)
- ❖ near-line-of-sight communication (utilizing orthogonal frequency division multiplexing).

Flexible

Marquee is available in:

- ❖ versions operating at various license-free and licensed frequency bands (4.9 GHz and 5.8 GHz available now; 2.4 GHz to be introduced in 4Q 2004)
- ❖ in point-to-point or point-to-multipoint configurations
- ❖ and with choices of enclosures and antennas.

Scalable

Base stations can be deployed to serve hundreds of clients. For example, one base location can be configured to serve over 300 simultaneous users while distributing over 100 Mbps of cumulative data. The recommended configuration would

be five collocated base stations, each using one of five available non-overlapping channels. In addition, the award-winning TurboCell® protocol eliminates hidden node problems or interference between clients, thus maintaining throughput as clients are added to the network.

Built For the Outdoors

The Marquee Series has been engineered from the ground up to withstand conditions in the outdoors and some of the harshest environments. The high gloss white finish and cast aluminum enclosure minimize solar heat absorption, allowing uninterrupted

operation in the world's hottest regions.

Enabling Public Safety Applications

The Marquee 49, utilizing the first FCC-certified 4.9 GHz radio, allows public safety organizations to take advantage of spectrum dedicated by the FCC for their use.

Additional Features

Adaptive Dynamic Polling. In traditional 802.11 wireless networks, multiple clients transmitting data to a base station simultaneously will cause traffic collisions, necessitating retransmissions and reducing throughput. Marquee base stations coordinate traffic flow from the clients through a polling mechanism which constantly adapts itself based on client traffic.

Packet Aggregation. Marquee also increases throughput by aggregating smaller packets into a super-packet prior to transmission, thus making more efficient use of spectrum.

Bandwidth Management at the Client. By managing bandwidth at the subscriber unit rather than centrally, the system preserves precious spectrum and eliminates the need for an external bandwidth manager.

Enhanced Security. Marquee provides two-way authentication between the client and the base, as well as AES, DES, Blowfish and WEP+ encryption.



¹ Typical throughput is 18 Mbps. Actual throughput varies according to the specifications of the antenna used and the conditions of the terrain.

Solutions Scenarios

Customer Types			Applications	Description	Solution
Carrier	Cable/DSL	ISP			
◆			Metropolitan Area Networks	Connectivity between city buildings and around town	Marquee 5.8 GHz Base and Client
◆	◆		Extend Cable and DSL Services	Cable and DSL have reach limitations. Enhances reach, adds markets and revenue	Marquee 5.8 GHz Base and Client
◆	◆	◆	Last Mile Access	Broadband service for businesses and residences. Alternative to DSL and cable	Marquee 5.8 GHz Base and Client
◆	◆	◆	IP Backhaul Services	ISP and enterprise P2P backhaul	Marquee 5.8 GHz Point to Point

Customer Types			Applications	Description	Solution
Public Safety and Municipalities	Enterprises	Education			
◆			Avoid Crowded Spectrum	Take advantage of uncrowded 5.8 GHz or 4.9 GHz* for communications without interference	Marquee 5.8 GHz and 4.9 GHz P2P
◆	◆	◆	Security and Surveillance	Enterprise and public safety applications	Marquee 5.8 GHz Base and Client
◆	◆	◆	Campus Networking	Extend main network to remote buildings and branches	Marquee 5.8 GHz Base and Client

Product Offering

Base Stations

Marquee base stations are designed to operate as the centerpiece for large, high-performance broadband wireless networks. A powerful combination of features, unique to the Marquee including the TurboCell® polling protocol, bandwidth shaping and scalability, provide customers with the foundation for a reliable point-to-multipoint network.

Capable of connecting up to 64 remote locations, each base station offers complete bandwidth management on a per remote location basis, full RADIUS support, and TurboCell®, a highly optimized adaptive dynamic polling algorithm that overcomes the problems inherent in outdoor wireless networks.

A Marquee base station also has the ability to support fully bridged networks with enhanced features such as advanced protocol filtering, as well as fully routed networks with RIP II routing.

Marquee base stations are available as outdoor mounted units and are housed in a rugged, weatherproof cast aluminum enclosure. Connected to your network by up to 300 feet of outdoor Ethernet cable, which also supplies power to the base station via Power over Ethernet, an outdoor mounted Marquee base station eliminates the need for the installation of bulky, expensive RF cable between the building and base station and maximizes the radio transmit power fed to the base antenna.

All Marquee base stations come bundled with the Configurator, a centralized SNMP based management software. Using the Configurator GUI, network administrators quickly and easily can configure, test, and monitor their entire Marquee network without having to purchase additional test equipment or network management software.



Broadband Wireless Clients

Marquee client devices act as the end points in a wireless point-to-multipoint network. By allowing remote locations to attach to a main network, or individual clients such as in a public safety vehicle or a business or residential customer to obtain network or Internet access, Marquee clients can be used for a wide variety of applications.

Available as a 23 dBi embedded antenna system or in an outdoor mounted rugged enclosure with attached flat panel antenna, Marquee clients are designed to meet the need of corporate, small business and individual users. Each client supports an unlimited number of local users while including powerful features including DHCP (both Client and Server), NAT, RADIUS Authentication and Accounting, and Firewall.

Marquee clients can be configured locally or remotely using the Configurator Management software bundled with each system. Network administrators will enjoy the ability to provision addressing, control bandwidth, and monitor or test RF performance without having to travel to each remote location.

Rapid P2P Bridge Kit

The Terabeam Wireless Rapid P2P includes everything you need to quickly and easily install a point-to-point wireless communications link. Ideally suited for a building-to-building backbone, or as backhaul to a remote wireless base station, Rapid P2P delivers the bandwidth and distance required to supercharge your network. In just a few hours, you can install a broadband wireless link spanning over 30 miles between locations.

Package contents include: (2) Rapid P2P Ethernet bridges, (2) High gain antennas, (2) PoE Injectors, (2) Switching power supplies, (2)

RF Patch cables, (2) Power cables, and User CD containing Configurator Management Software



Powerful	❖ Over-the-air data rate maximum 54 Mbps (suggested 24 Mbps)¹ ❖ Range in excess of 30 miles ❖ Near-line-of-sight communication utilizing orthogonal frequency division multiplexing (OFDM)
Flexible	❖ Several versions operating at license-free (2.4GHz and 5.8 GHz) and licensed (4.9 GHz) frequency bands ❖ Point-to-point and Point-to-multiPoint configurations available ❖ Choices of enclosures and antennas
Scalable	❖ Base stations can be deployed to serve hundreds of clients ❖ TurboCell® protocol eliminates hidden node problems or interference between clients to maintain throughput as new clients are added to the network
Built For the Outdoors	❖ Engineered from the ground up to withstand conditions in the outdoors and some of the harshest environments
Enabling Public Safety Applications	❖ The Marquee 49, utilizing the first FCC-certified 4.9 GHz radio, allows public safety organizations to take advantage of spectrum dedicated by the FCC for their use

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