



G I G A B E A M

GigaBeam.com

## ● Gi-Max Base Station



### Product Highlights

- High Power radio
- Single, outdoor all-in-one architecture
- Optional variable-beamwidth sectoral antenna
- Indoor base station controller
- SNMP and EMS management
- GPS synchronization
- Fujitsu MB87M3550 processor based

GigaBeam's Gi-MAX base station is an 802.16 and Wi-MAX compliant broadband wireless solution capable of meeting the complex demands of today's broadband service providers. The Gi-MAX base station delivers an unprecedented combination of Wi-MAX radio performance, reliability, and value. The system is designed to be interoperable with a growing number of Wi-MAX compliant equipment, making the investment in the Gi-MAX series a wise choice for the long-term growth of the network.

### Scalability

Of critical concern to service providers both large and small is the ability to scale infrastructure investment with business growth. By taking advantage of GigaBeam's base station architecture, the Gi-MAX series can be rolled out initially as a simple, single sector base site, then migrated seamlessly to a multi-sectored, fully functional, fully redundant managed base system. As the customer base expands, base station sectors can be easily added and reconfigured. A field adjustable, variable beamwidth sectoral antenna is an integral part of the Gi-MAX architecture, allowing on-tower adjustment of sector pattern and eliminating the expense of stocking multiple antenna types. At maximum build out, a Gi-MAX base site can deliver throughput up to 208 Mbps using 8 sectors complete with full 2N system reliability and telecom grade EMS management support.

### Reliability

As a network expands, reliability becomes increasingly critical. The Gi-MAX system can provide up to 2N reliability across all functional systems; each and every element in a site deployment has a backup or failover device. This approach is not only superior to the N+1 approaches used by other infrastructure architectures, but in the case of GigaBeam's base station architecture, also more cost effective.



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### Link Gain

The ability of a system to deliver high RF output power and exceptional receive sensitivity is key to delivering high levels of aggregate, per sector throughput. This link gain metric thus drives the fundamental economics of any Wi-MAX deployment. GigaBeam's Base Station technology generates up to 4 Watts of RF power and 53 dBm EIRP. When combined with the uplink sub-channelization capability of Gi-MAX's CPE, the Gi-MAX systems delivers a bidirectional, RF link gain unmatched at this price point and makes the most of a provider's spectrum investment.

### Base Station Controller (IDU)

The base station controller provides for GPS synchronization, redundant power supply, base station fail-over switch as well as aggregating the traffic from base stations and aiding the remote management systems. The elements are modular and can be purchased as needed for your network growth.

### Specifications

- System
  - Frequency ..... 3.3 - 3.7 GHz
  - Bandwidth ..... 1.75 - 7 MHz
  - Modulation ..... OFDM256 - BPSK, QPSK, QAM16, QAM64
  - Throughput ..... Up to 26 Mbps per sector, 208 Mbps per site
  - Protocol Compliance ..... IEEE 802.16-2004
  - Number of Clients ..... 1024
- Security
  - Authorization ..... PKM, configurable credentials lifetime Key Management X.509 digital certificates, RSA (PKCS #1) public key algorithm
  - Encryption ..... 3DES, AES
- Base Station
  - Sectorization ..... 45-120 degree, field adjustable/replaceable CS2 Sectoral Antenna  
Optional, external, narrow band RF cavity filter
  - RF Output Power ..... up to 4 Watts
  - EIRP ..... up to 200 Watts
  - Network Bridging ..... 802.1d Transparent Bridging
- Management
  - EMS ..... Customizable, full radio network management + control system  
Integrated IDU or NOC Server based
  - Access ..... HTTP, Telnet/SSH, SNMP v1, v2



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## ● Gi-Max Base Station

- Control ..... Address/Port filtering
  - QoS packet inspection + prioritization
  - SLA bandwidth provisioning - CIR, EIR, best effort
  - CoS partitioning for latency, jitter sensitive payload
- Diagnostics ..... RF, Ethernet port status, Custom Event Log, Alarms and SNMP traps
  - GPS derived, UTC network clock
- Physical
  - Size ..... Base Station 28" H x 8" W x 7" D
    - Indoor Controller (optional)
      - 19" rackmount compatible cPCI • cage
      - 4U high•
      - 12" depth•
  - Weight ..... 24 lbs. (Base Station)
- Environmental
  - Operating Temperature ..... 40° to +60°C
  - Humidity ..... 0-100%, condensing
  - Water/Dust ..... IP67
  - Lightning ..... Integrated, IEC 61000-4-5 Class 5 protection on all ports
  - Wind ..... 110 MPH operation, 125 MPH survivability