OPERATIONAL DESCRIPTION

1.1 Pico BST - Operational description.

WiNetworks WiN7200 Pico WiMAX BST is a single sector station used to enhance outdoor and indoor WiMAX coverage and capacity. The unit is easily installable, powered by PoE and supports remote management.

WiN7200 provides the full base station functionality necessary for serving a single sector and is available in 2.XGHz and 3.XGHs frequency range. It supports up to 512 subscriber units and its light weight and small footprint allow it to be easily mounted by one person on poles, street lamps or walls.

The WiNETWORKS Pico BST is a member of the Win-MAX E family, a line of mobile WiMAX broadband wireless access systems based on the 802.16e mobile WiMAX standard. Win-MAX E systems are designed for robustness and simplicity, offering feature-rich services with low deployment and operation costs, for unmatched operator competitiveness and fast ROI.

WiN7200 provides all the functionality necessary to communicate with fixed and mobile subscriber units according to the service criteria and customer Service Level Agreements (SLA). The end-to-end Quality of Service (QoS) ensures the same high quality WiMAX experience is delivered to customers outside or inside his/her home or small office.

The WiN7200 is supported by WiNetworks management system – WiNMS.

Figure 1. Win7200 Pico BST

1.1.1 Main Features and Capabilities

- All outdoor, one-box Pico Base Station solution
- GPS synchronization
- NLOS
- MIMO 2x2
- Small footprint and light weight enables simple installation and deployment by a single person
- IEEE802.16e Wave2 Standard Compliance
- Backbone Ethernet connectivity via a 10/100 Base-T network interface
- Supports fixed and mobile CPEs
- Supports 5MHz,7MHz and 10MHz channel bandwidth
- Supports different RF options including 2.x, 3.x GHz bands
- Traffic classification and connection establishment initiation
- Policy-based data switching
- Quality of Service (QoS) management
- Alarms management
- An SNMP agent incorporated into the unit enables extensive In-Band (IB) management of the Base Station and all its registered CPEs
- R6 interface to ASN GW profile C

1.2 System Architecture

The Pico BST unit receives power and data over PoE.

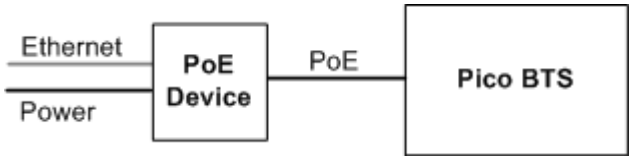

Figure 2. Block Diagram

1.3 Interfaces

The unit is installed vertically, where the integrated GPS antenna is located on the *top panel* (facing the sky). All other connections, including the optional GPS external antenna connections are located on the *bottom* panel.

1.3.1 Bottom Panel

The interface panel supports the antenna, power and Ethernet connections.

Figure 3. Pico BST Interface Panel

The following table provides a description of the Pico BST bottom panel connectors and ports.

Table 1. Bottom Panel Connectors

No.	Connector Name	Connector Type	Cable Type	Description	Connected to
1	ANT1	N type Female	RG 214/U	RF antenna connection	external antenna or Screwed-on omni-directional antenna
2	Console	RJ45	Cat5 ETH	Low level CLI for WiNetworks technical personnel. RS-232	Computer
3	DC + ETH	RJ45	Cat5 ETH	DC 1.5A + Ethernet Cat5	PoE data adaptor
4	GND	1 screw ETSI	#10 AWG bare copper wire	Grounding lug. #10 AWG bare copper wire	Central earth ground, Tower or pole chassis
5	GPS (optional)	TNC Female	RG-59	Base Station Synchronization	Optional External GPS antenna
6	ANT2	N type Female	RG 214/U	RF antenna connection	external antenna or Screwed-on omni-directional antenna

1.3.2 Top Panel

The top panel supports the built-in GPS antenna. (An external GPS antenna can be connected to the bottom panel GPS connector). See section Error! Reference source not found. for more information on GPS antennas and installation criteria.

The figure below shows the Pico BST mounted on a pole.

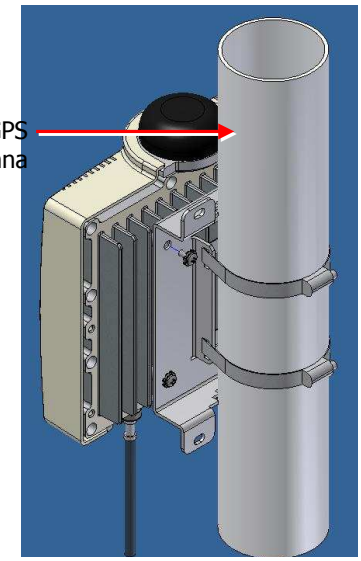

Figure 4. Top panel GPS Antenna