



**xMax VOIP BTS Operation Manual**

**Version 1.2**

**Draft Copy**



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**Introduction:**

xMax Voice Over Internet Protocol (VOIP) Base Transceiver Station (BTS) is a transceiver device. The device operates in the unlicensed 900 MHz band under Part 15 of the FCC's rules. The bandwidth of the device is 26MHz (902-928MHz). The device is used for communicating with xMax Handsets operating in the unlicensed 900 MHz band under Part 15 of the FCC's rules. This device is a commercial unit and should be installed by licensed technician. This device is capable of transmitting/receiving voice and data services to and from xMax handsets. The xMax VOIP BTS is installed with all the necessary software to make wireless VOIP phone calls using xG proprietary physical layer technology.

Notice: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Notice: Changes or modifications to this equipment not expressly approved by xG could void the user's authority to operate the equipment.



**Physical Device:**

The xMax VOIP BTS is housed in a standard rackmount 1U chassis. The dimensions of the device are 19"\*10.19"\*1.75"

Pictures of this device are shown below:



Figure 1: xMax VOIP BTS Front/Side View



Figure 2: xMax VOIP BTS Rear View



### **AC Power Port:**

AC Power: The device operates of 110V/220VAC; 50/60Hz and single-phase AC power line. The device is connected to the AC power line5 using a standard 3-prong power connector. This is shown in the following pictures:

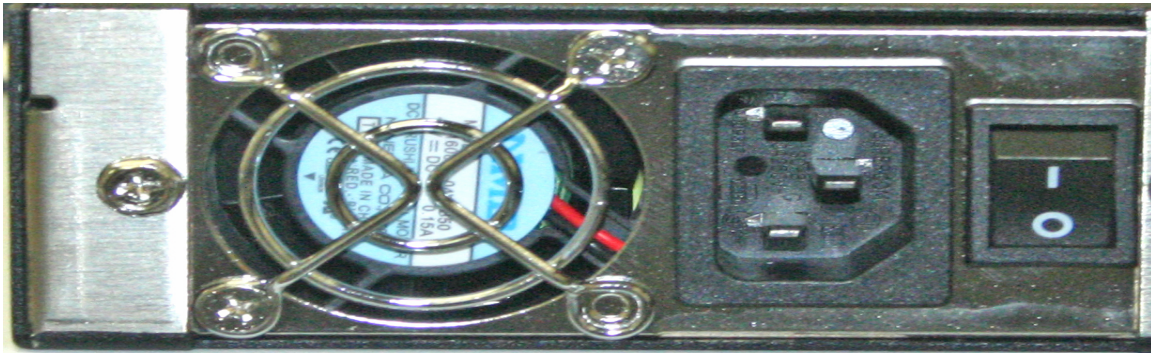


Figure 3: Power Connector and Rear Toggle Switch

The Toggle switch on the rear end (near the power connector) is the main switch. This switch is used to turn ON and turn OFF the device.

The device has a second Toggle switch installed at the front of the device. This is shown in the following picture:



Figure 4: BTS Front View with Front Toggle Switch

In a typical rack mount installation, access to the rear side is sometimes difficult. So the Toggle switch in the front is used to turn the device ON and OFF.

To turn ON the device, both the rear and front switch has to be in the ON position (This is labeled '1' on the switch). The device is turned OFF when either of the switches is flipped to OFF position (labeled as '0' on the switch).

**Antenna Ports:**

The device has 4 antenna ports. Only one port has the Chassis Mount BNC connector installed. The remaining three ports are open and no connector is installed on these slots. These open slots are used for future expansion of the device.

A picture of the antenna port is shown below:



Figure 5: Antenna Ports

The impedance of the chassis mount BNC female connector is 50 Ohms. For proper operation of this device, this connector is connected to a 50 ohms coaxial cable with BNC male connector. Any 50 ohms coaxial cable with female BNC connector on one end and antenna on the other end can be used. However, the recommended coaxial cable is LMR-900. The recommended antenna for this unit is 902-928MHz omni-directional antenna with either gain ranging from unity to 6dBi.

Before turning ON the device, please connect the antenna using the recommended coaxial cable to the chassis mount BNC connector installed on the rear of the unit. The cable and antenna acts like a load to the xMax VOIP BTS. Never turn the unit ON without installing the cable and antenna.



**Ethernet Port:**

A 10/100Mbps RJ-45 Ethernet connector is installed on the rear of the device as shown in the picture below:

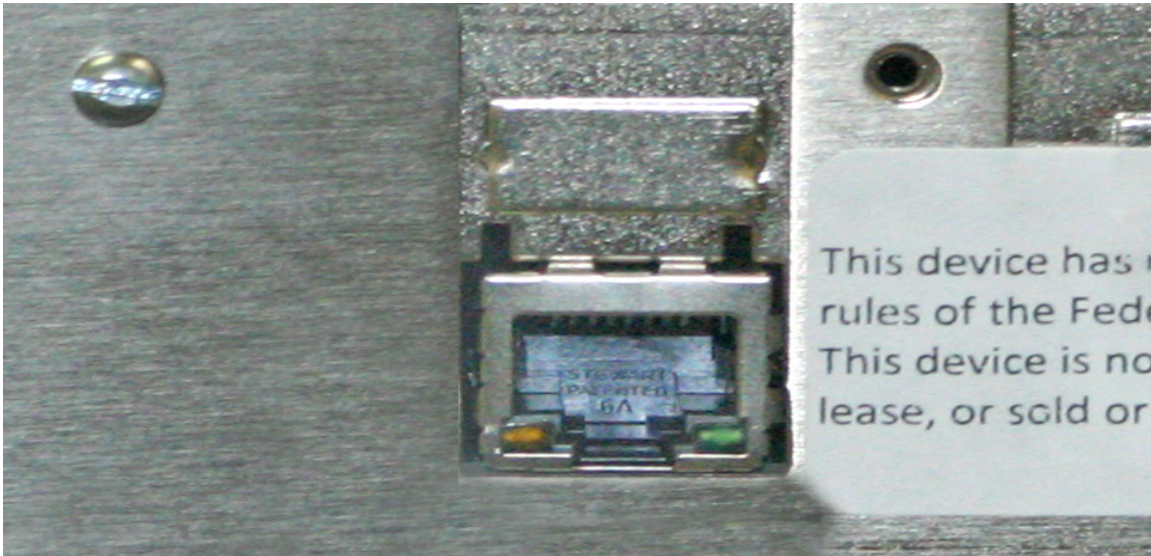


Figure 6: Ethernet Port

The Ethernet Port is used to connect the Base Station to the SIP server.

Connect the SIP server to the Base station before powering ON the xMax VOIP BTS.



### **Status Indicator:**

There are five LEDs installed on the front Panel. These LEDs are bicolor and will turn Green or Red depending on the status of the xMax VOIP BTS.

A picture of these LEDs is shown below:

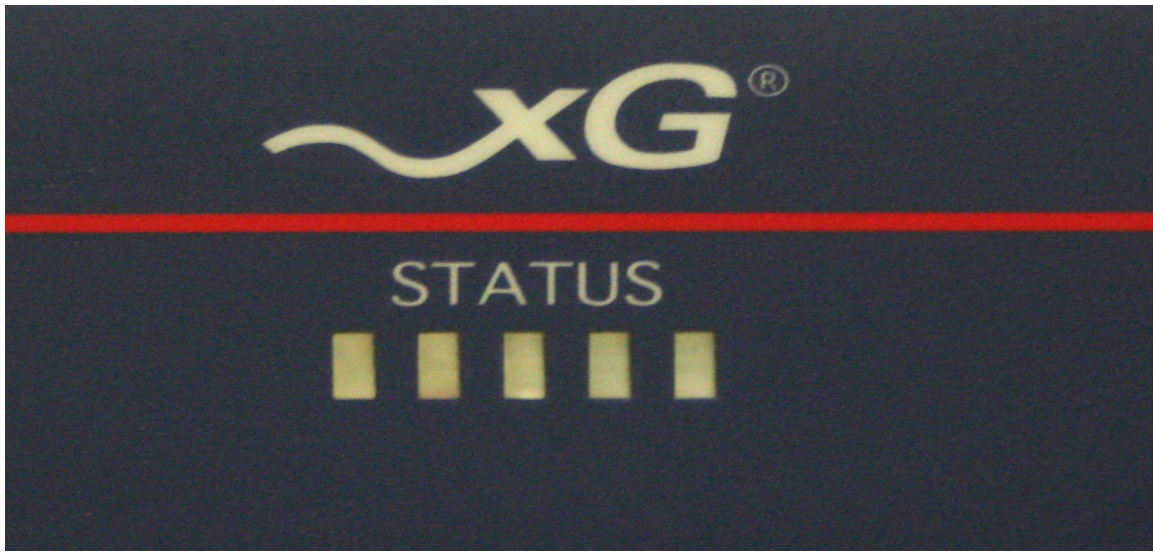


Figure 7: Status Indicator LEDs

Description of these LEDs is as follows:

- LED1: BTS ON/OFF
- LED2: Ethernet TX
- LED3: Ethernet RX
- LED4: TX Error
- LED5: RX Error





### **Powering ON the xMax VOIP BTS:**

Follow the following steps to turn on the device:

- 1- Toggle the front and rear switch in the OFF position.
- 2- Connect the power chord to the AC (110V main line)
- 3- Connect the coaxial cable and antenna to the Antenna port.
- 4- Connect the Ethernet cable to the Ethernet Port.
- 5- Flip the rear power switch in the ON position.
- 6- Flip the front power switch in the ON position.

At this time, you will hear fans running inside the device and you will notice the left most LED turn green. The device is powered ON.

### **Powering OFF the xMax VOIP BTS:**

Follow the following steps to turn OFF the device:

- 1- Flip the front toggle switch in the OFF position. The fans inside the unit will stop and the Green LED (the left most LED in the Status Indicator) will be changed to RED. The device is turned OFF.
- 2- To turn off the power supply, flip the rear toggle switch in the OFF position. The RED led will turn OFF, indicating the device is completely turned OFF.



**Technical Support:**

For technical support, please contact xG Technology, Inc using any of the following:

Telephone: 941-954-8701

Fax: 941-954-8595

Email: [support@xgtechnology.com](mailto:support@xgtechnology.com)

**Certification:**

The xMax VOIP BTS complies with the U.S. Federal Communications Commission (FCC), Code of Federal Regulations (CFR), Title 47 - Telecommunication, FCC Part 15 Subpart B- Class A Requirements.

A copy of the certification can be requested from xG Technology, Inc by submitting your request in writing. Our address is:

xG Technology, Inc  
240S Pineapple Ave, Ste 701,  
Sarasota, FL-34236

**Warranty:**