XMAX Base Station Node 200 - Three Sectors

Operation Manual

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Introduction

The xMax “Base Station Node 200 - Three sectors” (BSN200-3S) is a wireless transmit / receive network element for the xMax network. The device operates in the unlicensed 900 MHz band. It is used for communicating with xMax Handsets and other CPE, for voice services.

This manual provides basic operations instructions for the unit.

Attention: where necessary, attention to some precautionary steps is signaled with the attention symbol to the left.

Physical Device

The xMax BSN200-3S is housed in a standard rackmount 1U chassis. The dimensions of the device are 19” x 10.19” x 1.75”. The device is shown in the following images:

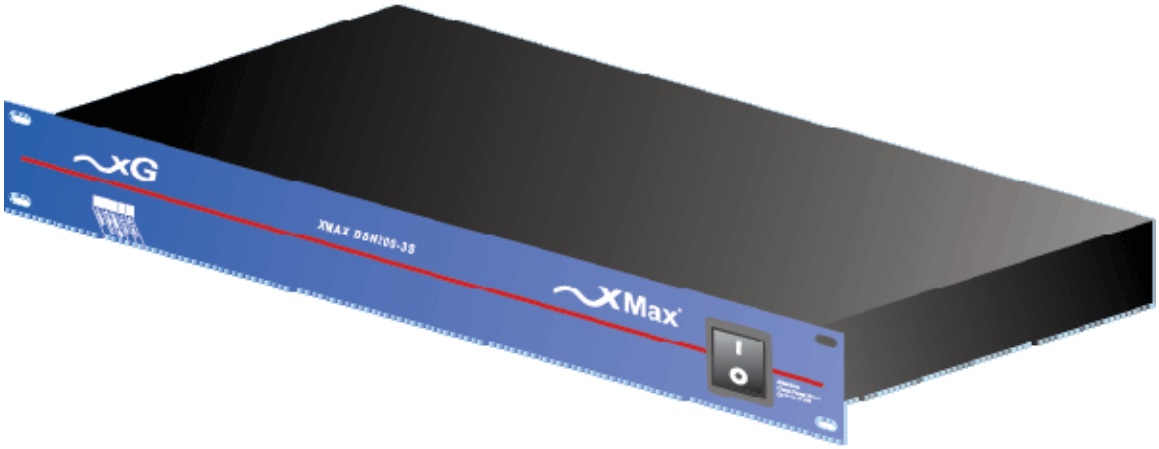

Figure 1: xMax BSN200-3S - Front/Side View

Figure 2: xMax BSN200-3S - Rear View

AC Power Connector

AC Power: The BSN200-3S operates on 110V/220VAC, 50/60Hz and single-phase AC power line. The device is connected to the AC power line using a standard 3-prongs power connector. This is shown in **Figure** 4.

Figure 3: Power Connector and Rear Power Switch

The power 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 image:

Figure 4: BSN200-3S Front View with Front Toggle Switch

Because access to the rear side is sometimes difficult in a typical rack mount installation, the toggle switch in the front can also be used to turn the device ON and OFF.

To turn ON the BSN200, both the rear and front switch have to be in the ON position (This is labeled '1' on the switch). The BSN200 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, 1 for each of the 3 sectors, and for 1 the GPS antenna. “Antenna 1” must be connected to the antenna pointing South of the tower, “Antenna 2” must be connected to the antenna pointing toward azimuth 60° and “Antenna 3” must be connected to the antenna pointing toward azimuth 300°. The GPS antenna port must be connected to a GPS antenna. The antenna ports are shown in **Figure** 6.

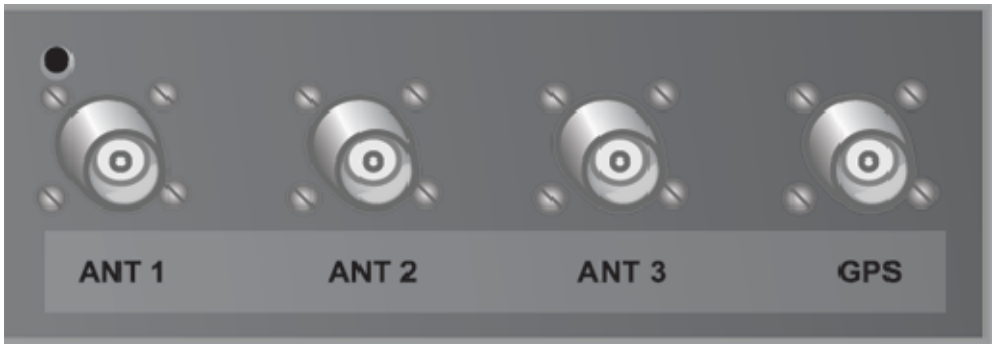

Figure 5: Antenna Ports

The impedance of the chassis mount BNC female connector is 50 Ohms. For proper operation of this device, this connector should be connected to a 50 ohms coaxial cable with BNC male connector. Any 50 ohms coaxial cable with male BNC connector on one end and antenna on the other end can be used. However, the recommended coaxial cable is LMR-900. The recommended antennas for 3 sectors are 900MHz 90° antennas vertical with gain no more than 6dBi. The antenna for the GPS is not necessary at this point. Additional details are included in xG’ Network Implementation guide. Please contact your xG sales representative for access to this document.

Before turning ON the device, please connect the antennas using the recommended coaxial cable to the chassis mount BNC connectors installed on the rear of the unit. The cable and antenna acts like a load to the xMax BSN200-3S. Never turn the unit ON without first installing the cable and antennas.

LEDs on the Ethernet Port

A 10/100Mbps RJ-45 Ethernet connector is installed on the rear of the BSN200 as shown in the following image. The Ethernet Port is used to connect the Base Station to the backhaul NW and the xMSC.

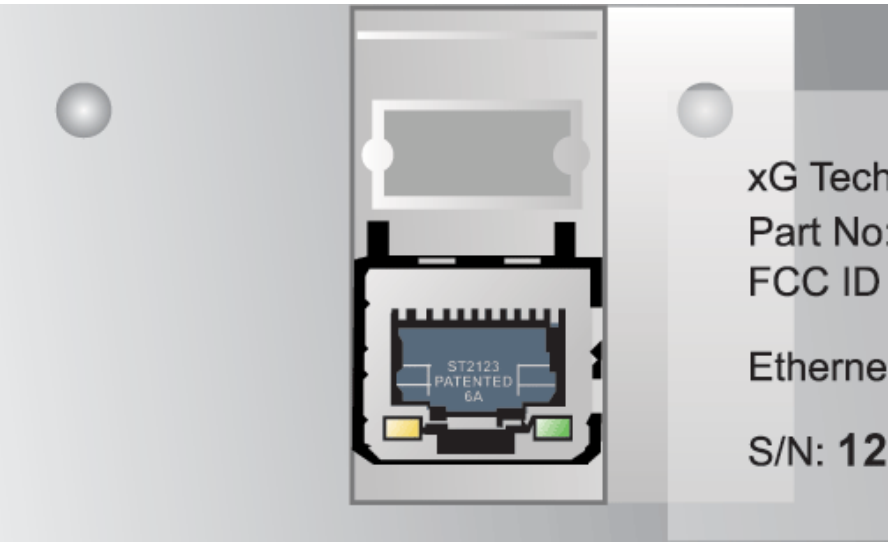

Figure 6: Ethernet Port LEDs

LED Position	Color	LED Label	ON means	Other meaning
Left	**Yellow**	**10/100**	• Ethernet connection is 100BaseT	• OFF: Ethernet connection is 10BaseT
Right	**Green**	**Ethernet / Link**	• Ethernet connection is available • Flashing (1/4s on, 1/4s off): traffic on the Ethernet link	• OFF: No Ethernet Connection

Front Panel Status Indicators

There are five LEDs installed on the front Panel. These LEDs will turn Green, Yellow or Red depending on the status of the xMax BSN200-3S.

The LEDs are shown in the following image:

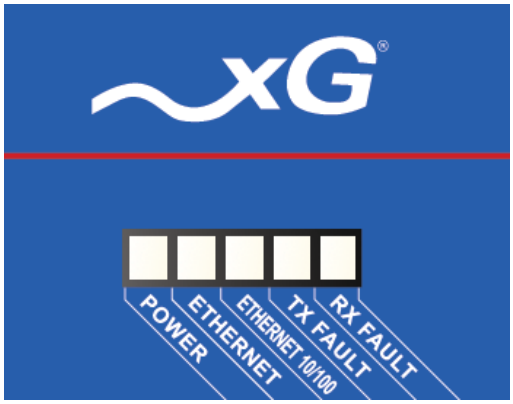

Figure 7: Status Indicator LEDs

Description of these LEDs is as follows:

LED Position	LED Label	GREEN means	Yellow means	RED means	OFF means
1 – Left	**Power**	• unit is ON	N/A	• SW fault	• No power, or • 1 of the power switches is OFF
2	**Ethernet**	• solid: Ethernet connection is available • flashing: traffic on the Ethernet connection	N/A	N/A	• No Ethernet connection
3	**Ethernet 10/100**	N/A	• Ethernet connection is 100BaseT	N/A	• Ethernet connection is 10BaseT
4	**TX Fault**	N/A	N/A	• BSN not transmitting on all 3 sectors	• No fault detected
5 – Right	**RX Fault**	N/A	N/A	• Fault detected in the RX path of the BSN	• No fault detected

Powering ON the xMax BSN200-3S

Follow the following steps to turn on the device:

1- Toggle the front and rear switch in the OFF position.
2- Connect the coaxial cable from the antenna to the antenna ports.
3- Connect the Ethernet cable to the Ethernet Port.
4- Connect the power cable to the AC (110V main line), first on the BSN side, then into the outlet
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 BSN200-3S

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: 954-332-1138
Fax: 954-572-0397
Email: support@xgtechnology.com

Certification

The xMax BSN200-3S 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:

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