BMTMBSR100MW

OPERATIONAL DESCRIPTION

The MBSR100MW is a solid state low-power MBS Band retransmission repeater (amplifier) system, and is formed from a combination of a pre-selected frequency input pre-amplifier module (P/N 701007) and an AGC controlled 100mW post amplifier module (P/N 50800002A), each of which is in a separate chassis/housing and connected via an interconnecting coaxial cable with Type 'N' connectors. The system is capable of retransmitting from one to seven MBS channels with either analog NTSC or digital modulation. The system provides an end-to-end gain of about 70dB. The system has no frequency generating circuits, and as such, the output carrier frequencies and modulations are dependent on the inputs. The pre-amplifier contains a dual section inter-digital filter system which provides high Q MBS pass-band circuitry at the input stage. This is to prevent pre-amplifier input overloads due to out of band interference from close stations utilizing the LBS and UBS bands. The input pre-selection also prevents the retransmission of out of band signals. The output (post) amplifier has an output AGC range of 20dB, with a 20dBm average power output power threshold. The AGC circuitry is necessary to provide a constant low distortion output with varying input signal power levels.

Field deployment and configuration of the system includes fitting the system with the appropriate receive and re-transmit antennas. Typically, narrow beam parabolic reflectors are used to provide the necessary input/output link budget and output coverage area. The system, fully into the AGC range, has a maximum input level of -35 dBm and is labeled "DO NOT EXCEED -35 dBm Input" accordingly. A typical installation would have input link characteristics as follows:

Base Station EIRP (maximum)	63.0 dBm
10 Mile Path Loss	-124.9 dB
Receive Antenna Gain (typical)	24.0 dB
System Input Level	- 37.9 dBm

The spectral performance of the system complies with FCC §27.53. All construction and manufacturing techniques are in accordance with accepted principles of good engineering and manufacturing practice. The system is powered with a low voltage (16-24VDC) supply and requires low current (<1 Ampere), and as such, no hazard to operating personnel exists. The pre-amp and post amplifier modules are sealed, therefore there are no user serviceable parts or adjustments inside.