

## VHF Bi-Directional Amplifier System

### Electrical Specifications

FCC Classification	Class B Signal Booster
Frequency Band	150-176 MHz
Passband Width	≤ 1 MHz
Stopband Width	≥ 4 MHz
Amplifier Gain (Typ.)	75 dB
System Gain (Typ.)	60 dB
Amplifier O/P Power (Max.)	+37 dBm
PA Power Control Setpoint	+37 dBm
Power Control Dynamic Range	30 dB
System O/P Power	Note 1
Amplifier Noise Figure	3.0 dB
System Noise Figure	Note 2
IP3	+50 dBm
Nominal Impedance	50 Ohm
VSWR (Max.)	1.35:1
Amplifier Bias Voltage	13.6 VDC
System Voltage	115 VAC (Optional 12 VDC, 24 VDC, 48 VDC, 220 VAC)
RF Connectors	N Female

### Mechanical Specifications

Finish	Red
Enclosure Type	NEMA-4
Overall Size (HxWxD)	18.5" x 13.75" x 7.25" (470 x 349 x 184 mm)
Ship Weight	40 lbs (18 kg)

### Environmental Specifications

Operating Temp. Range	-20°F to +50°C
Operating Humidity Range	0-90% non-condensing

#### NOTES

Note 1: System output power is a function of the number of carriers incident on the system, the signal level of these carriers to the signal enhancement system, gain of the PA's, and the insertion loss of the filters within the bidirectional system.

Note 2: System Noise Figure is the sum of the amplifier NF and the filter losses prior to the amplifier. The filter losses are dependent on the passband width for the uplink frequencies, the passband width for the downlink frequencies, and the stop band between them.

"WARNING. This is NOT a CONSUMER device. It is designed for installation by FCC LICENSEES and QUALIFIED INSTALLERS. You MUST have an FCC LICENSE or express consent of an FCC Licensee to operate this device. You MUST register Class B signal boosters (as defined in 47 CFR 90.219) online at [www.fcc.gov/signal-boosters/registration](http://www.fcc.gov/signal-boosters/registration). Unauthorized use may result in significant forfeiture penalties, including penalties in excess of \$100,000 for each continuing violation."

EMR Bi-Directional Amplifiers (BDA's) provide two way (uplink and downlink) filtering and amplification of RF signals in buildings, tunnels or areas that are shaded from adequate RF signal coverage. In addition to the BDA, other devices needed for a distribution system include transmission line, power splitters, hybrid & directional couplers and indoor antennas. The use of radiating cable can also be used, particularly in tunnels and long corridors. The choice of distribution method depends on the nature of the structure in which signal enhancement is required.

### Optional System Upgrades

- Fiber Optic DAS
- Alarm & Monitoring
- Battery Backup 12, 24 hour
- Higher gain



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