



**MODEL AR-20EP**  
**20 WATTS CW/PEP**  
**225-450 MHz**

The Model AR-20EP is a portable, lightweight, fully automatic band-switching RF booster amplifier for the EPLRS Tactical Radio employing legacy, proprietary, and emerging waveforms. The AR-20EP produces 20 Watts from 2 Watts typical CW/PEP radio input and covers the frequency range of 225-450 MHz. The unit has a wide input DC voltage range and can operate from 12 to 35.5 VDC. It also includes Voltage Spike Suppression, Over Temperature Protection, RF sensing, T/R Switching, Harmonic Filters, and protection against antenna mismatch. The AR-20EP has a 4dB NF and a 12dB gain switchable LNA in the receive loop. The amplifier is comprised of rugged 4-piece aluminum case.

**GENERAL SPECIFICATIONS**

FREQUENCY RANGE	225-450 MHz
POWER OUTPUT PEP	20 Watts CW or PEP AM Modulation 1 kHz DOM 70% (<10% distortion typical)
INPUT POWER RANGE	2W typical CW or PEP for full 20W output. Up to 8W without damage
RF KEYING SENSITIVITY	<1 Watt CW typical
T/R SWITCHOVER TIME	<25 μS
NOISE FIGURE	4 dB typical
LNA GAIN	12 dB typical via ON/OFF switch
MODULATION	All Legacy and Modern complex tactical communications waveforms
DUTY CYCLE	Tactical operations 100% for networking modulations
INPUT/OUTPUT IMPEDANCE	50 Ohm nominal
INPUT VSWR	1.5:1 nominal
HARMONICS	Better than -60 dBc typical
SPURIOUS OUTPUTS	Better than -70 dBc
POWER REQUIREMENT	12 to 35.5 VDC
CURRENT	<3.2A Amps @ 24V typical

**ENVIRONMENTAL SPECIFICATIONS**

OPERATING TEMPERATURE	-30 to +60 °C Ambient
ALTITUDE (operating)	20,000 ft
IMMERSION (water)	IP67
VIBRATION / SHOCK / HUMIDITY / ENVIRO	MIL-STD-810

**MECHANICAL SPECIFICATIONS**

SIZE (HxWxD)	1.58 x 3.75 x 5.05 inches (without connectors)
WEIGHT	1 lb 10 oz
COOLING	Natural convection required
RF CONNECTORS	RF Input(Radio) – TNC RF Output(Antenna) – TNC
DC CONNECTOR	Multi-pin connector (Mating Connector Supplied)
CONSTRUCTION	Aluminum housing with integral heatsink



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