



**MODEL AR-50FE**  
**50 WATTS**  
**30 MHz - 512 MHz, Multi-Band**  
**Automatic Band-Switching**

The **Model AR-50FE** is a fully automatic band-switching RF booster amplifier for multi-band Tactical Radio equipment employing legacy, proprietary and emerging waveforms. The amplifier is based on our JITC certified **AR-50** multi-band product covers the frequency band of 30-512 MHz using high speed auto switching filters to assure harmonic suppression and is SINGGARS compatible. The amplifier includes power supply Voltage Spike Suppression, a DC/DC convertor for wide DC input range, RF sensing, T/R switching, Automatic Level Control (ALC), automatically switched harmonic filter bands, and protection against antenna mismatch and over-temperature. Protection against accidental polarity reversal is provided. The amplifier comprises a rugged 3-piece aluminum case.

- 50W across the entire 30 – 512MHz band
- Full band high-speed filter switching for to assure interference free operation
- DC ON/OFF switch
- Three year Warranty from a company with 40+ years in the business

**GENERAL SPECIFICATIONS**

FREQUENCY RANGE	30 MHz – 512 MHz
POWER OUTPUT	50 Watts CW nominal; 50W PEP with 70% AM modulation, <10% distortion typical
INPUT POWER RANGE CW : 1-20W	<5 Watts CW typical for 50 Watts Output; Input Protection for up to 20W CW
MAX AM RANGE @ INPUT:	5W PEP with 70% modulation
RF KEYING SENSITIVITY	<1 Watt typical
T/R & FILTER SWITCHOVER TIME	SINGGARS, legacy and modern modulations capable
INSERTION LOSS BYPASS MODE	1.5 dB typical
INSERTION LOSS ACTIVE RX	2.0 dB nominal
MODULATION	AM, FM, or PM, and Tactical communications waveforms
DUTY CYCLE	Tactical operations
INPUT/OUTPUT IMPEDANCE	50 Ohm nominal
INPUT VSWR	1.5:1 nominal
HARMONICS	Better than -60 dBc typical. FULL high speed filter switching avoids interference in SINGGARS
SPURIOUS OUTPUTS	Better than -70 dBc
POWER REQUIREMENT	12-33 VDC MIL-STD-461E & 1275
CURRENT	<7.5 Amps @ 24V typical

**ENVIRONMENTAL SPECIFICATIONS**

OPERATING TEMPERATURE	-40-+55 °C
ALTITUDE (operating)	30,000 ft
IMMERSION (water)	IP67
VIBRATION / SHOCK / HUMIDITY / ENVIRO	Designed to meet applicable sections of Mil Std 810F/Designed for ground/base vehicle use

**MECHANICAL SPECIFICATIONS**

SIZE (HxWxD)	2.50 x 6.50 x 9.93 inches
WEIGHT	8.0 lbs
COOLING	Natural convection required
RF CONNECTORS	RF Input (Radio) – TNC Female RF Output (LOS) – N-Type Female
DC CONNECTOR	Multi-pin connector (Mating Connector Supplied)
CONSTRUCTION	Aluminum housing with integral heatsink
GROUND STUD	Ground stud on front panel