



MODEL: AR-75M50
50 Watts
30 MHz - 512 MHz, Multi-Band
Automatic Band-Switching/LNA with Co-Site Filter

The AR-75M50 is a 50W portable, fully automatic band-switching RF booster amplifier for multi-band VHF/UHF Tactical Radio equipment employing legacy, proprietary and modern networking waveforms. The amplifier covers the frequency band of 30-512 MHz using six high speed auto switching filters to assure harmonic suppression. The amplifier includes power supply line filtering, a DC/DC converter for wide DC input range, RF sensing, Automatic T/R switching, Automatic Level Control (ALC), six automatically switched harmonic filter bands (DAMA, IW and hopping mode capable), with protection against antenna mismatch and over-temperature. Protection against accidental polarity reversal is provided. The amplifier comprises a rugged 3-piece aluminum case.

- Radio Vendor specific sloped RF response design. Optimized the output power in 118-174 MHz and 225-400 MHz sub bands for AM and FM
- 50W CW across the two sub bands and functional in the rest of 30 to 512MHz
- Full band high-speed filter switching for fast hopping modes to assure interference free operation
- DAMA, IW and hopping mode capable
- Separate LOS and SATCOM antenna ports
- MIL-STD 1275 and 461 compliant DC power line filter system
- LOS/SATCOM LNA ON/OFF SELECTION
- Internal LNA with dual section Co-site filtering
- Three year Warranty from a company with 40+ years in the business



GENERAL SPECIFICATIONS

FREQUENCY RANGE	30 MHz – 512 MHz Optimized within 118-174 MHz and 225-400 MHz for AM and FM
POWER OUTPUT	Nominal 50 Watts CW; 50W PEP 70% DOM; <10% distortion <5% typical With customers positive sloped RF input drive the RF output is 50W.
INPUT POWER RANGE CW : 1-20W	~5-7 Watts CW typical for 50 Watts Output; Input Protection for up to 20W CW maximum
INPUT POWER RANGE AM :	Approx. 2 Watt average (5 to 7W PEP) for 50W PEP output at 70% modulation
RF KEYING SENSITIVITY	<1 Watt typical
T/R & FILTER SWITCHOVER TIME	Legacy and modern waveforms capable
INSERTION LOSS BYPASS MODE	<1.0 dB typical
INSERTION LOSS ACTIVE RX	<1.5 dB typical
MODULATION	AM, FM, or PM, and modern Tactical networking communication waveforms
DUTY CYCLE	Tactical operations 100%
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 No filter gaps
SPURIOUS OUTPUTS	Better than -70 dBc typical
Rx LNA GAIN	12 dB typical
Rx LNA NOISE FIGURE	2 dB typical
Rx CO-SITE FILTER	Band pass frequency 239 – 273 MHz, Out of band rejection 45 dB typical
POWER REQUIREMENT	18 - 35.5 VDC filtered and transient protected for 24 volt vehicle systems batteries MIL-STD 1275 and 461 compliant DC-DC internal power supply filter
CURRENT	< 9.5 Amps @ 24V typical



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ENVIRONMENTAL SPECIFICATIONS

OPERATING TEMPERATURE	-30 to +60 °C Ambient
ALTITUDE (operating)	15,000 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 (H x W x D)	3.00" x 6.00" x 11.17"
WEIGHT	10.5 lbs
COOLING	Natural convection required
RF CONNECTORS	RF Input(Radio) – BNC female* RF Output(LOS) – TNC Female* RF Output(SATCOM) – N-Type* <i>*RF connectors may be ordered in any configuration of BNC, TNC or N-type per customer's request</i>
DC CONNECTOR	Multi-pin connector (Mating Connector Supplied)
CONSTRUCTION	Aluminum housing with integral heatsink

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