



MODEL AR-50
50 WATTS CW
30 MHz - 512 MHz, Multi-Band
Automatic Band-Switching/LNA with Co-Site Filter

The Model AR-50 is a portable, lightweight, fully automatic band-switching RF booster amplifier for multi-band VHF/UHF Tactical Radio equipment employing legacy, proprietary and emerging waveforms. The amplifier covers the frequency band of 30-512 MHz using six high speed auto switching filters to assure harmonic suppression and is SINGARS, HAVEQUICK, and ECCM compatible. The amplifier includes power supply Voltage Spike Suppression, RF sensing, T/R switching, Automatic Level Control (ALC), six automatically switched harmonic filter bands (DAMA capable), and protection against antenna mismatch and over-temperature. Protection against accidental polarity reversal is provided. The amplifier comprises a rugged 2-piece aluminum case. Optional interface coaxial cables and shock mounting plate are available.

- Radio Vendor independent design, single and multi-band radio compatible with just an RF connection
- 50W CW across the entire 30 – 512MHz band; no filter gap
- Full band high-speed filter switching for SINGARS, HAVEQUICK and ECCM modes to assure interference free operation
- DAMA capable
- Separate LOS and SATCOM antenna ports
- 3 level RF output power switch
- Internal LNA with Co-site filtering
- Three year Warranty from a company with 35+ years in the business



GENERAL SPECIFICATIONS

FREQUENCY RANGE	30 MHz – 512 MHz
POWER OUTPUT	50 Watts CW nominal; 50W PEP with 80% AM modulation; <10% distortion
INPUT POWER RANGE CW : 1-20W	<5 Watts CW typical for 50 Watts Output; Input Protection for up to 25W CW
INPUT POWER RANGE AM :	3 Watts PEP typical for 50W PEP
RF KEYING SENSITIVITY	1 Watt typical
T/R & FILTER SWITCHOVER TIME	SINGARS, HAVEQUICK, HPW, and DAMA capable
INSERTION LOSS BYPASS MODE	<1.0 dB
INSERTION LOSS ACTIVE RX	1.5 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 SINGARS, HAVEQUICK, and ECCM Modes – No filter gaps
SPURIOUS OUTPUTS	Better than – 70 dBc
Rx LNA GAIN	10 dB typical
Rx LNA NOISE FIGURE	3 – 3.5 dB typical
Rx CO-SITE FILTER	Band pass frequency 239 – 273 MHz, Out of band rejection 35dB typical
POWER REQUIREMENT	12 - 33 VDC filtered and transient protected for 12 or 24 volt vehicle systems
CURRENT	7.5 Amps @ 24V typical



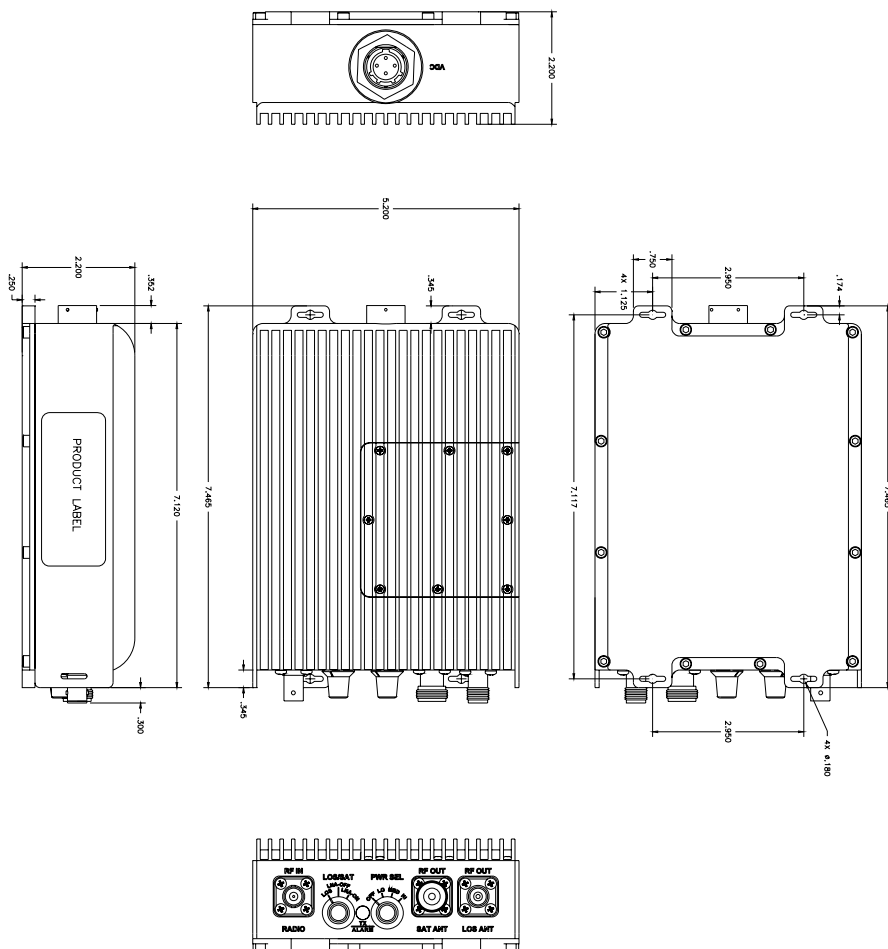
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ENVIRONMENTAL SPECIFICATIONS

OPERATING TEMPERATURE	-30 to +50 °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 (HxWxD)	2.20" x 5.20" x 7.75"
WEIGHT	3.5 lb
COOLING	Natural convection required
RF CONNECTORS	RF Input(Radio) – BNC female RF Output(LOS) – TNC Female RF Output(SATCOM) – N-Type
DC CONNECTOR	Multi-pin connector (Mating Connector Supplied)
CONSTRUCTION	Aluminum housing with integral heatsink



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