

AR-50S

50 Watts PEP, 30–88 MHz, Multiband, Automatic Band-Switching
RF Amplifiers



The Model AR-50S is a portable, lightweight, fully automatic band-switching RF booster amplifier for multiband VHF Tactical Radio equipment supporting legacy, proprietary and emerging waveforms. The amplifier is a sub-banded version of the J1TC certified AR-50 multiband product and covers the frequency band of 30–88 MHz. High speed auto switching filters assure harmonic suppression and SINCGARS compatibility. The amplifier includes power supply Voltage Spike Suppression, a DC/DC converter for wide DC input range, RF sensing, T/R switching, Automatic Level Control (ALC), automatically switched harmonic filter bands (DAMA capable). Protections against antenna mismatch, over-temperature and accidental polarity reversal are provided. The amplifier is comprised of a rugged aluminium case. Optional interface coaxial cables and shock mounting plate are available.

- Radio Vendor independent design, single and multiband radio compatible with just an RF connection
- 50 W CW across the entire 30–88 MHz band
- Full band high-speed filter switching to assure interference free operation
- DC ON/OFF switch
- Three year Warranty from a company with 40+ years in the business



Specifications

The specifications listed below apply to the AR-50S family of amplifiers unless otherwise noted. For ordering, see "Ordering Information – Model Configurations" for detailed information for specific model names.

Frequency Range	30–88 MHz
Power Output	50 Watts CW nominal; 50 W PEP with 80% AM modulation; < 10% distortion typical
Input Power Range CW: 1–20 W	< 5 Watts CW typical for 50 Watts Output; Input Protection for up to 20 W CW
Input Power Range AM	1.5 Watt average (3–5 W PEP) for 50 W PEP output at 80% modulation
RF Keying Sensitivity (Configurable)	Minimum input power to guarantee RX to TX Switch < 1 Watt typical
T/R & Filter Switchover Time	SINCGARS, legacy and modern modulations capable
Insertion Loss Bypass Mode	1.0 dB typical
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 Ω nominal
Input VSWR	1.5:1 nominal
Harmonics	Better than – 60 dBc typical. Full high speed filter switching avoids interference in SINCGARS
Spurious Outputs	Better than – 70 dBc
Power Requirement	12–36 VDC filtered and transient protected for 12 or 24 volt vehicle systems or dual xx90 batteries
Current	< 7.5 Amps @ 24 V typical

Environmental Specifications

Operating Temperature	- 30°C 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

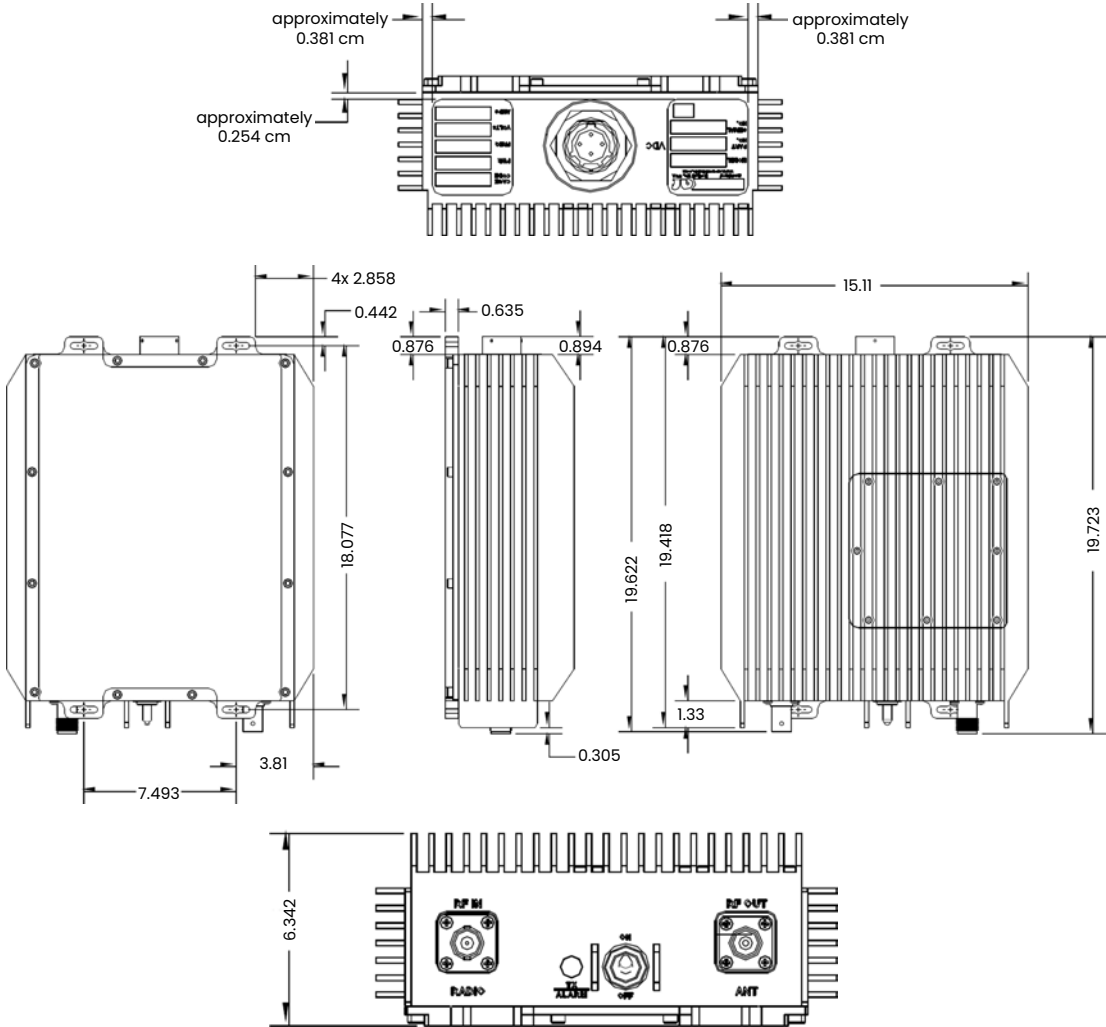
Size (HxWxD)	6.35 x 15.24 x 19.05 cm
Weight	1.99 kg
Cooling	Natural convection required
RF Connectors (Configurable)	RF Input (Radio) RF Output (LOS)
DC Connector	Multi-pin connector (Mating Connector Supplied)
Construction	Aluminium housing with integrated heatsink
Optional Equipment	
BC1050	Dual Battery Cable
SMK-50	Shock Mount Kit

Ordering Information - Model Configurations

The following table provides specific details on orderable configurations of the AR-50S. For details not listed below General Specifications apply.

Model Name	Configuration Details	
AR-50S	Standard Configuration (C1) RF Keying Sensitivity RF Connections RF Input (Radio) RF Output (LOS)	30 dBm BNC female TNC female
AR-50SC2	Configuration 2 (C2) RF Keying Sensitivity RF Connections RF Input (Radio) RF Output (LOS)	20 dBm TNC female TNC female
AR-50SC3	Configuration 3 (C3) RF Keying Sensitivity RF Connections RF Input (Radio) RF Output (LOS)	20 dBm BNC female TNC female

Drawing is for reference only. Actual RF connectors for model configurations may vary (See Model Configurations table).



All specifications are subject to change without notice
The information contained herein is for reference only and does not constitute a warranty of performance

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