

## AR-50

50 Watts PEP, 30–512 MHz, Tx/Rx Booster Amplifier  
RF Amplifiers



AR Modular RF Model AR-50 is a portable, lightweight, RF sensing, band-switching, RF booster amplifier for multiband operation compatible with VHF/UHF/LOS/SATCOM tactical radio equipment supporting legacy, proprietary and emerging waveforms. Operation covers 30 to 512 MHz using high speed auto-switching filters for harmonic suppression and is SINCGARS and HAVEQUICK compatible. The amplifier is designed with a DC/DC converter to support a wide range of input voltages while not sacrificing output power. Built in protections guard against antenna mismatch, over-temperature and accidental input power polarity reversal. Built to last, the AR-50 is packaged in a rugged, IP67 rated, 2-piece aluminium enclosure. Optional fan kit, shock mount kit and interface coaxial cables are available.

- Radio vendor independent design
- Supports single and multiband radios with just an RF connection
- Full band automatic high-speed filter switching for SINCGARS and HAVEQUICK modes to assure interference free operation, no gaps
- Dedicated LOS and SATCOM antenna ports
- Multi-level RF output power switch
- LOS/SATCOM LNA ON/OFF selection
- Internal LNA with co-site filtering
- ASCM Compatible
- JITC/DAMA Certified with AN/PSC-5D and AN/PRC-117G
- JITC/IW Certified with AN/PRC-117G



## Specifications

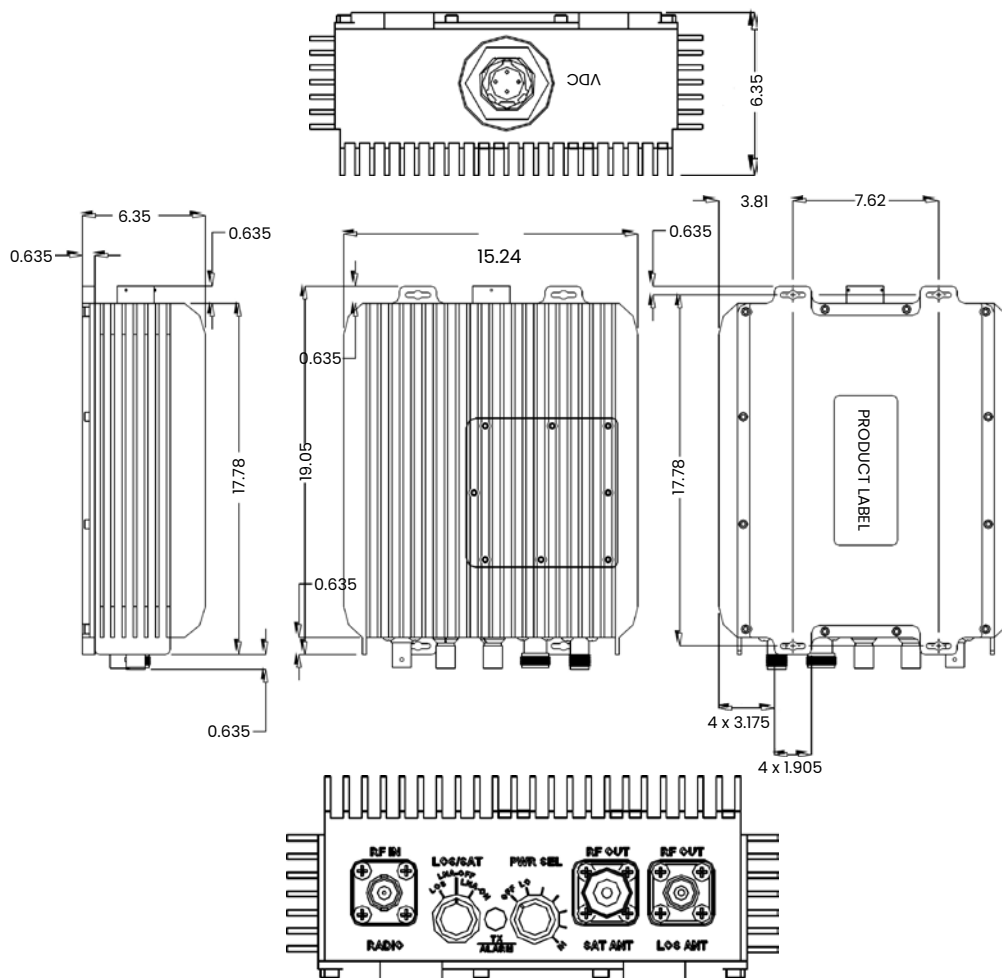
<b>Frequency Range</b>	30–512 MHz
<b>Power Output</b>	50 Watts CW nominal; 50 W PEP with 80% AM modulation; < 10% distortion typical
<b>Input Power Range CW: 1–20W</b>	< 5 Watts CW typical for 50 Watts Output; Input Protection for up to 20 W CW
<b>Input Power Range AM</b>	1.5 Watt average (3–5 W PEP) for 50 W PEP output at 80% modulation
<b>RF Keying Sensitivity</b>	< 1 Watt typical
<b>T/R &amp; Filter Switchover Time</b>	SINCGARS, HAVEQUICK, HPW, IW, ANW2, DAMA and ASCM
<b>Insertion Loss Bypass Mode</b>	1.0 dB typical
<b>Insertion Loss Active Rx</b>	1.5 dB nominal
<b>Modulation</b>	AM, FM, or PM, and Tactical communications waveforms
<b>Duty Cycle</b>	Tactical operations
<b>Input/Output Impedance</b>	50 $\Omega$ nominal
<b>Input VSWR</b>	1.5:1 nominal
<b>Harmonics</b>	Better than - 60 dBc typical
<b>Spurious Outputs</b>	Better than - 70 dBc
<b>Rx LNA Gain</b>	12 dB typical
<b>Rx LNA Noise Figure</b>	2 dB typical
<b>Rx Co-Site Filter</b>	Band pass frequency 239–273 MHz, Out of band rejection 35 dB typical
<b>Power Requirement</b>	12–35.5 VDC filtered and transient protected for 12 or 24 volt vehicle systems or dual xx90 batteries
<b>Current</b>	< 7.5 Amps @ 24 V typical

## Environmental Specifications

<b>Operating Temperature</b>	- 30°C to + 60°C Ambient
<b>Altitude (Operating)</b>	15,000 ft
<b>Immersion (Water)</b>	IP67
<b>Vibration / Shock / Humidity / Enviro</b>	Designed to meet applicable sections of MIL-STD-810F/ designed for ground/base vehicle use

## Mechanical Specifications

<b>Size (HxWxD)</b>	6.35 x 15.24 x 19.05 cm
<b>Weight</b>	1.99 kg
<b>Cooling</b>	Natural convection required; fan kit available
<b>RF Connectors</b>	Radio Port - BNC female LOS Port - TNC female SATCOM Port - N-type female <i>Alternate RF connector configurations are possible</i>
<b>DC Connector</b>	Multi-pin connector (Mating Connector Supplied)
<b>Construction</b>	Aluminium housing with integral heatsink
<b>Optional Equipment</b>	
BC1050	Dual Battery Cable
SM-AR-50	Shock Mount Kit
FK-AR-50	Fan Kit



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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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