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## AR-50-SAT75

50 Watts PEP, 30-512 MHz / 75 Watts PEP 220-324 MHz,  
Tx/Rx Booster Amplifier

### RF Amplifiers

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The Model AR-50-SAT75 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 SINCGARS, HAVEQUICK, HPW, DAMA, IW, and ANW2 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), 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 3-piece aluminium 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
- 50 - 75 W CW across the entire 30 - 512 MHz band; no filter gap
- Full band high-speed filter switching for SINCGARS and HAVEQUICK modes to assure interference free operation
- DAMA/IW capable
- Separate LOS and SATCOM antenna ports
- Multi-level RF output power switch
- LOS/SATCOM LNA ON/OFF SELECTION
- Internal LNA with Co-site filtering
- Uses AR-50 JITC certified internal assemblies
- Three year Warranty from a company with 40+ years in the business



## Specifications

<b>Frequency Range</b>	30 – 512 MHz
<b>Power Output</b>	LOS: 50 Watts, 30 – 512 MHz [50 W PEP with 70% AM modulation] typical SATCOM: 75 Watts, 220 – 324 MHz typical
<b>Input Power Range CW</b> [Input protection for up to 20 W]	LOS: 4 – 6 Watts input for 50 Watts output typical SATCOM: 7 – 8 Watts input for 75 Watts output typical
<b>Input Power Range AM</b>	1.5 Watts average (3 – 5 W PEP) for 50 W PEP output at 70% modulation
<b>RF Keying Sensitivity</b>	<1 Watt typical
<b>T/R &amp; Filter Switchover Time</b>	SINGARS, HAVEQUICK, HPW, IW, ANW2 and DAMA capable
<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. FULL high speed filter switching avoids interference in SINGARS and HAVEQUICK modes – No filter gaps
<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 – 270 MHz, Out of band rejection 55 dB typical
<b>Power Requirement</b>	18 V – 35.5 VDC filtered and transient protected for 24 volt vehicle systems or dual XX90 batteries
<b>Current</b>	<8.5 Amps @ 24V typical (75W SATCOM)

## Environmental Specifications

<b>Operating Temperature</b>	– 30 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>	8.26 x 13.34 x 19.05 cm
<b>Weight</b>	2.21 kg
<b>Cooling</b>	Natural convection required
<b>RF Connectors</b>	RF Input(Radio) – BNC female* RF Output(LOS) – TNC Female* RF Output(SATCOM) – N-Type* *RF connectors may be ordered in any configuration of BNC, TNC or N-type per customer's request
<b>DC Connector</b>	Multi-pin connector (Mating Connector Supplied)
<b>Construction</b>	Aluminium housing with integral heatsink

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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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