



MODEL AR-50SAT75
75 Watts SATCOM
50 Watts LOS

Automatic Band-Switching/LNA with Co-Site Filter

The Model AR-50SAT75 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 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
- 50-75W 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



GENERAL SPECIFICATIONS

FREQUENCY RANGE	30 MHz – 512 MHz
POWER OUTPUT	LOS: 50 Watts, 30-512 MHz [50W PEP with 70% AM modulation] typical SATCOM: 75 Watts, 220-324 MHz typical
INPUT POWER RANGE CW [Input protection for up to 20W]	LOS: 4-6 Watts input for 50 Watts output typical SATCOM: 7-8 Watts input for 75 Watts output typical
INPUT POWER RANGE AM:	1.5 Watts average (3 - 5W PEP) for 50W PEP output at 70% modulation
RF KEYING SENSITIVITY	<1 Watt typical
T/R & FILTER SWITCHOVER TIME	SINCGARS, HAVEQUICK, HPW, IW, ANW2 and DAMA capable
INSERTION LOSS BYPASS MODE	1.5 dB typical
INSERTION LOSS ACTIVE RX	2.0 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 SINCGARS and HAVEQUICK modes – No filter gaps
SPURIOUS OUTPUTS	Better than -70 dBc
Rx LNA GAIN	12 dB typical
Rx LNA NOISE FIGURE	2 dB typical
Rx CO-SITE FILTER	Band pass frequency 239 – 270 MHz, Out of band rejection 55 dB typical
POWER REQUIREMENT	18 V – 35.5 VDC filtered and transient protected for 24 volt vehicle systems or dual XX90 batteries
CURRENT	<8.5 Amps @ 24V typical (75W SATCOM)



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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 (HxWxD)	3.25" x 5.25" x 7.50"
WEIGHT	4 lbs 13.8 oz
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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21222 30th Dr SE, Suite 200 • Bothell, Washington 98021 • 425-485-9000 • Fax 425-486-9657 • www.arworld.us

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