



modular rf

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

**Model AR-50X** is the newest booster in the AR-50 series. Built on the AR-50 platform, the amplifier provides all the same performance of the standard AR-50 with the addition of full-duplex **MUOS** support over the dedicated satellite communications antenna port. The AR-50X is a portable, lightweight, RF sensing, band-switching, RF booster amplifier for multi-band operation compatible with VHF/UHF/LOS/SATCOM/**MUOS** tactical radio equipment supporting legacy, proprietary and emerging waveforms. Operation covers 30-to-512MHz using high speed, auto-switching harmonic filters and is SINCGARS and HAVEQUICK compatible. An integrated DC/DC converter supports a wide range of input voltages while maintaining output power. Built in protections guard against antenna mismatch, over-temperature and accidental input power polarity reversal. Built to last, the AR-50X is packaged in a rugged, IP67 rated, 2-piece aluminum enclosure.

- Radio vendor independent design
  - Supports single & multi-band radios with just an RF connection
  - Automatic high-speed filtering for SINCGARS & HAVEQUICK modes to assure interference free operation, no gaps
  - Dedicated LOS and SATCOM / MUOS 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 & AN/PRC-117G\*
  - JITC / IW Certified with AN/PRC-117G\*
- \*Based on AR-50 certifications*



## GENERAL SPECIFICATIONS

FREQUENCY RANGE	30 MHz – 512 MHz
POWER OUTPUT	50 Watts CW nominal; 50W PEP with 80% AM modulation; <10% distortion typical
INPUT POWER RANGE CW: 1-20W	<5 Watts CW typical for 50 Watts Output; Input Protection for up to 20W CW
INPUT POWER RANGE AM:	1.5 Watt average (3 - 5W PEP) for 50W PEP output at 80% modulation
RF KEYING SENSITIVITY	<1 Watt typical
T/R & FILTER SWITCHOVER TIME	SINCGARS, HAVEQUICK, HPW, IW, SRW, ANW2, DAMA and ASCM
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 Ohm nominal
INPUT VSWR	1.5:1 nominal
HARMONICS	Better than -60 dBc typical
SPURIOUS OUTPUTS	Better than -70 dBc typical
Rx LNA GAIN (SATCOM)	12 dB typical
Rx LNA NOISE FIGURE (SATCOM)	2 dB typical
Rx CO-SITE FILTER (SATCOM)	Band pass frequency 239 – 273 MHz, Out of band rejection 35dB typical
POWER REQUIREMENT	12 - 35.5 VDC filtered and transient protected for 12- or 24-Volt vehicle systems or dual XX90 batteries
CURRENT	<7.5 Amps @ 24V typical

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### ENVIRONMENTAL SPECIFICATIONS

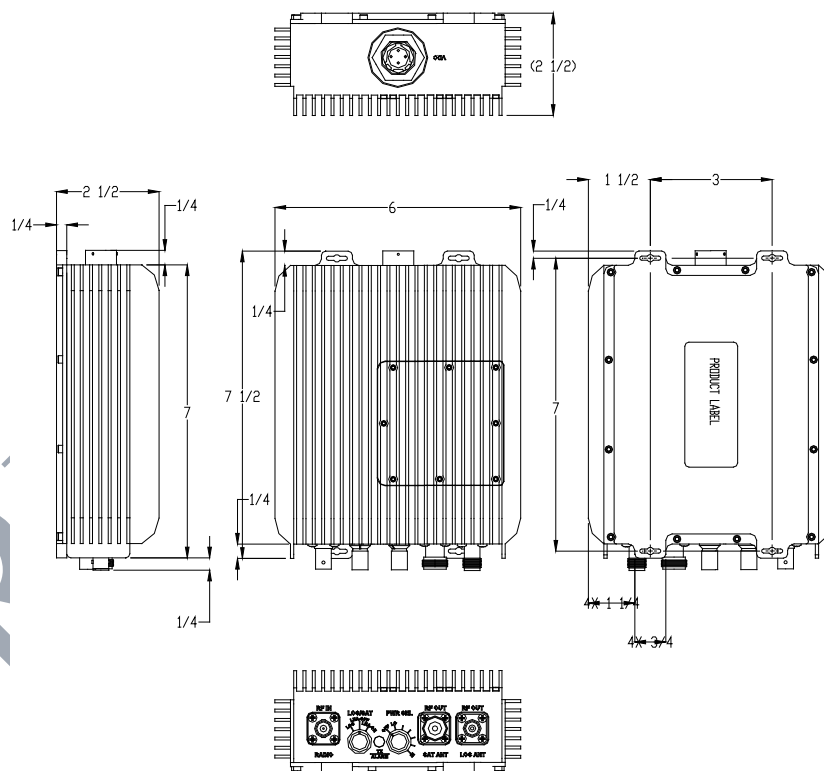
OPERATING TEMPERATURE	-30 to +60 °C Ambient
ALTITUDE (operating)	15,000 ft
IMMERSION (water)	IP67
VIBRATION / SHOCK / HUMIDITY / ENVIRO	Designed to meet applicable sections of MIL-STD-810F/Designed for ground/base vehicle use

### MECHANICAL SPECIFICATIONS

SIZE (HxWxD)	2.50" x 6.00" x 7.50"
WEIGHT	4.4 lb
COOLING	Natural convection required; fan kit available (see Optional Equipment below)
RF CONNECTORS	Radio Port – BNC female LOS Port – TNC Female SATCOM/MUOS Port – N-Type Female  <i>Alternate RF connector configurations possible – consult ARM Sales for details</i>
DC CONNECTOR	Multi-pin connector (Mating Connector Supplied)
CONSTRUCTION	Aluminum housing with integrated heatsink

### OPTIONAL EQUIPMENT

BC1050	DUAL BATTERY CABLE
SM-AR-50	SHOCK MOUNT KIT
FK-AR-50	FAN KIT



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