



modular rf

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

AR Modular RF **Model AR-50** is a portable, lightweight, RF sensing, band-switching, RF booster amplifier for multi-band operation compatible with VHF/UHF/LOS/SATCOM tactical radio equipment supporting legacy, proprietary and emerging waveforms. Operation covers 30-to-512MHz using high speed auto-switching filters for harmonic suppression and is SINGARS 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 aluminum enclosure. Optional fan kit, shock mount kit and interface coaxial cables are available.

- Radio vendor independent design
- Supports single & multi-band radios with just an RF connection
- Full band automatic high-speed filter switching for SINGARS & 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 & AN/PRC-117G
- JITC/IW Certified with AN/PRC-117G



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	SINGARS, 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
Rx LNA GAIN	12 dB typical
Rx LNA NOISE FIGURE	2 dB typical
Rx CO-SITE FILTER	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

ar modular rf

21222 30th Dr SE, Suite 200 • Bothell, Washington 98021 • 425-485-9000 • Fax 425-486-9657 • www.arworld.us



modular rf

ENVIRONMENTAL SPECIFICATIONS

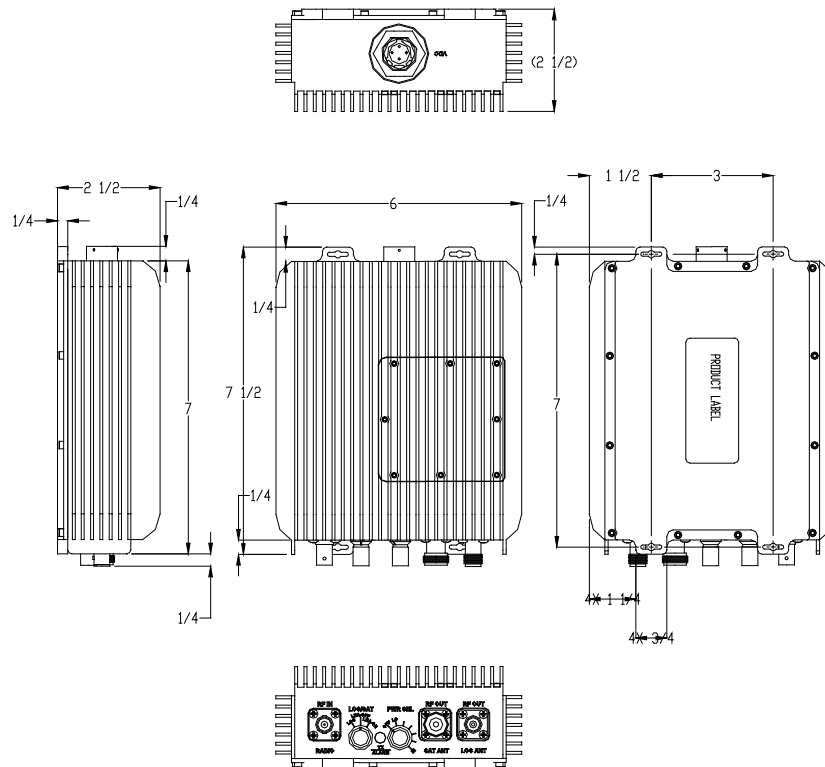
OPERATING TEMPERATURE	-30 to +60 °C Ambient
ALTITUDE (operating)	15,000 ft
IMMERSION (water)	IP67
VIBRATION / SHOCK / HUMIDITY / ENVIRO	Designed to meet applicable sections of MIL-STD-810F/Designed for ground/base vehicle use

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 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



DOC-0000173 Rev A
15 April 2019

ar modular rf

21222 30th Dr SE, Suite 200 • Bothell, Washington 98021 • 425-485-9000 • Fax 425-486-9657 • www.arworld.us