



**MODEL AR-20 (KT & KT-DUAL)**  
**20 WATTS**  
**30-512 MHz**

The Model AR-20 is a portable, lightweight, fully automatic band-switching RF booster amplifier for use with multi-band VHF/UHF Tactical Radio equipment employing legacy, proprietary and networking waveforms. The AR-20 produces 20 Watts and covers the frequency band of 30-512 MHz. The unit has a wide range input DC voltage allowing operation from a single battery (XX90 battery) or 12 and 28 VDC vehicle power sources.

It also includes Over Temperature Protection, RF sensing, T/R Switching, Automatic Level Control (ALC), Harmonic Filters, Co-Site filters and protection against antenna mismatch. The AR-20 also has a built-in internal LNA that can be switched on or off by the front panel switch to improve SATCOM receive performance. The amplifier is comprised of a rugged 4-piece aluminum case. Optional interface coaxial cables, DC battery cables, and kits for man-packing the amplifier are available.

**GENERAL SPECIFICATIONS**

FREQUENCY RANGE	30-512 MHz
POWER OUTPUT	20 Watts CW or PEP AM Modulation 1 kHz DOM 70%; <10% AM distortion nominal
INPUT POWER RANGE	Nominal 2W CW or PEP for 20 W output. Up to 8W without damage
RF KEYING SENSITIVITY	<1 Watt CW typical
T/R SWITCHOVER TIME	<25 μS
LNA NOISE FIGURE	<2.5 dB typical
LNA GAIN	12 dB plus Co-Site filter provides >35 dB protection to the SATCOM receive channels
MODULATION	Compatible and tested with legacy & modern complex waveforms including AM, FM, HPW, DAMA, IW, ANW2 and SRW
DUTY CYCLE	Tactical operations 100% for networking modulations
INPUT/OUTPUT IMPEDANCE	50 Ohm nominal
INPUT VSWR	1.5:1 nominal
HARMONICS	Better than -60 dBc typical
SPURIOUS OUTPUTS	Better than -70 dBc
POWER REQUIREMENT	12 to 35.5 VDC single XX90 battery, 12 and 28Vdc vehicles
CURRENT	3.2A Amps @ 24V typical

**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)	1.58 x 3.75 x 5.05 inches
WEIGHT	AR-20:1 lb 10 oz AR-20KT: 2 lbs 15 oz AR-20KT-DUAL: 4 lbs 5 oz
COOLING	Natural convection required
RF CONNECTORS	RF Input(Radio) – TNC* RF Output(antenna) – TNC * <i>*RF connectors may be ordered in alternate configurations – speak with your AR Modular RF sales representative for details</i>
DC CONNECTOR	Multi-pin connector (Mating Connector is included)
CONSTRUCTION	Aluminum housing with integral heatsink

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### OPTIONAL EQUIPMENT & ACCESSORIES

ARM Model Name	Description
MP-AR-20-01	Mounting plate – length mount
MP-AR-20-02	Mounting plate – width mount

Speak with your AR Modular RF sales representative for additional accessories including power pig tails and other items.



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**AR-20KT**

AR-20	20 Watts, 30-512 MHz RF Booster Amplifier w/LNA
BC20	Battery Cable (22" cable connecting AR-20 to one XX90 or similar batteries)
RC20	Radio Cable (36" TNC Male to TNC Male)
AC20	Antenna Cable (36" TNC Male to TNC Female)
TVP20	Tactical Vest Pouch (Attaches to any MOLLIE/PALS style gear for holding the AR-20)
ANT20	Blade Antenna 30-512 MHz (TNC Male)
TAH20	Tactical Antenna Holder (Attaches to any MOLLIE/PALS style gear for holding the ANT20)



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### AR-20KT-DUAL

AR-20	20 Watts, 30-512 MHz RF Booster Amplifier w/LNA
BC20	Battery Cable (22" cable connecting AR-20 to one XX90 or similar batteries)
RC20	Radio Cable (36" TNC Male to TNC Male)
AC20	Antenna Cable (36" TNC Male to TNC Female)
TVP20	Tactical Vest Pouch (Attaches to any MOLLIE/PALS style gear for holding the AR-20)
TAH20	Tactical Antenna Holder (Attaches to any MOLLIE/PALS style gear for holding the ANT20)
ANT20	Blade Antenna 30-512 MHz (TNC Male)
RH-2535	RamHead Tactical SATCOM Antenna and RF Cables
SSH1031	SATCOM Switch Holder (Attaches to any MOLLIE/PALS style gear for holding the RFS-117)
LC20	Antenna Blade (RF SW-LOS Blade Antenna STR BNC M-TNC F 36")
SC20	BNC M to TNC M 36" SATCOM Antenna Cable
SATCOM SWITCH	RF Switch Kit – LOS/SATCOM w/TNC adapter



(AR-20KT-DUAL)

#### MODEL CONFIGURATIONS

MODEL NUMBER	DESCRIPTION	WEIGHT
AR-20	20W Amp only	1 lb 10 oz
KT-AR-20	20W Amp with LOS antenna, cables, and pouches	2 lbs 15 oz
KT-DUAL-AR-20	20W Amp with LOS and SATCOM antennas, switch, cables, and pouches	4 lbs 5 oz

