



**MODEL AR-20B (BKT & BKT-DUAL)  
20 WATTS CW/PEP  
30-512 MHz**

The Model AR-20B 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 AR-20B produces 20 Watts from a 1 to 2 Watts PEP radio input and covers the frequency band of 30-512 MHz. The unit has multiple input DC voltage options including operation from a single battery (XX90 battery) or 12 and 28 VDC vehicle power source.

The unit is designed for use with the latest modern networking formats like ANW2, WNW and SRW. It also includes Voltage Spike Suppression, Over Temperature Protection, RF sensing, T/R Switching, Automatic Level Control (ALC), Harmonic Filters, Co-Site filters and protection against antenna mismatch. The amplifier is comprised of rugged 3-piece aluminum case. The AR-20B is the simpler version of the 20W family without an LNA and power select (contact AR Modular RF for the unit with the LNA feature). Optional interface coaxial cables, DC battery cables, and kits 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 full 20W output. Up to 8W without damage
RF KEYING SENSITIVITY	<1 Watt CW typical
T/R SWITCHOVER TIME	<25 μS
MODULATION	All Legacy and Modern complex tactical communications waveforms like ANW2, WNW, 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-20B:1 lb 10 oz AR-20BKT: 2 lbs 15 oz AR-20BKT-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 any configuration of TNC or N-type per customer's request</i>
DC CONNECTOR	Multi-pin connector (Mating Connector Supplied)
CONSTRUCTION	Aluminum housing with integral heatsink

**OPTIONAL EQUIPMENT**

BMP20K	Base Mounting Plate Kit
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(AR-20B 20W amp only without LNA)

**AR-20BKT**

AR-20B	20 Watts, 30-512 MHz RF Booster Amplifier
BC20	Battery Cable (22" cable connecting AR-20B to one XX90 or similar batteries)
RC1031	Radio Cable (36" TNC Male to TNC Male)
AC1031	Antenna Cable (36" TNC Male to TNC Female)
TVP20	Tactical Vest Pouch (Attaches to any MOLLIE/PALS style gear for holding the AR-20)
ANT1031	Blade Antenna 30-512 MHz (TNC Male)
TAH1031	Tactical Antenna Holder (Attaches to any MOLLIE/PALS style gear for holding the ANT1031)



(AR-20BKT)

## modular rf

### AR-20BKT-DUAL

AR-20B	20 Watts, 30-512 MHz RF Booster Amplifier
BC20	Battery Cable (22" cable connecting AR-20B to one XX90 or similar batteries)
RC1031	Radio Cable (36" TNC Male to TNC Male)
AC1031	Antenna Cable (36" TNC Male to TNC Female)
TVP20	Tactical Vest Pouch (Attaches to any MOLLIE/PALS style gear for holding the AR-20)
TAH1031	Tactical Antenna Holder (Attaches to any MOLLIE/PALS style gear for holding the ANT1031)
ANT1031	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)
SATCOM SWITCH	RF Switch Kit – LOS/SATCOM w/TNC adapter



(AR-20BKT-DUAL)

### MODEL CONFIGURATIONS

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



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