



**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 use with multi-band VHF/UHF Tactical Radio equipment employing legacy, proprietary and networking waveforms. The AR-20B produces 20 Watts from a 1 to 2 Watt PEP radio input 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 amplifier is comprised of a rugged 4-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 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 20W output. Up to 8W without damage
RF KEYING SENSITIVITY	<1 Watt CW typical
T/R SWITCHOVER TIME	<25 μS
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-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 is included)
CONSTRUCTION	Aluminum housing with integral heatsink

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### OPTIONAL EQUIPMENT & ACCESSORIES

Speak with your AR Modular RF sales representative for optional equipment and accessories including power pig tails, mounting plates, and other items.



(AR-20B 20W amp only without LNA)

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**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)
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)



(AR-20BKT)

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**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)
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)
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

