



MODEL AR-20B (BKT & BKT-DUAL)
MODEL AR-20B-C2 (C2BKT & C2BKT-DUAL)
20 WATTS CW/PEP
30-512 MHz

The Model AR-20B and AR-20B-C2 are 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 and AR-20B-C2 produce 20 Watts and cover the frequency band of 30-512 MHz. The units have a wide range input DC voltage allowing operation from a single battery (XX90 battery) or 12 and 28 VDC vehicle power sources.

The amplifiers also include Over Temperature Protection, RF sensing, T/R Switching, Automatic Level Control (ALC), Harmonic Filters, Co-Site filters and protection against antenna mismatch. The amplifiers are comprised of a rugged 4-piece aluminum enclosure. The AR-20B and AR-20B-C2 are the simpler version of the 20W family without an LNA and power select. 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 28 VDC vehicles
CURRENT	3.2A Amps @ 24 VDC 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 (H x W x D)	1.58 x 3.75 x 5.05 inches
WEIGHT	AR-20B, AR-20B-C2: 1 lb. 10 oz AR-20BKT, AR-20B-C2KT: 2 lbs. 15 oz AR-20BKT-DUAL, AR-20B-C2KT-DUAL: 4 lbs. 5 oz
COOLING	Natural convection required
RF CONNECTORS	RF Input (radio) – TNC (AR-20B) or BNC (AR-20B-C2) * RF Output (antenna) – TNC * <i>* RF connectors may be ordered in any configuration of TNC, BNC, 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:

PART NUMBER	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.



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

AR-20BKT and AR-20B-C2BKT:

(Kit configuration is dependent on amplifier)

PART NUMBER	DESCRIPTION
AR-20B	20 Watts, 30-512 MHz RF Booster Amplifier (TNC radio port)
AR-20B-C2	20 Watts, 30-512 MHz RF Booster Amplifier (BNC radio port)
BC-20	Battery Cable (22" cable connecting AR-20B to one XX90 or similar batteries)
RC-20	Radio Cable (36" TNC Male to TNC Male)
RC-20-C2	Radio Cable (36" N-type Male to BNC Male)
AC-20	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 shown)

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AR-20BKT-DUAL and AR-20B-C2KT-DUAL:
(Kit configuration is dependent on amplifier)

AR-20B	20 Watts, 30-512 MHz RF Booster Amplifier (TNC radio port)
AR-20B-C2	20 Watts, 30-512 MHz RF Booster Amplifier (BNC radio port)
BC-20	Battery Cable (22" cable connecting AR-20B to one XX90 or similar batteries)
RC-20	Radio Cable (36" TNC Male to TNC Male)
RC-20-C2	Radio Cable (36" N-M to BNC-M)
AC-20	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
RFS117	RF Switch Kit – LOS/SATCOM w/TNC adapter



(AR-20BKT-DUAL shown)

MODEL CONFIGURATIONS:

MODEL NUMBER	DESCRIPTION	WEIGHT
AR-20B	20W Amp only (TNC radio port)	1 lb. 10 oz
AR-20B-C2	20W Amp only (BNC radio port)	1 lb. 10 oz
AR-20BKT	20W Amp (TNC radio port) with LOS antenna, cables, and pouches	2 lbs. 15 oz
AR-20B-C2KT	20W Amp (BNC radio port) with LOS antenna, cables, and pouches	2 lbs. 15 oz
AR-20BKT-DUAL	20W Amp (TNC radio port) with LOS and SATCOM antennas, switch, cables and pouches	4 lbs. 5 oz
AR-20B-C2KT-DUAL	20W Amp (BNC radio port) with LOS and SATCOM antennas, switch, cables and pouches	4 lbs. 5 oz



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