

## AR-20 (KT and KT-DUAL)

20 Watts PEP, 30-512 MHz, Tx/Rx Booster Amplifier with LNA  
RF Amplifiers



The Model AR-20 is a portable, lightweight, fully automatic band-switching RF booster amplifier for use with multiband VHF/UHF Tactical Radio equipment employing legacy, proprietary and networking waveforms. The AR-20 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 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 aluminium case. Optional interface coaxial cables, DC battery cables, and kits for manpacking the amplifier are available.



### Specifications

<b>Frequency Range</b>	30-512 MHz
<b>Power Output</b>	20 Watts CW or PEP AM Modulation 1 kHz DOM 70%; < 10% AM distortion nominal
<b>Input Power Range</b>	Nominal 2 W CW or PEP for full 20 W output. Up to 8 W without damage
<b>RF Keying Sensitivity</b>	< 1 Watt CW typical
<b>T/R Switchover Time</b>	< 25 $\mu$ S
<b>LNA Noise Figure</b>	< 2.5 dB typical
<b>LNA Gain</b>	12 dB plus Co-Site filter provides > 35 dB protection to the SATCOM receive channels
<b>Modulation</b>	Compatible and tested with legacy and modern complex waveforms including AM, FM, HPW, DAMA, IW, ANW2 and SRW
<b>Duty Cycle</b>	Tactical operations 100% for networking modulations
<b>Input/Output Impedance</b>	50 $\Omega$ nominal
<b>Input VSWR</b>	1.5:1 nominal
<b>Harmonics</b>	Better than - 60 dBc typical
<b>Spurious Outputs</b>	Better than - 70 dBc
<b>Power Requirement</b>	12 to 35.5 VDC single XX90 battery, 12 and 28 VDC vehicles
<b>Current</b>	3.2 A Amps @ 24 V typical

## Environmental Specifications

<b>Operating Temperature</b>	- 30°C to + 60°C ambient
<b>Altitude (Operating)</b>	15,000 ft
<b>Immersion (Water)</b>	IP67
<b>Vibration / Shock / Humidity / Enviro</b>	Designed to meet applicable sections of MIL-STD-810F/ designed for ground/base vehicle use

## Mechanical Specifications

<b>Size (HxWxD)</b>	4.01 x 9.52 x 12.83 cm
<b>Weight</b>	AR-20: 0.74 kg AR-20KT: 1.33 kg AR-20KT-DUAL: 1.96 kg
<b>Cooling</b>	Natural convection required
<b>RF Connectors</b>	RF Input (Radio) – TNC* RF Output (antenna) – TNC * <i>*RF connectors may be ordered in alternate configurations</i>
<b>DC Connector</b>	Multi-pin connector (Mating Connector is Optional)
<b>Construction</b>	Aluminium housing with integral heatsink
<b>Optional Equipment</b>	Contact Eylex to discuss

### AR-20KT

<b>AR-20</b>	20 Watts, 30-512 MHz RF Booster Amplifier w/LNA
<b>BC20</b>	Battery Cable (56 cm cable connecting AR-20 to one xx90 or similar batteries)
<b>RC20</b>	Radio Cable (91 cm TNC Male to TNC Male)
<b>AC20</b>	Antenna Cable (91 cm TNC Male to TNC Female)
<b>TVP20</b>	Tactical Vest Pouch (Attaches to any MOLLIE/PALS style gear for holding the AR-20)
<b>ANT20</b>	Blade Antenna 30-512 MHz (TNC Male)
<b>TAH20</b>	Tactical Antenna Holder (Attaches to any MOLLIE/PALS style gear for holding the ANT20)



### AR-20KT-DUAL

<b>AR-20</b>	20 Watts, 30-512 MHz RF Booster Amplifier w/LNA
<b>BC20</b>	Battery Cable (56 cm cable connecting AR-20 to one xx90 or similar batteries)
<b>RC20</b>	Radio Cable (91 cm TNC Male to TNC Male)
<b>AC20</b>	Antenna Cable (91 cm TNC Male to TNC Female)
<b>TVP20</b>	Tactical Vest Pouch (Attaches to any MOLLIE/PALS style gear for holding the AR-20)
<b>TAH20</b>	Tactical Antenna Holder (Attaches to any MOLLIE/PALS style gear for holding the ANT20)
<b>ANT20</b>	Blade Antenna 30-512 MHz (TNC Male)
<b>RH-2535</b>	RamHead Tactical SATCOM Antenna and RF Cables
<b>SSH1031</b>	SATCOM Switch Holder (Attaches to any MOLLIE/PALS style gear for holding the RFS-117)
<b>SATCOM SWITCH</b>	RF Switch Kit – LOS/SATCOM w/TNC adaptor



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All specifications are subject to change without notice  
The information contained herein is for reference only and does not constitute a warranty of performance

Partnered Supplier



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