FRONTGRADE



TCR-MBA-50v2

50/75 Watt Multiband RF Amplifier

The TCR-MBA-50v2 is a Next Generation RF Power Amplifier (PA) designed to enhance communications range for existing and emerging handheld and manpack radios. The PA is designed for use with wideband and traditional narrowband waveforms.

Multiple installation scenarios are supported including vehicular, airborne, maritime, man-portable, or fixed-station applications with user-configurable antenna ports. The PA can be powered from a single BA-5590 battery as well as 12/24 VDC vehicle power and commercial power supplies.

Tricom Research leads the industry in performance and flexibility. The TCR-MBA-50v2 utilizes two multi-pin connectors to support RS-485, USB, and Ethernet communications with end-user devices and optional Tricom accessories such as the Bias-Tee and Remote Control Unit. The intuitive menu driven user interface provides full local control and status via an NVG compatible display.

Features

- 30–512 MHz transmit amplification
- Five filtered receive bands
- Low-noise, high dynamic range LNA
- Three configurable antenna ports (LOS/SAT/WB)
- 30 MHz–2.7 GHz bypass path
- Automatic frequency detection & keying
- Supports SATCOM (DAMA/IW)
- Supports SINCGARS, HAVEQUICK II, SATURN
- Wideband networking (ANW2C, SRW, TSM)
- RS-485, USB, Ethernet connectivity

Applications

- Extended range tactical communications
- Vehicular communication systems
- Airborne communication platforms
- Maritime communication systems
- Fixed-site communication infrastructure
- Emergency response and disaster recovery

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Specifications

Receive Bands with Co-site Filtering

VHF LOW	30-118 MHz
VHF HIGH	118-174 MHz
UHF	174-512 MHz
VHF/UHF	30-512 MHz
SATCOM	240-270 MHz

Transmit Harmonic Suppression

ALL BANDS	30-512 MHz
SATCOM	290-320 MHz

Supported Waveforms

VHF LOW	AM, FM, SINCGARS
VHF HIGH	AM, FM
UHF	AM, FM, WIDEBAND (ANW2C, SRW), TACTICAL WAVEFORMS (TSM), HAVEQUICK, SATURN
VHF/UHF	AM, FM
SATCOM	DAMA, IW, ASCM

Bypass (LOS, WB, SAT)

Typical Insertion Loss	30 MHz - 1 GHz, 1 dB 1-2 GHz, 1.5 dB 2-2.7 GHz, 4.5 dB

All Modes

RF Power Input	1-5 Watts (10W without damage)
RF Power Output	Battery Config. (reduced current): 10, 15, 20W Standard Config.: ■ 12-22 VDC: 10, 15, 20W ■ 22-28 VDC: 10, 15, 20, 35, 50W and 75W (SATCOM Burst Mode)
Receive Gain	15 dB, 3.5 dB Noise Figure

General Specifications

Immersion	1 meter
RADIO/LOS/SAT/WB Connectors	TNC female (immersion rated without cap)
DC Connector	MS3112E10-6P
AUX 1 Connector	5 pin Fischer (RS-485)
AUX 2 Connector	9 pin Fischer (RS-485, USB, Ethernet)
Protection	High temperature fold back, High VSWR High voltage, DC input Reverse polarity, DC input Near Strike Lightning
DC Off	Bypasses RF to LOS antenna port
Operating Temperature	-20°C to +60°C
Cooling	Natural convection
External Finish	Black anodize
Dimensions	2.5” H x 3.5” W x 8.15” D (including connectors)
Weight	3.7 lb

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