TRICOM RESEARCH, INC.

TCR-MBA-50-STC

50/75 WATT WIDEBAND RF POWER AMPLIFIER

The **TCR-MBA-50-STC** is a Next Generation RF Power Amplifier (PA) designed to support emerging Wideband Networking Waveforms such as SRW and ANW2C as well as traditional Narrowband Waveforms for existing and future Hand Held and Manpack tactical radios.

The **TCR-MBA-50-STC** supports multiple communication installation scenarios from fixed site to various vehicular and portable configurations with assignable antenna ports based on operating mode, frequency and other user defined parameters. The PA can be powered from a single BA-5590 battery as well as 12 and 24 Volt vehicle power and commercial power supplies.

A simple three button menu driven user interface controls the mode, antenna selection, output power, receive co-site filter selection and other system parameters supporting custom user setup profiles. An NVG compatible front panel display provides configuration information and amplifier status.

An optional Bias Tee powers the Amplifier over the radio to PA coax cable for remote installations.

Part #: 11000-00842, TCR-MBA-50-STC

FEATURES

- **3 User Definable Antenna Ports and Custom User Profiles for LOS, SATCOM, WB, etc.**
- **4 Co-Site Filtered Receive Bands: 30-118 MHz, 118-174 MHz, 174-512 MHz, and 240-270 MHz**
- **Low Noise High Dynamic Range Receive Pre-Amplifier (LNA) for all Bands**
- **Carrier Detect Keying and Automatic Frequency Detection**
- **SINCGARS ESIP, HAVEQUICK II, SATURN, UHF SATCOM, VHF FM, ASCM, ATC (FM & AM), VHF/UHF LMR, UHF AM/FM PSK, APCO-25, SRW, ANW2C Waveform Capability**
- **Compatible with STC-HH, AN/PRC-152A, AN/PRC-117G, AN/PRC-117F, AN/PSC-5, AN/PRC-148 or any Transceiver operating in the 30-512 MHz frequency band**
- **75W SATCOM Burst Mode**
- **Designed to Meet MIL-STD-810, -461 and -1275 with Internal Near Strike Lightning Protection**
- **Single BA-5590 and BB-2590 Operation**
- **Natural Convection Cooling**
- **USB Remote Control and NVG Compatible Full Function Display**

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90400-01244 P2

Transmit Specifications

UHF MODE	**UHF PERFORMANCE**
Frequency Range	174-512 MHz (225-450 MHz ANW2C/SRW)
Modulation	AM, FM, GMSK, PSK, ASK, QAM, others
SATCOM MODE	**SATCOM PERFORMANCE**
Frequency Range	290-320 MHz
Burst Mode	75 W with 5W Radio input
VHF LO MODE	**VHF LO PERFORMANCE**
Frequency Range	30-118 MHz
VHF HI MODE	**VHF HI PERFORMANCE**
Frequency Range	118-174 MHz
ALL TRANSMIT MODES	
RF Power Input	2-10 Watts (20 W without damage)
RF Power Output	75 W (SAT Burst Only) 50 W, 35 W 20 W, 15W, 10 W

OLED Front Panel Display

Receive Specifications

UHF MODE	**UHF PERFORMANCE**
Frequency Range	174-512 MHz with co-site filtering
Receive Gain	15 dB, 3.5 dB NF max
SATCOM MODE	**SATCOM PERFORMANCE**
Frequency Range	240-270 MHz with co-site filtering
Receive Gain	15 dB, 3.5 dB NF max
VHF LO/HI MODE	**VHF LO/HI PERFORMANCE**
VHF LO Frequency Range	30-118 MHz with co-site filtering
VHF HI Frequency Range	118-174 MHz with co-site filtering
Receive Gain	15 dB, 3.5 dB NF max
BYPASS MODE	**ANY ANTENNA PORT**
Insertion Loss < 1 GHz	30 MHz - 1 GHz 1 dB max
Insertion Loss > 1 GHz	1 GHz - 3 GHz 2.5 dB max

Designed for STC HH Compatibility

General Specifications

Immersion	1 meter
Radio/LOS/SAT/WB Connectors	TNC female (immersion rated without cap), BNC Opt
DC Connector	MS3112E10-6P
Remote Connector	USB-C
Aux Connector	7 position Fischer
Protection	High temperature fold back, High VSWR
DC Off	Routes radio connector to LOS antenna connector
Operating Temperature	-30 C to +60 C
Cooling	Natural convection
External Finish	Black anodize, optional desert tan or olive drab CARC
Dimensions	2.5” H x 3.5” W x 8.15” D (including connectors)
Weight	3.5 Lbs.

Rear View of Connectors

Accessories

Supplied accessories

- 77500-00412 – 5 ft, 28V Power Cable
- 90400-01303 – TCR-MBA-50-STC quick reference guide

Additional accessories

- 77500-00411 – 5 ft Car Adapter Power Cable
- 77500-00804 – 5 ft X590 Smart Power Cable

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