



**TRICOM**  
RESEARCH, INC.

**TCR-MBA-50-WB**

## WIDEBAND/MULTIBAND RF AMPLIFIER

The **TCR-MBA-50-WB** is a State of the Art software defined RF Amplifier designed to extend the range of modern Handheld and Manpack Transceivers. The Amplifier supports emerging Wideband Networking Waveforms including SRW and ANW2, as well as legacy Narrowband Waveforms such as IW, DAMA, SINGARS and HAVEQUICK. Additionally, the Amplifier integrates seamlessly into systems using new Special Communications Modes in both LOS and SATCOM.

The **TCR-MBA-50-WB** allows for flexible Communications installations and can be powered from a single BA-5590 battery as well as 12 and 24 Volt vehicle power.

A simple three button user interface controls the mode, antenna selection, and output power with a dimmable front panel display showing operating mode and Amplifier status.

An optional Bias Tee powers the Amplifier over the radio's coax cable for remote installations.



\* Amplifier does not ship with a Radio

### FEATURES

- **3 Dedicated Antenna Ports – Wideband Networking, SATCOM, and Line-of-Sight**
- **Wideband Networking and Narrowband Operation**
- **ANW2, SRW, DAMA, IW, HAVEQUICK, SINGARS and Special Communications Modes**
- **Compatible with 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**
- **Rugged, Compact and Efficient - 2" H x 3.5" W x 8.15" D including connectors!**
- **Dedicated Single BA-5590 Mode**
- **Natural Convection Cooling**
- **Full Function RS-232 or USB Remote Control**
- **Flexible mounting configurations to include drop in replacement for the TCR-MBA-25**

## TRANSMIT SPECIFICATIONS

### WB MODE (ANW2/SRW)

Frequency range  
RF power input  
RF power output

### WB PERFORMANCE

225-450 MHz  
5 Watts (2-10 Watts typical)  
BA-5590 (12.7 VDC 4.75 A max): 20 Watts Peak  
BB-2590 (15 VDC 4.75 A max): 20 Watts Peak  
Commercial Vehicle (13.5 VDC 5.5 A max): 20 Watts Peak  
Military Vehicle (28 VDC 6.8 A max): 25 Watts Avg

### SATCOM MODE

Frequency range  
Switching speed  
RF power input  
RF power output

### SATCOM PERFORMANCE

292-318 MHz  
JITC DAMA, IW, aSCM compatible  
5 Watts (2-10 Watts typical)  
BA-5590 (12.7 VDC 4.75 A max): 10, 15, 20 Watts  
BB-2590 (15 VDC 4.75 A max): 10, 15, 25 Watts  
Commercial Vehicle (13.5 VDC 5.5 A max): 10, 15, 25 Watts  
Military Vehicle (28 VDC 6.8 A max): 10, 15, 25, 35, 50 Watts

### LOS MODE

Frequency range  
Modulation  
RF power input  
RF power output

### LOS PERFORMANCE

30-512 MHz with Automatic Frequency Detection  
AM, FM or PSK, AM/FM Frequency Hopping, i/aSCM compatible  
5 Watts Avg/Peak (2-10 Watts typical)  
BA-5590 (12.7 VDC 4.75 A max): 20 Watts  
BB-2590 (15 VDC 4.75 A max): 25 Watts  
Commercial Vehicle (13.5 VDC 5.5 A max): 25 Watts  
Military Vehicle (28 VDC 6.8 A max): 25, 50 Watts

## RECEIVE SPECIFICATIONS

### WB Mode

Frequency range  
Insertion loss

### WB PERFORMANCE

225-450 MHz with co-site filtering  
<3.5 dB

### SATCOM MODE

Frequency range  
Noise figure  
Receive Gain

### SATCOM PERFORMANCE

242-268 MHz with co-site filtering  
3.75 dB Typical  
10 dB Typical, or LNA bypass mode

### LOS MODE

Frequency range  
Insertion loss  
VSWR

### LOS PERFORMANCE

30-512 MHz  
< 3.5 dB  
2.5:1 Max

## GENERAL SPECIFICATIONS

Immersion	1 meter
Radio Connector	BNC female (IP67 rated)
LOS Antenna Connector	BNC female (IP67 rated)
SAT Antenna Connector	BNC female (IP67 rated)
WB Antenna Connector	BNC female (IP67 rated)
DC Connector	MS3112E10-6P
Auxiliary Connector	Optional RS-232 Cable (PN 77500-00390) Optional USB Cable (PN 77500-00391)
High Temperature	High temperature indication & fold back
DC Off	Routes radio connector to LOS antenna connector
Operating Temperature	-30 C to +60
Cooling	Natural convection
External Finish	Black anodize, optional desert tan or olive drab CARC
Dimensions	2" H x 3.5" W x 8.15" D (including connectors)
Weight	3.4 Lbs

## ACCESSORIES AND OPTIONAL ITEMS FOR THE TCR-MBA-50-WB

### The TCR-MBA-50-WB is shipped with the following accessories:

- One - 28Vdc cable, 60" long (dc connector to flying leads)

### Optional Accessories (available for purchase):

- Tricom P/N 77500-00391 -- Optional USB adapter cable (remote)
- Tricom P/N 77500-00411 -- Car adapter cigarette Lighter cable
- Tricom P/N 77500-00413 -- 5590 to Amplifier DC connector (12V)



For the latest news, data sheets and updates on this product (and product line) please visit us at:

[www.TRICOMRESEARCH.com](http://www.TRICOMRESEARCH.com)

90400-01139\_D