



# TRICOM

RESEARCH, INC.

## TCR-MBA-50-WB-Dual

### DUAL WIDEBAND/MULTIBAND RF AMPLIFIER

The **TCR-MBA-50-WB-Dual** is a highly integrated dual RF Power Amplifier (PA) and switching matrix based on the field-proven TCR-MBA-50-WB amplifier.

The **TCR-MBA-50-WB-Dual** provides a space efficient drop in solution for multi radio/amplifier configurations that normally would require external patch panels or multiple RF switches. With 3 dedicated connectors for the AN/PRC-117G and a single Handheld radio connector routed through the dual PAs to 3 antenna connectors installation and cabling is straightforward and logical.

The **TCR-MBA-50-WB-Dual** uses the familiar front panel amplifier controls to automatically route the proper signal to the proper antenna based on the operating mode of the PAs. In addition, RF bypass paths are included for operation in L band and for failsafe operation.



The **TCR-MBA-50-WB-Dual** is designed to support 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, SINCGARS and HAVEQUICK. Additionally, the amplifier integrates seamlessly into systems using new Special Communications Modes in both LOS and SATCOM.

Part # 11000-00859

#### FEATURES

- 3 Dedicated Antenna Ports – Wideband Networking, SATCOM, and Line-of-Sight (LOS)
- Wideband Networking and Narrowband Operation
- ANW2, SRW, DAMA, IW, HAVEQUICK, SINCGARS 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
- Natural Convection Cooling
- Full Function USB Remote Control
- Flexible mounting configurations

## TRANSMIT SPECIFICATIONS (per channel)

### WB MODE (ANW2/SRW)

Frequency range  
RF power input  
RF power output

### WB PERFORMANCE

225-450 MHz  
2-10 Watts (20W without damage)  
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  
2-10 Watts (20W without damage)  
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  
2-10 Watts (20W without damage)  
Commercial Vehicle (13.5 VDC 5.5 A max): 25 Watts  
Military Vehicle (28 VDC 6.8 A max): 25, 50 Watts

## RECEIVE SPECIFICATIONS (per channel)

### WB Mode

Frequency range  
Insertion loss

### WB PERFORMANCE

225-450 MHz with co-site filtering  
<4 dB

### SATCOM MODE

Frequency range  
Noise figure  
Receive Gain

### SATCOM PERFORMANCE

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

### LOS MODE

Frequency range  
Insertion loss

### LOS PERFORMANCE

30-512 MHz  
< 4 dB

## GENERAL SPECIFICATIONS

|                       |   |
|-----------------------|---|
| RF Bypass             | 30 MHz – 2 GHz, 1 dB typical                          |
| Immersion             | 1 meter   |
| RF Connectors         | TNC female (IP67 rated without cap)                   |
| DC Connector          | DSUB 5 + 2  |
| Auxiliary Connector   | Optional USB Cable (PN 77500-00769)                   |
| High Temperature      | High temperature indication & fold back               |
| DC Off                | Manpack and Handheld bypass                           |
| Operating Temperature | -30 C to +60 C  |
| Cooling               | Natural convection                                    |
| External Finish       | Black anodize, optional desert tan or olive drab CARC |
| Dimensions*           | 2.7" H x 7" W x 9.4" D ( <i>approx.</i> )             |
| Weight*               | 10.5 lbs.   |

\*based on options – other mounting, heatsink and RF connections available