



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.

Part Number: 11000-00746

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**

www.tricomresearch.com 17791 Sky Park Circle, Suite G/H/J, Irvine, CA 92614 949.250.6024 ph

90400-01139_F

TRANSMIT SPECIFICATIONS

WB MODE (ANW2/SRW)

Frequency range
RF power input
RF power output

WB PERFORMANCE

225-450 MHz
2-10 Watts (20W without damage)
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): 25 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)
BA-5590 (12.7 VDC 4.75 A max): 10, 15, 20 Watts
BB-2590 (15 VDC 4.75 A max): 10, 15, 20 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
2-10 Watts (20W without damage)
BA-5590 (12.7 VDC 4.75 A max): 20 Watts
BB-2590 (15 VDC 4.75 A max): 20 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
<2.5 dB

SATCOM MODE

Frequency range
Noise figure
Receive Gain

SATCOM PERFORMANCE

242-268 MHz with co-site filtering
3.75 dB Typical
10 dB or LNA Bypass

LOS MODE

Frequency range
Insertion loss
VSWR

LOS PERFORMANCE

30-512 MHz
< 1 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 DC Off	High temperature indication & fold back 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)
- * Tricom P/N 11000-00735 -- TCR-MBA-50 BIAS TEE UNITS



TCR-MBA-50-WB BIAS TEE SYSTEM



77500-00413 CABLE

77500-00411 CABLE



77500-00390 COMMUNICATION/REMOTE CABLE

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

www.TRICOMRESEARCH.com