



TRICOM
RESEARCH, INC.

TCR-MBA-50-WB EXT

WIDEBAND/MULTIBAND RF AMPLIFIER

The **TCR-MBA-50-WB EXT** 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 EXT** 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.



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 - 2.5" H x 3.5" W x 8.15" D including connectors!**
- **Dedicated Single BA-5590 Mode**
- **Natural Convection Cooling. Extended Heat Sink for high duty cycle applications**
- **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 (1-10 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

Radio Connector	BNC female
LOS Antenna Connector	BNC female
SAT Antenna Connector	BNC female
WB Antenna Connector	BNC female
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	2.5" H x 3.5" W x 8.15" D (including connectors)
Weight	4.2 Lbs