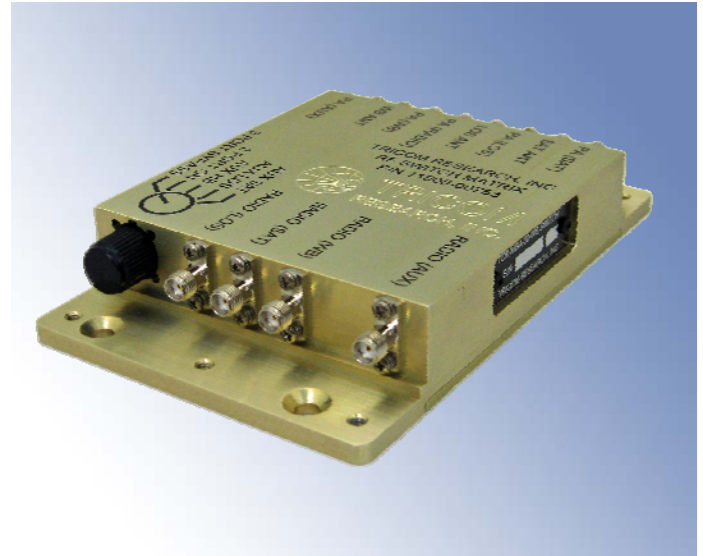


TRICOM
RESEARCH, INC.

TCR-RFS-03

Autosensing RF switch

The TCR-RFS-03 is designed for use with the TCR-MBA-50 WB and the AN/PRC-117G in multiple antenna installations, automatically switching the amplified RF path based on the operating mode of the TCR-MBA-50 WB RF amplifier.



Part Number 11000-00753

FEATURES:

- Supports multiple antenna output transceivers like the AN/PRC-117G
- Input/Output controlled directly by the TCR-MBA-50 WB through the power amplifier's auxiliary port. When the mode on the TCR-MBA-50 WB is changed it routes the RF to the appropriate transceiver RF port. Modular design allows the TCR-RFS-03 to be attached directly to the TCR-MBA-50 WB RF amplifier or mounted separately.
- Rugged design housed in an aluminum splash proof enclosure
- Aux RF port for attaching an additional single antenna port multi-band transceiver i.e. AN/PRC-152/152A, AN/PRC-148 JEM or AN/PSC-5D.

SPECIFICATIONS

Size	.9"H x 3.5" W x 5)" D
Weight	1lb
DC/Control Input	Power and control is provided by the TCR-MBA-50 WB Amplifier via the aux port
Mode Control	5 position rotary switch, optional multi-pin remote cable
Insertion Loss	< 1 dB
Connections	RF - SMA Female, 5 position multi-pin to PA Aux port

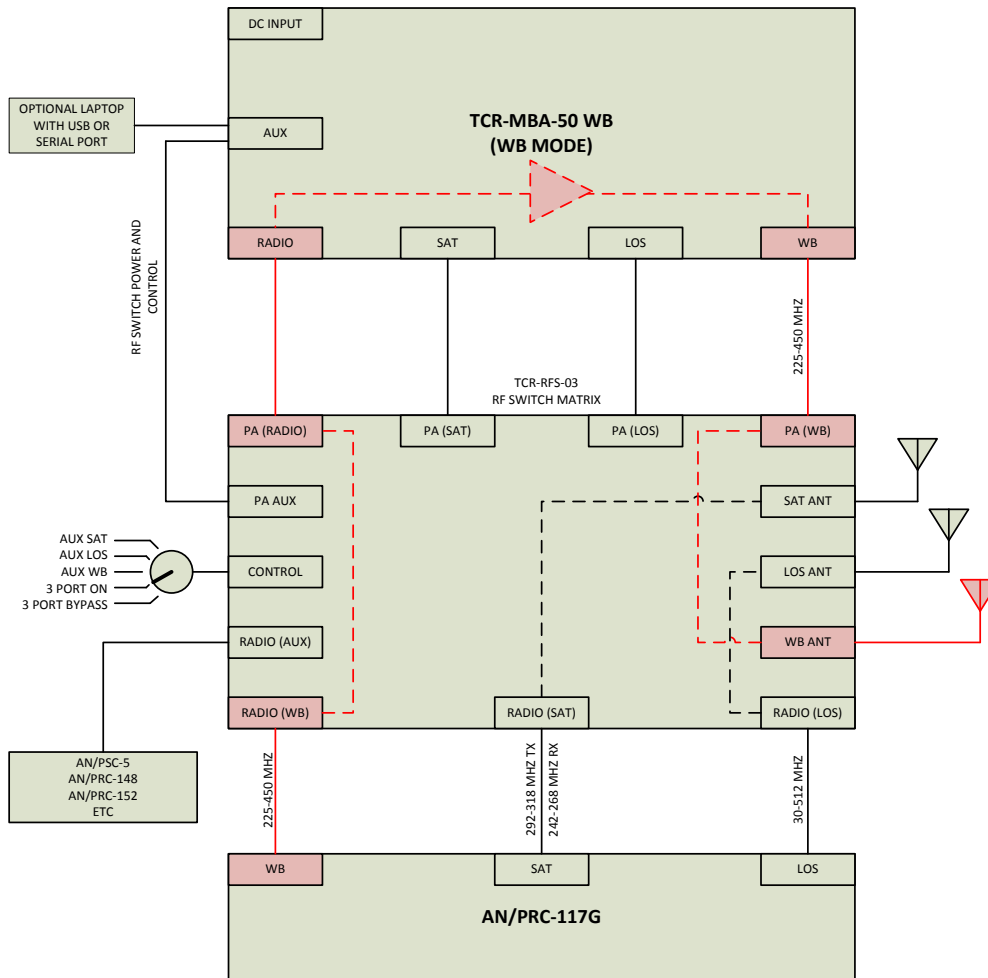
OPERATION

- The TCR-RFS-03 RF Switch Matrix is designed to interface the AN/PRC-117G three port radio with the multi-band three port TCR-MBA-50 WB Power Amplifier PA. The switch allows connection of three antennas to the radio/PA network without patch panels and automates the process of interfacing the amplifier to the desired communications channel.
- The switch works in conjunction with the PA to automatically select the RF path for amplification. When in normal use, the switch will place the amplifier in the RF path determined by the PA Mode. For example, if the PA is in SAT Mode, the switch will place the PA in the SATCOM path between the radio and the SATCOM antenna. The other two antennas will be connected to the radio's other ports through a low insertion loss RF path.
- If an additional radio is connected to the AUX RF port on the switch, the switch control interface can override the AN/PRC-117G RF path to have access to any of the three antennas. The PA mode will also determine if the Auxiliary radio is amplified by the PA. For example, if the AUX SAT Mode is selected, and the PA is in SAT Mode, the AUX Radio will be amplified by the TCR-MBA-50 WB. The antennas not selected by the AUX Mode remain connected to the AN/PRC-117G.
- The switch is powered by and gets control signals through the auxiliary port on the PA. The PA's RS-232 and USB interfaces are still available to the user for connection to a laptop.
- A DC off failsafe bypass mode is included connecting the three antennas to the three ports on the AN/PRC-117G radio.
- The switch can be mounted to the base of the TCR-MBA-50 WB or any other convenient location.

SIGNAL ROUTING CHART AND DIAGRAM

TCR-MBA-50 WB & TCR-RFS-03 WB SIGNAL ROUTING				
SWITCH MODE	PA MODE	SWITCH MATRIX ANTENNA PORT & PA SIGNAL ROUTING		
		SAT ANT	LOS ANT	WB ANT
3 PORT BYPASS	OFF	RADIO (SAT)	RADIO (LOS)	RADIO (WB)
3 PORT ON	SAT	RADIO (SAT) THRU PA	RADIO (LOS)	RADIO (WB)
	LOS	RADIO (SAT)	RADIO (LOS) THRU PA	RADIO (WB)
	WB	RADIO (SAT)	RADIO (LOS)	RADIO (WB) THRU PA
AUX WB	SAT	RADIO (SAT) THRU PA	RADIO (LOS)	RADIO (AUX)
	LOS	RADIO (SAT)	RADIO (LOS) THRU PA	RADIO (AUX)
	WB	RADIO (SAT)	RADIO (LOS)	RADIO (AUX) THRU PA
AUX LOS	SAT	RADIO (SAT) THRU PA	RADIO (AUX)	RADIO (WB)
	LOS	RADIO (SAT)	RADIO (AUX) THRU PA	RADIO (WB)
	WB	RADIO (SAT)	RADIO (AUX)	RADIO (WB) THRU PA
AUX SAT	SAT	RADIO (AUX) THRU PA	RADIO (LOS)	RADIO (WB)
	LOS	RADIO (AUX)	RADIO (LOS) THRU PA	RADIO (WB)
	WB	RADIO (AUX)	RADIO (LOS)	RADIO (WB) THRU PA

TCR-RFS-03 Signal Routing Chart



**3 PORT ON
(Shown with PA in WB Mode)**