SPECIFICATIONS

Operating Frequency Range	*470-698 MHz*
Number of RF Inputs	*8*
Nominal Input & Output Impedance	*50 Ohms*
Input Power Range per Channel	*25-250mW*
Selectable Output Power per Channel	*50, 100, 250mW*
In-Channel Inter-modulation Products	*Better than -35 dB (typical)*
Channel-to-Channel Inter-modulation Products	*Better than -65 dB (typical)*
All Harmonic Levels	*Better than -40 dB*
(Exceeds FCC Part 74 & Part 15 Requirements)	
Antenna VSWR Indicator Threshold	*Greater than 2:1*
Operating Temperature Range	*-20 to +60°C*
AC Line Operating Voltage & Frequency	*90-260 VAC 47-63 Hz*
Power Consumption	*<125 Watts*
Dimensions	*19" W x 1U H x 12 ¾" D*
RF Connections	*BNC*
Additional Options Available	*Special Order*

CONTACT US

Radio Active Designs

21 East Union Avenue
East Rutherford, NJ 07073

Phone: 402-477-0695
www.RadioActiveRF.com

TX-8U

ANTENNA COMBINER

QUICK START GUIDE

TX-8U QSG Rev 10/17

Minimizing IM Products

The TX-8U brings a new level of IM performance to combiner systems, using advanced technology not found in any other system. While IM products are still produced in any combined antenna system, they are at much lower levels with the TX-8U.

There are well-known techniques for dealing with IM products caused by combining, such as careful selection of transmit frequencies, judicious adjustment of power levels, and minimizing antenna SWR. For additional IM reduction, the following information may be useful.

Proper port selection is an additional way to minimize IM products when using the TX-8U.

Because of the nature of combiners, some ports have more isolation between them than others. The TX-8U is no different in this regard, and knowing which ports have the highest isolation can be of benefit in reducing unwanted IM products.

There are 8 numbered transmitter ports on the TX-8U.

The following port pairs have the least isolation between them:

- Ports 1-2, 3-4, 5-6, and 7-8.
  Generally, you should use these paired ports for the widest spaced frequency pairs, or alternatively, for pairs where the IM products will not create problems.

Higher isolation is available between the following ports:

- Ports 1-3, 1-4, 2-3, 2-4, as well as 5-7, 5-8, 6-7 and 6-8.
  These can be used for more troublesome frequency pairs, resulting in better IM performance overall.

The highest isolation is found between the ports from 1 through 4 and the ports from 5 through 8.

For serious IM issues, make sure the offending transmitter ports are separated accordingly.

For example, if you have one transmitter on a port from 1 through 4, you would need to put the other transmitter on any port from 5 through 8. This would provide the highest level of transmitter to transmitter isolation.

Initial Setup

1) Connect the IEC power cord to the AC power cord jack on the back of the combiner.
   The input range is auto-ranging from 90 VAC to 260 VAC.
2) Connect the antenna to the jack marked **OUT**.
3) Connect up to 8 transmitters to the various inputs before powering on. **DO NOT CONNECT PREVIOUSLY COMBINED TRANSMITTERS TO ANY INPUT** as performance will be compromised and damage to the unit may occur. Terminate unused ports with **50Ω loads**.
4) Turn the front panel power switch to **ON** prior to powering on transmitters.
5) Set the power levels to desired output:
   50mW, 100mW, or MAX (nominally 250mW)
   NOTE: LOW indicates the unit is not transmitting power.
6) If an input channel is not in use, turn the output switch to **LOW**.

Indicator Lights

Power Light

- GREEN: Combiner is powered ON.
- No Light: Combiner is OFF.

Antenna Status Light

- GREEN: SWR optimal.
  Antenna and cable are OK.
- YELLOW: SWR greater than 2:1.
  Marginal antenna operation.
- RED: SWR High, greater than 3:1.
  Indicates bad antenna and/or bad cable.

Channel Indicator Lights

- NONE: No power detected at input.
- GREEN: Input power present. Selected output power operating correctly.
- RED: Channel amplifier fail.
- YELLOW: RF Input present. Channel OFF.