

Antenna Mixing Networks . . . Model TX



Figure 1
Model TX Antenna
Mixing Network

DESCRIPTION

GENERAL

The Jerrold Model TX Antenna Mixing Networks (Figure 1) are precision-engineered, band-pass filters comprising four basic types. Each type exhibits 300-ohm impedance at resonance and an extremely high impedance on each side of resonance. This feature allows each type of unit to act as an efficient channel mixer or splitter. Due to the design of the band-pass filter network the insertion loss of any type unit is negligible and the rejection of unwanted channels is high. With proper accessories, these units may be mounted either indoors or outdoors, singly or in groups. Various units (see applications for details) may be interconnected either by matched mixing jumpers or by 300-ohm twin-lead wire.

Model TX-(*)

An Individual Channel Mixer/Splitter
*Channels 2 thru 13

There are two groups of Model TX-(*) (Figure 2). One group comprises the 5 low-channel TX models (TX-2, 3, 4, 5, and 6) and the other comprises the 7 high-channel TX models (TX-7, 8, 9, 10, 11, 12, and 13). Each model uses a 6 mc band-pass filter as a mixing network. The plastic case of each of these units is red. Two matched mixing jumpers are included with each of these units together with two 1 3/4" wood screws for indoor mounting.

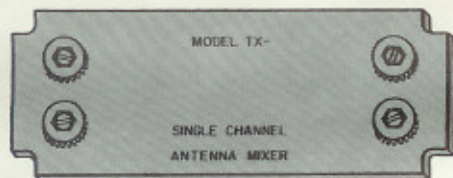


Figure 2—Rear View of Model TX-(*)

Model TX-FM TV-FM Mixer/Splitter

Model TX-FM (Figure 3) uses a triple-tuned band-pass filter which covers from 88 to 108 mc. The plastic case of this unit is also red. Two matched mixing jumpers, a single-unit mounting plate (without mast strap or clamp) and all necessary screws for indoor or outdoor mounting are included.



Figure 3—Rear View of Model TX-FM

Model TX-HL Hi-Lo TV Mixer/Splitter

Model TX-HL (Figure 4) is a splitting filter comprising conjugate low-pass and high-pass sections which cover from 0 to 108 mc and 174 to 216 mc respectively. The plastic case for this unit is yellow. The hardware included with each of these units is the same as that included with the TX-FM except for the matched mixing jumpers.

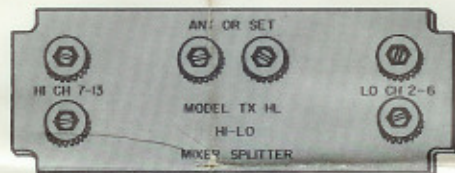


Figure 4—Rear View of Model TX-HL

Model TX-VU UHF-VHF Mixer/Splitter

Model TX-VU (Figure 5) is a splitting filter comprising conjugate low-pass and high-pass sections which cover from 0 to 216 mc and 470 to 890 mc respectively. The plastic case for this unit is blue. The hardware included is identical with that packed with TX-HL units.



Figure 5—Rear View of Model TX-VU

Matched Mixing Jumpers

These brass strips (Figure 6) provide inter-connection between groups of TX units when mounted closely enough together indoors or on a GP-4 gang plate outdoors. They eliminate impedance mis-matching.



Figure 6—Matched Mixing Jumper

Single Unit Mounting Plate

This metal mounting plate (Figure 7) provides for mounting a single TX unit either indoors or outdoors. The plate provides for outside wall mounting by the use of two key-hole slots and, in addition, other slots are provided for use with a conventional mast-mounting strap.



Figure 7—Single Unit Mounting Plate

Model GP-4

This metal mounting plate (Figure 8) provides for mast or indoor mounting a group of 4 TX units. The hardware includes 8 self-tapping 1/2" screws, two 1 3/4" wood screws, and a mast strap with clamp.

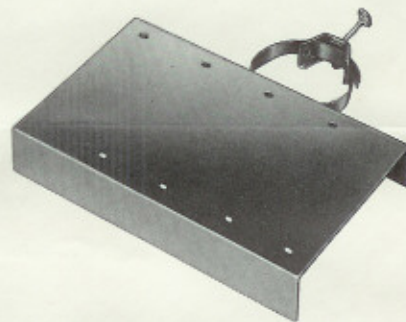
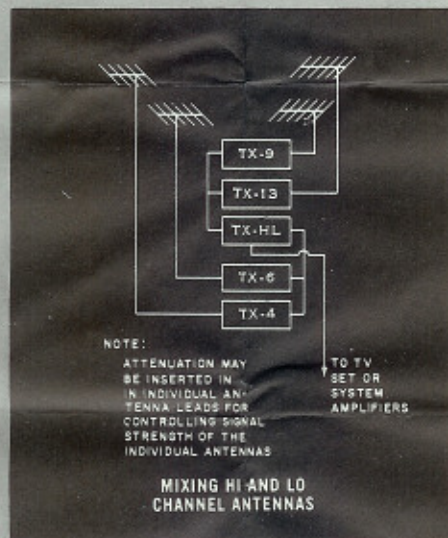
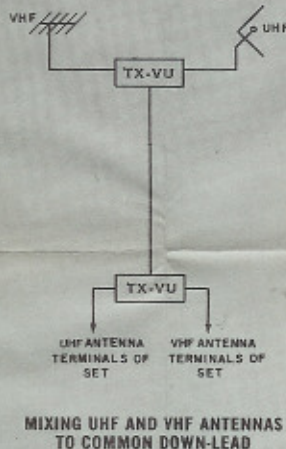
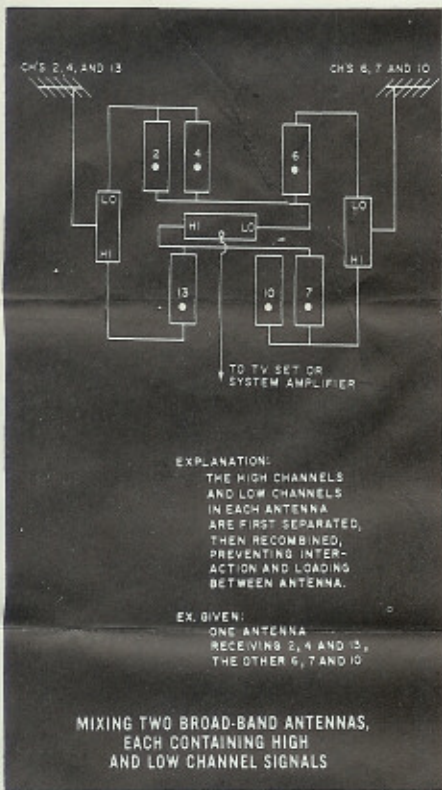


Figure 8—Model GP-4 Gang Plate



APPLICATION

The versatile TX models can be used individually or in many combinations to:

- Mix cut-to-channel antennas with a single broad-band antenna.
- Separate individual channels from broad-band antennas.
- Mix or separate VHF TV and FM signals.
- Mix or separate VHF and UHF signals.

These few rules must be observed in circuit arrangements for the various applications.

1. Low-band TX units (TX 2, 3, 4, 5 and 6) which are NOT adjacent may be connected directly in parallel.

NOTE: In the low band, 4 and 5 are NOT adjacent channels due to a 4 mc separation between the two channels.

2. TX-FM may be paralleled with any low-band TX unit except TX-6 which is adjacent to TX-FM.

3. High-band TX units (TX 7, 8, 9, 10, 11, 12, and 13) which are NOT adjacent may be paralleled.

4. Low-band networks may NOT be paralleled with high-band networks, but must be joined by a TX-HL unit.

5. Always take the output of a group of single-channel TX units from the highest channel TX unit in the group whether the output goes to a mixing TX unit or directly to the TV set.

6. Always connect a TX-VU unit closest to the set—i.e., TX-VU must follow all other TX units.

MOUNTING AND INTERCONNECTING TX UNITS

In most instances, single channel TX units (TX-2 thru 13 and TX-FM) are mounted in groups whether indoors or outdoors and are interconnected (Figure 10) by means of the flexible matched mixing jumpers supplied with these units. Avoid the use of 300-ohm twin-lead wire in interconnecting these units. Such wire may be used between TX-FM and a set, as a common down lead from TX-HL or TX-VU units, or as an interconnection between groups of TX units on separate GP-4 brackets.

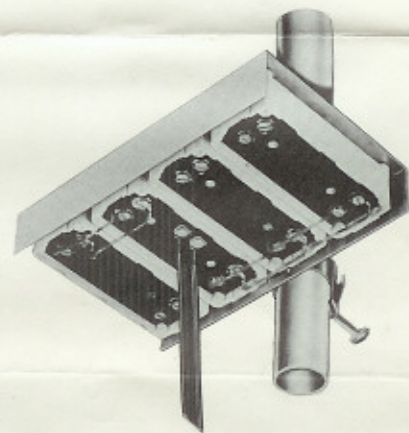
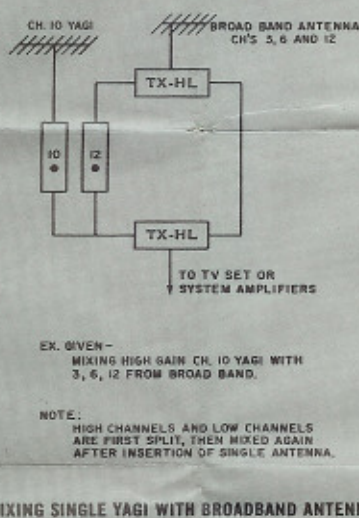
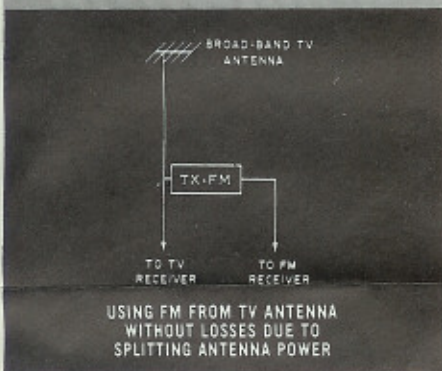
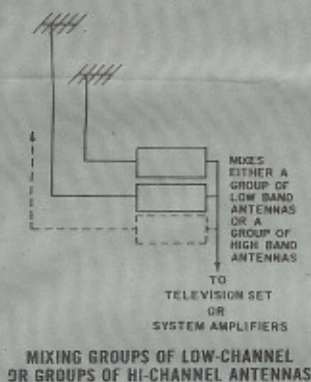


Figure 10—Typical Group of TX Units Mounted on a GP-4 Gang Plate

Figure 9—Various Applications of TX Units

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