JERROLD

INSTRUCTION SHEET

I-WCON653

VHF CONVERTERS, MODEL WCON

(High to Low and Low to Low Converters)

Jerrold VHF Converters, Model WCON, are crystal controlled, designed for rugged duty, continuous operation. New and unique circuits achieve maximum stability with minimum maintenance.

TECHNICAL DATA

1. Oscillator stability to within .01%.
2. Full 6 mc channel bandwidth.
3. Tuned input and output, 72 ohms.

Tube complement: -

High to Low (3) 6CB6

Low to Low (1) 6J6, (2) 6AG5

Power Supply: -

Line Voltage: 117V-ac, 50 to 60 cps.

B+ 150 V-dc (regulated, VR-150) at 120 ma.

Fil: 6.3 V-ac at 3 amperes

Power Consumption: 60 Watts (2 converters)

Dimensions: 13¼" X 10" X 6¼ (2 converters)

Fuses: (1) Main Fil, 1A.
(2) B+ (one for each converter), 1/8A.

Weight: 14 lbs (2 converters)

Loss in Conversion:

High to Low, 24 db maximum

Low to Low, 8 db maximum

Note: For maintenance reasons, it is highly desirable to keep the channel converter circuitry as uncomplicated as possible. Since these converters operate with associated antenna site amplifiers, it was unnecessary to incorporate amplification in the converter unit itself.

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WORLD'S LARGEST MANUFACTURER OF AMPLIFIED MASTER ANTENNA SYSTEMS

INSTALLATION

1. Mount the converter in a well shielded metal cabinet, (Jerrold WC-200F or WC-300F), with power line filter, Jerrold Model PLF.

2. Connect power line filter to a-c source, 117V, 60 cps. Plug converter into filter outlet and allow several minutes warm-up time.

3. Connect converter inputs with JRP cable to outputs of proper driving amplifier or preamplifiers.

   Connect converter outputs with JRP cable to inputs of proper AGC controlled amplifiers.

OPERATION

1. Recommended Input Levels - (Input signal levels are not critical, but a function of desired output - below are suggested ranges of operation and typical signal inputs): -

   Low to Low: 20,000 uv min.
   60,000 uv max.

   Typical operation - 40,000 uv

   High to Low: 20,000 uv min.
   200,000 uv max.

   Typical operation: 80,000 to 150,000 uv

2. Balancing: -

   High to Low: None required.

   Low to Low: Factory adjustment - where unbalance has occurred in shipment, the following steps may be taken: -

   a) Connect Model 704, Field Strength Meter, to Channel 3 antenna. Tune Meter to Channel 3 picture carrier.

   b) With converter installed and operating at desired Channel 3 input signal connect Model 704 to converter output.

   c) Remove the 6 mc crystal, reached through opening in one side of converter.

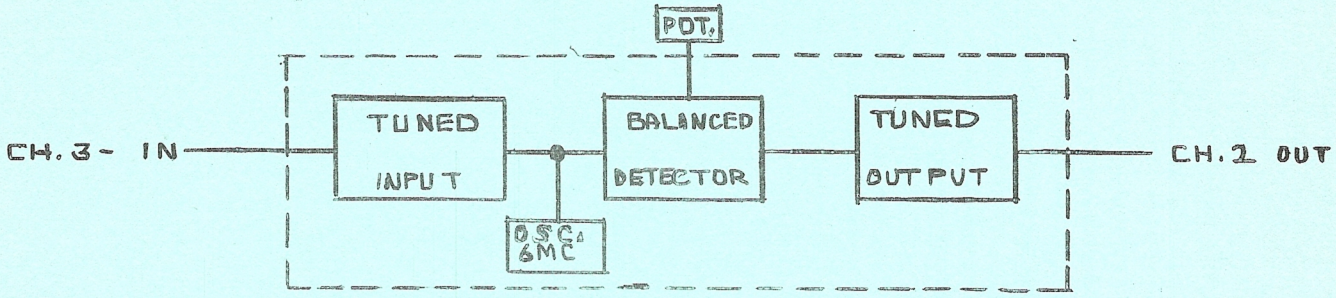
   d) Adjust the balancing pot on converter for minimum reading (Channel 3 picture) on Model 704.

   e) Replace 6 mc crystal.

3. Spurious Outputs: -

High to Low: None

Low to Low: This converter utilizes a 6 mc oscillator beating with the incoming signal as shown in the block diagram below (example 3-2 converter).



The converter output may contain a Channel 4 component, which is highly attenuated with respect to the desired Channel 2 output. It may be desirable to further attenuate the Channel 4 signal before feeding to an AGC amplifier which operates with Channels 2, 4 and 6 in the output mixing network. Removal of spurious Channel 4 signal is accomplished by inserting an open quarter wavelength coax stub in the output line from the converter, as follows:

a) Length of coax stub in inches = $\frac{1950}{F\,(mc)}$. Cut to Channel 4 pic, this length = 28".

b) Use Jerrold C-41 Tee connector to insert RG-59/U stub in converter output cable.

c) Adjust stub while observing Model 704 for minimum reading at Channel 4 picture.

d) Tape open end of stub with poly tape, Jerrold #331.

Note: In some cases a quarter wave stub may be too broad in its trapping effect and will attenuate Channel 2 sound. In such cases a multiple stub cut to an odd multiple of $\frac{1}{4}$ wavelength may be tried. Or a Jerrold TLB, high Q trap, may be installed.

MAINTENANCE

In the event of failure of a converter unit, check line voltage, fuses, connections and tubes.

Defective converters should be returned as complete units to Jerrold Service Corporation for repair.