



I N S T R U C T I O N B O O K

1 6 0 X V T R A N S V E R T E R

The Dentron 160XV Transverter is designed to convert both receive and transmit signals from 4.0 MHz - 3.8 MHz to 1.8MHz - 2.0 MHz. The frequency 1.8 MHz to 2.0 MHz is the 160 Meter Amateur Band, commonly known as "Top Band".

SPECIFICATIONS OF 160 XV

Full 1.8 - 2.0 MHz coverage
Receiver sensitivity .35 microvolts for 10 db ratio
Transmitter power 100 watts D.C. input
Built in power supply for 110/220 v 50/60 Hz
6146B Final tube
Matches 50 - 70 ohm antenna
No modifications to existing equipment
Input drive overload protection
3.8 to 4.0 MHz input (75 meter band) SSB, CW, AM
Heavy steel construction of cabinet and chassis
Printed circuit design
Transverter - bypass control circuit
1 year parts warranty, 90 day labor

INSTALLATION

- (1) UNPACKING - Remove the transverter from the carton and check for visible evidence of damage. If the unit looks damaged, save the carton and packing and notify the transportation company.

(2) CONNECTION TO RADIO EQUIPMENT

- a) The transverter is normally wired for 115 volt AC operation. Check instructions for 220 volt operation.
- b) From the rear panel coax jack marked "Transceiver in" connect a coax cable to the station transceiver antenna jack.
- c) From the rear panel jack marked "operation control", connect a cable to the station transceiver external relay switching control. This is the same control jack used in linear amplifier switching.
- d) From the rear panel coax jack marked "Output Antenna" connect a coax cable to a 50 ohm 160 meter antenna or 160 meter antenna tuner such as the Dentron 160 AT.

This completes installation - DO NOT TURN UNIT ON YET

OPERATION

Front Panel Controls

- A) Power - AC ON-OFF Switch
- B) Preselector - Receiver only
- C) RF Drive - Transmitter Drive Control
- D) Plate and Load - final tank circuit
- E) By-Pass-Transverter - in by-pass position the input and output jacks are connected together. In transverter position the 160 XV is in operation.

OPERATING:

- A) Turn on station transceiver, with band selector at 80 meter position 3.8 - 4.0 MC. Set dial at 3.980 MHz - This will equal 1.820 MHz. Place sideband selector in upper side position.
- B) Turn on 160 XV and set preselector control at 2, RF Drive at 8, Plate at **5**, Load at 0, selector to transverter observe Plate current meter - should be at zero - if indicating current of 30 M.A. operation control cable hooked up improperly - re-check.
- C) Listen on transceiver for band noise or 160 meter stations and peak transceiver preselector or RF tune control for maximum signal and also tune 160 XV preselector for maximum receiver sensitivity. Should be at or near #2.
- D) Turn mike gain on transceiver all the way down and energize push to talk switch on mike or transceiver and observe that the 160 XV is in transmit position with Plate Current showing bias current of 25 - 30 MA.
- E) Release mike and the 160 XV and station transceiver will return to receive.
- F) Keeping mike gain or XMTR GAIN CONTROL in off or counter clock wise position place transceiver in tune position and insert a small amount of carrier into the 160 XV. Only insert enough carrier to get a reading of 120 - 160 MA plate current on the 160 XV.
- G) Dip the Plate control on 160 XV for minimum Plate current.
- H) Peak RF Drive control on 160 XV for maximum plate current.
- I) In operation with a 50 ohm 160 meter antenna maximum output will be at 120 - 150 MA on the 160 XV Plate current meter.
- J) Return to receive and listen to band

- K) Push to talk and speak into the mike and adjust mike gain or xmitter gain to show readings of 100 - 130 MA plate on 160 XV on voice peaks.

Note that the station transceiver plate current is barely moving.

- L) Inserting higher levels of RF into the 160 XV will not damage the trans-
 verter, but you are wasting power from your transceiver.

This completes basic tune-up

FREQUENCY CONVERSION

160 meter band tunes backward from 80 meter band.

<u>Station Transceiver</u>		<u>160 XV</u>
4.0 MHz	=	1.800 MHz
3.9 MHz	=	1.900 MHz
3.8 MHz	=	2.000 MHz

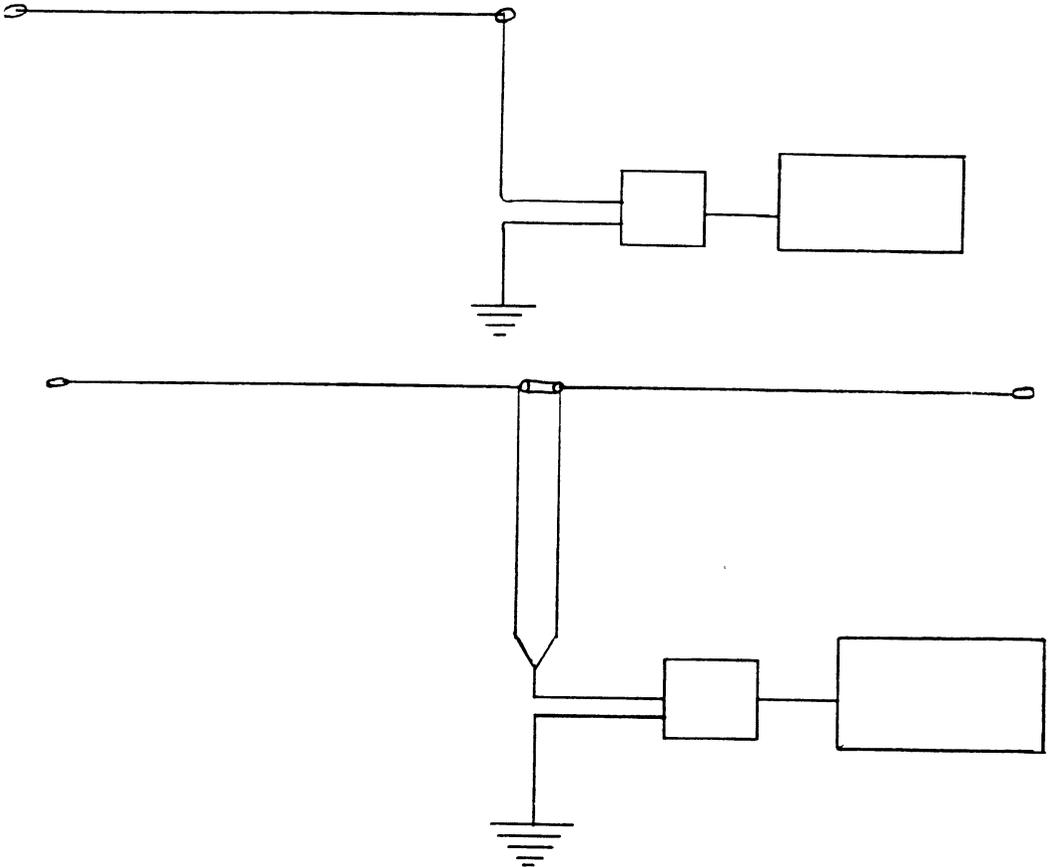
PROPER OPERATION

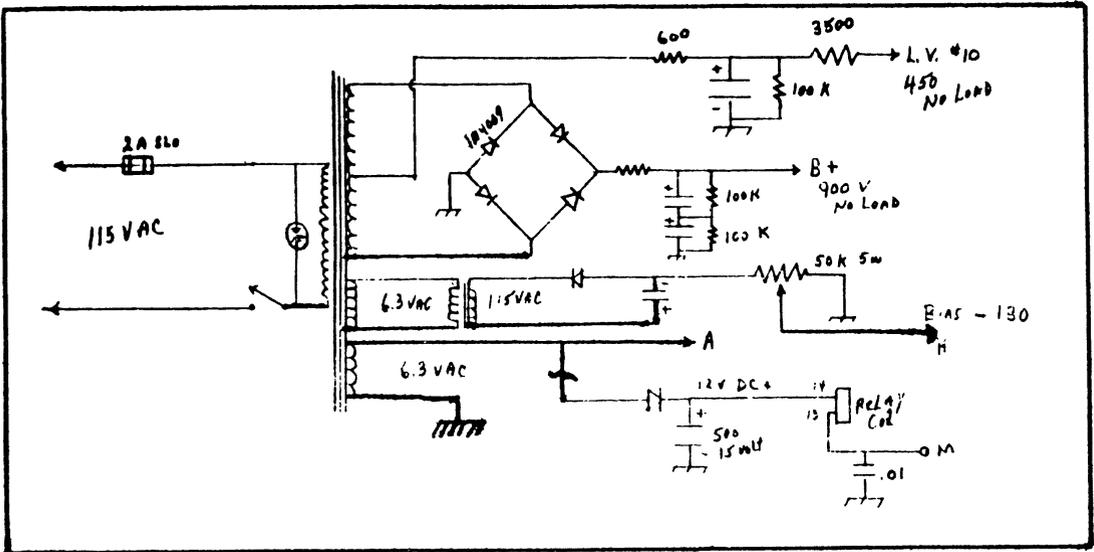
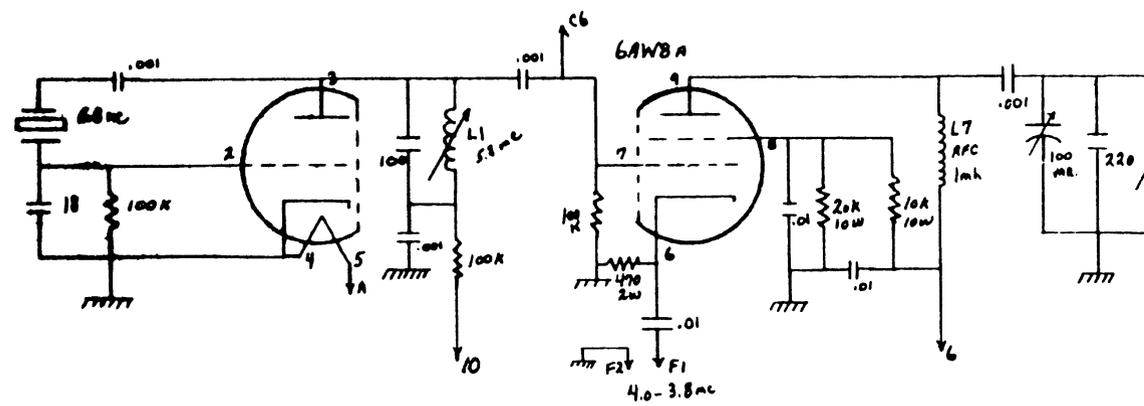
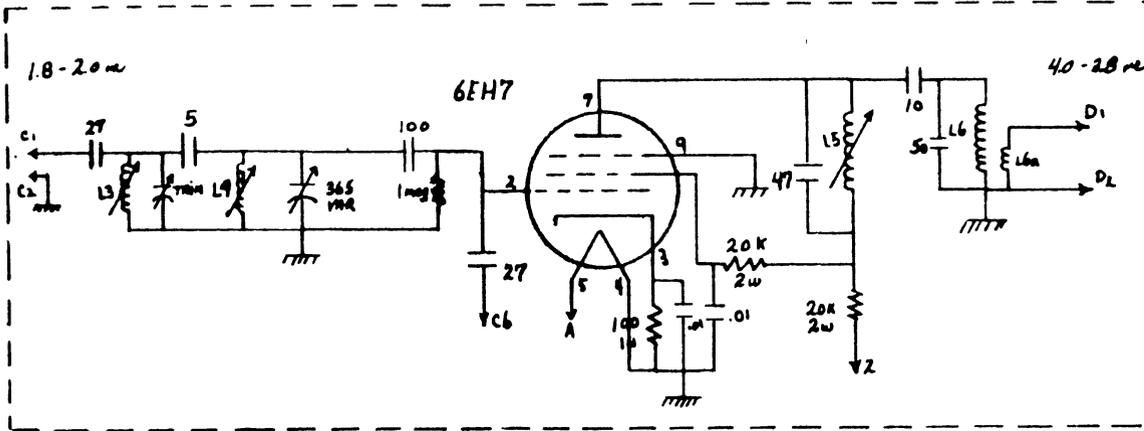
- 1) IMPORTANT - When operating other bands with 160 XV in circuit turn selector switch to by-pass and power switch off. Damage to 160 XV receiver section could result if not followed!
- 2) The 160 XV requires a 50 - 70 ohm ant that has a SWR of 2 - 1 or better. Never operate 160 XV without antenna or dummy load hooked up.
- 3) A good earth ground is very important for 160 meter operation.
- 4) CW operation is the same as SSB . Remember to insert only enough carrier into the 160 XV to get full output.
- 5) 220 volt operation: unsolder yellow-black transformer primary wire and resolder red-black transformer wire in its place.

ANTENNAS FOR 160 METERS

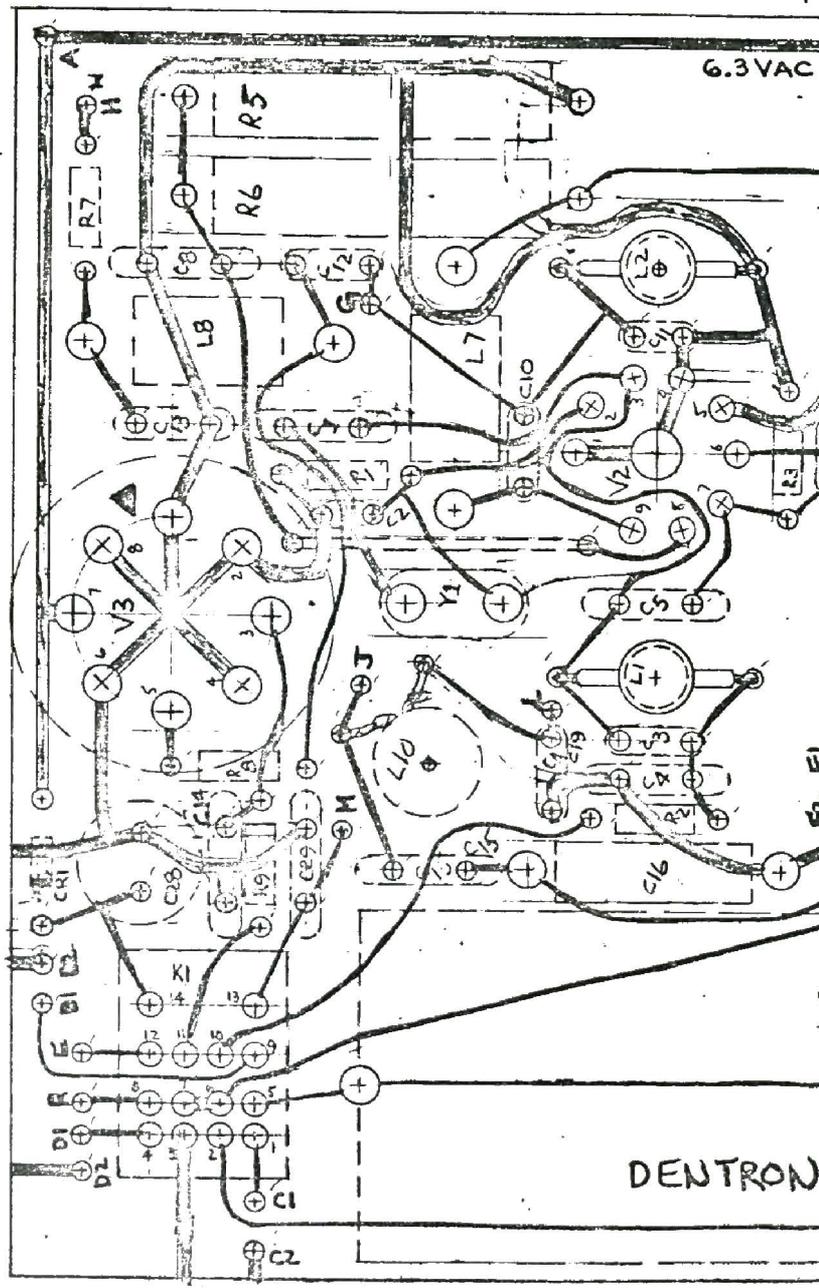
A misunderstanding has developed about antennas for 160 meters. They do not have to be longer, larger or more sophisticated than those used on the other HF bands. Anything from a short piece of wire, mobile whip or a mile of wire can be used.

To enjoy 160 meters, remember a good ground system and as long an antenna as space will permit and an antenna tuner such as the Dentron 160 AT is the road to solid QSO's on "Top Band".

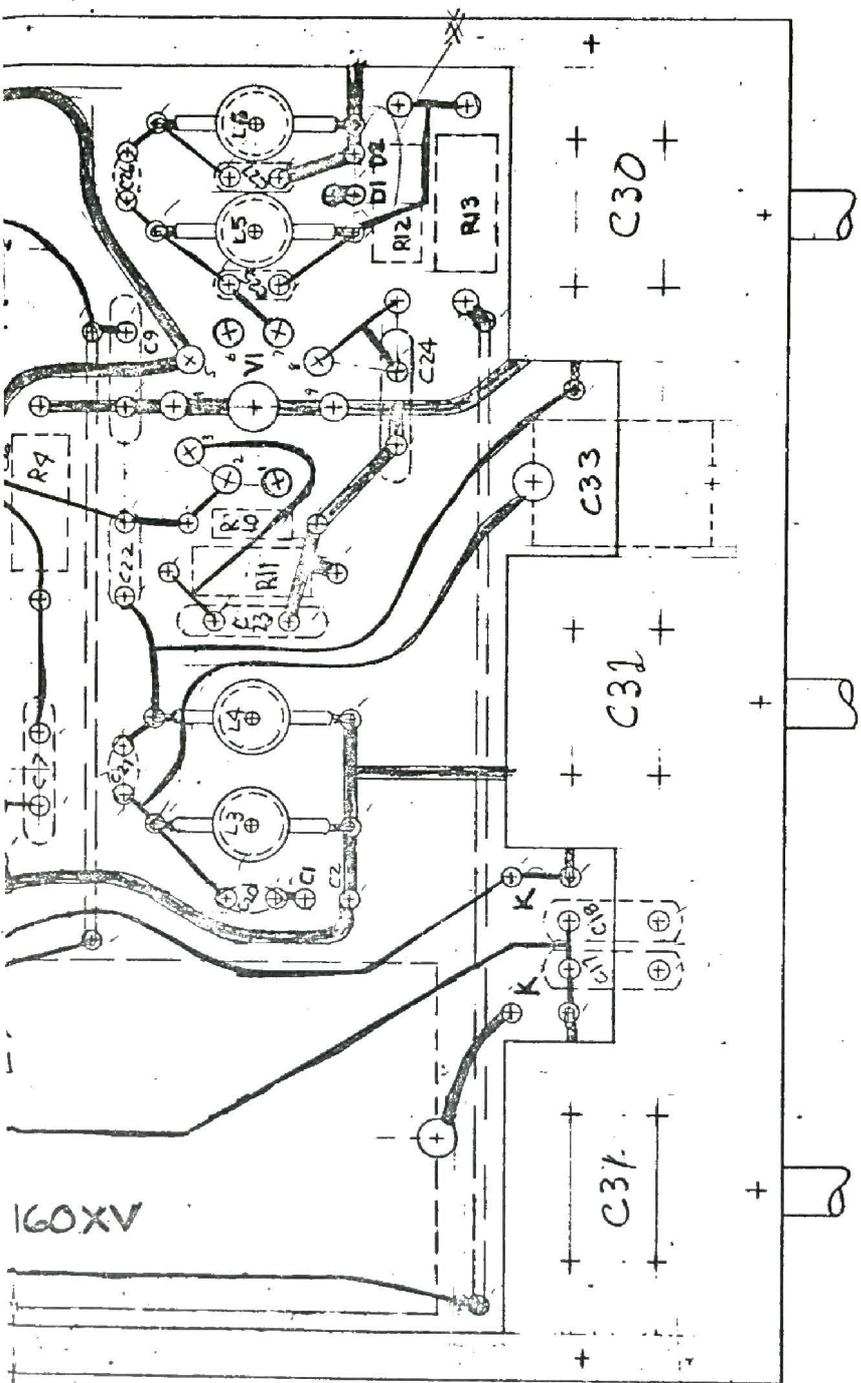




6.3 VAC



DENTRON



Dentron

from

Super Super Tuner™

160-10AT 3KW

Designed and engineered to be compatible with the full-power highly efficient modern amplifiers now available to the amateur.

- Continuous tuning 1.7–30 mc
- Antenna inputs:
 - a. coax unbalanced—SO—239
 - b. random wire — ceramic feed thru
 - c. balanced line — ceramic feed thru, tuned feeders 75–660 ohm.
- 2 tapped inductors - #12 guage wire & #8 guage wire
- Black Wrinkle finish
- Handles 3 KW PEP
- Transmatch circuit:
 - a. tune out load reactance
 - b. transform load impedance to 50-75 ohm
- Built-in heavy duty Balun; 3½" diameter x 3" H. 3 Core
- Harmonic attenuation
- Ceramic rotary switch 18 position 12 amp capacity
- Capacitor spacing 6000 volt
- 13" W x 8½" H x 15" D. 24 pounds



160 XV Top Bander™

160 meters is only a step away from 80 with this remarkable Dentron 160 meter transverter. Specifically designed to bring simple low cost 160 meter capability to any amateur station currently equipped for 80 meter CW, SSB, or AM operation. No modification of your existing equipment is required. Just "plug in and play" and you're on 160 meters with 100 watts transmit power and a super sensitive receiver.

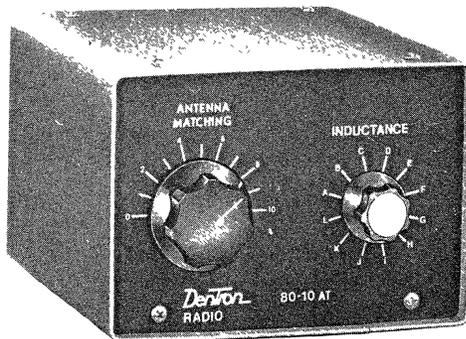
- Full 1.8–2.0 MHz coverage
- Receiver sensitivity .35 microvolts for 10 db ratio
- 5 watts of drive ample for full input
- Built in power supply for 110/50/60 Hz
- 6146B Final tube
- Matches 50–70 ohm antenna
- Input drive overload protection (swamping circuit)
- 3.8 to 4.0 MHz input (75 meter band) SSB, CW, AM
- Heavy steel construction of cabinet and chassis
- Printed circuit design
- Transverter—bypass control circuit
- W 12", H 6¼", D 10". Wt. 18 lbs.



80-10 AT Tuner™

Here's an antenna tuner for 80 through 10 meters, handles 500 PEP and matches your 52 ohm transceiver to a random wire antenna. The ideal tuner for the Ham on the move.

- Continuous tuning 3.2–30 mc
- "L" network
- Ceramic 12 position rotary switch
- SO-239 receptional to transmitter
- Random wire tuner
- 3000 volt capacitor spacing
- Tapped inductor
- Ceramic antenna feed thru
- 7" W. 5" H. 8" D., Weight: 5 pounds.



WARRANTY

The Dentron Radio Co. 160 XV 160 meter transverter is warranted against defects in materials and workmanship under normal use for a period of one (1) year on all parts and 90 days on labor.

The warranty becomes valid upon receipt of the enclosed warranty card. The warranty is valid to the original purchaser.

Do not ship equipment of Dentron Radio without prior authorization.

This warranty becomes invalid if the unit has been tampered with, mis-used or modified.

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Quality Is The Number 1 Customer Priority