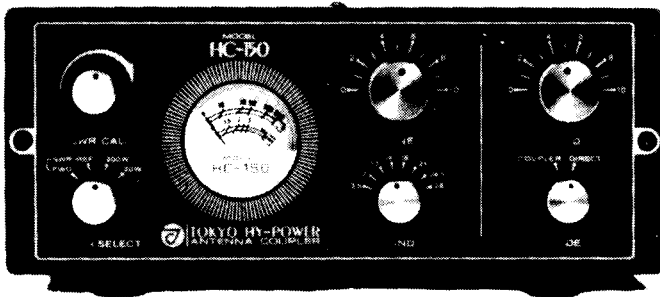


INSTRUCTION MANUAL

HF ALL BAND UNIVERSAL ANTENNA COUPLER

model HC-150/-200



TOKYO HY-POWER LABS., INC.

The HC-150 is an Antenna Coupler which contains a POWER/SWR Meter for the Amateur Bands between 3.5MHz and 28MHz. It is designed with an eye toward simpler operation and can be used by anyone from beginner to veteran OM.

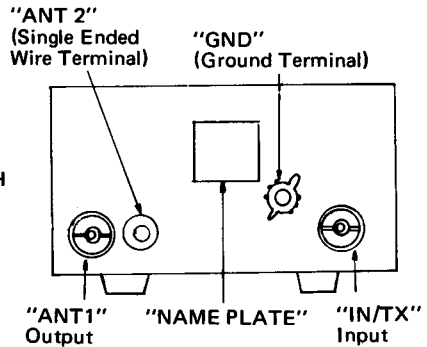
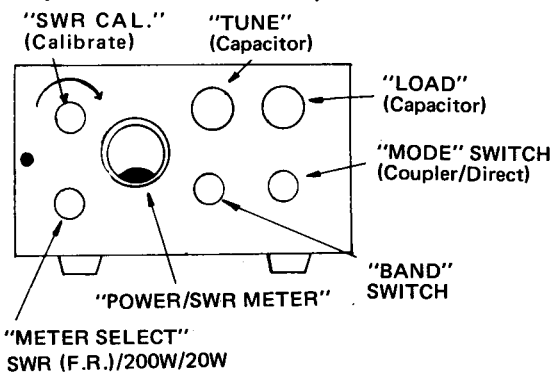
Special Features

1. HC-150 has a built-in Bandpass filter function due to the characteristics of the impedance matching network and it helps prevent TVI and BCI.
2. An accurate round meter which has dual functions and works as an SWR meter during tuning and also as an output power meter during transmitting.
3. Its compact size and weight so it is suitable not only for base use, but for mobile use as well.

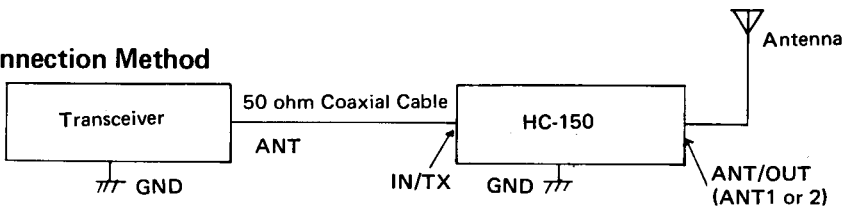
Specifications

- 1) Frequencies : 3.5, 7, 10, 14, 18, 21, 24.5, 28MHz.
Total 8 bands.
- 2) Max Power : 200W PEP (100W CW) (at 50 ohm impedance)
- 3) Input Impedance : 50 ohm
- 4) Output Impedance : 10 ohm – 250 ohm (unbalanced)
- 5) Power Meter/SWR Meter : 20W/200W/SWR switchable
- 6) Connector : M type (SO-239)
- 7) Dimensions : 210(W) x 84(H) x 187(D)mm
- 8) Weight : Approx. 2.2Kg.

Explanations of controls, etc.



Connection Method



Caution: Do not connect two antennas to ANT1 and ANT2 at the same time as ANT1 and ANT2 are internally connected.

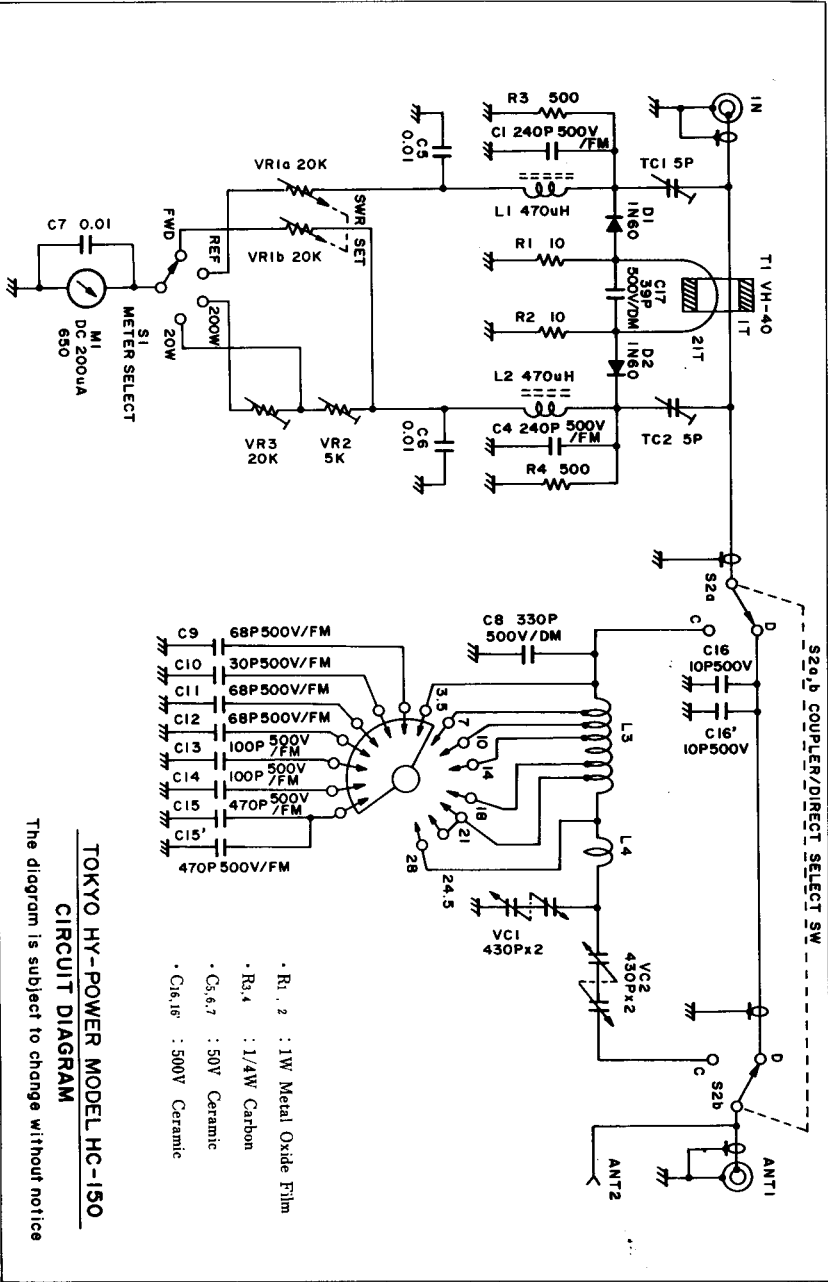
OPERATION

1. Connect each cable as in Fig. 2.
2. Set the METER SELECT knob on the front panel to the SWR-FWD position.
3. Turn-on the transmitter (lower power is preferable) and turn the SWR CAL knob until the needle deflects upscale but not to full scale.
4. Set the METER SELECT knob to the SWR-REF position.
5. Adjust the needle of the SWR meter to the lowest position by tuning the "TUNE" and "LOAD" knobs. Try to get the deepest null possible as close to 1:1 as possible. If you try to adjust with full power from the beginning, the radio and the HC-150 can be damaged. So start with lower power and then increase it gradually according to the matching. Use full power when you get the best matching condition.
6. Now that matching the antenna is completed. Power can be read from the 20W or 200W of scales determined by the position of the METER SELECT knob. The meter has four scales the upper two are for POWER and the lower two scales are for SWR. The full scale under the indication "W" is 20W.
7. When you set the MODE switch to the DIRECT position, the meter will work as an accurate POWER/SWR meter.
8. To measure the SWR, the following procedures are needed.
 - (1) Turn the "SWR CAL" knob fully counterclockwise.
 - (2) Set the "METER SELECT" knob to the "FWD" position.
 - (3) Transmit a carrier from the transceiver and adjust the needle of the meter to exactly full scale by turning the "SWR CAL" knob.
 - (4) Then set the "SWR CAL" knob to the "REF" position. The indication on the meter after switching to the "REF" is the SWR value.

Dial positions of the tuning controls of the variable capacitors 50 ohms loading.

| | | | | | | | | |
|-------------|-----|-----|-----|-----|-----|-----|------|-----|
| Freq. (MHz) | 3.5 | 7 | 10 | 14 | 18 | 21 | 24.5 | 28 |
| TUNE knob | 2.0 | 2.5 | 3.2 | 2.7 | 2.0 | 3.2 | 3.2 | 2.5 |
| LOAD knob | 3.5 | 4.0 | 5.0 | 5.3 | 5.0 | 6.2 | 7.0 | 6.5 |

(Above are approximations for starting references.)



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