

# DIAMOND ANTENNA

## SX-40 C

### General Specifications

The SX-40C Cross-Needle power meter combines two meters which indicate forward and reflected power respectively. It provides the direct read out of the SWR value from the crossing of two pointers.

### Specifications

Frequency Range: 140 - 525 MHz  
Input Impedance: 50 ohms  
Power Range: 30W or 150W switchable  
Power Readings: Direct read out  
Power Accuracy: 10% at full scale  
Min. Power Requirement: 4W  
Input/Output Connector: UHF  
Dimensions: 85W x 87H x 95D m/m

### Setting Up

Connect the TX output of the transceiver to the "TX" connector and the antenna to the "ANT" connector, both located on the rear panel of the unit. Use 50 ohms coaxial cable for the connections.

### Precautions

- 1) No mechanical shock to be given to the unit as it employs precision meters.
- 2) Do not transmit with an antenna out of tune, or open condition, as it may burn out the meter by high voltage.

### Operation

Be sure the power output range of the transceiver and set the LO / HIGH range accordingly. LO / HI switch is depressed for high (30W to 150W) range, and out for lowest (3W to 30W) range.

Keying the transceiver, measure the required parameters as follows:

- Forward power ~ follow the forward scale and read.
- Reflected power ~ follow the reflected scale and read.
- Standing wave ratio (SWR) ~ follow the SWR scale from the point of pointers crossing and read.

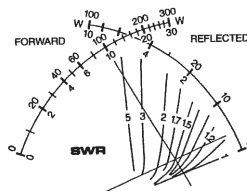


Fig.1

PI : Forward Power  
Pr : Reflected Power

$$SWR = \frac{\sqrt{PI} + \sqrt{Pr}}{\sqrt{PI} - \sqrt{Pr}}$$

$$SWR = \frac{\sqrt{100} + \sqrt{4}}{\sqrt{100} - \sqrt{4}} = \frac{10 + 2}{10 - 2} = 1.5$$

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