

## TROUBLE SHOOTING CHART

TROUBLE	POSSIBLE CAUSE	SERVICE PROCEDURE
Can not read zero when aligning in the reverse position when using a dummy load	Improper dummy load	Check value of dummy load (52 $\Omega$ with 160 $\Omega$ resistors 72 $\Omega$ with 100 $\Omega$ resistors. Be sure carbon resistors with short leads are used for the dummy load.
	Incorrect coax line	Check that correct impedance coax line is used.
	R-1 Incorrect	Be sure that R-1 is the correct value, depending on the coax line used, and is within 5% tolerance.
Can not read zero with an antenna	Unmatched antenna	Check for antenna mismatch as outlined under "Antenna Matching" in this book.
	Mismatch from a filter used for TVI reduction (if used)	Remove the filter from the line and check the meter reading. Check that the filter impedance is the same as that of the line.

## CIRCUIT DESCRIPTION

The P-2 SWR/Power Meter is simply a piece of transmission line to which a linear conductor is closely coupled. In this case the section of transmission line is the hollow metal rod and the linear conductor is the piece of pick-up wire on either side of the rod. The combination of the inductive and capacitive voltage is such that the incident RF voltage on the line is balanced out, leaving only the reflected portion to be read on the meter. The circuit uses two bridge circuits (each pick-up wire comprises a separate inductor) so that either the reflected or incident component may be read.

The current flow through the meter will vary with the operating frequency of the transmitter, because of the variation in coupling impedance. A sensitivity control (R-3) is used to keep the readings in the desired section of the meter scale. This avoids the necessity of adjusting the transmitter level to an "on scale" reading.