

A Homebrew HF SWR Bridge

By G8MNY

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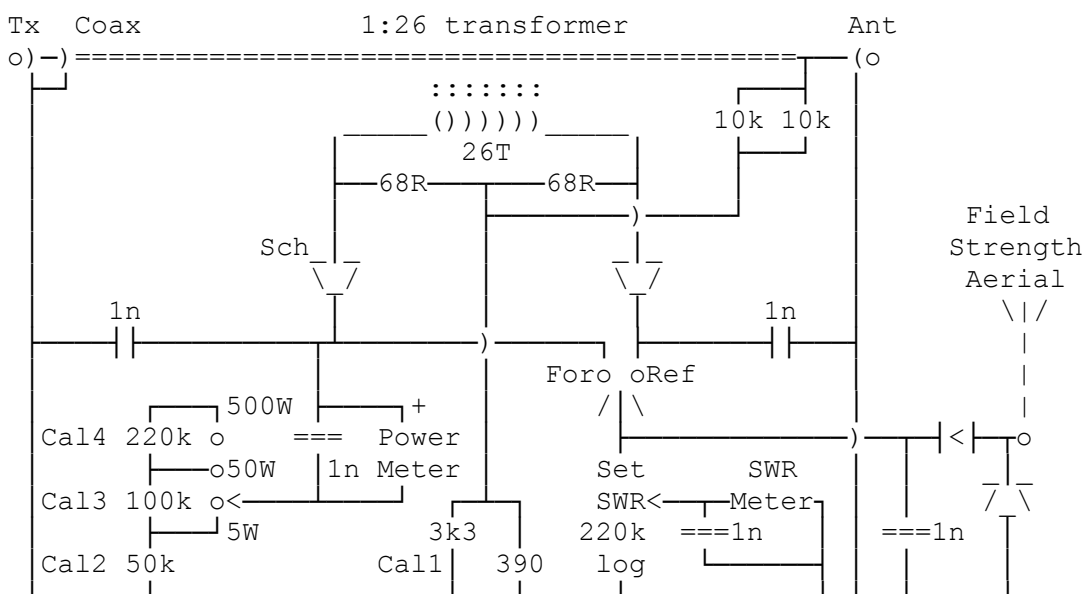
(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

For up to 30MHz this is a rebuild of standard C.B. "ELECT marc" 2 meter SWR bridge. Instead of the original frequency sensitive pick up lines that are OK for 27MHz, it uses a ferrite ring transformer for the current & a resistive tap for the voltage.

FEATURES

- 5W 50W 500W Power meter ranges.
- Separate single SWR meter with full scale Set pot.
- RF field strength detector (used separately).

CIRCUIT



- Both Meters are 25uA & 1500Ω.
- The 10Ks are 1W carbon type.
- The 390R is carbon type.
- Both 68R are 0.5W carbon type.
- Diodes are Schottky or Germanium types.

PRINCIPLE

The 50Ω coax goes through a small HF ferrite 15mm torroidal with a 26 turn secondary, the coax outer is grounded only at one end so 1/26 of the inner current appears across the series 68Rs. The centre of these is connected to a preset voltage attenuator so that with a 50R load the reverse signal cancels.

The forward power is measured via 3 series presets into a separate meter.

For SWR the Forward & Reverse signals are measured via the adjustable pot to the SWR meter.

For the field strength a small aerial is screwed in & the disconnected SWR meter can now show local RF fields. (e.g. along your coax outer!)

CALIBRATION (done in order as they affect each other!)

Cal1. set Reverse SWR null reading on a good load

Cal2. set 5W full scale deflection

Cal3. set 50W full scale deflection

Cal4. set 500W full scale deflection.

N.B. the meters have square law power scales & an SWR scale.

See also my Tech buls on "Drake WH7 QRO HF SWR Bridge",  
"PEP Meter modification", "QRP SWR Bridge", "QRO 1kW HF Metered Dummy Load",  
"HF ATU & SWR Bridge VC300LP/QT-1" & "Meter Damping & Speed Up".

Why don't U send an interesting bul?

73 De John, G8MNY @ GB7CIP