

BEFORE OPERATION

This unit has been calibrated at the factory. Do not remove the case or attempt to readjust the internal components as this might result in an error in the accuracy or may cause the unit to malfunction.

These meters are highly sensitive.

Protect the unit from excessive vibration or mechanical shock.

When transporting the unit turn the calibration control to minimum (fully counter-clockwise).

1. SPECIFICATIONS

1-1. SPECIFICATIONS

Dimensions.....	208W × 66H × 85D mm
Weight.....	Approx. 850 g
Connector	M type (SO-239)
Impedance	50 ~ 52 Ω
Frequency range	1.8 ~ 30 MHz
Feed through power overload	2000 W/PEP
Insertion loss	Less than 0.3 dB
Residual SWR.....	Within 1.2
Power measurement	
Range	0 ~ 200 W, 0 ~ 2000 W
Accuracy	1.8 ~ 30 MHz, 10% (full scale)
Minimum power for SWR measurement	Approx. 30 W

Circuit and ratings are subject to change without notice due to advancement in technology.

1-2. ACCESSORIES

Instruction Manual B50-8310-XX ... 1 copy

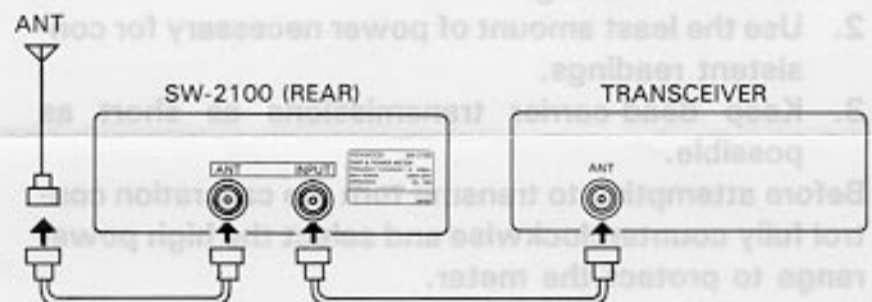
2. CONNECTION

CAUTIONS:

The use of 50 Ohm coaxial cable is required for proper operation of this meter.

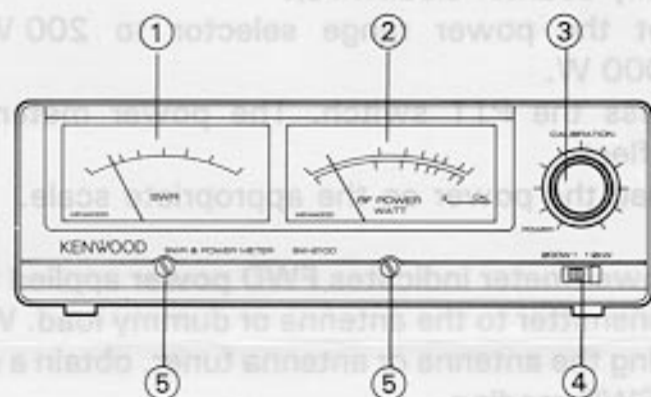
Connect the transceivers antenna connector to the INPUT connector on the rear of the meter. Connect the ANT connector on the rear of the meter to your antenna or dummy load.

Best accuracy will be obtained when you use non-inductive 50 Ohm coaxial cable with an overall SWR reading of 1.1.

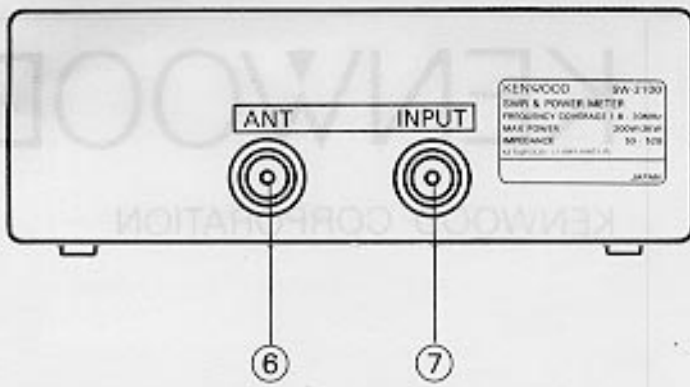


3. OPERATION

3-1. OPERATING CONTROLS



- SWR meter**
Displays SWR.
- POWER meter**
Displays RF power.
- Calibration control**
Used to set the meter calibration and to select the RF power function.
- Power Range selector**
Used to select the desired range:
200 W Max or 2000 W Max.
- Meter Zero adjustment**
Use to adjust the mechanical zero on the meter.



- ⑥ **ANT connector**
Connect the antenna to this connector.
- ⑦ **INPUT connector**
Connect the output from the transmitter or linear.
Use 50 Ohm coaxial cable only.

3-2. OPERATION

CAUTION:

Ensure all connectors are tight.

High SWR levels will result in excessive voltage being fed back into the meter and may result in damage to the internal components.

To reduce interference on the bands:

1. Always check to ensure the frequency is clear before transmitting.
2. Use the least amount of power necessary for consistent readings.
3. Keep dead-carrier transmissions as short as possible.

Before attempting to transmit turn the calibration control fully counterclockwise and select the high power range to protect the meter.

3-2-1. FWD (Forward) power

1. Set the calibration control to the power position (fully counter-clockwise).
2. Set the power range selector to 200 W or 2000 W.
3. Press the PTT switch. The power meter will deflect.
4. Read the power on the appropriate scale.

The power meter indicates **FWD power** applied from the transmitter to the antenna or dummy load. When adjusting the antenna or antenna tuner, obtain a minimum SWR reading.

Nominal FWD power

The nominal FWD power is the difference between the forward power and reflected power and is equal to the power radiated by the antenna.

For example:

- The forward power ; 500 W
- The SWR reading ; 1.5
- The nominal FWD power ; 480 W

V	SWR
Pf	Forward power
Pr	Reflected power
Pn	Nominal power

$$V = \frac{\sqrt{P_f} + \sqrt{P_r}}{\sqrt{P_f} - \sqrt{P_r}} \rightarrow P_r = \left(\frac{V - 1}{V + 1} \right)^2 P_f$$

$$\begin{aligned}
 P_n &= P_f - P_r \\
 &= 500 - \left\{ \left(\frac{1.5 - 1}{1.5 + 1} \right)^2 \times 500 \right\} \\
 &= 480 \text{ (W)}
 \end{aligned}$$

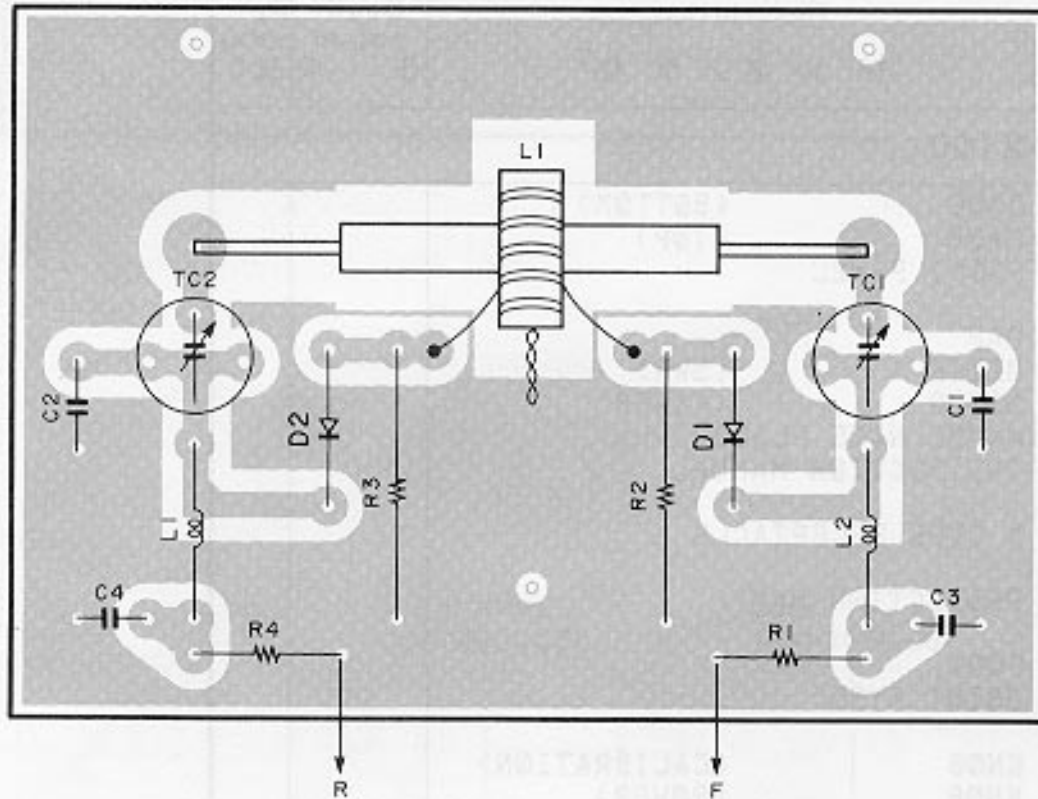
3-2-2. SWR (Standing Wave Ratio)

1. Set the calibration control to the power position (fully counterclockwise).
2. Set the power range selector to 200 W or 2000 W.
3. Press the PTT switch. The power meter will deflect.
4. Adjust the calibration control clockwise to bring the power meter pointer to the CAL mark (full scale).
5. Read the SWR.

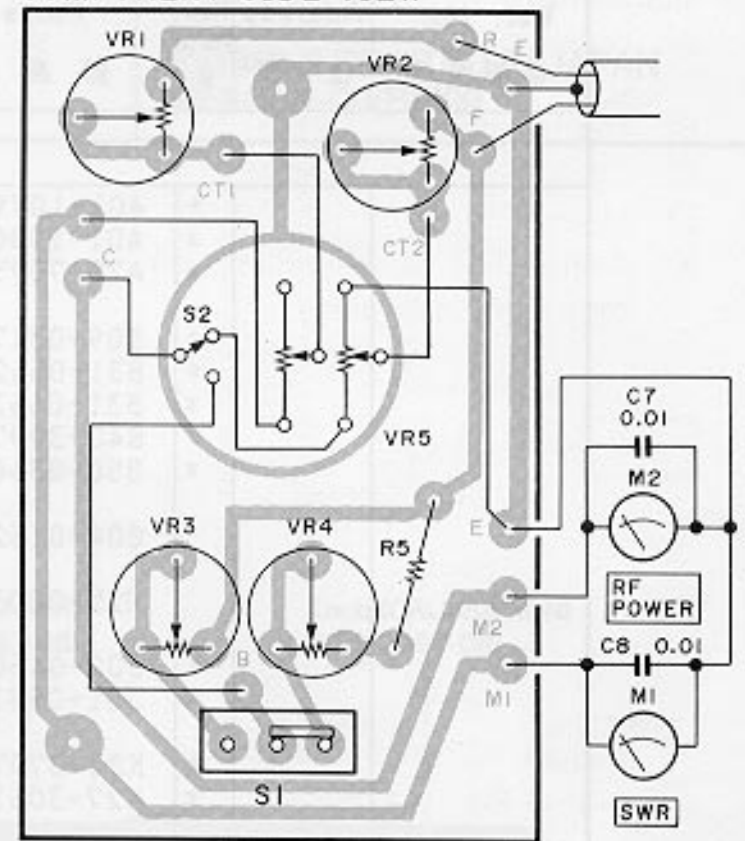
The power meter indicates **FWD power** applied from the transmitter to the antenna or dummy load. When adjusting an antenna or antenna tuner, adjust for a minimum SWR reading.

PC BOARD/SCHEMATIC DIAGRAM

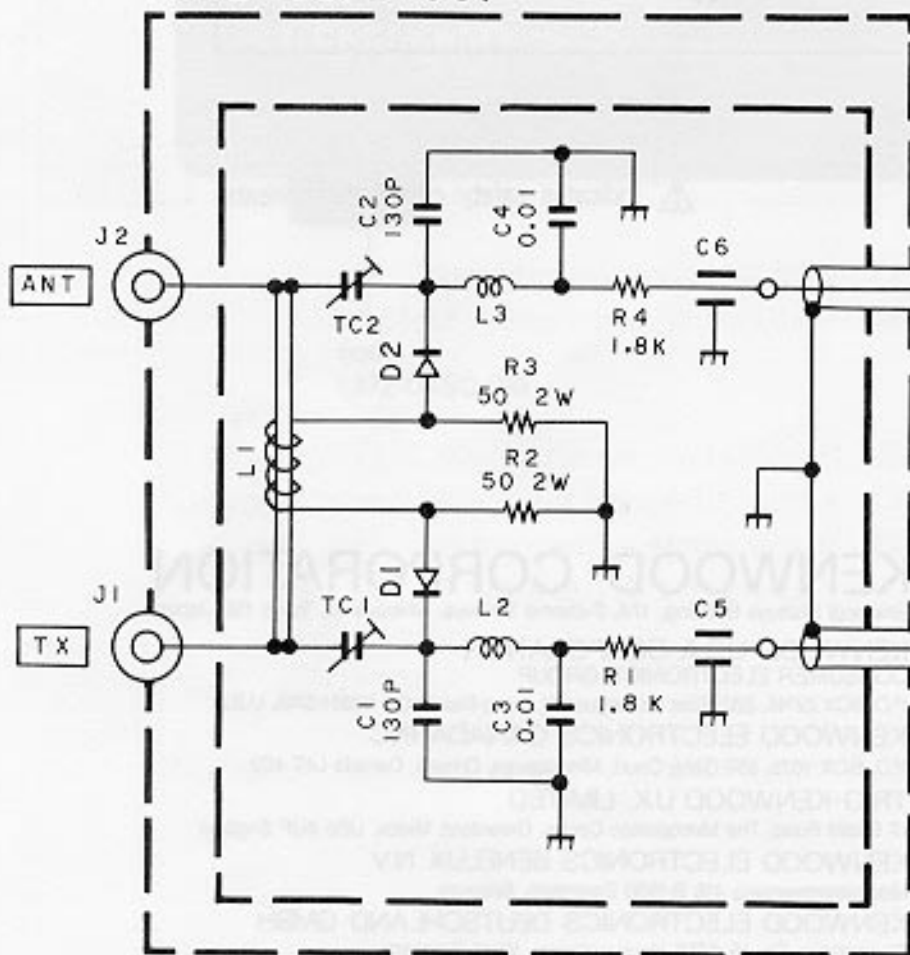
SENSOR UNIT (W02-0872-08)
COMPONENT SIDE VIEW



CONTROL UNIT (W02-0873-08)
COMPONENT SIDE VIEW

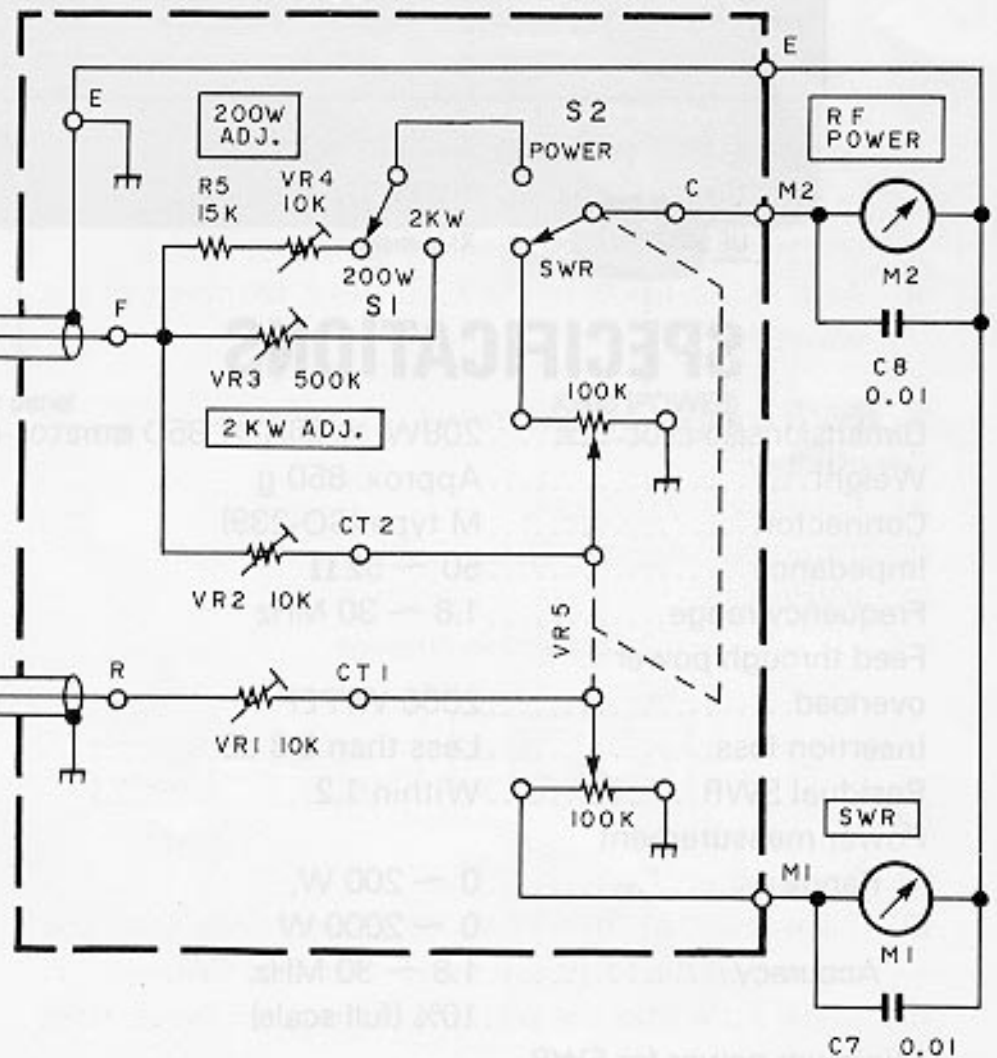


SENSOR UNIT
(W02-0872-08)



D1, 2 : 1K60

CONTROL UNIT
(W02-0873-08)



SW - 2100 (K)

SW-2100

PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
SW-2100						
		*	A01-1079-08	CASE (BOTTOM)		
		*	A01-1080-08	CASE (TOP)		
		*	A20-7075-08	FRONT PANEL		
		*	B09-0317-08	CAP		
		*	B31-0662-08	METER (SWR)		
		*	B31-0663-08	METER (POWER)		
		*	B40-3997-08	MODEL NAME PLATE		
		*	B50-8310-08	INSTRUCTION MANUAL		
			E04-0152-05	M TYPE RECEPTACLE		
			H25-0003-03	PROTECTION BAG		
		*	J02-0450-08	FOOT		
		*	J31-0533-08	JOINT PYPE		
		*	K23-0797-08	KNØB (CALIBRATION)		
		*	K27-3053-08	KNØB (POWER)		
		*	N14-0544-08	SPEED NUT		
VR5		*	R06-9408-08	POTENTIOMETER(100K X2)		
S1		*	S31-2417-08	SOLID SWITCH		
Ø1,2			1K60	DIODE		
		*	W02-0872-08	SENSOR UNIT		
		*	W02-0873-08	CONTROL UNIT		

E: Scandinavia & Europe K: USA P: Canada

U: PX(Far East, Hawaii) T: England M: Other Areas

UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

SPECIFICATIONS

Dimensions..... 208W × 66H × 85D mm

Weight..... Approx. 850 g

Connector..... M type (SO-239)

Impedance..... 50 ~ 52 Ω

Frequency range..... 1.8 ~ 30 MHz

Feed through power

overload..... 2000 W/PEP

Insertion loss..... Less than 0.3 dB

Residual SWR..... Within 1.2

Power measurement

Range..... 0 ~ 200 W,

0 ~ 2000 W

Accuracy..... 1.8 ~ 30 MHz,

10% (full scale)

Minimum power for SWR

measurement..... Approx. 30 W

Circuit and ratings are subject to change without notice due to advancement in technology.

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