

○Name and operation explanation of each part

### 1. POWER/ GATE TIME

The switch which sets the gate time of the power supply and the frequency counter.

The power supply cuts at the position of turning off, the power supply enters at the position of FAST and SLOW, and this machine works. The resolution of the frequency spectrum designation : at the position of FAST It is set to 100Hz at the position of 1kHz and SLOW.

### 2.Frequency display part

Display the figure and the decimal point of six digits by LED.

When the battery is consumed, the decimal point starts blinking.

### 3. OVER

It informs lighting of LED and the overflow when the frequency spectrum designation exceeds six digits.

### 4.The switch which selects the cooking stove of the frequency.

1.8-170MHz has been divided into 6ranges of A-F.

### 5. FREQ

The dial continuous the frequency changeability to set it.

### 6.Switch measurement function switch switch (right side)

impedance measurement and SWR measurement.

### 7. ANT(right side)

M type connector which connects the antenna or the thing to be measured.

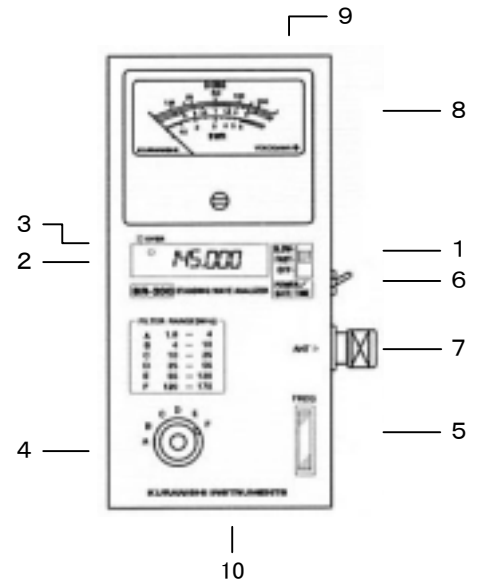
### 8.Meter which directs measurements

The graduation above directs and the graduation impedance below directs SWR.

### 9• EXT.DC INPUT(upper surface)

The input terminal when an external power supply is used.

### 10.Store battery box (back) AA type dry battery.



### ○Preparation for measurement

Check the movement of this machine in the beginning.

Connect standard RF dummy loading of the attachment with the terminal ANT.

Next, confirm the power switch is put, and the needle of the meter directs SWR 1:1 in the state of 50Ω and "SWR measurement" in the state of "Impedance measurement".

This machine works normally if "50Ω" and "1:1" are directed respectively though the frequency is changed with the frequency cooking stove switch and the FREQ dial.

### △ Attention

Standard RF dummy loading of the attachment is BR-200 exclusive use (0.5W specification)

### ○Impedance measurement of antenna feeding power point

Connect the feeding power point of the antenna and the terminal ANT of this machine directly with as short a feeder as possible (coaxial cable etc.).

Adjust the measurement function switch switch to the position of "Impedance measurement".

Select the cooking stove with the frequency cooking stove switch and set it to a target frequency with the FREQ dial while seeing the counter.

At this time, the meter directs "Impedance" in the set frequency.

This antenna will resonate to a target frequency if impedance directs 50Ω.

### ○Resonance frequency measurement of antenna

Connect the antenna with the terminal ANT according to the preceding clause, and adjust the measurement function switch to the position of "SWR measurement".

Set to the cooking stove which seems that suitable it, spend the FREQ dial while seeing the meter, and change the frequency.

The frequency displayed in the counter in the point where the instruction of SWR is the nearest SWR 1:1 is a resonance point.

### ○SWR measurement of antenna

Connect the antenna similarly, and adjust the measurement function switch switch to the position of "SWR measurement".

Select the cooking stove with the frequency cooking stove switch, and set the FREQ dial to a target frequency while seeing the counter.

At this time, the meter directs SWR in the set frequency.

### △ Attention

When inductivity reactance or capacitive reactance greatly remains in the antenna, SWR : even if impedance is 50Ω It does not fall on 1:1. In this case, adjust in the point that SWR fell most and use it.

### ○Adjustment of antenna

Connect the antenna similarly, and adjust the measurement function switch switch to the position of "Impedance measurement".

Set it to a target frequency with the frequency cooking stove switch and the FREQ dial.

At this time, adjust the element in the direction (Or, direction which shortens electrically) where the element is shortened in the direction (Or, direction which becomes long electrically) which becomes long when it is high when the instruction of the meter is lower than 50Ω to.

### ○SWR measurement of the entire antenna circuit

In this case, SWR is changed by the difference etc. of the length of the feeder, the loss or the frequency though the transmitter and the antenna are connected with the feeder (coaxial cable etc.) in the wireless station operation of the actuality.

Connect the transmitter edge of the feeder with the terminal ANT of this machine, and adjust the measurement function switch to the position of "SWR measurement".

At this time, the instruction of the meter directs SWR of the entire antenna meter. Adjust the antenna to become 1:1 if SWR is high.

Additionally, the frequency characteristic of the frequency band region measurement and the filter of the antenna tuner and the frequency characteristics etc. of the dummy loading can be measured.