

HOBBY ELECTRONICS

INSTRUCTION MANUAL

MODEL **RF-550**
RF-440



DAIWA **DAIWA CORPORATION**

INSTRUCTION MANUAL
MODEL RF-440/550
QUALITY RF speech processor

UNPACKING

The following items should be packed in the box with the RF-440/550. Check to make sure all of these are included when you unpack the unit.

1. Instruction Manual.
2. DC Plug.

GENERAL DESCRIPTION

The DAIWA RF-440/550 is an RF speech processor, that gives 6 to 8 dB improvement in 'talk power'. This unit has following features:

- *Low distortion with clipping at an RF frequency.
- *Easy installation into microphone lines.
- *Completely Solid-state.
- *Level metering.
- *Usable with microphone impedances 600 ohms to 50 kohms.
- *Splatter free performance.

SPECIFICATION

Talk power: Better than 6 dB improvement.

Clipping threshold: Less than 2 mV at 1 kHz.
 Band width: 2200 Hz at 6 dB down.
 Frequency response: Approx. 300-3,000 Hz at 12 dB down.
 Distortion: Less than 3 % at 1 kHz, 20 dB clipping.
 Output level: More than 80 mV(RF-550)/50 mV(RF-440) at 1 kHz.
 Power requirement: 230 (or 117 volts) AC. Approx. 1.4 watts (RF-550)/1.0 watts (RF-440), 13.5 volts DC. Approx. 80 mA (RF-550)/55 mA (RF-440).
 Dimensions: 150(W) x 70(H) x 150(D) m/m
 Net weight: 2 kg.

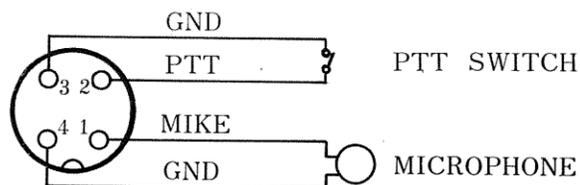
WIRING

It is necessary to check the microphone wiring before operating RF-440/550. The microphone cable connection to the RF-440/550 is shown in Fig.-1.

1. Check your microphone connector and its wiring to ensure that they can be used with the RF-440/550.
2. If your microphone connector cannot be used with the RF-440/550, remove it and connect the input connector to your microphone cable as shown in Fig.-1.
3. The output connector of the RF-440/550 is wired as Fig.-1, if it is not usable with your Transmitter/Transceiver, the output connector should be connected to the microphone connector as shown in the instruction manual of the Transmitter/Transceiver.

This completes the wiring. The RF-440/550 is now ready for operation.

Fig.-1 MICROPHONE CABLE CONNECTION



OPERATION

It is recommended that initial tests and familiarization of the RF-440/550 be done with your Transmitter/Transceiver connected to a dummy load.

1. Be sure the power switch of the RF-440/550 is in the 'OFF' position.
2. Interconnect microphone to RF-440/550 input and output to Transmitter/Transceiver input as shown in Fig.-2.
3. The microphone line is connected directly to the Transmitter input when the gain control of the RF-440/550 is in the full counterclockwise position. Check the operation of the microphone to insure it operates properly. If it does not function properly, check the wiring of the interconnection cable (see Fig.-1).
4. Set the gain control to the full clockwise position and the output control to the full counterclockwise position.
5. Turn 'ON' the power switch.
6. In 'SSB' and 'AM' modes, adjust the output level of the output control with audio until the ALC meter reset around the right edge of the red zone. If your Transmitter does not have an ALC meter, a plate current meter or an output power meter may be substituted. In 'FM' mode, adjust the output control with audio until the frequency deviation of your FM Transceiver is just below the maximum allowable deviation.
7. Adjust the microphone gain control with audio (keeping microphone more than 4 inches from your mouth) until the level meter indicates around 'O' on the red zone as shown in Fig.-3.

With this adjustment, the talk power of the processed voice increases more than 4 times compared with your original voice.

The RF-440/550 is now ready to be tested on the air. It is advisable to try the RF-440/550 in both 'ON' & 'OFF' position of the gain control and check for the audio quality of your Transmitted signal. If there is a complaint of bellowing or pumping, ease off slightly on the gain control.

CAUTION

1. Splatter can result from improper adjustment of the output control. The output control setting should be checked as frequently as possible to insure that it is set at the proper level.
2. Keep the microphone more than 4 inches from your mouth when using the RF-440/550.
3. Adequate ventilation of the transmitter stage should be provided because the load on the final increases 3-4 times, when the RF-440/550 is used.

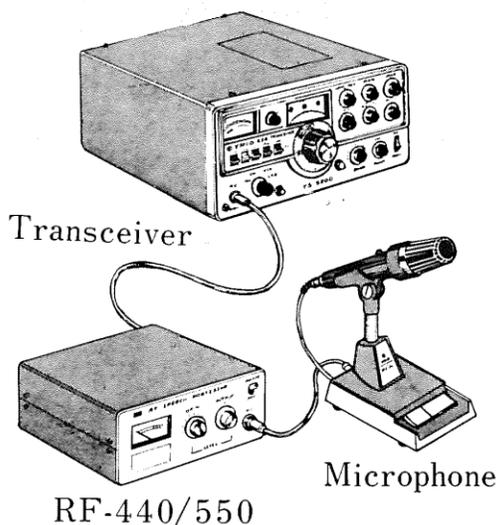
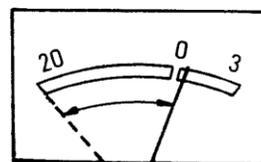
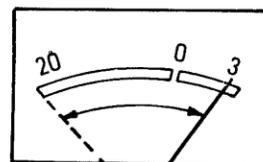


Fig.-2



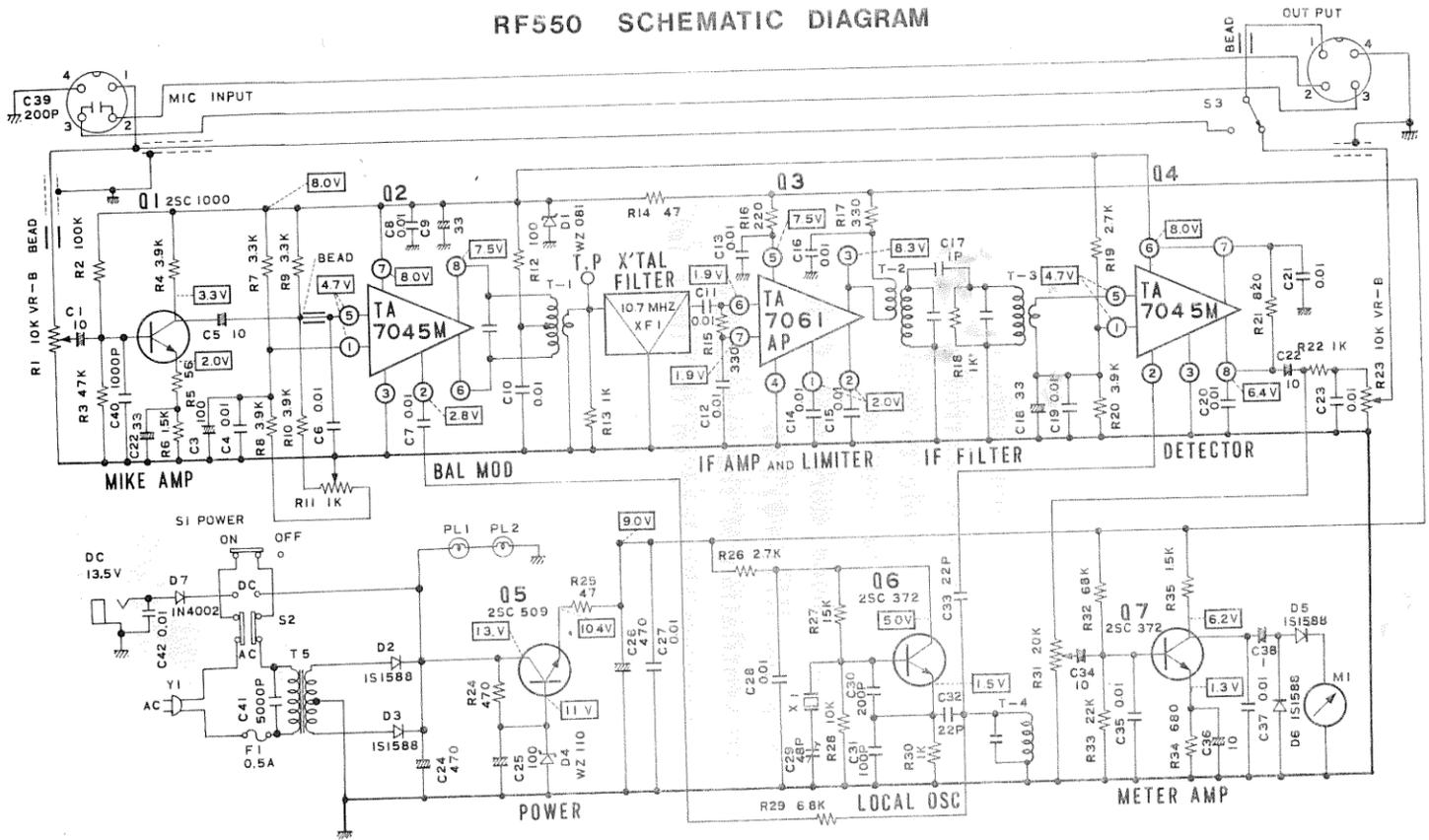
GOOD



OVER CLIP

Fig.-3

RF550 SCHEMATIC DIAGRAM



RF440 SCHEMATIC DIAGRAM

