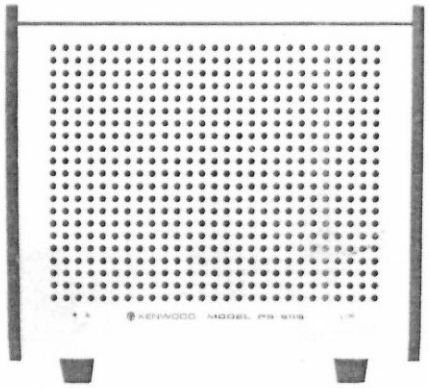
KENWOOD



POWER SUPPLY & SPEAKER UNIT

Model PS-511S

OPERATING MANUAL

The Kenwood PS-511S is a high stable power supply, which is designed especially for use with the TS-511S transceiver. It features built-in communication speaker, silicon rectifier for high tension voltage and voltage regulator.

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SPECIFICATIONS

OUTPUT

Terminal	Voltage	Current	
900V	840V (970V)	390mA (0.6mA)	DC
300V	300V (310V)	49mA (6mA)	DC
190V	195V (200V)	5mA (0.05mA)	DC
150V	150V (150V)	52mA (85mA)	DC
– C	–90V (–90V)	13mA (15mA)	DC
12.6V (a)	13.6V	2.3A	AC
12.6V (b)	13.8V	2.2A	AC

Notes:
The values are measured at the connector of the TS-511S when the TS-511S is in transmit mode with 170 watts output, in CW mode. However, the values in ( ) are measured when the TS-511S is in receive mode in CW mode.

SPEAKER SECTION

Diameter	3-17/32" x 5-1/2" (Ellipsoidal)
Impedance	8 ohms
Frequency response	150 - 5,000 Hz
Rated input	1.5 watts (max.)
POWER REQUIREMENT	117 Vac 50/60 Hz, 550 watts (max.)
SIZE	7-7/8" wide x 6-11/16" high x 13-6/8" deep (Excluding feet)
WEIGHT	26.4 lbs.

SECTION 1. INSTALLATION

1.1 UNPACKING

Carefully unpack the PS-511S and check that the following accessories are included.

Interconnecting power cable	1
Plastic feet	2
Fuse (10A)	1

1.2 LOCATION

Select a proper operation location. It should be dry and free from direct sunlight.

1.3 CONNECTIONS TO TS-511S

Connect the interconnecting fan and power cable between the transceiver and the power supply. (See Fig. 1)

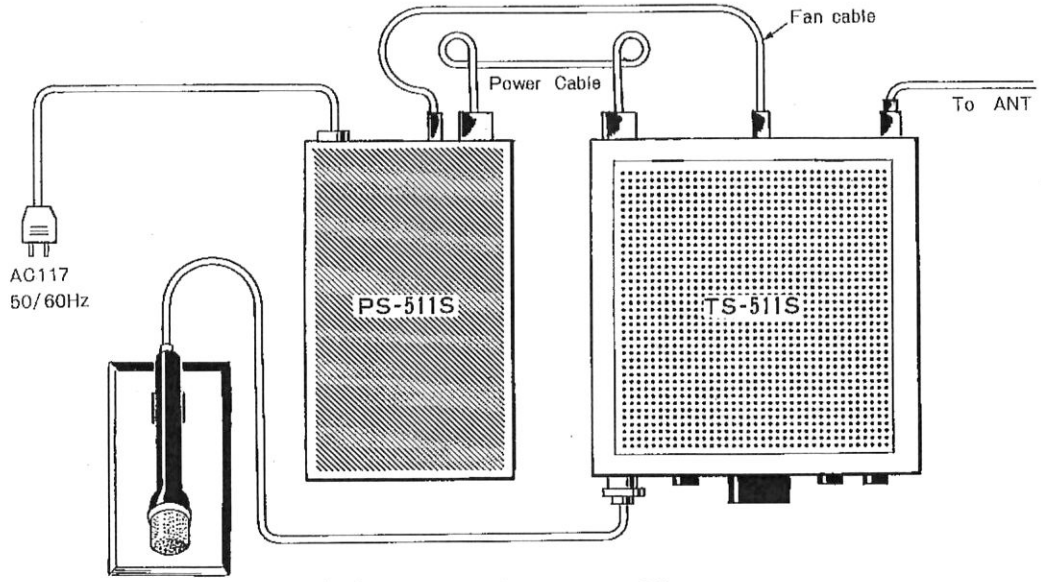


Fig 1. Connections to TS-511S

SECTION 2. CONTROLS & OPERATION

2.1 FRONT PANEL

Indicator (1 on Fig. 2)

The neon bulb lights up when power is on.

2.2 REAR PANEL

POWER SUPPLY connector (2 on Fig. 2)

This connector provides the power supply connection and speaker connection with the TS-511S.

FAN socket (3 on Fig. 2)

This socket provides a power supply for the fan of the TS-511S.

GND lug (4 on Fig. 2)

The ground lug is used for an adequate ground.

V ADJ control (5 on Fig. 2)

The voltage of 150 V line is controlled slightly by this control (VR 1).

AC line cord (6 on Fig. 2)

Fuse (10 A) (7 on Fig. 2)

2.3 OPERATION

The PS-511S power supply is not provided with a power on-off switch since it can be operated from the power switch of the TS-511S.

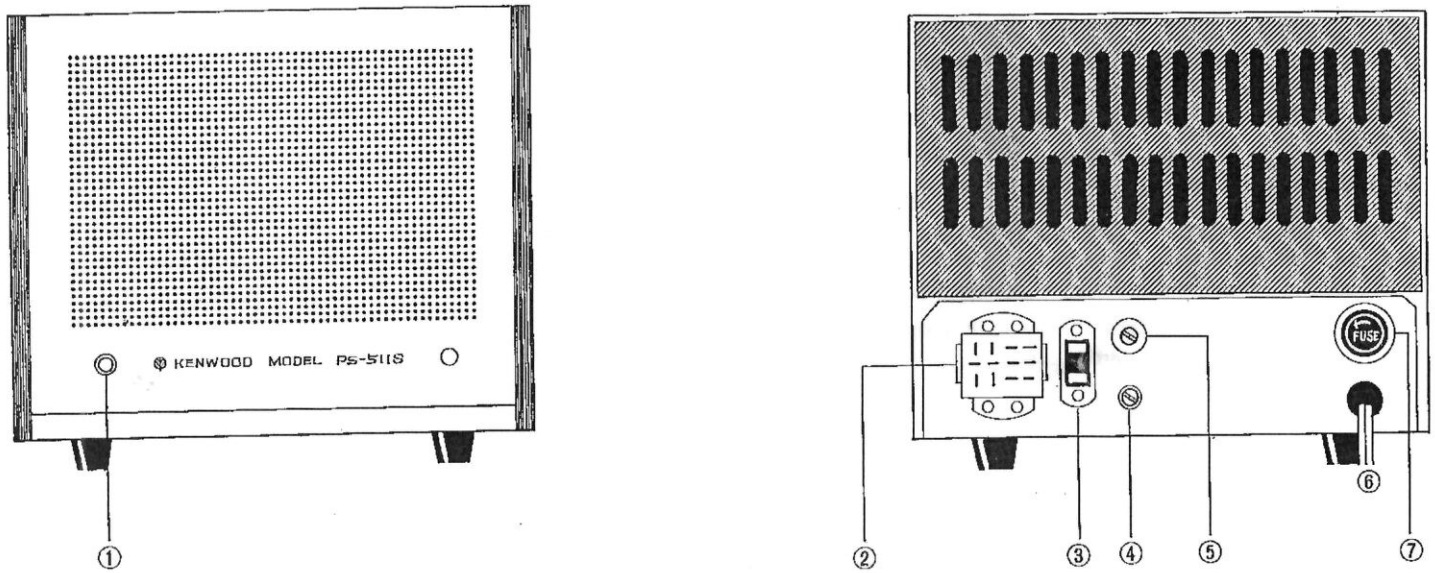


Fig 2. Front panel & Rear panel Controls

SECTION 3. CIRCUIT DESCRIPTION

AC LINE

A π type filter installed in this AC line is for preventing unwanted radiation of radio waves from the AC power line.

900 V LINE

The 900 V high voltage is obtained from a voltage-doubling rectifier. Two silicon diodes are used in series with each rectifier element to obtain the required withstand voltage. A large resistance is also connected in parallel with each silicon diode and electrolytic capacitor to prevent them from being overloaded by unbalanced voltages.

300 V LINE

For the 300 V line, a silicon diode bridge rectifier and choke input circuits are employed for extra voltage regulation and ripple-free operation.

190 V LINE

190 V is obtained through a resistor connected in series with the 300 V line.

150 V LINE

The 150 V line is stabilized by a 6BM8 tube.
Principle of operation: When the 150 V line experiences a slight voltage drop due to variation in the load, it reduces the grid voltage of the triode section of the 6BM8 tube. Since the cathode is clamped at a constant voltage by the neon bulb, the plate current decreases and hence the voltage drop across R201 becomes less, increasing the plate voltage. Therefore, the grid bias of the pentode section of the 6BM8 decreases to compensate for the voltage drop in the 150 V line, which thus restores its normal constant value. The output voltage can be controlled by adjusting the semi-fixed resistor (VR 1).

BIAS (–C) LINE

The bias circuit is a half-wave rectifier built around a silicon diode.

12.6 V LINE

There are two 12.6 V windings so that separate heater sources can serve the pair of final amplifier tubes (6LQ6) and other vacuum tubes. These voltages are designed higher (13.5 V) at the transformer windings since they will drop as supplied to the TS-511S through the power cable.

6.3 V LINE

The 6.3 V powers the heater of the 6BM8. This winding is maintained at a + 150 V level to provide against insulation breakdown between the cathode and heater.

SPEAKER TERMINAL

The speaker terminal shares the same power supply connector with other power outputs. This power supply connector also constitutes the transformer primary winding circuit to enable the power supply to be switched from the TS-511S transceiver.

SECTION 4. MAINTENANCE

4.1 REMOVING THE CHASSIS FROM THE CASE

The chassis can be removed upward after unscrewing 2 black screws from the top and 4 each from both the right and left sides. It is unnecessary to remove bottom screws since the bottom plate comes off along with the chassis.

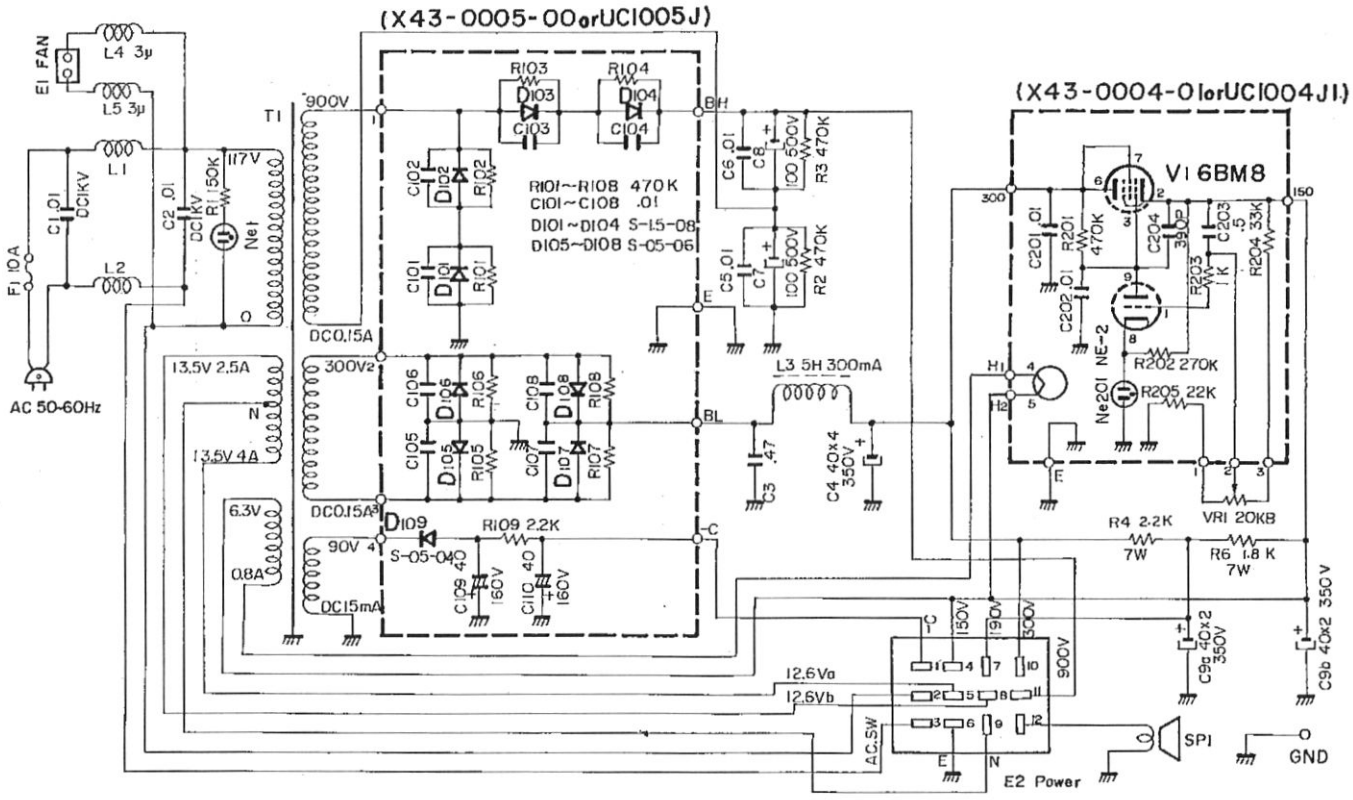
4.2 FUSE (10 A)

If the fuse blown, be sure to check for the cause before replacement. Use a 10 A fuse for replacement.

4.3 150 V LINE

The stabilized 150 V line has been factory-adjusted. However, if it becomes out of adjustment for some reason, readjust the semi-fixed resistor (VR 1) so that 150 V is obtained with the TS-511S in receive mode.

SCHEMATIC DIAGRAM



NOTE: We reserve the right to make modifications in this model in accordance with technical developments.

PS-511S

KENWOOD®

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