

**INSTRUCTION MANUAL**  
**FOR**  
**MODEL NBD-500G/U POWER SUPPLY**



*Japan Radio Co., Ltd.*

Thank you for purchase of your new model NBD-500 G/U POWER SUPPLY.

Before operating it please read this manual thoroughly in order to assure satisfactory performance of the equipment and prevent damage or failure.

This product has been produced under strict quality control. However should any trouble be found due to workmanship kindly contact the JRC office or a JRC dealer.

## 1. BEFORE USE

The Model NBD-500G/U is furnished with the following. Check against the packing list.

Instruction manual . . . . .	1
Fuse, 3A . . . . .	2 for NBD-500G
Fuse, 7A . . . . .	2 for NBD-500U

## 2. OPERATING PROCEDURE

### 2.1 Panel Controls

The front and rear panel views are shown in Figure 2.1.

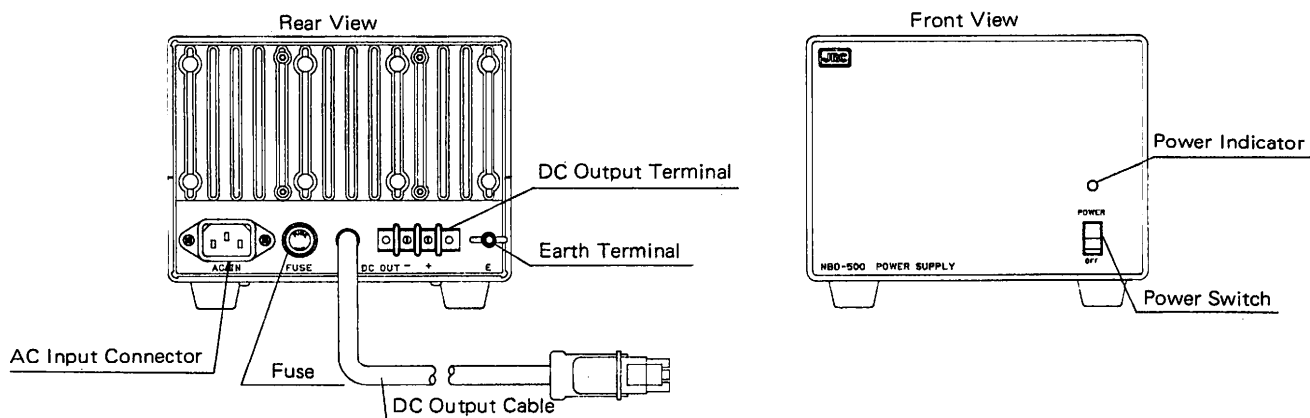


Figure 2.1 NBD-500 Power Supply

Before connecting the DC output cable, make sure:

JST-100 transceiver:

POWER switch set to OFF

NBD-500 power supply:

POWER switch set to OFF.

Connect the DC output cable to the JST-100, as shown in Figure 2.2.

NOTE: Do not use the power cable furnished to the JST-100.

NOTE: The NBD-500 can be energized and de-energized by turning on and off the POWER switch of the JST-100 transceiver with the POWER switch of the NBD-500 connected to the transceiver.

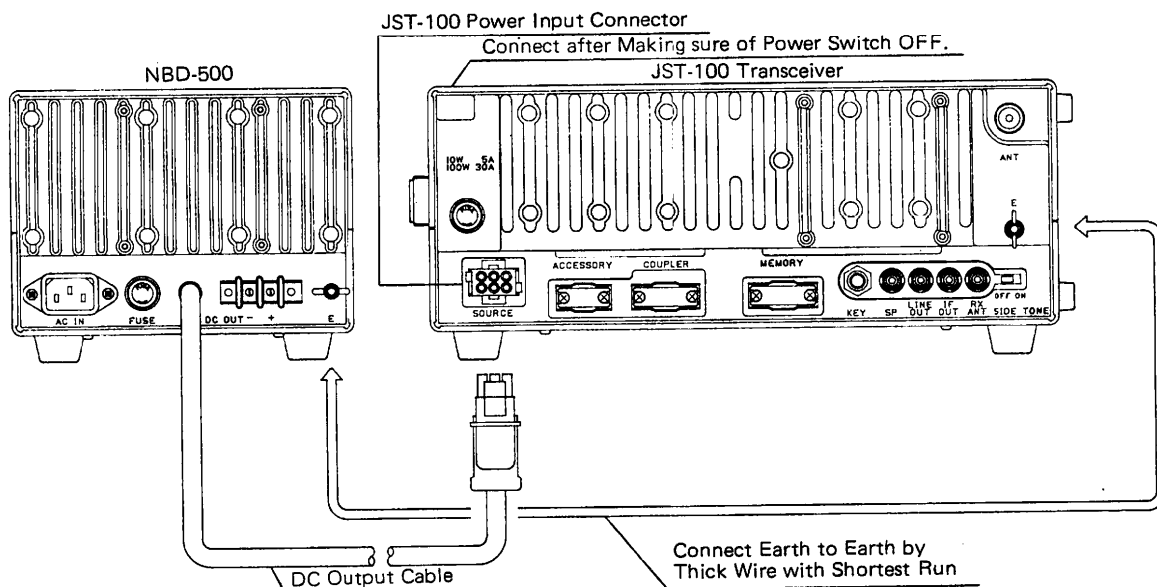


Figure 2.2 Interconnection of NBD-500 with JST-100

### 3. OPERATIONAL PRECAUTIONS

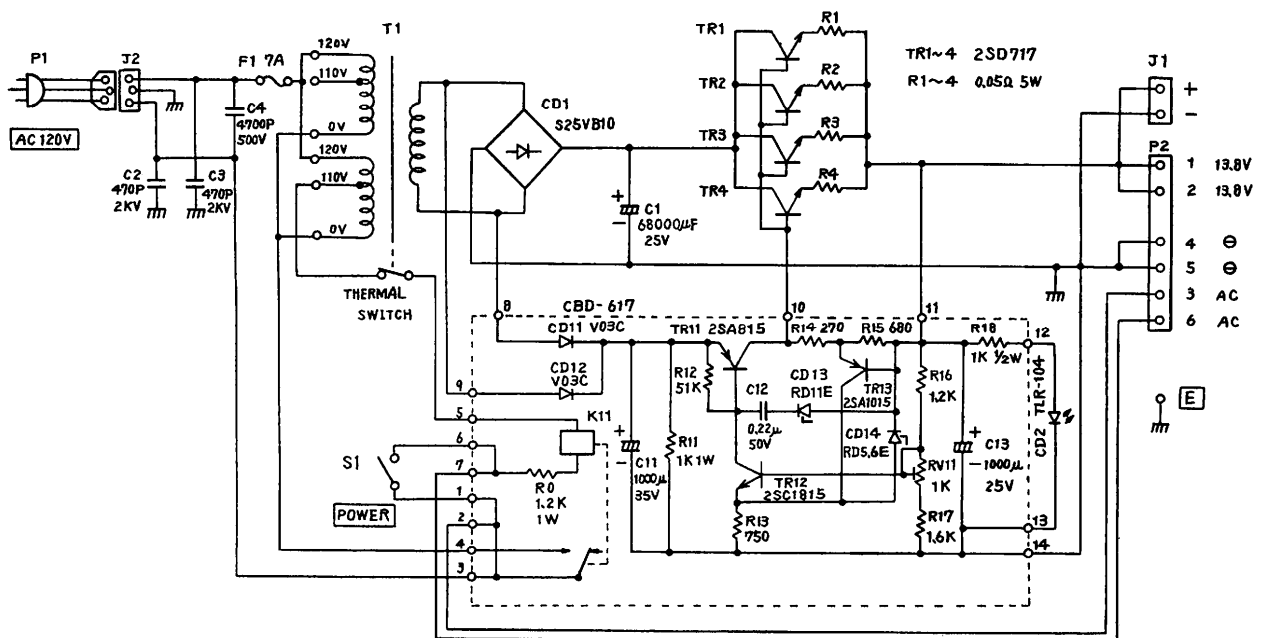
- (1) Shorting or overloading the output terminals may cause a current in excess of the rating, the fuse may be blown. If blown, disconnect the power cable from the AC line and thoroughly investigate the cause. Then, replace.
- (2) The NBD-500 incorporates a transformer, which contains a thermal switch. It will automatically turn off, if the temperature in the transformer rises abnormally. As the temperature lowers, the switch automatically returns to ON. Actuation of the thermal switch during operation suggests that the load is too heavy. In such case, preferably take measures to reduce the load current or avoid long operations, etc.
- (3) Install in a well-ventilated area as much as practicable. Avoid mounting any mater on the power supply case.
- (4) You are recommended to connect between the earth terminals using copper wire or copper braided wire with the shortest run.
- (5) Never use other than the rated fuse.
- (6) The DC output terminal is capable of providing up to 6 amperes. Take account of the total output current, the sum of the current from this terminal and current flowing in the DC output cable. Avoid exceeding the maximum current.

### 4. MAINTENANCE

- (1) If the fuse is blown, disconnect the AC power cable and investigate the cause. Then replace.
- (2) There is no need to perform any maintenance to the equipment here. If however, adjustment should be needed or failure should happen, contact the Sales office where you bought.

### 5. SPECIFICATIONS

Input Voltage	220V AC $\pm 10\%$ , 50/60Hz (for NBD-500G) 120V AC $\pm 10\%$ , 50/60Hz (for NBD-500U)
Output Voltage	13.8V DC, negative ground
Maximum Output Current	20A for intermittent use 15A for continuous use
Voltage Regulation:	
Line Regulation	Within $\pm 0.5V$ with output current of 15A fixed against AC input voltage change $\pm 10\%$
Load Regulation	0.5V or less with AC input voltage fixed against output current change from 1 to 15A
Ripple Voltage	Less than 0.1Vp-p at 13.8V, 15A
Protection System	Thermostat for detecting power transformer temperature, and output protection from shorting
Power Consumption	520 watts, approx. at output current of 20A
Operating Temperature Range	0° to 40°C
Dimensions	W180 (180) x H130 (145) x D273 (330)mm ( ): including projections
Weight	9kg, approx.



## 6. AC VOLTAGE CHANGE

The input voltage is specified as follows:

NBD-500G ..... 220V, 50/60Hz

NBD-500U ..... 120V, 50/60Hz

Either power supply allows the AC input voltage to be changed by re-wiring its transformer at the primary winding tap, into any of 110V, 120V, 220V, 230V and 240V.

### AC voltage changing procedure

- (1) Disconnect the AC power cable from the primary power line.
- (2) Remove the upper cover. Refer to Figure 6.1.
- (3) Change the wiring tap at the primary of the transformer, as shown in Figures 6.2 through 6.6.
- (4) When changing from the 100V-system to the 200V-system or vice versa, also change the capaci-

ty of the fuse housed in the fuse holder on the rear panel, as follows:

100V-system ..... 7A

200V-system ..... 3A

- (5) Without the upper cover, connect the AC power cable to the AC line and energize for, at least, ten minutes, without a DC output load. During this time, check the power supply for abnormal condition and abnormal temperature rise of the transformer.
- (6) Connect certain DC output load such as the JST-100 transceiver. Make sure of the power supply being normally operating.
- (7) Disconnect the AC power cable from the power line and attach the upper cover.

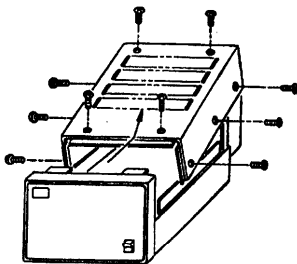


Figure 6.1 Removing the Upper Cover

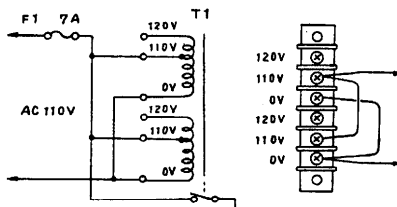


Figure 6.2 Connection for AC 110V

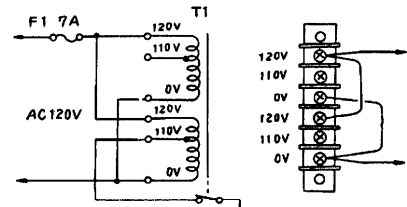


Figure 6.3 Connection for AC 120V

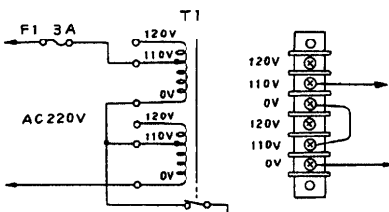


Figure 6.4 Connection for AC 220V

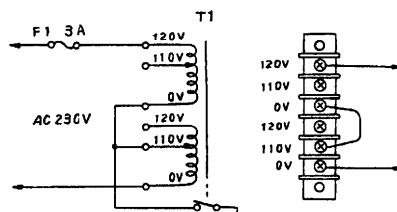


Figure 6.5 Connection for AC 230V

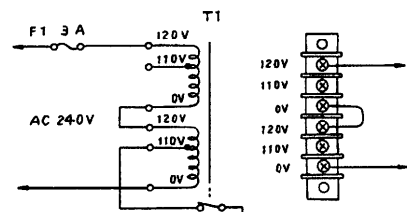


Figure 6.6 Connection for AC 240V

For further information contact:



**Japan Radio Co., Ltd.**

### HEAD OFFICE & SALES DEPT.

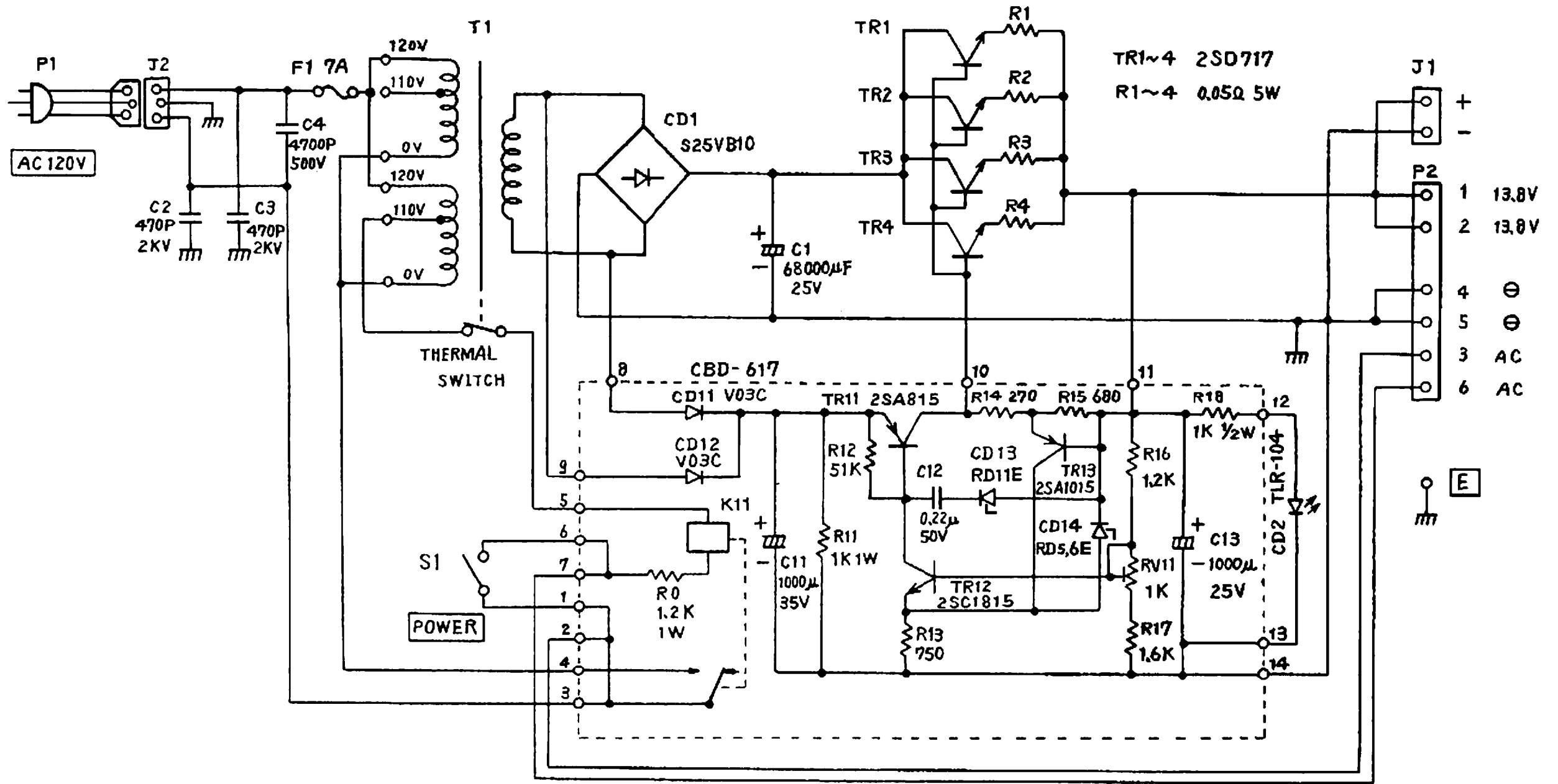
2-17-22, Akasaka, Minato, Tokyo.  
Telephone : Tokyo(03)584-2411  
Telex : 0222-3068 JRCTOK J  
Cable Address : "JAPAN RADIO TOKYO"

### SALES OFFICE

1-4-28, Dojima Hama, Kita, Osaka.  
Telephone : Osaka(06)344-1631  
Telex : 0523-6605 JRCOSA J

### MAIN FACTORY

5-1-1, Shimorenjaku, Mitaka, Tokyo.  
Telephone : Musashino(0422)44-9111  
Telex : 0282-2351 JRCMTK J



JRC NBD-500 Power Supply