

INSTRUCTION MANUAL
FOR
MODEL NBD-515 POWER SUPPLY



Japan Radio Co., Ltd.

The Model NBD-515 power supply is the highest-class equipment, which has been designed based on the JRC's long-year technical achievements and experiences.

You are recommended to carefully read this technical instruction manual before operation and to be familiar with it. This equipment has been manufactured under rigorous quality control in the factory, however, if you should find any questionable point or defective section upon and during operation, immediately contact the sales store, where you bought the equipment or JRC Sales and Service Office.



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SECTION 1 SPECIFICATIONS

| | |
|--|---|
| Input power voltage: | 100/117/220/240V AC $\pm 10\%$; 50/60Hz, single phase |
| Output power voltage: | +13.6V DC $\pm 10\%$, negative ground |
| Output current capacity: | 20A, intermittent |
| Continuous output current capacity: | 15A |
| Power voltage variation | Input voltage 100V AC $\pm 10\%$ Output voltage +13.6V DC $\pm 0.7V$ or better with load current of 15A |
| Load variation: | Load current 0 to 15A DC variation less than 0.7V at 100V AC (16V or lower at no load) |
| Ripple voltage: | 20mV (rms) or lower; 100V AC, 13.6V, 15A |
| Dimensions: | 200mm in width 140 mm in height 240mm in depth exclusive of projections, such as rubber legs and heat sink |
| Weight: | 11.0kg, approx. |

REMARKS: Specifications, circuit parameters and used semiconductor elements subject to change for improvement of the performance, etc., without notice.

SECTION 2 PREPARATION

The NBD-515 is an exclusive power supply equipment intended for the NSD-515 Transmitter. Use this equipment combined with the NSD-515.

2.1 ACCESSORIES

The following accessories are furnished; check the quantity.

- 1) Instruction manual 1
- 2) AC power cable 1
- 3) Fuse, ⁵10A (for AC ²⁴⁰~~100~~V) 2

2.2 INSTALLATION LOCATION

- 1) Reserve a space around the equipment, as wide as practicable. In particular, make the layout so that the heat sink located at the back panel of the equipment is sufficiently ventilative, since they radiate much heat.

In addition, do not put a matter on the cover or close the ventilation windows.

- 2) The proper performance tends to deteriorate and some trouble may happen in such places as listed below. Great care must be taken of the installation location.

Undesirable installation locations:

- (1) Places subject to the direct sunshine or near a heat source such as room heaters, etc.
- (2) Poorly ventilative, moist or wet places
- (3) Dusty places
- (4) Unstable places subject to vibration or with slopes

2.3 EARTH CONNECTION

Connect the GND terminal to the ground, together with the E terminal of the transmitter. The GND terminal is located on the back of the NBD-515.

Use a thick copper wire, copper braided wire, copper tape, or the like. Make the earthing wire run as short as practicable.

2.4 INPUT POWER VOLTAGE CHANGE

This equipment employs a commercially available AC power line of ²⁴⁰~~100~~V, 50/60Hz.

When using other than this line voltage, change the connection of the voltage switching terminals located at the top face of power transformer, as shown in Figure 2.1.

WARNING: Before the power voltage change, disconnect the AC power cable from the AC connector. If not disconnecting, an electric shock trouble may accidentally occur.

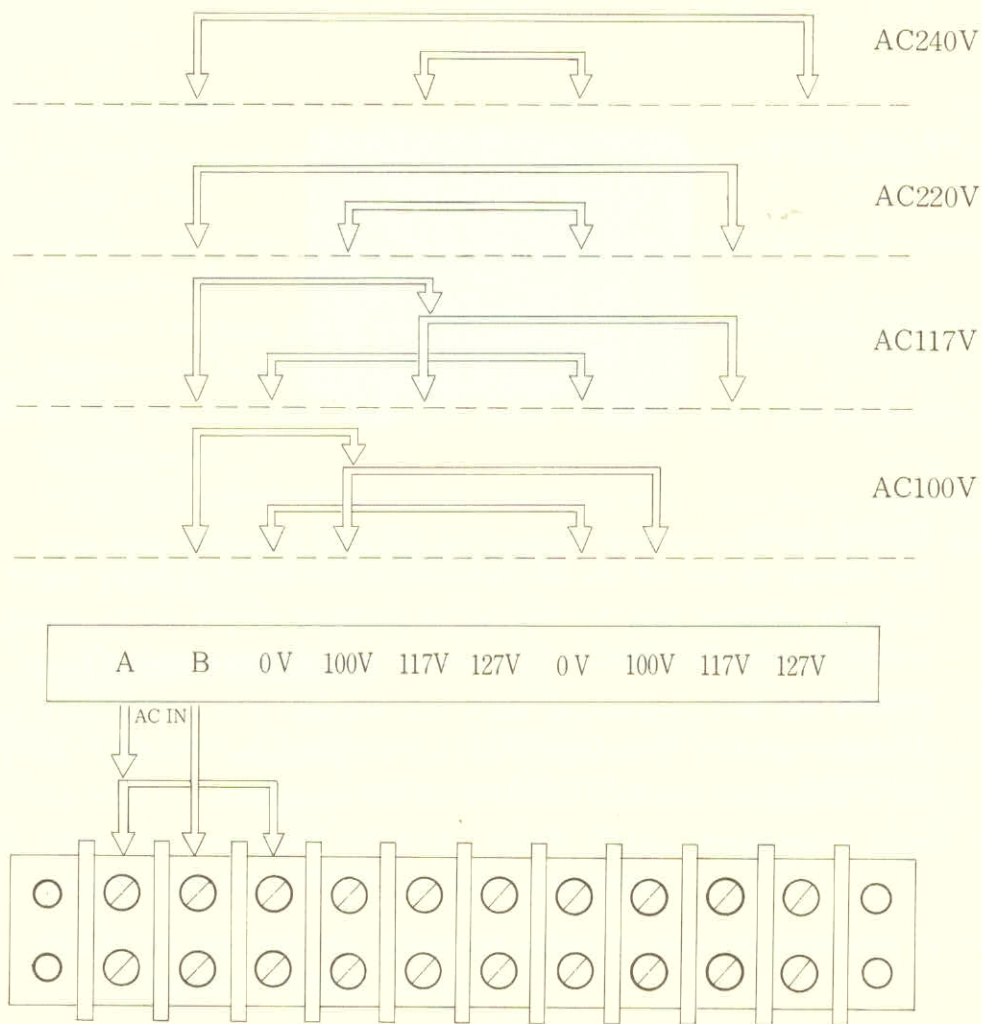


Figure 2.1 INPUT POWER VOLTAGE CHANGE

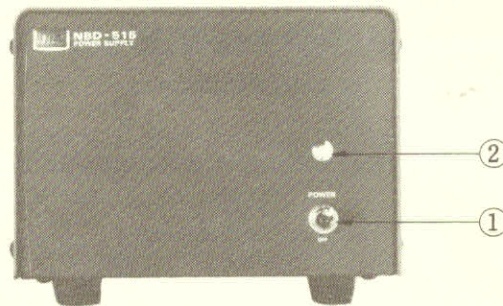
2.5 FUSE REPLACEMENT

The fuseholder at the back panel contains a fuse of ~~10A~~⁵. Select the value of fuse in accordance with the use input power voltage, as follows:

- 100V or 117V AC 10A
- 220V or 240V AC 5A

SECTION 3 CONTROL PANEL

3.1 FRONT PANEL



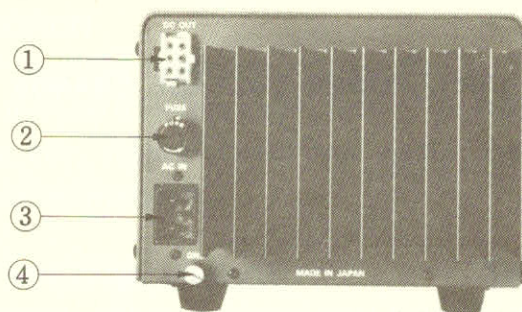
(1) POWER Switch

For turning on and off the AC input line to the NBD-515 Power supply equipment. In addition, this AC line can be switched on and off by means of the POWER switch of the NSD-515 Transmitter even if this switch is off.

(2) POWER Indicator

Illuminates in red, when the NBD-515 is energized by either its POWER switch or POWER switch of the NSD-515 transmitter.

3.2 BACK PANEL



(1) DC OUT Connector

For providing the DC output of +13.6V. The power control signal line from the NSD-515 transmitter is also connected to this connector.

(2) FUSEHOLDER

Used for the AC input power line.

(3) AC IN Connector

For connecting the AC input power cable.

(4) GND Terminal

For connecting the earth line. Available for earthing the equipment.

SECTION 4 OPERATION

4.1 PREPARATION

- 1) Set both the front panel POWER switch and the NSD-515 transmitter's POWER switch to OFF.
- 2) Connect the power cable from the transmitter to the DC OUT connector at the back panel.
- 3) Connect the back panel AC IN connector to an AC socket outlet, using the furnished AC power cable.
- 4) Do not use the same AC socket outlet for other units, but exclusively use for this equipment.

If the same socket outlet is used commonly with other electric appliance at the same time, utilizing a table tap, for example, then the very socket outlet and others may overheat.

4.2 OPERATING PROCEDURE

- 1) This equipment is operable under the remote control of the POWER switch at the NSD-515 transmitter. When the transmitter's POWER switch is turned on, the NBD-515 is energized and its POWER indicator illuminates in red.
- 2) When the front panel POWER switch of this equipment is turned on, it is energized and the POWER indicator illuminates.

NOTE: In this case, this equipment cannot be remotely controlled by the transmitter's POWER switch.

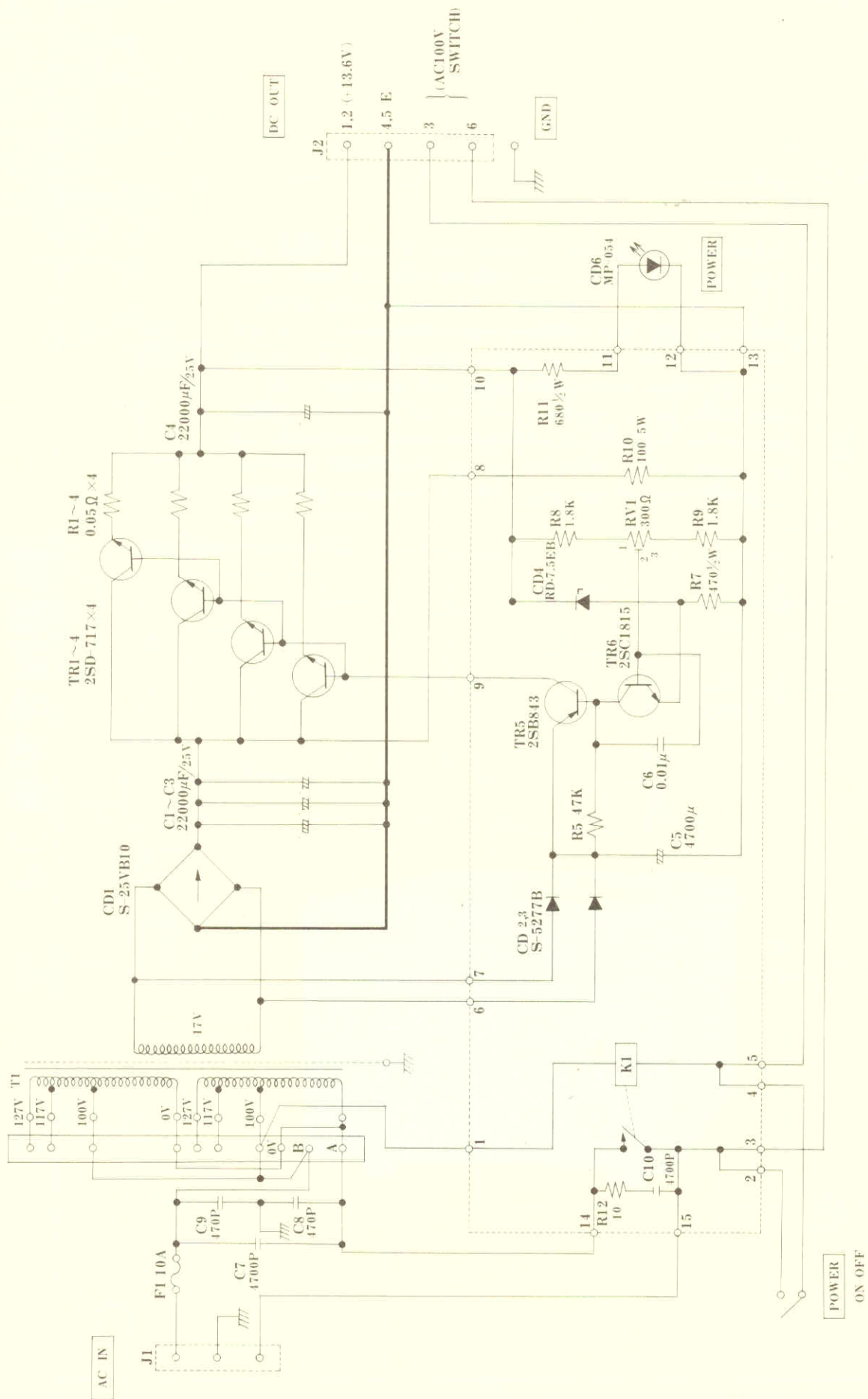
- 3) These relations are listed in Table 4.1.

Table 4.1

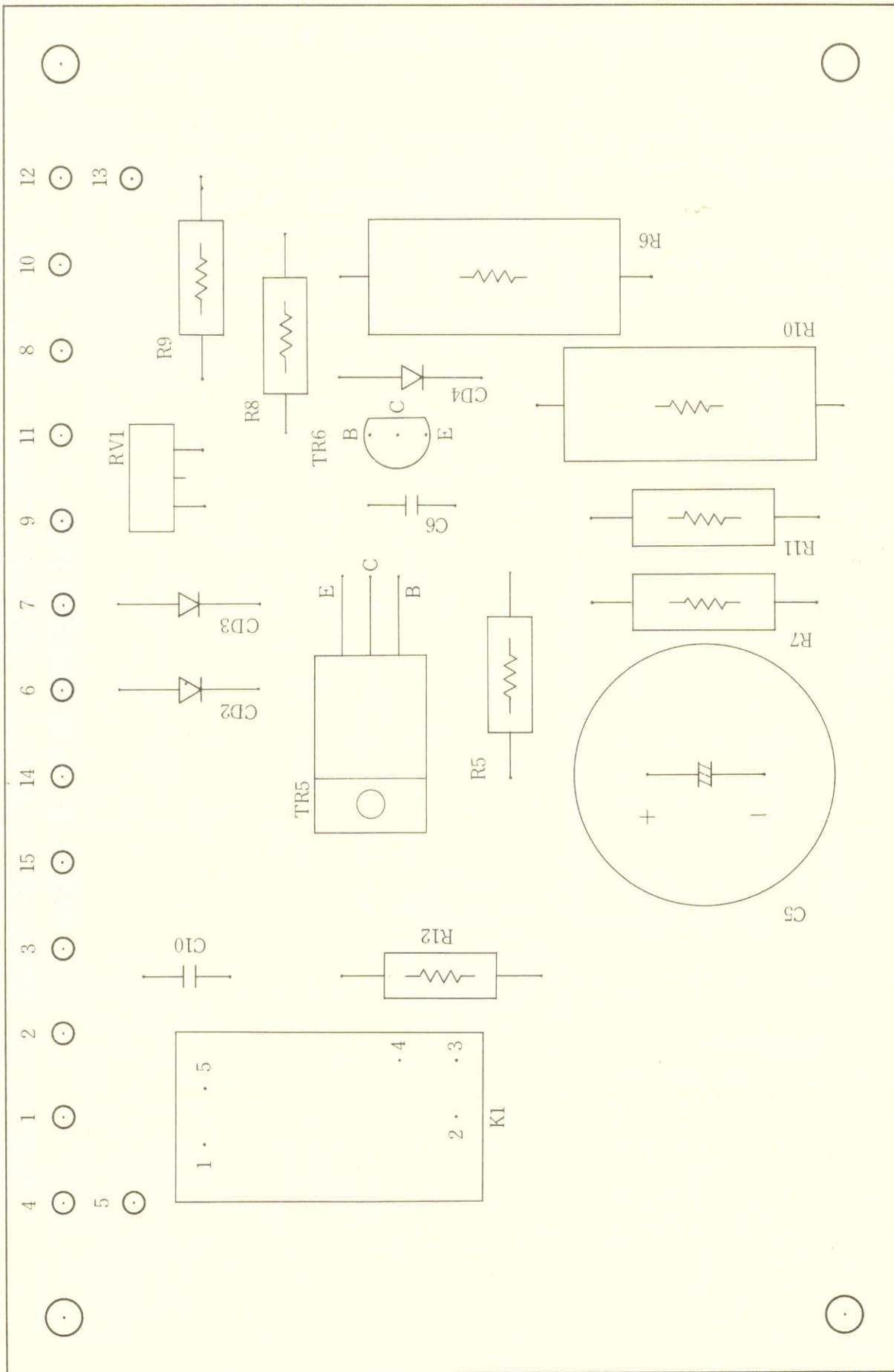
| NBD-515 POWER SUPPLY | NBD-515 POWER SWITCH | NSD-515 POWER SWITCH | REMOTE CONTROL FROM NSD-515 TRANSMITTER |
|-------------------------|-------------------------|-------------------------|---|
| ON | ON | ON | Not controllable |
| ON | ON | OFF | Not controllable |
| ON | OFF | ON | Controllable |
| OFF | OFF | OFF | Controllable |

SECTION 5 MAINTENANCE AND TROUBLESHOOTING

- 1) Check the connection of the connectors, etc. for loose connection, before operation.
- 2) When the fuse is blown, disconnect the AC power cable's plug from the socket outlet and then well investigate the cause.
Replace with specified fuse.
- 3) This equipment has been fully adjusted at the time of delivery. However, if the output voltage is deviated from the specified value, because of the time again, etc., then consult the Sales Agent or JRC Sales Office.



NBD-515 電源装置接続図
NBD-515 POWER SUPPLY CONNECTION DIAGRAM



PC 板 部 品 配 置 图
PARTS ARRANGEMENT