

DC POWER SUPPLY

PS-32

PS-51

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# INSTRUCTION MANUAL

KENWOOD CORPORATION

**KENWOOD**

Thank you for purchasing this new DC Power Supply. This unit has been carefully engineered and manufactured to rigid quality standards, and should give you satisfactory and dependable operation for many years.

The following explicit definitions apply in this Instruction Manual.

**WARNING** : Risk of fire or electric shock may occur. DO NOT DISREGARD!

**CAUTION** : Equipment damage may occur, but not personal injury.

**NOTE** : If disregarded, inconvenience only, no risk of equipment damage or personal injury.

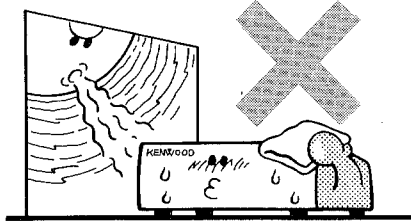
**IMPORTANT:** \_\_\_\_\_

1. Please read this Instruction Manual carefully before placing your DC Power Supply in service.
  2. Save this Instruction Manual.
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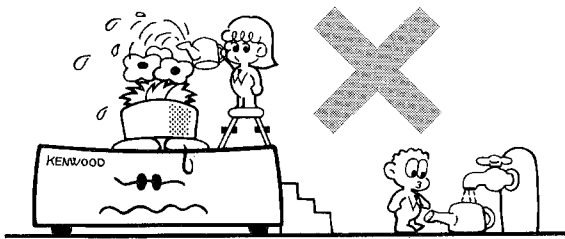
# 1. **⚠ WARNING** BEFORE OPERATION

TO PREVENT ELECTRIC SHOCK, FIRE AND OTHER INJURY.  
PLEASE NOTE THE FOLLOWINGS:

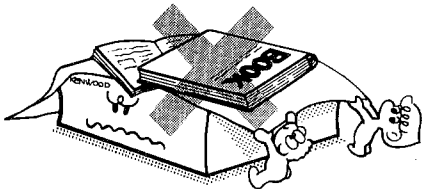
Do not place this unit, where it will be exposed to direct sunlight or close to heating appliances.



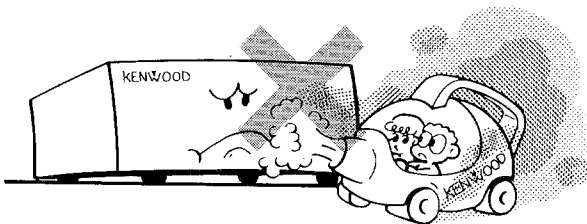
Do not place anything on top of the cabinet.



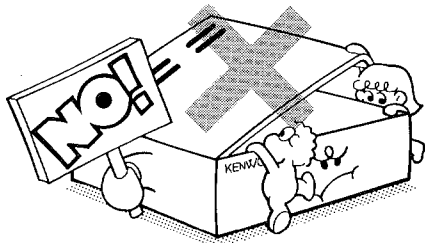
To ensure good ventilation, do not put anything on top of the cabinet and allow at least 15 cm (6 inches) of space behind the unit.



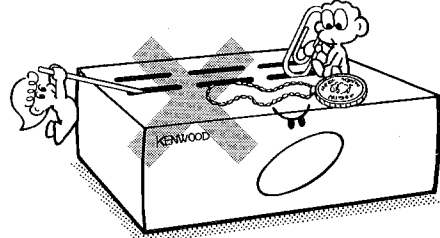
Do not place the unit in areas of excessive dust, high humidity or on unstable surfaces.



To avoid risk of electric shock, under no circumstances should the unit be opened:



Do not drop pieces of metal, needles, coins and other electrically conductive materials into the unit.



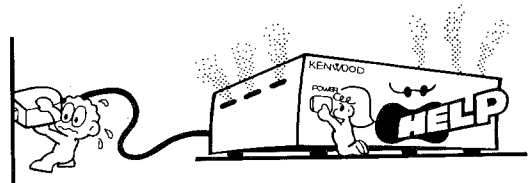
Do not touch the power plug, when your hands are wet.



Do not pull the power cord, when disconnecting it from the AC wall outlet. Grasp the plug and ensure that your fingers do not touch the live pins.

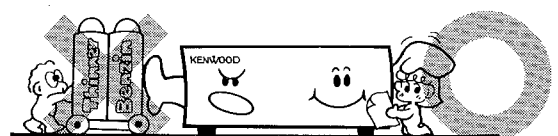


If an abnormal odor or smoke is detected, immediately turn the power off and pull out the power plug. Contact the KENWOOD service station or your dealer.



## CLEANING

1. Turn the power off, before cleaning the unit.
2. Do not use any type of abrasive pad, thinner, benzene or any substances which may damage the unit.
3. Wipe the front panel and other exterior surfaces of the unit with a soft dry cloth or a soft cloth lightly moistened with water.



## 2. SPECIFICATIONS AND ACCESSORIES

### 2-1. SPECIFICATIONS

SPECIFICATIONS	MODEL	PS-32	PS-51
Power requirement		240 VAC $\pm$ 10%, 50 Hz	
Output voltage		13.8 VDC (Reference)	
Rated output current		20 A (25% duty cycle) 15 A (50% duty cycle)	20 A (25% duty cycle) 16 A (50% duty cycle) 20 A max. (Continuous operation for 1 hour)
Output voltage regulation		Within $\pm$ 0.7 V (at 240 VAC $\pm$ 10% variation with 16 A) Within $\pm$ 0.7 V (at load current variation from 2 to 15 A)	Within $\pm$ 0.7 V (at 240 VAC $\pm$ 10% variation with 16 A) Within $\pm$ 0.7 V (at load current variation from 2 to 20 A)
Ripple voltage		Less than 20 mVrms (at 13.8 VDC/15 A)	Less than 20 mVrms (at 13.8 VDC/20 A)
Power consumption		Approx. 500 W (at 13.8 VDC/20 A)	
Dimensions (W×H×D) Dimensions in [ ] include projections.		173×96×296 mm [173×107×322 mm] 6-13/16" × 3-25/32" × 11-21/32" [6-13/16" × 4-7/32" × 12-11/16"]	
Weight		Approx. 7.2 kg (15.8 lbs)	Approx. 7.1 kg (15.6 lbs)

**NOTE:**

Rating are subject to change without notice due to advancements in technology.

### 2-2. ACCESSORIES

Please unpack your new DC Power Supply carefully, and confirm that the accessories listed below are included in the box. If any of the items are missing contact the dealer where the DC Power Supply was purchased.

Spare fuse, 3A .....F05-3022-05.....1 ea.  
Instruction manual.....B50-8364-XX.....1 copy

**After unpacking**

Shipping container:

Save the boxes and packing in the event your unit needs to be transported for remote operation, maintenance or service.

# 3. INSTALLATION AND CONNECTION

**NOTE:**

The following instructions are for use by either your KENWOOD dealer, an authorized KENWOOD service facility, or the factory.

**WARNING:**

Never connect AC power to the DC Power Supply until installation is complete.

## 3-1. INSTALLATION

**CAUTIONS:**

1. Prior to installation, check that the correct fuse is installed.
2. Choose a location that is relatively free from vibration.
3. Do not place the unit in a place which is exposed to direct sunlight, near a heater, etc.
4. Do not store or use the unit in a dusty location or in a moist atmosphere. Select a well ventilated location.
5. To maintain good ventilation:  
Remove the packing materials.  
Do not cover the unit.  
Place the unit at least 10 cm (4") away from the walls.

## 3-2. CONNECTION

**WARNING:**

Never connect AC power to the DC Power Supply until installation is complete.

**CAUTIONS:**

1. Before connecting or disconnecting the DC Power Cable, be sure to turn off the POWER switches of both the radio and the DC Power Supply.
2. Observe polarity of the DC Power Cable. The radio operates on 13.8 VDC, negative ground.

**NOTES:**

1. The DC Power Supply will not operate if the output terminals are shorted.
  2. The DC Power Supply may not operate if the POWER switch is turned on with the radio in transmit mode because the protection circuit may operate.
1. Connect the DC Power Cable from the radio to the Output Terminals on the Rear Panel, as shown in Fig. 3-1.  
Red lead → Plus (+) Terminal  
Black lead → Minus (-) Terminal
  2. Connect the AC power Cable to the AC outlet.

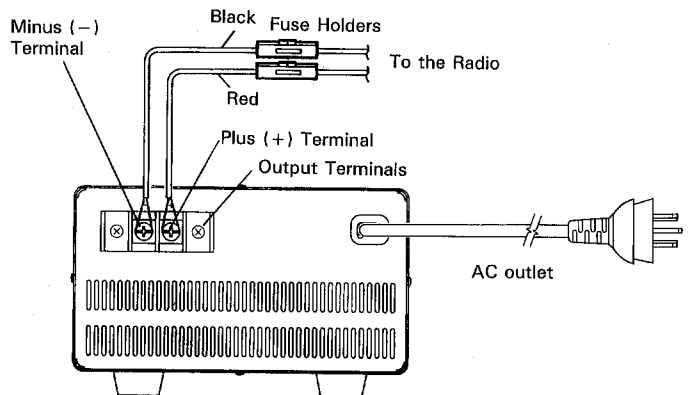


Fig. 3-1.

## 4. OPERATION

### WARNING:

1. Do not operate the DC Power Supply with the packing materials attached.
2. Never remove the case. If the internal parts are accidentally touched, a serious electric shock might occur.
3. To reduce the risk of fire or electric shock, do not expose the DC Power Supply to rain or moisture.

### NOTE:

For operation of the radio, refer to the Instruction Manual provided with the radio.

### CONTROL AND FUNCTIONS

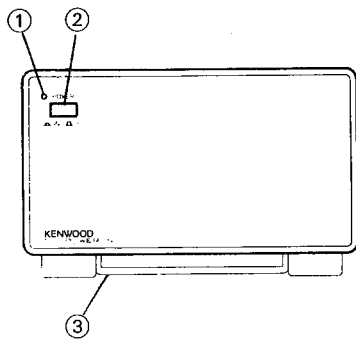


Fig. 4-1. Front Panel

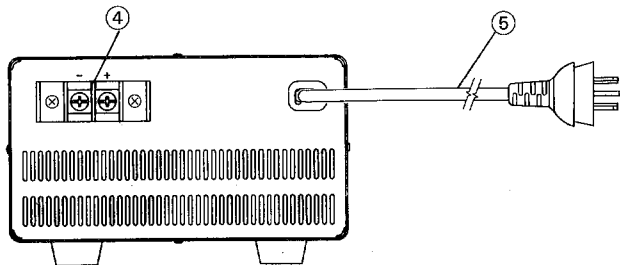


Fig. 4-2. Rear Panel

- ① **POWER ON Indicator**  
This indicator lights when the DC Power Supply is on.
- ② **POWER Switch**  
This switch turns power on and off.
- ③ **BAIL**  
Used to elevate the front Panel.
- ④ **Output Terminals**
- ⑤ **AC Power Cable**

1. Turn the radio POWER switch on after the DC Power Supply POWER switch is turned on.

### NOTE:

If the protection circuit of DC Power Supply operates, turn the POWER switches of both the radio and the DC Power Supply off, and perform the procedure above again.

2. When communication is completed for the day, turn off the POWER switches of both the radio and the DC Power Supply.

## 5. MAINTENANCE

### 5-1. GENERAL INFORMATION

Your DC Power Supply has been factory adjusted and tested to specifications before shipment. Under normal circumstances, the DC Power Supply will operate in accordance with these operating instructions. All adjustments were preset at the factory and should only be readjusted by a qualified technician with proper test equipment. Attempting service or adjustment without factory authorization can void the DC Power Supply's warranty. If your DC Power Supply fails to work, contact the authorized KENWOOD dealer from which you purchased it for quick, reliable repair.

### NOTES:

1. When claiming warranty service, please include a photocopy of the bill of sale, or other proof of purchase showing the date of sale.
2. Record the Date of Purchase, Serial Number and Dealer from whom purchased.
3. For your own information, retain a written record of any maintenance performed on the unit.

### 5-2. SERVICE

Should it ever become necessary to return the equipment to your dealer or service center for repair, pack in its original box and packing, and include a full description of the problems involved. Also include your telephone number. You need not return accessory items unless directly related to the service problem.

### CAUTION:

Do not pack the equipment in crushed newspaper for shipment. Extensive damage may result during shipment.

### NOTE:

If you desire to correspond on a technical or operational problem, please make your note short, complete, and to the point, and PLEASE make it readable.

Please list:

Model and Serial Number.

The problem you are having.

Please give sufficient detail to diagnose. Information such as other equipment in the station, meter readings and anything else you feel might be useful in attempting diagnosis.

### 5-3. CLEANING

The DC Power Supply is likely to become soiled after extended use. It should be cleaned with a silicone cloth or a clean dry cloth.

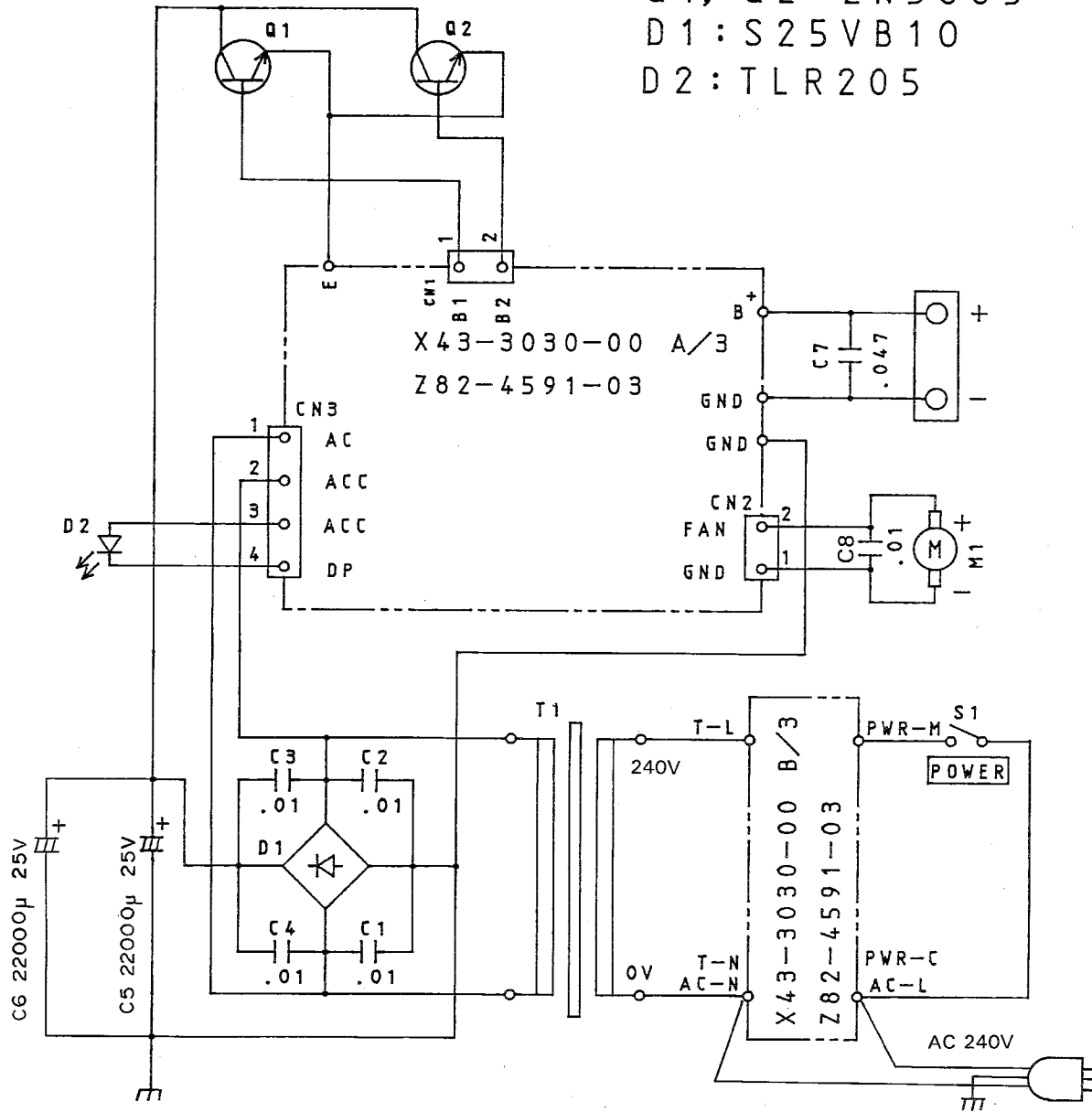
### CAUTION:

Do not use volatile solvents such as alcohol, paint thinner, gasoline, benzine, etc.

# CIRCUIT DIAGRAM

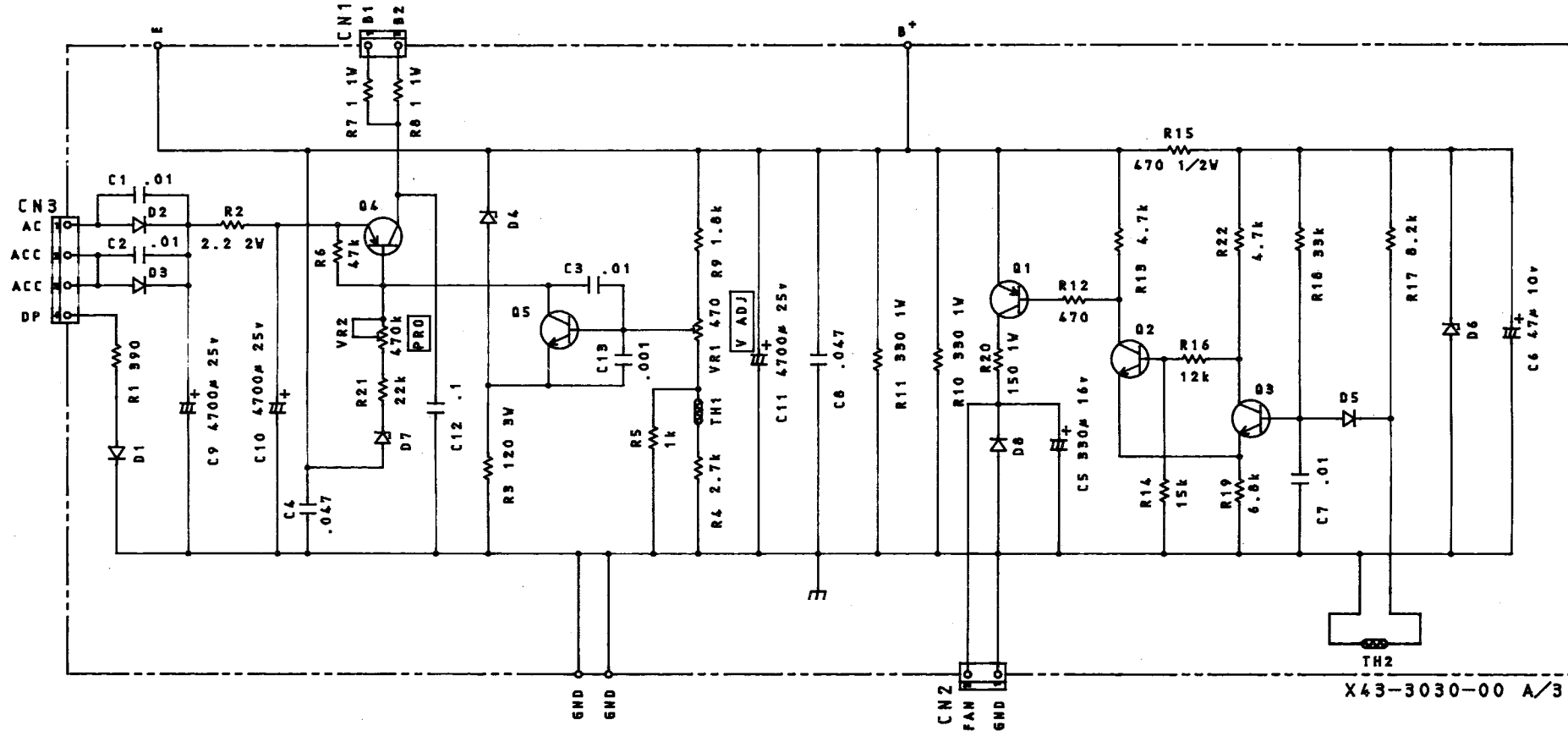
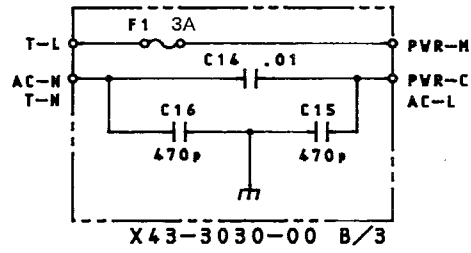
## ■ SCHEMATIC DIAGRAM

Q 1, Q 2 : 2N5885  
 D 1 : S25VB10  
 D 2 : TLR205



**Note:** \_\_\_\_\_  
 Circuit is subject to change without notice due to advancement in technology.

■ AVR UNIT (X43-3030-00)



- |                         |                |
|-------------------------|----------------|
| Q1: 2SA562 (Y)          | D4, 6: UZ9.18L |
| Q2, Q3, Q5: 2SC2458 (Y) | D7: UZ158H     |
| Q4: 2SB941 (Q)          | TH1: 32D27     |
| D1, 5, 8: 1S1555        | TH2: 5TP41L    |
| Q2, 3: DSABA1           |                |

Note: \_\_\_\_\_  
 Circuit is subject to change without notice due to advancement in technology.



#### **5-4. FUSE REPLACEMENT**

If the fuse blows, DISCONNECT the AC Power Cable and contact an authorized KENWOOD service facility; either your KENWOOD dealer, or the factory to repair the cause.

**NOTE:** \_\_\_\_\_

The following instructions are for use by either your KENWOOD dealer, an authorized KENWOOD service facility, or the factory.

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**WARNING:** \_\_\_\_\_

1. Never connect the AC cable to the AC outlet until fuse replacement has been made.
  2. Never use a fuse of higher rating. Replace with a new fuse of the same rating.
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If the fuse blows, check for the cause before replacing the defective fuse. (Replacement fuses are available from your authorized KENWOOD dealer.)

#### **5-5. SUPPLY CORD REPLACEMENT**

If the supply cord of this appliance is damaged, it must only be replaced by a repair shop appointed by the manufacturer, because special purpose tools are required.

#### **5-6. ORDERING SPARE PARTS**

**NOTE:** \_\_\_\_\_

The following instructions are for use by either your KENWOOD dealer, an authorized KENWOOD service facility, or the factory.

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When ordering replacement or spare parts for the equipment, be sure to specify the following:

Model and Serial Number.

Schematic Number of the part.

Printed Circuit Board Number on which the part is located.

Part Number and Name, if known, and Quantity desired.

Part Numbers for most replacement parts are contained in the Service Manual (usually available as an option from KENWOOD dealer).

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