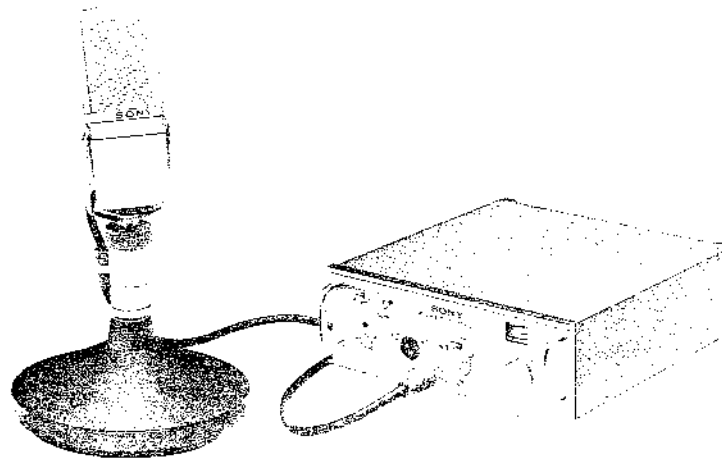


US Model E Model



MICROPHONE

POWER SUPPLY UNIT

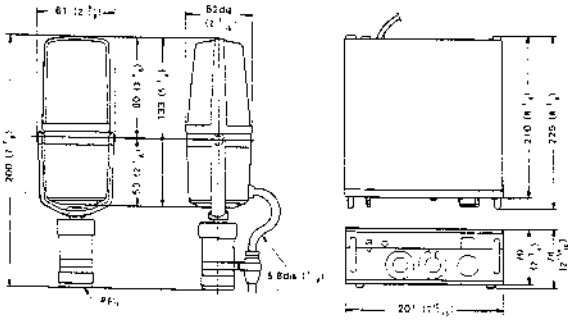
CONDENSER MICROPHONE

SPECIFICATIONS

Type:	C-47 Variable directivity condenser microphone		
Power requirements:	Battery operation: Normal operating voltage: 6 V DC Minimum operating voltage: Approx. 4.5 V DC Current drain: Less than 40 mA		
Battery life:	Approx. 150 hours with Sony long-life batteries AC operation: Power requirements 120 V AC, 60 Hz (US model): 220-240 V, 50/60 Hz (E model) Power consumption 3 W		
Directivity:	Uni-directional and Omni-directional, variable		
Output impedance:	60 Ω \pm 20%, 1,000 Hz, balanced		
Output level:	Effective output level: -43 dBm (0 dBm = 1 mW/10 μ bar, 1,000 Hz) Open circuit voltage: 0.32 mV/ μ bar, at 1,000 Hz Output level deviation is \pm 2 dB. Recommended load impedance is more than 3 k Ω .		
Frequency response:	30 Hz - 18,000 Hz		
Noise level:	S/N ratio:	More than 50 dB (1,000 Hz, 1 μ bar)	** The external magnetic field induction noise is measured with the microphone placed in an alternating magnetic field of 50 Hz, 1 m gauss. The maximum noise value is obtained and then converted to the equivalent input sound level: 10 dB = 2×10^{-4} μ bar. *** Wind noise is the value measured by applying a wind velocity of 6.6 ft/second from all directions on the microphone. The mean value is obtained and converted to the equivalent input sound level: 10 dB = 2×10^{-4} μ bar.
	Inherent noise:	Less than 24 dB SPL 10 dB = 2×10^{-4} μ bar	
	Wind noise $^{-2}$:	Less than 45 dB SPL	
	Induction noise from external magnetic field $^{-2}$:	Less than -20 dB SPL/m gauss	
	Maximum sound pressure input level:	Approx. 154 dB SPL (20-20,000 Hz)	
	Dynamic range:	Approx. 130 dB	
	Environmental temperatures:	-4 $^{\circ}$ - 140 $^{\circ}$ F for storage 32 $^{\circ}$ - 140 $^{\circ}$ F for operation	
	Microphone cable:	5.8 mm (3/16") dia., 4-conductor shielded cable, 10 ft with CAJINON XLR-5/20 connector	
	Mounting thread:	PF11	
	Dimensions:	See page 2.	
	Weight:	Microphone: 500 g, 1 lb. 2 oz. Power supply: 2600 g, 5 lb. 12 oz. (without batteries)	
		Cable: 1100 g, 2 lb. 7 oz. (including the microphone extension cable)	
		Carrying case: 2700 g, 6 lb.	

SONY
SERVICE MANUAL

Dimensions:



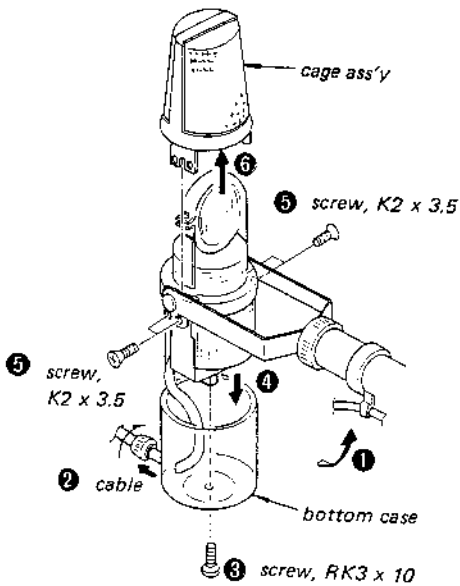
Units in mm (approximate inches in parentheses)

1. DISASSEMBLY

1-1. CAGE AND BOTTOM CASE REMOVAL

Cage Removal: Steps 1, 3, 2, 4, 5, 6

Bottom Case Removal: Steps 1, 3, 2, 6



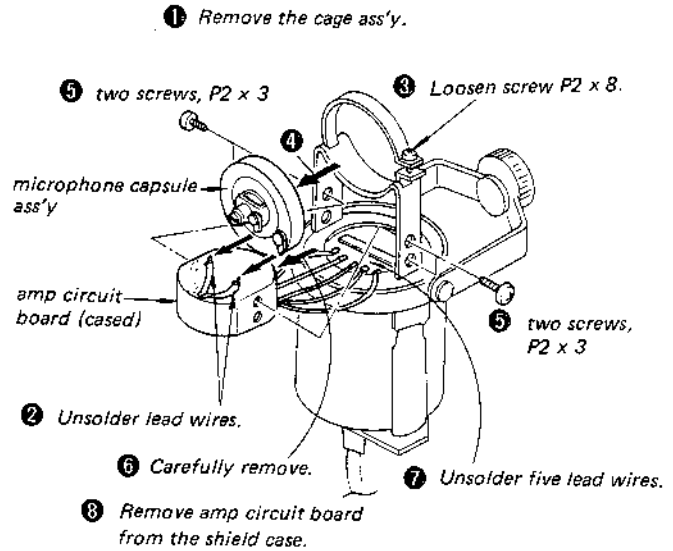
1-2. MICROPHONE CAPSULE AND AMP CIRCUIT BOARD REMOVAL

Microphone Capsule Removal:

Steps 1, 2, 3, 4

Circuit Board Removal:

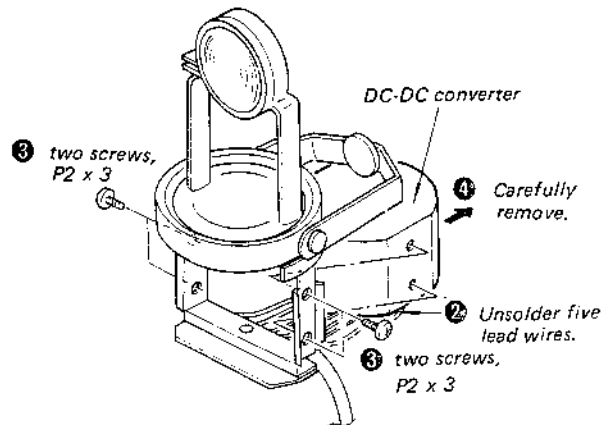
Steps 1, 2, 5, 6, 7, 8



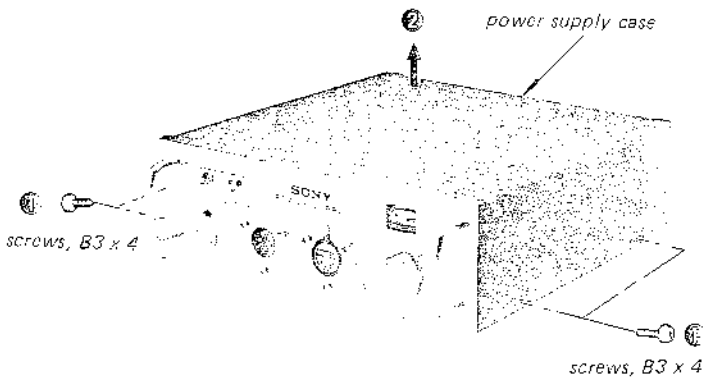
1-3. DC-DC CONVERTER REMOVAL

Steps: 1, 2, 3, 4

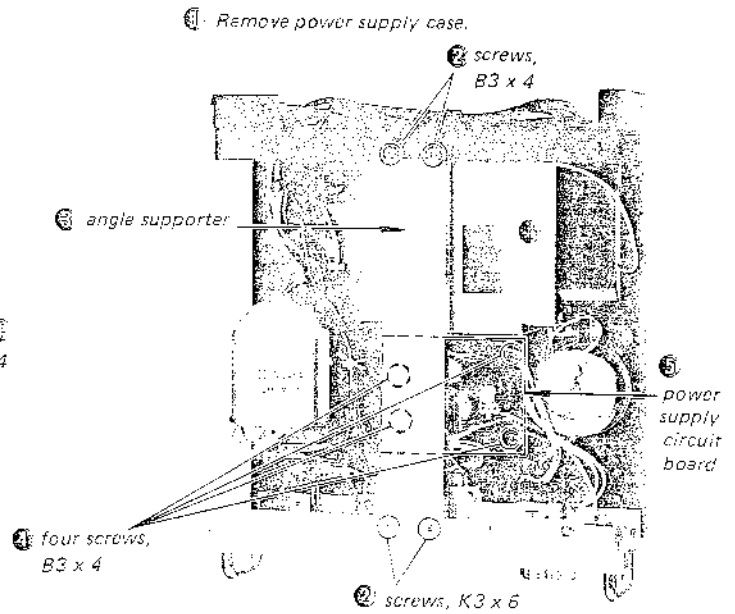
1 Remove the bottom case.



1-4. POWER SUPPLY CASE REMOVAL



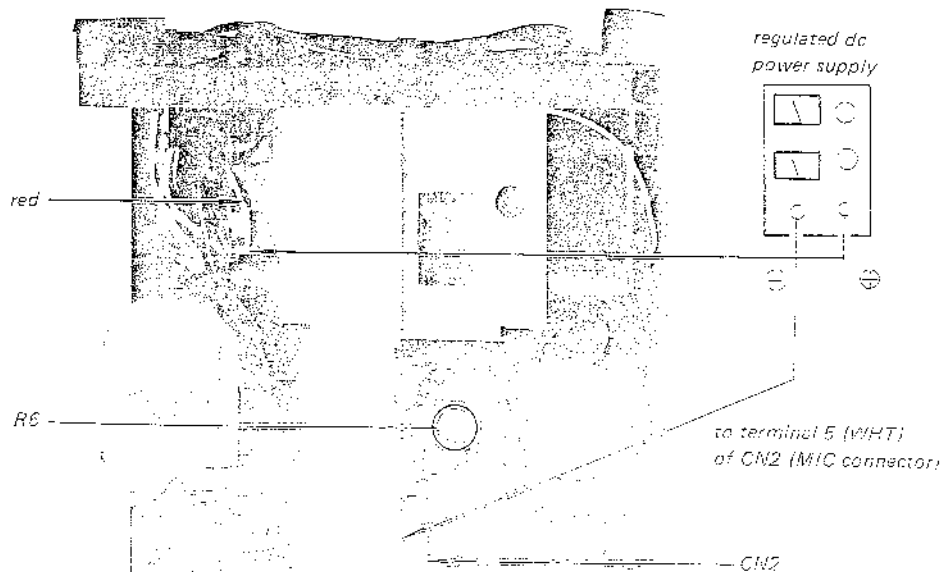
1-5. POWER SUPPLY CIRCUIT BOARD REMOVAL



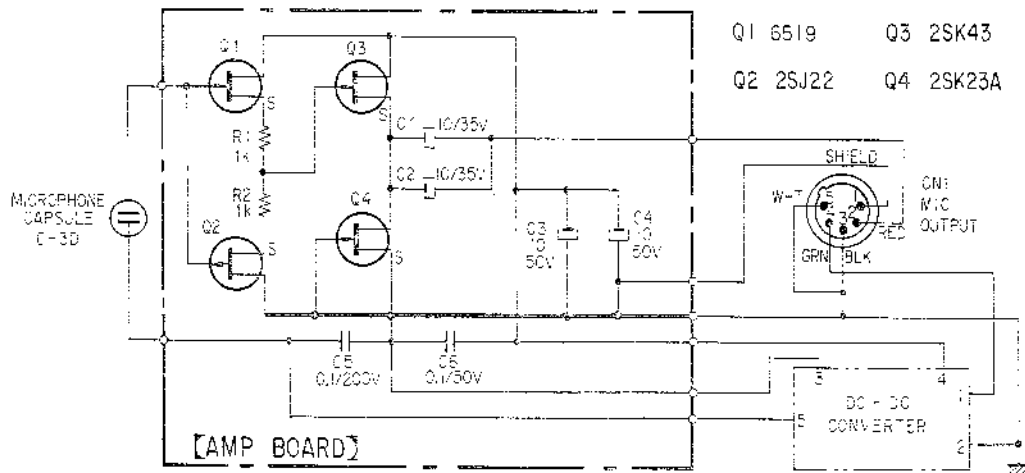
2. ADJUSTMENT

BATTERY CHECK METER CALIBRATION

1. Remove batteries from the microphone power supply.
2. Connect an external regulated dc power supply as shown below.
3. Turn the POWER switch of the microphone power supply on.
4. Set the external power supply to 4V and adjust R6 so that BATTERY check meter indicates "4".
5. Set the external power supply to 5V. BATTERY check meter pointer should place on the dot between "4" and "6".
6. Set the external power supply to 6V. BATTERY check meter pointer should place on "6".



3. SCHEMATIC DIAGRAM (AMP SECTION)

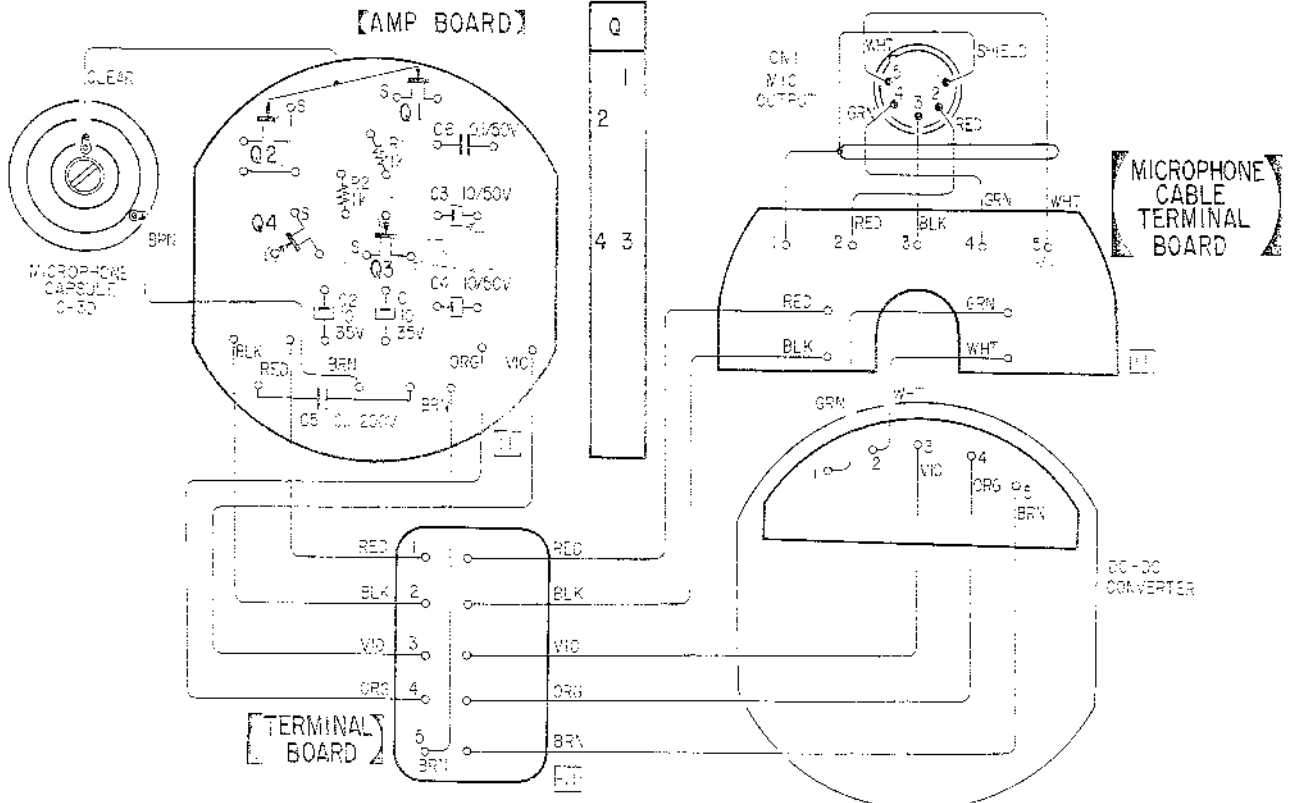


CAUTION

1. The amp mount ass'y has been carefully adjusted at the factory. If some trouble occurs on it, replace the amp mount ass'y. The parts on the amp mounted circuit board are not individually available.
2. Do not short-circuit across DC-DC converter terminals 3 and 4, and across terminals 3 and 5.

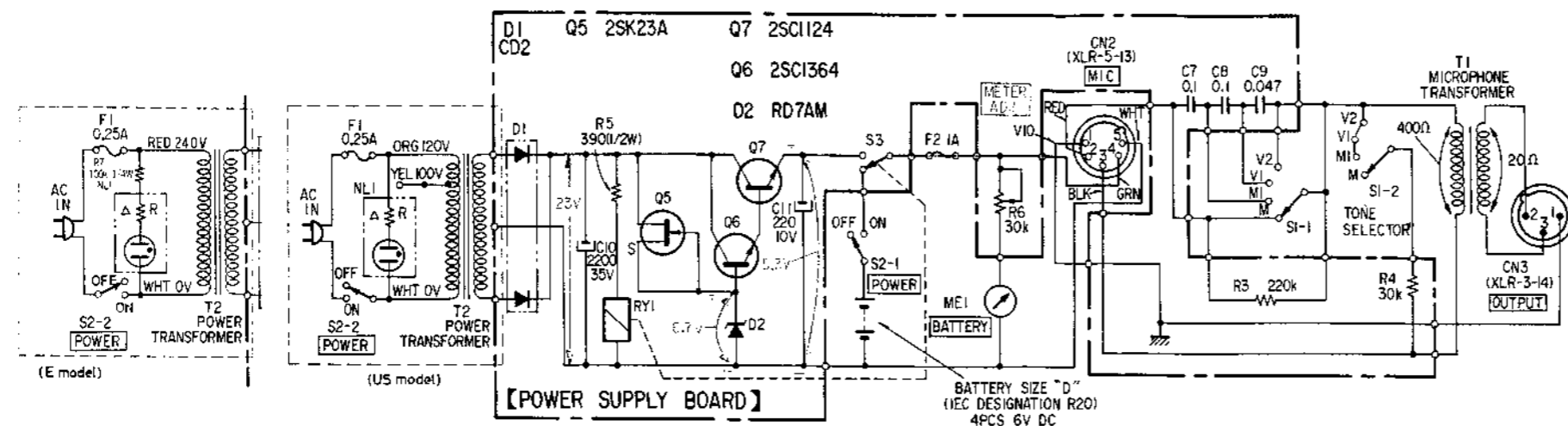
4. MOUNTING DIAGRAM (AMP SECTION)

— Conductor Side —



- Note:
- c All capacitors are in μF unless otherwise noted, $\text{pF} = \mu\mu\text{F}$, 50 WV or less are not indicated except for electrolytics.
 - c All resistors are in ohms, 1W unless otherwise noted, $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{k}\Omega$
 - c --- : chassis ground.
 - c Voltages are dc with respect to ground unless otherwise noted
 - e Readings are taken under no signal conditions with a VOM (20k Ω /V).
 - c Voltage variations may be noted due to normal production tolerances.
 - e : B : bus.
 - e : B : pattern.

5. SCHEMATIC DIAGRAM (POWER SUPPLY SECTION)



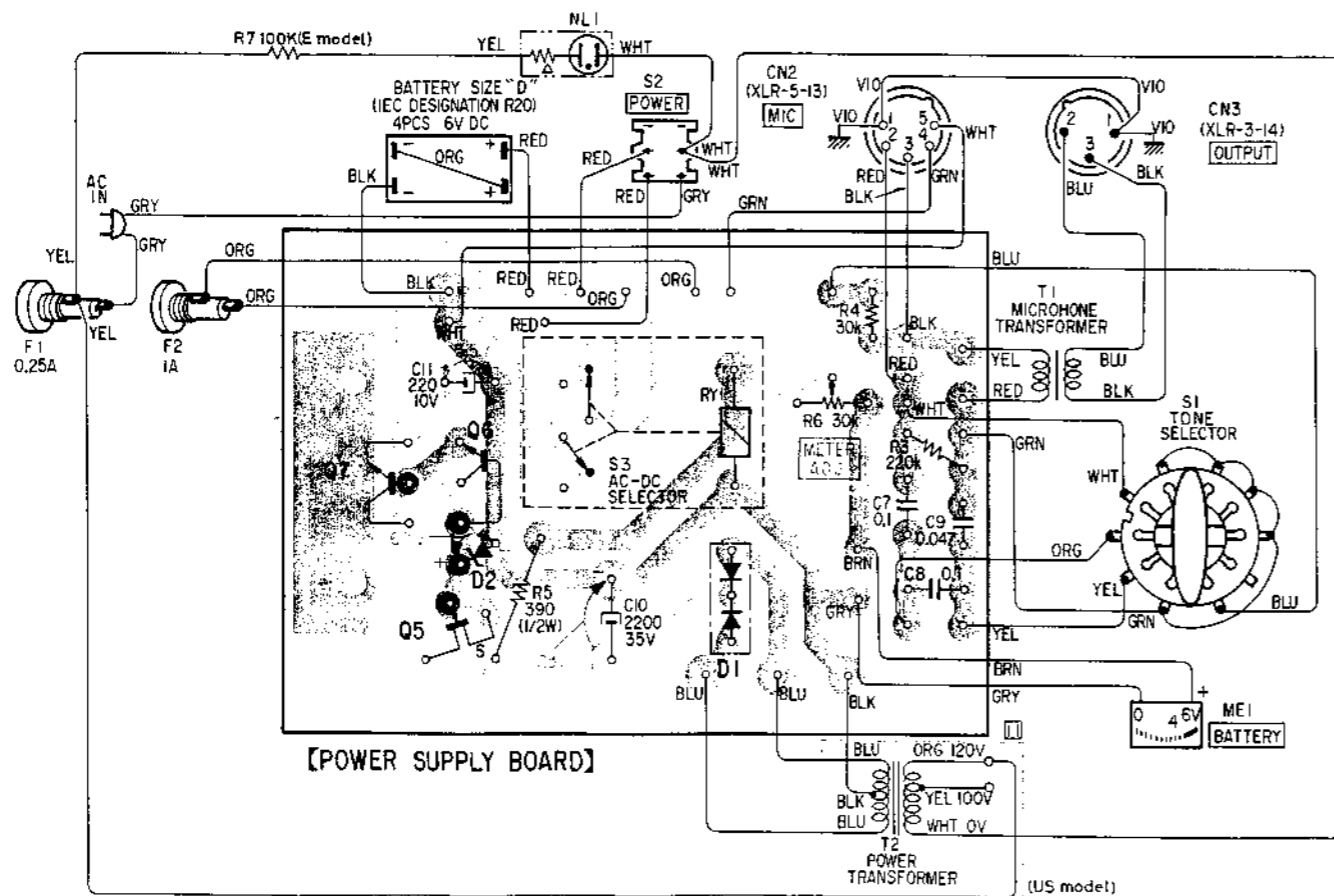
Note:

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\mu\text{F}$. 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{2}\text{W}$ unless otherwise noted. $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{k}\Omega$.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Δ : internal component.
- --- : B+ bus.
- --- : panel designation.
- --- : adjustment for repair.
- Voltages are dc, and are measured when plugging microphone unit into MIC input jack in ac operation condition.
- Readings are taken under no signal conditions with a VOM ($20\text{k}\Omega/\text{V}$).
- Voltage variations may be noted due to normal production tolerances.
- --- : B+ pattern.
- DC resistance measurements are with coils connected on the circuit board, and are approximate.
- Switch

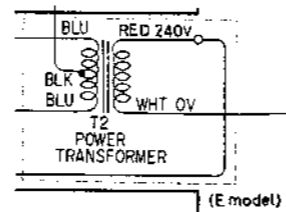
Ref. No.	Switch	Position
S1	TONE SELECTOR	M
S2	POWER	OFF
S3	AC-DC SELECTOR INCLUDED IN RELEY (RY1)	DC

6. MOUNTING DIAGRAM (POWER SUPPLY SECTION)

- Conductor Side -



D	2	1
Q	7	5 6

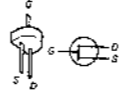


Replacement Semiconductors

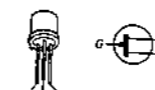
For replacement, use semiconductors except in ().

Amp Section

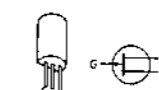
Q1: 6519



Q2: 2SJ22

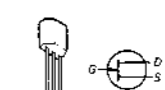


Q3: 2SK43



Power Supply Section

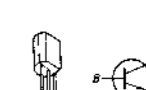
Q5: 2SK23A



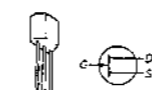
Q6: 2SC634A



(2SC1364)



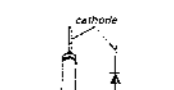
Q4: 2SK23A



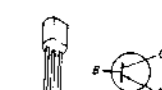
D1: CD2



D2: RD7AM

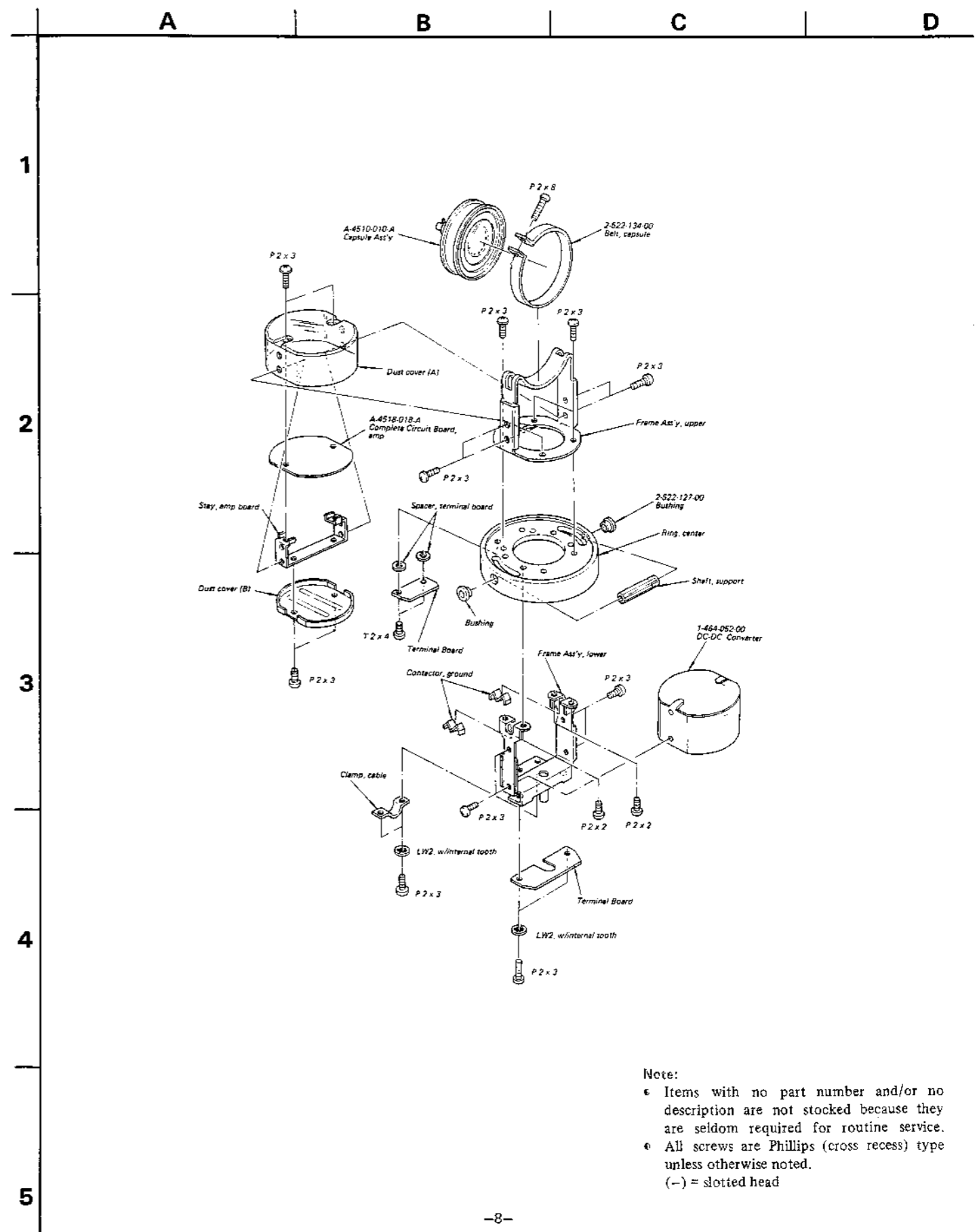
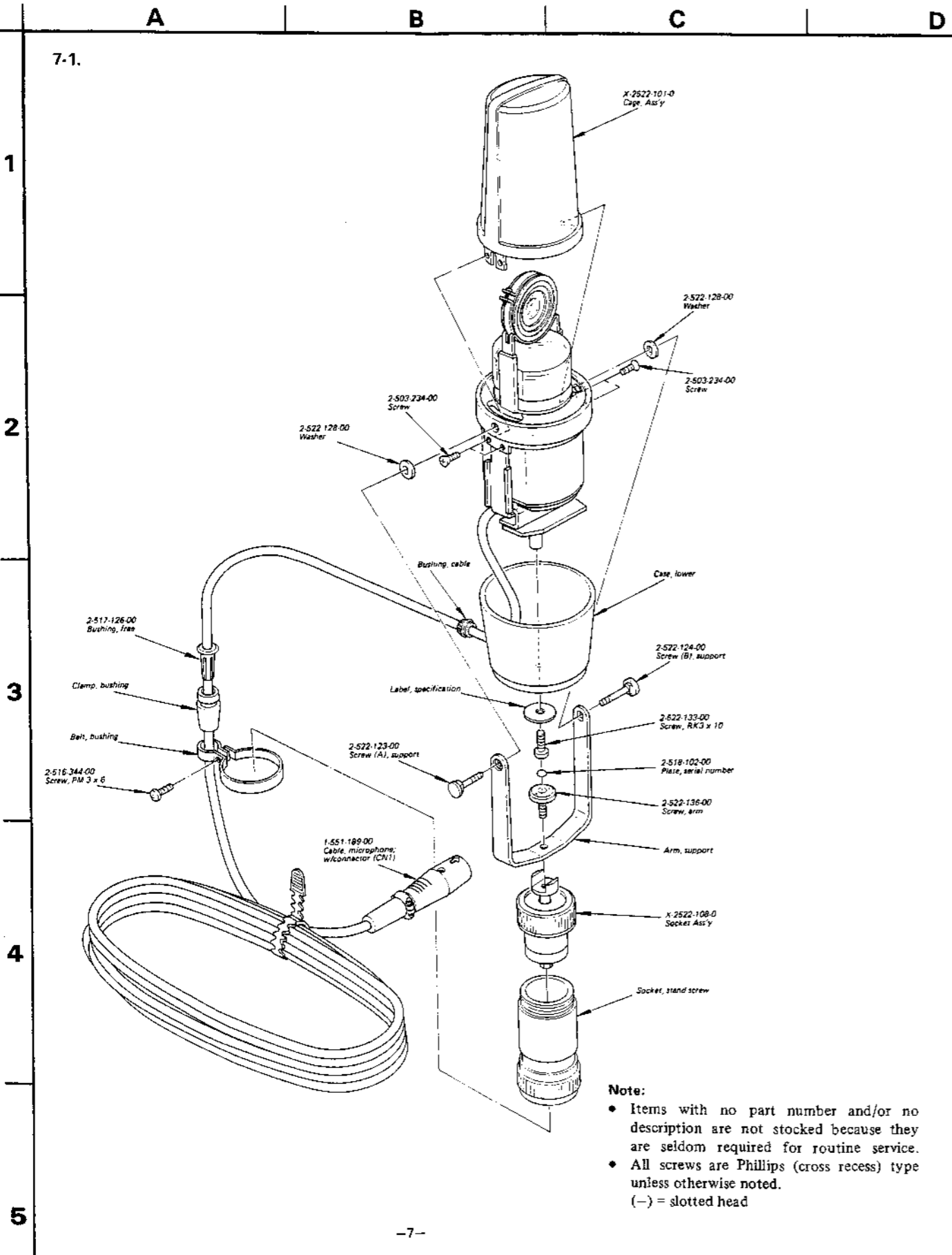


Q7: 2SC1124



7. EXPLODED VIEWS

7-2.



7-3.

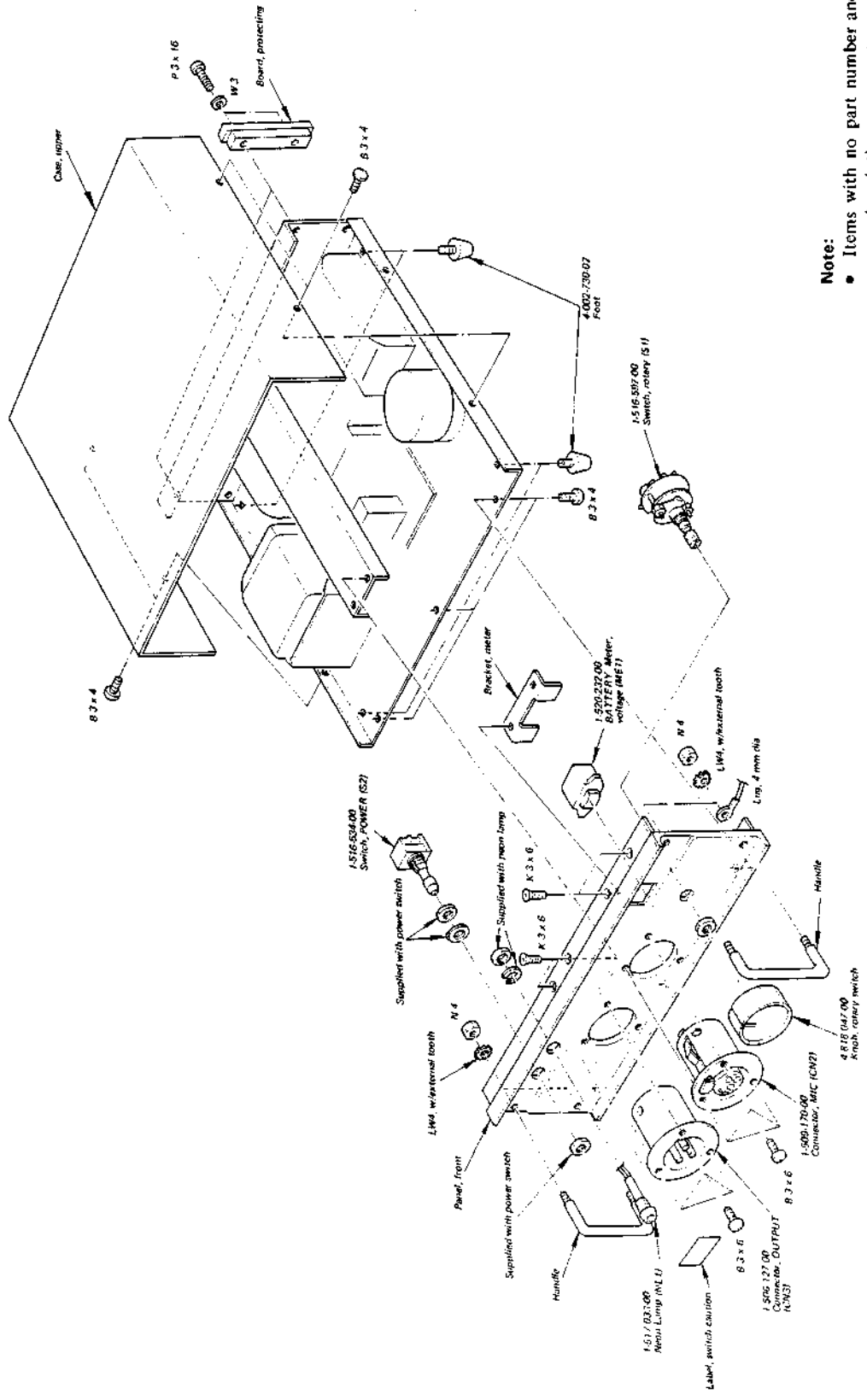
E

D

C

B

A



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted. (-) = slotted head

1

2

3

4



A

B

C

D

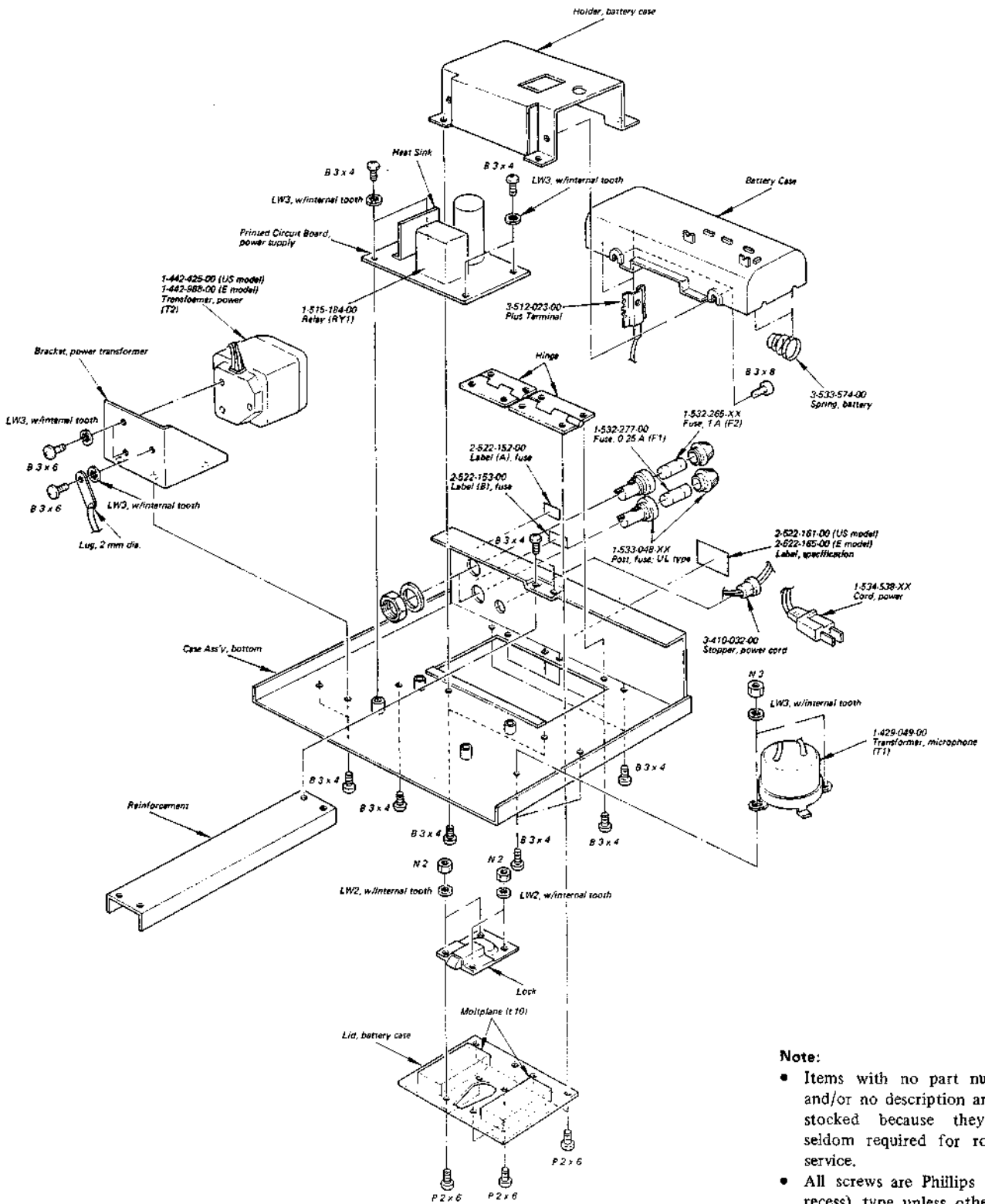
1

2

3

4

5



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted. (-) = slotted head (-) = slotted head

8. ELECTRICAL PARTS LIST

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
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COMPLETE CIRCUIT BOARD

	A-4518-018-A	Amp
--	--------------	-----

SEMICONDUCTORS**Transistors**

Q5		2SK23A
= Q6		2SC634A
Q7		2SC1124

Diodes

D1		CD2
D2		RD7AM

TRANSFORMERS

T1	1-429-049-00	Microphone
T2	1-442-425-00	Power (US model)
	1-442-988-00	Power (E model)

CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted.
50 WV or less are not indicated except for electrolytics.
 $\text{pF} = \mu\mu\text{F}$, elect = electrolytic

C7, 8	1-108-251-12	0.1	mylar
C9	1-108-246-12	0.047	mylar
C10	1-121-984-11	2200	35 V elect
C11	1-123-072-11	220	10 V elect

RESISTORS

All resistors are in ohms. Common $\frac{1}{4}\text{W}$ carbon resistors are omitted. Check schematic diagram for values.

R5	1-213-138-11	390	$\frac{1}{4}\text{W}$	carbon
R6	1-224-647-XX	30 k,	adjustable	

SWITCHES

S1	1-516-597-00	Rotary, TONE selector
S2	1-516-534-00	POWER

• ⇒ : Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
-----------------	-----------------	--------------------

FUSES

F1	1-532-277-00	0.25 A
F2	1-532-265-XX	1 A

MISCELLANEOUS

CN1	1-551-189-00	Cable, microphone output; w/connector
CN2	1-509-170-00	Connector (XLR-5-13), MIC
CN3	1-506-127-00	Connector (XLR-3-14), OUTPUT
ME1	1-520-232-00	BATTERY Meter, voltage
NL1	1-517-033-00	Neon Lamp
RY1	1-515-184-00	Relay
	1-464-052-00	DC-DC Converter
	1-533-048-XX	Post, fuse; UL type
	1-534-538-XX	Cord, power

ACCESSORIES & PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>
0-110-572-04	Screwdriver
1-532-265-XX	Fuse, 1A
1-532-277-00	Fuse, 0.25A
1-551-190-00	Cable, microphone; extension
2-052-522-02	Adaptor, screw
2-599-059-21	Manual, instruction (US model)
2-599-059-11	Manual, instruction (E model)
2-522-159-00	Carton
2-522-160-00	Cushion
3-701-613-00	Bag, plastic
3-701-628-00	Bag, plastic
3-701-632-00	Bag, plastic
X-2522-107-0	Case, carrying