ECM-50PBW/50PSW

US Model
Canadian Model
AEP Model
UK Model
E Model

ECM-50PBW
: Black type
ECM-50PSW
: Silver type

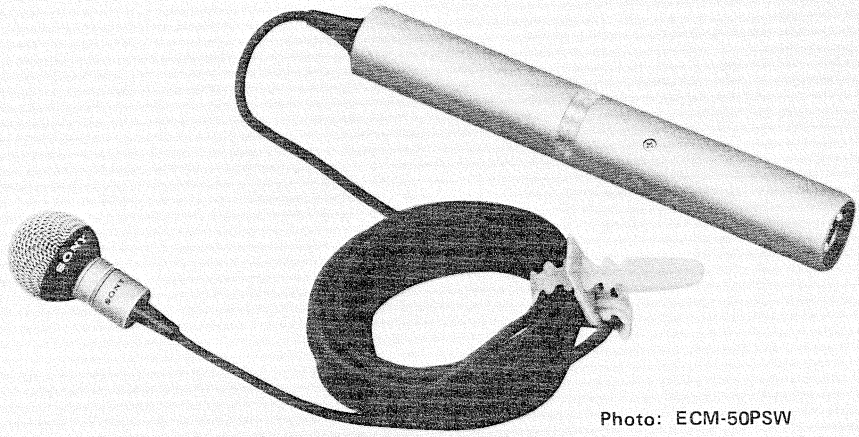


Photo: ECM-50PSW

ELECTRET CONDENSER MICROPHONE

SPECIFICATIONS

Type: Electret Condenser Microphone

Power Supply: Battery: IEC designation R1 SIZN
IEC designation LR1
External powers
(by using Sony AC-148F external power supply)
EVEREADY E340E, 904 manganese
EVEREADY AM-5 alkaline battery

Power Requirements: Normal operating voltage:
1.5 DC
(battery operation)
15 – 50 V dc
(at external power operation)
Minimum operating voltage:
1.1 V DC
Current drain:
less than 0.18 mA
(with battery)
less than 2.5 mA
(with external power supply)
Battery life:
Approx. 3,000 hours with
EVEREADY E340E, 904
Approx. 4,600 hours with
EVEREADY AM-5

Frequency Response: 40 – 14,000 Hz

Directivity: Omni-directional

Output Impedance: 250Ω ±20% (1 kHz, balanced)

Output Level: (deviation ±2 dB)
Effective output level:
-54.0 dBm
(0 dBm = 1 mW/10μbar)
Open circuit voltage:
0.2 mV/μbar
Recommended load impedance is more than 3 kΩ

Noise Level: S/N ratio: more than 46 dB (1 kHz, 1μbar)
Inherent noise: less than 28 dB SPL
(0 dB = 2×10^{-4} μbar)
Wind noise : *1: less than 45 dB SPL
(without wind screen)
Induction noise from external magnetic field
*2: less than 5 dB SPL/m gauss

*1 Wind noise is the value measured by applying a wind velocity of 2 m/sec. (6.6 ft./sec.) from all directions to the microphone. The mean value is taken and converted to the equivalent input sound level.
0 dB = 2×10^{-4} μbar

*2 The external magnetic field induction noise is measured with the microphone placed in the alternating magnetic field of 50 Hz, 1 m gauss. The maximum noise value is taken and then converted to the equivalent input sound level.
0 dB = 2×10^{-4} μbar

— Continued on next page —

MICROFILM

SONY®
SERVICE MANUAL

ECM-50PBW/50PSW

Maximum Sound Pressure Input Level: (1 kHz, 1% distortion)	126 dB SPL (0 dB = 2 x 10^{-4} μbar)	
Dynamic Range:	more than 98 dB	
Microphone Cable:	2.2 mm (dia.) x 3 m 5/64 inches (dia.) x 10 feet 2-conductor shielded cable with a CANNON XLR-3-12C type	
Environmental Temperatures:	-4°F – 140°F (-20°C – 60°C) for storage 32°F – 140°F (0°C – 60°C) for operation	
Dimensions:	Microphone:	10.6 (dia.) x 21 mm 7/16 (dia.) x 13/16 inches
	Power section:	19 (dia.) x 127 mm 3/4 (dia.) x 5 inches
Weight:	Microphone:	8.5 g, 0.3 oz
	Power section:	110 g, 3.9 oz

FEATURES

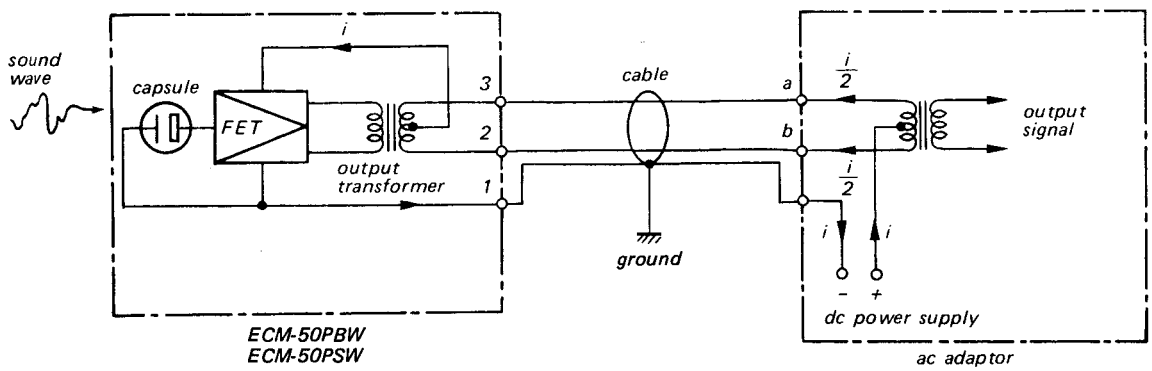
- Omni-directional characteristics with wide frequency range (40 – 14,000 Hz).
- 2-way powering system
- Ideal design for TV use
- Easy handling carrying case

1. OUTLINE

External Power Supply

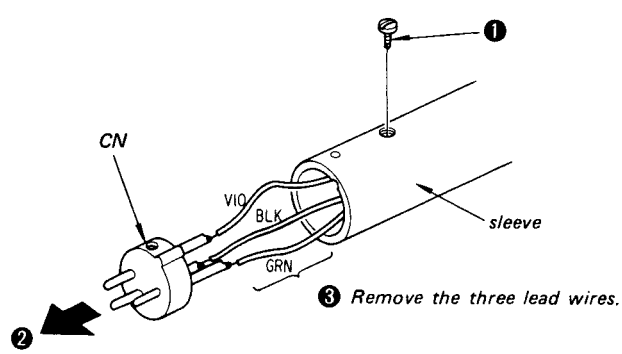
This microphone can be operated on ac power supply by using SONY ac adaptor AC-148F or equivalent.

The microphone cable, shielded two-conductor cable, is used as both an audio signal cable and a dc power supply cable by connecting to the adaptor. Positive dc current is supplied to the microphone through the two inner conductors of the cable and negative dc current through the shield conductor.



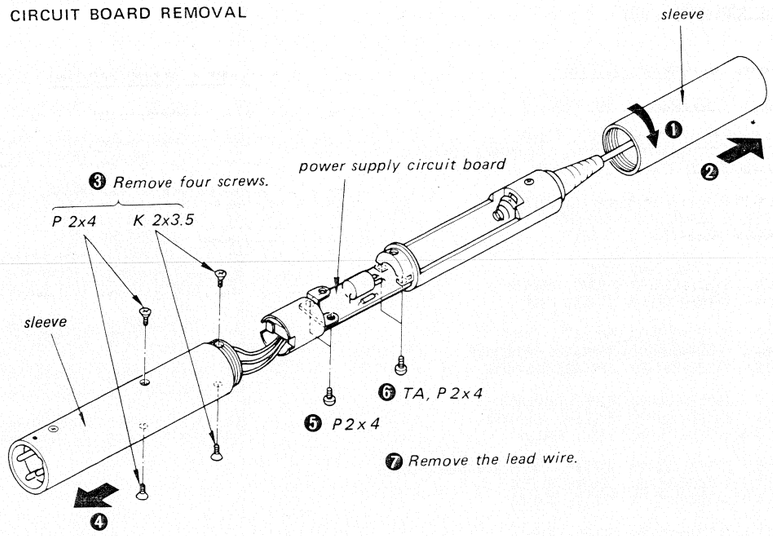
2. DISASSEMBLY

2-1. CONNECTOR REMOVAL

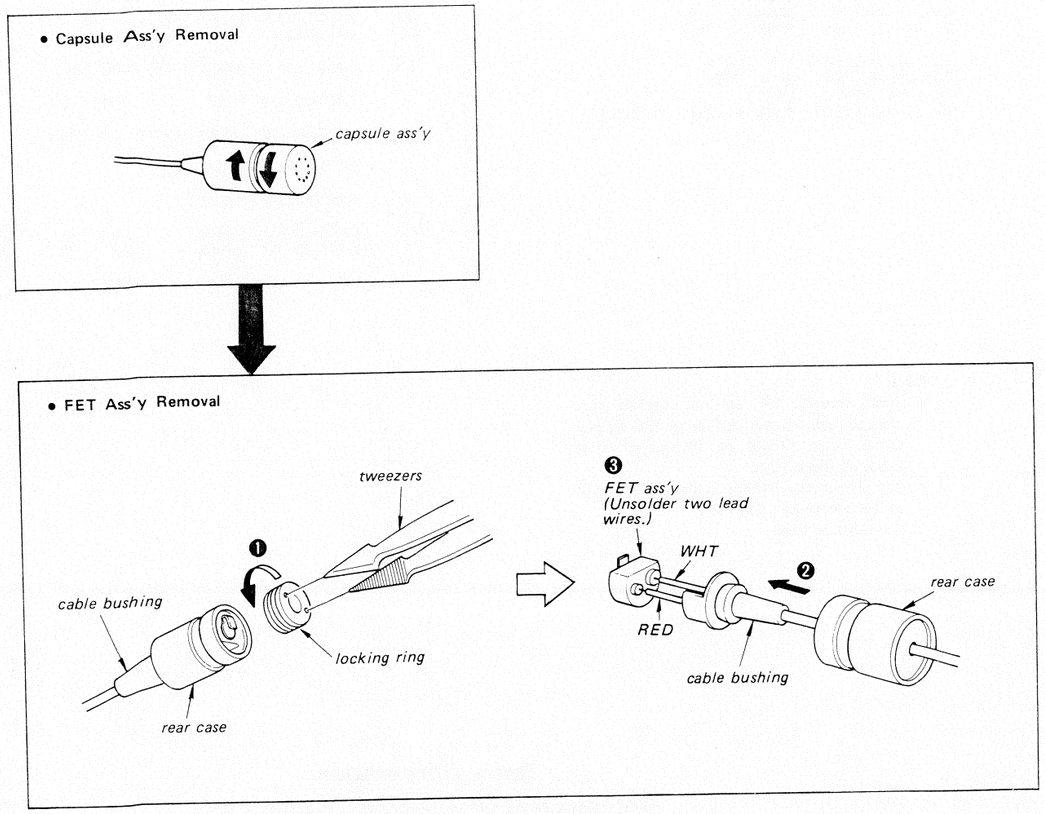


ECM-50PBW/50PSW

2-2. POWER SUPPLY CIRCUIT BOARD REMOVAL



2-3. CAPSULE ASS'Y AND FET ASS'Y REMOVAL

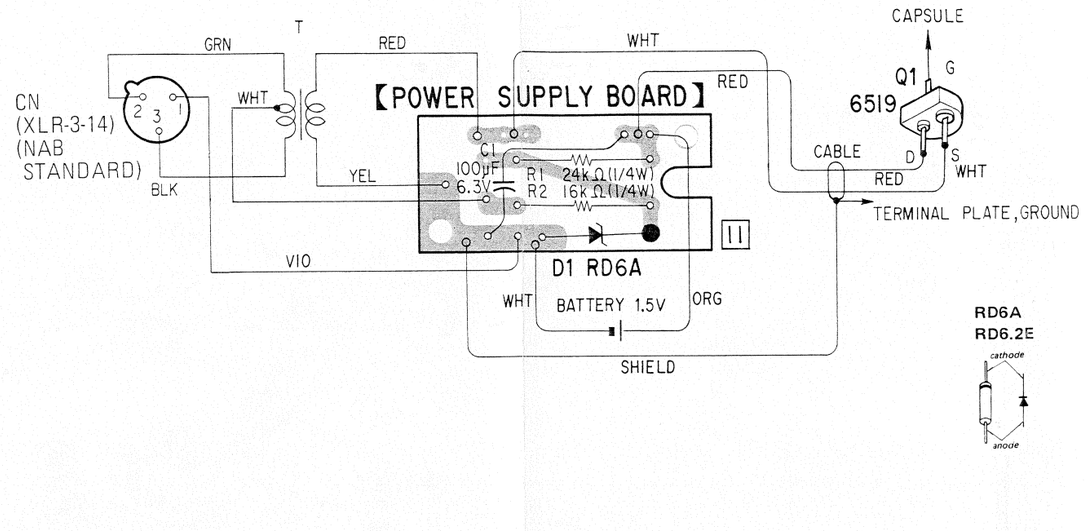


3. MOUNTING DIAGRAM (ONLY FOR REFERENCE)

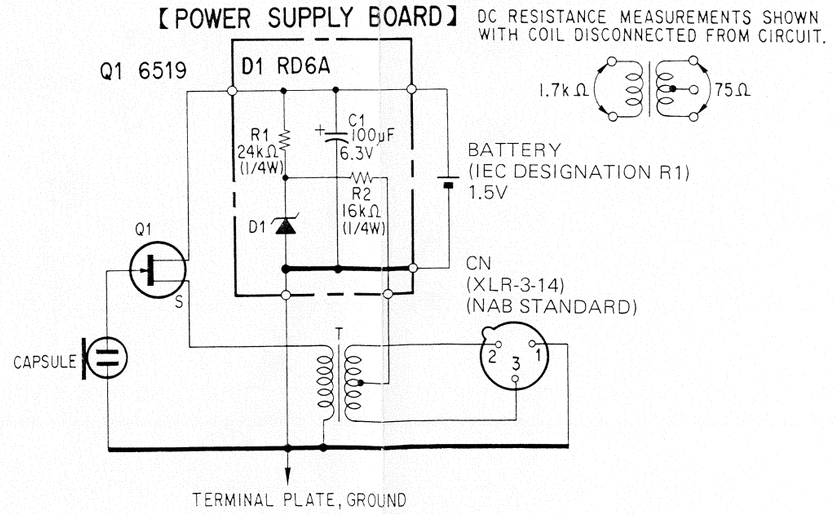
— Conductor Side —

CAUTION

The individual parts on the power supply board are not supplied.
If some trouble occurs on the board, replace the complete circuit board.



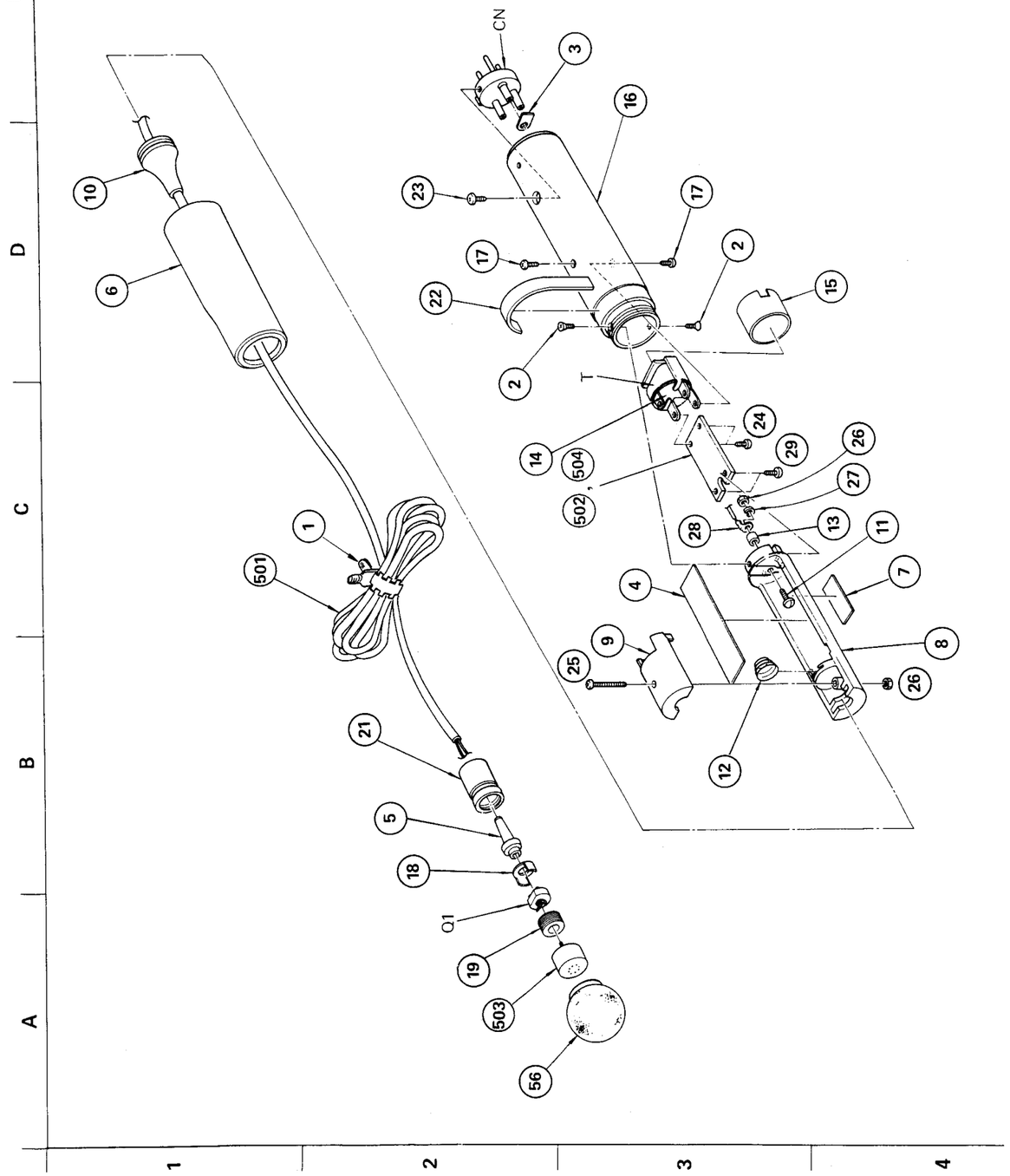
4. SCHEMATIC DIAGRAM (ONLY FOR REFERENCE)



ECM-50PBW/50PSW

5. EXPLODED VIEW

- See the parts list on page 6 for these part numbers and descriptions.



6. PARTS LIST

GENERAL SECTION

No.	Part No.	Description
1	2-500-521-00	BELT, TIE-UP
2	2-503-234-00	SCREW, TRANSFORMER BRACKET
3	2-506-805-00	LUG, EARTH
4	2-511-710-00	LABEL, BATTERY
5	2-522-050-00	BUSHING
6	2-511-842-00	SLEEVE
7	2-520-118-00	LABEL
8	2-522-003-00	FRAME, BATTERY
9	2-522-004-00	COVER, FRAME
10	2-522-005-00	BUSHING, CABLE
11	2-522-006-00	TERMINAL, POSITIVE
12	2-522-007-00	SPRING, NEGATIVE
13	2-522-008-00	PIPE, INSULATOR
14	2-522-010-00	HOLDER, PC BOARD
15 ♦	2-522-011-00	CASE, SHIELD
16 ♦	2-522-015-00	SLEEVE, CANON PIN INSERT CASE
17	2-522-018-01	SCREW, +P 2X4
18 ♦	2-522-024-00	PLATE, GROUND
19 ♦	2-522-025-00	SCREW, JOINT
20	.....	
21 ♦	2-522-027-00	(ECM-50PSW)... CASE (REAR)
21 ♦	2-522-027-11	(ECM-50PBW)... CASE (REAR)
22	2-522-039-00	(ECM-50PSW)...LABEL, MODEL NUMBER
22	2-522-046-00	(ECM-50PBW)...LABEL, MODEL NUMBER
23	2-522-402-11	SCREW
24	7-621-255-25	SCREW +P 2X4
25	7-621-255-75	SCREW +P 2X12
26	7-622-205-05	N 2, TYPE 2
27	7-623-205-22	SW 2, TYPE 2
28	7-623-505-01	LUG, 2
29	7-685-102-21	SCREW +P 2X4 TYPE2 SLIT

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
51	2-522-043-00	(ECM-50PSW)...INDIVIDUAL CARTON
51	2-522-048-00	(ECM-50PBW)...INDIVIDUAL CARTON
52 ♦	2-522-705-00	PLATE, PROTECTING
53	2-599-208-11	MANUAL, INSTRUCTION
53	2-599-208-21	(US only)...MANUAL, INSTRUCTION
54	3-703-050-00	LABEL
55	3-794-422-21	(US only)...CARD, WARRANTY
56	A-4580-003-A	(ECM-50PSW)...WINDOW SCREEN OVER ALL ASSY
56	X-2522-401-0	(ECM-50PBW)...WINDOW SCREEN OVER ALL ASSY
57	X-2511-809-1	(ECM-50PSW)...CLIP ASSY, HOLDER
57	X-2511-809-2	(ECM-50PBW)...CLIP ASSY, HOLDER
58	X-2522-005-0	(ECM-50PSW)...CASE ASSY, CARRYING
58	X-2522-007-0	(ECM-50PBW)...CASE ASSY, CARRYING
59	X-2522-006-0	(ECM-50PSW)...CLIP ASSY, DOUBLE
59	X-2522-008-0	(ECM-50PBW)...CLIP ASSY, DOUBLE

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	1-551-277-00	CABLE, MIC 2CORE
502 ♦	1-583-953-00	POWER PRINTED CIRCUIT BOARD
503	A-4510-007-A	(ECM-50PSW)...CAPSULE ASSY
503	A-4510-012-A	(ECM-50PBW)...CAPSULE ASSY
504	A-4533-006-A	MOUNTED PCB, POWER SUPPLY
C1	1-123-307-00	ELECT 100MF 20% 6.3V
CN	1-509-096-00	CANNON XLR3-14 PIN INSERT
D1	8-719-162-07	DIODE RD6.2E
Q1	X-2522-003-1	FET ASSY
R1	1-246-506-00	CARBON 24K 5% 1/4W
R2	1-246-502-00	CARBON 16K 5% 1/4W
T	1-427-396-11	TRANSFORMER,OUTPUT

Note:

- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head

9-951-011-11

Sony Corporation
Communication Products Group ©1982

English
82106154-1
Printed in Japan