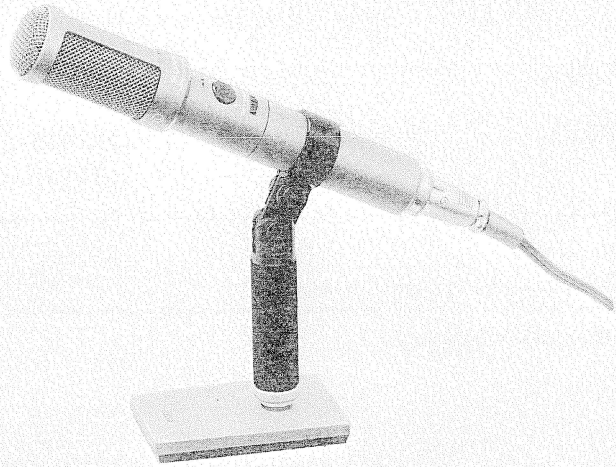
ECM-969

E Model
AEP Model



ELECTRET CONDENSER MICROPHONE

SPECIFICATIONS

GENERAL

Type:	Electret condenser microphone (with back-electret condenser)
FET:	Sony junction FET
Battery:	Penlight battery Size AA (IEC Designation-R6) SONY SUM-3 (Manganese)
Microphone Output Terminal:	Cannon XLR-5-12C
Dimensions:	40 mm dia. x 245 mm $1\frac{5}{8}$ inch dia. x $9\frac{3}{4}$ inches
Weight:	272 g, 9.6 oz (including battery)
Finish:	Metallic gray finish

PERFORMANCE

Directivity:	Variable
Frequency Response:	40 Hz to 20,000 Hz
Output Impedance:	600 Ω ±20 %, balanced
Output Level (deviation ±3 dB):	Open circuit voltage*: 600 Ω: -70.0 dB (0.282 mV) *0 dB = 1 mW/10μbar at 1,000 Hz Recommended load impedance is more than 3 kΩ.
Power Requirements:	Normal operating voltage: 1.5 V DC Minimum operating voltage: 1.1 V DC Current drain: Less than 8.0 mA Battery life: Approx. 100 hours with EVEREADY No. 1015, SONY SUM-3
Noise Level:	Signal-to-noise ratio; More than 44 dB (1,000 Hz, 1μbar) Inherent noise; Less than 30 dB SPL (0 dB = 2×10^{-4} μbar) wind noise *1: (with the wind screen) Less than 45 dB SPL 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. from all directions to the microphone. The mean value is taken and converted to the equivalent input sound level.

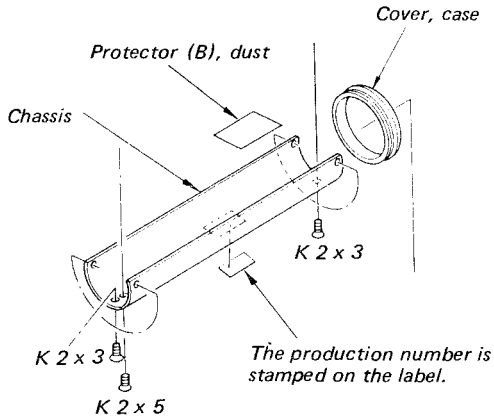
*2 The external magnetic field induction noise is measured with the microphone placed in an alternating magnetic field of 50 Hz, 1 milligauss. The maximum noise value is taken and the converted to the equivalent input sound level. (0 dB = 2×10^{-4} μbar)

Maximum Sound Pressure Input Level: (at 1,000 Hz, 1 % distortion)	130 dB SPL (0 dB = 2×10^{-4} μbar)
Dynamic Range:	More than 100 dB
Environmental Temperatures:	-20°C to +60°C for storage 0°C to +60°C for operation

SONY®

SERVICE MANUAL

Former and New Model Identification for E Model

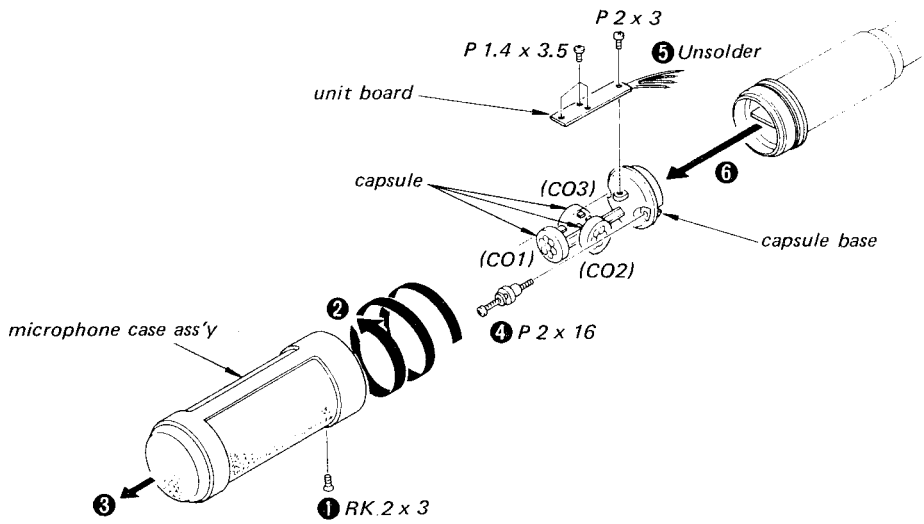


Former Model	New Model
34Z0	35□□

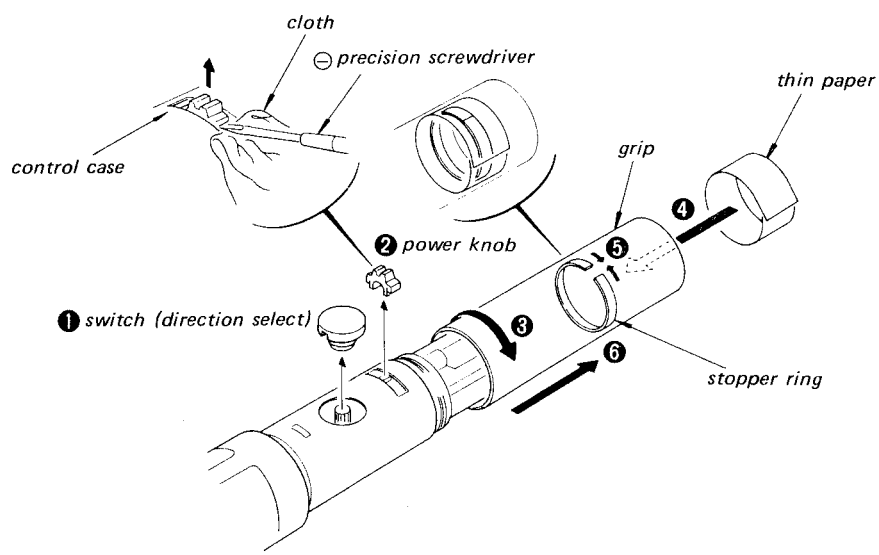
DISASSEMBLY

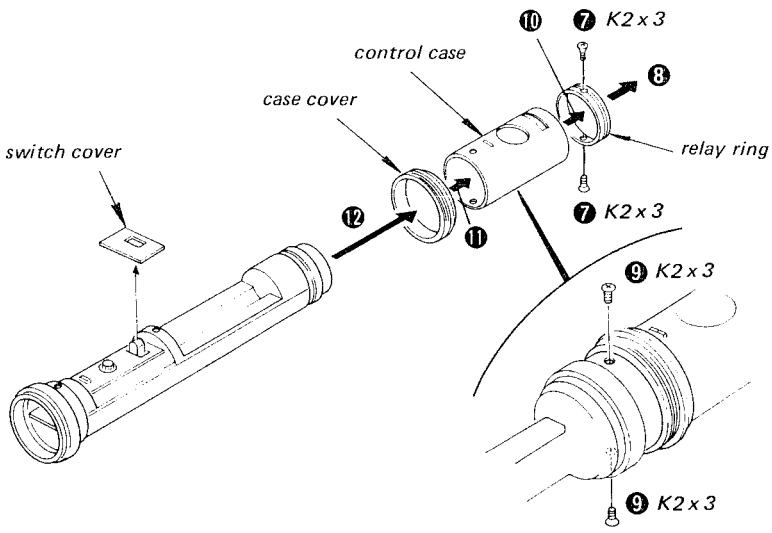
Note: Follow the disassembly procedure in the numerical order given.

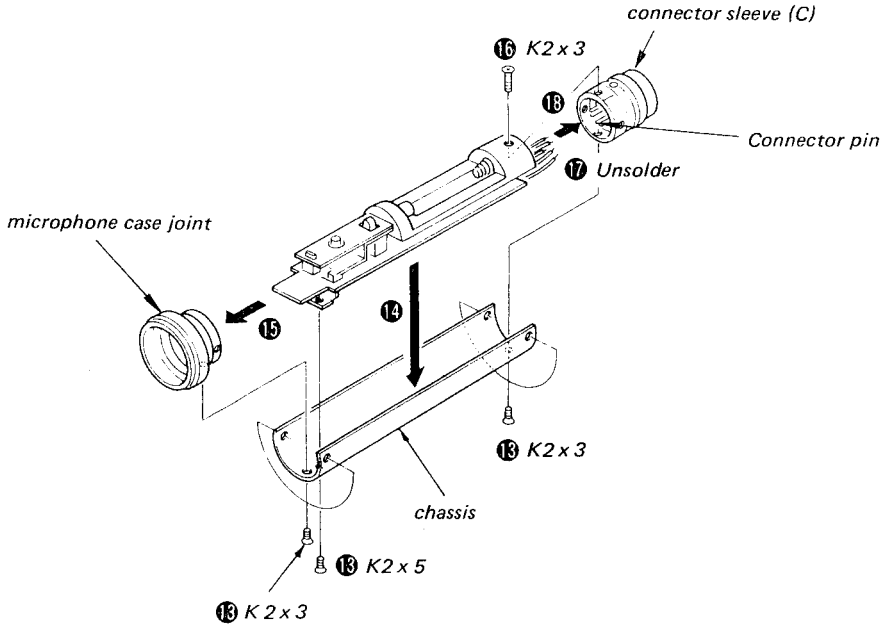
CAPSULE AND UNIT BOARD REMOVAL

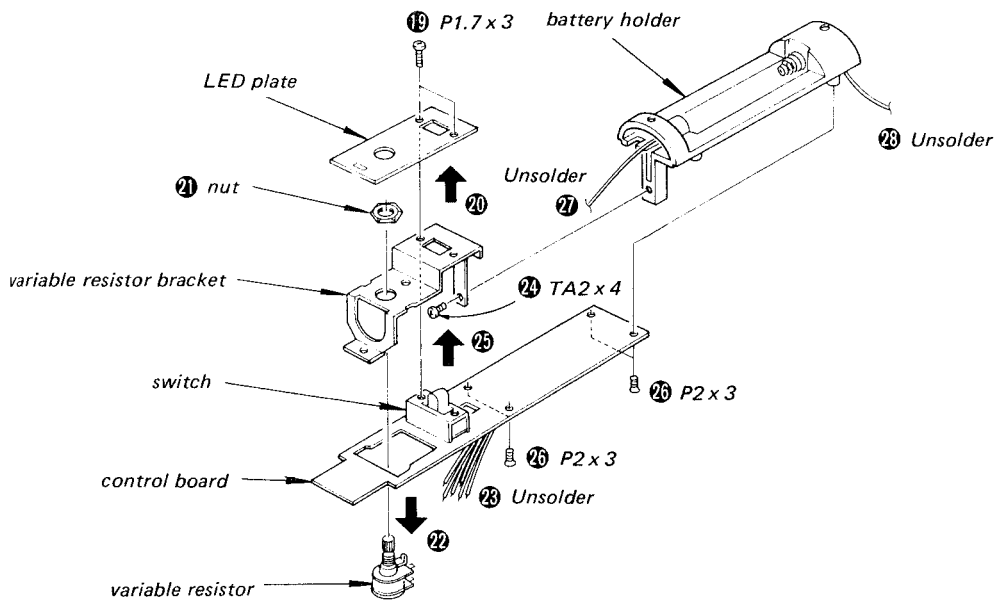


CONTROL BOARD, SWITCH, VARIABLE RESISTOR, CANNON PIN INSERT REMOVAL




⑩ ⑦ K2 x 3
control case
⑧
case cover
relay ring
switch cover
⑫
⑪
⑦ K2 x 3
⑨ K2 x 3
⑨ K2 x 3

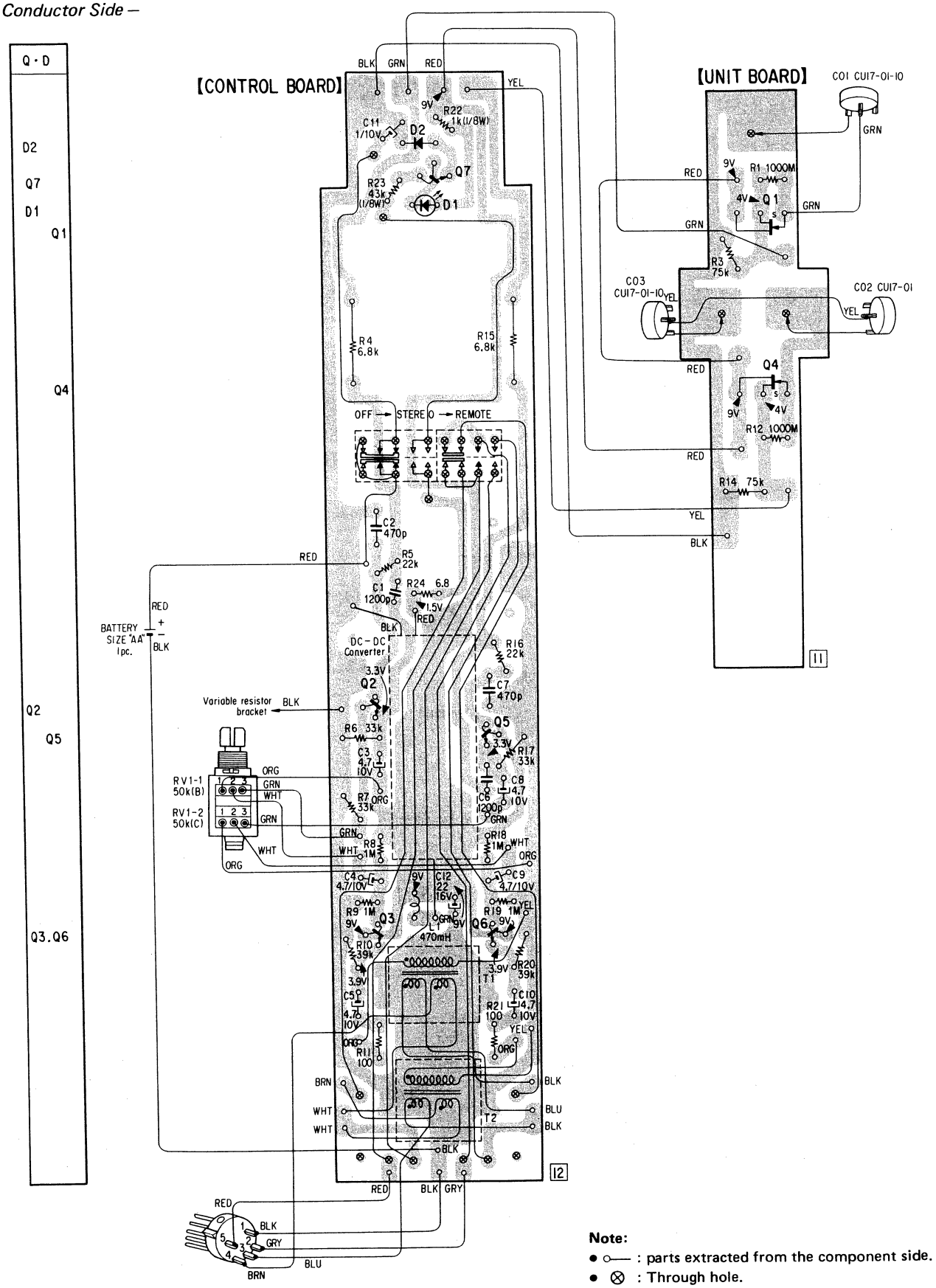

connector sleeve (C)
⑯ K2 x 3
⑱
Connector pin
⑰ Unsolder
microphone case joint
⑮
⑭
⑬ K2 x 3
chassis
⑬ K2 x 5
⑬ K 2 x 3


⑲ P1.7 x 3
battery holder
LED plate
㉘ Unsolder
㉑ nut
Unsolder
⑳
㉗
variable resistor bracket
㉔ TA2 x 4
㉕
switch
㉖ P2 x 3
㉖ P2 x 3
control board
㉘ Unsolder
㉒
variable resistor

A B C D

MOUNTING DIAGRAM

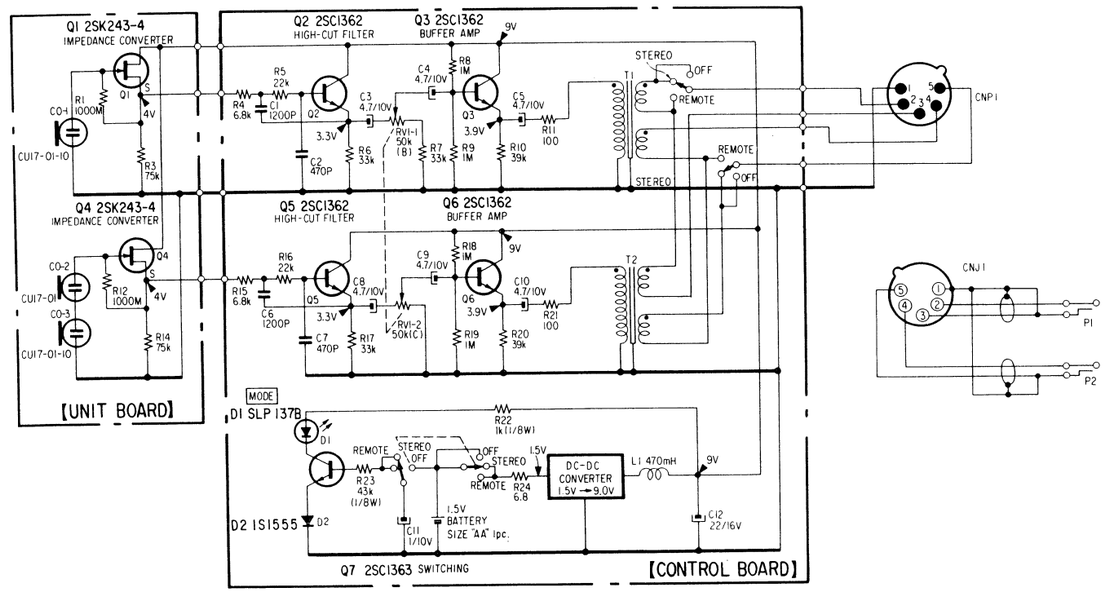
– Conductor Side –



Note:

- ○— : parts extracted from the component side.
- ⊗ : Through hole.

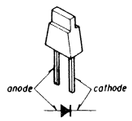
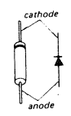
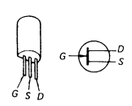
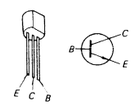
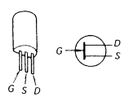
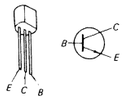
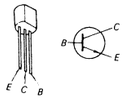
SCHEMATIC DIAGRAM



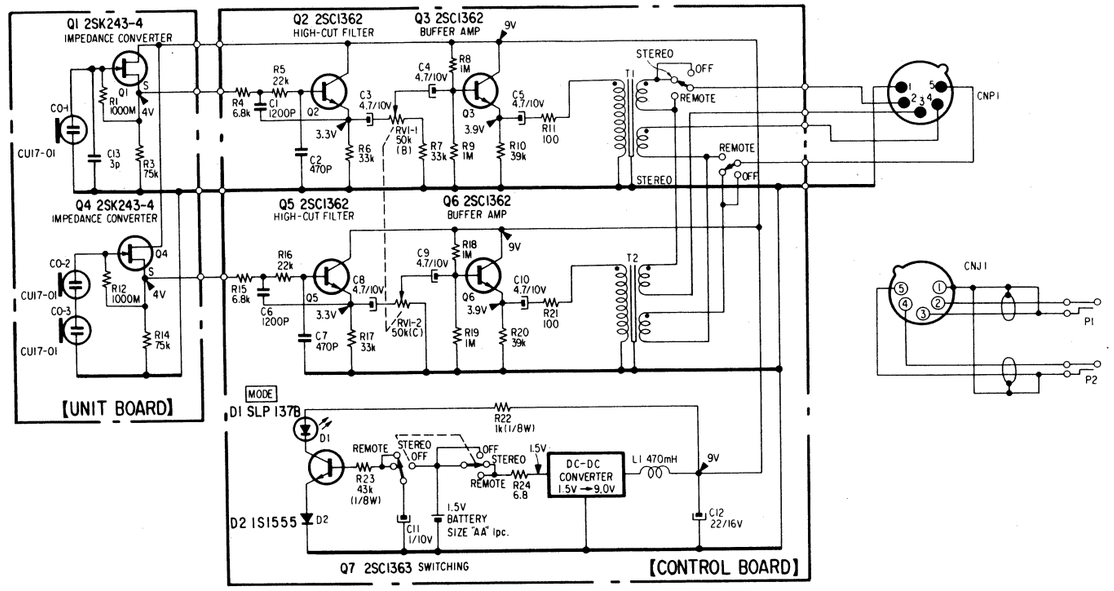
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1,000 Ω, MΩ : 1,000 kΩ
- Voltages are dc with respect to ground unless otherwise noted.

Semiconductor Lead Layouts

D1: SLP137B	**D2: 1S1555**	**Q1: 2SK243**	**Q2, 3: 2SC1362**
			
Q4: 2SK243	**Q5, 6: 2SC1362**	**Q7: 2SC1364**	
			

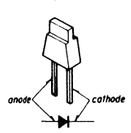
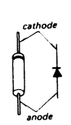
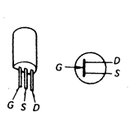
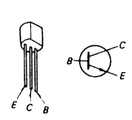
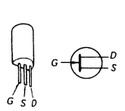
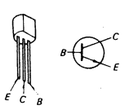
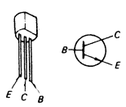
SCHEMATIC DIAGRAM



Note:

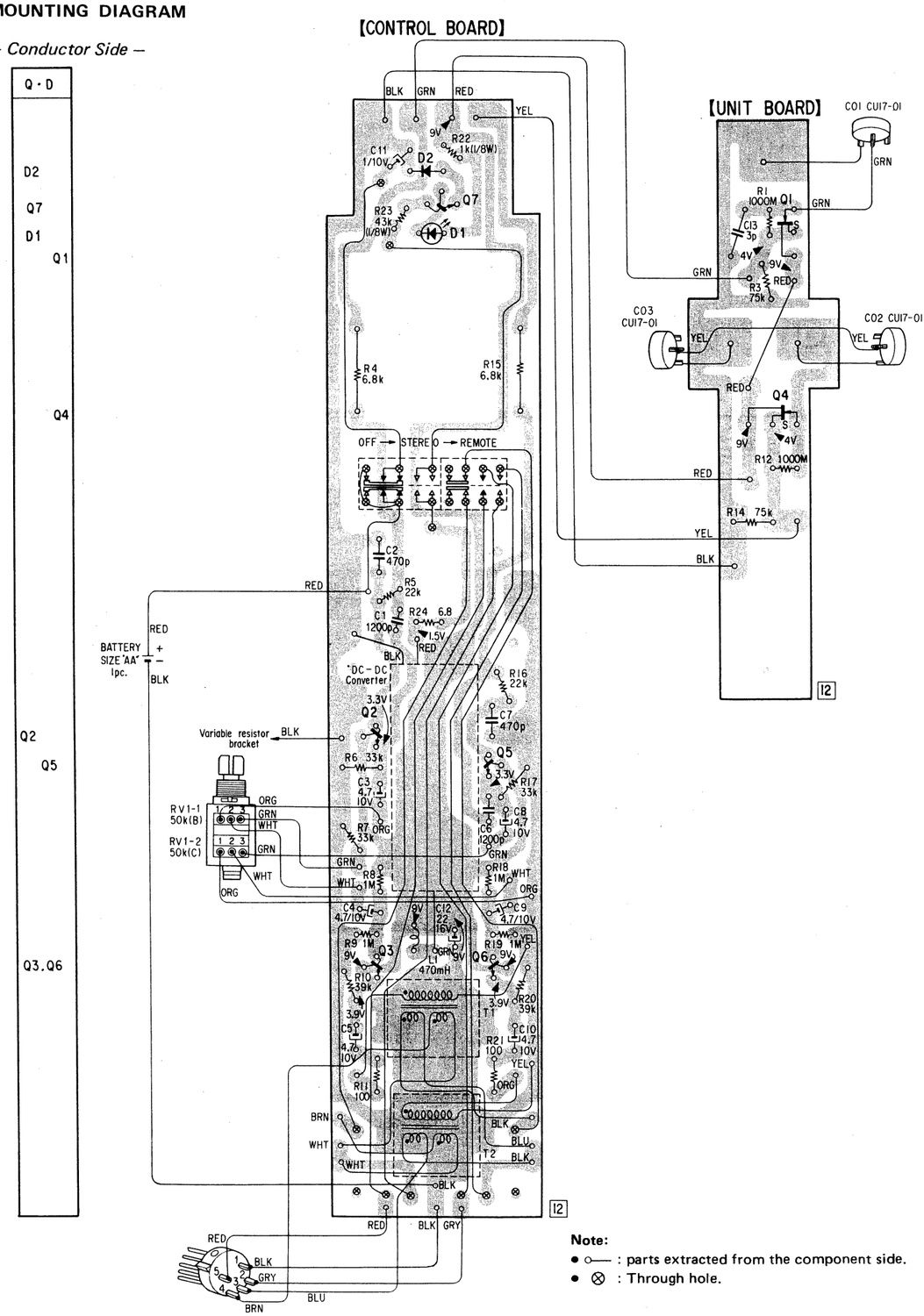
- All capacitors are in μF unless otherwise noted. pF: μμF
  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted.
  kΩ : 1,000 Ω, MΩ : 1,000 kΩ
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MOUNTING DIAGRAM

– Conductor Side –



Note:

- ○— : parts extracted from the component side.
- ⊗ : Through hole.

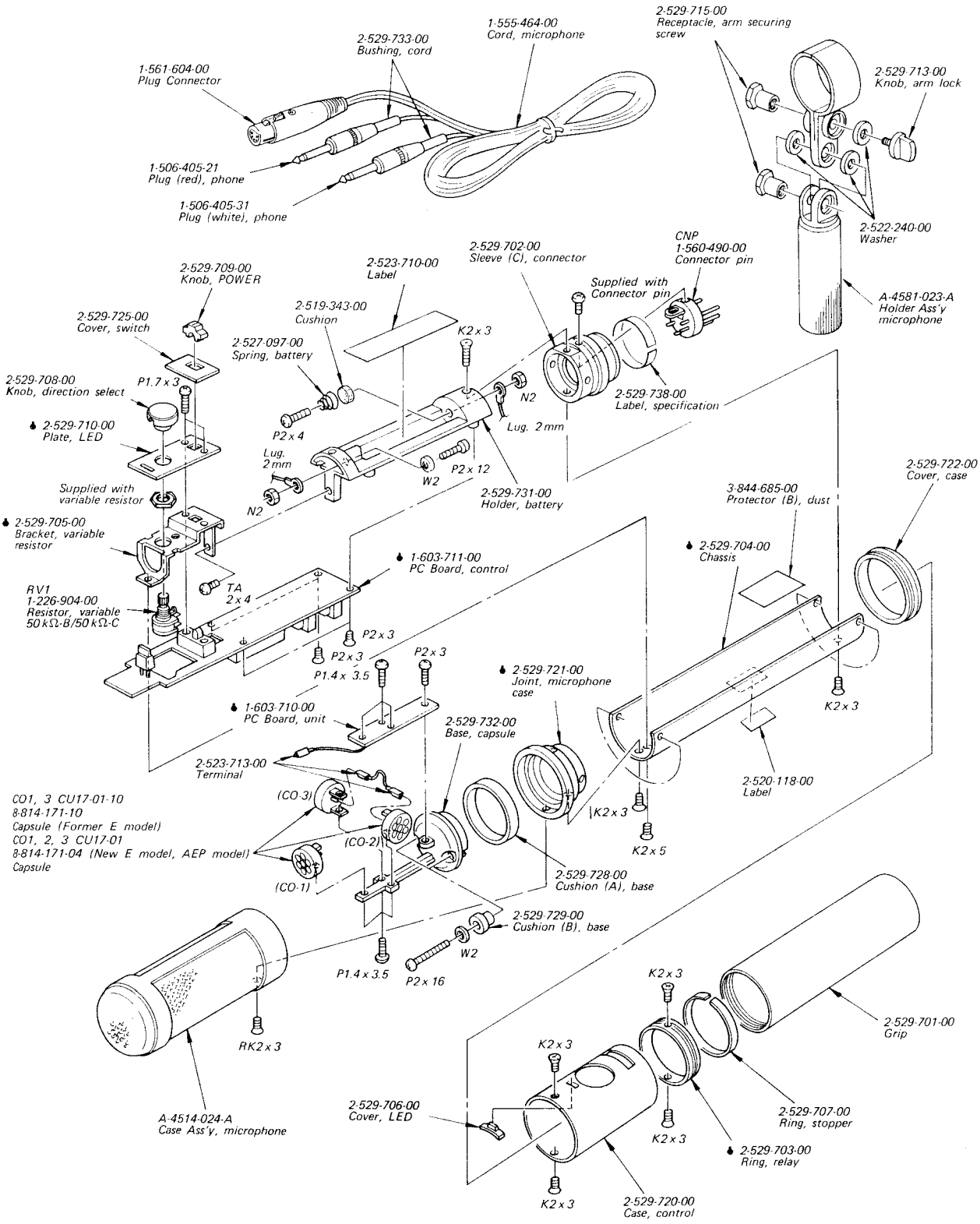
A B C D

1 2 3 4 5

EXPLODED VIEW

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



ELECTRICAL PARTS LIST

Ref. No.	*Part No.*	*Description*		
		SEMICONDUCTORS		
		Transistors		
Q1	8-765-654-00	2SK243		
Q2,3	8-729-665-47	2SC1362		
Q4	8-765-654-00	2SK243		
Q5,6	8-729-665-47	2SC1362		
Q7	8-729-663-47	2SC1364		
		Diodes		
D1	8-719-901-37	SLP137B		
D2	8-719-815-55	1S1555		
		CAPACITORS		
C1	1-130-505-11	0.0012μF	50 V	film
C2	1-130-500-11	0.00047μF	50 V	film
C6	1-130-505-11	0.0012μF	50 V	film
C7	1-130-500-11	0.00047μF	50 V	film
		RESISTORS		
R1,12	1-208-256-00	1,000 MΩ	micro	
R22	1-246-783-11	1 kΩ	1/8 W	Carbon
R23	1-246-863-11	43 kΩ	1/8 W	Carbon
RV1	1-226-904-00	50 kΩ-B/50 kΩ-C		variable
		MISCELLANEOUS		
CNP	1-506-139-00	CANNON Pin Insert		
CO1	8-814-171-10	Capsule, CU17-01-10 (Former E model)		
CO1, 2, 3	8-814-171-04	Capsule, CU17-01 (New E model, AEP model)		
CO3	8-814-171-10	Capsule, CU17-01-10 (Former E model)		
L1	1-407-171-10	Coil, microinductor		
T1, 2	1-427-486-00	Transformer, microphone output		
	1-464-134-00	DC-DC Converter		
	1-506-405-21	Plug (red), phone		
	1-506-405-51	Plug (white), phone		
	1-508-363-00	Connector, CANNON		
	1-553-414-00	Switch, slide		
	♦ 1-603-710-00	PC Board, unit		
	♦ 1-603-711-00	PC Board, control		

ACCESSORIES AND PACKING MATERIALS

Part No.	*Description*
A-4580-007-A	Screen Ass'y, wind
A-4581-023-A	Holder Ass'y, microphone
1-528-027-11	Battery SUM-3
1-555-464-00	Cord, microphone
1-561-509-31	Plug Connector (white)
1-561-509-41	Plug Connector (red)
2-100-952-00	Adaptor, stand screw (SAD-35)
2-529-734-00	Spacer
2-529-735-00	Carton
2-529-736-00	Case, carrying
2-599-152-11	Manual, instruction (E model)
2-599-152-51	Manual, instruction (AEP model)
3-701-630-00	Bag, plastic

Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Sony Corporation
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