

ECM-22P

REVISED

Do not use ECM-22P SERVICE MANUAL (0F06108-1).



SPECIFICATIONS

Type:	Electret condenser microphone		
Battery:	EVEREADY No. 206 dry battery (9V), No. E-126 mercury battery (8.4V) or equivalent		
Power Supply:	Nominal operating voltage; 8.4V Minimum operating voltage; 3.7V (Acceptable external power supply of DC 4.5~54V) Current drain; approx. 600 μ A Battery life; more than 1,000 hrs with E-126 more than 500 hrs with E-206		
Frequency Response:	40~15,000 Hz		
Output Level:	Output impedance	250 Ω	600 Ω
	Effective output level * (1)	-54.6 dBm	-54.8 dBm
	Open circuit voltage * (2)	-54.8 dB	-51.0 dB
	EIA rating GM * (3)	-146.6 dB	-148.8 dB
	★ Deviation ± 3 dB		
	Note:	* (1) 0 dBm = 1 mW/10 μ bar * (2) 0 dB = 1V/10 μ bar * (3) EIA standard SE-105	
Directivity:	Uni-directional (Cardioid)		
Output Impedance:	250 Ω , 600 Ω at 1 kHz balanced		
Noise Level:	S/N ratio; 64 dB (1 kHz, 10 μ bar) Inherent noise; less than 30 dB SPL Wind noise * (4); 45 \pm 5 dB SPL External magnetic field induction noise * (5); less than 5 dB SPL/m gauss		
	Note:	* (4) Wind noise is the value measured by applying a wind velocity of 6.6 ft/s (2 m/s) from all directions to the microphone. The mean value is taken and converted to the equivalent input sound level. (0 dB = 2 $\times 10^{-4}$ μ bar) * (5) The external magnetic field induction noise is measured with the microphone placed in the alternating magnetic field of 50 Hz, 1 milligauss. The maximum noise value is taken and then converted to the equivalent input sound level. (0 dB = 2 $\times 10^{-4}$ μ bar)	
	Maximum Sound Pressure Input Level:	124 dB SPL	
	Dimensions:	0.96" dia x 7.7" (24.5 mm dia x 195 mm)	
	Weight:	3.9 oz (110 g) without cable	

SONY[®]
SERVICE MANUAL

1. GENERAL DESCRIPTION

The SONY microphone Model "ECM-22P" is a cardioid, condenser type with uniform response from 40 to 15,000 Hz. The capsule is 17 mm in diameter and made of a high-polymer film utilizing the "electret" principle of polarization and two output impedances: 250 and 600Ω can be selected by changing the impedance switch. ECM-22P can be operated on an external DC power supply without any additional conductors or cables, besides battery operation.

2. TECHNICAL FEATURE

Electret Condenser Microphone

The condenser microphone has long been known for its several desirable characteristics: flat frequency response, high sensitivity, wide dynamic range, and good transient response along with physical durability and ruggedness. The need for an external power supply has been one drawback to the condenser microphone. The SONY Electret Condenser microphone retains the desirable qualities of regular condenser types while eliminating the external power requirement, representing a significant advancement in the production of a simple, low-cost, high performance microphone. The SONY "electret-treated" high-polymer film diaphragm reduces physical size requirements, needs no additional power supply and provides outstanding performance.

Note: The "electret-treatment" is based on the fact that certain materials, when placed in a high potential electric field, retain an electric polarization when removed from the field. Extensive research by SONY engineers has developed the electret principle to an advanced state of stability unattainable until now.

Another milestone is the built-in impedance-translator amplifier which uses a Field Effect Transistor (FET). The combination of the electret-condenser with the FET amplifier results in a microphone product representing the most advanced state-of-the-art development. Following is a summary of engineering features made possible by these advances in microphone manufacture:

- (1) High sensitivity for small size (minimum diameter available is as small as 7 mm).
- (2) The light weight of the diaphragm assures higher fidelity.
- (3) Noise from any possible vibration is minimized.
- (4) The dynamic range is very wide (92dB or more).

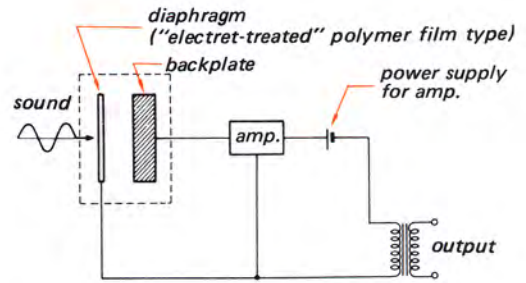


Fig. 2-1 Schematic in principle

3. DISASSEMBLY

Amp. Circuit Board Removal

- (1) Remove the handle grip from the chassis by turning it counterclockwise.
- (2) Peel the specification label off.
- (3) Remove the grille metal from the chassis by removing the two screws shown in Fig. 3-1.
- (4) Peel the battery label off.

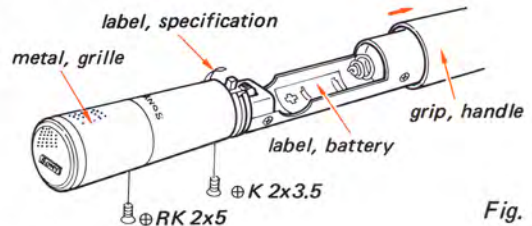


Fig. 3-1

- (5) Remove the lead at the capsule, coming from the amp. circuit board, by pulling it out.
- (6) Remove the black lead at the dust protector, coming from the amp. circuit board, by soldering.

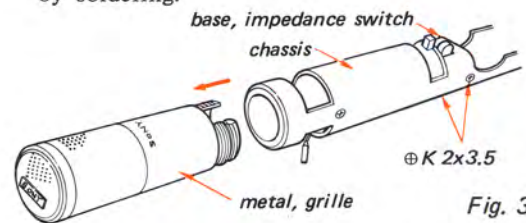


Fig. 3-2

- (7) Remove the amp. circuit board from the chassis as shown in Fig. 3-3. In case of removing the capsule from the chassis, remove it by pulling the rubber cushion out.

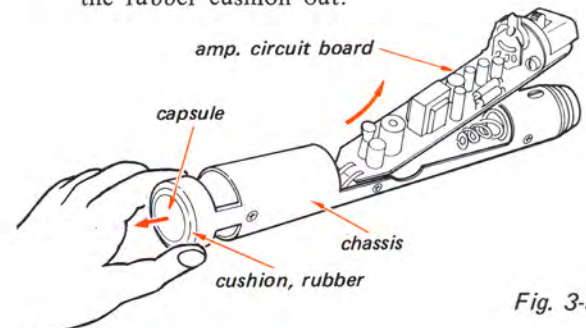
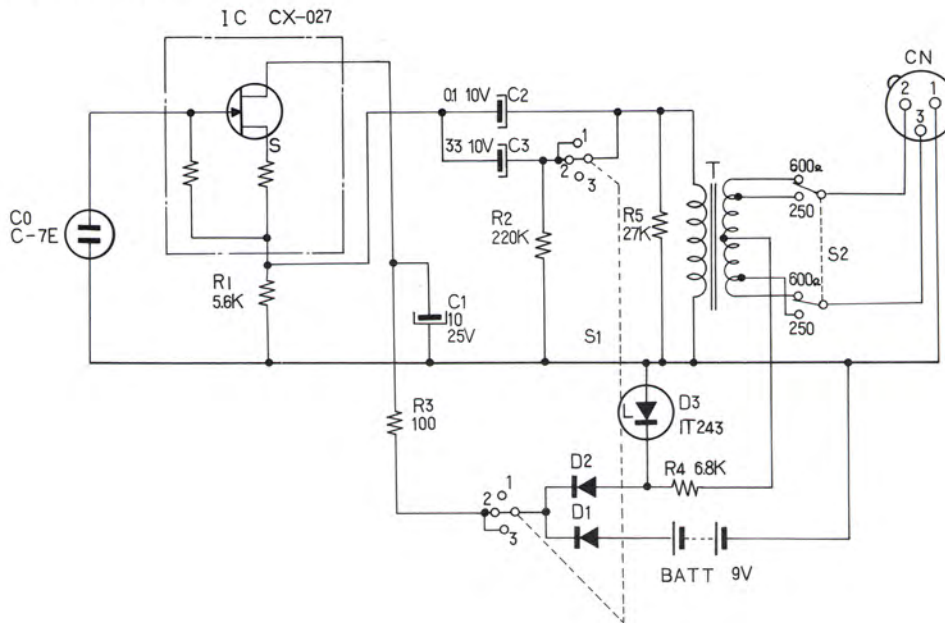


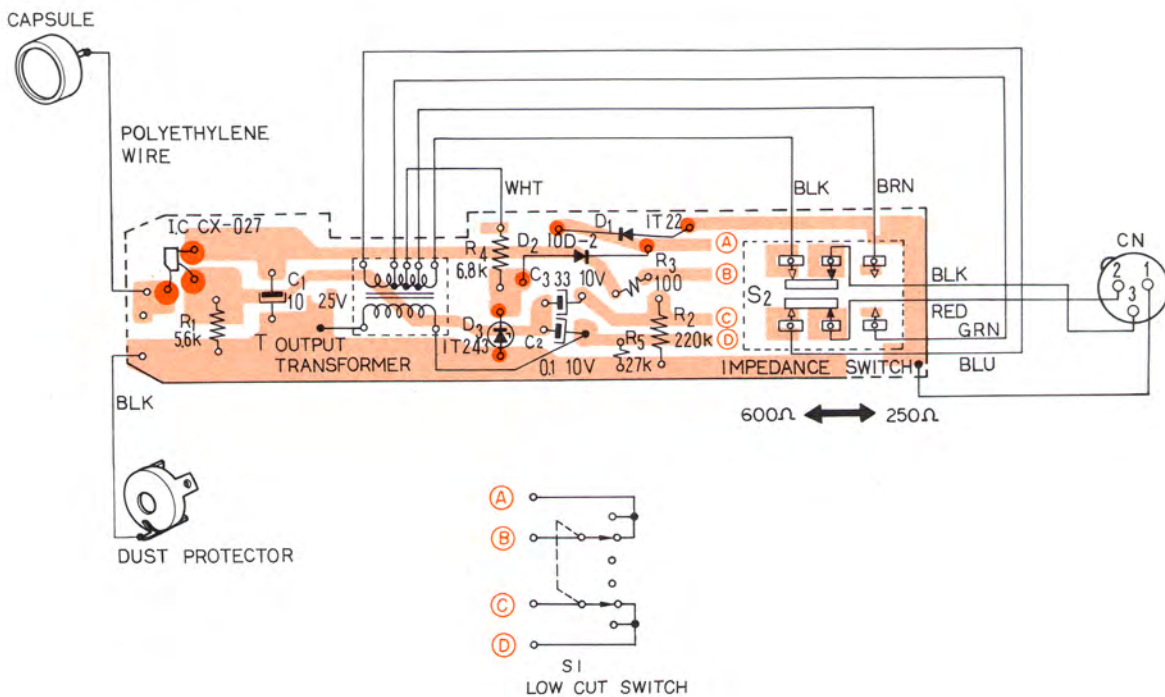
Fig. 3-3

4. SCHEMATIC DIAGRAM



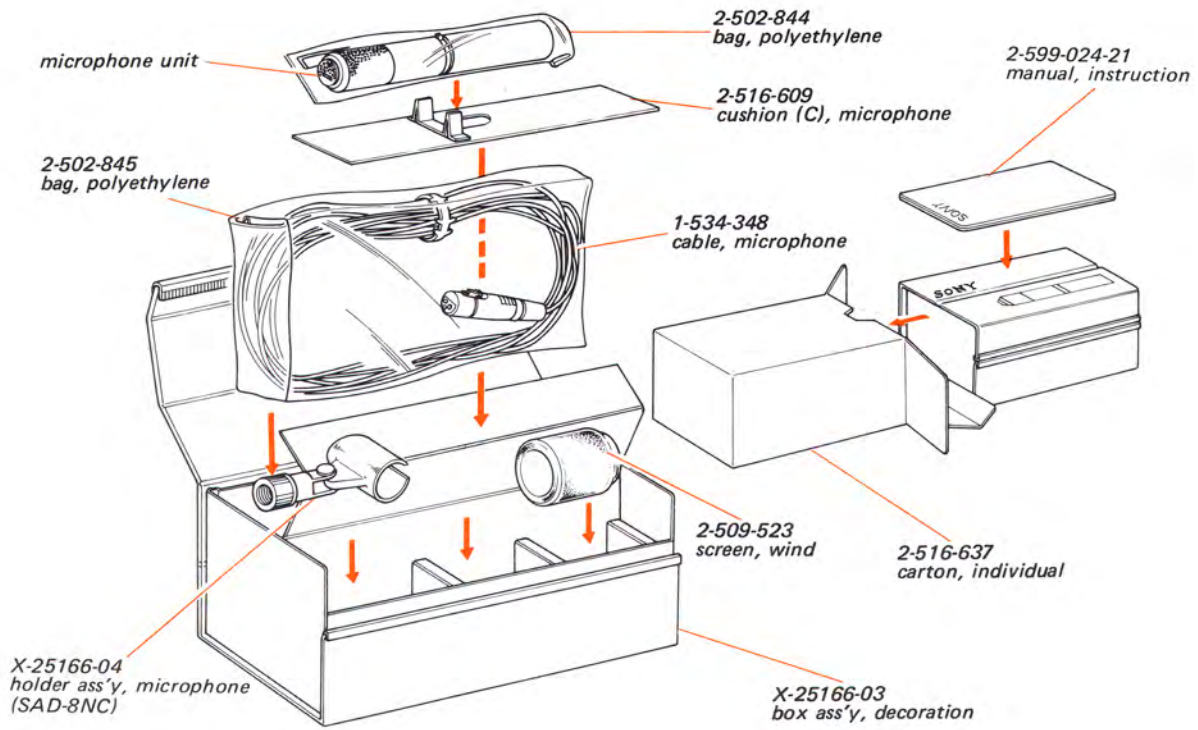
5. MOUNTING DIAGRAM

— Conductor Side —

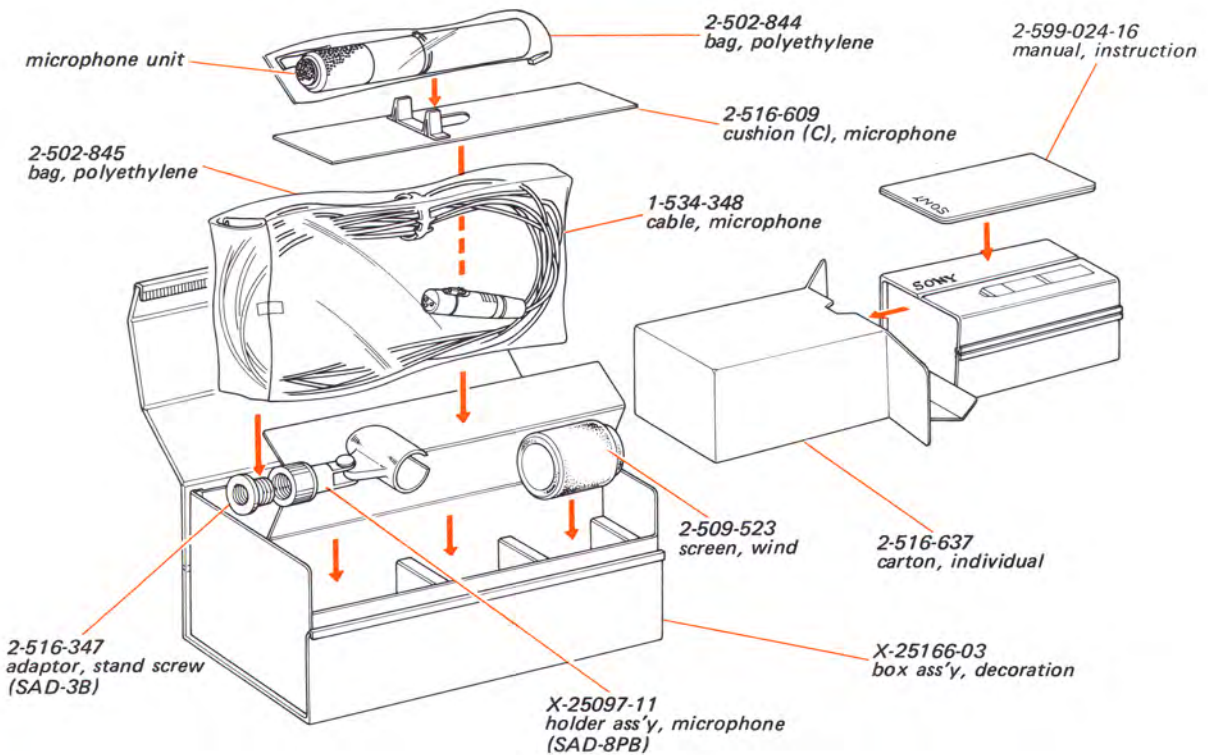


6. PACKING

(For USA Model)



(For General Export Model)



7. EXPLODED VIEW

