ECM-99/ECM-99A

ONE POINT STEREO ELECTRET CONDENSER MICROPHONE

SPECIFICATIONS

Type: One point stereo electret condenser microphone

Battery: Flashing battery size "C" (IEC Designation R14); Eveready No. 935, 635

Frequency Response: 50–12,000 Hz

Directivity: Uni-directional for each R and L side

Output Level: −56.8 ±3 dB (0 dB = 1 V/10 μ bar)
−148.6 ±3 GM dB (EIA Standard)

Channel Balance: Within 2 dB

Output Impedance: 250 Ω at 1 kHz

Power Supply:
Normal operating voltage: 1.5 V
Minimum operating voltage: 1.1 V
Current drain: 260 μA
Battery life: more than 20,000 hours with size "C" battery

S/N Ratio: Better than 40 dB (1 kHz, 1 μ bar)

Maximum Sound Pressure Input Level: 126 dB SPL

Dimensions: (70 × 47) × 30 dia × 195 (l) mm
(2 3/4 × 1 7/8) × 1 3/16 dia × 7 11/16 (l) inches

Weight: 285 g, 10 oz

SONY®
SERVICE MANUAL

1. GENERAL DESCRIPTION

The SONY Model "ECM-99/ECM-99A" is a one point stereo electret condenser microphone with a uniform response from 50 to 12,000 Hz. The capsule is 17 mm in diameter and made of a high-polymer film utilizing the "electret" principle of polarization.

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.

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 (92 dB or more).

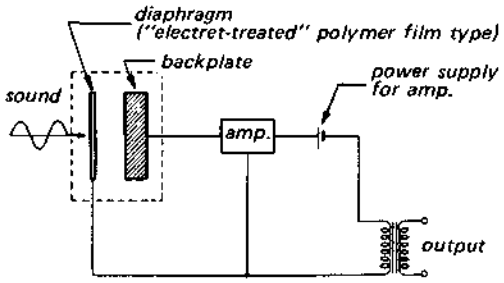


Fig. 2-1. Schematic in principle

3. DISASSEMBLY

Capsule Removal

(1) Remove the emblem "SONY" on the upper screen ass'y with a blade screwdriver or a knife.
(2) Remove a screw (⊕ K 2.6 x 25) securing the upper screen ass'y.
(3) Remove the capsule.

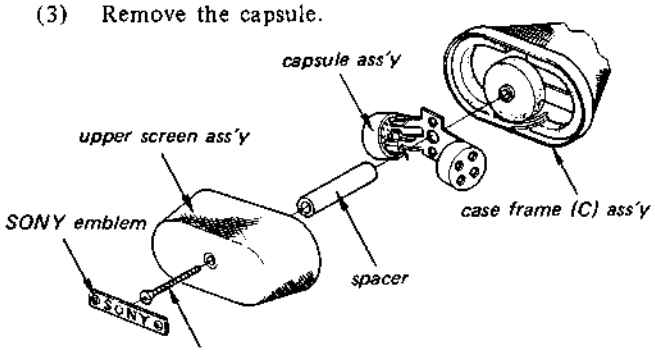


Fig. 3-1. Capsule removal

Microphone Cord Removal

(1) Remove the microphone grip by turning it counterclockwise.
(2) Remove the tubing and shield cover.
(3) Unsolder the cable lead wires at the terminal plate and the output transformer.

Note: When reassembling, grasp the microphone cable and push the microphone grip down in the direction of the arrow in Fig. 3-2, and turn the microphone grip clockwise.

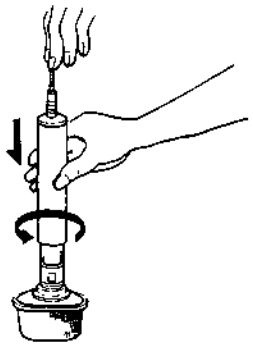
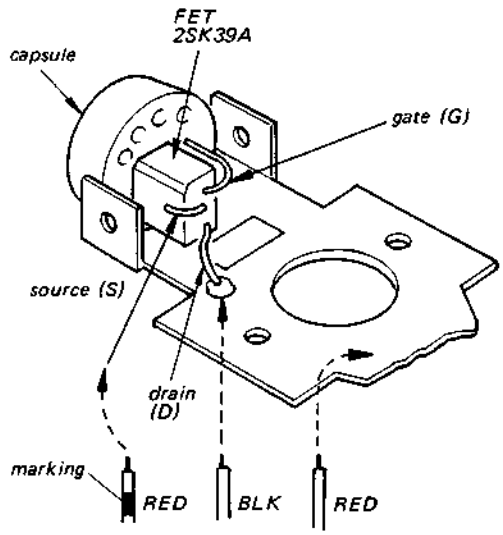


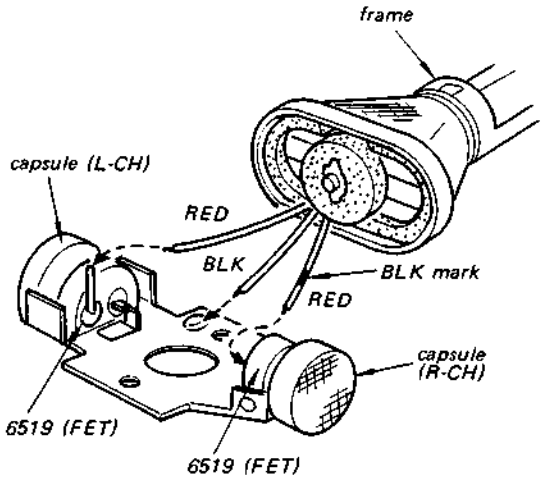
Fig. 3-2. Microphone grip attaching

4. CAPSULE INSTALLATION

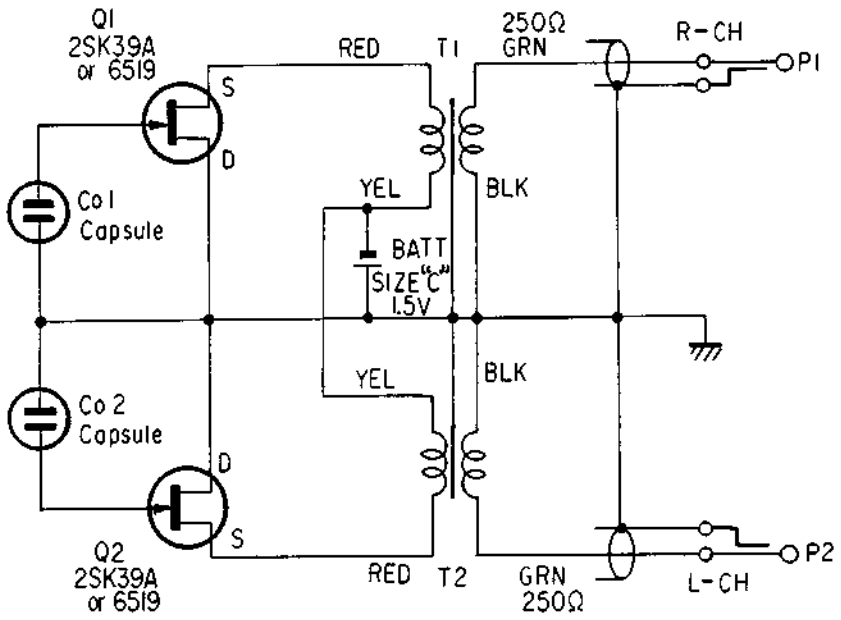
Former Type



New Type



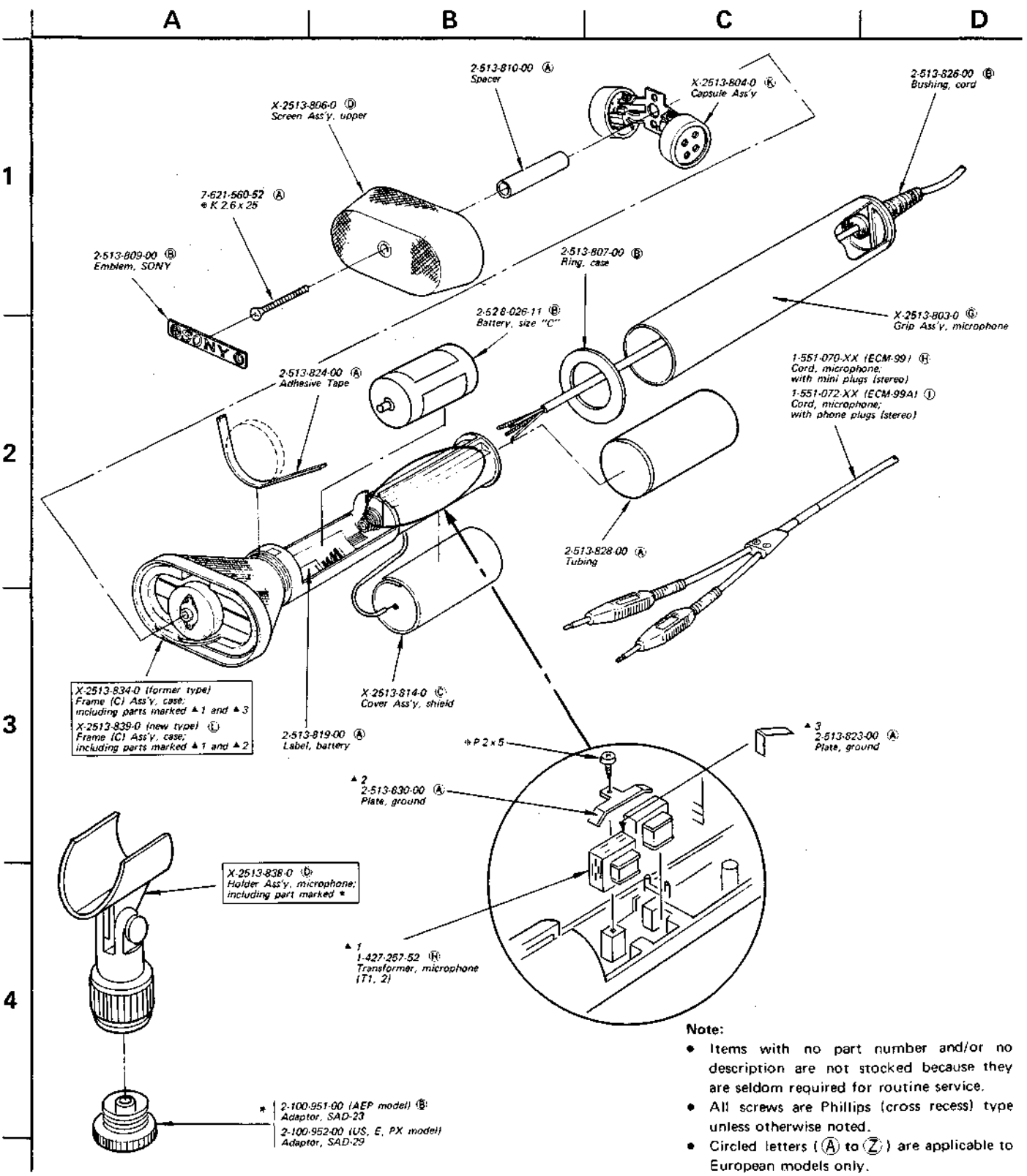
5. SCHEMATIC DIAGRAM



6. ACCESSORIES AND PACKING MATERIALS

Part No.	*Description*
2-513-841-15	Ⓑ Manual, instruction (AEP, E model)
2-513-841-24	Manual, instruction (US, PX model)
2-513-856-00	Ⓔ Case, carrying
2-513-858-00	Ⓒ Carton

7. EXPLODED VIEW



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.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.