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. 600μA
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 250Ω, 600Ω
Effective output level: -54.6 dBm, -54.8 dBm
Open circuit voltage: -54.8 dB, -51.0 dB
EIA rating GM: -146.6 dB, -148.8 dB
★ Deviation: ±3 dB

Note:
★ (1) 0 dBm = 1 mW/10μbar
★ (2) 0 dB = 1V/10μbar
★ (3) EIA standard SE-105

Directivity: Uni-directional (Cardioid)
Output Impedance: 250Ω, 600Ω at 1 kHz balanced

Noise Level:
S/N ratio; 64 dB (1 kHz, 10μbar)
Inherent noise; less than 30 dB SPL
Wind noise★ (4): 45 ± 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=2×10^-4 μbar)
★ (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=2×10^-4 μbar)

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
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 bas 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 principles 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).

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.

(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.

(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.
4. SCHEMATIC DIAGRAM

5. MOUNTING DIAGRAM
   — Conductor Side —
6. PACKING

(For USA Model)

microphone unit

2-502-844
bag, polyethylene

2-502-845
bag, polyethylene

1-534-348
cable, microphone

2-516-609
cushion (C), microphone

2-599-024-21
manual, instruction

2-516-637
carton, individual

X-25166-03
box ass'y, decoration

X-25166-04
holder ass'y, microphone (SAD-8NC)

(For General Export Model)

microphone unit

2-502-844
bag, polyethylene

2-502-845
bag, polyethylene

2-516-609
cushion (C), microphone

1-534-348
cable, microphone

2-509-523
screen, wind

2-516-637
carton, individual

2-599-024-16
manual, instruction

X-25166-03
box ass'y, decoration

2-516-347
adaptor, stand screw (SAD-38)

X-25097-11
holder ass'y, microphone (SAD-8PB)