



SONY® ECM-377 CARDIOID CONDENSER STUDIO MICROPHONE

Sony Corporation has once again introduced a major breakthrough in electro-acoustical technology by engineering the first practical, high-performance electret condenser microphone capsule. Incorporated in the ECM-377, this permanently polarized capsule exhibits all of the desirable characteristics of conventional condenser types — wide, smooth frequency response, unexcelled transient characteristics, and remarkable sensitivity.

The new electret condenser capsule also exhibits desirable characteristics not found in conventional condenser types:

- Minimal internally generated noise because no capsule polarizing voltage is required (i.e., no DC to DC converters or high-voltage batteries).
- Reduced power consumption greatly extends battery life.

- Simplified microphone assembly provides lower cost—without compromising quality.
- Fewer internal parts means more dependable performance and reduced susceptibility to damage from shock.

The ECM-377 Cardioid Condenser Studio Microphone also features Sony's new low-noise impedance translator which provides a usable dynamic range in excess of 100 dB. Two degrees of low-frequency attenuation may be switch-selected to handle difficult acoustical problems with ease. A switched 8-dB pad between the capsule and impedance translator prevents overload of the impedance translator when used in close proximity to the extremely high SPL sound sources.

The powering system of the ECM-377 is also unique. Because of its very low current

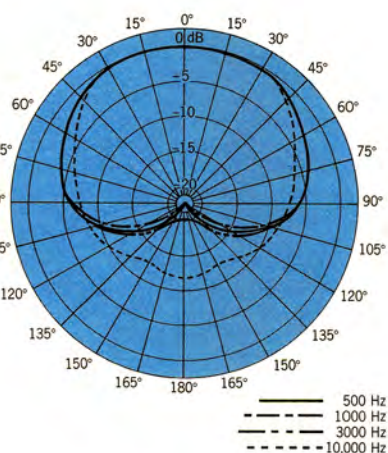
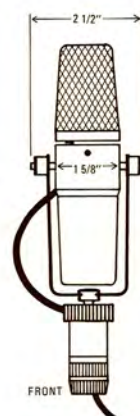
requirements (3.0 mA), a single 9-volt battery provides more than 120 hours of operation. It is, therefore, the only studio microphone suitable for extended field use where AC is not available. In addition to battery power, the ECM-377 may be powered from any standard phantom power supply (9.0–54 volts DC) and is completely interchangeable with all other phantom-powered microphones.

The microphone is supplied with a 19-foot cable, battery, carrying case and a comprehensive owner's manual.

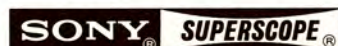
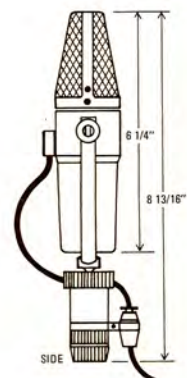
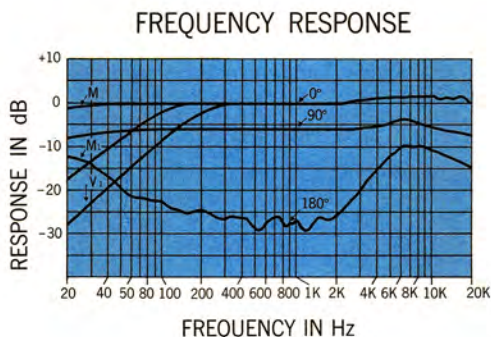
The ECM-377 invites comparison with any other microphone—regardless of type or price. It provides performance equal to some of the most expensive microphones you can buy, yet at \$195.00 it is inexpensive enough to be used as a replacement for general-purpose dynamic microphones.

ECM-377 SPECIFICATIONS:

- **Acoustic System:** Pressure Gradient Electret Condenser
- **Directional Characteristics:** Cardioid
- **Frequency Response:** (frontal, $\pm 3\text{dB}$): 20 Hz to 20 kHz
- **Output Impedance** (@ 1k Hz $\pm 20\%$): 200 Ohms, Balanced
- **Output Level** (0 dB = 1 Volt/10 microbar @ 1k Hz—250 ohms):
-49 dB (-57 dB with pad)
- **Noise Level:** less than 24 dB equivalent SPL
- **Maximum SPL** (1k Hz): 140 dB (Dynamic Range 116 dB)
- **Distortion at Maximum SPL:** 1.0%
- **Semi-Conductors:** One FET, Two Transistors, Two Diodes
- **Operating Voltage:** 7.5 to 9 Volts (Internal Battery); 9 to 54 Volts (Phantom Powering)
- **Minimum Voltage:** 7.5 Volts
- **Current Consumption:** 3.0 mA
- **Battery Type:** Eveready 206 or equivalent; Hours (Continuous) 120
- **Type of Cable:** Plastic Covered Two-Conductor Shielded
- **Type of Plug:** None
- **Length of Cable:** 19 Feet
- **Unit Weight** (Microphone only): 1 Lb.
- **Price:** \$195.00



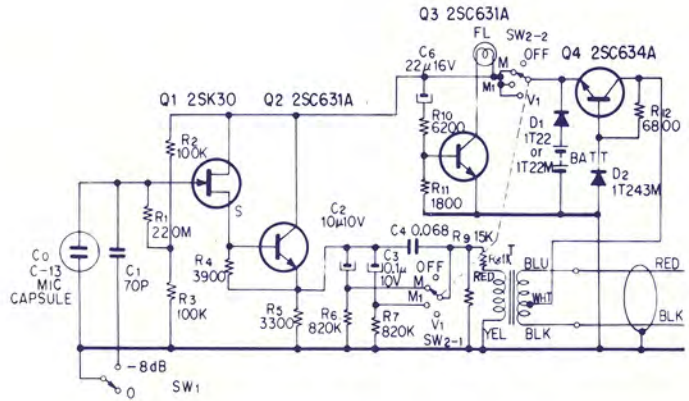
POLAR PATTERN



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5. SCHEMATIC & MOUNTING DIAGRAMS

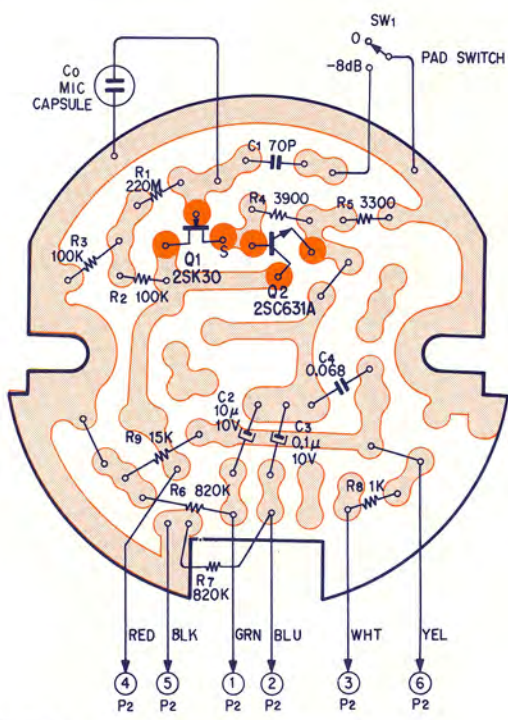
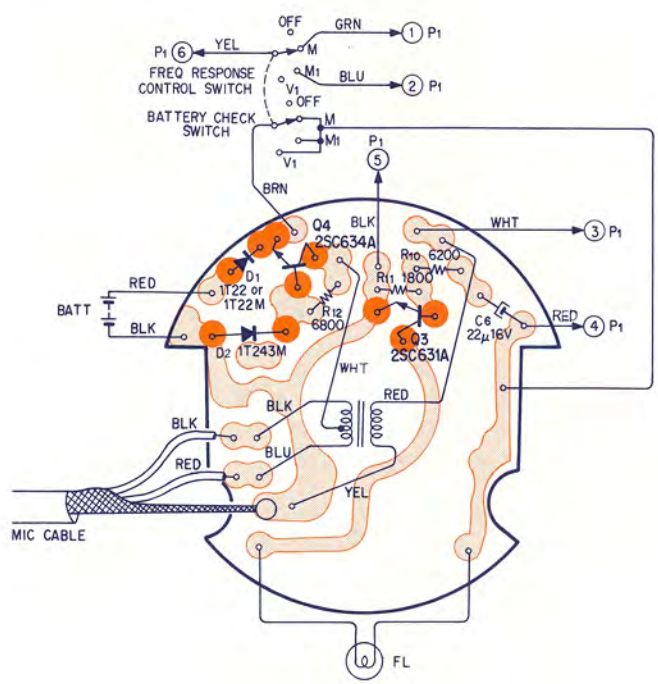
5-1. Schematic Diagram (Serial No. up to 1,350)



5-2. Mounting Diagram (Serial No. up to 1,350) – Conductor Side –

Subsidiary Circuit Board (P2)

Head Amp. Circuit Board (P1)

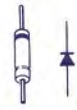
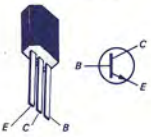


Q1 2SK30

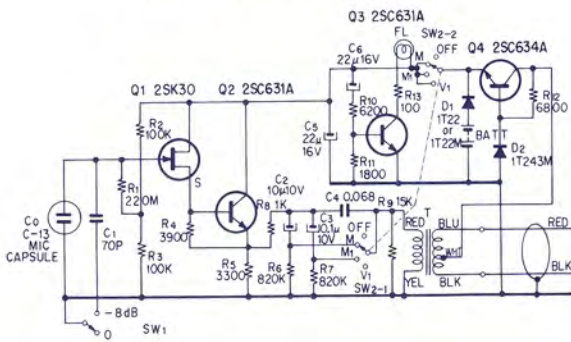
Q2, 3 2SC631A
Q4 2SC634A

D1 1T22
1T22M

D2 1T243M

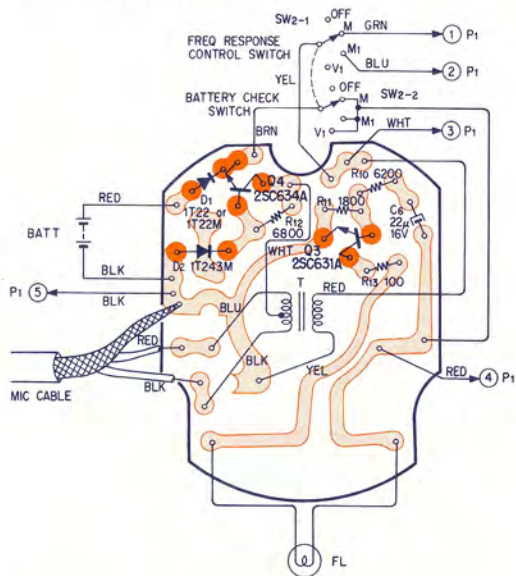


5-3. Schematic Diagram
(Serial No. 1,351 and later)

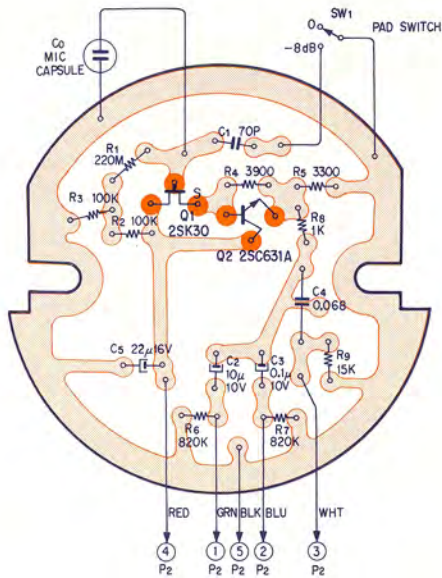


5-4. Mounting Diagram
(Serial No. 1,351 and later) – Conductor Side –

Subsidiary Circuit Board (P2)



Head Amp. Circuit Board (P1)



6. ELECTRICAL PARTS LIST

Ref. No. Part No. Description

MOUNTED CIRCUIT BOARDS

(Serial No. up to 1,350)

- X-25163-21-1 head amp.
- X-25163-22-1 subsidiary

(Serial No. 1,351 and later)

- X-25163-21-2 head amp.
- X-25163-22-2 subsidiary

PRINTED CIRCUIT BOARDS

(Serial No. up to 1,350)

- 1-539-535-11 head amp.
- 1-539-536-11 subsidiary

(Serial No. 1,351 and later)

- 1-539-535-12 head amp.
- 1-539-536-12 subsidiary

SEMICONDUCTORS

- Q1 8-729-203-00 FET 2SK30
- Q2 transistor 2SC631A
- Q3 transistor 2SC631A
- Q4 transistor 2SC634A
- D1 diode 1T22 or 1T22M
- D2 diode 1T243M

TRANSFORMER

- T 1-427-279-21 output, microphone

CAPACITORS

- C1 1-103-206- 70 pF 125V styrol
- C2 1-131-030- 10μF 10V electrolytic
- C3 1-127-019- 0.1μF 10V electrolytic
- C4 1-105-683-12 0.068μF 50V mylar
- * C5 1-121-479 22μF 16V electrolytic
- C6 1-121-479 22μF 16V electrolytic

RESISTORS

- R1 1-206-262 220MΩ 1/8 W metal oxide
- R2 1-244-521 100 kΩ 1/8 W carbon
- R3 1-244-521 100 kΩ 1/8 W carbon
- R4 1-244-487 3,900Ω 1/8 W carbon
- R5 1-244-485 3,300Ω 1/8 W carbon
- R6 1-244-543 820 kΩ 1/8 W carbon
- R7 1-244-543 820 kΩ 1/8 W carbon
- R8 1-244-473 1 kΩ 1/8 W carbon
- R9 1-244-501 15 kΩ 1/8 W carbon
- R10 1-202-030 6,200Ω 1/8 W composition
- R11 1-202-650 1,800Ω 1/8 W composition
- R12 1-202-032 6,800Ω 1/8 W composition
- * R13 1-201-679 100Ω 1/8 W composition

MISCELLANEOUS

- SW1 1-513-122-11 slide switch; pad
- SW2 1-513-359 rotary switch; response selector
- FL 1-518-064-12 lamp
- 1-534-640-11 microphone cable, 2 conductors shielded, 4φ
- C0 Y-25164-01-1 microphone capsule, C-13

* : Serial No. 1,351 and later, added.