

Electro-Voice®
a MARK IV company

CS200/CS200E

Miniature Electret Condenser Unidirectional Microphone

SPECIFICATIONS

Generating Element:

Condenser, back electret

Frequency Response (see Figure 2):

90-18,000 Hz

Polar Pattern (see Figure 5):

Unidirectional

Sensitivity,

Open Circuit Voltage:

2mV/Pa at 1,000 Hz

Power level:

- 51 dB at 1,000 Hz

(0 dB=1mW/Pa)

Dynamic Range:

115 dB

Equivalent Noise:

22 dB SPL typical "A" weighted

(0 dB=20 micropascals)

Impedance:

150 ohms at 1,000 Hz

Maximum SPL 1% Distortion

139 dB SPL

Power Requirements,

Battery:

1.5 V dc AAA internal
(not supplied)

Phantom:

9-52 V dc

Current Consumption:

150 microamps

Battery Life:

Approximately 1000 hours

Color:

Nonreflecting black

Case Material,

Microphone Capsule:

Brass

Electronics Module:

Steel

Dimensions (see figure 1),

Electronics Module:

Length 5.0 in (127 mm)

Body Diameter:

.84 in (21.3 mm)

Connector Diameter:

.75 in (19 mm)

Capsule Diameter:

.415 in (10.5 mm)

Cable,

Length:

10 ft (3.05 m)

permanently attached

Color:

Nonreflecting black

Weight,

Net:

6.1 oz (173.5 g)

Shipping:

13.3 oz (376 g)

Furnished Accessories:

Windscreen

Tie clasp

Storage pouch

Optional Accessories:

390 dual tie clasp

DESCRIPTION AND APPLICATIONS

The model CS200 is a miniature, unidirectional back-electret lavalier microphone designed specifically for broadcast and sound reinforcement applications i.e. church, panel discussion or board rooms where acoustic feedback problems occur. (EV model CO100 omnidirectional lavalier microphone is designed for applications where feedback is not a problem). The CS200 was designed with the aid of FFT analysis to minimize off-axis coloration and background noise for lapel usage. The frequency response of the CS200 has been optimized to provide a full-range, well-balanced sound character for clean and accurate sound reproduction. The

microphone's cardioid polar characteristic provides excellent gain-before-feedback control. The CS200 is designed to attach to the performer's clothing using the supplied tie clasp or the optional 390 dual tie clasp. Supplied with each microphone is a foam wind or pop screen to reduce unwanted breath and wind noise. The microphone element is attached to the electronics module by a 10-foot (3.055- meter) length of black, durable miniature cable.

POWERING THE CS200

The battery/electronics module is constructed of steel tubing to form an extremely durable housing assembly for long reliable use and superior EMI/RFI attenuation. The CS200 may be powered by either a internal 1.5-volt AAA alkaline battery or external 9-52 volt phantom power supply. If desired, the CS200 can be operated in a dual mode employing both battery and phantom powering. The advantage of this configuration is the insurance against loss of signal should the phantom voltage fail. When phantom voltage is present, the battery is deactivated, however, should the phantom voltage fail, the battery will automatically power the electronics module. The AAA alkaline battery will power the microphone for minimum of 1000 hours.

OPERATION

To operate the CS200 by the simplest method of internal battery power, first open the battery compartment by turning the sleeve counterclockwise. Insert a designated (AAA size) battery into the battery compartment, check for correct polarity (see Figure 3). Close the compartment by turning the sleeve clockwise. Be sure to screw the sleeve firmly to avoid mechanical noise. The

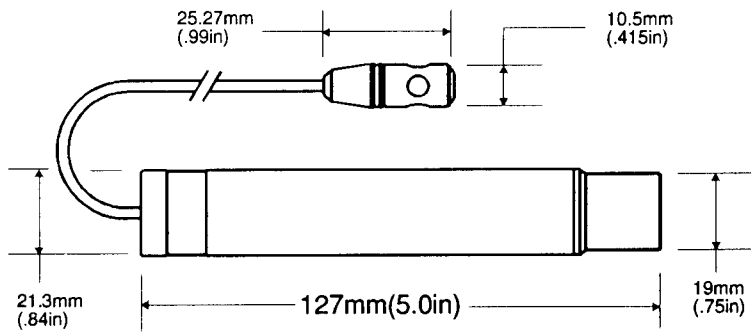


FIGURE 1 — Dimensions

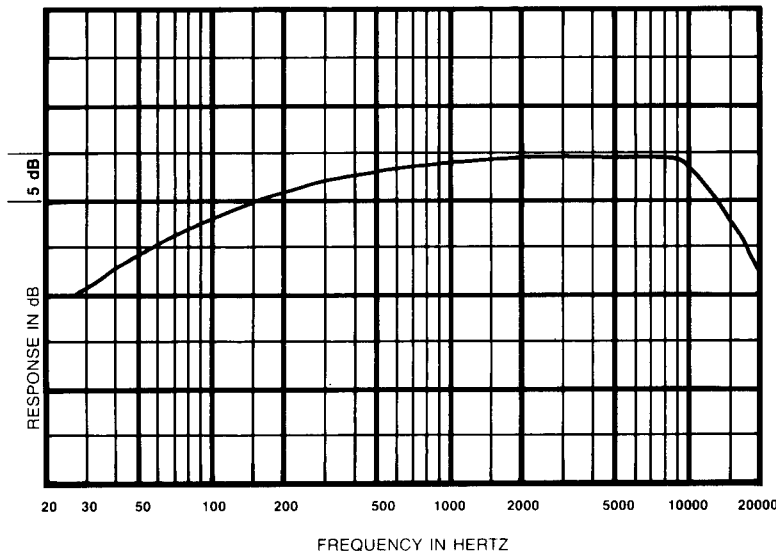


FIGURE 2 — Frequency Response

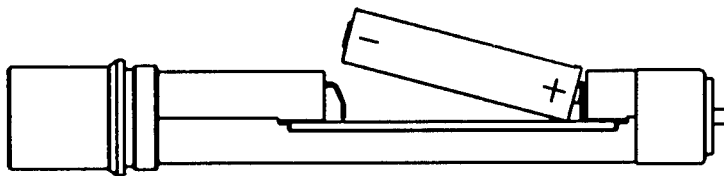


FIGURE 3 — Battery Compartment

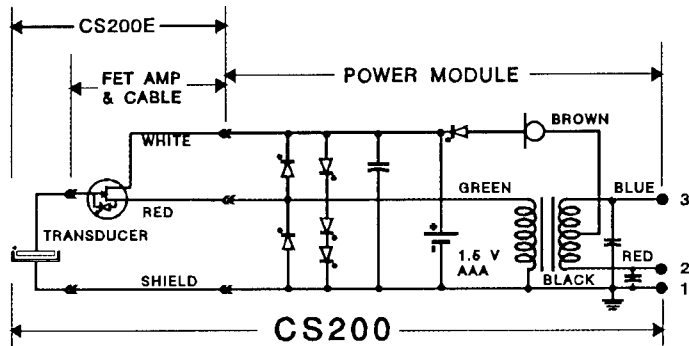


FIGURE 4 — Schematic

NOTE:
POSITIVE
PRESSURE ON
DIAPHRAM CAUSES
POSITIVE VOLTAGE
ON PIN 2

To operate the CS200 by phantom power, connect the electronics module to the mixer input providing phantom power using high quality balanced cable with XLR connectors. The connecting cable used should be standard two-conductor shielded type, the shield is used as ground return and must be connected properly to avoid electrical noise.

WIRELESS MICROPHONE APPLICATIONS

The CS200E microphone capsule and electronics/cable assembly are electrically identical to the CS200. The miniature microphone cable used on the CS200 and CS200E utilizes two wires surrounded by a shield. By using two wires and a shield in the microphone cable instead of the usual one wire and a shield, both sides of the FET preamplifier are accessible. By accessing both sides of the FET preamp, the CS200E may be powered from either a positive or negative power source with respect to ground. This provides the end user with greater flexibility when interfacing the CS200E with wireless microphone transmitters. See Figure 6 of the instruction sheet for wiring details.

BATTERY

Because the current drain on the battery is so small (approximately 150 microamps) the battery may be left on continuously with a useful life expectancy of approximately 1000 hours. The battery may remain within the electronics module when phantom power is used.

BATTERY REPLACEMENT GUIDE

Duracell	MN2400
Eveready	E92
Bright Star	7526
Burgess	B24A
Ray-O-Vac	824
Panasonic	AM4
Varta	4003

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall be a miniature back electret condenser with a unidirectional-polar-pattern. The microphone shall be used in the manner of an ordinary tie clasp. The microphone shall have a frequency response from 90 Hz to 18 kHz. The unit shall have a 150-ohm nominal impedance balanced output with an output level of 2mV/Pa. The microphone capsule shall be made of brass, the electronics module shall be made of steel. The microphone shall be permanently connected to its electronics module with a 10-foot length of rugged two conductor shielded miniature audio cable. The microphone shall be supplied with a wind-screen, tie clasp, and storage pouch. The CS200 is specified.

WARRANTY

Electro-Voice products are guaranteed against malfunction due to defects in materials or workmanship for a specified period, as noted in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual, beginning with the date of original purchase. If such malfunction occurs during the specified period, the product will be repaired or

replaced (at our option) without charge. The product will be returned to the customer prepaid. **Exclusions and Limitations:** The Limited Warranty does not apply to: (a) exterior finish or appearance; (b) certain specific items described in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual; (c) malfunction resulting from use or operation of the product other than as specified in the product data sheet or owner's manual; (d) malfunction resulting from misuse or abuse of the product; or (e) malfunction occurring at any time after repairs have been made to the product by anyone other than Electro-Voice or any of its authorized service representatives. **Obtaining Warranty Service:** To obtain warranty service, a customer must deliver the product, prepaid, to Electro-Voice or any of its authorized service representatives together with proof of purchase of the product in the form of a bill of sale or receipted invoice. A list of authorized service representatives is available from Electro-Voice at 600 Cecil Street, Buchanan, MI 49107 (616/695-6831) and/or Electro-Voice West, at 8234 Doe Avenue, Visalia, CA 93291 (209/651-7777). **Incidental and Consequential Damages Excluded:** Product repair or replacement and return to the customer are only remedies provided to the customer. Electro-Voice shall not be liable for any incidental or consequential damages including, without limitation, injury to persons or property or loss of use. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. **Other Rights:** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Electro-Voice N/D, PL, BK, and Professional Microphones are guaranteed against malfunction from any cause for two (2) years from the date of original purchase. In addition, the Limited Warranty for the acoustic system contained in these microphones shall apply for the life of the product, defined as a period of ten (10) years from the date that the manufacture of the specific microphone has been discontinued. Any and all active electronics incorporated in these microphones are guaranteed against malfunction due to defects in materials or workmanship for a period of three (3) years from the date of original purchase. The Limited Warranty does not extend to cables, cable connectors, or switches. Additional details are included in the Uniform Limited Warranty statement.

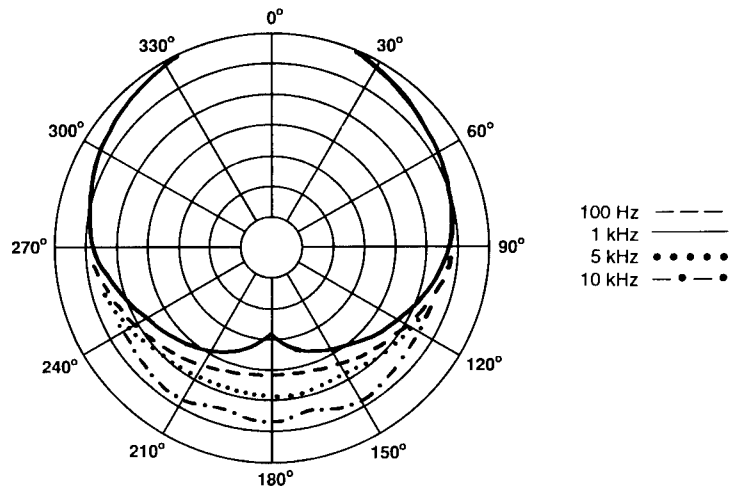
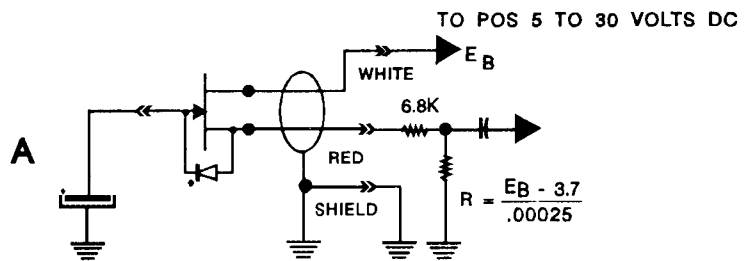
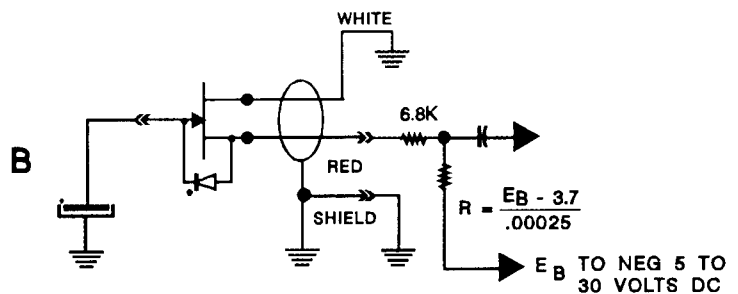


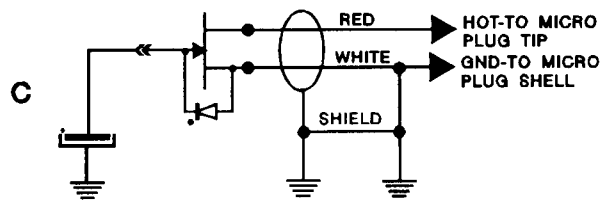
FIGURE 5 — Polar Response



POSITIVE VOLTAGE WITH RESPECT TO GROUND



NEGATIVE VOLTAGE WITH RESPECT TO GROUND



WIRELESS MICROPHONE TRANSMITTERS DESIGNED TO POWER MINIATURE CONDENSER MICROPHONES

FIGURE 6 — Typical Wiring Diagrams