

## CT30/CT30W

### Full-Range Condenser Desk-Mount Microphone

- Available in black or white
- Screw-type output terminal block
- Low profile
- Microphone case is electrically isolated from mounting surface
- Can be permanently or temporarily mounted with cable either out the rear or bottom of the microphone case
- Built-in high-pass filter
- Designed for distant learning centers, video conferencing systems, and teleconferencing systems

#### Description

The Electro-Voice CT30 and CT30W are full-range condenser microphones designed to be used for surface mounted applications such as distance learning centers, video conferencing systems, teleconferencing systems, and sound reinforcement (see Figure 1). The polar pattern of the CT30 and CT30W is half-cardioid (half-space cardioid) to promote good gain before feedback and suppress ambient noise (see Figure 2).

All boundary type microphones operated on a flat surface are subject to an increase in sensitivity of the microphone with increasing frequency; this is called the baffle effect. To counteract this effect, the CT30 and CT30W have been designed with bass boost in the electronics to give the CT30 and CT30W a flat sensitivity curve. The CT30's electronics also incorporates a two-pole high-pass filter (12 dB/octave with a cutoff frequency of 80 Hz) which attenuates ambient noises. The CT30 and CT30W are designed to be powered by an external 9-52 V dc phantom power supply (DIN 45 596).

The CT30 and the CT30W microphones are encased in a heavy-duty zinc die cast body protected by a strong, perforated steel screen.

The high-impedance circuits on the printed circuit board are also further protected by an internal metal shield. The body of the microphones are designed to provide two distinctive functions. First, the case is electronically isolated from the surface that it is placed on by virtue of the rubber friction pad and the internal fiber washers when permanently mounted. Second, the microphone's miniature cable can be routed directly from the rear of the microphone, or the cable may be directed from the bottom of the microphone through the table top without exposing the microphone cable. The microphone cable is connected to the microphone by a pilfer-resistant internal terminal block. For permanent installation, a drilling template is provided.

The CT30's and CT30W's body is designed as a low-profile housing. Both microphones are shock mounted through a combination of a heavy diecast case, a rubber nonslip bottom pad, and internal padding of the microphone and printed circuit board. This combination of isolation minimizes the mechanical coupling of surface vibrations to the microphone. For the CT30 a 1.8-m (6-ft) black miniature shielded two-conductor cable is provided with a male XLR-type con-

ductor. The CT30W is provided with a 1.8-m (6-ft) white miniature shielded two-conductor cable with a male XLR-type connector.

#### Installation and Operation

The CT30 and CT30W are boundary style microphones; therefore the symmetry and area of the mounting surface directly affects the sensitivity and response of the microphones. To mount the CT30 or CT30W on a rectangular surface, the microphone should be centered on the surface and positioned with the front of the microphone facing the sound source along the longer dimension of the mounting surface. Ideally, the sources of sound should be situated between the mounting surface and 60 degrees above the plane of the mounting surface (see Figure 3).

The CT30 and CT30W are supplied with a 1.8-m (6-ft) miniature shielded cable with a male XLR-type connector. The CT30 is provided with the miniature shielded cable connected to the microphone for temporary installation. For permanent installation, the cable can be routed through the bottom of the microphone. A drilling template is provided. The cable is disconnected from the microphone by first unscrewing the cross-recessed screw on the top of the microphone,

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removing the protective grille screen and pop filter, then loosening the three screws on the terminal block. When reattaching the miniature cable, the contacts' functions are printed on the terminal block (see Figure 4).

The CT30 and CT30W have a balanced low-impedance, transformerless output. The balanced signal appears across Pins 2 and 3 while the ground (shield) connection is Pin 1 (DIN 45 594). The output is phased so that positive acoustic pressure on the transducer's diaphragm produces a positive voltage on Pin 2 in accordance with industry convention.

### Architectural and Engineering Specifications

The microphone shall be a back-electret condenser type with a frequency response of 80 Hz to 20 kHz. The microphone shall have a half-cardioid pattern with a rear response which is typically 15 dB below the front response at 1.0 kHz. The microphone shall have an output power level of -33 dB, where 0 dB = 1 milliwatt per pascal, and output shall not be appreciably affected by the following temperature and humidity extremes: -29 to 74° C (-20 to 165° F) when relative humidity is 0-50%; -29 to 57° C (-20 to 135° F) when relative humidity of 0-95%. The microphone shall have a nominal, balanced transformerless output impedance of 100 ohms. The microphone shall have a non-reflective black finish (CT30) or a white finish (CT30W). The cable color shall match the body color of the microphone. A permanent two-pole high-pass filter ( $f_0=80$  Hz) shall be provided.

Dimensions of the body shall be 94.1 mm (3.7 in.) wide, 128.4 mm (5.1 in.) long, and 16 mm (0.63 in.) high; the cable shall be 1.8 m (6 ft) long, 2.6 mm (0.106 in.) in diam-

eter and terminated in a black, non-reflecting male XLR-type connector. Termination to the microphone body shall be a terminal block.

The Electro-Voice CT30 and CT30W are specified.

### Uniform Limited 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-

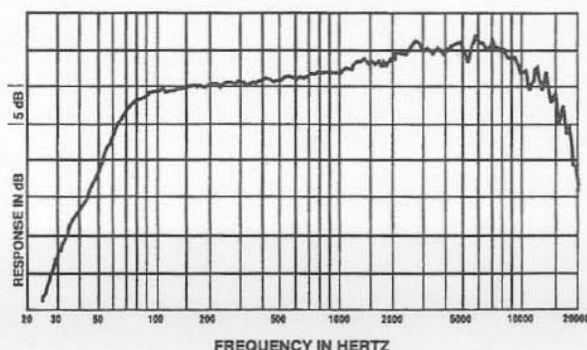
Voice at 600 Cecil Street, Buchanan, MI 49107 (616/695-6831 or 800/234-6831). **Incidental and Consequential Damages Excluded:** Product repair or replacement and return to the customer are the only remedies provided to the customer. Electro-Voice shall not be liable for any incidental or consequential 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 Wired 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.

Service and repair address for this product: Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (616/695-6831 or 800/234-6831).

Specifications subject to change without notice.

Figure 1—CT30 Typical Frequency Response (with sound source positioned 30° from horizontal, microphone centered on 4-ft<sup>2</sup> baffle)



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Figure 2—CT30 Polar Response

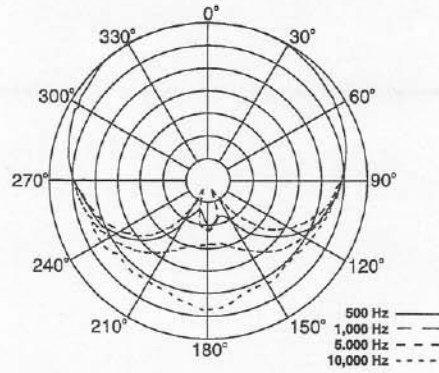


Figure 3—CT30 Ideal Working Angle

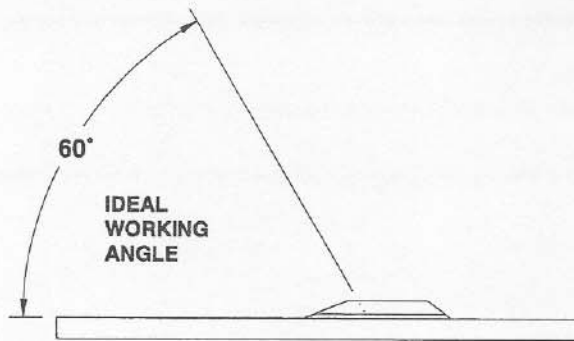


Figure 4—CT30 Wiring Diagram

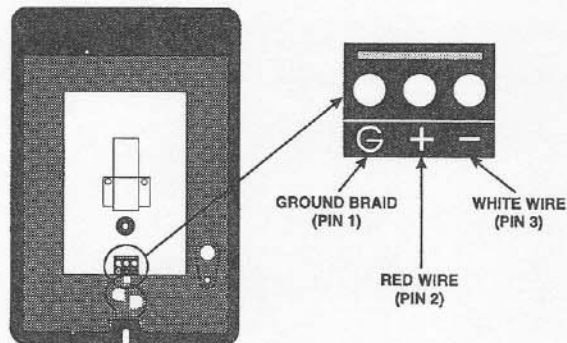
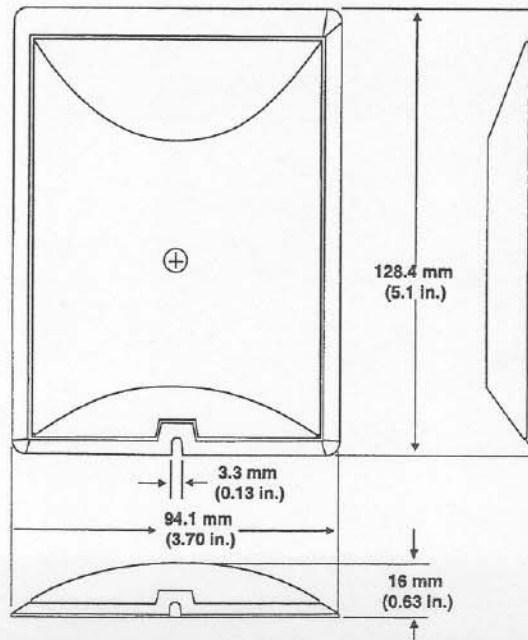


Figure 5—CT30 Dimensions



## CT30/CT30W Full-Range Condenser Desk-Mount Microphone

### Specifications

#### Versions Available:

##### CT30

Full-range condenser desk mount microphone, black

##### CT30W

Full-range condenser desk mount microphone, white

#### Element:

Condenser, back electret

#### Frequency Response (see Figure 1):

80-20,000 Hz

#### Polar Pattern (see Figure 2):

Half-cardioid (cardioid in hemisphere above mounting surface)

#### Sensitivity,

##### Open Circuit Voltage:

20 mV/pascal at 1,000 Hz

##### Power Level at 1,000 Hz (0 dB = 1 m

W/pascal):

-33 dB

#### Clipping Level, 1% THD:

127 dB SPL

#### Equivalent Noise:

25 dB SPL (A weighted)

#### Dynamic Range:

102 dB

#### Output Impedance, 1 kHz:

200 ohms

#### Power Requirements:

9- to 52-V dc phantom supply

#### Current Consumption:

2.5 mA

#### High-Pass Filter,

##### Corner Frequency:

80 Hz

#### Slope:

12 dB per octave

#### Polarity:

Positive pressure on the diaphragm produces positive voltage on output pin 2 (+)

#### Color:

Nonreflecting black or white

#### Environmental Conditions,

##### Relative Humidity 0-50%:

-29 to 74 °C (-20 to 165 °F)

##### Relative Humidity 0-95%:

-29 to 57 °C (-20 to 135 °F)

#### Dimensions (see Figure 5),

##### Width:

94.1 mm (3.7 in.)

##### Length:

128.4 mm (5.1 in.)

##### Height:

16 mm (0.63 in.)

#### Net Weight (with 1.8-m (6-ft) cable and male XLR connector):

358 g (12.6 oz)

#### Shipping Weight:

510 g (18.0 oz)

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# Electro-Voice®

a MARK IV company

600 Cecil Street, Buchanan, MI 49107