

## RE90B and RE90BW

### Full-Range Condenser Desk-Mount Microphone

- Nonreflecting black (RE90B) or low-gloss white (RE90BW).
- Ultra-low profile
- Half-cardioid polar response promotes excellent gain-before-feedback
- Full, non-slip shock pad electrically and mechanically isolates case from mounting surface
- Internally equalized for natural response on large surfaces
- Tamper-resistant terminal block connections for fixed or temporary applications

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#### Description

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The Electro-Voice RE90B and RE90BW are part of the Architectural Microphone Series. The RE90B is a full-range condenser microphone designed to be used for surface mounted applications such as distance learning centers, video conferencing systems, teleconferencing systems, and sound reinforcements (see Figure 1). The polar pattern of the RE90B 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 RE90B has been designed with internal equalization to give the RE90B a flat sensitivity response. The RE90B is designed to be powered by an external 9-52 V dc phantom power supply (DIN 45 596).

The RE90B microphone is encased in a heavy-duty zinc die cast body protected by a strong, perforated steel screen. The body of the microphone is 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 RE90B'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 RE90B, a 1.8-m (6 ft.) black miniature shielded two-conductor cable is provided with a male XLR-type connector. The RE90BW is provided with a 1.8-m (6 ft.) white miniature shielded two-conductor cable with a male XLR-type connector.

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#### Installation and Operation

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The RE90B is a boundary style microphone; therefore the symmetry and area of the mount-

ing surface directly affect the sensitivity and response of the microphones. To mount the RE90B 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 RE90B is supplied with a 1.8-m (6 ft.) miniature shielded cable with a male XLR-type connector. The RE90B 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 removing the cross-recessed screw on the top of the microphone, 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 printed circuit board (see Figure 4).

The RE90B has a balanced low-impedance, transformerless output. The balanced signal appears across Pins 2 and 3 while the

# RE90B/RE90BW Full-Range Condenser Desk-Mount Microphone

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 the industry convention.

## Architects' and Engineers' Specifications

The microphone shall be a back-electret condenser type with a frequency response of 80 Hz to 15 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 the output shall not be appreciably affected by the following temperature and humidity extremes: -29° to 74° C (-20° to 165° F) when the relative humidity is 0-50%; -29° to 57° C (-20° to 135° F) when the relative humidity is 0-95%. The microphone shall have a nominal, balanced transformerless output impedance of 200 Ohms. The microphone shall have a non-reflective black finish (RE90B) or a non-reflective white finish (RE90BW). The cable color shall match the body color of the microphone.

Dimensions of the RE90B 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 diameter and terminated in a black, non-reflecting male XLR-type connector. Termination to the microphone body shall be a terminal block.

The Electro-Voice RE90B and RE90BW are specified.

## 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 Service or any of its authorized service representatives. **Obtaining Warranty Service:** To obtain warranty service, a customer must deliver the product, prepaid, to Electro-Voice Service 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 Service at 600 Cecil Street, Buchanan, MI 49107 (800/234-6831 or FAX 616/695-4743). **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.

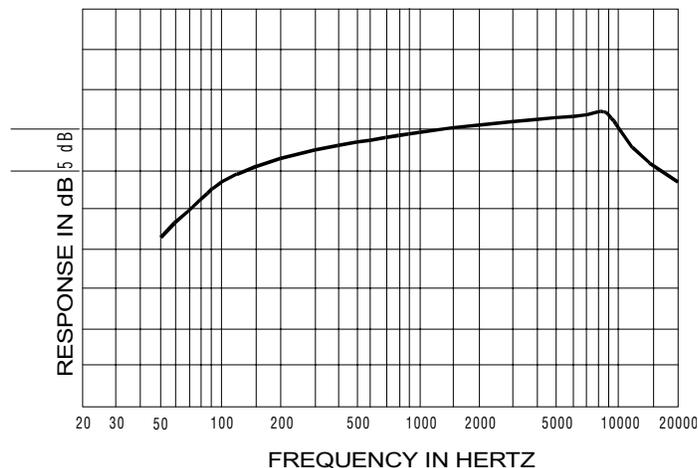
**Electro-Voice Wired Microphones** are guaranteed against malfunction from any cause for two (2) years from the date of original purchase. In addition, the Limited Warranty for the acoustic system contained in these microphones shall apply for the life of the product, defined as a period of ten (10) 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.

**For warranty repair** or service information, contact the service repair department at: 616/695-6831 or 800/685-2606.

**For technical assistance,** contact Technical Support at 800/234-6831 or 616/695-6831, M-F, 8:00 a.m. to 5:00 p.m. Eastern Standard Time.

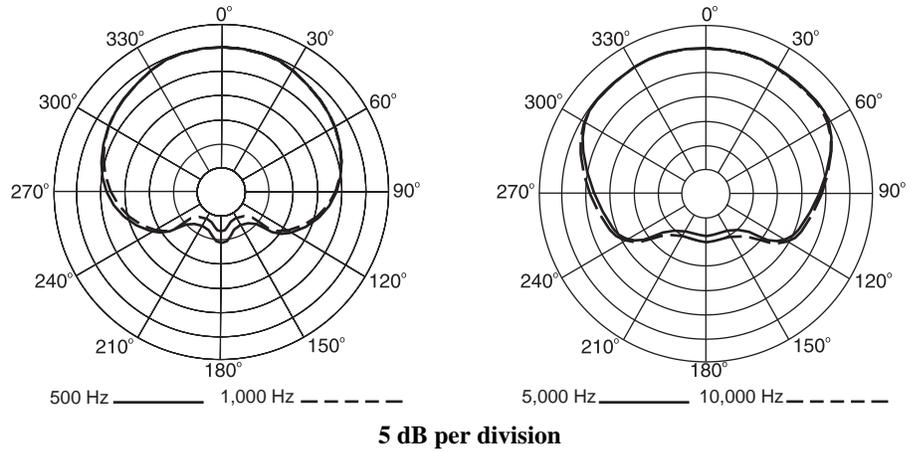
Specifications subject to change without notice.

Figure 1—Frequency Response

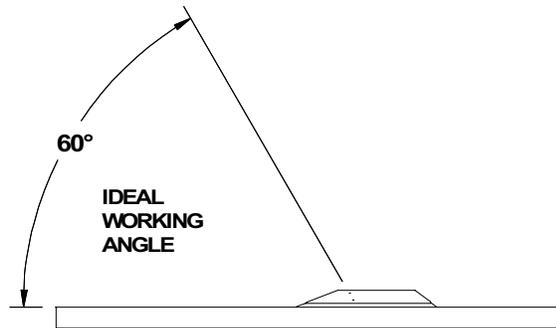


# RE90B/RE90BW Full-Range Condenser Desk-Mount Microphone

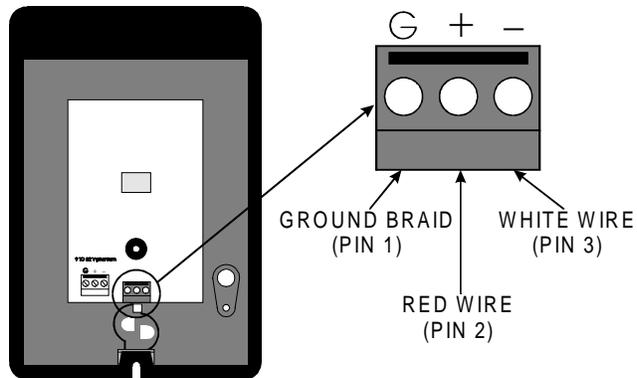
**Figure 2—Polar Response**



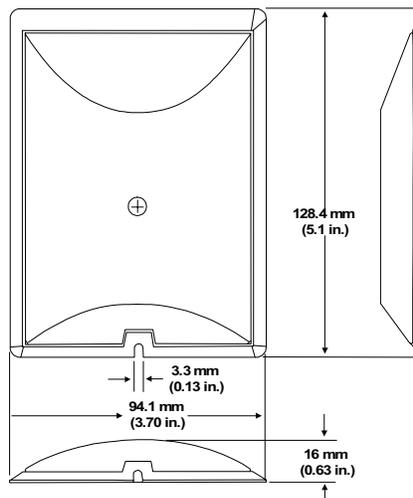
**Figure 3—RE90B Ideal Working Angle**



**Figure 4—RE90B Wiring Diagram**



**Figure 5—RE90B Dimensions**



# RE90B/RE90BW Full-Range Condenser Desk-Mount Microphone

## Specifications

### Versions Available:

#### RE90B

Full-range condenser desk-mount microphone, black

#### RE90BW

Full-range condenser desk-mount microphone, white

### Element:

Condenser, back electret

### Frequency Response (see Figure 1):

80-15,000 Hz

### Polar Pattern (see Figure 2):

half-cardioid (cardioid in hemisphere above mounting surface)

### Sensitivity,

#### Open-Circuit Voltage:

25 mV/pascal at 1,000 Hz

#### Power Level at 1,000 Hz (0 dB = 1 mW/pascal):

-33 dB

### Clipping Level, 1% THD:

125 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

### Polarity:

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

### 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)

### Color:

Nonreflecting black or white

### 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 (6.1 oz)

### Shipping Weight:

376 g (12.6 oz)

### Shipping Weight:

510 g (18.0 oz)

# Electro-Voice®

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