



# MX412,, MX418,, MX424

## Gooseneck Microphones

Online user guide for Shure Microflex MX400 Series miniature gooseneck-mounted electret condenser microphones.  
Version: 5.1 (2021-C)

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# MX412, MX418, MX424 Gooseneck Microphones

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## General Description

The Shure Microflex® MX412, MX418, and MX424 microphones are miniature gooseneck-mounted electret condenser microphones designed primarily for speech and vocal pickup. They can be mounted on lecterns, pulpits, or conference tables. All models include a preamplifier and are available with interchangeable cartridges.

- Wide dynamic range and frequency response for accurate sound reproduction
- Interchangeable cartridges that provide an optimal polar pattern choice for each application
- Shock mount provides over 20 dB of isolation from surface vibration noise
- Snap-fit foam windscreen reduces breath noise or plosives
- CommShield® RF filtering reduces interference from nearby mobile devices

These microphones are available with 12 inch, 18 inch, or 24 inch goosenecks. Some models are also available with a built-in mute switch.

- "S" models include a mute button and LED.
- "D" models include a desktop base with programmable mute button and LED and logic input and output.
- "SE" models feature a surface mount flange with side-exit cable.

The polar pattern of the included cartridge is indicated by a model number suffix:

**/C** Cardioid

**/S** Supercardioid

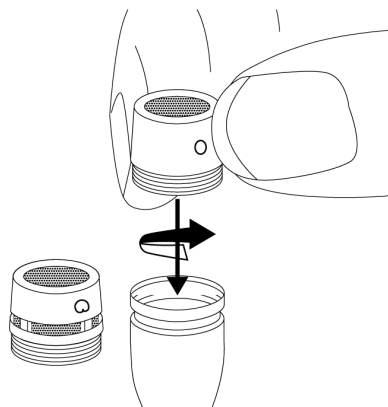
**/MS** Mini-shotgun

**/O** Omnidirectional

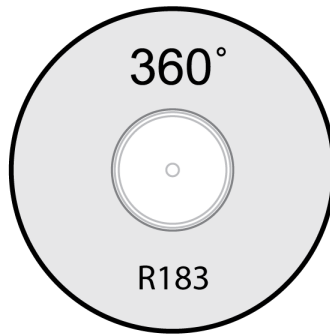
**/N** Cartridge not included

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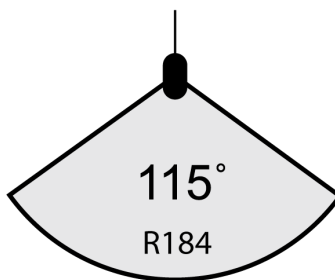
## Interchangeable Cartridges



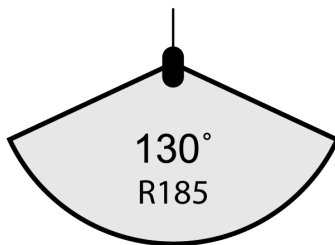
Microflex microphones use interchangeable cartridges that allow you to choose the polar pattern for different installations.



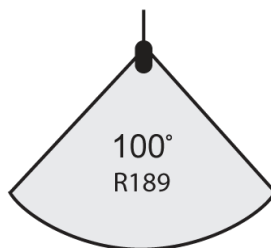
Omnidirectional



Supercardioid



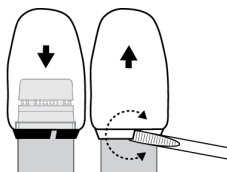
Cardioid



Mini-shotgun

## Snap-Fit Windscreen

- Snap into the groove below the cartridge.
- To remove, spread the gap with a screwdriver or thumbnail.
- Provides 30 dB of "pop" protection.



## Preamp Gain

If necessary, the preamplifier gain can be reduced by 12 dB. Contact an authorized Shure service center for information.

## Microphone Placement

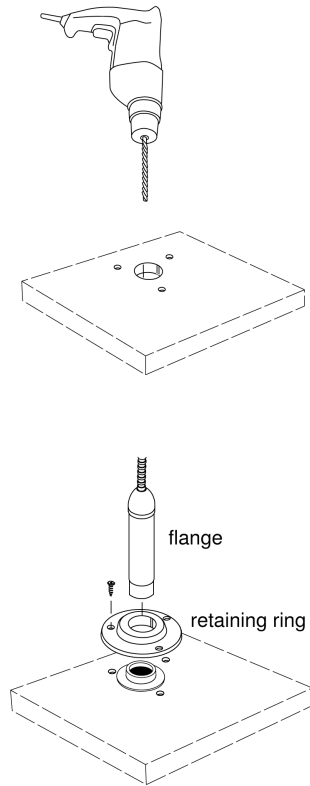
- Aim the microphone toward the desired source, such as the talker.
- Aim it away from any unwanted source, such as a loudspeaker.
- Place the tip of the microphone within 15 to 30 cm (6 to 12 inches) of the desired sound source.
- Always use the supplied windscreen or optional metal windscreen to control breath noise.
- If four or more microphones will be open at the same time, use of an automatic mixer is recommended.

## Permanent Installation

Mount the microphone using one of the following methods.

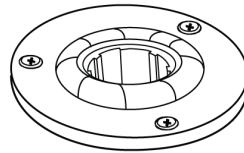
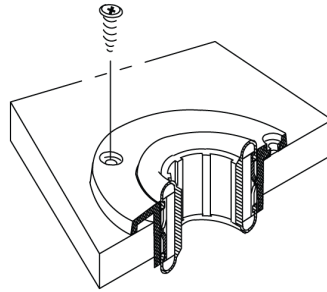
### Flange

1. Drill a 22 mm (7/8 in.) diameter hole in the desired location.
2. Trace and drill three starter holes for the supplied screws using the flange as a template.
3. Insert the preamplifier through the mounting flange.
4. Slip the mounting flange retaining ring over the bottom of the preamplifier and slide it up until it is flush to the bottom of the flange. Then press the ring firmly into place.
5. Secure the flange to the mounting surface with three screws.



## Shock Mount

1. Drill a 44 mm (1-3/4 in.) diameter hole in desired mounting surface.
2. Mark and drill starter holes for screws, using shock mount as a template.
3. Secure shock mount to mounting surface with screws.
4. Thread the supplied adapter onto the microphone before inserting it into the shock mount.



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## Specifications

### Type

Electret Condenser

### Frequency Response

50–17000 Hz

### Polar Pattern

|                                  |               |
|----------------------------------|---------------|
| <b>MX412/C, MX418/C, MX424/C</b> | Cardioid      |
| <b>MX412/S, MX418/S, MX424/S</b> | Supercardioid |

### Output Impedance

180  $\Omega$

### Output Configuration

Active Balanced

## Sensitivity

@ 1 kHz, open circuit voltage

|                      |                   |
|----------------------|-------------------|
| <b>Cardioid</b>      | -35 dBV/Pa(18 mV) |
| <b>Supercardioid</b> | -34 dBV/Pa(21 mV) |

## Maximum SPL

1 kHz at 1% THD, 1 kΩ load

|                      |        |
|----------------------|--------|
| <b>Cardioid</b>      | 124 dB |
| <b>Supercardioid</b> | 123 dB |

## Self Noise

A-weighted

|                      |           |
|----------------------|-----------|
| <b>Cardioid</b>      | 28 dB SPL |
| <b>Supercardioid</b> | 27 dB SPL |

## Signal-to-Noise Ratio

Ref. 94 dB SPL at 1 kHz

|                      |       |
|----------------------|-------|
| <b>Cardioid</b>      | 66 dB |
| <b>Supercardioid</b> | 68 dB |

## Dynamic Range

1 kΩ load, @ 1 kHz

96 dB

## Common Mode Rejection

10 Hz to 100 kHz

45 dB, minimum

## Clipping Level

at 1% THD

-6 dBV (0.5 V)

## Polarity

Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output XLR connector

## Mute Switch

MX412S/MX418S

-50 dB minimum

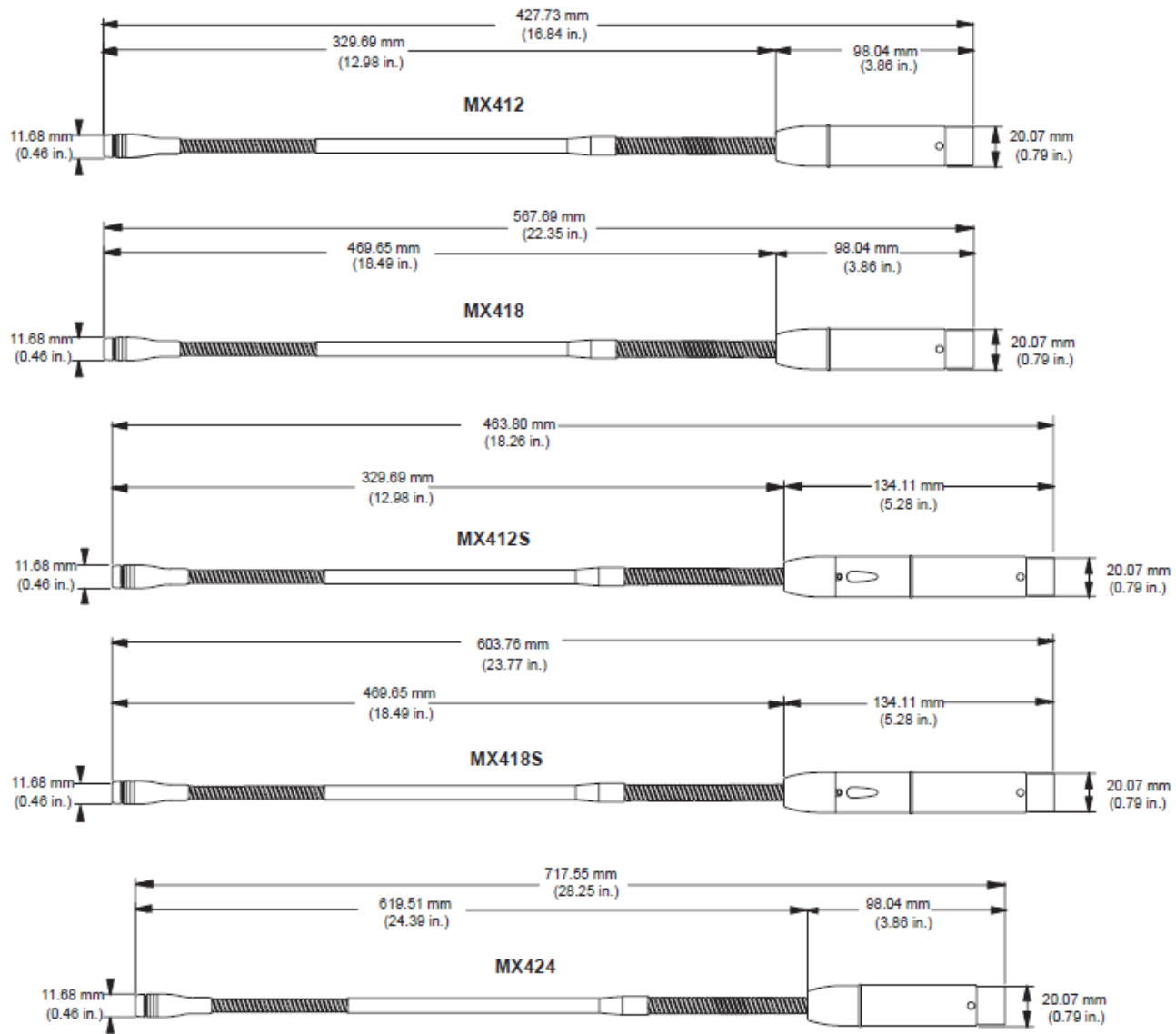
## Environmental Conditions

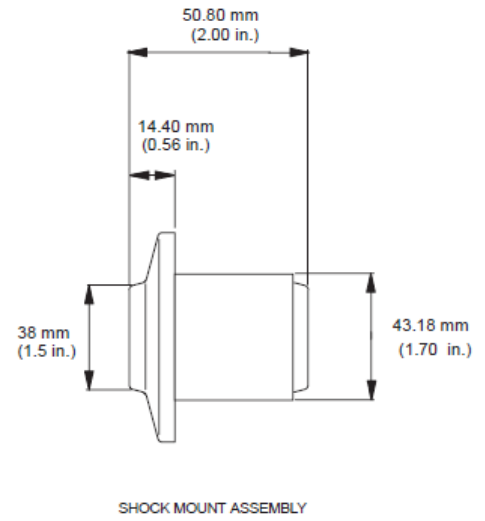
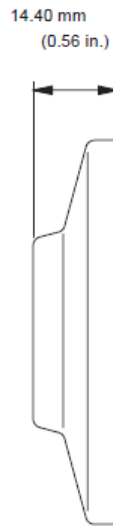
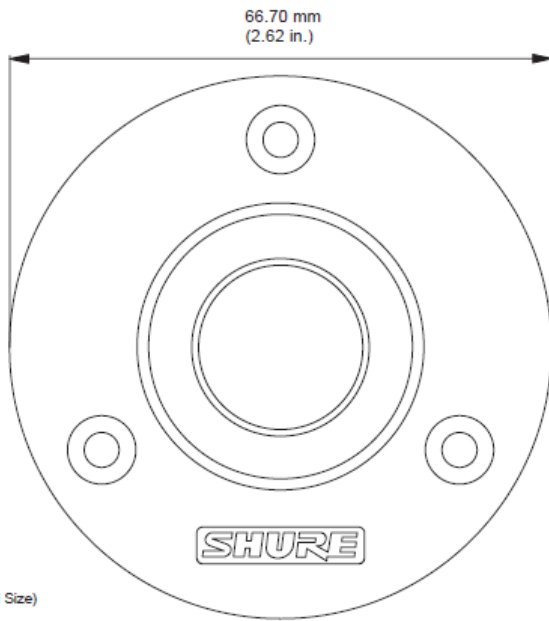
|                              |                      |
|------------------------------|----------------------|
| <b>Operating Temperature</b> | -18–57°C (0–135°F)   |
| <b>Storage Temperature</b>   | -29–74°C (-20–165°F) |
| <b>Relative Humidity</b>     | 0–95%                |

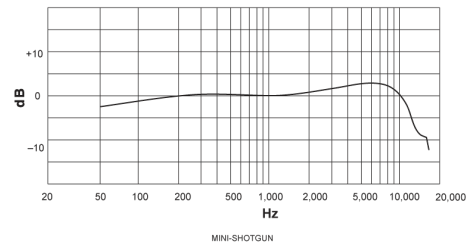
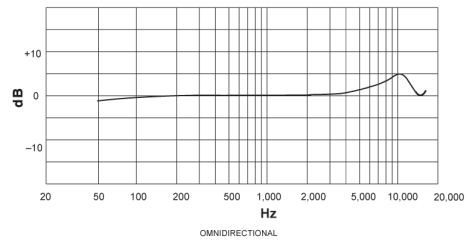
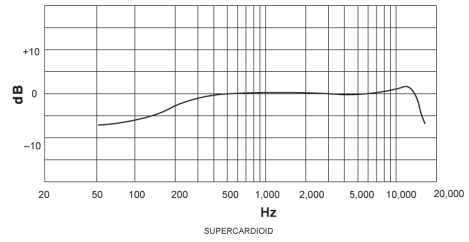
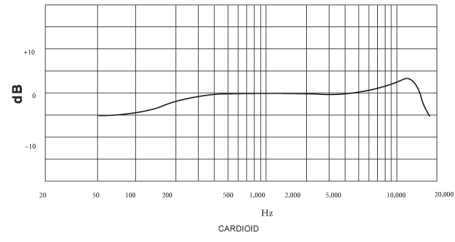


## Power Requirements

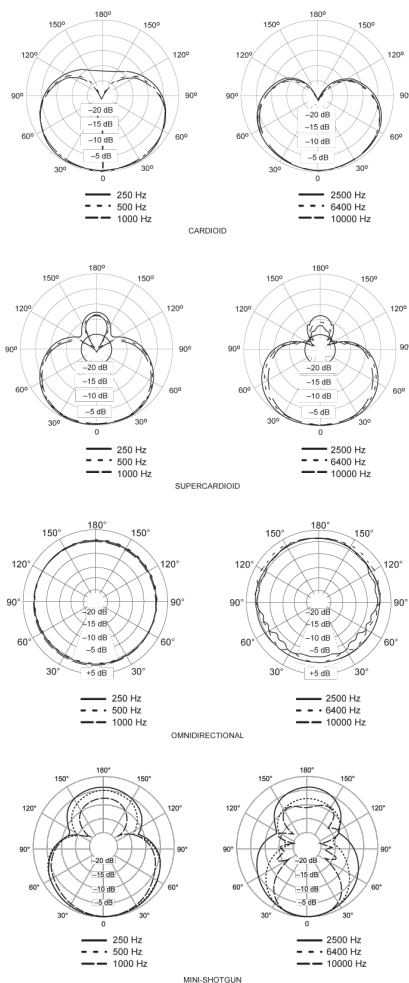
11–52 V DC, 2.0 mA







TYPICAL FREQUENCY RESPONSE



## Certifications

Meets essential requirements of all applicable European Directives.

Eligible for CE marking.

The CE Declaration of Conformity can be obtained from Shure Incorporated or any of its European representatives. For contact information please visit [www.shure.com](http://www.shure.com)

The CE Declaration of Conformity can be obtained from: [www.shure.com/europe/compliance](http://www.shure.com/europe/compliance)

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