



E321 Gooseneck Condenser Microphone

User Guide



GOANG-FANNCO., LTD.

2008, SUPERLUX Inc.
LB100E32101EN (Rev. 2)

Specifications

Model No.

E321S: 30cm/12", black
E321M: 45cm/18", black
E321L: 60cm/24", black
E321MSL: 45cm/18", black,
on/off, LED
E321LSL: 60cm/24", black,
on/off, LED

Type

Back Electret Condenser

Element

E321-U/H: Pressure gradient,
FET preamplifier
E321-O: Pressure, FET preamplifier

Polar pattern

E321-U: Cardioid (figure 1)
E321-H: Super Cardioid (figure 2)

Frequency response

E321-U/H: 20 to 18,000Hz (figure 4)
E321-O: 20 to 20,000Hz (figure 5)

Sensitivity

(at 1,000 Hz Open Circuit Voltage)
E321-U: -40dBV/Pa (10mV/Pa)
E321-H: -40dBV/Pa (10mV/Pa)
E321-O: -42dBV/Pa (7.9mV/Pa)
1Pa=94dB SPL

Rated impedance

600Ω

Minimum load impedance

2,000Ω

Equivalent noise level

(A-weighted)

E321-U/H: Less than 22dB
E321-O: Less than 24dB

Dynamic range at 1 kΩ Load

113dB

Max. SPL (1 kΩ load)

E321-U/H: 135dB
E321-O: 137dB
(THD ≤ 1% 1kHz)

noise ratio-to- ignal

(1 kHz at 1 Pa)
E321-U/H : 72dB
E321-O : 70dB

Power supply

9 to 52 Vdc phantom power

Current consumption

4mA typical

Polarity

Pin 2 output positive voltage
(related to pin 3) when diaphragm
receives positive pressure.
(Diaphragm moving inward)

Connector

Integral 3 pin male XLR type

Environmental conditions

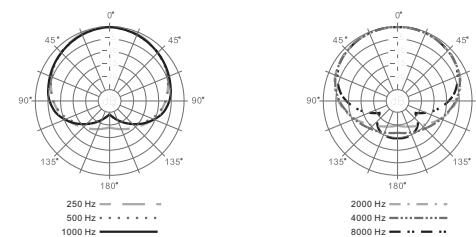
The E321 operates between
-10? to +50? (14? to
122?) with relative humidity
between 0 to 95%.

Dimensions

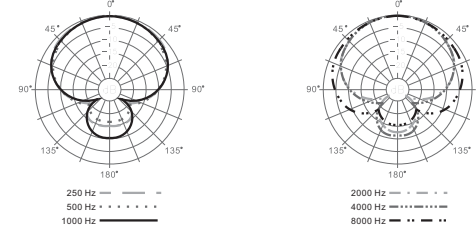
Figure 6

Net weight

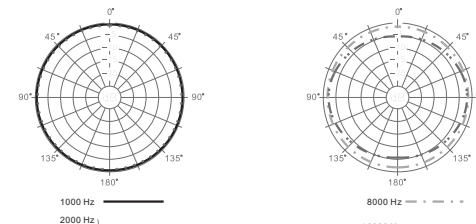
E321S : 130g (4.60 oz.)
E321M 180g (6.40 oz.)



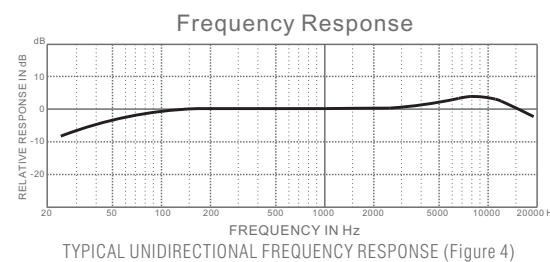
TYPICAL CARDIOID POLAR PATTERN (Figure 1)



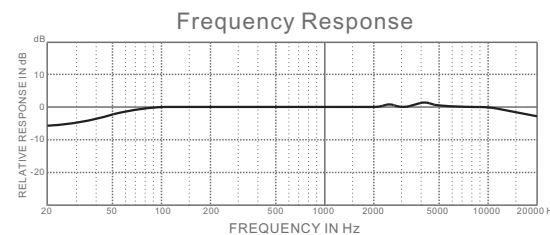
TYPICAL SUPER CARDIOID POLAR PATTERN (Figure 2)



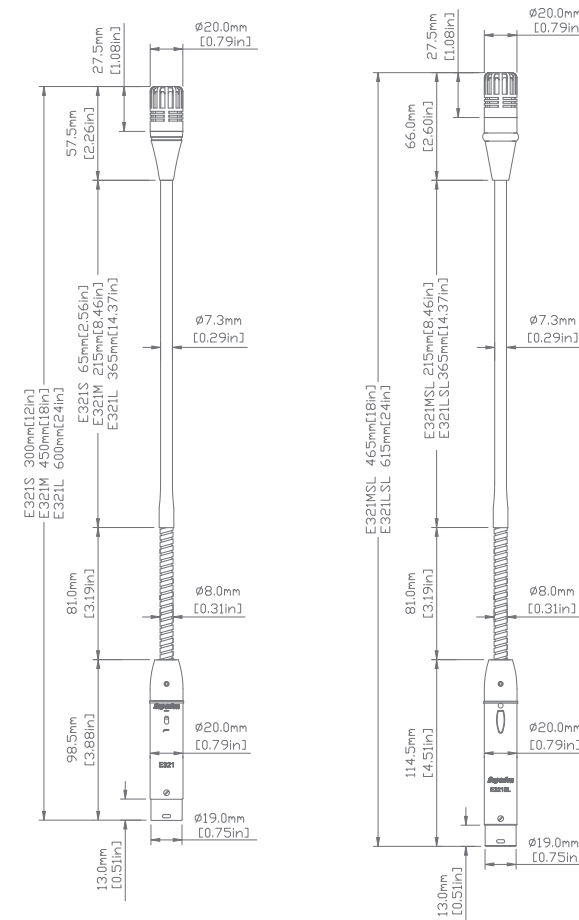
TYPICAL OMNI-DIRECTIONAL POLAR PATTERN (Figure 3)



TYPICAL UNIDIRECTIONAL FREQUENCY RESPONSE (Figure 4)



TYPICAL OMNI FREQUENCY RESPONSE (Figure 5)



E321S, E321M, E321L

E321MSL, E321LSL

Dimensions (Figure 6)

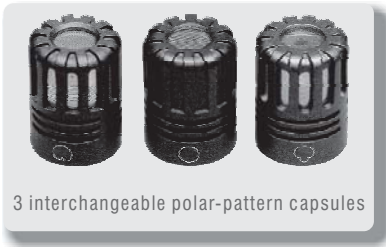
The E321 gooseneck microphones are designed with high quality sound pick-up performance for professional recording, broadcasting, and conferences. Suitable for human voices, or music instruments.

Uniform directivities across working frequency band, cardioid and super cardioid directional capsules provides high gain before feedback in live sound applications. With omni capsule, this microphone provides excellent sound pick-up with uniform frequency response regardless of the distance variation, and it provides very clean speech at up-close pick-up.

Works with standard phantom power supply ranging from 9 to 52VDC, E321 works with almost all kinds of professional audio mixing consoles or microphone pre-amplifiers.

Integral XLR male plug connects directly with standard XLR female socket for fast, easy and error free plug and play simplicity.

Easy to un-screw capsules can be exchanged to different directivity. E321 comes with Cardioid capsule. Choices are super-cardioids and omni. The part number is AM100E10902AH for cardioid, and AM100E10902AO for omni.



3 interchangeable polar-pattern capsules

There are 3 length versions to choose. E321S is the short version, 30cm or 12 inches in length. E321M and E321MSL are the medium version, 45cm or 18 inches in length. E321L and E321LSL are the long version, 60cm or 24 inches in length. All provides single bending section, which allows fast and easy bending without bouncing back problem. Set it there, and it is there.

E321 supplied foam wind screen that filters out wind blow and allows the sound to pass through with minimum loss.

Optional gooseneck mounts are available from Superlux, such as HM22, HM23, HM24... and also desktop bases at your selection.

Supplied accessories

Pop screen ----- S20

Optional accessories

Standard base ----- HM22

Anti-shock cover with lock-in device ----- HM23

XLR female socket with open ends cable ----- HM24

Surface mount XLR3F base ----- GT6F

Gooseneck microphone base ----- DS003



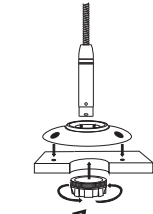
HM22 Standard base HM23 Anti-shock cover HM24 XLR female socket GT6F XLR3F base DS003 Mic. Bsse

Installing the E321

Four mounting methods are possible. Either connect the E321 directly to a surface mounted 3-socket XLR type connector, or use an optional accessory HM22 standard mount, HM23 shock mount or HM24 shock mount with XLR connector to mount the E321 preamplifier housing below a mounting surface.

To install the E321 below a mounting surface, proceed as follows.

HM22



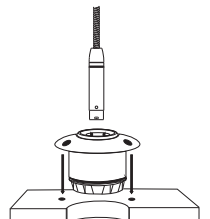
bottom plastic screw

HM22 (Figure 7)

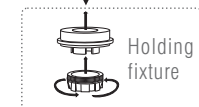
To install the E321 below a mounting surface with HM22, proceed as follows.

1. Drill a 29.5mm (1 1/8" in.) diameter hole in the surface on which the Hm22 is to be mounted. (See figure 7)
2. Center the mounting base on the surface above the hole.
3. Mark the location of the three screw holes in the mount base, remove the mounting base, and drill starter holes in the three marked places.
4. Unscrew the bottom plastic screw, and insert the E321 in the mounting base, and then screw in the bottom plastic screw.
5. Fasten the mounting base and E321 to the mounting surface using the three supplied screws.

HM23



XLR-F cable



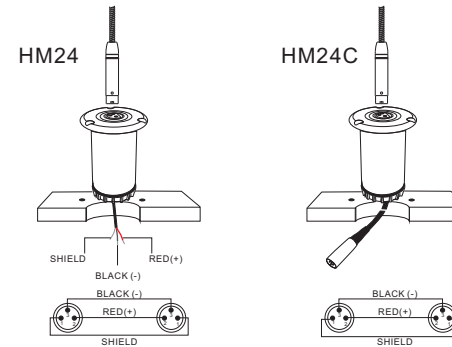
HM22 (Figure 8)

To install the E321 below a mounting surface with shock mount HM23, proceed as follows.

1. Drill a 50.8mm (2 in.) diameter hole in the surface on which the HM23 is to be mounted. (See left picture)
2. Center the shock mount on the surface above the hole.
3. Mark the location of the three screw holes in the shock mount, remove the microphone and shock mount, and drill starter holes in the three marked places.
4. Fasten the shock mount to the mounting surface using the three supplied screws. (see left picture)
5. Insert the E321 preamp housing in the shock mount to an appropriate depth.
6. Insert the XLR-F cable through the hole of the accompanied holding fixture. Unscrew the bottom screw of holding fixture, and insert in the the XLR connector and then screw in the bottom screw to fix the XLR-F cable.

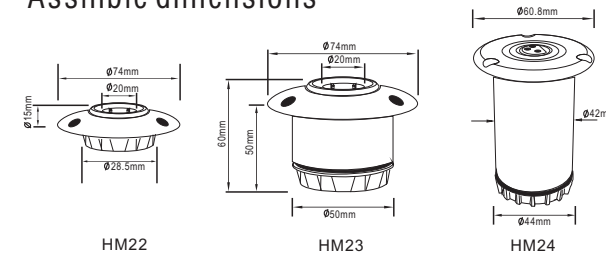
To install the E321 below a mounting surface with shock mount HM23, proceed as follows.

1. Drill a 43mm (1 11/16 in.) diameter hole in the surface on which the HM23 is to be mounted. (See figure 9)
2. Center the shock mount on the surface above the hole.
3. Mark the location of the three screw holes in the shock mount, remove the microphone and shock mount, and drill starter holes in the three marked places.
4. Fasten the shock mount to the mounting surface using the three supplied screws.
5. Insert the E321 preamp housing in the shock mount to an appropriate depth.



HM24 (Figure 9)

Assmble dimensions



Knowing your microphone

Superlux provides variety selection of microphones for professionals and amateurs. To know your microphone is the first step to successful result.

Type of transducer



Condenser

Extremely light weight diaphragm, very sensitive to sound. Very small versions available for hiding applications. High performance condenser microphones are regarded as standard equipment of recording studios for extreme detail capturing. Operates with power, such as phantom or battery.

Powering microphone

Condenser microphones work with power. Professional standard is 48VDC phantom power. Some microphones work with lower voltage as low as 1.5VDC, such as battery power model. E321 work with 9 to 52VDC phantom only. Please make sure your sound system provide adequate power to the microphone.

Using condenser gooseneck microphone

Uni-directional condenser microphone features very high sensitivity at -40dBV/Pa for high intelligible speech application. Reduced off-axis sensitivity to keep lower background noise and maximized on-axis sensitivity for highest gain before feedback in live sound system.

User shall keep 15 cm to 40 cm from microphone, and maintain average speech level. Up close will result excessive bass due to proximity effect which interfere intelligibility. Maintain their speaking in front of the microphone for high gain before feedback.

Quality conference microphone incorporating built-in limiter to prevent distortion due to exciting user or close up speaker.

Choices of gooseneck for various demands. For aesthetic, single or double bend goosenecks are better choice over fully bend design. Low bending noise is another important feature of good gooseneck microphone. User shall not bend the gooseneck to hard or rush which may generate excessive noise which disturbs the audience.

In most cases, each attendee has his own microphone or share a microphone every 2 attendee. Although there are numbers of microphones in one space which is not a good criterion for feedback problem, system operator shall keep as less turn-on microphone as possible for best result. Auto-mixer is a good choice for multiple microphones installation which limit the number of turn-on microphone at the one time. Advanced auto mixer features dynamic threshold and auto gain reduction according to the number of turn-on microphones to keep the same system gain.

Wind screen is vital for windy environment such as outdoor or close to air-conditioning fan.

Keep capsule and wind screen clean for good audio performance.

Maintainence

Condenser microphone shall be kept in low humidity environment for best sound performance. Store the condenser microphones in airconditioned room or dehumidifier to keep away form moisture. Clean air is another important factor. Keep away from smoking environment to avoid tar residuals.



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