



D109

Hi-Z Dynamic Microphone

User Guide

Specifications

Type

Dynamic microphone

Polar pattern

Unidirectional (Super Cardioid), rotationally symmetrical about microphone axis, uniform with frequency. (Figure 1)

Frequency response

80 to 12,500 Hz (Figure 2)

Sensitivity (at 1,000 Hz Open Circuit Voltage)

-38dBV/Pa (12.6mV/Pa) \pm 3dB, 1Pa=94dB SPL

Rated impedance

20k Ω

Minimum load impedance

100k Ω

Max. SPL (1 k Ω load)

130dB SPL (THD \leq 1% 1kHz)

Connector

Integral 3 pin male XLR type

Finish

Black paint

Environmental conditions

The D109 operates between -10°C to +50°C (14°F to 122°F) with relative humidity between 0 to 95%.

Dimensions

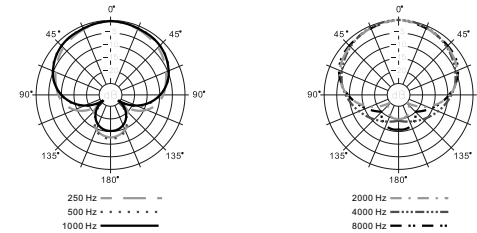
ϕ 48mm x 173mm (1.90in. x 6.80in.), Figure 3

Net weight

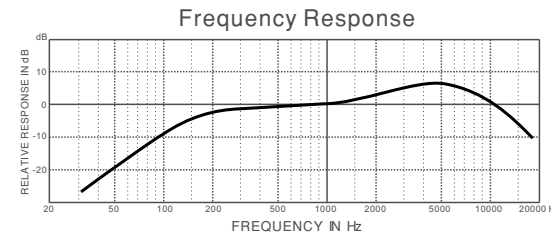
340 grams (12.00 oz)

RoHS

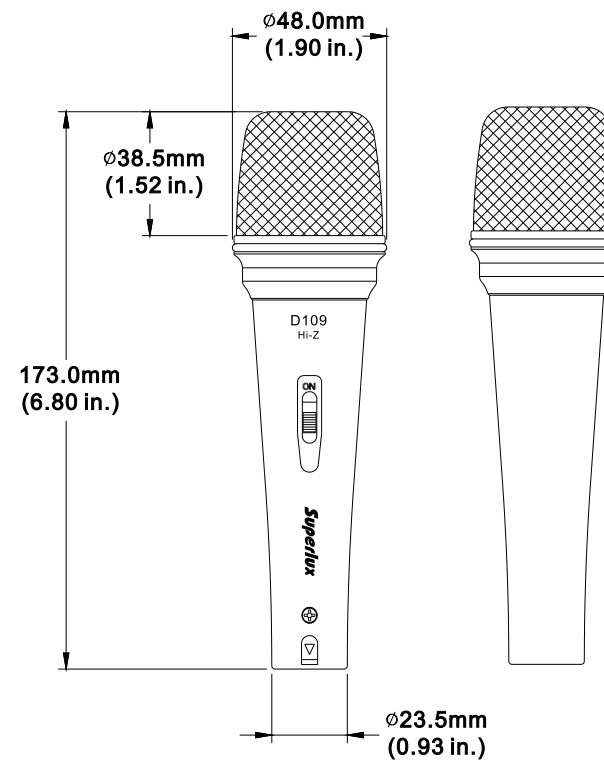
The D109 including the product and packages follow the instruction of EU 2002/95/EC and comply to RoHS.



TYPICAL POLAR PATTERN (Figure 1)



TYPICAL FREQUENCY RESPONSE (Figure 2)



Dimensions (Figure 3)

Description

The D109 is a high impedance, cardioid dynamic microphone for using a microphone with guitar amp or other high impedance input devices. Ordinary low impedance microphone will not work with such devices. The mesh grill is a effective pop screen to filter wind noise and speaking pop when using the microphone close to the mouth. Cardioid pattern provide adequate gain before feedback while the guitar amplifier is at close distance and at un-sensitive angle.

The D109 comes with a 6-meter, XLR3F to 1/4" phone plug cable and mic clip.

Features

- Wide frequency response to clean instrument pick up.
- Symmetrical cardioids pattern. Minimized feedback.
- High impedance.
- Neodymium magnet with double convex diaphragm, high signal to noise ratio.
- Rolling ball positioning ON/OFF switch.
- Die-cast microphone shaft, strengthen mesh grill.

Supplied accessories

HM38S Mic clip.
6M XLR3F~1/4" phone plug Instrument signal cable.
Mic pouch soft leather.



HM38S
Microphone clip



XLR3F~1/4" Phone plug
Instrument signal cable



Mic pouch soft leather



Related accessories

Impedance adapter -----	CP838
Table stand -----	HM6
Boom stand -----	MS131
Instrument boom stand -----	MS104



CP838
Impedance adapter



HM6
Table stand



MS104
Instrument boom stand



MS131
Boom stand

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



Dynamics

Durable and simple structure, operates in all kinds of environments. A good dynamic microphone is capable to operate at very high sound pressure level without distortion. Due to structure limit, dynamics cannot be built as small as condenser, but dynamics doesn't require power to operate.

About Frequency Response

Flat

Suitable for working at controlled environment, or for acoustic measurements. Although people pursue flatness, but for non-professionals, it is a challenge to make it work as expectation.

Popular curve response

Based on years of practical experience of pro users. There are curves to be built for various applications, so that it is very simple to use the microphone for the purpose. Limiting bandwidth, and emphasizing are typical skills.

Variable response

Incorporating switchable filters to eliminate interference, such as sub-sonic filter to cut air-conditioner and floor vibrations. And allows full flat when used in controlled environment.

Directivity



Super Cardioid

Narrower than cardioid pattern. Suitable for multiple microphone setup. Least sensitive angle pointing toward side to rear where most stage monitors are located. Same proximity effect as cardioid microphone.

Using a handheld microphone

For best signal to noise ratio, distance from the handheld microphone to the sound source shall be as short as possible.

For higher gain before feedback and lowest background noise, the microphone shall be pointed directly to the sound source. (refer to the illustration below) The sensitivity of a super cardioid microphone is highest on axis and lowest at 120 to 135 degrees.

To avoid interference between multiple microphones, each sound source shall be picked-up by one microphone, use as few microphones as possible in one space, or turn-on as few microphones as possible at the same time.

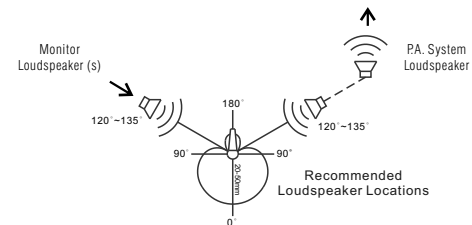
To reduce crosstalk between microphones, a 1:3 guide line shall be followed: The distance between microphone A to the sound source A is "1", the distance between any other microphone to the sound source A shall be more than 3 times.

When the (super) cardioid microphone gets closer to the sound source, the low frequency response is boosted, as so-called "proximity effect". Experience singers take advantage of the proximity effect to improve the richness of his/her voice or to increase the bass of the instrument as if an extremely high quality equalizer is used. Same idea to reduce the bass by increasing the distance to reduce the bass when needed.

Reflecting surfaces affect sound as well. Beware of these surfaces such as wall, table, or floor. Place the microphone away from the hard surfaces or directly contact these surfaces to form a pressure zone microphone.

When using the microphone outdoors or in a windy environment, additional foam wind screen helps to reduce wind noise.

Keep grill pop screen clean to avoid degrading the sound quality. Do not expose the microphone to high humidity/temperature environment to avoid damage.



Mounting the microphone

Pressure gradient microphone is very sensitive to vibration. Suitable shock mount for high performance microphone is necessary for extreme low noise recording. Sturdy stand can set the microphone exactly at the sweet spot and keep it there. Choose heavy duty microphone stand for studio condenser microphone which weighs much more than handheld microphone.

Superlux provides a wide range of microphone stands for various demands. Big Foot Willie is specially developed for large condenser microphones that are able to support 2 large microphones with stereo bracket for single point stereo recording.

Extension foot on all the 'E' versions serve to mount heavy studio microphone in limited space live sound applications.

Maintenance

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

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