



CMH8C 8B 8A

Large-diaphragm
Condenser Microphone

User Guide



Specifications

Type

Condenser Microphone

Element

Pressure gradient,
FET preamplifier

Polar pattern

CMH8A/CMH8B:
Cardioid (Figure 1)
CMH8C: Cardioid / Figure 8 /
Omnidirectional (Figure 2)

Frequency response

30 to 20,000 Hz (Figure 3)

Sensitivity

(at 1,000 Hz Open Circuit Voltage)

CMH8A/CMH8B:
-34dBV/Pa (20mV/Pa)
CMH8C:
Cardioid: -31dBV/Pa (28mV/Pa)
Figure 8: -35dBV/Pa (17mV/Pa)
Omni.: -35dBV/Pa (17mV/Pa)
1Pa=94dB SPL

Rated impedance

200Ω

Minimum load impedance

1000Ω

Equivalent noise level

(A-weighted)

CMH8A/CMH8B: 18dB
CMH8C:
Cardioid: 14dB
Figure 8: 18dB
Omni.: 18dB

Max. SPL (1 kΩ load)

CMH8A: 132dB SPL
CMH8B: 142dB SPL
CMH8C:
Cardioid: 138dB SPL
Figure 8: 142dB SPL
Omni.: 142dB SPL
(THD≤0.5% 1kHz)

Dynamic range at 1 kΩ Load

CMH8A: 114dB
CMH8B/CMH8C: 124dB

Power supply

48 Vdc phantom power

Current consumption

CMH8A/CMH8B: 2.7mA
CMH8C: 4mA

Polarity

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

Connector

3 pin male XLR type

Finish

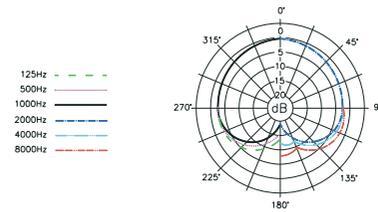
Champagne finish

Dimensions

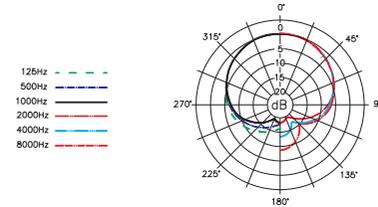
Φ 54.0mm(2.13in.) X 209.0mm
(8.23in.) (Figure 4)

Net weight

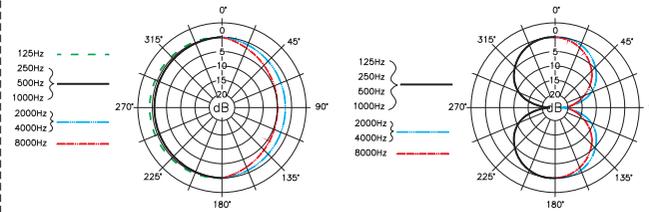
CMH8A/CMH8B: 550g(19.40oz.)
CMH8C: 565g(19.93oz.)



CMH8A/H8B
TYPICAL POLAR PATTERN (Figure 1)

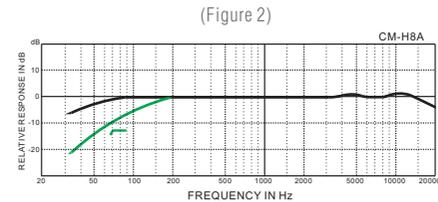


CMH8C
CARDIOID TYPICAL POLAR PATTERN

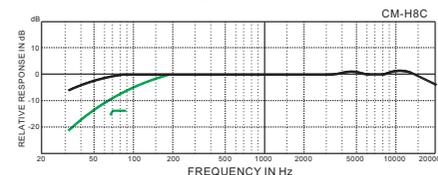
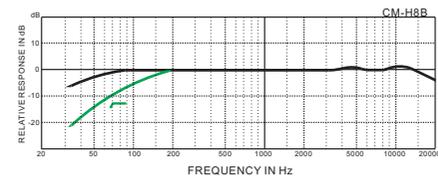


CMH8C Omni
TYPICAL POLAR PATTERN

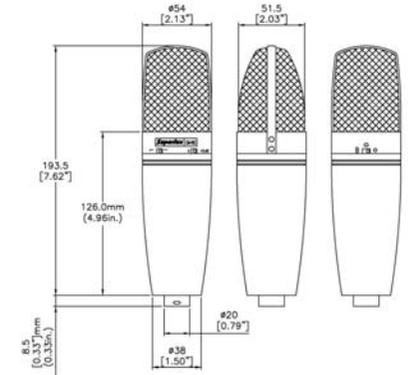
CMH8C Figure 8
TYPICAL POLAR PATTERN



(Figure 2)



TYPICAL FREQUENCY RESPONSE (Figure 3)



(Figure 4)

Description

CMH8A/CMH8B are condenser cardioid microphones with large diaphragm of 1" in diameter; while CMH8C features convertible polar patterns of cardioid, figure-of-8 and omni. Their tailored frequency response make them ideal candidate for the recording of music program. They are also suitable for general recording, broadcasting, stage reinforcement, etc.

Features

- Large-diaphragm capsule of gold-evaporated membrane 1" in diameter and 3 μm in thickness.
- Low-noise transformer circuit.
- Wide frequency response.
- CMH8A has built-in low-cut filter.
- CMH8B has an external switch for low-cut filter and -10dB roll-off.
- CMH8C has a dual-membrane capsule with external switches for low-cut filter and -10dB roll-off. At the back of the body, there is a switch for converting polar patterns among cardioid, figure-of-8 and omni.



Converting
polar patterns
H8C



Low Frequency
Off-Roll
H8B H8C



-10dB PAD
H8B H8C

Package

Large crash-proof carrying case ----- A3 carrying case

Accessories

Supplied accessories

Standard rotatable connector ----- HM8

Metal screw adaptor ----- YA1



A3
Carrying case



HM8 Rotatable
connector



YA1 screw
adaptor

Optional accessories

Phantom power supply ----- PS2A

Windscreen foam ----- S65

Shock mount ----- HM7

Desk holder ----- HM48B

Desk holder ----- HM58B



PS2A
Phantom
power supply



S65
Windscreen foam



HM7
Shock mount



HM48B
Desktop holder



HM58B
Desktop holder

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. CMH8C/B/A work with 48VDC phantom only. Please make sure your sound system provide adequate power to the microphone.

About Frequency Response

Flat

Suitable for working at controlled environment, or for acoustic measurements. Although people pursuit flatness, but for none-professionals, it is a challenge to makes it works as expectation.

Popular curve response

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

Variable response

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

Directivity

Select or set the directivity of your microphone for stereo recording, for various music instrument, vocal, speech, and environmental sound pick-up. Pair of spaced omni for A/B stereo, pair of near coincident cardioid for ORTF, and pair of coincident XY for Blumlein stereo.



Omni

directivity Equal sensitivity to all direction, so that the microphone doesn't need to point toward the sound source. It's low handling and wind noise are welcomed by news gathering and music recording applications.



Cardioid

Picks up most signal on axis. Rejects side and picks up least to the back. Suitable for live sound re-inforcement. Apparent proximity effect and most singer likes to take this bass boost advantages which is not good for speech.



Figure 8, bi-directional

Equal sensitive to both ends, and rejects the sides. Good to noisy environment to reject distant noise and low frequency. Also a good choice for stereo recordings, such as Blumlein. Typical pressure gradient characteristic.

CMH8C polar variation

Double diaphragm structure with cardioid acoustic nature, CMH8C can be set at OMNI, Cardioid, and Figure-8 polar mode.

Distance to source

Close miking or distant miking sound very differently. Vocal recording or live performance practice close miking mostly. Suitable proximity effect is one desired target, and lower feedback problem is another factor for live sound application.

While distant miking is common practice for recording, especially stereo pair recording with large group of performers, such as orchestra or choir.

Distant miking generally picks up less bass section with pressure gradient type of microphone (cardioid, figure-8, shotgun...) due to acoustic nature and lack of proximity effects.

Rich bass with distant miking can be recorded with pressure type of microphone (Omni), which performs the same frequency response with close or distant pick-up.

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 weights much more than handle microphone.

Superlux provides wide range of microphone stands for various demands. Big Foot Willie is specially developed for large condenser microphones that 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 limit space live sound applications.

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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