



# CMH8CH 8BH 8AH

Large-diaphragm  
Condenser Microphone

# User Guide



## Specifications

### Type

Condenser Microphone

### Element

Pressure gradient,  
FET preamplifier

### Polar pattern

CMH8AH/CMH8BH:  
Cardioid (Figure 1)  
CMH8CH: Cardioid / Figure 8 /  
Omnidirectional (Figure 2)

### Frequency response

30 to 20,000 Hz (Figure 3)

### Sensitivity

(at 1,000 Hz Open Circuit Voltage)  
CMH8AH/CMH8BH:  
-34dBV/Pa (20mV/Pa)  
CMH8CH:  
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)

CMH8AH/CMH8BH: 18dB  
CMH8CH:  
Cardioid: 14dB  
Figure 8: 18dB  
Omni.: 18dB

### Max. SPL (1 kΩ load)

CMH8AH: 132dB SPL  
CMH8BH: 142dB SPL  
CMH8CH:  
Cardioid: 138dB SPL  
Figure 8: 142dB SPL  
Omni.: 142dB SPL  
(THD≤0.5% 1kHz)

### Dynamic range at 1 kΩ Load

CMH8AH: 114dB  
CMH8BH/CMH8CH: 124dB

### Power supply

48 Vdc phantom power

### Current consumption

CMH8AH/CMH8BH: 2.7mA  
CMH8CH: 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

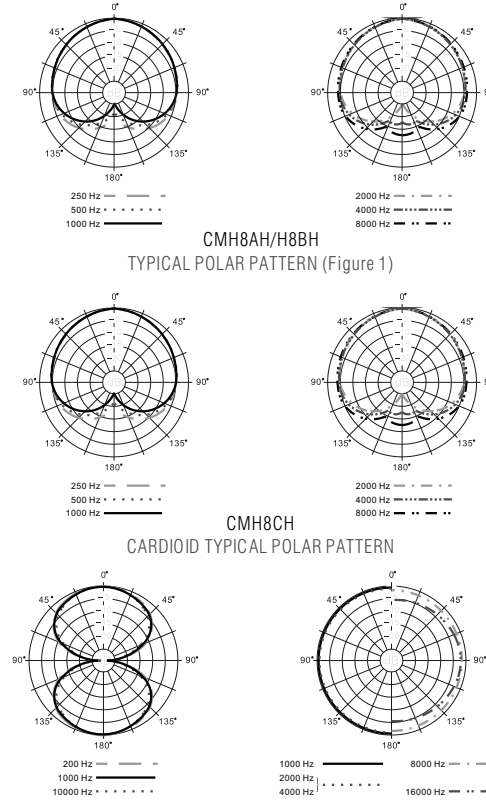
Black leather finish

### Dimensions

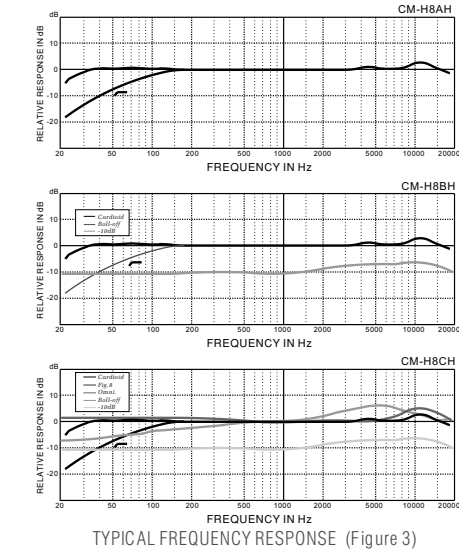
Φ54.0mm (2.13in.) X 209.0mm  
(8.23in.) (Figure 4)

### Net weight

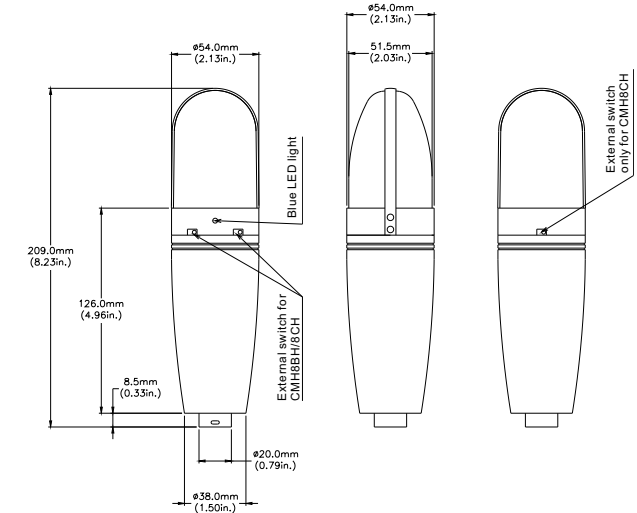
CMH8AH/CMH8BH: 550g (19.40oz.)  
CMH8CH: 570g (20.11oz.)



(Figure 2)



(Figure 3)



(Figure 4)

## Description

CMH8AH/CMH8BH are condenser cardioid microphones with large diaphragm of 1" in diameter; while CMH8CH 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.
- Blue LED light on the front indicating the working condition of the phantom power supply.
- CMH8AH has an internal low-cut filter switch.
- CMH8BH has an external switch for low-cut filter and -10dB roll-off.
- CMH8CH has a dual-membrane capsule with an external switch 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  
H8CH



Low Frequency Roll-off  
H8BH H8CH



-10dB PAD  
H8BH H8CH

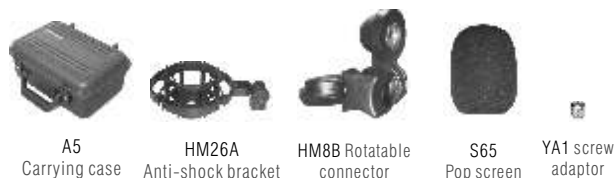
## Package

Large crash-proof carrying case ----- A5 carrying case

## Accessories

### Supplied accessories

Anti-shock bracket ----- HM26A  
Standard rotatable connector ----- HM8B  
Black pop screen ----- S65  
Metal screw adaptor ----- YA1



### Optional accessories

Phantom power supply ----- PS2A  
Desktop holder ----- HM48B  
Desktop holder ----- HM58B  
Black foam windshield ----- HM18AG



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## 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. CMH8CH/BH/AH 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.



#### Omi

Equal sensitivity to all direction, so that the microphone doesn't need to pointing toward the sound source. Low handling and wind noise. Welcome by news gathering, and music recording applications.

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#### 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.

#### CMH8CH polar variation

Double diaphragm structure with cardioid acoustic nature, CMH8CH 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 from moisture. Clean air is another important factor. Keep away from smoking environment to avoid tar residuals.

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