



### Preliminary Specifications: CM89-EZ

Tile bridge included

System Type	8" Coax, in-ceiling, ported, High SPL (64 Watt transformer for 25/70.7/100 Volt or voice coil direct)
Impedance (nominal) <sup>1</sup>	8 ohm
Sensitivity dB @ 2.83 V/1 m	93.0 dB
Sensitivity dB @ 1 W/1 m <sup>2</sup>	93.0 dB
Frequency Response (-3 dB) <sup>3</sup>	119 Hz - 22 kHz
Frequency Response (-10 dB) <sup>3</sup>	91 Hz - 22 kHz
Max. Program Power <sup>4</sup>	150 W
Max. Continuous Power RMS <sup>5</sup>	75 W
Max. Power SPL @ 1 m <sup>6</sup>	112.0 dB
Coverage Angle (-6 dB @ 2 kHz)	74°
Coverage Angle (-6 dB @ 10 kHz)	55°
Coverage Angle (averaged 2-10 kHz)	70°
Tap Selector	Six-position rotary switch with transformer bypass position
Transducer - Low-Frequency Driver	203mm (8in) Treated paper cone, treated cloth surround
Transducer - High-Frequency Driver	25mm (1in) titanium dome tweeter
Low-Frequency Voice Coil	25.4 mm (1.0 in.)
Crossover Frequency	3.0 kHz
Network Type: Low Pass	12 dB per octave, 2nd order
Network Type: High Pass	12 dB per octave, 2nd order
Enclosure Material	Drawn steel backcan with ABS baffle
Grille	Painted steel
Inputs	4 position ceramic terminal connector
Colors	Black or white
Backcan Diameter	245.6 mm (9.67 in.)
Backcan Height	203.2 mm (8.0 in.)
Visible Diameter	298.5 mm (11.75 in.)
Visible Height	8.6 mm (0.34 in.)
Mounting Hole Diameter	266.7 mm (10.50 in.)
Min - Max Ceiling Thickness	0.9 mm (0.035 in.) - 40.6 mm (1.6 in.)
Weight	4.1 kg (9.0 lbs.)
Shipping Weight	4.5 kg (10.0 lbs.)
Packaging	One per box
Included accessories	Tile bridge, UL-listed flex conduit clamp, paint shield
Optional accessories	Pre-construction bracket (AC-CM6-8EZ-PCB)
Regulatory - UL	UL 1480 and 2043 Listed
Regulatory - CE	Approved
RoHS	Approved

<sup>1</sup> Impedance listed per IEC 60268-5

<sup>2</sup> 1 W 1 m sensitivity determined using nominal impedance

<sup>3</sup> Frequency response measured in half or full space as dictated by speaker mounting configuration

<sup>4</sup> Max program power is 3 dB above max continuous power

<sup>5</sup> Continuous power rating, EIA-426-B test

<sup>6</sup> Max output based on max continuous power

#### Transformer Taps

70.7 V	Output	100 V	Output	25 V	Output
64 W	111.0 dB	64 W	111.0 dB	8 W	102.0 dB
32 W	108.0 dB	32 W	108.0 dB	4 W	99.0 dB
16 W	105.0 dB	16 W	105.0 dB	2 W	96.0 dB
8 W	102.0 dB	8 W	102.0 dB	1 W	93.0 dB
4 W	99.0 dB				

### Key Features

- One 8.0 inch (203 mm) Treated paper cone, treated cloth surround woofer and one 1.0 inch (25 mm) titanium dome tweeter with 75° horn.
- Easy-access six-position tap switch for 25/70.7/100-volt and transformer bypass settings allows for easy ordering, stocking and installation.
- Ceramic input terminal accepts up to 10 gauge plenum rated signal wire and includes thermal fuse. Suitable for use in voice alarm applications subject to EU regulations EN60849 and BS5839-8.
- Incorporates a painted steel grille for lasting durability.
- Adaptable to material thicknesses ranging from 0.035 inch (0.9 mm) to 1.6 inch (40.6 mm).
- UL 1480 and 2043 listed.
- High-quality black or white painted finish. Custom colors available.
- Included accessories: Tile bridge, UL listed 0.5-inch conduit clamp, paint shield.
- Optional accessories: Color-coded (green) pre-construction bracket (AC-CM6-8EZ-PCB).

### Description

The CM89-EZ is a value-priced 8" coaxial speaker designed for installation in high ceilings. This long-throw, high sensitivity speaker includes an 8" woofer and a 1" titanium dome tweeter mounted in a specially designed 75° horn. Inputs are made via a ceramic terminal strip; a 64 watt transformer is included with a six position tap switch. With SPL of 112 dB (1m) and sensitivity of 93 dB (1w/1m) the CM89-EZ is well suited for installations requiring high output from an in-ceiling speaker. The speaker is enclosed in a drawn steel backcan with ABS baffle and is ported for superior bass response.

Mounting hardware is included and features a constant-tension fixed-wing mounting system with a 21-gauge "full-metal" steel tile bridge ensuring rapid and secure installation in any sheetrock or drop-tile application. For easy ordering, stocking and installation, this series includes a color-coded (green) tile bridge and optional pre-construction bracket, as well as a six-position tap switch for 25-, 70.7- and 100-volt applications with a transformer bypass position.



## Applications

The CM89-EZ is ideal for large spaces such as classrooms, hotel ballrooms or office buildings. The entire CM-EZ series is engineered for installations where high-efficiency, added speech intelligibility and rapid installation are critical attributes.

## Patented SoundTube Technologies

SoundTube Entertainment and MSE Audio constantly develop new technologies which enhance audio product performance. SoundTube Entertainment innovations are protected by multiple U.S. and international patents, which explicitly cover SoundTube dome, enclosure and dispersion technologies. MSE Audio actively defends its patents in order to protect SoundTube resellers and end-users.

## Technical Data and Specification Tools

### Technical Data

SoundTube Entertainment strives to provide complete and effective technical information and data to dealers, engineers and designers. All data are available from SoundTube Entertainment or at [www.soundtube.com](http://www.soundtube.com).

Technical data and downloads include:

EASE™ data – 3-D polar plots.

EASE™ Address – 2-D modeling for distributed systems

Autodesk® Revit® software

Tech Sheets – Technical information and architectural specs for system engineers

SoundTubeSPEC™ – Proprietary speaker placement software

## Independent Data

### Acquisition and Verification

All data for SoundTube speakers is independently collected from and verified by NWAALabs ([www.nwaalabs.com](http://www.nwaalabs.com)) using their proprietary MACH testing system. All data is collected and analysed according to ASTM, ISO and AES standards using EASERA, TEF and MLSSA.

Full balloon data including both phase and magnitude is compiled into a variety of formats including EASE 4.x, GLL and CLF.

## Architectural Specifications

The loudspeaker shall consist of one 203 mm (8.0 in.) low-frequency transducer and one 25 mm (1.0 in.) high-frequency transducer with a frequency-dividing network installed in a ported enclosure. The low-frequency voice coil diameter shall be 25.4 mm (1.0 in.). The low-frequency transducer shall have a treated paper cone with treated cloth surround. The high-frequency transducer shall be constructed of titanium using a 75° horn.

Performance specifications of a typical production unit shall be as follows: Useable frequency range shall extend from 91 Hz - 22 kHz (-10 dB). The loudspeaker shall be available with selectable 25/70.7/100-volt and transformer bypass tap switch. The frequency dividing network shall have a crossover frequency of 3.0 kHz. Rated power capacity of the components and network shall be at least 75 watts continuous RMS and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be at least 93.0 dB.

The backcan shall be constructed of galvanized steel with an ABS plastic baffle. The grille shall be constructed of painted steel. Shipped complete with UL-listed flex conduit connector, color coded tile bridge (to match color-coded backcan), grille, and paint shield, the integrated in-ceiling speaker is engineered for high performance and rapid installation in plenum spaces. The unit incorporates three additional attachment points for added security, or where required by code.

Installation for the speaker shall be by two-screw blind-mount constant-tension fixed-wing assembly and shall attach to ceiling thicknesses ranging from 0.04 inches to 1.60 inches. The external wiring shall be via 4-position ceramic terminal strip, accepting up to 8 gauge wire.

The maximum backcan dimension shall be no more than 203.2 mm (8.0

in.) in height by 245.6 mm (9.67 in.) in diameter. The maximum visible dimensions shall be no more than 8.6 mm (0.34 in.) in height by 298.5 mm (11.75 in.) in diameter. The unit is factory preset to the 64-watt setting in the 70.7-volt operating mode, with a tap switch located on the front baffle.

The system shall be the SoundTube CM89-EZ for both low- and high-impedance applications.

Applicable CSI Codes

CSI Code 2740

CSI Code 2741

CSI Code 2750

CSI Code 2751

## SoundTube Entertainment

6430 North Business Park Loop

Park City, Utah 84098

Phone 435.647.9555

Fax 435.647.9666

Toll Free 800.647.TUBE

[www.soundtube.com](http://www.soundtube.com)

All SoundTube products come with a 5-year limited warranty.

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**CM89-EZ**

**In-Ceiling Speaker**

Preliminary Technical Information for System Engineers



**SOUNDTUBE**  
ENTERTAINMENT

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Frequency Response

Phase/Impedance Reponse

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Vertical Beamwidth

Directivity Index (DI)

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# CM89-EZ

## In-Ceiling Speaker

Preliminary Technical Information for System Engineers



# SOUNDTUBE

ENTERTAINMENT

Polar Plots

— Horizontal  
- - - Vertical

125 Hz

250 Hz

500 Hz

1,000 Hz

2,000 Hz

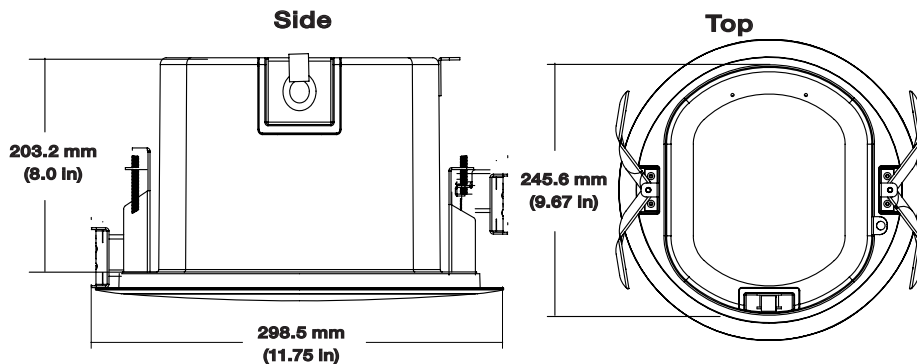
4,000 Hz

8,000 Hz

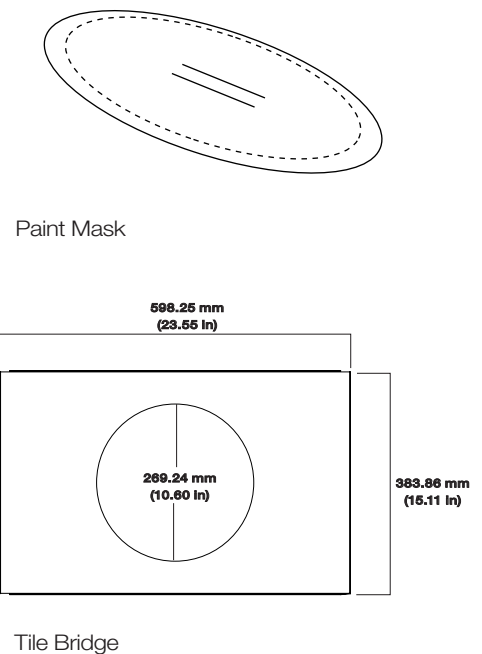
10,000 Hz

Technical data, EASE™ plots, SoundTubeSPEC™ software and product downloads available at [www.soundtube.com](http://www.soundtube.com)

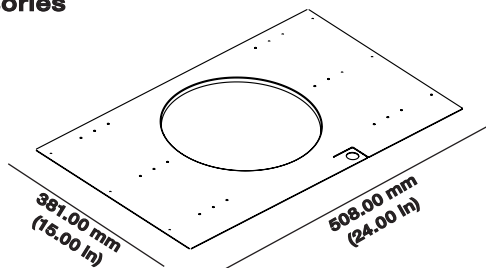
### Mechanical Drawings



### Included Accessories



### Optional Accessories



Pre-Construction Bracket (AC-CM6-8EZ-PCB)

SoundTube Entertainment manufactures a complete line of speakers for:

**Open-Ceiling • In-Ceiling • Surface-Mount • Outdoor • Sound-Focusing**

All SoundTube products are designed and engineered in the USA.