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## Low Ceiling Horn LCH70T

High Security Sound



# ATEIS



ATEIS International SA

Public Address - Voice Alarm - Commercial Audio - Intelligent acoustic solutions - Counter Intercom



Public Address



Voice Alarm

## LOW CEILING HORN

### LCH70T

Industrial low ceiling  
"Long Throw" horn



The **LCH70T** is one of the latest products from **ATEIS INTERNATIONAL** and especially designed for the voice-evacuation market. The **LCH70T** is a typical exponential horn that is designed to be used in placed with restricted ceiling heights and where far throws are requested.

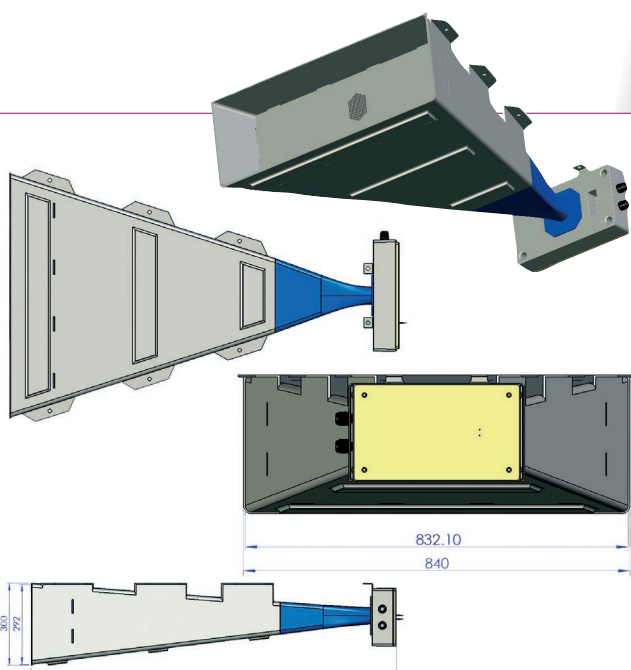
The **LCH70T** is made of reinforced fibre/epoxy and equipped with a strong and powerful 2" compression driver, capable of producing a fabulous 117 dB. The shape and structure allow for use in highly demanding environments like traffic tunnels and car parks. Also train tubes that need to be addressed during voice-evacuations are typical examples where the **LCH70T** would fit perfectly.

Due to its dimensions, its throw can reach from 40 up to 70 m, reducing amplifiers and delay lines when compared to conventional distributed sound systems for tunnels. This will bring the total costs down and due to a lower number of horns, it will bring the Q-factor up and so the intelligibility of the overall evacuation system.

The **LCH70T** has an extended frequency range that runs up to 8 kHz allowing for high-fidelity speech messages in situation where the acoustics are limited and therefore the demands on the soundsystem high. Highly directional horns will result in a bigger in between, repeating distance, reduced soundpoints and so reduced number of amplifiers and delay-lines and so, resulting in a better overall price performance.

The **LCH70T** is a typical symmetrical exponential horn (= where the horn length is exponentially related to the horn area) that uses the mounting surface as wave guide. This way a "half cell" construction can be used, reducing its mouth height that is important when used in environment with height restrictions. Once in the proper band pass region for a given size, an exponential horn presents a fairly consistent acoustical load to its driver. This helps both output level and evenness of frequency response, and is what makes this horn design simple and effective.

The **LCH70T** should be fixed against a large and flat surface that acts as a waveguide and mirror.. The small horizontal opening angle of only 30 degrees guarantees that the sound will stay unaffected by lateral distortion and so will increase the in-between distance of the horns.



Mechanical drawing with 8 x 12 mm fixation holes  
and vertical-ribs for extra stability



#### Key features:

- Boundary effect, low-spill
- Increased repeating distance
- Long-horn, straight patterns
- 2-inch compression driver
- High-SPL
- High-directivity

#### Background-noise:

90 dBa  
SPL: 104 dBa @ 20 m



# LOW CEILING HORN

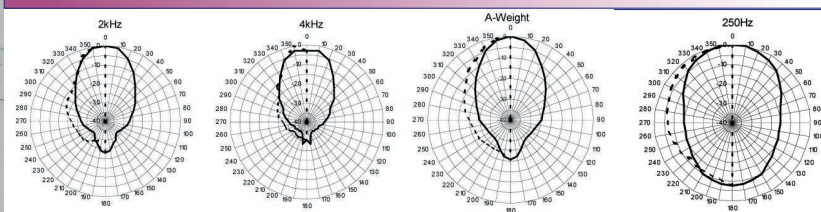
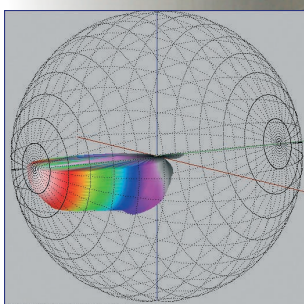


## MAIN PROPERTIES

- Traffic tunnels.
- Industrial purpose.
- Long throw.
- High SPL.
- High intelligibility.
- Special purpose design.
- Durable.

**LCH70T**  
Industrial low ceiling  
"Long Throw" horn

Polar plots 250 Hz, 2 KHz, 4 KHz and A-weight



## Electrical specifications

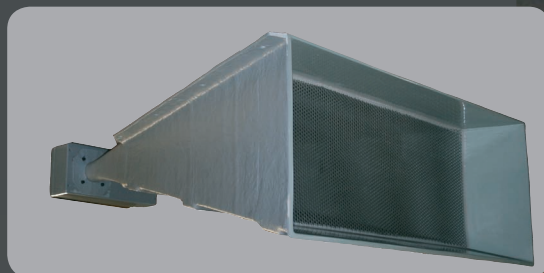
100/70/50 Volt line transformer maximum power	70 Watt rms Dual ceramic connector blocks with M20 PG12 glands
Electrical performance SPL_MAX	132 dBA @ 70 Watt
Frequency range	300 Hz – 8 kHz
Horizonal opening angle @ 1 kHz	30 degrees
Vertical opening angle @ 1 kHz	15 degrees
Sensitivity 1 W / 1 M	112 dB @ 500 Hz 120 dB @ 1 kHz 116 dB @ 2 KHz 108 dB @ 8 KHz
Q-factor @ 1 kHz	250 Hz = 7.3 500 Hz = 14 1 kHz = 30.5 2 kHz = 38 4 kHz = 38 8 kHz = 38
External high-pass filter requirements	250 Hz, 2 <sup>nd</sup> order (filter not included)

## Mechanical specifications

Material	Glass fibre reinforced epoxy flame-retardant polyester
IP rating	IP56
Color	RAL7004 (dark-grey)
Dimensions	Length: 1340 mm - Width: 840 mm (flare side) - Height: 300 mm
Weight	35 kg approximately
Mounting type	8 x M12 spacings
Spay water protection on mouth	Stainless steel mesh grill

INTELLIGENT ACOUSTIC SOLUTIONS

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