

STI-CIS

Speech Intelligibility Meter Audibility Testing

The Speech Transmission Index - Common Intelligibility Scale (STI-CIS) methods of measurement is used together with the TALKBox and STI-PA sound source, to test Sound Systems For Emergency Purposes installed to AS 1670.4 for compliance with intelligibility and audibility requirements.

Sound Systems for Emergency Purposes play an important role in the orderly evacuation of buildings during emergencies. AS 1670.4 requires that voice messages be intelligible. This requirement ensures that vital emergency messages transmitted through a building's Sound Systems for Emergency Purposes can be clearly heard and understood. The STI-CIS Meter, a technological break through, is a tool for making objective measurements and validation of compliance with both audibility and intelligibility requirements. You'll sleep better knowing that, should a real emergency occur, the occupants of your building will be able to hear, understand and respond to the vital life-safety information your system is designed to provide.

The STI-CIS portable tools enable you to do the following:

- Perform objective testing of the intelligibility of Sound Systems for Emergency Purposes using the internationally recognized Speech Transmission Index method as specified in Annex B, Clause B1 of IEC 60849.
- Simplify the test process. Simple and easy to use, the "two-button" design of the STI-CIS Meter allows voice intelligibility to be measured by anyone, in any location.
- Minimise testing downtime and disruption. Each intelligibility measurement requires only 15 seconds, so test time is minimised.
- Conduct testing in an occupied building. A test signal that simulates human speech is broadcast during testing. Because the test signal is neutral in tone and content, testing can be conducted in an occupied building without triggering an alarm response from occupants. (Pre-notification of building occupants in advance of testing is always recommended)



Specifications

Analyser

Ambient Temperature	0 to 50°C
Power Supply	8 x AA batteries/AC adaptor
Dimensions (HWD)	410 x 250 x 70mm
Weight	160g

TALKBox

Power Supply:	12Vdc, 190mA via 8 x AA batteries or AC adaptor at 500mA (12Vdc, tip positive)
SPL Output	0 dB to 100 dBA (STI-PA test tone)
Ambient Temp	0 to 50°C
Dimensions (HWD)	470 x 360 x 180mm
Weight	520g

Part Number

STI-CIS (compr. 2 cases; Analyser & TALKBox)

Calibrated Toward a Normal Listener

Because hearing ability varies among individuals, just as vision does, one listener might understand 90% of a message while a second individual might only understand 70% of the same message. The STI-CIS Meter is calibrated to measure what a "normal" listener, as defined by international standards, would actually hear.

In addition to variations in the hearing ability of building occupants, voice intelligibility in buildings is affected by other factors, including the number and placement of speakers within rooms, distortion of speech introduced by microphones and amplifiers, room acoustics and background noise.

The STI-CIS Meter measures the degree to which the combination of all of these factors affects the clarity of a spoken message.

Code officials have recognized the need to precisely define intelligibility to an objectively measurable value. A rating of 0.70 on the Common Intelligibility Scale (CIS) or an STI of 0.5 has been determined by experts and code writers to be the minimum acceptable value for voice intelligibility. The STI-CIS Meter measures CIS values directly, in only 15 seconds.

A Practical and Versatile Tool

The STI-CIS Meter is designed for use by service technicians, engineers, authorities having jurisdiction and building owners. As the intelligibility test signal is played through the building's Sound Systems for Emergency Purposes, the user, from any location in the building, simply presses one button to measure the sound pressure level in dB(A). With the press of a second button, the STI-CIS Meter initiates a 15 second countdown, and then displays a CIS value of intelligibility.

Because each intelligibility measurement can be completed in only 15 seconds, even a very large building can be quickly and thoroughly tested.

The STI-CIS Meter provides a precise, repeatable and completely objective measurement of speech intelligibility. It also measures sound pressure level on the dB(A) scale so it can be used to measure compliance of sounders and speakers of occupant warning systems as well as Sound Systems for Emergency Purposes.

This innovative portable device achieves a level of sensitivity that used to require bulky and expensive acoustical instruments.

This exciting development has been brought to the market as a result of the joint participation between Bose Corporation, Gold Line, the major European laboratory TNO and Johnson Controls.

STI-CIS Meter

The STI-CIS Meter is a portable device (254 x 260 x 64mm WHD) weighing 1.4 kg with batteries. The microphone is built-in and omni-directional, with a free field 12mm electret condenser element. The microphone is serial numbered and calibrated to the individual STI-CIS Meter. Each Meter comes equipped with an audio CD that contains the STI-PA test tone. This, and only this signal, must be used with the STI-CIS Meter in order to obtain valid measurements of intelligibility. For example, the STI-CIS Meter will not register a CIS value for an actual spoken message. A DC power supply with connector is included, along with a hardshell carrying case.

Talkbox Accessory

The TALKBox directs the STI-PA test signal into the Sound Systems for Emergency Purposes c.i.e. by way of the panel's microphone. The test signal, contained on a long-playing audio CD, is played continuously on an integrated CD player through a powered speaker and into the warning system's microphone. The TALKBox includes a universal microphone holder. The TALKBox accurately simulates the use of the Sound Systems for Emergency Purposes by emergency personnel or Wardens and ensures that the entire system, including the microphone, is tested. The TALKBox is incorporated in a hardshell carry case complete with DC power supply.

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STICISdatVIG1711 November 2017

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