NTi AUDIO

LESS NOISE . MORE SOUND

- STI-PA Reference
- IEC 60268-16
- System Line-up
- Excellent Flatness
- Line Output

TalkBox

ACOUSTIC GENERATOR

EXEL LINE

Made in Switzerland

www.nti-audio.com

INTRODUCTION

The TalkBox is an acoustic signal generator for speech intelligibility measurements in evacuation and announcement systems, as well as for level alignment of teleconference and other audio systems.

It allows for the complete end-to-end evaluation of the speech intelligibility STI-PA from the talker's microphone to the listener's ears. The TalkBox provides the test signal simulating a human talker at 60 dBA @ 1 meter according to IEC 60268-16.

The TalkBox features human head-like dimensions and is based on a solid-state-generator. It replays the STI-PA test signal at the precisely correct playback sampling rate, also ensuring best performance through the internal amplifier and the precision loudspeaker. A variety of supplied or user-defined test signals may be precisely output for different alignment applications.

FUNCTIONS

Individually Equalized

NTi Audio TalkBox includes a precise broadband loudspeaker. Perfect flatness of ±1 dB over the relevant frequency range and highest quality requirements are guaranteed by an individual equalization and calibration using advanced FIR filtering and DSP technology. The radiation characteristic complies with ITU-T P.51 in wide ranges.

Adjusted Output Level

The IEC 60268-16 standard specifies a sound pressure level for a speaker simulator of 60 dBA in 1 meter distance. The TalkBox output levels are calibrated to comply with this standard. To avoid operating failures the TalkBox has no volume control.

Lombard Effect

Human voice tends to be raised in level at emergency situations. In order to cope with this so called Lombard effect, all STI-PA related signals are additionally offered at an increased level of 70 dBA at 1 meter.

Balanced Line Out

Using the balanced line out, the TalkBox operates as a signal generator. Sampling frequency deviations - a dangerous trap when using portable CD players for STI-PA measurements - are completely eliminated.

Balanced Line In

Any external signal can be connected to the system using the balanced line input. The applied signal is transparently looped to the line output and processed in the internal DSP in real-time to appear equalized at the speaker.

Different Test Signals

The TalkBox also generates additional wave forms: White noise, pink noise, sine wave, reference speech signals and the delay time measurement chirp. Custom designed signals may be loaded onto the CF Card and are seamlessly looped.

Mic Stand Mount

Typically the NTi Audio TalkBox is positioned on a conventional mic stand in front of the speaker microphone; exactly at the position of the actual human speaker during the announcements. The TalkBox features a mic stand mount on the bottom plate.

Remote Mute

For measuring speech intelligibility in large buildings the remote mute functionality of the TalkBox is of great help. Any external switching device may be connected to the mute input, allowing building e.g. a cell phone controlled ON/OFF functionality. Thus the STI-PA test signal might be muted between measurements.

Universal Power Supply

The TalkBox supports a power supply range 10 - 18 VDC. An external power supply for worldwide operation is included. Alternatively the optional battery pack might be used.

TalkBox Rear Panel View

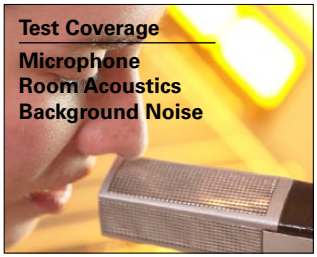
Output Mode Selector Speaker / Line Out

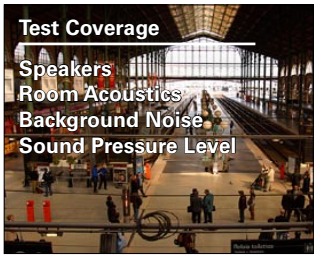
CF Card containing test signals

Balanced Line In and Line Out

STI-PA MEASUREMENT

NTi Audio TalkBox generates acoustic STI-PA test signal





For evacuation systems without microphones the Minirator MR-PRO generates the STI-PA test signal

The TalkBox as acoustic signal generator provides two major advantages for STI-PA measurements: An extended test coverage and an easy to handle test signal injection. Sampling frequency deviations - a dangerous trap when using portable CD players - are completely eliminated.

The human head sized NTi Audio TalkBox replaces and simulates a real speaker when measuring speech intelligibility. This setup considers the entire signal path for an accurate STI-PA measurement. It includes all effects of the speaker's microphone and environment.

Alternatively the signal generator Minirator MR-PRO serves closed evacuation systems without any speaker's microphone.

XL2 Audio and Acoustic Analyzer measures speech intellibiligy STI-PA

ONE, TWO, TEST

A human speaker commonly repeats the familiar phrases “one, two, test“ or “check - check“ at setting up microphones for reinforcement- or conference systems. This stimulates the audio system for level checking.

The NTi Audio TalkBox simplifies and improves the setup of microphones. It generates a reference human speech signal or other standard audio test signals, so only one person is required to quickly adjust complete conference systems. Additional test signals support the determination of system flatness and response effects e.g. in teleconference applications.

The TalkBox generates all test signals for professional conference room setup. Typically the TalkBox is positioned at a measured reference point near each speaking position.

- Microphone Setup
- Conference Systems
- Telepresence Systems
- Speech Signal
- Calibrated

ACCESSORIES TALKBOX

Battery Pack for
NTi Audio TalkBox

Calibration
Certificate

ORDER INFORMATION

Product	NTi Audio #
NTi Audio TalkBox	600 000 085
Battery Pack for NTi Audio TalkBox	600 000 086
Calibration Certificate	600 000 018
Spare CF Card for NTi Audio TalkBox	600 000 087

Minirator MR-PRO	600 000 310
XL2 + M4260	600 000 340
XL2 + M2210 - Enhanced Performance	600 000 350
STI-PA Option for XL2	600 000 338
Exel System Case	600 000 334

MORE PRODUCTS

Minirator MR-PRO

XL2 + M4260

STI-PA Option for XL2

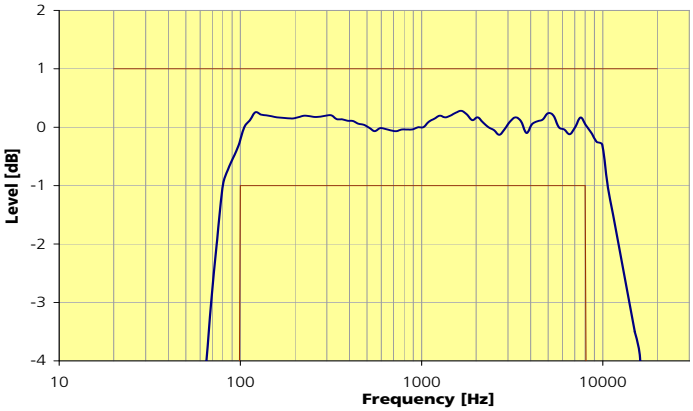
Exel System Case

TECHNICAL SPECIFICATIONS TALKBOX

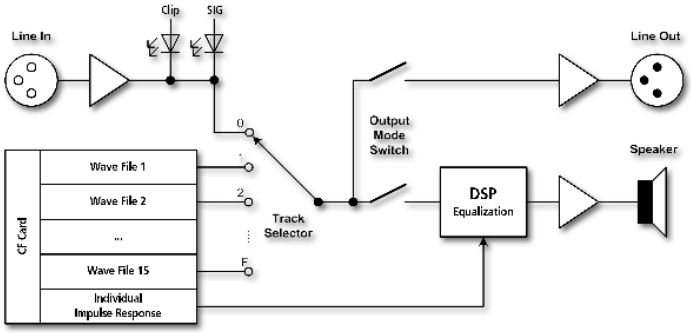
Waveform	• Up to 15 different signals • Waveforms can be added / changed by the user • Factory signal set: NTi Audio STI-PA Test Signal (TNO verified), Reference Speech Signal, Sine 1 kHz, White Noise, Pink Noise, Delay Time Chirp
Line Out	• XLR, balanced 100 Ohm, unbalanced 50 Ohm • Maximum output level: +18 dBu, 1 kHz file with 60 dB @ 1 meter: typ. -11 dBu
Line Input	• XLR, balanced 38 kOhm • Maximum input level: +18 dBu • Internal delay XLR input to speaker: 59 ms
CF Card	• 256 MB included, FAT32 formatted • Wave File format: 16 Bit, 44.1 kHz mono
Acoustical Flatness	STI-PA band levels (in axis) • typ. < ± 0.5 dB @ 24°C • typ. < ± 1.0 dB @ 10°C - 30°C

Acoustical Output Level	• STI-PA: 60 dBA @ 1m ± 0.5 dB, acc. IEC60268-16 • STI-PA band sensitivity gradient: - 0.07 dB / °C (average) • Others see track list in user manual
Power Supply	• 10 - 18 VDC, 10 W • External switching power supply included (for worldwide usage 100 V .. 240 V)
External Mute	• Jack 3.5 mm (1/8") • Floating switch required
Mounting	• Mic Stand 5/8" with Adapter to 3/8"
Dimensions	• LxWxH: 150 x 150 x 175 mm (5.9 x 5.9 x 6.9 inch)
Weight	• 3.5 kg
Temperature	• 0° to +45°C (32° to 113°F)
Accessories	• Mains Power Adapter, CF Card and Bag included

Typical Frequency Response



Schematics



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