![NTi AUDIO logo]

- Sine Test Signals
- Frequency Sweeps, Chirps
- Pink Noise, White Noise
- Polarity & Delay Signal
- User Wav-file Playback with MR-PRO
- Measurement Functions with MR-PRO

Minirators
MR-PRO / MR2
AUDIO SIGNAL GENERATORS

Made in Switzerland

MINIRATOR MR-PRO
Professional Audio Signal Generator

XLR Input for Cable Test

Backlit LCD

USB

DC Power

Battery Compartment

Backlit Mute Key

RCA - Unbalanced Output

XLR - Balanced Output

MINIRATOR MR-PRO / MR2

The Minirator MR-PRO provides a full set of analog audio signals including sine wave, pink noise, white noise, delay test signal, polarity test signal, stepped sweep and continuous sine sweep. Further, a set of wav-files, useful for system optimization, is stored in the internal flash memory. Add your own personal favorites to this set.

The signal balance, phantom power and impedance of the connected load are monitored. The integrated XLR cable tester simplifies trouble shooting tasks.

The workhorse MR2 provides all the basic standard signals at an attractive price point. Both generators are indispensable and proven tools for set-up, maintenance and monitoring of audio equipment of all types.

APPLICATION AREAS

■ Installed Sound

■ Life Safety Systems

■ Live Sound

■ Building Acoustics

■ Industrial and Aerospace

■ Quality Control

SOLUTIONS

Set-up and Maintain Audio Systems

Use the Minirator to set up PA systems and monitors. Generate pink noise and optimize the frequency response of your system with the XL2 Analyzer. Confirm that all speakers have the same polarity with the polarity signal. To optimize delay speakers, generate the delay test signal, and measure the actual acoustic delay with the XL2 Analyzer.

The Minirator signal generator and XL2 Analyzer are valuable instruments for fast troubleshooting of the audio signal path throughout the installation. The MR-PRO verifies phantom power supply of microphones, checks XLR cables and measures load impedance and balance.

Verify Speech Intelligibility of Life Safety Systems

The Minirator MR-PRO generates the STIPA test signal for system line inputs in conjunction with speech intelligibility measurements performed by the XL2 analyzer according to IEC 60268-16.
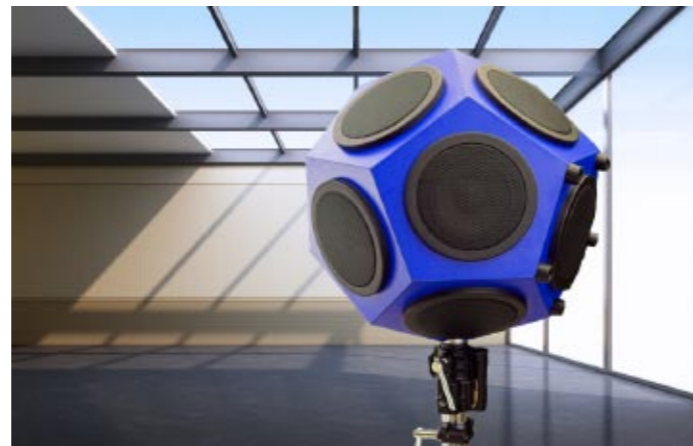
Impedance Testing of 70V/100V Distributed Systems

The MR-PRO measures the impedance and power rating of distributed speaker systems. Deviations from the expected result identify problems such as bad connections, incorrect tap connections or short circuits. Use the optional 70V/100V Protection Adapter for safe operation.

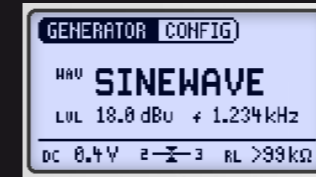## Insulation Measurement for Building Acoustics

The Minirator MR-PRO generates band-limited pink noise for sound insulation, absorption, privacy and articulation index measurements. The following test signals support your applications:
- 32 Hz - 16 kHz in individual octave bands
- 20 Hz - 20 kHz in individual third-octave bands

FUNCTIONS
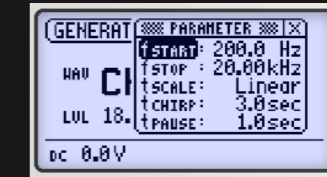## MR2 + MR-PRO

Sine Output

Minirator generates pure sine waveforms at user-selectable frequencies and amplitudes. The frequency steps interval can be set to as low as 0.1Hz.

Pink Noise, White Noise

Pink or White Noise is synthesized with high spectral density, normal amplitude distribution and infinite cycle duration.

Chirp

The chirp signal is a logarithmic or linear gliding sine sweep signal with continuous frequency increase over time for room assessments.

Polarity

Test signal for measuring the polarity of speakers and audio signals with the XL2 Audio and Acoustic Analyzer.
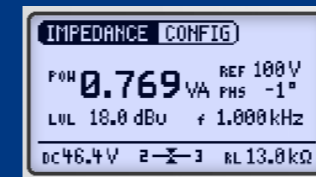
Delay

Special configured delay signal to set up delay lines in combination with the XL2 Audio and Acoustic Analyzer.

Sweep

The start/stop frequency, step and trigger times and a step resolution as fine as 1/12th octave can be adjusted.

FUNCTIONS
MR-PRO

Impedance Meter

MR-PRO measures the impedance, phase and power rating of distributed speaker systems at selectable frequencies.

User Wav-Files *.wav

The Minirator MR-PRO offers a range of additional factory test files, e.g. for speech intelligibility verification. You may store additional user test signals.

Cable Test

The MR-PRO verifies the correct XLR cable wiring, detecting all common XLR wiring faults with a precise description, such as "2-3 Crossed".

ORDERING INFORMATION

Minirator MR-PRO or MR2?

The Minirator is available as the powerful MR-PRO Audio Generator or the basic MR2.

	MR-PRO	MR2
Generator		
• Output Level max.	18 dBu	8 dBu
• Flatness	+/- 0.2 dB	+/- 0.5 dB
• Output Impedance	12.5 Ω	200 Ω
• THD+N typical	< -96 dB	< -90 dB
Measurements		
• Phantom Power	✔	-
• Impedance and Phase	✔	-
• Signal Balance	✔	-
• XLR Cable Tester	✔	-
Test Signals		
• Sine, Sweep and Chirp	✔	✔
• Pink Noise, White Noise	✔	✔
• Polarity and Delay	✔	✔
• User Wav-Files (*.wav)	✔	-
Configurations Storage	✔	-
Protective Shock Jacket	✔	-
Hand Strap, USB Cable	✔	✔
NTi Audio #	600 000 310	600 000 300

ASSOCIATED PRODUCTS

XL2 Analyzer
with M4260 Measurement Microphone

NTi Audio TalkBox
Acoustic Generator
(STIPA Reference)

TECHNICAL SPECIFICATIONS

		MR-PRO	MR2
Test Signals			
Signal Wave Forms		Sine, Stepped Sweep, Continuous Sweep Polarity Test Signal, Delay Test Signal White Noise: crest factor = 3.05 (9.7dB) Pink Noise: crest factor = 4.5 (13.1dB) Gated Pink Noise (1 - 9 seconds) Wav-File playback (MR-PRO)	
Fre-quency Setting	Range: Increment: Accuracy:	10 Hz to 20 kHz in 1 digit steps (e.g. 0.01 Hz @ 10 Hz) 0.01 %	
Wav-File Format	Sampling freq.: Resolution: Output level:	48 kHz 16 Bit, Mono/Stereo 0 dBFS = 18 dBu (sine)	-
Level Parameters			
Level Setting	Units: Increment:	dBu, dBV, V, dBFS, % in 1 digit steps (e.g. 0.1 dBu)	dBu, dBV, V in 1 digit steps (e.g. 0.1 dBu)
Output Level Ranges	Sine, Sweep White Noise Pink Noise Polarity, Delay	–80 to +18 dBu –80 to +10 dBu –80 to +8 dBu –80 to +16 dBu	–80 to +8 dBu –80 to +0 dBu –80 to –2 dBu –80 to +6 dBu
Flatness	RL ≥ 600 Ohm	±0.2 dB @ 10 Hz-12 kHz –0.1 dB / +0.3 dB @ 12 kHz - 20 kHz	±0.5 dB
Accuracy @ 1kHz		±0.2 dB	±0.5 dB
Output Impedance Balanced		12.5 Ohm (Imax = 10 mA)	200 Ohm

		MR-PRO	MR2
THD+N typical	22 Hz to 22 kHz average @ 1kHz	–96 dB @ 18 dBu (0.0016%)	–90 dB @ 8 dBu (0.0032%)
	Noise floor typ.	15 μV	25 μV
Measurement Functions			
Imped-ance	Method: Meas. range: Balanced: Unbalanced: Freq. range: Level range: Accuracy:	Absolute value Z 4 Ohm to 50 kOhm 2 Ohm to 25 kOhm 30 Hz to 10 kHz -20 to +18 dBu ±10 % or ±2 Ohm	-
Power	Reference voltage	25, 35, 50, 70.7, 100, 140, 200 V	-
Phantom Voltage	Meas. range: Accuracy:	0 to 54 V ±3 % or ±0.5 V	-
General			
USB Functionality		Firmware update Mass Storage Device	Firmware update
Flash Memory		512 MByte for storing wav-files and configurations	-
Batteries		3 x AA Alkaline dry cells or rechargeable equivalents	
Battery Life	0 dBu, no load, typ.	8 hours	14 hours

Get full specifications at www.nti-audio.com/mrpro

Accessories

Remote Cable Test Plug (MR-PRO) # 600 000 311	Minirator -40dB Adapter # 600 000 312	MR-PRO 70V/100V Protective Adapter # 600 000 313	Mains Power Adapter International # 600 000 333 Americas # 600 000 301	Ever-ready Pouch # 600 000 302	Calibration Certificate # 600 000 018

Calibration Certificate

Made in
Switzerland