

PAEZ440PRO

AudioTools440pro

Installation and Operation Manual

Version 2.10.1 - Technical evaluation

AudioTools440pro provides quick audio instruments for phones, tablets and computers. It is a bilingual installable web app (PWA) and works offline after its first online opening.

1. Installation and update

1. Open the public link in Safari, Chrome or Edge.
2. iPhone/iPad: Share > Add to Home Screen. Android/Chrome: menu > Install app. Computer: use Install when offered.
3. Open once while online so offline files can be stored.
4. Grant microphone permission only when the selected tool requests it.
5. When Update appears, press the button once and wait for the automatic reload.

Safety: always begin at a low level, avoid Bluetooth for timing measurements, and verify the result before applying delay or polarity changes to the system.

2. Tool operation

Oscillator

1. Select Tone, Pink noise, White noise or Sweep.
2. For Sweep, set start frequency, end frequency, and a duration of 5, 10, 20 or 30 seconds.
3. Start near -30 dB and raise the level slowly. Stop the signal before changing connections.

RTA / FFT

1. Select the audio input and grant microphone permission.
2. Choose RTA or FFT, resolution, and sensitivity.
3. A phone reading is useful for comparison; it does not replace a calibrated microphone.

Sound Level Meter

1. Select A or C weighting. Readings use energy averaging with 125 ms Fast or 1 s Slow response.
2. Calibrate beside a professional meter at a known level.
3. Select the range with the wheel. The analog scale reads -13 to +3 dB around the selected range.

Training

1. Play the tone and select the frequency you hear.
2. Use headphones or monitors at a moderate level.
3. Compare accuracy between sessions, not loudness.

3. Impulse: polarity and delay

Impulse compares the reference signal with the received acoustic signal. Both VU meters must show usable levels before a reading is saved or accepted.

Mobile mode - Internal REF

1. Connect the phone or iPad output to the console with a cable and use the device microphone as MEAS.
2. REF must jump on each top and fall between impulses; MEAS shows the actual microphone level.
3. Adjust REF sensitivity and MIC sensitivity independently until both VU meters show Good and remain within 12 dB.
4. Total delay includes device latency. Press Save zero to compensate it.
5. Without moving the phone, turn off the first speaker, enable the second, and read relative delay, distance, and polarity.

Interface mode - 2 channels

1. Select the interface under Measurement input.
2. Connect the MEAS microphone to one channel and the electrical signal return to another REF channel on the same interface.
3. Select MIC channel and REF channel. Do not assign the same channel to both.
4. Set physical gains first for a clean signal; use REF and MIC sensitivity to match the VU indications.
5. The reading uses the first direct arrival, displays polarity and equivalent distance, and can save up to 20 results.

VU operating range

Low	Below -45 dBFS	Raise signal or gain.
Good	-45 to -3 dBFS	Keep REF and MIC within 12 dB.
Too high	Above -3 dBFS	Lower level to avoid clipping.

If no reading appears, confirm that REF and MIC move on every impulse and remain green. Equivalent distance includes delay after the REF point, including DSP and loudspeaker processing, so it may differ from a tape measure.

4. Final test checklist

- [] Open AudioTools440pro and confirm version 2.10.1.
- [] Switch ES/EN with the vintage lever.
- [] Test Sweep with different start, end, and duration values.
- [] In Impulse, confirm REF and MIC jump on every top and their sensitivity controls are independent.
- [] Test Mobile: measure, Save zero, and compare a second speaker.
- [] If an interface is available, test two physical channels and swap MIC/REF.
- [] Record device, browser, dBFS levels, and result if anything fails.

Technical report

Include device, operating system, browser, Mobile or Interface mode, selected input, MIC/REF channels, both VU levels, confidence, expected result, actual result, and a complete screenshot.

Device / Dispositivo	
Browser / Navegador	
Mode and levels / Modo y niveles	
Result / Resultado	