



MITUNE

Acoustic Measurement Software

SOFTWARE MANUAL

VITUNE

More than simply a measurement tool, ViTUNE is designed to help both audio professionals and hi-fi enthusiasts tune their rooms without requiring specialist training. (Regies, Recording Rooms, Hi Fi, home theaters, home cinemas, etc)

Based on a simple “traffic light” indication system, room measurement is carried out in four easy steps via the software’s intuitive interface.

As well as measuring the room, ViTUNE also indicates how much acoustic treatment should be used to improve the overall room acoustic. Two choices of product are offered for fixing reverberation time problems and controlling first reflections. It also shows the exact frequency to which Vari Bass should be tuned!

ViTUNE is programmed to classify early reflections and reverberation time based on the IEC Acoustic Norm. The red light means bad behavior, yellow means some reflection failure, and green means the room is up to IEC standard.

For customers with more experience of acoustic analysis, the software also includes an advanced section showing results for full frequency response, smoothed frequency, impulse response, reverb time and energy time curve.

1. Equipment

1.1 Sound Source

The IEC norm recommends an omni-directional sound source that can provide decay curves with a sufficient dynamic range, yet control the level of background noise. You can also achieve good readings with loudspeakers, as long as they are able to produce a reasonable level of sound pressure in your listening or mixing rooms. It is important that the loudspeakers are as linear as possible, regarding frequency response.

The signal fed into the loudspeaker should only derive from the sound card setup, using ViTUNE Software as a signal generator. In order to guarantee accurate readings, all other signals in the room should be controlled (ex. pink noise).

The room’s energy excitation needs to be sufficient for the sound field to have enough decay energy.

1.2 Microphone

Linear response and omni-directional microphones are indicated to detect the room’s sound pressure. Bearing in mind that omni-directional condenser microphones can also be used, they have to be as linear as possible, regarding frequency response.

1.3 Sound Card

We strongly recommend a sound card with a good noise signal ratio. ViTUNE can detect if the sound card you are using, meets the minimum requirements, using the same traffic light indications.

2 Measurement Conditions

For efficient measurements, the room should maintain its usual day-to day disposition.

In cases where the room has adjustable components for variable acoustic conditions, it may be relevant to carry out separate measurements with these components in each of their normal settings.

3 Measurement procedures

3.1 Hardware Configuration

PC, Sound Card, microphone and source configuration.

- a) The sound card should be connected to the PC
- b) Microphone should be connected to the sound card input.
- c) Loudspeaker or sound system should be connected to the sound card output.



3.2 ViTUNE configuration

1 - Sound Card configuration, (sound card selection, compatible with ASIO drive)



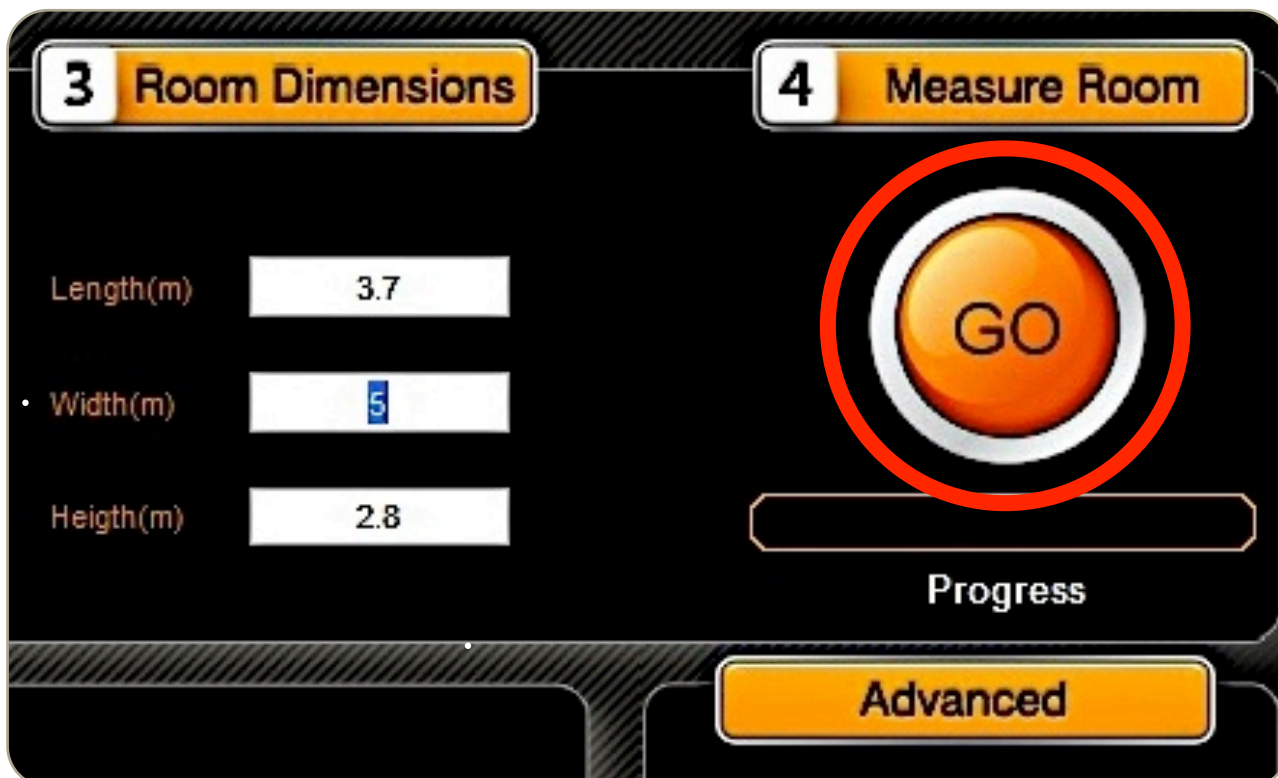
2 - Check the signal level (generated by the software); the microphone level is displayed.



3 - Introduce the room's dimensions to calculate all suggested acoustic treatment.



4 - Click on the button Go.



4 Room type - Measurement

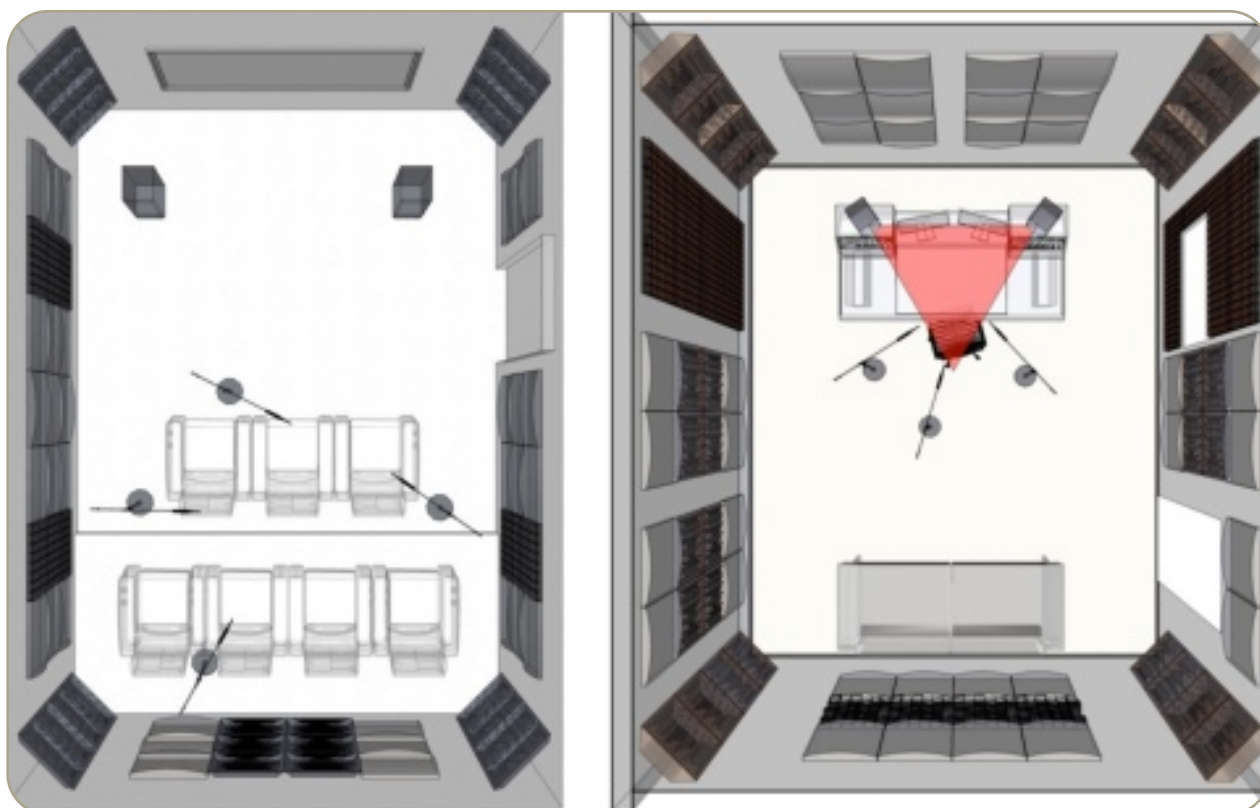
4.1 Listening and Mixing Rooms

Source

As mentioned above, the sound source loudspeaker should be omni-directional. However we believe that the monitorization should be carried out using your current equipment. It is important to measure the room with a typical sound source configuration. Loudspeaker position can change the room's behavior at low frequencies, and different room excitation can change the energy at different frequency modes.

Microphone

The microphone should be placed around the sweet spot position. For these types of rooms, the listening position is the most important area.



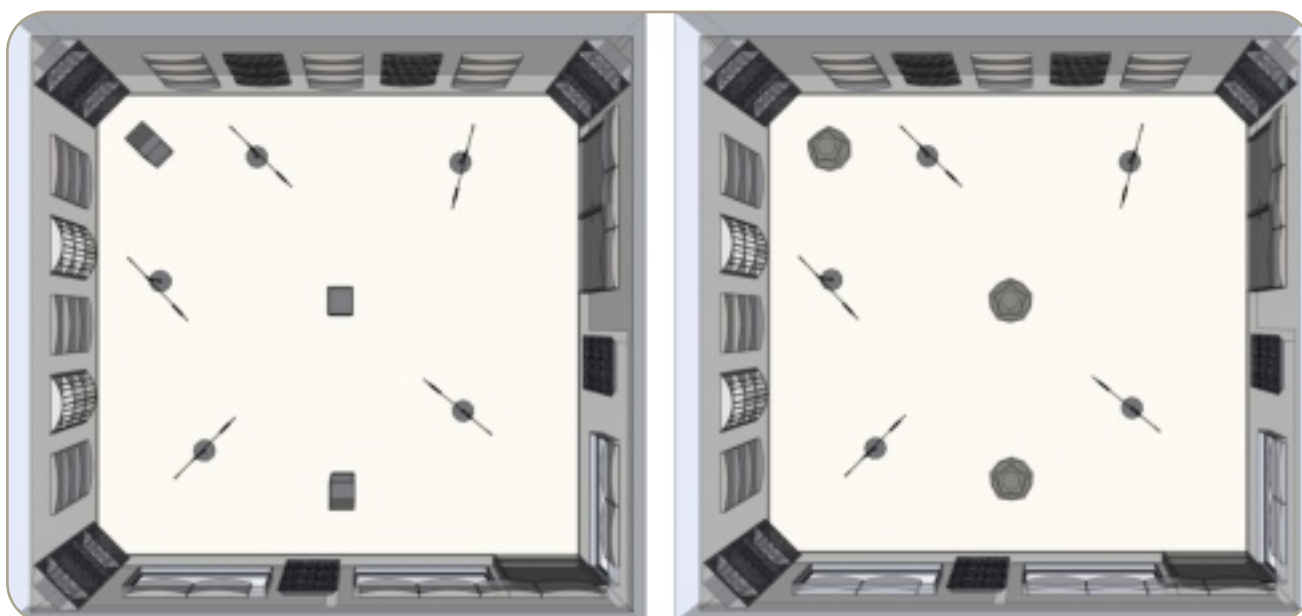
5.2 Recording and Practice Rooms

Source

Again, all measurements should be taken from a flat and omni-directional frequency response loudspeaker, but this doesn't mean you need to change the ones you already have. You can achieve reliable measurements with the use of studio monitors or good reference loudspeakers.

Microphone

The microphone should be strategically placed in various areas of the room to achieve a sensible average of measurements, respecting the minimum distance of 2 meters from the loudspeakers.



Technical Support

For further queries related to ViTUNE software contact us by e-mail vitone@vicoustic.com