

# Norsonic Nor145 & Nor150

Reference Tone

Used to reference the correct audio playback level for the listener.



**CAMPBELL ASSOCIATES**  
SOUND, VIBRATION & AIR SOLUTIONS



# Reference Tone

The reference tone is a sound recording made on the device by pressing the CAL button. It's an internal sound linked to the internal gain and input sensitivity of the microphone.



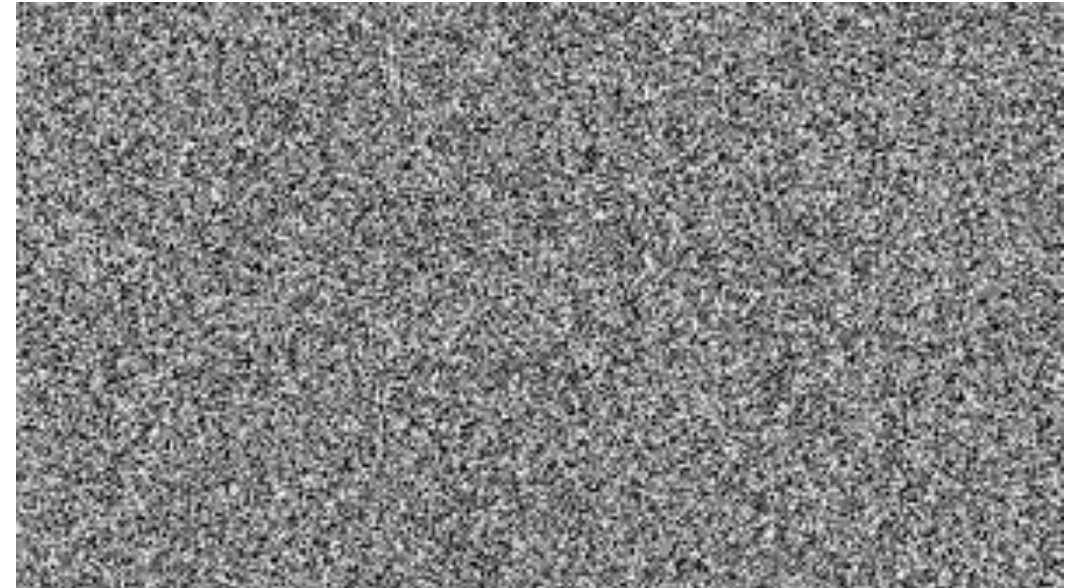
The sound recording has a continuous pink noise sound level of **around 70dB** which can be played back through the speakers or headphones as the reference level.

The sound recording when played back is much like the sound you hear when trying to tune your radio to the correct frequency. This noise will be played back through the speakers which we will reference our human ear and sound meter to.

**Pink noise is  
like the  
sound of the  
radio tuning.**

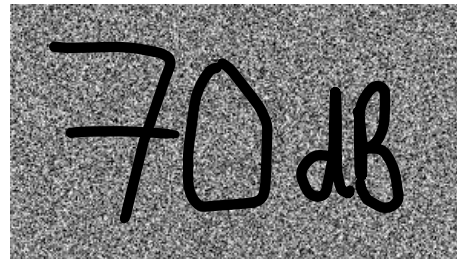


# Pink Noise



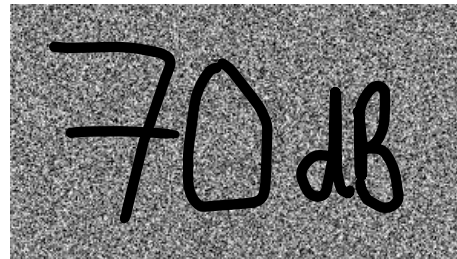


Adjust the volume of speaker until 70dB is reached at the listening point.





Adjust the volume of speaker until 70dB is reached at the listening point.



# Pink Noise





**Adjusting the sound level of the speaker to the reference tone (pink noise) helps us perceive how loud or quiet a recording is in the context of the complaint.**

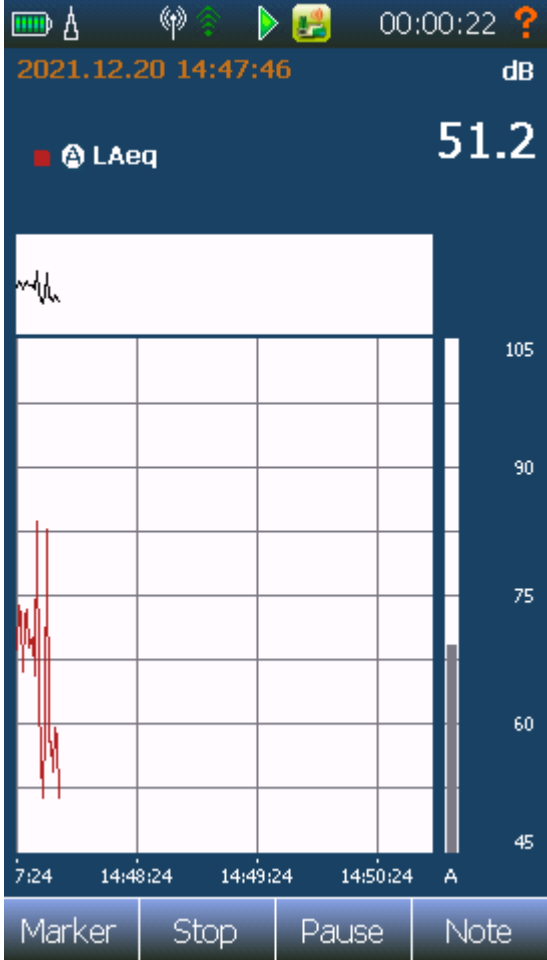


# The 'Settings'



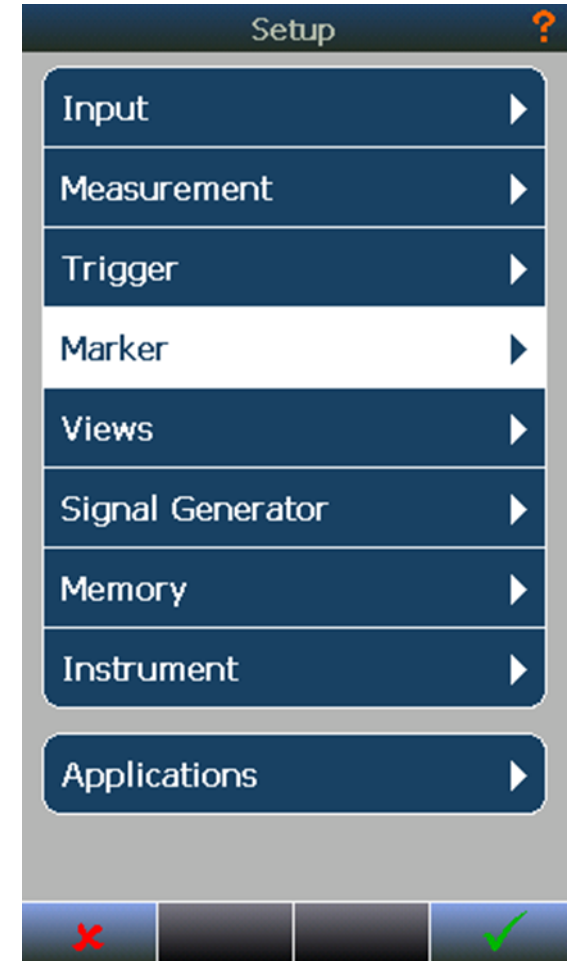
Load in your NNR app

Press **SETUP**



# The 'Settings'

Go to '**Marker**'

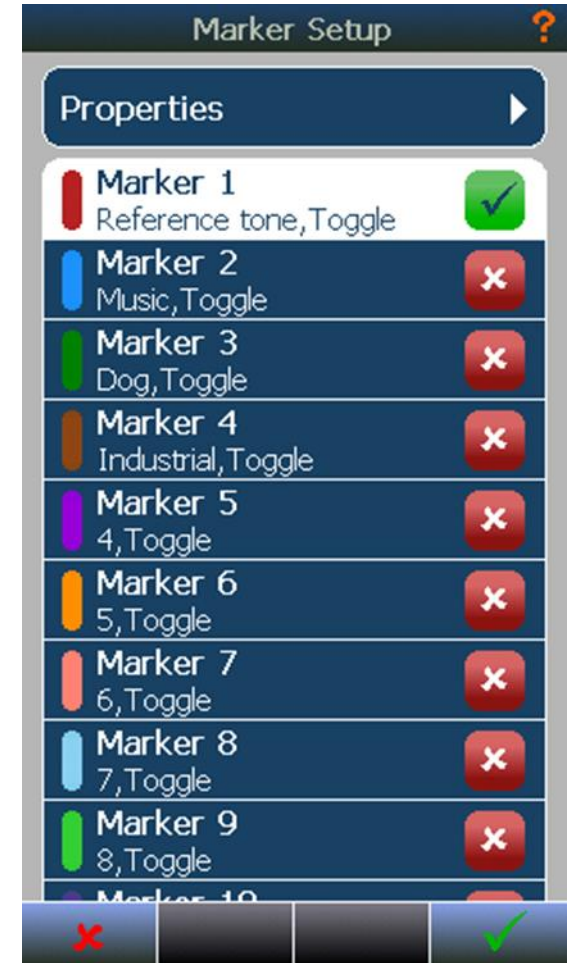




# The 'Settings'

Turn **ON** 'Marker 1'  
GREEN ✓

Edit 'Marker 1'



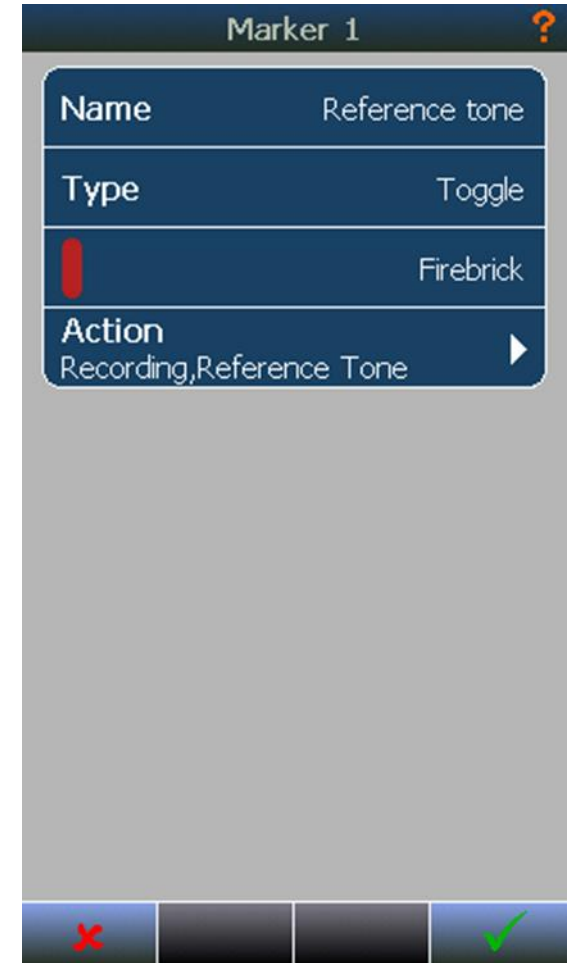
# The 'Settings'

Name: **Reference Tone**

Type: **Toggle**

Colour: **Firebrick Red**

Action: **Recording & Reference Tone**

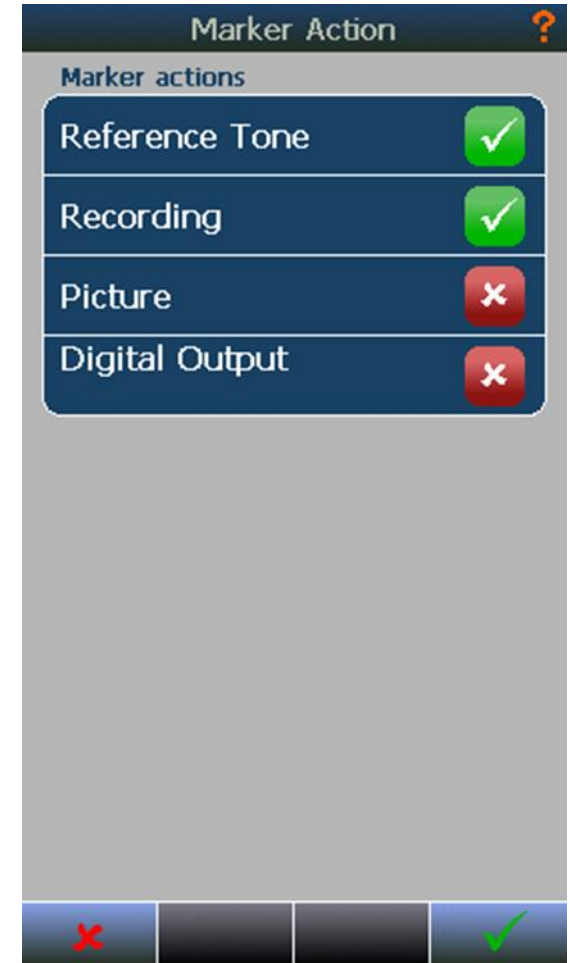
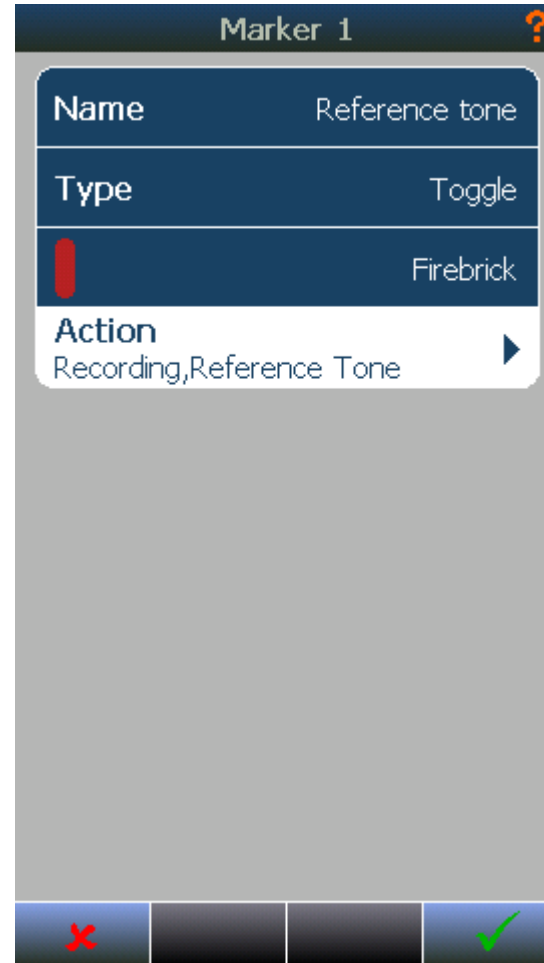


# The 'Settings'

Reference Tone  
Recording

GREEN ✓

GREEN ✓



# The 'Settings'

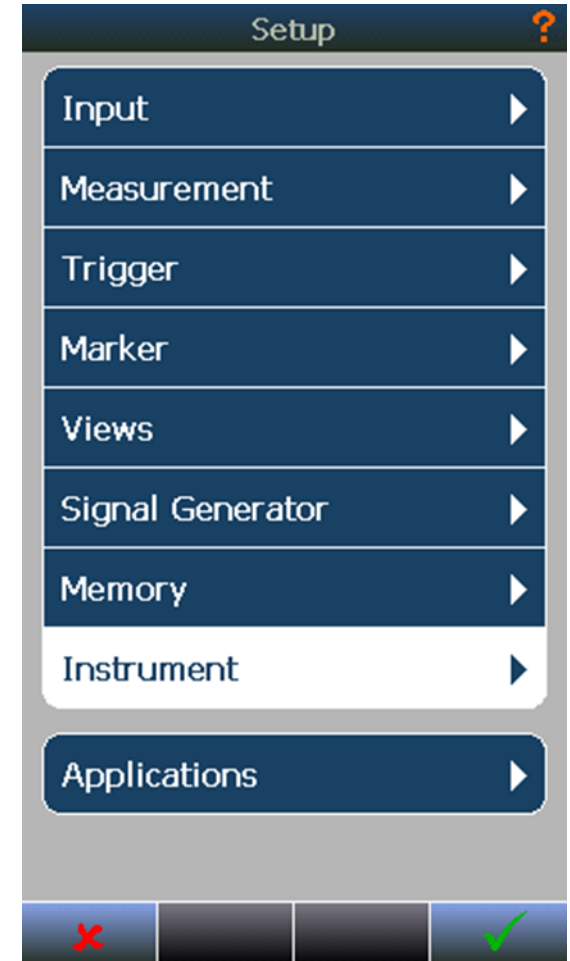
Go back to the SETUP screen.

PRESS THE GREEN ✓



# The 'Settings'

Go to 'Instrument'



# The 'Settings'

Go to 'Reference Tone'



# The 'Settings'

Reference. Tone: **ON**

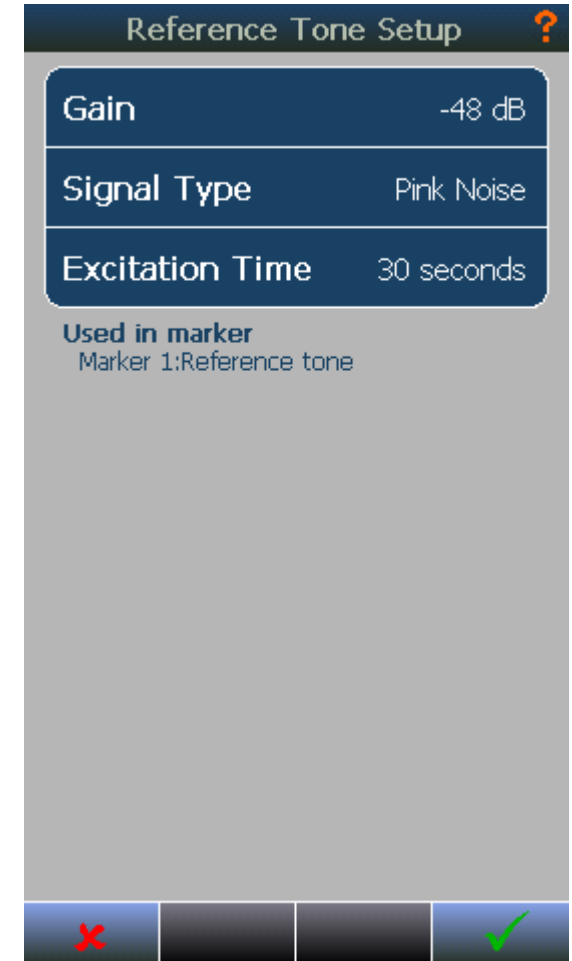
Gain volume: **-48dB**

Type of noise: **Pink Noise**

Excitation. Time: **30 seconds**

Note: Used in marker

**Marker 1: should be labelled 'reference tone'.**



# The 'Settings'

Go back to the MEASUREMENT screen.

PRESS THE GREEN ✓

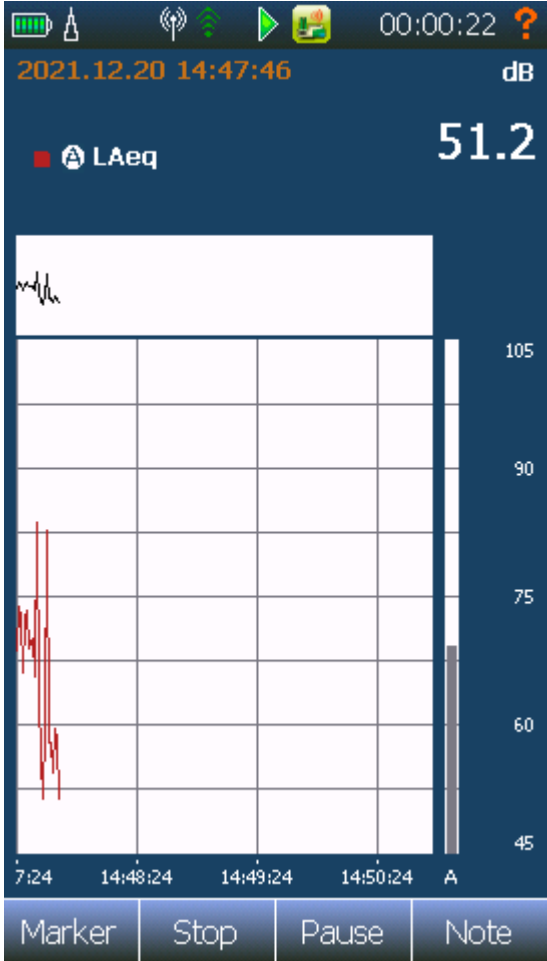




# The 'Measurement'

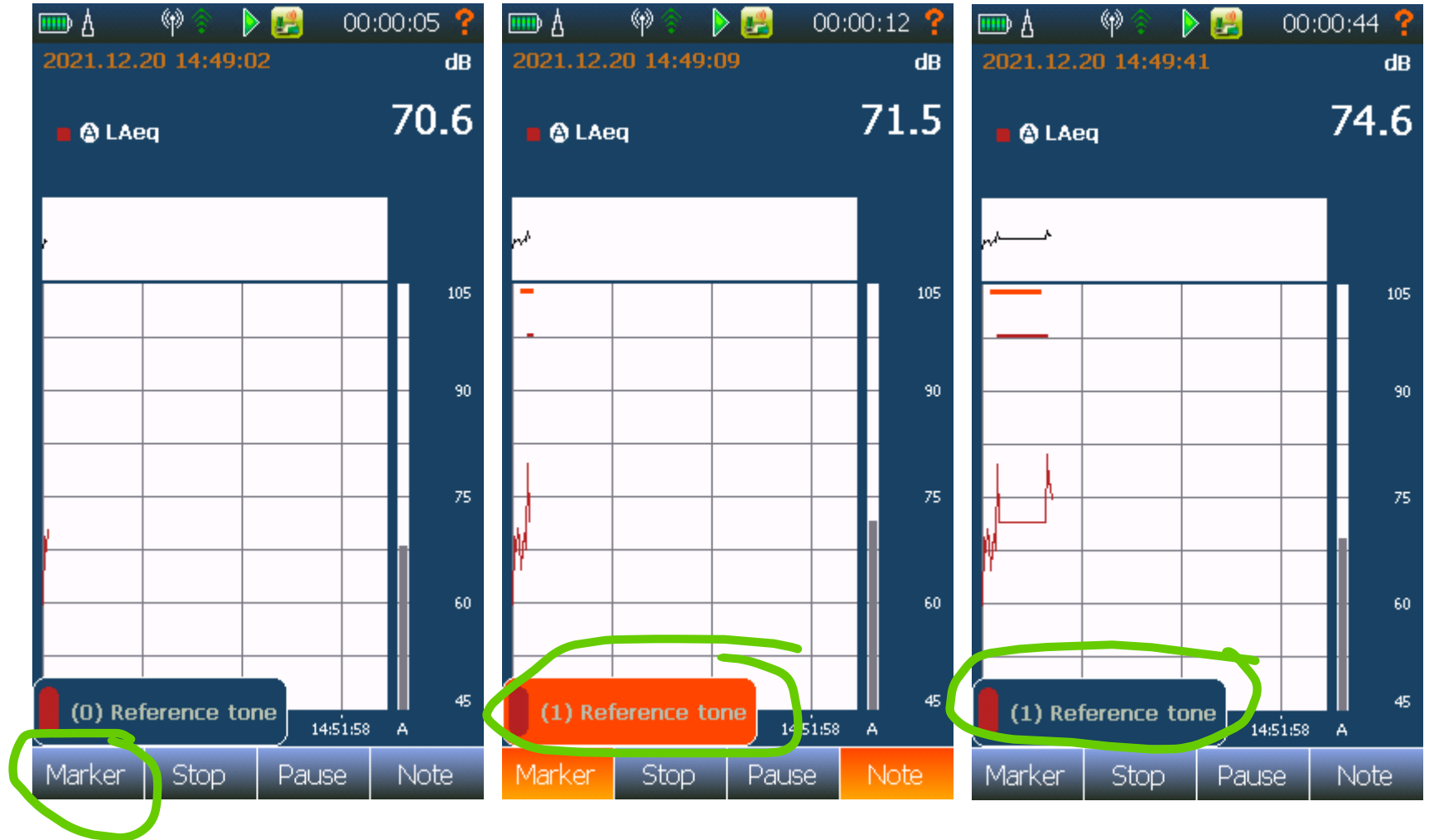


Press the **START** key & start your measurement.



# The 'Measurement'

- Tap the **Marker Button**
- Tap the **Reference Tone**
- Wait 30 seconds



# The 'Measurement'

Download the measurement to

## NorReview



# The 'Playback in NorReview'

Find the audio recording reference tone (pink noise) and play it back through the speakers.

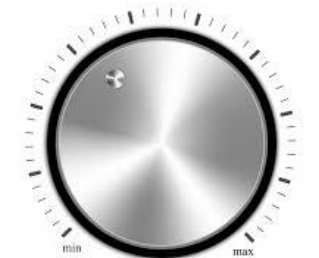
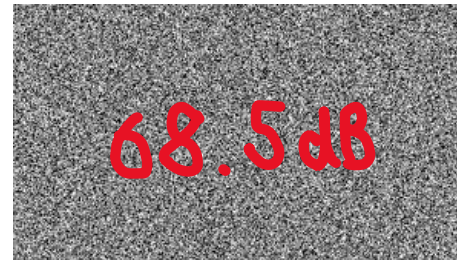
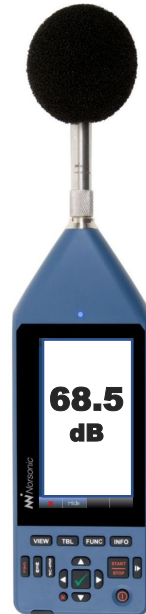
Note the output level.

**It might not be exactly 70dB.**



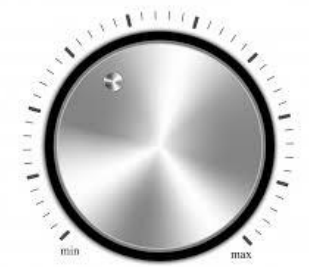
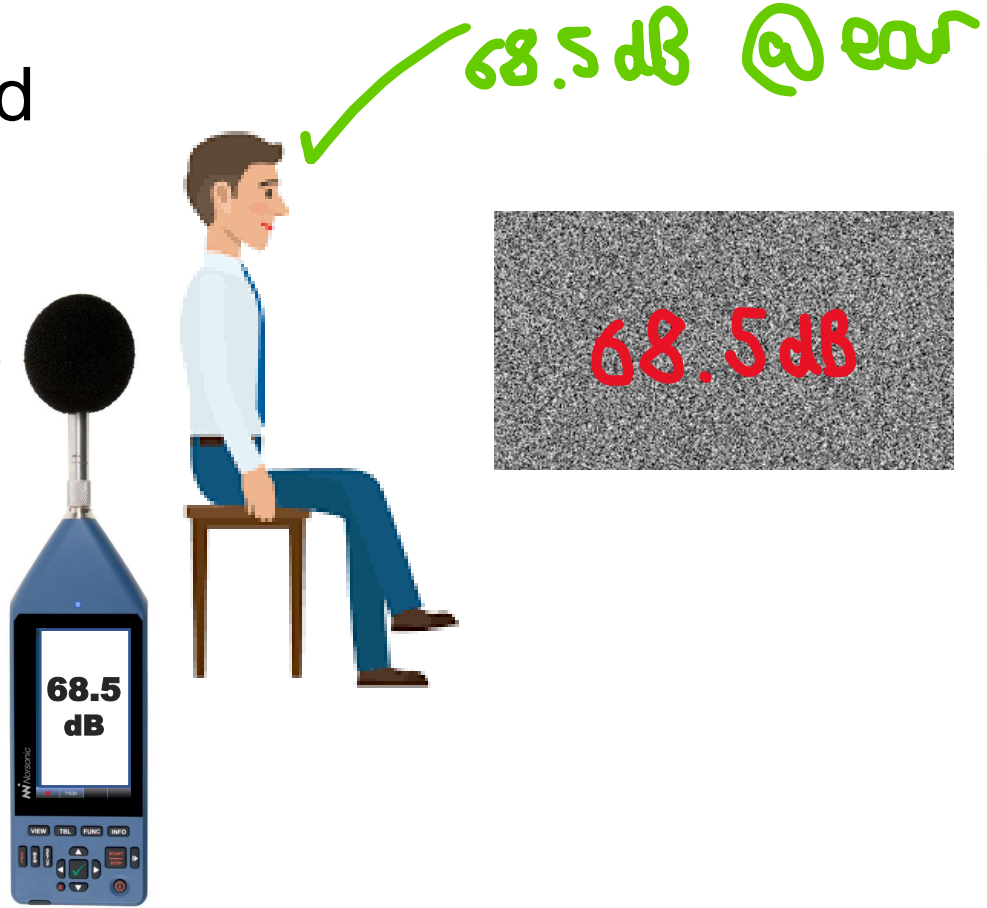
# The 'Output Level'

Place your sound level meter at the listening point.



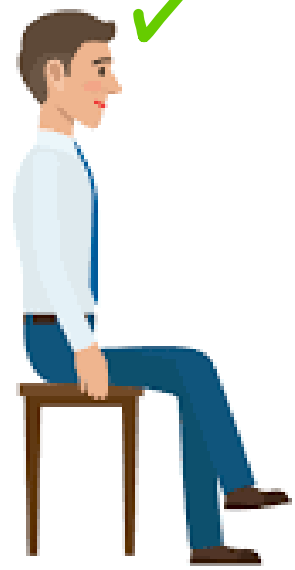
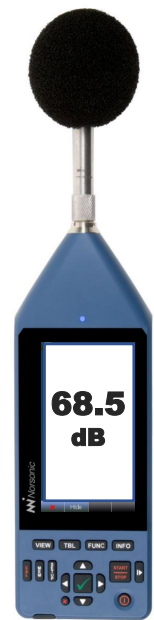
# The 'Playback'

Playback the sound and adjust the speaker volume until the sound meter reads the output level you noted.



# The 'Playback'

The sound level meter might not read exactly 68.5dB, but should be as close as reasonably possible without any external influence (background noise).



68.5 dB @ ear

