

## Instruction

1. Connect the PhotoPlug to the headphone-jack of your smartphone and start the Shutter-Speed-App.



2. Open/remove the camera back and point the camera with the lens towards a bright lightsource. LED or incandescent light bulbs work best.  
**Fluorescent lamps are unsuitable, because they are flickering!** Position the PhotoPlug as near as possible behind the shutter/curtain.
3. Choose „Take a Measurement“ and start the record by tapping on the aperture-symbol. Release the shutter as soon as the recording has started. Stop the record by tapping again on the aperture symbol. Otherwise the record will end automatically after 3 seconds.

4. The waveform of your measurement is displayed on the screen. Zoom into the signal with the „two-finger-gesture“, in order to magnify the peaks.



Shutter speed which is set on the camera (Target value)  
**Tap to change**

Measured shutter speed

Deviation from the target value in thirds of an f-stop

5. Position the two blue sliders between the **beginning** of the first and **beginning** of the second peak. Make sure, that you have set the correct target-value.
6. Tap on „Save Measurement“ in order to save the data. You have to enter a camera into the “Camera Manager” **previously**.

## Troubleshooting

Error	Cause/Solution
App is measuring acoustic even if PhotoPlug is attached	PhotoPlug is not properly connected to the headphone jack. Remove all cases/covers from your device and try again.
The peaks are blurred, „roundish” and hard to recognize	Light source is too weak, or there is too much flare, for example due to ambient light.
The calculated deviation from the target value seems unrealistic	Make sure to set the right target value.

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