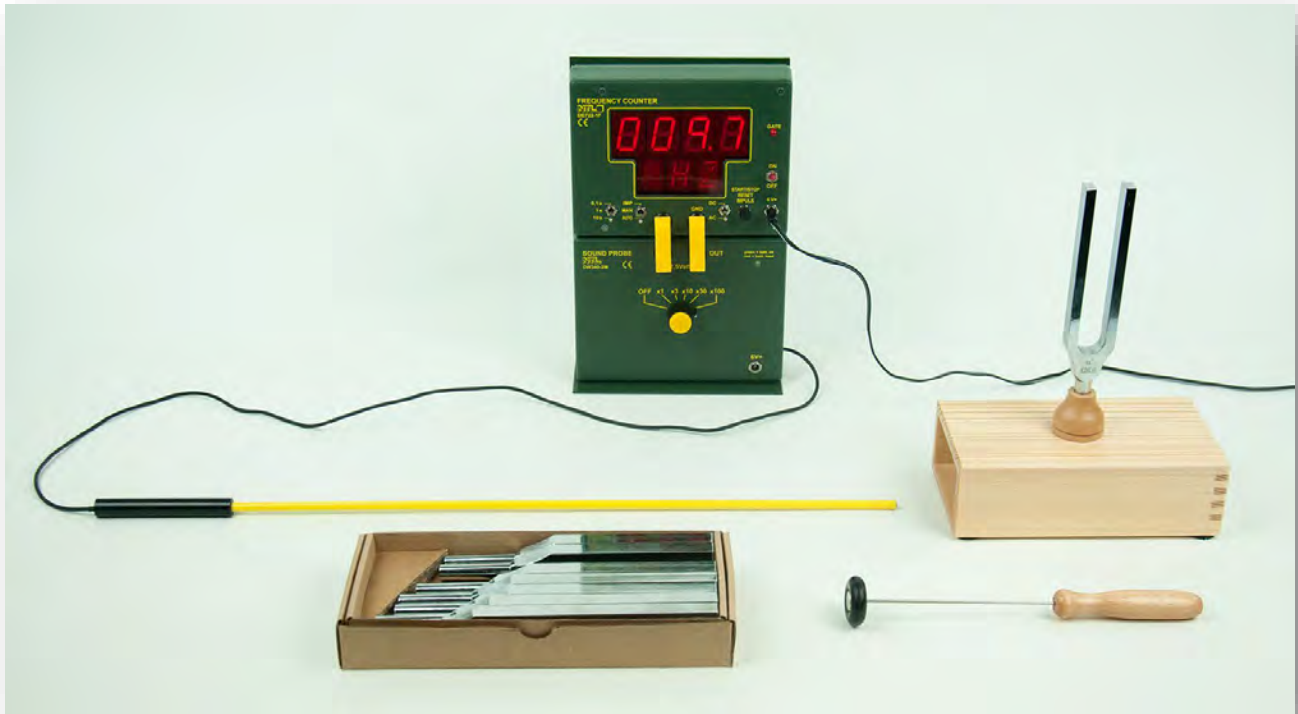


# MEASURING FREQUENCY USING THE COUNTER

AKD 01.12a



## **Material:**

Item Code	Qty	Description
DW101-1A	1	Tuning forks, set of 8, for resonance box
DW100-1A	1	Tuning fork, 440 Hz, with resonance box
DW110-1A	1	Tuning fork mallet
P3120-4A	1	L-shaped assembly platform
DW340-2M	1	Measuring microphone "inno"
DE722-1F	1	Frequency counter "inno"
DG500-5A	2	Jumper plugs MBC, yellow

Additionally recommended:

P3120-6N	1	Mains transformer 6V/500 mA DC
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# MEASURING FREQUENCY USING THE COUNTER

AKD 01.12a

## Goal:

How can we determine the frequency of a tuning fork?

## Setup:

The measuring microphone and the frequency counter are attached to the L-shaped assembly platform.

The two devices are connected with two bridge plugs.

The tuning fork with 520 Hz is firmly plugged into the resonance box.

The measuring microphone is inserted into the resonance box until its tip is approximately centered in the interior of the box. It is recommended that the measuring microphone be attached in this position (e.g. with a block).

The measuring microphone is switched to the "100 x" position (and thus also switched on).

The frequency counter is switched on (10) and set as follows:

Measuring method (4): AUTO (thereby the count time (3) is deactivated)

Input signal (7): AC

### Attention!

Particular care should be taken to ensure that during the experiment  
**the room is as quiet as possible**  
as the measurement microphone picks up ALL ambient noise, which of course negatively influences the frequency counting!



## Experiment:

The resonance box is held with one hand so that it remains in the same position.

The tuning fork is now struck at 3-second intervals with the striking hammer.

After about 5 - 15 beats (approx. 15 - 60 seconds), the frequency counter display should remain fairly stable.

## Conclusion:

As soon as the value of the frequency display has "settled", the displayed value of the frequency should match that of the tuning fork. The tuning forks have the frequency printed to them.

## Note:

Especially with the tuning forks with low frequencies (below 300 Hz) the measured frequency can deviate a little more, but the "usual tolerance" should be only a few hertz.