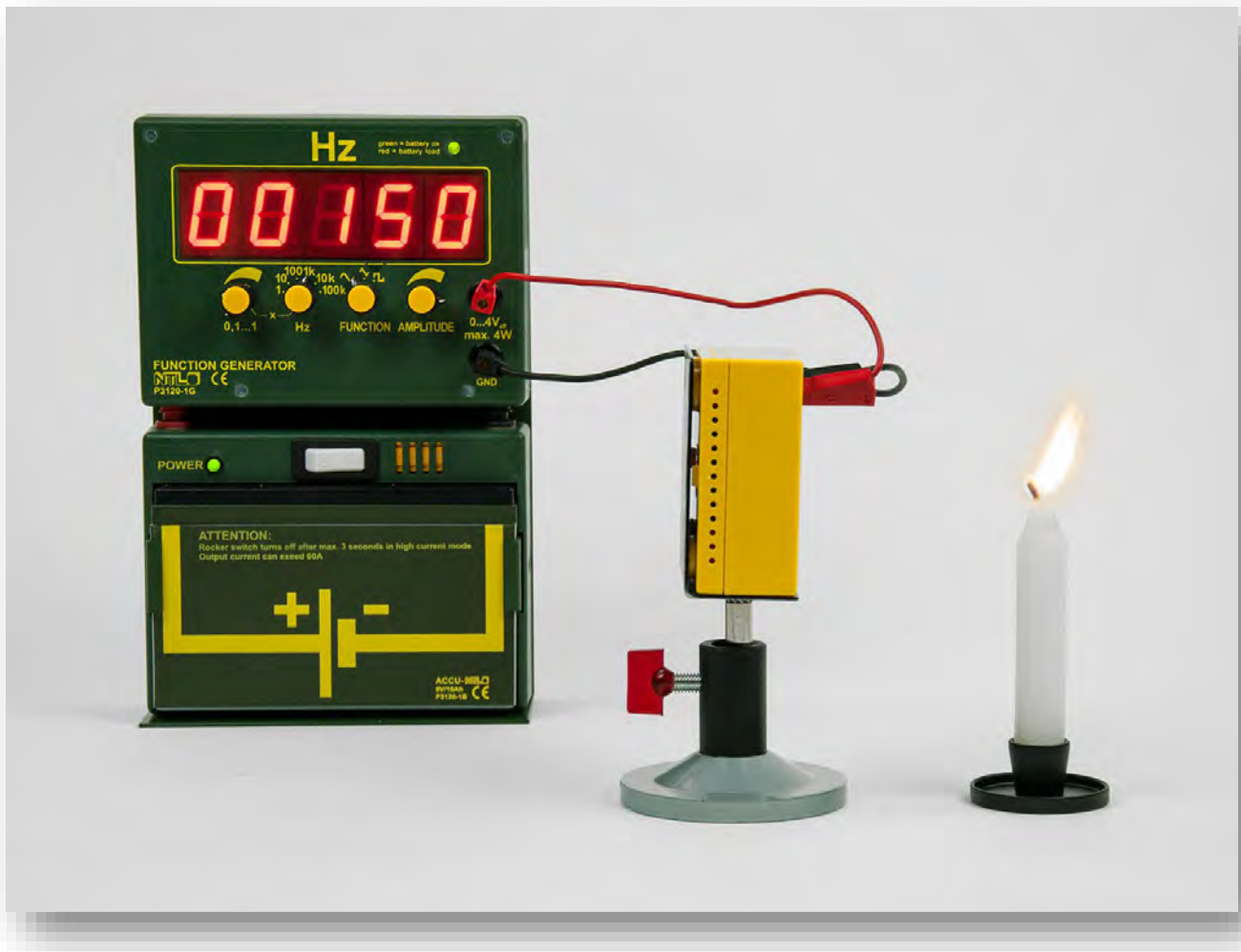


PROPAGATION OF SOUND WAVES IN AIR

AKD 02.03



Material:

Item Code	Qty	Description
P3120-1G	1	Function generator with digital display "inno"
P3120-1B	1	Rechargeable battery, "inno", 6V/10 Ah
P3120-4A	1	L-shaped assembly platform
DS085-1R	1	Round base with stand tube, uni
MB240-1LS	1	MBC Loudspeaker with nose
DS617-1H	1	Holder for MBCs "compact"
DL101-2K	1	Candles, set of 5
DL101-1C	1	Candleholder with spike, on stem
	2	Connecting lead

PROPAGATION OF SOUND WAVES IN AIR

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Goal:

How can we detect how sound waves propagate in the air?

Setup:

The "inno" function generator is plugged together with the battery and this unit is attached to the installation plate.

The loudspeaker is fixed in the stand base with the component holder.

The loudspeaker is connected to the function generator with two cables.

Settings on the function generator:	Frequency fine:	very low (left)
	Frequency rough:	1000 Hz
	Waveform:	Sinus
	Amplitude:	very low (left)

A candle is placed in the candle holder and positioned so that the wick of the candle is centered about 3 cm in front of the speaker. If necessary, place the candle elevated.

Experiment:

We turn on the function generator and set a frequency of about 60 Hz.

The amplitude (volume) is increased to a maximum, and the frequency is slowly increased.

We observe the candle flame.

Result:

The candle begins to flicker at a certain frequency (about 70 - 250 Hz).

If the volume is sufficient, the flame can even be blown out. This "sufficient volume" depends on the power of the function generator.

Note:

The larger the candle flame, the more impressive the experimental result. So use as large a candle as possible and not a tea light!