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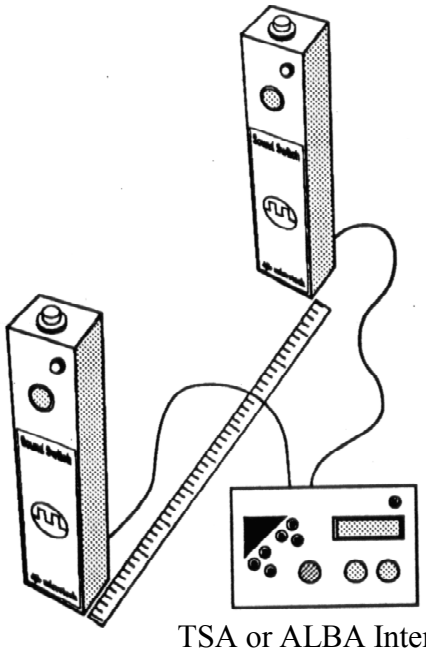
Technical Notes
Sound Switch



TSA or ALBA Interface

The switch on the top of your Sound Switch is the reset switch.
The knob on the rear of the unit is for adjusting the sensitivity.
Connect the DIN plug to either DIN socket at the rear of TSA/ALBA.

Adjusting the Sensitivity

Note that your Sound Switch has been set for maximum sensitivity at the factory.
To adjust the sensitivity look directly at the knob at the rear of the unit and turn it fully anticlockwise. Now turn the knob about 30° clockwise and press the reset switch. Measure the speed of sound as outlined below or in the ALBA software. If you get spurious results nudge the sensitivity control clockwise and try again. Do this simultaneously on both units. Typically sound should take about 2.91 ms to travel one metre. Turning the control too far clockwise will produce times which are too large because the sound switch is not at its most sensitive.

Measuring the Speed of Sound in Air using TSA

- Connect the two sound switches to TSA/ALBA. and adjust to maximum sensitivity.
- Place the sound switches one metre apart.
- Select the Fast Timer mode on TSA or use the ALBA Application'Speed of Sound'.
- Reset both Sound Switches - the LEDs on the Sound switches are off.
- Press GO if using TSA or follow the instructions in the Notes section of the software.
- Using an empty bottle and a plastic handled screw driver make a sharp tap.
- The time to travel one metre is displayed on TSA.
- Repeat several times and take an average.

Alternatively you can set the debounce delay on TSA to zero then select the Speed mode. Note that TSA takes several seconds to calculate and display the result using this method.
A sharp edged fast rising pulse is essential for consistent results.

The speed of sound is approximately 343 m/s at 20 °C

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