

Classroom Reverb Survey Kit for measuring reverberation time

The Classroom Reverb Survey Kit is a low cost and easily portable reverberation time measurement system suitable for typical classrooms and other rooms.

The kit is not suitable for use in large spaces such as halls and gymnasiums.

There are three options for assessing classroom reverberation time:

1) Theoretical calculation:

Purely mathematical from Sabine formula with no acoustic measurement taken. The Sabine formula is based upon a rectangular empty room with known surface absorption coefficients - *This method is very time consuming and highly prone to error in a furnished room as it requires many careful size measurements and multiple subsequent calculations. This method is used at the building design stage.*

2) Quick assessment survey:

Classroom Reverb Survey Kit – at less than £ 500 the kit is affordable and easy to use. The kit can measure reverberation – accuracy around $\pm 10\%$ (tbc) with correction for room volume. The kit also provides a useful sound level meter which can measure 41-115dB SPL (A).

3) Accurate measurement of parameters:

Room Acoustics Measurement Package – at around £ 5000. This package can accurately measure reverberation time, ambient noise and make sound level measurement to meet BB93 requirements including data logging, spectrum analysis and speech transmission index.

Connevens will be offering this package from July 2005.

Using the Classroom Reverb Survey Kit, you can quickly and easily obtain a measurement to indicate whether the room does or does not meet the requirements of BB93 i.e. whether a full evaluation with more accurate equipment is required.

The Classroom Reverb Survey kit is sufficiently affordable that an education authority would be able to have a number of these kits generally available. A Room Acoustics Measurement Package would be required to give accurate measurements for borderline cases, either as a central resource or by hire.



Survey kit method: The clappers are used to make a loud, short bang and the blue AC meter gives a reverberation time reading which can be noted down. This is done several times around the room and finally the figures are averaged and adjusted in conjunction with the correction factors which are included in the instruction booklet.

The measured result from the Classroom Reverb Survey Kit must be adjusted to convert it to the required BB93 value. Accuracy of the result is limited by the test method. Inherent accuracy is better at longer reverberation times, but the method can be difficult to use for reverberation times exceeding 1 second. Accuracy is improved significantly by correcting the measured result as a function of room volume. Uncorrected accuracy should be taken as $\pm 20\%$ but corrected accuracy is likely to be better than $\pm 10\%$ (tbc). If the dimensions of the room are not known, it is still worth estimating the volume and applying the correction factor.

Classroom Reverb Survey Kit

Consists of:

- Carry case,
- AC meter plus 4 x AAA batteries,
- Pair of wooden clapper boards,
- Ear defenders,
- Sample cleaning wipes,
- 3 x 'guest' ear plugs,
- Instruction booklet.

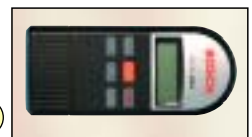
85CRSK1
£ 430.00 each



Ultrasonic/laser measure

Compact electronic measuring device for checking room sizes and calculating volume. Range 0.6 to 20m. Typical accuracy $\pm 0.5\%$

85B20 £ 61.00 each



1/2" mic Acoustic Calibrator

Cirrus CR511E acoustic calibrator for recalibrating blue AC meter (SLM function only). Calibration not required for reverb measurement. *Please note: any standard 1/2" 94dB SPL calibrator should suit.*

40SCR511E £ 235.00 each

