

Factory Instrument Calibration

Acoustic instrument calibration and periodic verification

What is factory calibration and periodic verification?

Factory calibration, often referred to as periodic verification, is the process of assessing, testing and correcting the accuracy of scientific measurement instruments. It is carried out in specialist laboratories with highly advanced technology and is required to be undertaken at least every two years by most international health and safety regulations.

What's the difference between field and factory calibration?

All Cirrus Research equipment is supplied with a handheld sound calibrator, which is used for "field calibration". This is not the same as factory calibration or periodic verification.

It is best practice to carry out field calibration on a regular basis. This enables the instrument to account for any minor discrepancies in the microphone's accuracy that are caused by everyday use, and general wear and tear.

Factory calibration runs the instrument through a rigorous process of tests and checks far more advanced than those conducted with an acoustic calibrator. More than 100 parameters are tested, including frequency weightings, instrument linearity, stability, harmonic distortion, and relative attenuation.

Field calibration alone is insufficient to meet the demands of health and safety legislation. Although sound level meters and other measurement instruments need only be factory calibrated every two years, the regulations state that sound calibrators should be calibrated annually.

Why calibrate with Cirrus Research?

- Peace of mind knowing your instrument is worked on by our expert team of acoustic calibration specialists.
- Protect your investment against all accidental damage by extending your initial one-year Cirrus Research warranty, up to 15 years.
- Receive your equipment back in full working order and ready to deploy, as any adjustments or repairs needed are made where possible, at no extra cost.
- Choose the level of calibration that is right for you: standard traceable or UKAS-accredited.



UKAS-accredited calibration

Cirrus Research is a UKAS-accredited acoustic calibration laboratory (no. 10148), capable of calibrating sound level meters, acoustic calibrators and octave band filters to the highest possible standards.

UKAS-accredited calibration provides you with additional reassurance that your instruments are accurate, reliable and in full working order. All calibration work carried out in our dedicated UKAS

laboratory is traceable to an internationally recognised metrological institute, meaning that should your data ever be required for litigation, it will stand up to scrutiny.

As per the International Laboratory Accreditation Cooperation agreement, UKAS-accredited calibration is recognised internationally.

Applicable Standards

Sound level meters

IEC 61672-3: 2006
IEC 61672-3: 2013
IEC 60651
BS 7580

Noise dosimeters

IEC 61252: 1995

Acoustic calibrators

IEC 60942: 2003
IEC 60942: 2017

Octave band filters

IEC 61260: 1995
BS EN 61260: 1996
IEC 61260-3: 2016

Microphones

BS EN 61094-6: 2005

Vibration meters

ISO 8041



10148

What can Cirrus Research calibrate?

Standard traceable	Cirrus Research	Brüel & Kjær	Norsonic	Svantek	Rion	Laarson Davis	Castle Group	Pulsar Instruments	Casella	Ono Sokki	3M/Quest	Other
Sound level meters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	If manufactured to IEC 61672 or IEC 60651
Noise dosimeters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	If manufactured to IEC 61252
Acoustic calibrators	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	If manufactured to IEC 60942
Microphones	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IEC 61094
Octave band filters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	If manufactured to IEC 61260
Vibration Meters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	If manufactured to ISO 8041
UKAS-accredited	Cirrus Research	Brüel & Kjær	Norsonic	Svantek	Rion	Laarson Davis	Castle Group	Pulsar Instruments	Casella	Ono Sokki	3M/Quest	Other
Sound level meters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	If manufactured to IEC 61672
Acoustic calibrators	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	If manufactured to IEC 60942
Octave band filters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	If manufactured to IEC 61260