

CEL-630 Series Sound Level Meters



Applications

Occupational Noise Measurement

- Workplace noise assessments according to ISO9612
- Selection of hearing protection
- Calculation of noise exposure
- Ensuring compliance with workplace noise legislation

Environmental Noise Measurement

- Boundary noise assessments
- Noise nuisance complaints
- Measurements according to ISO1996, BS4142
- Construction section 61 notices

Designed to make occupational and environmental noise measurements with confidence!

The CEL-630 is an easy to use instrument designed to undertake the measurement requirements of workplace and environmental noise. It also complies with the latest IEC and ANSI international standards for sound level meters. Just switch on the instrument, auto-calibrate and start measuring with one of the predefined views. Regardless of the view selected, all data is measured and stored simultaneously so no mistakes can be made.

By implementing the latest digital technology, the meter has a single measurement range so no range adjustment is required, ensuring the highest levels of performance with all noise sources. Models are available for both environmental and/or occupational noise with the availability of frequency analysis and advance functions such as data markers, timers and logging of time history data. Even with such advanced functionality, the CEL-630 Series remains very simple to use.

Audio recording is a standard feature of the CEL-630, all models having a voice notes capability. This allows you to speak into the microphone before or after a measurement in order to annotate the result, so you don't need to write things down. Data can also be 'marked' during a measurement to signify either an anomalous or significant event and audio is also recorded for later noise source identification. If the instrument is used for unattended measurements, audio recording can be triggered by a condition such as a given level being exceeded for a period of time. In this case additional data will be collected along with the audio. This can be especially useful where the noise source of interest is transient.

Key Features

- Ideal for environmental or occupational monitoring
- Easy to use switch-on-and-go functionality
- Latest digital technology with a high resolution colour TFT display
- Pre-configured setups for occupational and environmental measurements
- Voice notes to annotate measurements
- Single measurement range up to 140dB, no range adjustment required
- Data markers, back erase function and audio recording
- Level triggered events for transient measurements
- Real-time octave & 1/3 octave measurements
- Simultaneous measurement of all parameters with all frequency and time weightings
- Class 1 or Class 2 models available
- 2GB memory for more than 1 year of data storage
- Removable pre-amp
- Environmental outdoor kit available

Noise measurements could not be easier - a step by step guide on how simple the CEL-630 is to use!

Step 1

Switch On

When powered up the CEL-630 will show battery status and memory capacity, as well as the measurement view currently selected.

- 2GB of memory stores more than 1 year of continuous data
- Automatically powers up in the last setup used
- Up to 15 hours of battery life



For Occupational Noise

- Simultaneous measurements of all workplace noise parameters
- Standard setups for workplace noise legislation
- Measures parameters for hearing protection selection by the SNR, HML and octave band method
- Analyse time history of noise levels (CEL-632 and CEL-633)
- Optional high range microphone, up to 165dB

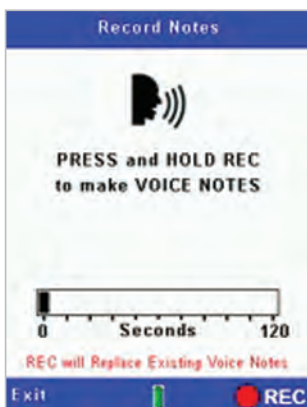
The CEL-630 Series is designed to make workplace noise measurements as quick and simple as possible. The displayed information can be made as simple or comprehensive as required and all measurement parameters are stored simultaneously, so no incorrect measurements can be made.

When the unit is calibrated with the CEL-120 calibrator, the calibration dates and times are stored and downloaded to Casella insight software, validating the accuracy of measurements.

Average, peak, and octave band measurements are performed at the same time, so only one measurement needs to be made for all workplace noise applications.



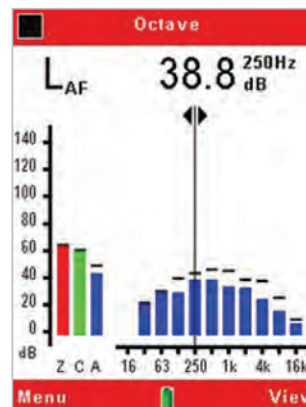
Small and lightweight with a bright colour display, the CEL-630 makes workplace noise measurements easy



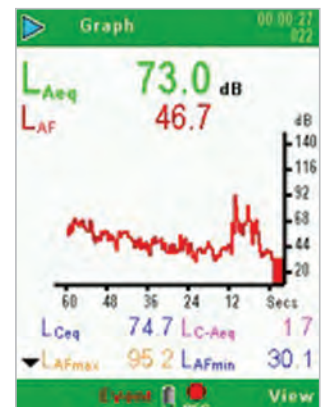
Record voice notes to easily identify measurements



Simple icon based user interface



Octave measurements for the selection of PPE



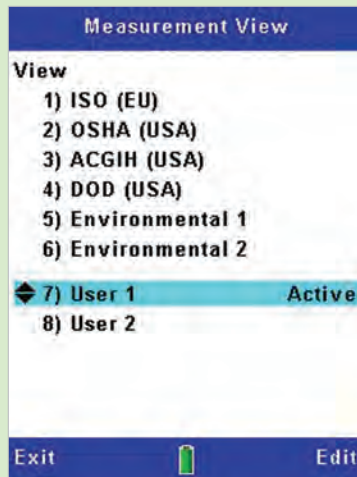
See the time history of noise levels

Step 2

Select Data to View

Pick from a selection of workplace or environmental views, or define your own.

- Make displayed data as simple or comprehensive as needed
- Regardless of data viewed, stores ALL parameters
- Pick from a selection of workplace or environmental views, or make your own



Step 3

Calibration

Calibration is important to validate your measurement data. Once the CEL-120 calibrator is placed on the microphone, the CEL-630 recognises when a calibration tone is present and enters the calibration mode, it will then automatically adjust to the calibration level.



- Automatic calibration
- Stores calibration level, time and date to validate results
- Can store pre and post measurement calibration values

For Environmental Noise

- Simultaneous broadband and frequency measurement
- Data markers
- Back erase function
- Real-time frequency analysis
- Single measurement range
- Triggered 'event' capture

Data can be marked to signify any significant events, the data from which can be removed afterwards in insight software.

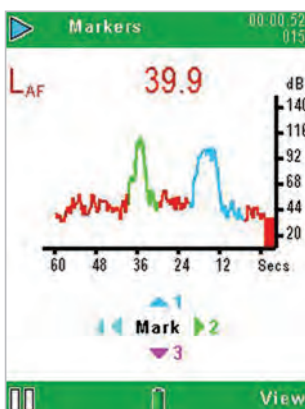
Up to 60 hours of audio files can be stored, commonly used for noise source identification. Stored audio can be played back on the instrument using headphones or downloaded to Casella insight software.

For unattended monitoring, event mode (CEL-633) allows trigger levels (dB) to be set, so additional data (e.g. Leq, Lmax) is stored together with the audio file for later analysis, as well as a profiles down to 10ms intervals.

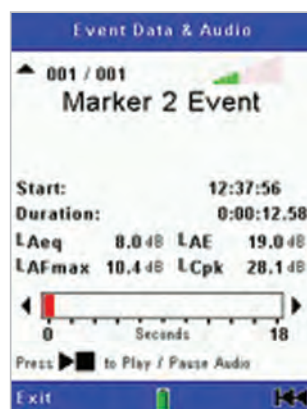
An environmental noise monitoring kit is available which protects the instrument and microphone from the weather and allows unattended monitoring for up to 10 days.



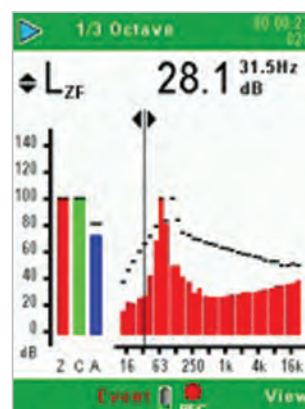
A dedicated environmental kit is available



Significant noise events can be marked



Listen to audio files from the CEL-630 Series



Realtime frequency analysis and single measurement range



Set 2 levels of time history storage



Step 4

Record Voice Notes

Once the 'play' key has been pressed you can record an audio (voice) note to define the measurement. Once this is done your measurement will begin.

- Record voice notes to identify your measurement
- Record audio during measurements
- Automatic 'events' trigger audio recording

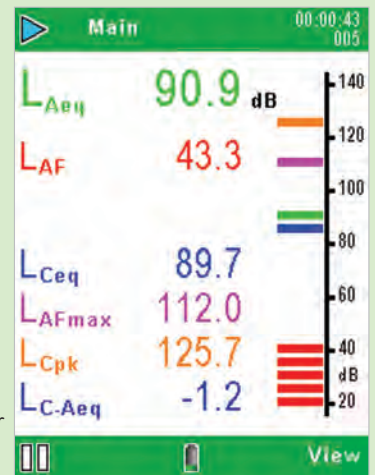


Step 5

Start a Measurement

When the measurement is started the status bars at the top and bottom of the screen go green (like a traffic light), when the measurement is stopped the bars go red. During a measurement, simply press the 'view' key to scroll through the data. All parameters are stored together so there is no need for multiple measurements. Once the measurement is stopped, data can be reviewed in the instrument memory.

- Single measurement range, no adjustment required
- Colour coded, easy to read measurements
- The most important parameters displayed on screen
- Simultaneous measurement of broadband and frequency data



CEL-630 Series Model Selection

Model Functionality

There are 4 models available, please see the model selection table below for the one you require (e.g. CEL-632). Then select your frequency analysis requirements by adding 'A' for broadband, 'B' adds octave band and 'C' adds 1/3 octave e.g. CEL-632C. Then add your class, '1' for class 1 and '2' for class 2 e.g. CEL-632C1 for a class 1 instrument. Each instrument comes complete with a standard kit case, windshield and calibration certificate.

Model	630	631	632	633
Cumulative Results	Y	Y	Y	Y
Period Results			Y	Y
Profile Results			Y	Y
Statistical Values (Ln%)		Y		Y
Audio Voice Notes	Y	Y	Y	Y
Marker Events			Y	Y
Level Events				Y
External Events			Y	Y

Accessories

CEL-6840	Standard kit case*
196030C	Executive kit case**
CEL-251	Microphone Class 1*
CEL-252	Microphone Class 2*
CEL-120/1	Acoustic Calibrator Class 1**
CEL-120/2	Acoustic Calibrator Class 2**
PC18	Universal power supply
CMC51	USB download cable*
CEL-6718	Lightweight tripod
CMC73	Portable printer kit (fits in 196030 kit case)
MIC1	High range microphone (to 165dB)
MPA1	High range microphone adaptor (for use with MIC1)

* included with instrument

**included with instrument kit (with CEL-63XY/K1 where 'X' and 'Y' represent the model numbers)

Instrument Kits

For an instrument kit add /K1 to the instrument part number e.g. CEL-632C1/K1. Instrument kits include the relevant instrument, acoustic calibrator (CEL-120), USB download cable, batteries, calibration certificates and an executive kit case.



Casella Insight Data Management Software

- Analysis of noise level time history
- Replay voice notes and event audio
- Intuitive user interface
- Remove anomalous data from results
- Analysis of time history
- Generate comprehensive reports
- Store data by, person, place, location
- Manage multiple instruments and calibration

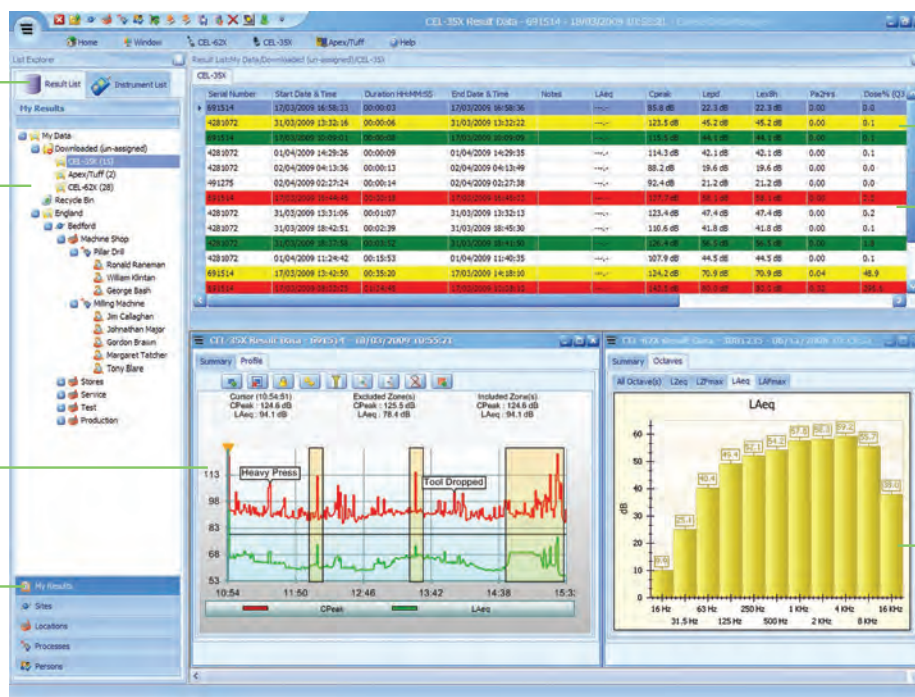


Switch between managing data or instruments with simple tabs

Simple tree structure to manage data e.g. person, place, etc

Time history may be viewed, analysed and annotated as required

Sort data by person, process, etc



Multiple parameters can be displayed and sorted simultaneously

Data can be dragged and dropped to the tree structure as required

Data is automatically graphed and can be copied to other applications

Casella insight data management software is a powerful yet simple tool to download, analyse and report from either workplace or environmental noise data.

Once the CEL-630 series is connected by the USB cable, insight software automatically recognises that the instrument is connected and downloads the data. Data is automatically saved to a database so data cannot accidentally be deleted and the database can be backed up to a server.

Noise exposure or environmental exceedance levels can be colour coded by a simple 'traffic light' system, it is easy to see which measurements have exceeded specific levels. For instruments that have stored the time history of levels (CEL-632 and CEL-633), the stored data can be analysed and graphs zoomed in to look at specific times. Graphs can be coloured as required, and notes inserted to illustrate important events.

Graphs can be further analysed by adding 'zones' which subsequently recalculates levels inside and outside these zones, this can be used to see what effect on overall levels is coming from specific environmental noise sources, or in the case of workplace noise, to investigate 'what if' scenarios, taking noise exposure levels out of a workers day.

A simple 'tree view' can be created with which to store and manage data by person, place or process. Once data is downloaded, files can be dragged and dropped to the relevant tree location and all data is stored within a central database. Templates are provided to view data for local legislation (e.g.OSHA) or can be customised, displayed and reported simply or comprehensively as required. Exposure data from multiple hazards such as noise and dust can be viewed and reported simultaneously. Reports can be stored in multiple formats (e.g .pdf, .jpg, or .csv) allowing them to be shared and viewed easily, as well as exported to other applications. To create a report, simply 'right click' on the appropriate part of the tree view and the report wizard allows creation of a report for people, processes etc from that part of the tree. The integral report wizard allows reported parameters to be selected as required and report settings are retained for the next time it is used. Written notes can be added to data (on top of any audio notes recorded when taking a measurement), which appear on reports as required.

Technical Specification

Standards

IEC61672: 2002 Class 1 and 2, ANSI S1.4: Type 1 and 2 (1983)

Filters: IEC61260: Class 0, ANSI S1.43: (1996)

Note: IEC61672 replaces 2 obsolete standards, IEC60651 and IEC60804

General

Measurement range:	20-140dB RMS (143.3dB peak)
Total Noise floor:	19dB(A) Class 1, 25dB(A) Class 2
Time weightings:	Fast, Slow and Impulse simultaneously
Frequency weightings:	A, C and Z (un-weighted) simultaneously
Frequency bands:	11 Octave bands 16Hz-16kHz (B&C models) 33 Octave bands 12.5Hz-20kHz (C models)
Amplitude weighting (Q):	3, 4 and 5 simultaneously
Back erase:	Last 10s in cumulative mode (all models)
Timers:	Duration 1s-24h,
On/Off timers:	6 sets with selectable times and a repeat function

Physical

Tripod mount:	1/4" Whitworth socket
Batteries:	3x AA Alkaline, 10-15 hours dependent on back light
External power:	9-14V DC at 150mA
Weight:	332g including batteries
Size:	230x72x31mm inc preamp and microphone

Measured Parameters

Broadband: LXY, LXYmax, LXYmin, LXeq, LXpeak, Lavg, LC-LA, LXleq, LTM3, LTM5, LAE. Workplace dose values are calculated within insight software.

Octaves & 1/3 octaves: LXY, LXeq, LXYmax, 5x Ln% (on CEL-631 and CEL-633). Where X is the frequency weighting A, C or Z and Y represents time weighting Fast (F), Slow (S) or Impulse (I). All weightings simultaneously measured where appropriate.

CEL-631 and CEL-633 models additionally store 5x Ln values in broadband and octave modes.

CEL-632 and CEL-633 models additionally stores time history data, all parameters are logged for period times plus 6 selectable profile parameters (plus 5x Ln values on CEL-633).

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Memory

Memory: 2GB (>1 year logging when set to 1 second interval, 999 runs). All parameters stored and accessible via Casella insight. Total measurement runs: 999.

Events: 999 events/run. 10 hours of audio recording in high quality mode, 60 hours in low quality mode. For long term unattended monitoring the CEL-630 takes a new run daily for up to a total of 400 days.

Audio Recording

Low Quality:	8,000 samples/s @ 8bit (64kb/s), up to 4kHz
High Quality:	24,000 samples/s @ 8 bit (192kb/s), up to 12kHz

Environmental

Operating Relative humidity of 5 to 90% (non condensing)

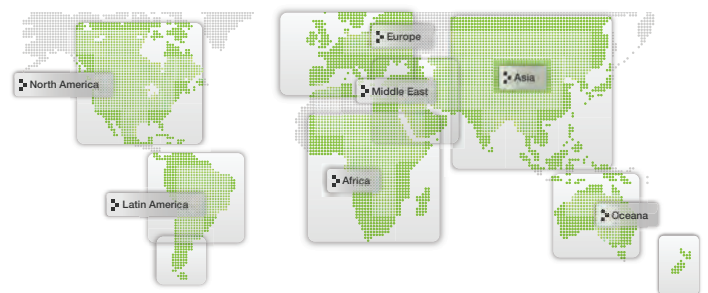
Conditions: Temperature of -10 to +50°C (Class 1) and 0 to 40°C (Class 2) Atmospheric pressure of 65 to 108kPa.

Languages

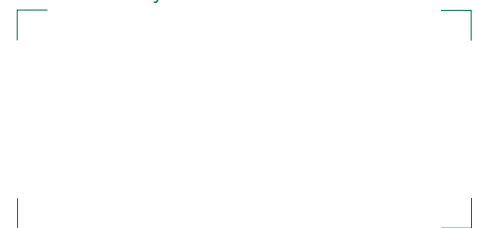
User interface can be changed via the menu: English, French, German, Spanish, Italian, Portuguese, Chinese.

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