# 62xseries
## Sound Level Meter
### Enhanced

CASELLA
A DIVISION OF TSI

**620 Enhanced Sound Level Meter**

Date: April 2023

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# Common Comments About Workplace Noise Measurements

| Issue | The meter must…. |
|---|---|
| **Don't use it every day…** | • Quick to pick up and use<br>• Intuitive to use |
| **Must have confidence in results…** | • Calibrate easily and store calibration results, show any drift<br>• Large measurement range |
| **Don't want to measure the wrong things…** | • Measure the right parameters for local legislation |
| **Be able to generate the data I need…** | • Download results quickly<br>• Analyse and organise results easily<br>• Product reports or export data |

# 620 Enhanced – Key Features



- Compact Rugged Design.
- Simple operation.
- Single large measurement range.
- High resolution display.
- Simultaneous measurement of all workplace noise parameters.
- Instrument Menu in 9 languages.
- Automatic calibration functions.

# New Enhanced Features!

## Time History Storage

- 1s – 20 intervals
  - Averages, peaks, max
  - Analyse in 'insight'

## Larger Memory
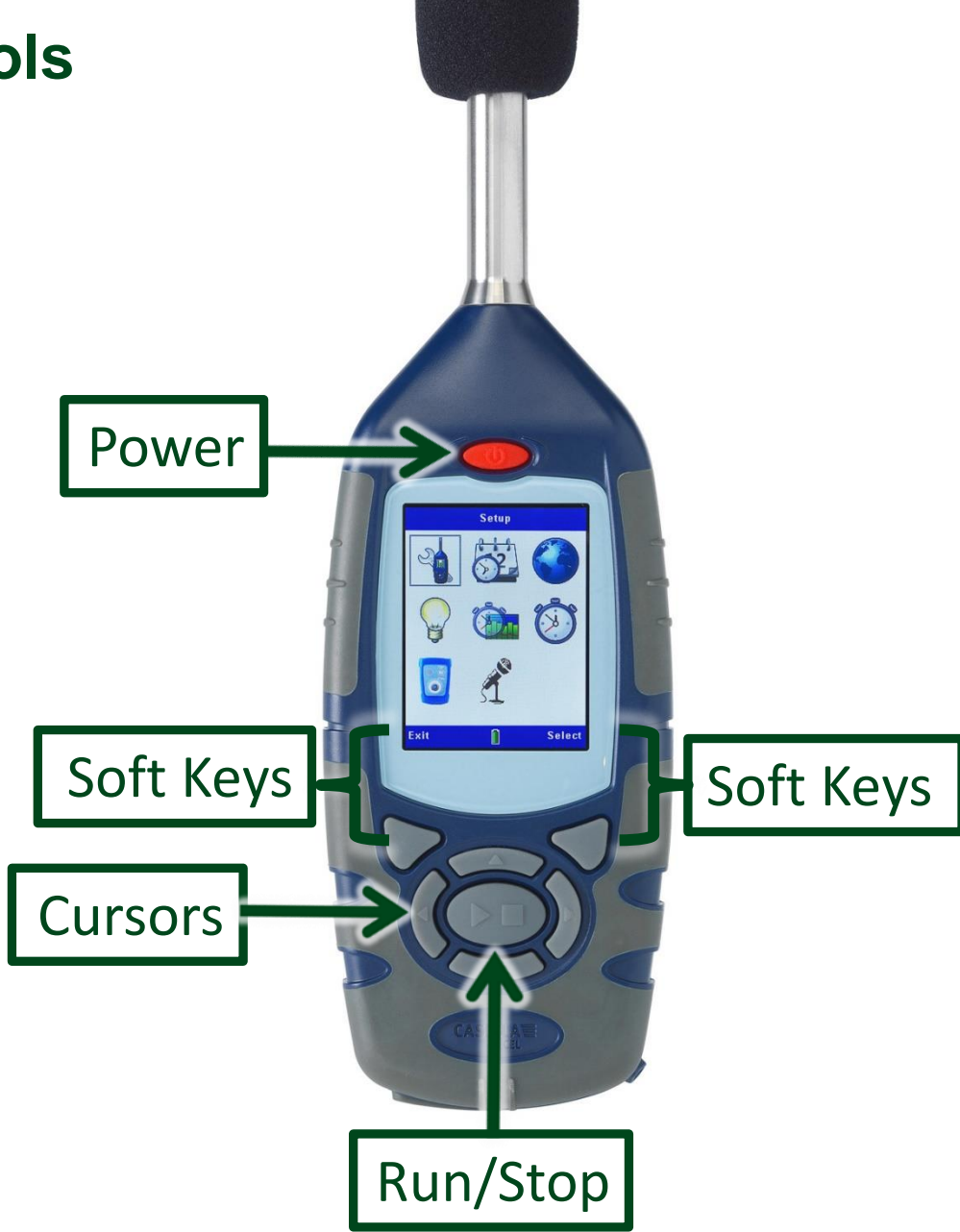
- 999 Runs
  - 24 hours each
  - Even with 1s time history
  - 33 hours audio

## Audio Notes

- Pre or Post run
  - Up to 120s each
  - Listen back later
  - Play in 'insight'

## G.P.S

- Location coordinates
  - Proof of measurement
  - 'Line of sight' only

# Controls



Power

Soft Keys

Soft Keys

Cursors

Run/Stop

## COLOUR CODED SCREENS

Start → Status

Calibration mode ↔ Measurement stop screens ↔ Measurement run screens

USB connection mode ↔ Menu screens ↔ Memory results screens
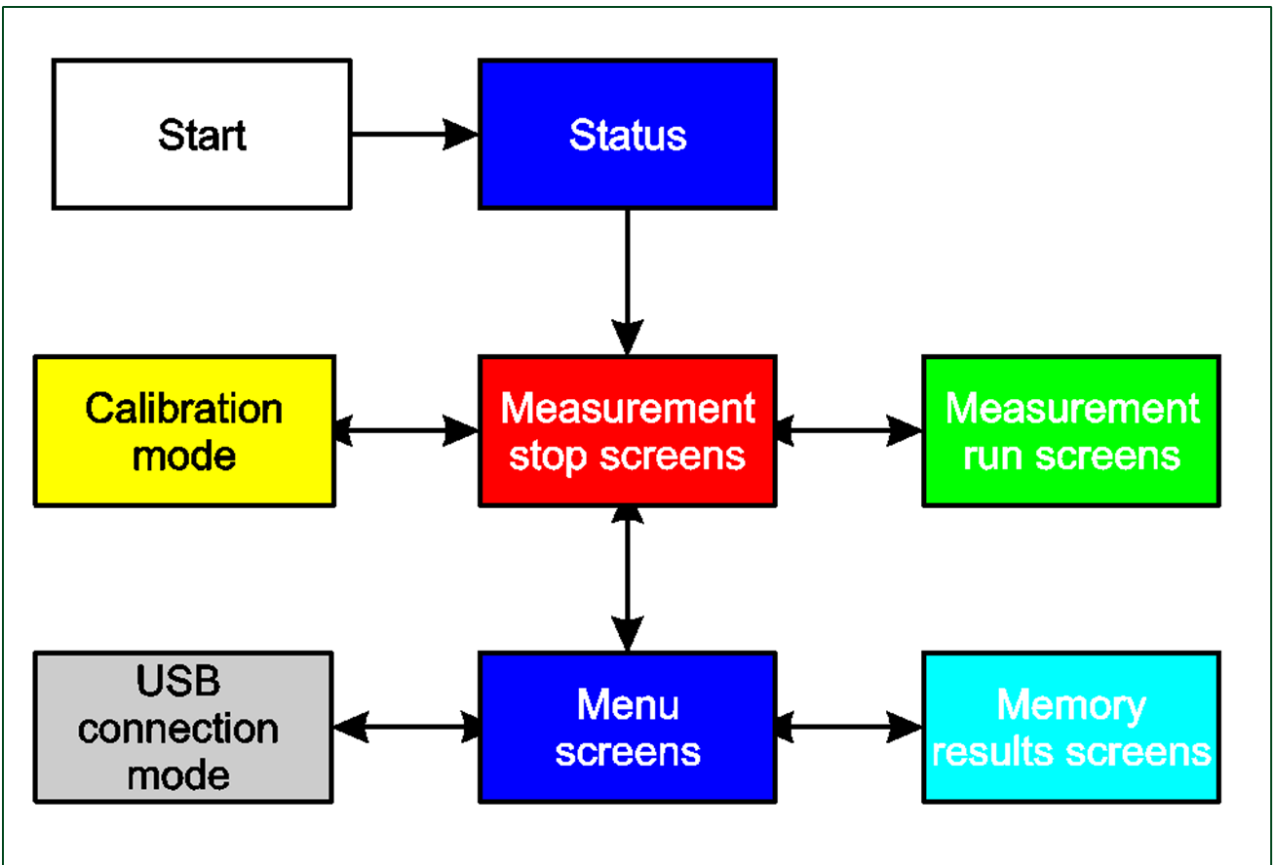
**1** Switch On

**2** Calibrate

**3** Press Play

**4** Record A Voice Note

Switch on and go!

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# 620 Enhanced – Taking Measurements

- 'View' key cycles display

- See cursor prompts on each screen
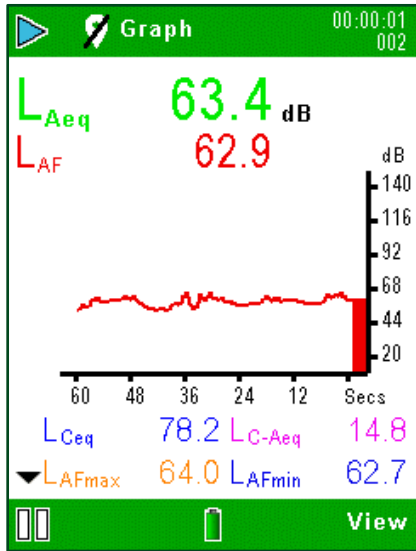


**TIME HISTORY**
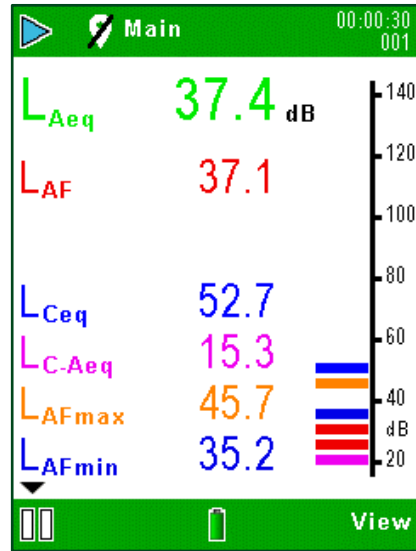


**BROADBAND**
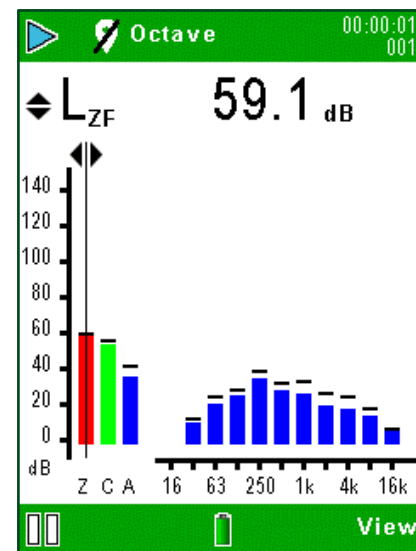


**OCTAVE GRAPH**



**OCTAVE TABLE**

# 620 Enhanced – Start-up

- Displays

  - Serial number

  - Exact model variant

  - Customer set text

  - Free memory

  - Firmware version

- Allows access to system tools
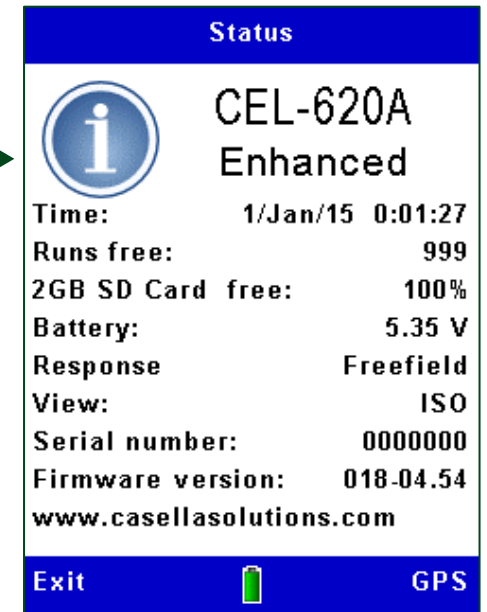
# 620 Enhanced – Stop Screens
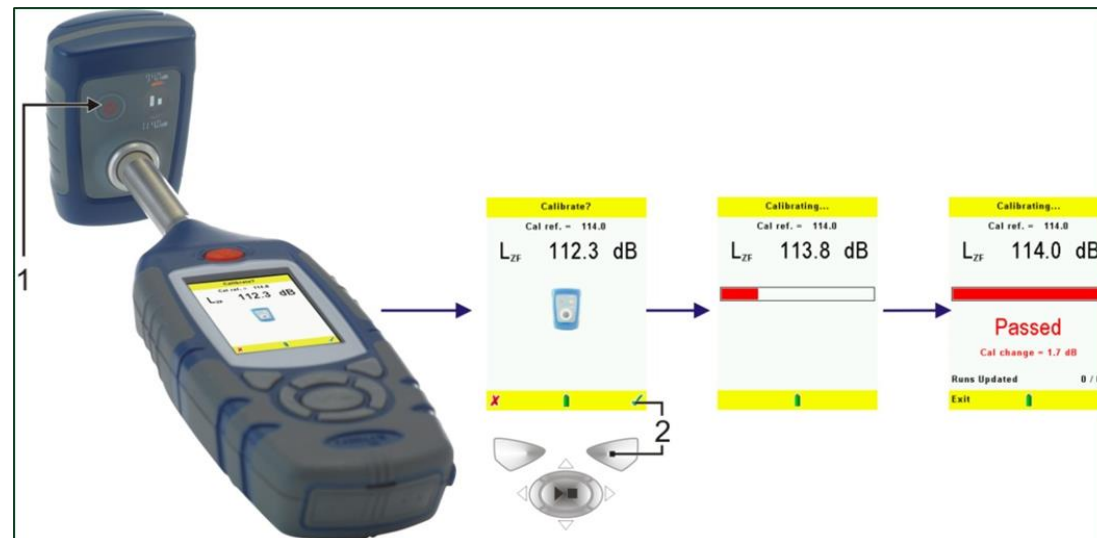
## Red bars to denote instrument stopped

- 'View' swaps between broadband or octave screens
- 'Menu' accesses the main menu
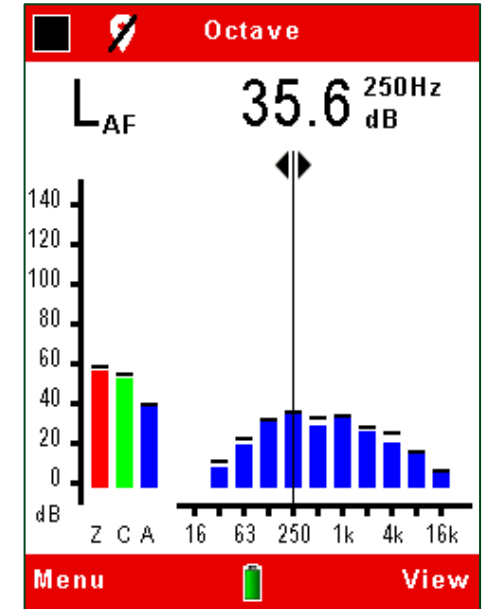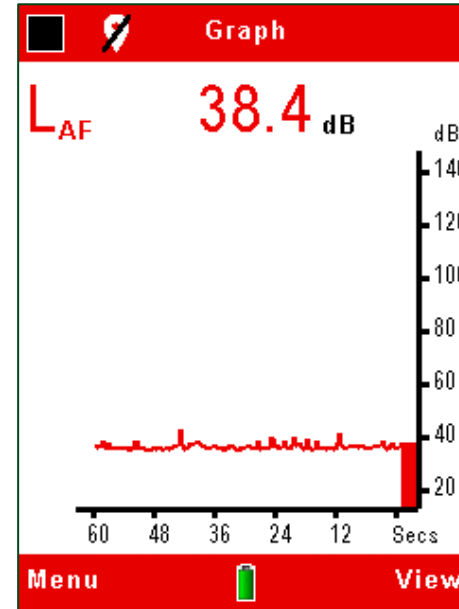
# Calibration

**Automatic Calibration**

- Apply calibrator
- Automatically recognisees calibrator
- Calibrates to 114.0dB
- Stores calibration results to run
- Post-run calibration shows drift
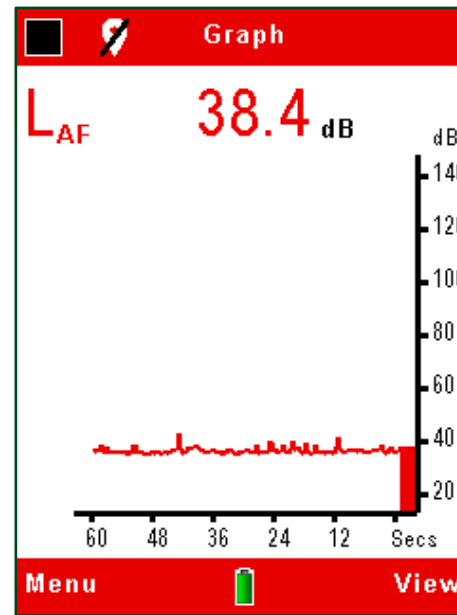- CEL-120 calibrator supplied in kit

# 620 – Main Menu

- ## Settings
  - Allows setup changes

- ## Memory
  - Allows viewing, deletion of stored results

- ## Status
  - Displays information such as firmware version, battery voltage and free memory
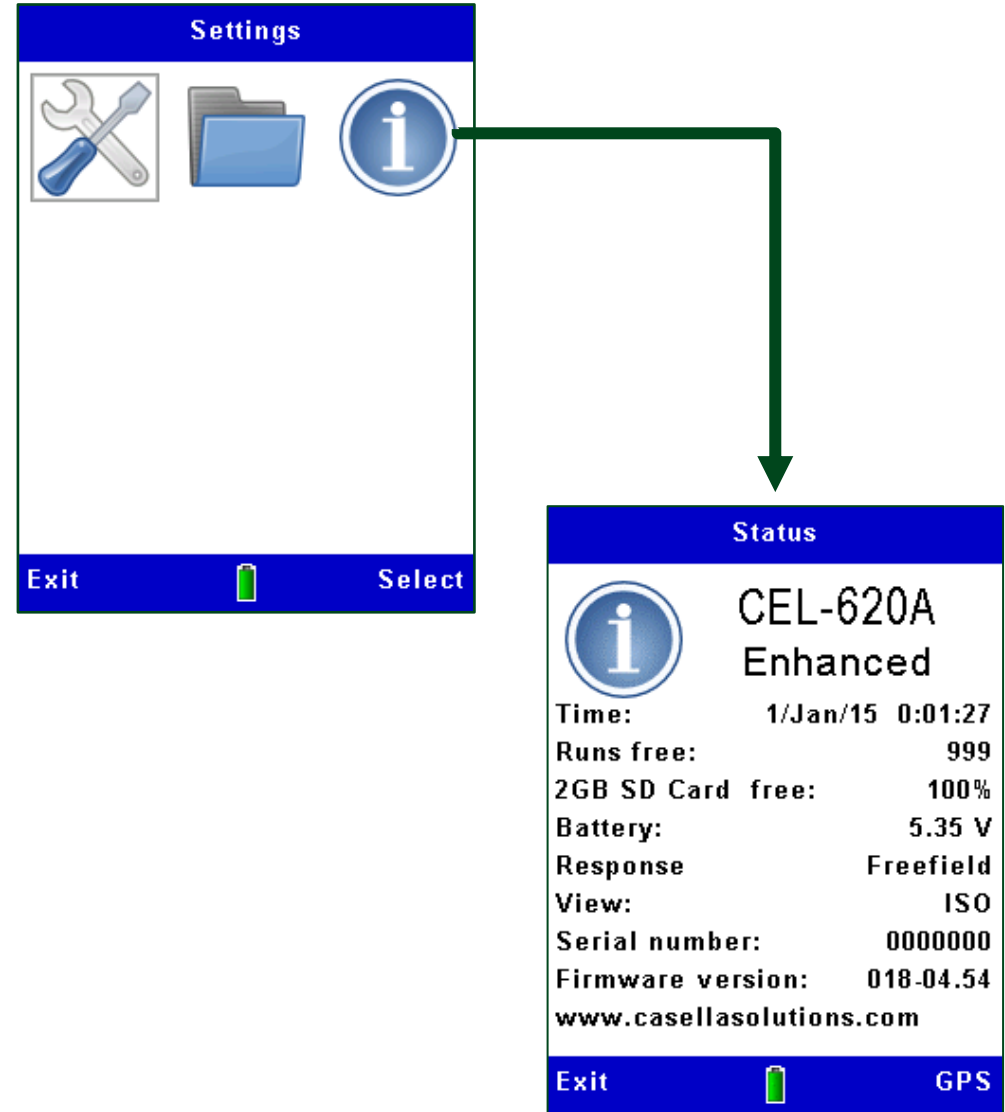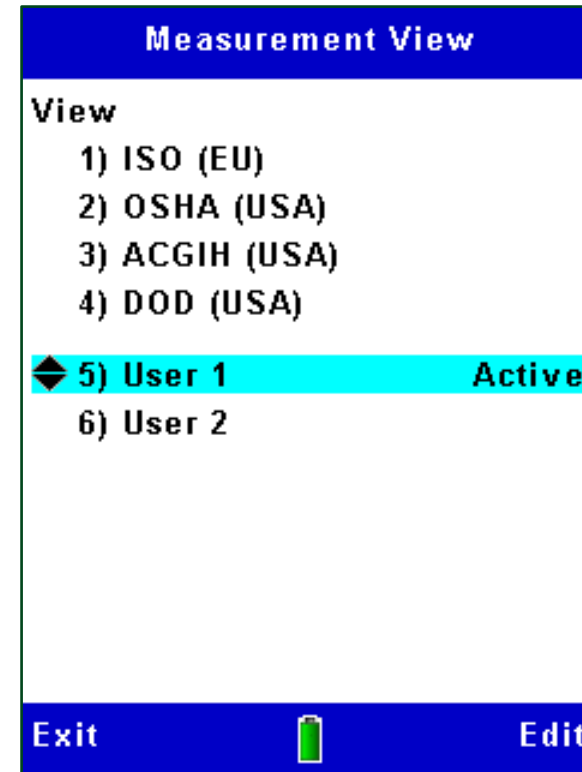
# 620 Enhanced – Settings

- Setup
- Time and Date
- Language
- Backlight
- Duration Timers
- Measurement Control
- Cal Reference Level
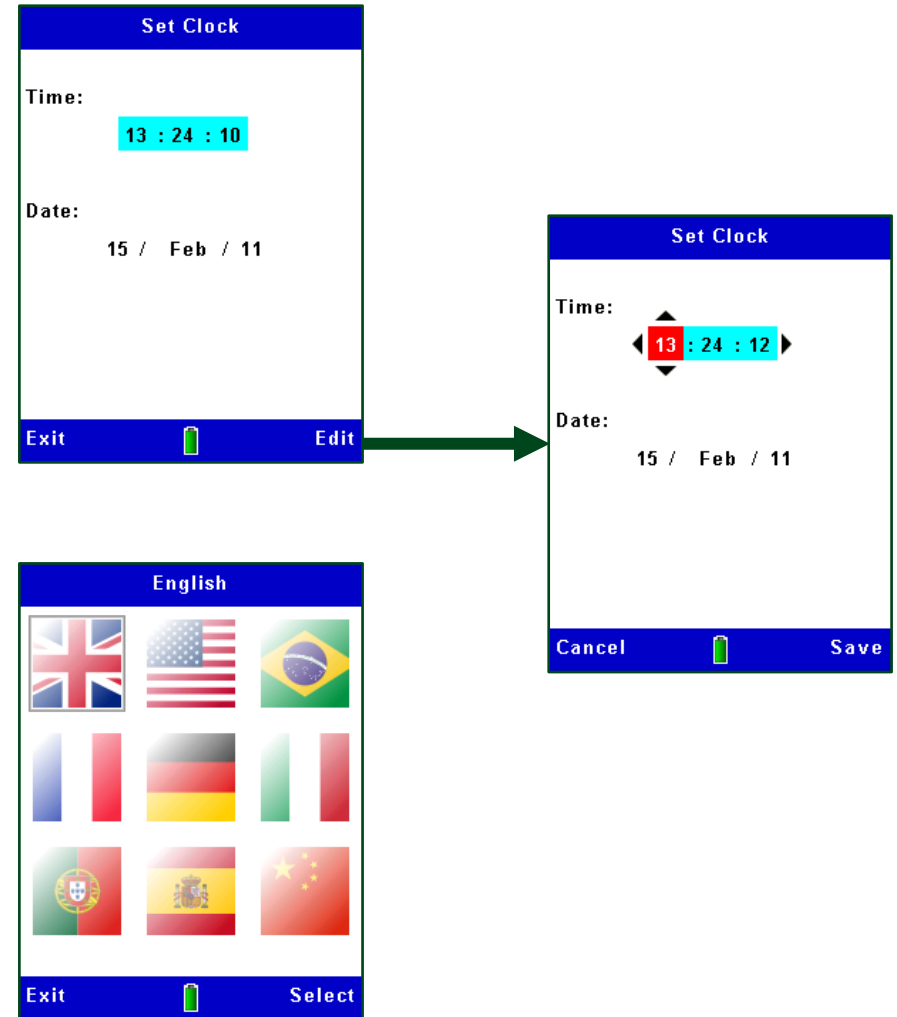- Audio Recording

# 620 Enhanced – Measurement View

- 4 fixed workplace setups
- 2 custom views
- Regardless of view used, all parameters stored simultaneously
  - Note this is independent of time history logging

# 620 Enhanced – Time & Language

- ## Time & Date
  - Make changes as required

- ## Language
  - 9 selectable languages
  - US changes date format only

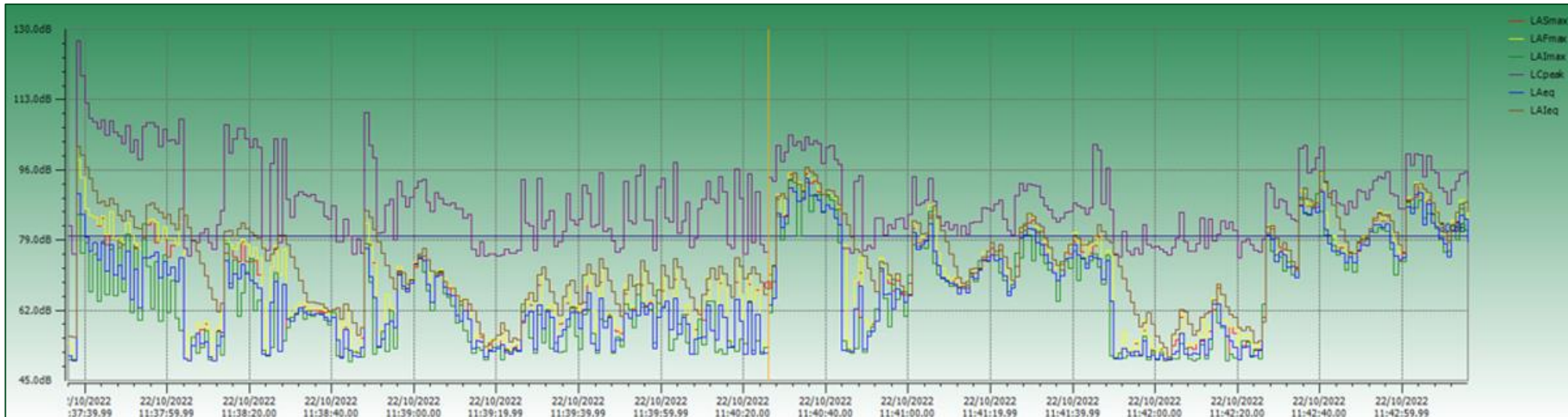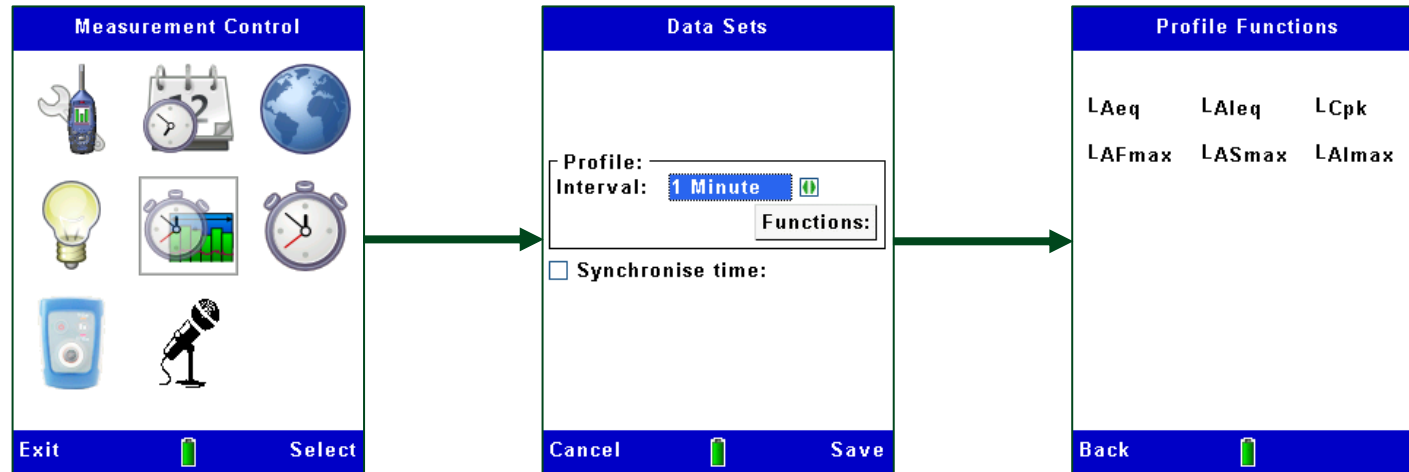# 620 Enhanced – Backlight & Calibration Level

- # Backlight
  - Activation set between 'on' and 'Keypress'
  - Brightness affects battery life

- # Cal reference level
  - Make changes as required
  - Used if level on calibrator has drifted after a laboratory calibration
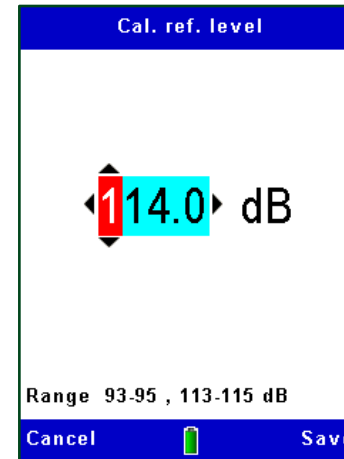
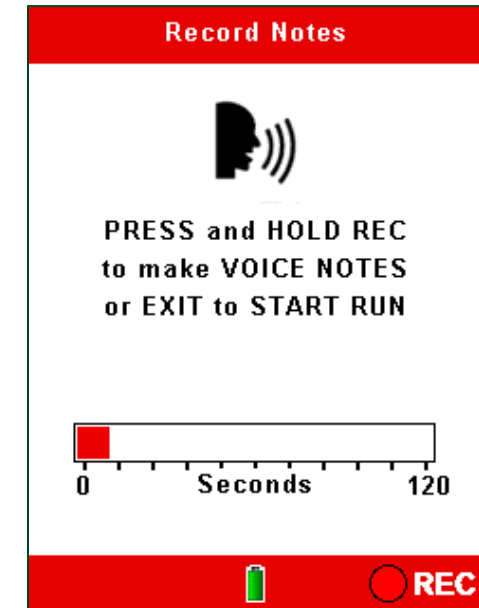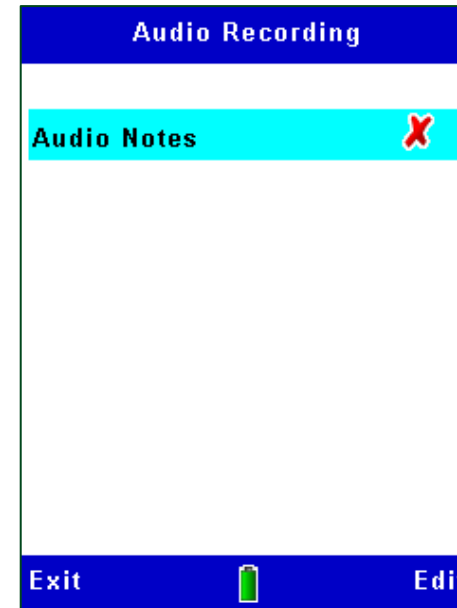# 620 Enhanced Measurement Control – Time History

## Profile: 1s-30min

# 620 Enhanced – Audio Recording "Voice Notes"

- Speak into the microphone to record verbal details

    – 8,000 samples/s @ 8bit (64kb/s)

    – Up to 4kHz

    – 2GB gives 33 hours of storage

# 620 Enhanced – Memory Results

- ## View Data

- ## Delete Data

- ## Record Voice Note

- ## Playback audio and event data

| Results | Run 001 |
|---|---|
| User 1 View | |
| Start: | 2 Feb 23 11:23:28 |
| Run duration: | 0:00:41 |
| Data duration: | 0:00:41 |
| Pause duration: | 0:00:00 |
| Overload: | No |
| Response | Freefield |
| Before cal: | None |
| After cal: | None |
| GPS | --,----- ---,----- |
| Exit | View |

| Octave | | Run 001 |
|---|---|---|
| Octave | $L_{AEQ}$ | $L_{AFMAX}$ |
| 16Hz | 0.0 | 7.9 |
| 31.5Hz | 11.4 | 25.0 |
| 63Hz | 19.9 | 24.7 |
| 125Hz | 27.4 | 36.4 |
| 250Hz | 35.7 | 41.6 |
| 500Hz | 29.6 | 39.0 |
| 1KHz | 28.6 | 41.7 |
| 2KHz | 24.8 | 43.0 |
| 4KHz | 20.5 | 36.5 |
| 8KHz | 15.5 | 26.9 |
| 16KHz | 7.2 | 11.1 |
| Exit | | View |

**Octave — Run 001**

$L_{AEQ}$ — 35.7 250Hz dB

(bar chart)
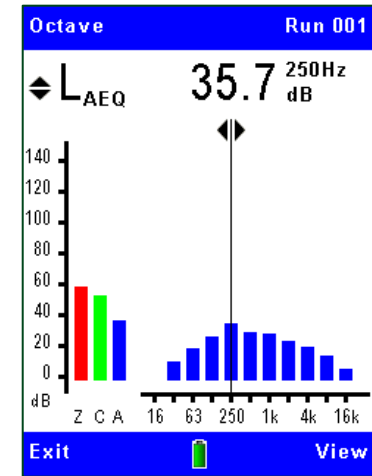
| Results | Run 001 |
|---|---|
| $L_{Aeq}$ | 37.4 dB |
| $L_{Ceq}$ | 52.7 dB |
| $L_{C-Aeq}$ | 15.3 dB |
| $L_{AFmax}$ | 45.7 dB @ 11:23:38 |
| $L_{AFmin}$ | 35.2 dB @ 11:23:33 |
| $L_{Cpk}$ | 71.7 dB @ 11:23:38 |
| Exit | View |

# 620 Enhanced – Insight Functionality



Audio Note

Audio Note Playback

Analyse Time History

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## Part Number Structure

A=Broadband
B=Octave

# CEL-620XX

1=Class/Type 1
B=Class/Type 2

| Part Number | Description |
| --- | --- |
| CEL-620A2 | Integrating Digital Sound Level Meter (Class 2) |
| CEL-620B2 | Integrating Octave Band Sound Level Meter (Class 2) |
| CEL-620A1 | Precision Integrating Digital Sound Level Meter (Class 1) |
| CEL-620B1 | Precision Integrating Octave Band Sound Level Meter (Class 1) |

- # Instrument Kits
  - Instrument
  - Acoustic Calibrator
  - Field Guide
  - Download Cable
  - Batteries
  - Calibration Certificates

- # Ordering
  - Add /K1 to part number

# 620 Enhanced – Technical Specification

| Technical Specifications | |
|---|---|
| Range | 20 – 140dB RMS<br>To 143.0dB Peak |
| RMS & Peak Weighting | Simultaneous A, C & Linear (Z) |
| Time Weighting | Simultaneous Slow, Fast & Impulse |
| Threshold | 70 – 90dB in 1dB steps |
| Standards | IEC61672 – 2013, ANSI S1.4 1983 (R2006) |
| Memory | 999 Runs, up to 24 hour length per run. 33 hours of audio notes. Up to 1 years storage with 1s time history selected. |
| Frequency Analysis | 11 octave bands 16Hz to 16kHz (CEL-620B model only) |
| Audio Notes | 8,000 samples per second, 8bit, up to 4kHz |
| Battery Life | 11 Hours (3x AA Batteries) |

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