



## **dBAir Sound Level Meter**

### **Operating Manual**

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**[www.castlegroup.co.uk](http://www.castlegroup.co.uk)**



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# Chapter 1

## Introduction

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Thank you for purchasing a dBAir from Castle Group Ltd.

Your new Sound Level meter is at the forefront of design and technology yet has been developed for seamless intuitive operation without the unnecessary complexity of traditional sound level meters.

It boasts a high resolution large colour LCD with simple and clear visual data representation, has advanced data recording capabilities which records your data to the large internal memory available at your disposal.

Equipped with a simple plug in microphone pre-amplifier, carry strap and a responsive membrane keypad all housed in an elegant, perfectly sized, balanced and practical case which has been developed specifically with this in mind.

Every model of the dBAir sound level meter has inbuilt Wi-Fi allowing you to automatically upload your recordings to our simple to use in-browser software at [TheCastleCloud.com](http://TheCastleCloud.com). Your data here is secure, always available and backed up automatically.

Equally, the dBAir can also be connected to The Castle Cloud through a PC app called the Castle Gateway, which enables you to upload your recordings via your PC using the included Micro USB Cable and your PC's internet connection. You can also update your instruments software as and when required. An alert in The Castle Cloud will inform you when updates are available.

Not only that, your dBAir sound level meter can act as a USB drive allowing you access to your saved recordings and transfer the standard format .csv recorded files so you can open them in your favourite spread sheet application and create your own reports.

Welcome to the new era in sound level measurement.

# Chapter 2

## dBAir Models & Features

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A list of dBAir models and features are listed below. The dBAir models are presented with all of the required features to fulfil specific applications where noise measurement is a requirement, such as for Safety or Construction.

### Safety

---

#### **dBAir Safety (GA141S)**

LSPL, LEQ, LMIN, LMAX, LPEAK, LEP'd, Exposure Points, Dose

Hearing Protector Calculator

Voice Memo Recording

### Safety Octave

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#### **dBAir Safety Octave (GA141SO)**

LSPL, LEQ, LMIN, LMAX, LPEAK, LEP'd, Exposure Points, Dose

Octave Band Analysis (1/1): LSPL, LEQ, LMAX, LMAX, LPEAK

Hearing Protector Calculator

Voice Memo Recording

### Environmental

---

#### **dBAir Environmental (GA141E)**

LSPL, LE, LEQ, LMIN, LMAX, LPEAK

Statistical Parameters: LTM3, LTM5, Lday, Levening, Lnight, Ldn, Lden, NA, 10 user-definable Ln values (L1 - L99, 0.1 dB resolution)

Voice Memo Recording

Noise Event Recording

# Environmental Octave

---

## **dBAir Environmental Octave (GA141EO)**

LSPL, LE, LEQ, LMIN, LMAX, LPEAK

Statistical Parameters: LTM3, LTM5, Lday, Levening, Lnight, Ldn, Lden, NA, 10 user-definable Ln values (L1 - L99, 0.1dB resolution)

Octave Band Analysis (1/1 or 1/3 Octaves): LSPL, LE, LEQ, LMAX, LMAX, LPEAK, Ln's.

Voice Memo Recording

Noise Event Recording

# Safety & Environmental

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## **dBAir Safety & Environmental (GA141SE)**

LSPL, LEQ, LMIN, LMAX, LPEAK, LEP'd, Exposure Points, Dose

Statistical Parameters: LTM3, LTM5, Lday, Levening, Lnight, Ldn, Lden, NA, 10 user-definable Ln values (L1 - L99, 0.1dB resolution)

Hearing Protector Calculator

Voice Memo Recording

Noise Event Recording

# Safety & Environmental Octave

---

## **dBAir Safety & Environmental Octave (GA141SEO)**

LSPL, LEQ, LMIN, LMAX, LPEAK, LEP'd, Exposure Points, Dose

Statistical Parameters: LTM3, LTM5, Lday, Levening, Lnight, Ldn, Lden, NA, 10 user-definable Ln values (L1 - L99, 0.1dB resolution)

Octave Band Analysis (1/1 or 1/3 Octaves): LSPL, LE, LEQ, LMAX, LMAX, LPEAK, Ln's

Hearing Protector Calculator

Voice Memo Recording

Noise Event Recording

# Consultant

---

Professional configuration, choose from the parameters listed below.

## **dBair Consultant (GA141X)**

Standard:

- LSPL, LE, LEQ, LMIN, LMAX, LPEAK
- Voice Memo Recording

Options:

- Exposure: LEP'd, Exposure Points, Dose
- Statistics:
  - LTM3, LTM5, Lday, Levening, Lnight, Ldn, Lden, NA, 10 user-definable Ln values (L1 - L99, 0.1dB resolution)
- Octave Band Analysis (1/1)
  - LSPL, LE, LEQ, LMAX, LMAX, LPEAK, \*Ln's
- Octave Band Analysis (1/3)
  - LSPL, LE, LEQ, LMAX, LMAX, LPEAK, \*Ln's
- Hearing Protector Calculator
- Noise Event Recording

\* where **Statistics** option fitted

# Microphone and Pre-Amplifier

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Measurement microphones by the very nature of their manufacture are precision components that are easily damaged through incorrect use. Great care must be taken when using the instrument to ensure the longevity of the microphone.

## Microphone Types

---

Three different types of microphone are manufactured, and each is designed for measuring noise in different applications which is out of the scope of this manual. Each one however, has a different sound incidence angle. The sound incidence angle determines the angle the dBAir sound level meter is held relative to the actual noise source being measured.

### Free Field

Sound Incidence Angle =  $0^\circ$

Point the sound meter directly towards the noise source

### Pressure Field

Sound Incidence Angle =  $90^\circ$

Point the sound meter at  $90^\circ$  to the noise source

### Random Incidence Field

Point the sound meter at approximately  $70^\circ$  to the noise source



To comply with legislation all dBAir sound level meters outside of the US are supplied with a **Free Field** measurement microphone, and a **Pressure Field** measurement microphone within the US

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# Microphone Polarisation

---

Microphones require a polarisation voltage to operate and are manufactured in two ways.

## Externally Polarised

These microphones require an external charge for the microphone to operate which is generally 200V and supplied by the sound level meter.

## Pre-Polarised

These microphones generate the polarisation voltage internally and do not require the externally generated 200V polarisation charge.

All microphones supplied with dBAir sound level meters are **Pre-Polarised**.

# Microphone Sensitivity

---

The sensitivity of a microphone is determined by the output voltage it produces for a defined sound source.

Microphones are manufactured with numerous sensitivity levels and operate within a specified tolerance. Different microphones of the same model may therefore give slight differences in readings when used on the same sound meter. To allow for this all dBAir sound level meters have been designed to accommodate any variations in the tolerance of the supplied microphone up to  $\pm 3\text{dB}$ .

All models of the dBAir sound level meter with Class 1 approval have been designed for microphones with a sensitivity of 50mV/Pa.

All models of the dBAir sound level meter with Class 2 approval have been designed for microphones with a sensitivity of 25mV/Pa.

Great care must be taken to ensure the microphone and sound meter sensitivities match otherwise incorrect readings will occur.

## Removal of Microphone

---

The microphone is fitted to the pre-amplifier by screwing the microphone in a clockwise direction ensuring that the pre-amplifier spring pin is located centrally in the microphone.

To remove the microphone, unscrew in an anti-clockwise direction.

The microphone has a protection grid which can also be unscrewed and removed, great care must be taken to ensure that this is **NOT** removed. Underneath the protection grid is the microphone diaphragm which should never be touched or be subject to dust or dirt. Doing so may damage the microphone beyond repair or affect its acoustic response dramatically.

## Pre-Amplifier Removal & Fitting

---

To attach the pre-amplifier, position the RED orientation key on the pre-amplifier with the RED identification mark on the dBAir sound level meter and gently push the pre-amplifier into the connector.

To remove, gently pull the pre-amplifier stem away from the instrument body.



**To prevent damage occurring to your dBAir sound level meter or your Pre-Amplifier assembly never attempt to twist the pre-amplifier.**

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## Microphone Extension Cable

---

To attach the microphone extension cable (purchased separately), position the RED orientation key on the extension cable connector with the RED identification mark on the dBAir sound level meter and gently push the extension cable into the connector.

To fit the pre-amplifier to the extension cable, see **Pre-Amplifier Removal & Fitting** above.

To remove, gently pull the extension cable connector by pulling on the knurled part of the stem.

# Certifiable Calibration

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The calibration process includes the microphone, pre-amplifier and sound level meter. Any change in this measurement chain will require a new calibration certificate.

Castle Group Ltd offers a complete calibration service offering either a full UKAS calibration or a standard traceable calibration which can be supplied with or without a test report.

It is recommended that your sound meter instrumentation is calibrated annually to ensure your measuring equipment is completely accurate and fully compliant.



# Chapter 3

## Measuring Sound

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Always calibrate your dBAir sound level meter prior to and after taking measurements using a known sound source, such as the Castle GA607 Sound Level Calibrator.

Your dBAir can be set for calibration immediately after the unit has been turned on, see **Startup Options** for further details.

## Incidence Angle

---

It is essential that you hold your dBAir sound level meter at the correct angle to the noise source depending on the microphone type supplied with your meter.

The type of microphone supplied with your instrument will either be **Free Field** or **Pressure Field**, see below for details of the measuring incidence angle for each microphone type: -

### Pressure Field - (meeting ANSI Standards)

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Pressure Field microphones required incidence angle of  $90^\circ$ , therefore whilst measuring ensure your dBAir sound level meter is at  $90^\circ$  relative to the noise source being measured.

### Free Field - (meeting IEC Standards)

---

Free Field microphones require an incidence angle of  $0^\circ$ , therefore whilst measuring always point your dBAir sound level meter directly towards the noise source being measured.



To comply with legislation all dBAir sound level meters outside of the US are supplied with a **Free Field** measurement microphone, and a **Pressure Field** measurement microphone within the US

# Sound Level – General Advice

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In some environments, high levels of noise can occur. The Castle dBAir sound level meter has therefore been designed for complete accuracy up to sound levels of 140dB.

Before you record measurements, take the time to ensure you have chosen the optimum range for the process to be recorded. Wherever possible, the optimum range is when the average measured signal is approximately half way between the top of the range and the bottom of the range without an overload condition.

Where high levels of noise are encountered, the meter may register an overload and in these circumstances the meter will display that this has occurred, it is therefore advisable to determine if an overload occurs on the selected range. In such cases, you will need to select a higher range to accommodate the higher peak levels. See **Technical Specifications** for peak range limits on each individual range.

If the noise levels are too low for the range selected, then the meter will display an under range condition. Under these circumstances, you will need to select a lower range.

For more detailed information, see **Overload and Under Range Conditions** and **Measuring Ranges**.

If measuring low level noise, then be aware of the inherent noise levels caused by a combination of thermal and electrical noise from both the microphone and the sound level meter. Measuring data that lies within 10dB of the lowest quoted level on the lowest measuring range may be influenced by the self-noise of the system. See **Technical Specifications** for inherent noise levels and range limits.

# Chapter 4

## Getting Started

This user manual is written for all models of the dBAir sound level meter. Some parameters and features may not be available for your specific model.

Please review your model in the **dBAir Models & Features** to determine which parameters and features are available where required.

## Keypad Layout

All models of the dBAir sound level meter have the same keypad layout and operation.



# Powering Your dBAir Sound Level Meter

Your dBAir sound level meter can be powered from four 1.5V AA size batteries, four 1.2V rechargeable batteries or via the micro USB connector via a USB port or power supply capable of delivering 0.5A.

The battery compartment is located at the rear of your sound meter, remove the battery door and insert the batteries using the correct polarity which is clearly shown where the batteries are located.

Replace the battery door securely before using the instrument.

Whilst powering the instrument using the USB cable, you may be shown a screen to activate the USB drive: -



This is not required to power the unit, press **Soft Key 2** labelled **Disable** within 5 seconds to ensure the instrument does not enter USB drive mode. This option can be disabled, see **USB Drive** for more information.














In all power configurations press the **Power Key** once to switch the instrument on. The instrument will take several seconds to boot and load configuration settings.

To switch the instrument off, hold the **Power Key** down for two seconds and follow the on-screen instructions, note that if no key is pressed within two minutes of switching the sound level meter on then the unit will automatically power down.



# Instrument Icons

Several icons are used on the dBAir sound level meter to easily identify the functionality or useful settings of the instrument: -

	Low Measuring Range Active
	High Measuring Range Active
	User Template Active
	Voice Memo Recorded (Flashes whilst recording)
	*Noise Event Recorded (Flashes whilst recording)
	USB Active
	WiFi Connected / Signal Strength
	WiFi - Error with Connection
	Uploading Data/ Audio via WiFi to TheCastleCloud software <ul style="list-style-type: none"> <li>• <i>Also indicates file(s) queued</i></li> </ul>
	Battery Charge
	Recording Data Active
	Recording Data Stopped
	File Review Active

\*Where option fitted

# Icon Location

---

The top light blue bar on your dBAir instrument displays most of the information icons, the current time, date and the current screen selected: -



The bottom dark blue bar will display the Record, File Review or Stop symbols in a similar position to the image shown below. Note that the image below may have different text to those on your display: -



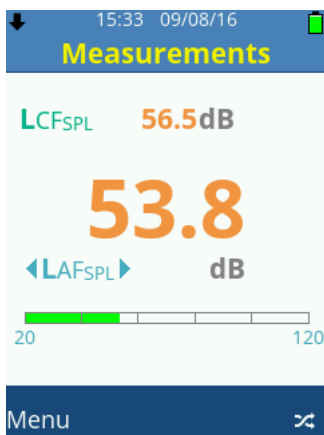
# Chapter 5

## Using Your dBAir

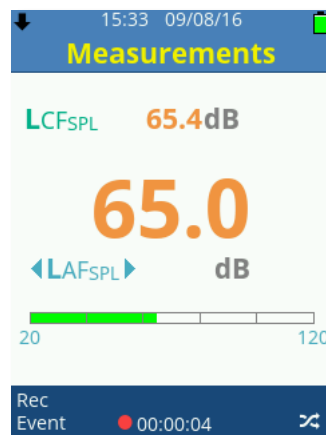
The dBAir sound level meter has three primary operational modes, these are: -

- Real Time
- Recording
- File Review

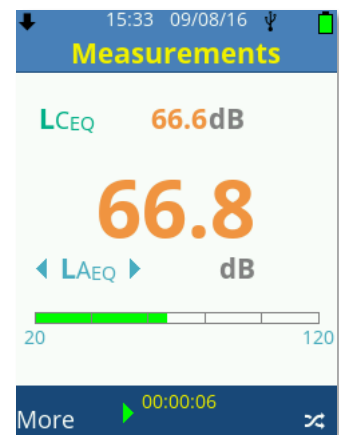
Each can be quickly identified by viewing the bottom bar, Real Time has no icon, Record has a standard red record symbol and File Review has a standard green play symbol: -



Real Time



Record



File Review

## Real Time

This is the standard mode of operation for your dBAir sound level meter.

The menu system can be accessed whilst in real time mode and the instrument settings changed if required.

Measurement screens are accessible but not all parameters are available whilst real time mode is active.

It is possible to reset parameters in real time mode by quickly pressing the **Power** Key, note that when Screen Shot is enabled the **Power** key cannot be used to reset parameters.

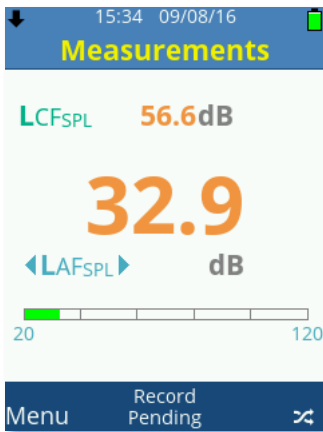
File Review or Recording a data file can both be achieved through real time operation.

# Recording

Recording data is achieved by pressing the **Record** key.

The settings for the recording are all made under **Measurement Setup, Data Recording**.

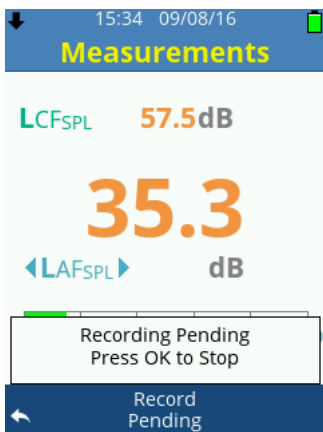
If **Smart Timers** or **Start On** have been selected, then the instrument may show Record Pending: -



This indicates that a recording is scheduled to start at the specific time or date set.

**DO NOT** switch off the instrument as the recording will not take place whilst the instrument is off.

To stop a pending recording press the **Stop** key whilst in any measurement screen: -



Press the **OK** key to stop the recording or **Soft Key 1** to cancel the stop request.



# Recording Screen Display

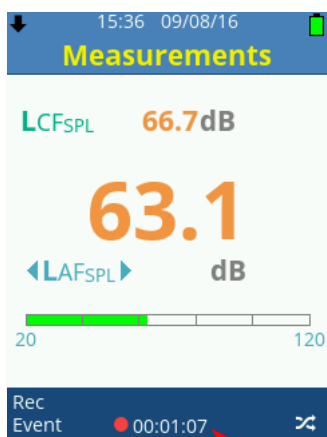
---

The settings made under Data Recording will affect the information and how its displayed on your dBAir instrument.

## Time History Disabled

---

If Time History is not enabled for the recording, the bottom bar will only indicate the elapsed recording time: -

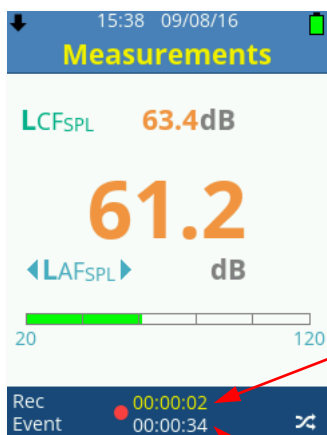


Elapsed Recording Time

## Time History Enabled

---

When Time History is enabled for the recording, the bottom bar will display the elapsed recording time and the current long interval countdown time: -



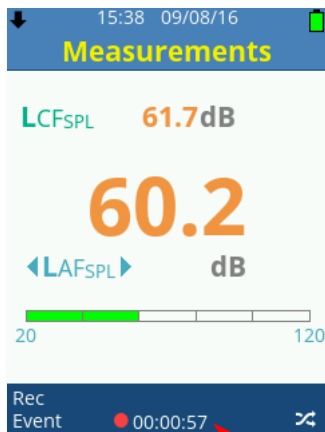
Long Interval Countdown Time

Elapsed Recording Time

## Time History Disabled, Duration Timer Set

---

When Time History is disabled for the recording but the Duration Timer is enabled, the bottom bar will only display the remaining recording time: -

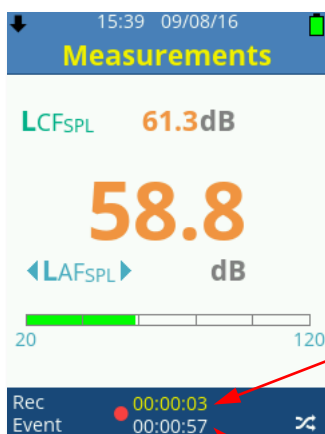


Remaining Recording Time

## Time History Enabled, Duration Timer Set

---

When both Time History and Duration Timer are enabled for the recording, then the bottom bar will display the remaining recording time and the current long interval countdown time: -

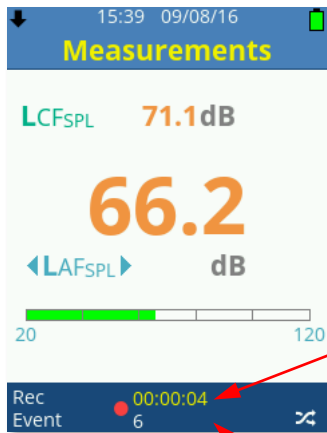


Long Interval Countdown Time

Elapsed Recording Time

## Time History Enabled, Interval Timer Set

When both Time History and Interval Timer are enabled for the recording, then the bottom bar will display the remaining interval timer repeats and the current long interval countdown time: -



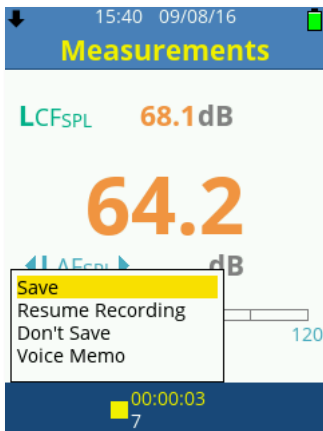
Long Interval Countdown Time

Remaining Interval Timer Repeats

# Stopping an Active Recording

---

Pressing the **Stop** key during an active recording will display a Yellow standard stop symbol to indicate the recording has been temporarily halted and will also display the available options: -



Scroll the available options using the **Up** or **Down Arrow** keys, press **OK** to choose from the following: -

- Save
- Resume Recording
- Don't Save
- Voice Memo

## Save

---

Select Save to save the recording using either manual or auto file naming as selected.

## Resume Recording

---

Select Resume recording to continue with the data recording, data will not be including during the time period that the recording was halted.

## Don't Save

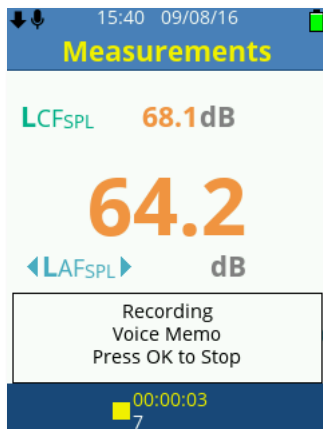
---

Select Don't Save to return to Real Time mode without saving the current recording.

## Voice Memo

---

Select Voice Memo to attach a voice memo audio recording to the current data recording.



Press the **Stop** key to stop the voice memo audio recording and return to the available options.

# File Review

---

The settings that were made under Data Recording will affect the information and how its displayed on your dBAir instrument.

Use the **Up** or **Down Arrow** keys to scroll measurement screens or the **Left** or **Right Arrow** keys to scroll measurement parameters.

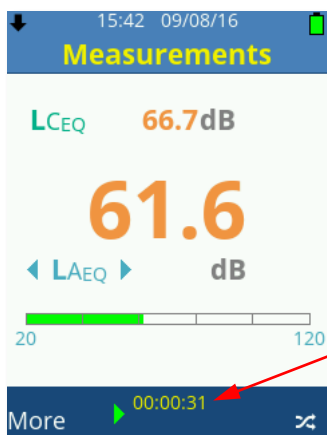
Use **Soft Key 2** to swap between measurement 1 or measurement 2 and Long Interval selection if Interval Timers have been used.

Use the **Left** or **Right Arrow** keys to scroll parameters and Long Interval selection if Interval Timers have been used.

## Time History Disabled

---

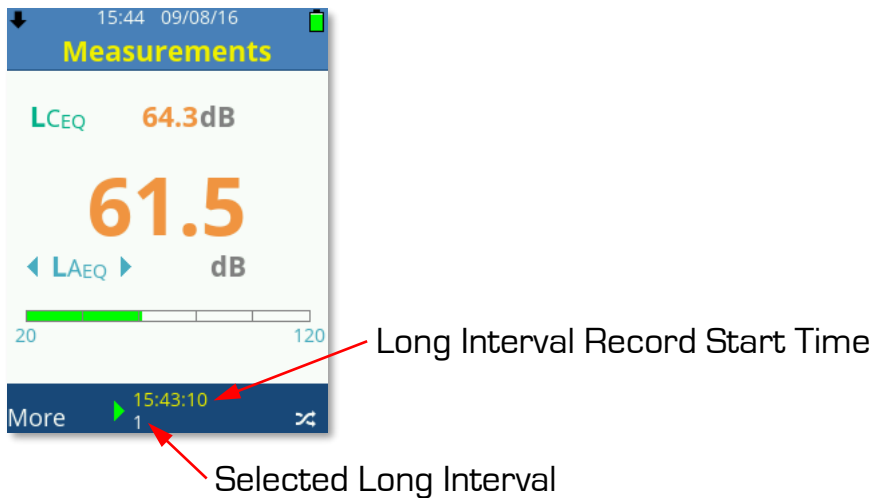
If Time History had not been enabled for the recording, the bottom bar will only indicate the total recording time: -



Total Record Time

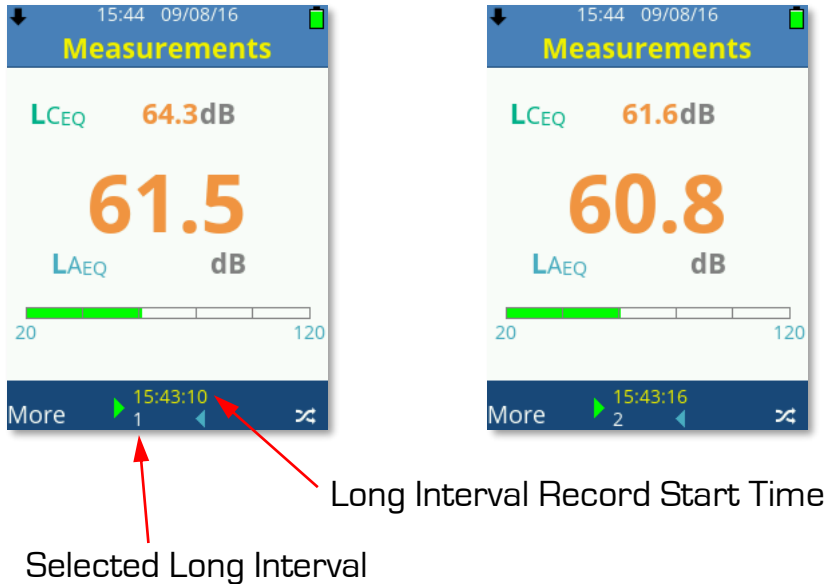
# Time History Enabled

If Time History had been enabled for the recording, the bottom bar will display the selected long interval and the time this long interval started recording: -



With the Long Interval Selected, use the **Left** or **Right Arrow** keys to scroll and select any of the Long Interval periods.

Use **Soft Key 2** to swap between measurement 1 or 2 and view data as required for any Long Interval period.



# Time History Disabled, Duration Timer Set

If Time History had not been enabled for the recording but the Duration Timer has, the bottom bar will only indicate the total recording time: -

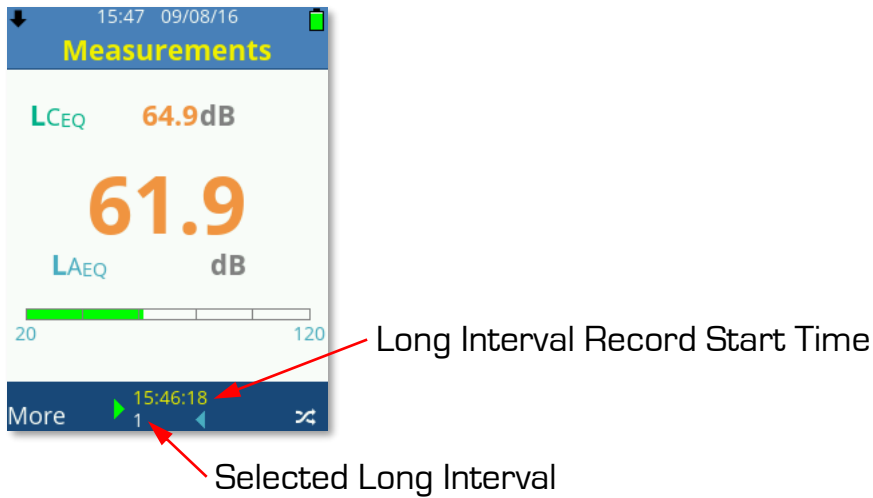


Total Record Time



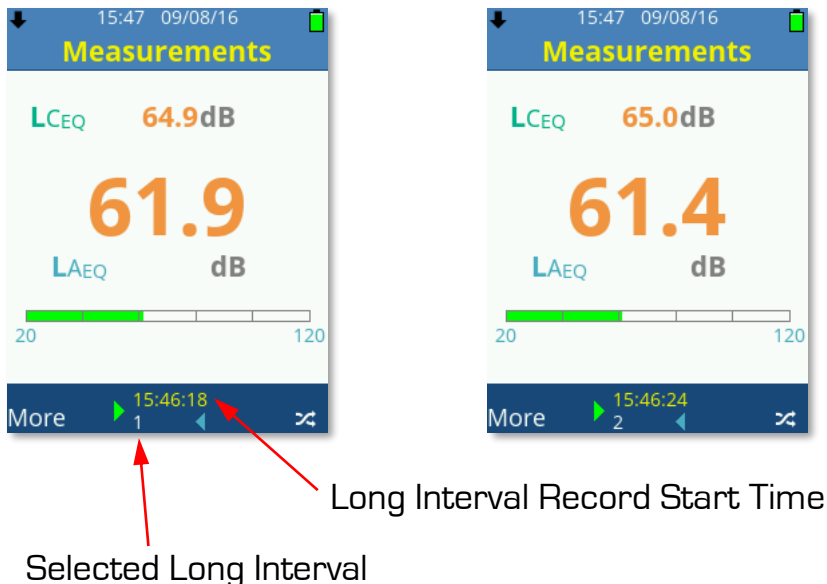
# Time History Enabled, Duration Timer Set

When both Time History and Duration Timer were enabled for the recording, then the bottom bar will display the remaining recording time and the current long interval countdown time: -



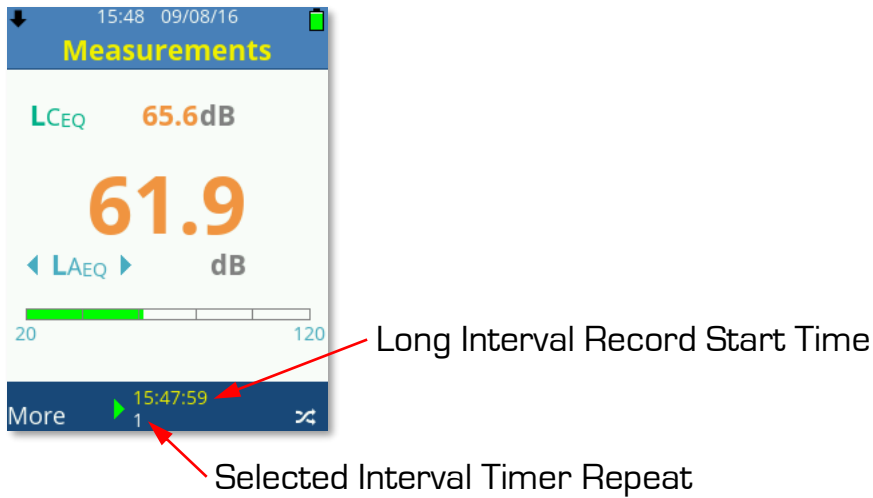
With the Long Interval Selected, use the **Left** or **Right Arrow** keys to scroll and select any of the Long Interval periods.

Use **Soft Key 2** to swap between measurement 1 or 2 and view data as required for any Long Interval period.



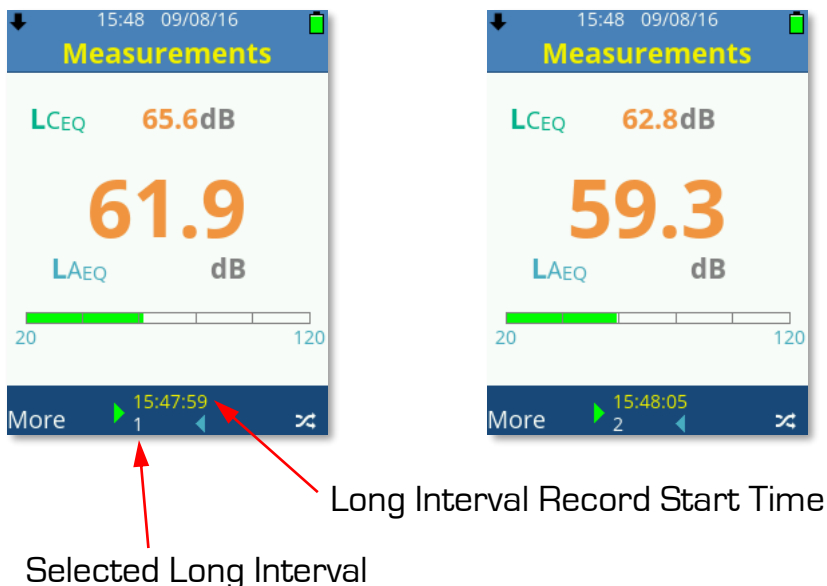
# Time History Enabled, Interval Timer Set

When both Time History and Interval Timer were enabled for the recording, then the bottom bar will display the selected Long Interval record start time and the selected Interval Timer Repeat: -



With the Long Interval Selected, use the **Left** or **Right Arrow** keys to scroll and select any of the Long Interval periods.

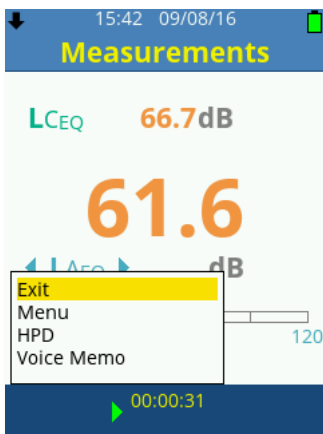
Use **Soft Key 2** to swap between measurement 1 or 2 and view data as required for any Interval Timer Repeat.



# File Review Options

---

During File Review, press Soft Key 1 to display the available options: -



Scroll the available options using the **Up** or **Down Arrow** keys, press **OK** to choose from the following: -

- Exit
- Menu
- HPD
- Voice Memo

## Exit

---

Select Exit to quit File Review mode and return to Real Time mode.

## Menu

---

Select Menu to access the menu system of the dBair sound level meter, the File Review mode remains active.

## HPD

---

Access the Hearing Protector Database using the file open in File Review.

## Voice Memo

---

Select Voice Memo to attach a voice memo audio recording to the current data recording.

Press the **Stop** key to stop the voice memo audio recording and return to the available options.

# Chapter 6

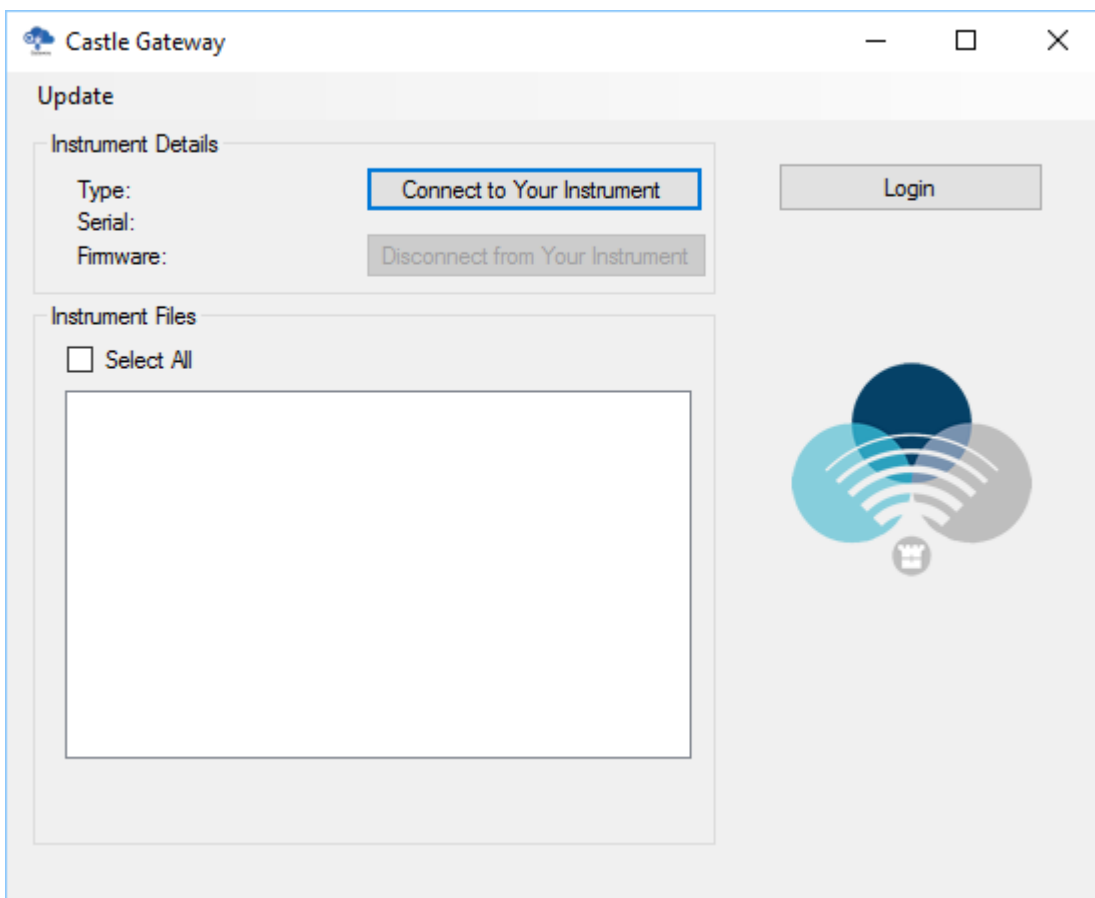
## TheCastleCloud Gateway

The Castle Gateway app allows you to upload your recordings via your PC using the included Micro USB Cable and your PC's internet connection. You can also update your instruments software as and when required. An alert in The Castle Cloud will inform you when updates are available.

The Gateway app can be downloaded from [TheCastleCloud.com](http://TheCastleCloud.com) and installed on any computer.

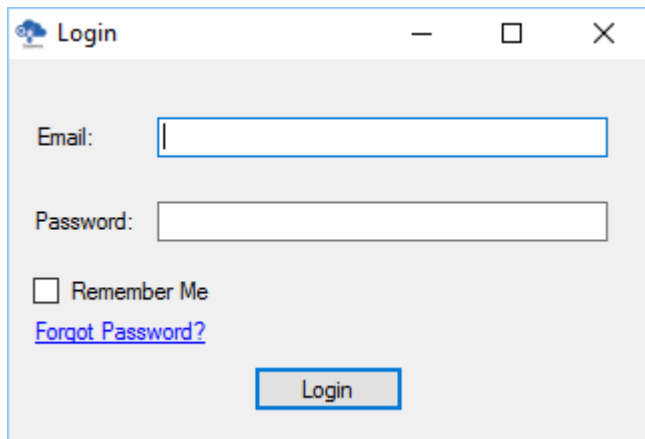


Double click the launch icon to run the application: -



# Logging In

With the Castle Gateway application open, login to your CastleCloud account by clicking on the **Login** button: -

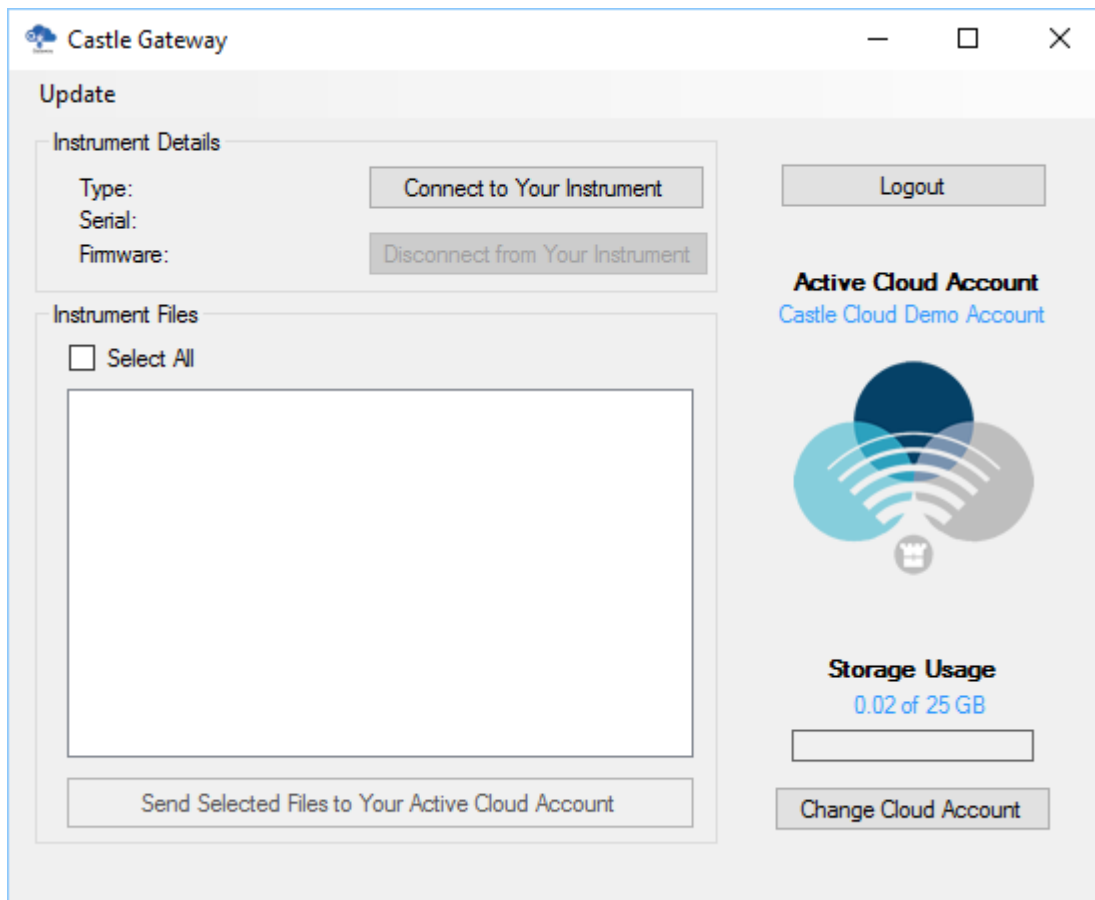


The screenshot shows a window titled "Login" with a standard Windows title bar (minimize, maximize, close). The window contains the following elements:

- An "Email:" label followed by a text input field.
- A "Password:" label followed by a password input field.
- A checkbox labeled "Remember Me".
- A blue hyperlink labeled "Forgot Password?".
- A "Login" button at the bottom center.

Enter your login details and if required tick **Remember Me** to save your login details.

Click the **Login** Button to login using the details provided. Once logged in successfully the active account will be shown: -



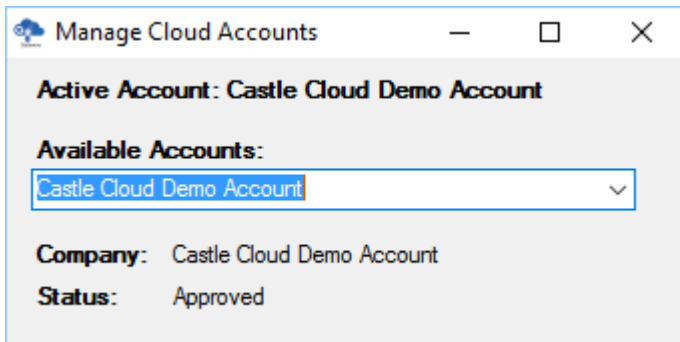
The screenshot shows the main interface of the "Castle Gateway" application. The window title is "Castle Gateway". The interface is divided into several sections:

- Update** section:
  - Instrument Details**: Includes fields for "Type:", "Serial:", and "Firmware:". To the right are two buttons: "Connect to Your Instrument" and "Disconnect from Your Instrument".
  - Instrument Files**: Includes a "Select All" checkbox and a large empty list box. Below the list box is a button labeled "Send Selected Files to Your Active Cloud Account".
- Active Cloud Account** section:
  - Text: "Active Cloud Account" and "Castle Cloud Demo Account".
  - Icon: A stylized cloud icon with a Wi-Fi signal symbol inside.
  - Storage Usage**: Shows "0.02 of 25 GB" with a progress bar below it.
  - Button: "Change Cloud Account".
- Logout** button: Located at the top right of the main content area.

# Change Account

---

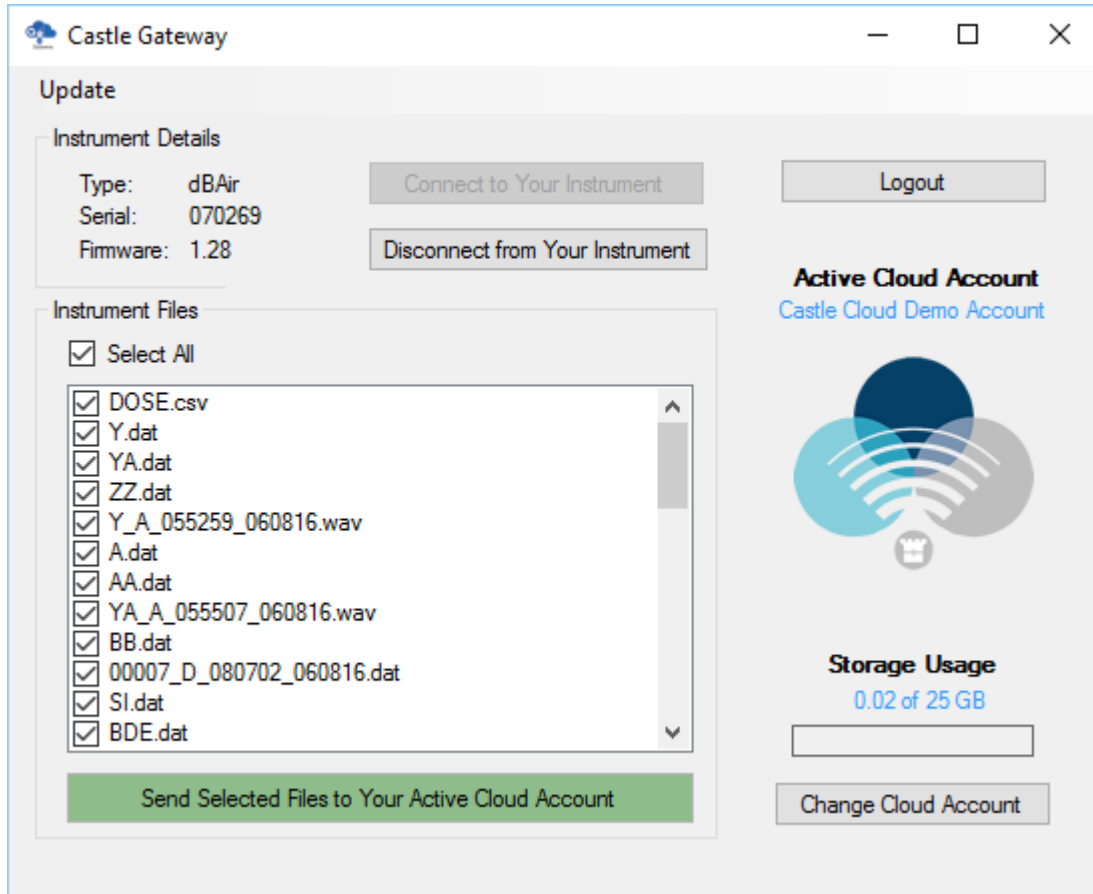
If multiple accounts are held then click on the **Change Cloud Account** button and select the required account: -



# Connect to dBAir

Ensure the dBAir sound level meter is switched on and attach the supplied USB cable to the sound meter and your PC. Your PC must also be connected to the internet.

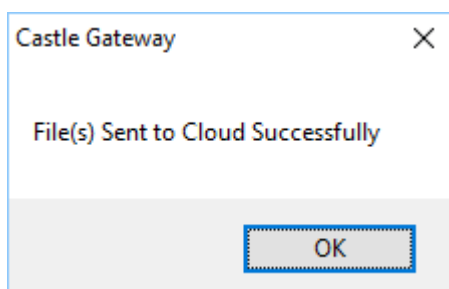
USB Drive must be activated to allow the gateway application access to your dBAir sound meter, see USB Drive for more details if required: -



A list of all files that can be sent to your CastleCloud account will be displayed within the application.

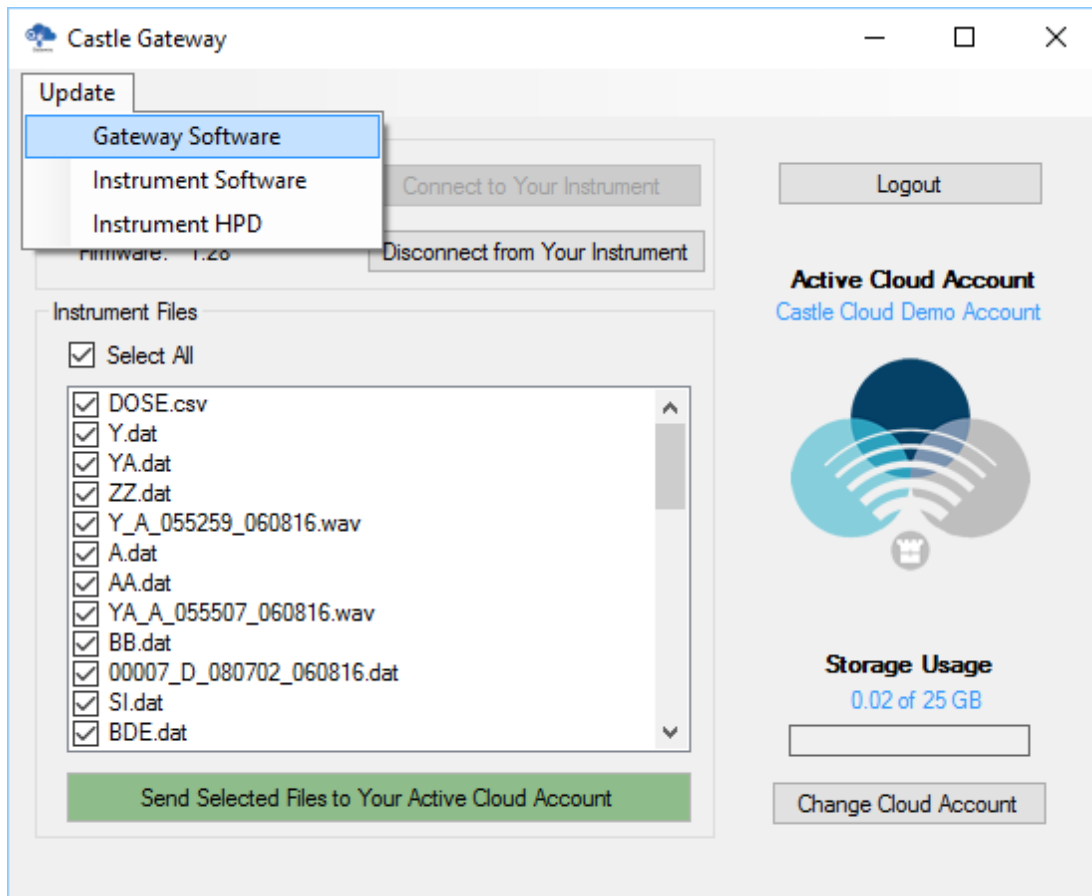
Select the file(s) that you wish to send and then click on the **Send Selected Files to Your Active Cloud Account** button.

All selected files will then be uploaded and viewable online through your CastleCloud account.

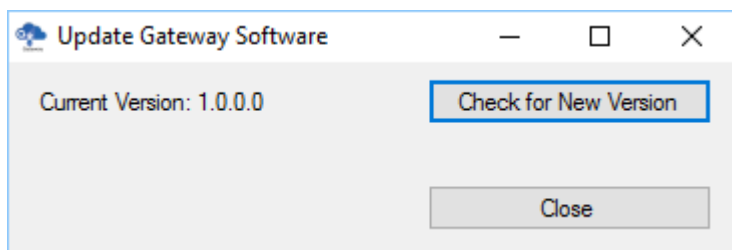


# Update Gateway Software

Select **Update** and then **Gateway Software**: -



The current Gateway Software version is displayed: -

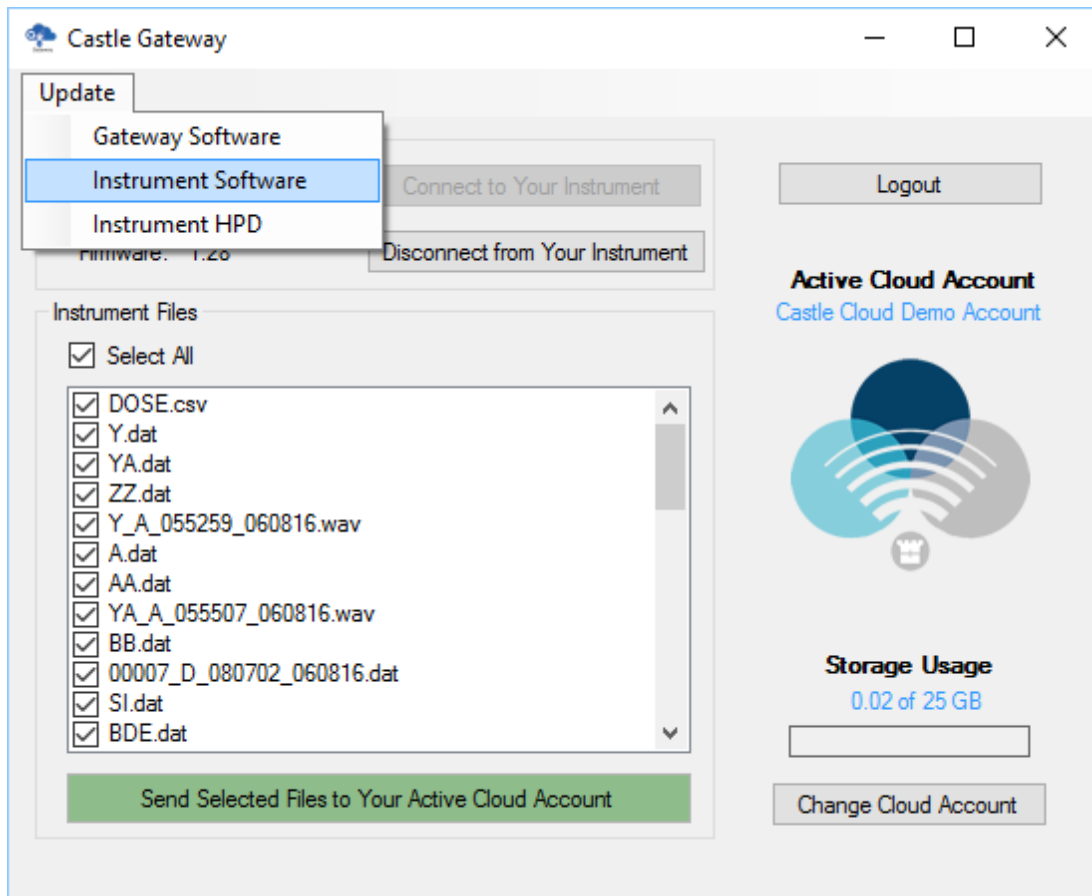


Click on **Check for New Version** to check TheCastleCloud.com for updated software and follow on screen prompts as required.

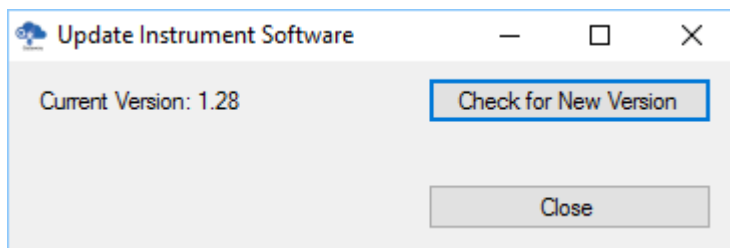


# Update Instrument Software

Select **Update** and then **Instrument Software**: -



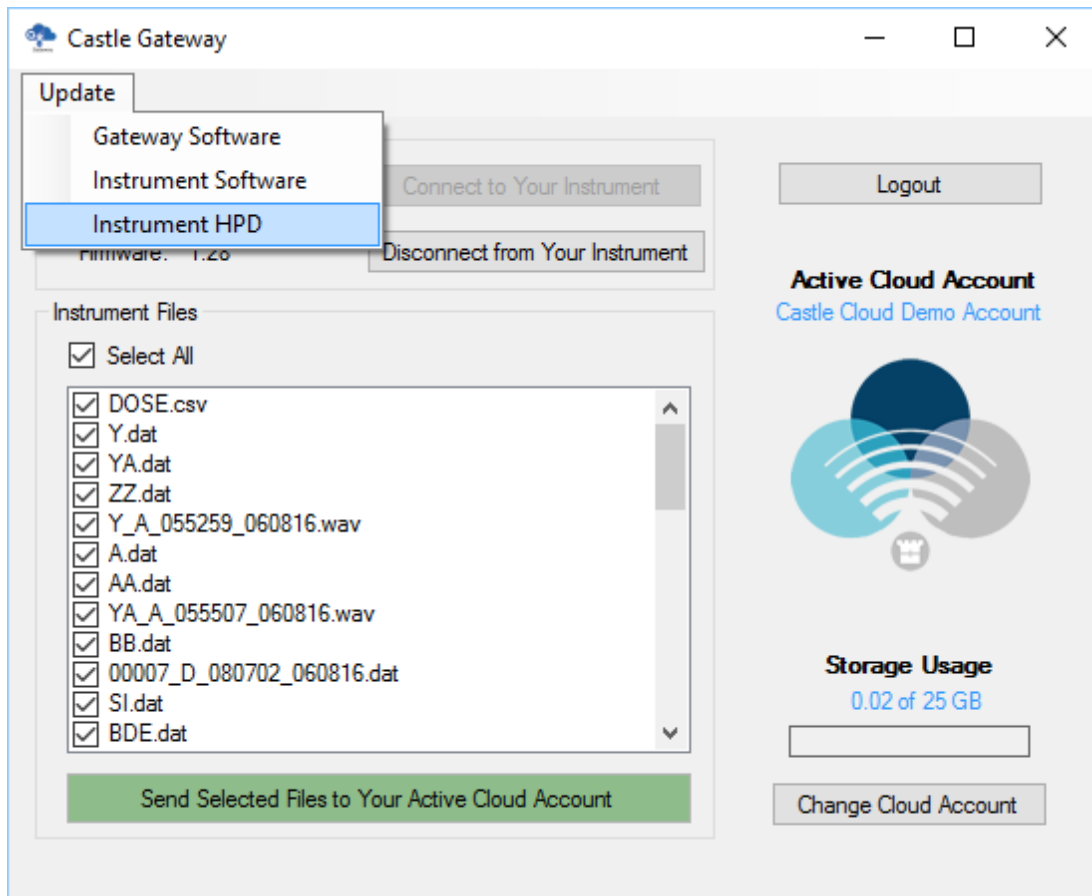
The current Instrument Software version is displayed: -



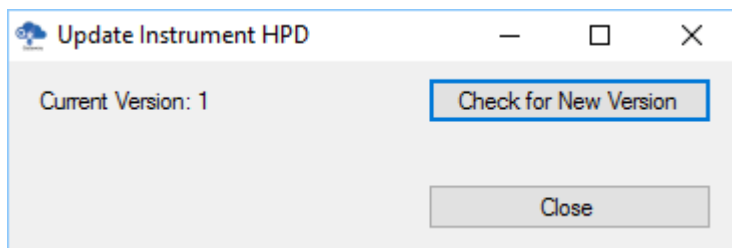
Click on **Check for New Version** to check TheCastleCloud.com for updated software and follow on screen prompts as required.

# Update Instrument HPD

Select **Update** and then **Instrument HPD**: -



The current Instrument HPD version is displayed: -



Click on **Check for New Version** to check TheCastleCloud.com for an updated version and follow on screen prompts as required.

# Chapter 7

## Menu Navigation & Settings

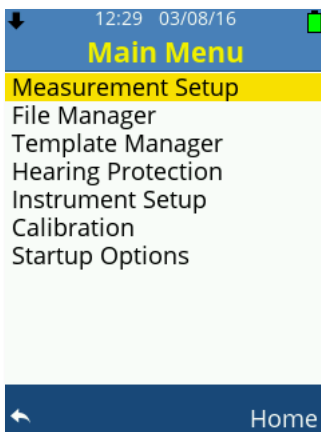
---

The Main Menu is available to all models of dBAir sound level meters and is selected using **Soft Key 1** when labelled as **Menu**.

On most screens within the dBAir menu system, **Soft Key 1** can be used to go back to the previous screen, this will be displayed using the ◀ symbol when available.

Similarly, **Soft Key 2** can be used to go back to the measurement screen, this will be displayed as **Home** when available.

The Main Menu is not available when the sound level meter is recording: -



Scroll the available options using the **Up** or **Down Arrow** keys, press **OK** to choose the highlighted selection.



Hold down the Directional Arrow keys to rapidly amend or scroll selections

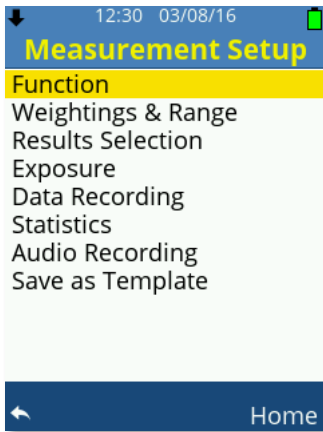
---

# Measurement Setup

---

Select Measurement Setup to change how and what your sound level meter records and displays.

Scroll the available options using the **Up** or **Down Arrow** keys, press **OK** to choose the highlighted selection.

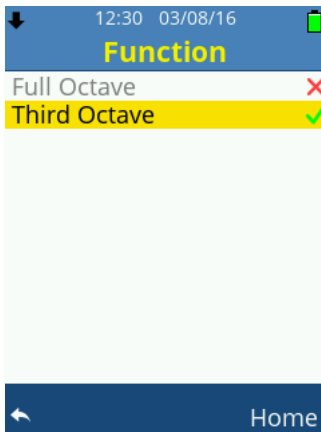


# Function

---

Scroll the available options using the **Up** or **Down Arrow** keys, press **OK** to choose the highlighted selection.

Octave band analysis does not have to be used and can be disabled as required. Only one analysis method can be selected at any time and all analysis is on Measurement One only.



## Full Octave

---

When the function Full Octave is selected, full octave band analysis is performed on measurement one and will produce the additional following parameter data for the short and long interval if used at the following frequencies: -

### Frequencies

16Hz, 31.5Hz, 63Hz, 125Hz, 250Hz, 500Hz, 1kHz, 2kHz, 4kHz, 8kHz, 16kHz

### Short Interval

Leq, Lmin, Lmax, Lpeak, Le\*

### Long Interval

Leq, Lmin, Lmax, Lpeak, Le\*, Ln1\*, Ln2\*, Ln3\*, Ln4\*, Ln5\*, Ln6\*, Ln7\*, Ln8\*, Ln9\*, Ln10\*

*\*Where fitted, and enabled*

## Third Octave

---

When the function Third Octave is selected, one third octave band analysis is performed on measurement one and will produce the additional following parameter data for the short and long interval if used at the following frequencies: -

### Frequencies

12.5Hz, 16Hz, 20Hz, 25Hz, 31.5Hz, 40Hz, 50Hz, 63Hz, 80Hz, 100Hz, 125Hz, 160Hz, 200Hz, 250Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 4kHz, 5kHz, 6.3kHz, 8kHz, 10kHz, 12.5kHz, 16kHz, 20kHz

### Short Interval

Leq, Lmin, Lmax, Lpeak, Le\*

### Long Interval

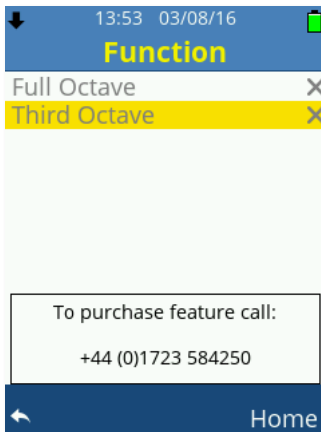
Leq, Lmin, Lmax, Lpeak, Le\*, Ln1\*, Ln2\*, Ln3\*, Ln4\*, Ln5\*, Ln6\*, Ln7\*, Ln8\*, Ln9\*, Ln10\*

*\*Where fitted, and enabled*

## Upgrade to Octave Band Analysis

---

If your particular dBAir model doesn't not have access to octave band analysis, either full octave and/or third octave, then you will be shown the screen below.



You can upgrade your dBAir sound level meter remotely from your office in a matter of minutes. Call us on +44 (0) 1723 584250.

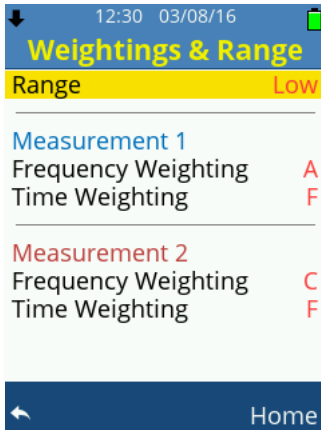
---

# Weightings & Range

---

Select Weightings & Range to change the measurement range and the weightings that are applied to each measurement.

Scroll through the available options using the **Up** or **Down Arrow** keys and use the **Left** or **Right Arrow** keys to amend the selection.



## Range

---

Your dBAir is fitted with two operating ranges named Low and High.

The Low range measures linearly from 25dB to 100dB whilst the High range measures linearly from 45dB to 140dB.

For display scaling purposes, the displayed ranges on the instrument show 20dB to 100dB for the Low range and 40dB to 140dB for the High range.

## Frequency Weighting

---

Your dBAir sound level meter simultaneously measures sound on Measurement 1 and Measurement 2 and each can have independent Frequency Weightings applied.

Select between 'A', 'C' or 'Z' weightings.

## Time Weighting

---

Your dBAir sound level meter simultaneously measures sound on Measurement 1 and Measurement 2 and each can have independent Time Weightings applied.

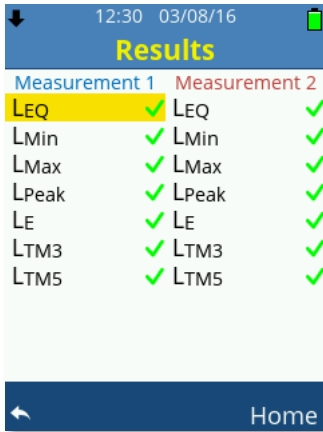
Select between 'S' - Slow, 'F' - Fast or 'I' - Impulse weightings.



# Results Selection

Under Results Selection you can select which standard results you wish to enable. Those that are enabled are displayed on the instrument and are recorded, any that are disabled will neither be displayed nor recorded.

Scroll the available options using the directional **Arrow** keys, press **OK** to toggle the highlighted selection.



Please note that the above screen may differ to the model of dBair sound level meter you own, an example of another model is shown below where certain parameters are not available: -

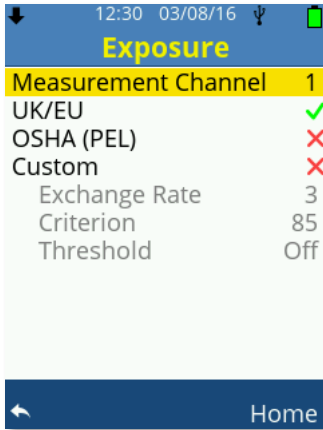


# Exposure

---

Under Exposure you can enable or disable if your dBAir sound level meter displays and records exposure data.

Scroll the available options using the directional **Arrow** keys, press **OK** or the **Left, Right Arrow** keys to toggle the highlighted selection.



## UK/EU

---

Select this option for requirements meeting UK or EU legislation. Exchange Rate, Criterion and Threshold are fixed as below: -

- Exchange Rate = 3
- Criterion = 85
- Threshold = Off

When UK/EU is selected the Exposure measurement screen displays and records the following parameters: -

- LEP<sub>d</sub>, DOSE (Pa<sup>2</sup>h), POINTS, POINTS/Hr

If any other display language other than English is selected the Exposure measurement screen displays and records the following parameters: -

- LEP<sub>d</sub>, DOSE (%)

## OSHA (PEL)

---

Select this option for requirements meeting OSHA (PEL) legislation. Exchange Rate, Criterion and Threshold are fixed as below: -

- Exchange Rate = 5
- Criterion = 90
- Threshold = 80

When OSHA (PEL) is selected the Exposure measurement screen displays and records the following parameters: -

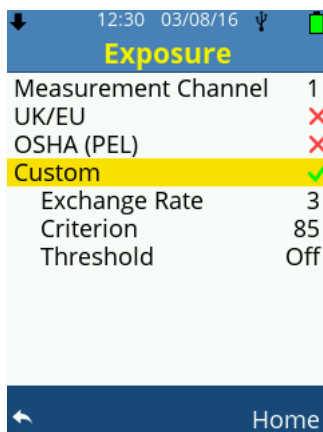
- LAVG, DOSE [%], TWA

## Custom

---

Select this option to manually set legislation requirements as needed: -

- Exchange Rate = 3, 4, 5 or 6
- Criterion = 70, 75, 80, 85, 90 or 95
- Threshold = Off, 70, 75, 80, 85, 90 or 95



Scroll the available options using the directional **Arrow** keys, press **OK** or the **Left, Right Arrow** keys to amend the setting.

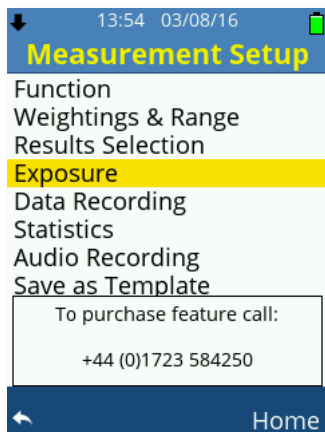
When Custom is selected the Exposure measurement screen displays and records the following parameters: -

- LAVG, DOSE [%], TWA

## Upgrade to Exposure

---

If your particular dBAir model doesn't have access to Exposure data, then you will be shown the screen below.



You can upgrade your dBAir sound level meter remotely from your office in a matter of minutes. Call us on +44 (0) 1723 584250.

---

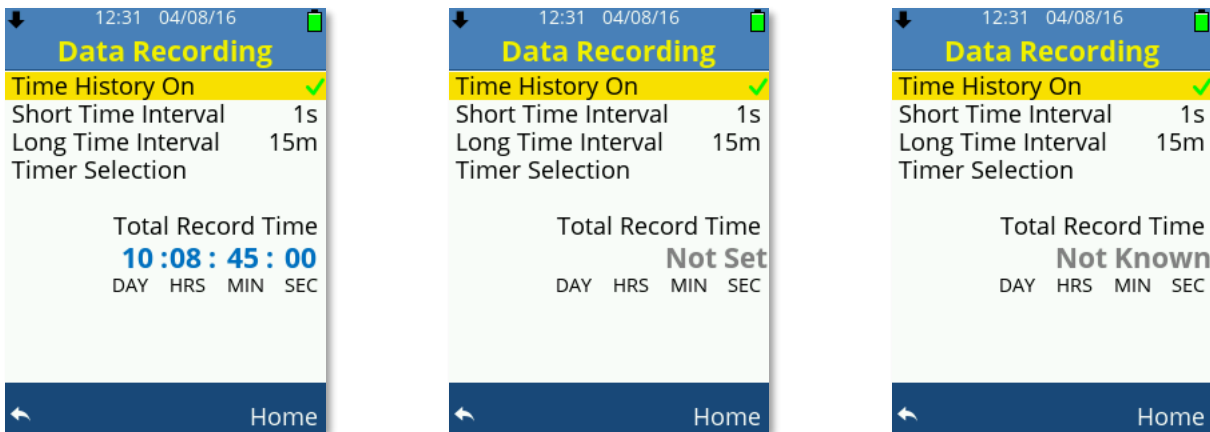
# Data Recording

Select Data Recording to determine if the data recording should contain a time history and if used which time interval periods are to be used.

The instrument records over the time periods determined by the Time History settings in conjunction with the settings made within the Timer Selection or by the user manually stopping the recording.

If a recording period can be calculated by the instrument this will be shown as the Total Record Time

Selections made within the Timer Selection where the instrument can calculate the record time, this will be shown on the Data Recording screen as the Total Record Time. If no settings are made with Timer Selection, then **Not Set** will be shown and if calculations of the record time can't be made then **Not Known** will be shown.



Scroll the available options using the **Up** or **Down Arrow** keys.

Press **OK** or the **Left, Right Arrow** keys to toggle Time History On.

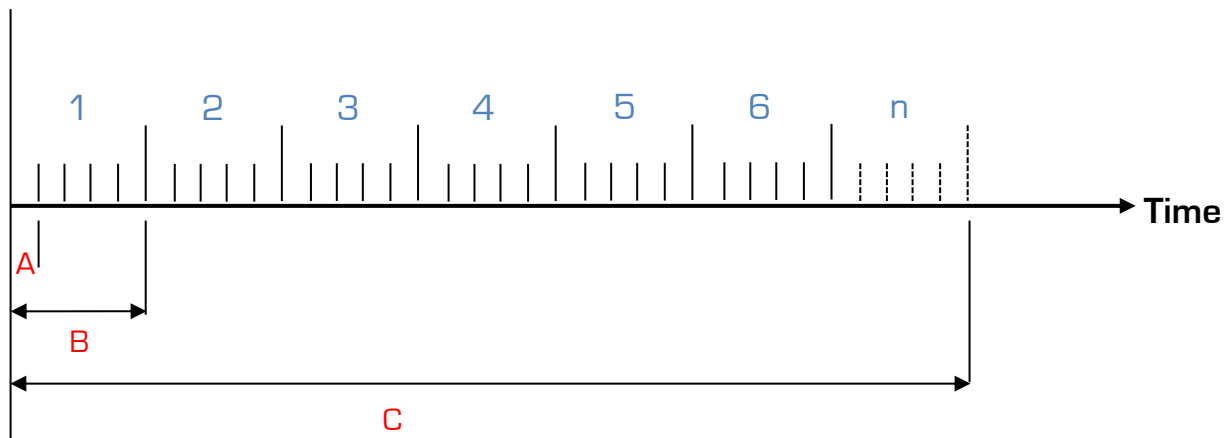
Use the **Left** or **Right Arrow** keys to amend the values for Short Time Interval and Long Time Interval.

Press the **OK** key to select Timer Selection.

## Time History On - Enabled

---

When Time History On is enabled the dBAir sound level meter will simultaneously and independently record data at the selected Short and Long Time Interval Settings.



### Start of Recording

Where: -

- **A** = Short Time Interval
- **B** = Long Time Interval
- **C** = Interval Timer, Smart Timer or Duration Timer, Total Measurement Length

**Note:** Long Time intervals do not have to be multiples of the Short Time interval.



Only calculations over the Long Time Interval are displayed on screen

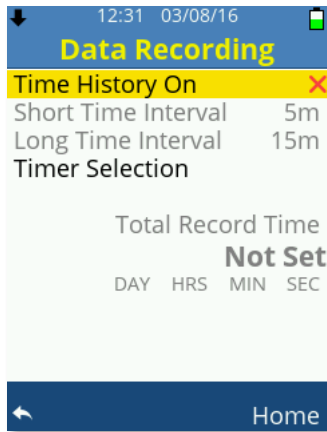
---

## Time History On - Disabled

---

If Time History On is disabled, then all data recordings made will not contain any Time History data and the Short and Long Time Interval settings become unavailable.

In this case, you will just get one set of measurements over the total measurement time.



## Short Time Interval

---

When Time History On is enabled, each recording will calculate data over the Short Time Interval selected.

The available options for the Short Time Interval are as follows: -

- 10ms, 100ms, 200ms, 500ms, 1 to 59s, 1 to 60m

If timers are used, then non-cumulative data is reset at the start of each Short Interval period.



Calculations over the Short Time Interval are not displayed on screen

---

## Long Time Interval

---

When Time History On is enabled, each recording will calculate data over the Long Time Interval selected.

The available options for the Short Time Interval are as follows: -

- 1 to 59s, 1 to 59m, 1 to 24Hr

If timers are used, then non-cumulative data is reset at the start of each Long Interval period.



Calculations over the Long Time Interval are displayed on screen if used

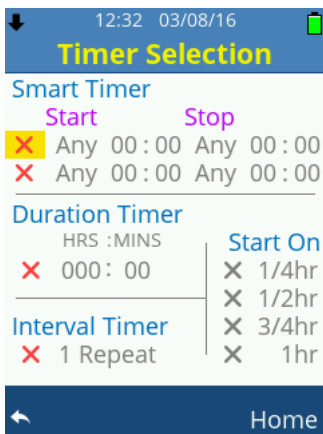
---



## Timer Selection

---

Choose Timer Selection to set the overall automatic recording length.



Scroll the available options using the **Up** or **Down Arrow** keys.

Press **OK** to toggle the selected option On/Off.

Only one of the following options can be enabled at any time: -

- Smart Timer
- Duration Timer
- Interval Timer

With the option enabled, use the **Left** or **Right Arrow** keys to move and highlight the selection to change. Use the **Up** or **Down Arrow** keys to amend the selection.



Time History needs to be enabled to use Interval Timer Repeat

---

## Smart Timer

The dBAir sound meter allows the use of two simultaneous Smart Timers where the user can select the Start/Stop day and the Start/Stop times.

Smart Timers can be used with or without Time History enabled.

The settings can be amended as shown below: -

### Start: (Day, Hours, Minutes)

- Day: Any, Mon, Tue, Wed, Thu, Fri, Sat, Sun
- Hours: 00 to 23
- Minutes: 00 to 59

### Stop: (Day, Hours, Minutes)

- Day: Any, Mon, Tue, Wed, Thu, Fri, Sat, Sun
- Hours: 00 to 23
- Minutes: 00 to 59

---

The Data Recording screen shows the Total Record Time if Day is not set to Any



Timer will not be started until the **Record** key is pressed whilst in the measurement screen

**THE INSTRUMENT HAS TO BE ON FOR ANY TIMER TO OPERATE**

---

## Duration Timer

The Duration Timer allows the user to manually enter the total recording time and can be used with or without Time History enabled.

The settings can be amended as shown below: -

- 000 to 999 HRS, 00 to 59m



The option Start On becomes available if Duration Timer is enabled

---

## Interval Timer

The Interval Timer is only available when Time History On is enabled and allows the user to select how many times to repeat the Long Time Interval.

The total recording time is hence the Long Time Interval \* Repeat Selection

The repeat setting can be amended as shown below: -

- 1 to 1000



The option Start On becomes available if Interval Timer is enabled

---

## Start On

If required, the instrument can be set to start recording on the next Time Marker that is enabled for Start On.

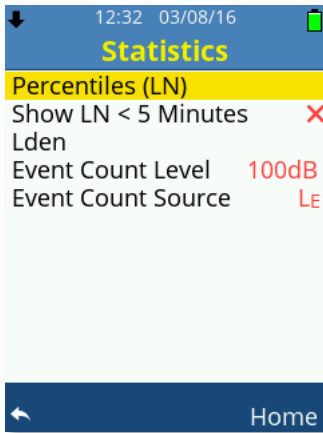
Example: If the current time is 9.10am and the Start On 15m is enabled then after the user presses the record button the recording will only start at 9.15am.

# Statistics

---

Select Statistics to determine if the data recording should contain statistical data which may be useful for environmental applications.

Statistics are only available to instrument models fitted with this feature.



Scroll the available options using the **Up** or **Down Arrow** keys.

Press the **OK** key to select Percentiles (LN) or Lden.

Press **OK** or the **Left, Right Arrow** keys to toggle Show LN < 5 Minutes.

Use the **Left** or **Right Arrow** keys to amend the values for Event Count Level and Event Count Source.

## Percentiles

---

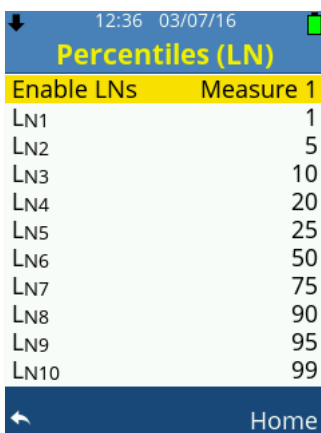
Choose Percentiles to enable or disable Percentiles, commonly referred to as LNs, by using the **OK** key or the **Left, Right Arrow** keys to amend Enable LNs between the following options: -

- Off, Measure 1, Measure 2 or Measure 1 & 2

When LNs are enabled the selection of individual LNs becomes available using the **Up** or **Down Arrow** keys to scroll.

A maximum of ten percentiles can be selected and each one (LN1 to LN10) can be individually set to the following value: -

- Off or 1 to 99



The screenshot shows a mobile application interface with a blue header bar containing the time '12:36' and date '03/07/16'. Below the header is a title bar 'Percentiles (LN)' in yellow. The main content is a table with two columns: 'Enable LNs' and 'Measure 1'. The table lists LNs from LN1 to LN10 with their respective Measure 1 values. At the bottom, there is a blue bar with a left arrow and the word 'Home'.

Enable LNs	Measure 1
LN1	1
LN2	5
LN3	10
LN4	20
LN5	25
LN6	50
LN7	75
LN8	90
LN9	95
LN10	99

Use the **Left** or **Right Arrow** keys to amend the values for each LN.

Press the **OK** key to toggle any LN Off/On. Individually disabled LN data will not be displayed or recorded.

## Show LN < 5 Minutes

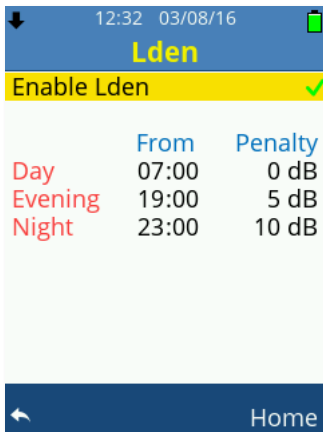
---

Percentiles (LNs) require at least 5 minutes recording to gather enough data to be accurate, however they may be shown where the recording time is lower than 5 minutes. Enable this option if this is required.

# Lden

---

Choose Lden to set day, evening and night settings.



Press **OK** or the **Left, Right Arrow** keys to toggle enable Lden.

When enabled Day, Evening and Night become available. Scroll the available options using the **Up** or **Down Arrow** keys and use the **Left** or **Right Arrow** keys to amend the values.

Day, Evening and Night can be individually set as follows: -

From [hh:mm]

- 00:00 to 23:59

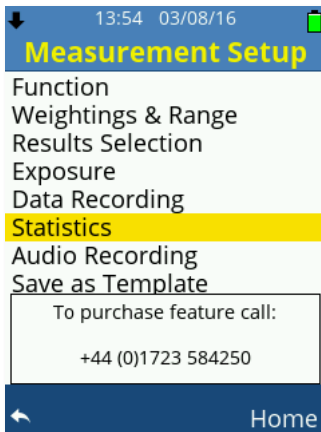
Penalty [dB]

- 0 to 20

## Upgrade to Statistics

---

If your particular dBAir model doesn't have access to Statistical data, then you will be shown the screen below.



You can upgrade your dBAir sound level meter remotely from your office in a matter of minutes. Call us on +44 (0) 1723 584250.

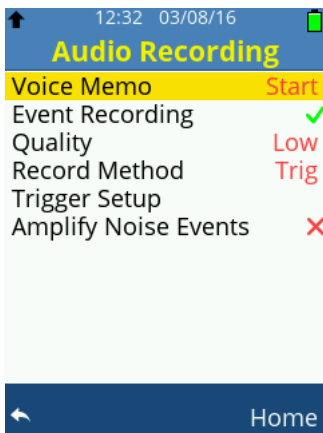
---

# Audio Recording

---

The Audio recording screen is available to all models of dBAir to allow setting Voice Memo audio recording.

Event recording however is only available to specific models.



Scroll the available options using the **Up** or **Down Arrow** keys.

Press **OK** or the **Left, Right Arrow** keys to toggle Event Recording.

Use the **Left or Right Arrow** keys to amend the Quality settings.

Use the **Left or Right Arrow** keys to amend the values for Quality and Record Method.

Press the **OK** key to select Trigger Setup.

Press **OK** or the **Left, Right Arrow** keys to toggle Amplify Noise Events.



## Voice Memo

---

Voice Memo allows the user to attach a voice recording to a data recording.

All voice memo audio files can be a maximum length of one minute and are saved as .wav file format, recorded at 12kHz, 16 bit and unweighted.

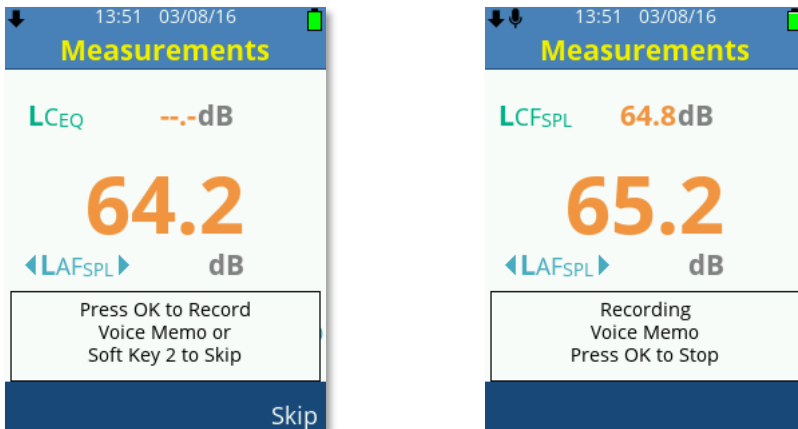
Settings for Voice Memo are as follows: -

- Start, End, Off

### Start

---

The user can be prompted automatically to attach a voice memo at the start of a recording.



Press the **OK** key to start a Voice Memo recording or **Soft Key 2** labelled **Skip** to start the data recording without creating a voice memo.

Press the **OK** key to stop the Voice Memo recording and start the data recording.



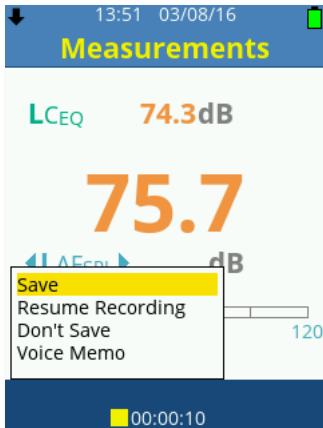
Whilst recording a Voice Memo, the Voice Memo icon will flash. Any data recording with a Voice Memo audio file displays the Voice Memo icon.

Multiple Voice Memo audio files can be attached to a data file if required.

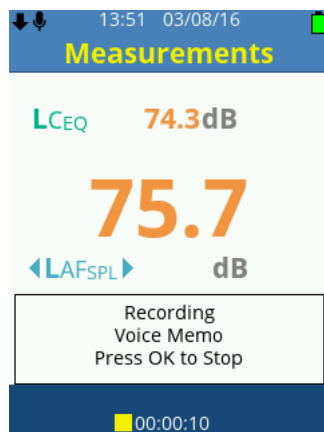
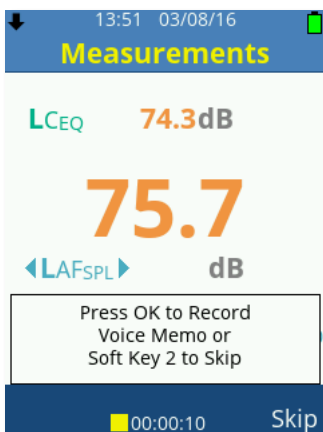
---

## End

The user can be prompted automatically to attach a voice memo at the end of a recording.



Scroll the available options using the **Up** or **Down Arrow** keys ensuring **Save** is selected and press the **OK** key.



Press the **OK** key to start a Voice Memo recording or **Soft Key 2** labelled **Skip** to save the data recording without creating a voice memo.

Press the **OK** key to stop the Voice Memo recording and save the data recording.



Whilst recording a Voice Memo, the Voice Memo icon will flash. Any data recording with a Voice Memo audio file displays the Voice Memo icon.

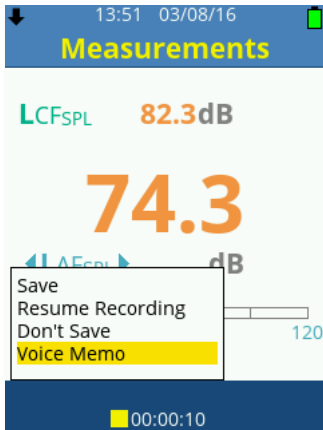
Multiple Voice Memo audio files can be attached to a data file if required.

## Off

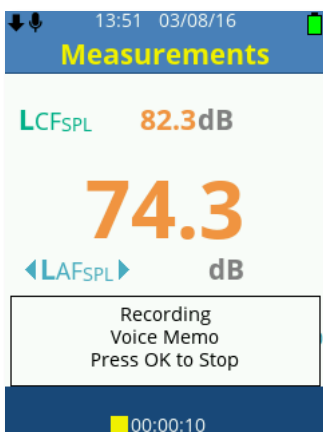
Select Off for Voice Memo when automatic prompts are not required.

Adding a Voice Memo can still be achieved either during a recording, after a recording or when in file File Review to view a saved data file.

During a **data recording** press the **Stop** key, the recording is paused.

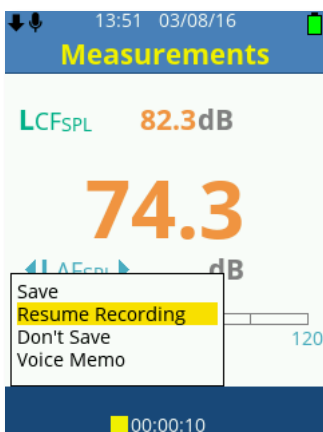


Use the **Up** or **Down Arrow** keys to highlight Voice Memo.



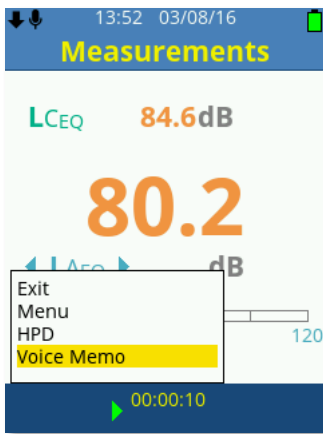
Press the **OK** key to start a Voice Memo recording or **Soft Key 2** labelled **Skip** to save the data recording without creating a voice memo.

Press the **OK** key to stop the Voice Memo recording and save the data recording.

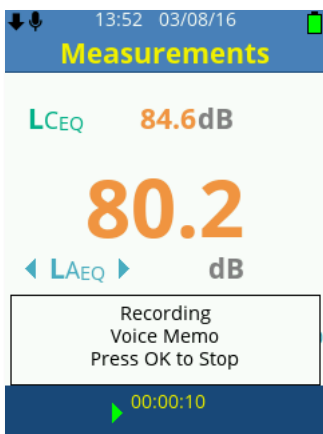


Select Resume Recording to continue the data recording or Save to save the file.

During **file File Review** press the **Stop** key, the recording is paused.



Use the **Up** or **Down Arrow** keys to highlight Voice Memo then press the **OK** key to start a Voice Memo recording.



Press the **OK** key to stop the Voice Memo recording and attach to the open data recording.



Whilst recording a Voice Memo, the Voice Memo icon will flash. Any data recording with a Voice Memo audio file displays the Voice Memo icon.

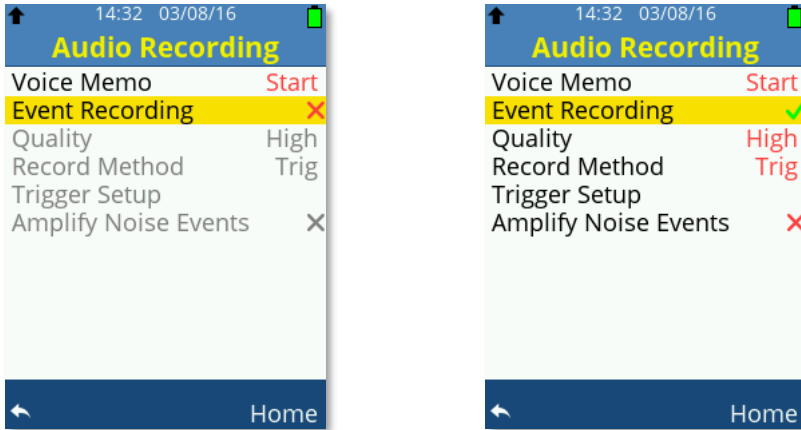
Multiple Voice Memo audio files can be attached to a data file if required.

## Event Recording

---

Event Recording is only available to specific models and is a powerful feature that allows the user to set automatic noise event audio recordings that are triggered and recorded as required.

All event recordings are saved as .wav file format, unweighted and limited to 2GB in size.



When Event Recording is enabled the options below become available for selection: -

- Quality
- Record Method
  - Trigger Setup - Becomes available when Record Method set to Trig
- Amplify Noise Events

### Quality

Set the recording quality of the Event Recording, the options are listed below: -

- Low = 12kHz, 16 Bit
- Med = 24kHz, 16 Bit
- High = 48kHz, 16 Bit



Higher quality audio produces larger file size noise event audio files.

---

## Record Method

Set the recording method of the Event Recording, the options are listed below: -

- Cont
- Trig

### Continuous (Cont)

---

Setting the recording method to Cont will produce a continuous noise event audio file as soon as the data recording is started, it will not require a trigger event. The audio file ends when the data recording ends or up to a maximum file size of 1.9GB.



Continuous Event Recording can create large audio files. Set with caution.

---

### Trigger (Trig)

---

When the recording method is set to Trig then the option Trigger Setup becomes available. Press the **OK** key to enter the Trigger Setup options.



Scroll the available options using the **Up** or **Down Arrow** keys.

## Trigger Edge

---

Use the **Left, Right Arrow** keys to select between: -

- Rise
- Fall

When set to **Rise**, triggering of the noise event audio file recording will begin when the Trigger Level is reached on the positive rising edge of the input noise, i.e. when the noise increases past the trigger level.

When set to **Fall**, triggering of the noise event audio file recording will begin when the input noise decreases falls below the Trigger Level on the negative falling edge of the input noise.

## Trigger Level

---

Use the **Left, Right Arrow** keys to adjust the Trigger Level as follows: -

- Low Range: 45.0 to 110.0 in 0.5dB resolution steps
- High Range: 45.0 to 135.0 in 0.5dB resolution steps

The Trigger Level is the decibel (dB) level at which when the input noise level crosses, on either the set Rising or Falling Edge, the trigger is set and the noise event audio recording begins.

It is not possible to adjust the value beyond 110.0dB on whilst on the Low range. If this is attempted the following warning will be shown: -



## Trigger Freq

---

Use the **Left, Right Arrow** keys to adjust the Trigger Frequency as required.

The available Trigger Frequencies depend on the operating function the dBAir sound level meter is set to.

If the dBAir is set to use the Full Octave function, then the following Trigger Frequencies are available: -

- All, 16Hz, 31.5Hz, 63Hz, 125Hz, 250Hz, 500Hz, 1kHz, 2kHz, 4kHz, 8kHz, 16kHz

If the dBAir is set to use the Third Octave function, then the following Trigger Frequencies are available: -

- All, 12.5Hz, 16Hz, 20Hz, 25Hz, 31.5Hz, 40Hz, 50Hz, 63Hz, 80Hz, 100Hz, 125Hz, 160Hz, 200Hz, 250Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 4kHz, 5kHz, 6.3kHz, 8kHz, 10kHz, 12.5kHz, 16kHz, 20kHz

Set the Trigger Frequency so that the triggering point of the noise event audio recording is isolated only to the frequency specified. The noise event audio recording is not affected and records as normal.

If the Trigger Frequency is set to All then no individual frequency is used to determine the triggering point of the noise event audio file.

If neither full or third octave functions are used, then the Trigger Frequency is set to All.

## Record Time

---

Set the Recording Time of the triggered noise event audio file.

Use the **Left, Right Arrow** keys to adjust the Hours, Minutes and Seconds as required.

Scroll the available options using the **Up, Down Arrow** keys or the **OK** key.

The maximum Record Time is 23:59:59 (hh:mm:ss)



Noise Event Recordings can create large audio files. Set with caution.



## Amplify Noise Events

Noise events are recorded within the audio range of the sound level meter and hence a recorded noise event may not be audible from a computer and speaker system.

Imagine a noise event recording is triggered at 100dB, a fairly loud noise event, however the dBAir sound level meter measures sound up to 140dB and as such the noise event is insignificant in comparison.

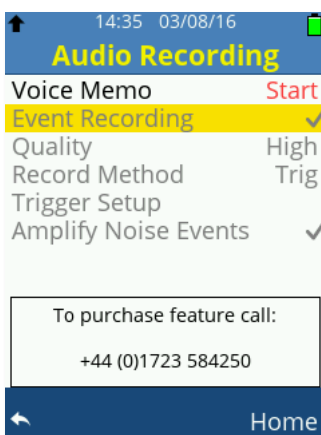
The un-amplified audio is required if the noise event audio is to be used for any legal reasons with your noise data or if you wish to re-measure the noise levels from the recorded file.

If you wish to audibly hear audio noise events, then enable this option which will automatically amplify noise event recordings so that the noise event recording can be identified easily.

Amplified Noise Events **ARE NOT** reversible to un-amplified audio.

## Upgrade to Event Recording

If your particular model of the dBAir sound level meter doesn't have access to Event Recording, then you will be shown the screen below.



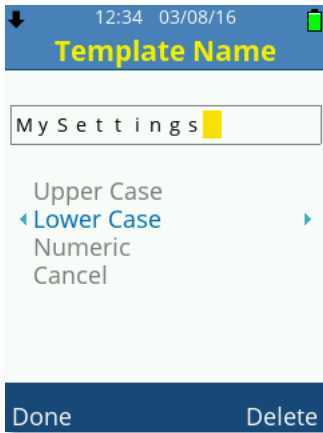
You can upgrade your dBAir sound level meter remotely from your office in a matter of minutes. Call us on +44 (0) 1723 584250.

# Save as Template

---

Choose Save as Template to save all current settings to a file known as a Template which can be loaded at any time to your exact requirements, quickly and easily.

Templates can be recalled using Template Manager in the Main Menu.



Scroll the available options using the **Up** or **Down Arrow** keys, by default Upper Case is selected.

Use the **Left, Right Arrow** keys to adjust the character as required: -

- Upper Case: A to Z
- Lower Case: a to z
- Numeric: 0 to 9

Press the **OK** key move to the next character and repeat the steps until you have successfully entered a template name.

Use **Soft Key 2** labelled **Delete** to delete the highlighted character if required.

Select Cancel to return to the previous screen without saving the template.

Use **Soft Key 1** labelled **Done** to save the template using the file name entered.



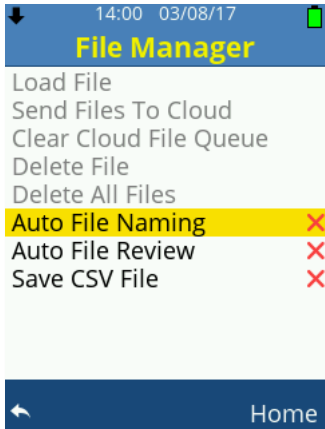
A maximum of 16 characters can be used for a template name.

---

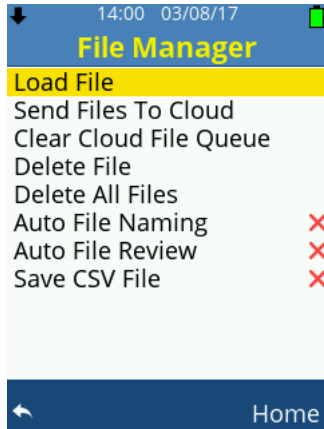
# File Manager

Select File Manager to load saved data files, send files to the cloud manually and set file orientated options.

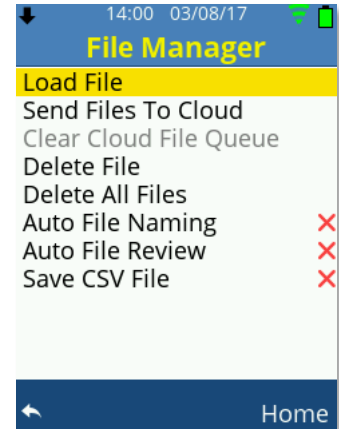
Option availability will depend on data files being saved and Wi-Fi being enabled: -



No files saved



Files saved, Wi-Fi Off



Files saved, Wi-Fi On

Scroll the available options using the **Up** or **Down Arrow** keys, press **OK** to choose from the following: -

- Load File
- Send Files To Cloud
- Clear Cloud File Queue
- Delete File
- Delete All Files

Press **OK** or the **Left, Right Arrow** keys to toggle the following: -

- Auto File Naming
- Auto File Review
- Save CSV File

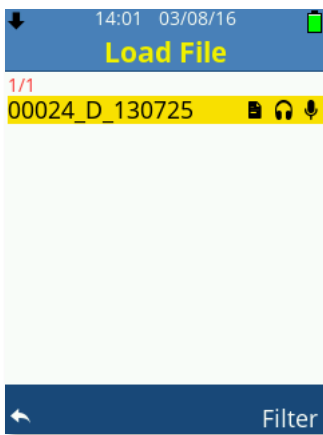
# Load File

---

Scroll the saved data files using the **Up** or **Down Arrow** keys, press the **OK** Key to open the selected file in File Review mode.

The file number and total number of data files saved are listed in red. If multiple files exist, then the **Left** or **Right Arrow** keys can be used to scroll the data files by page.

Associated icons are shown alongside the file name if the saved data file was created from a template, or any type of audio recordings are also associated with the file.



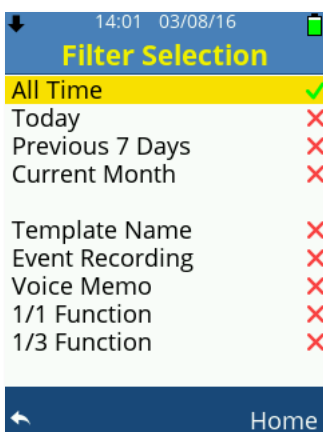
Press **Soft Key 2** labelled Filter to open a new window for file filtering options.

## Filter Selection

---

Filter the list of saved data files by the selections made.

Scroll the options using the **Up** or **Down Arrow** keys and press the **OK** Key or the **Left**, **Right Arrow** keys to toggle each available option.



Only one option from **All Time**, **Today**, **Previous 7 Days** or **Current Month** can be selected at any time.

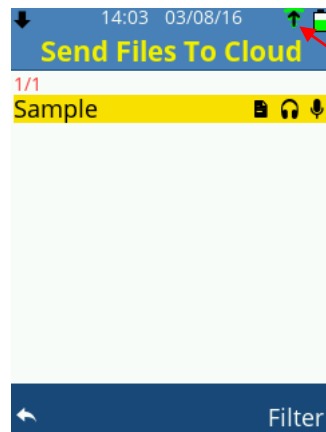
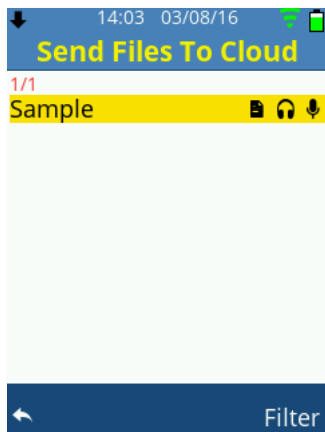
Some options may be grey and not selectable depending on your dBAir sound level meter model.

# Send Files To Cloud

Scroll the saved data files using the **Up** or **Down Arrow** keys, press the **OK** Key to manually send the selected file to TheCastleCloud.com. During an upload a black arrow will be shown over the Wi-Fi symbol.

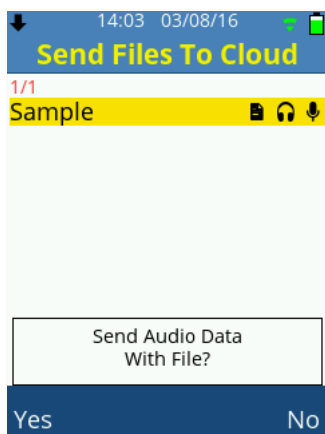
The file number and total number of data files saved are listed in red. If required press **Soft Key 2** labelled Filter to open a new window for file filtering options. If multiple files exist, then the **Left** or **Right Arrow** keys can be used to scroll the data files by page.

Associated icons are shown alongside the file name if the saved data file was created from a template, or any type of audio recordings are also associated with the file.



Arrow indicates Uploading

If the data recording contains any type of audio recording, then the following will be shown before the file is uploaded: -



Press **Soft Key 1** labelled **Yes** to upload all the associated audio files with the data file.

Press **Soft Key 2** labelled **No** to upload only the data file.



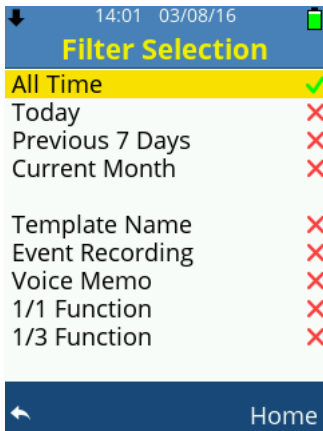
A reliable Wi-Fi internet connection is required to upload data using this option

## Filter Selection

---

Filter the list of saved data files by the selections made.

Scroll the options using the **Up** or **Down Arrow** keys and press the **OK** Key or the **Left, Right Arrow** keys to toggle each available option.



Only one option from **All Time**, **Today**, **Previous 7 Days** or **Current Month** can be selected at any time.

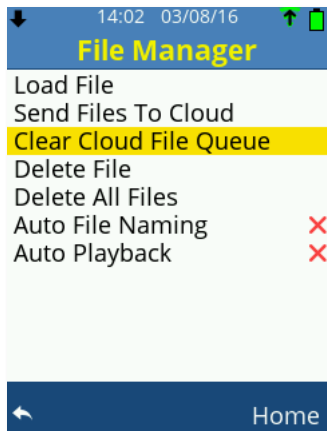
Some options may be grey and not selectable depending on your dBAir sound level meter model.

# Clear Cloud File Queue

---

Select Clear Cloud File Queue to cancel all the pending file uploads.

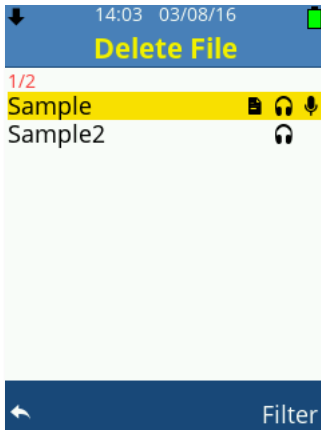
This option only becomes available if a file exists in the upload queue.



# Delete File

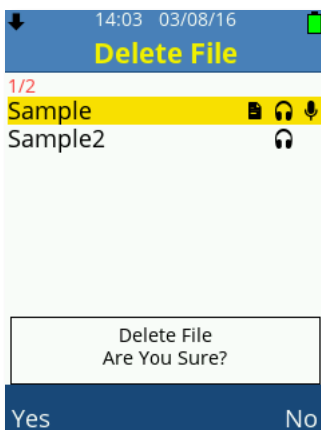
---

Choose Delete File to delete one individual data recording and any associated audio recordings.



Scroll the available data files using the **Up** or **Down Arrow** keys, press **OK** to select the file to delete.

If multiple files exist, then the **Left** or **Right Arrow** keys can be used to scroll the data files by page.



Press **Soft Key 1** labelled **Yes** to delete all the associated files.

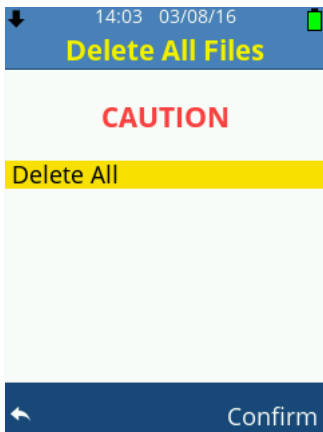
Press **Soft Key 2** labelled **No** to cancel.



# Delete All Files

---

Choose Delete All Files to delete all data recordings and all associated audio recordings.



Press **Soft Key 1** to cancel and go back to the previous screen.

Press **Soft Key 2** labelled **Confirm** to delete all files.



Deleted files are unrecoverable.

---

# Auto File Naming

---

When Auto File Naming is enabled, each data recording and all its associated audio files are automatically named using the naming structure below: -

COUNT_C_TIME_DATE.dat	Data File
COUNT_C_TIME_DATE.csv	Data CSV File
COUNT_V_TIME_DATE.wav	Voice Memo Wav File
COUNT_A_TIME_DATE.wav	Noise Event Audio Wav File

Each data file and any associated audio files begin with an incremental count: -

- 00001 to 99999

Each file is then tagged with one of the following for easy identification: -

- D - Data File
- C - CSV File
- V - Voice Memo
- A - Noise Event Audio File

Each file is then time and date stamped in the format as per language selected, in the UK this is as follow: -

- TIME - hhmmss
- DATE - ddmmyy



File names on the dBAir display are suppressed, the date is not visible.

---

When Auto File Naming is disabled, the user enters a file name manually.

Each data recording and all its associated audio files are structured as below: -

FILENAME.dat	Data File
FILENAME.csv	Data CSV File
FILENAME_V_TIME_DATE.wav	Voice Memo Wav File
FILENAME_A_TIME_DATE.wav	Noise Event Audio Wav File

Each audio file is then tagged with one of the following for easy identification: -

- V – Voice Memo
- A – Noise Event Audio File

Each audio file is then time and date stamped in the format as per language selected, in the UK this is as follow: -

- TIME – hhmmss
- DATE – ddmmyy

## Auto File Review

---

When Auto File Review is enabled then when each data recording ends and is saved either automatically or manually then the dBAir automatically displays the file.

## Save CSV File

---

Enable Save CSV File to also save a CSV file.

Converting the data file to the CSV file automatically occurs after the data file is saved and depending on the file size, may take several moments to complete.

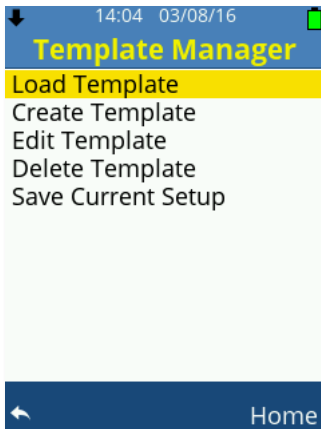
The CSV file can be copied from the USB Drive and opened in spreadsheet applications.

# Template Manager

---

Select Template Manager to load, save, edit or create templates.

Option availability will depend on user templates existing or factory pre-installed templates being supplied with your particular model of dBAir sound level meter.



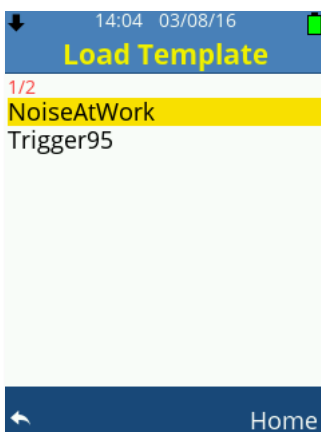
Scroll the available options using the **Up** or **Down Arrow** keys, press **OK** to choose the selection.

## Load Template

---

Scroll the available templates using the **Up** or **Down Arrow** keys, press **OK** to choose and load the highlighted template.

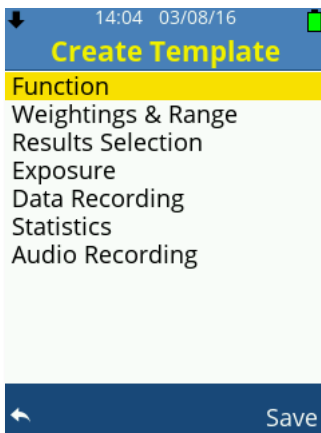
If multiple templates exist, then the **Left** or **Right Arrow** keys can be used to scroll the templates by page.



# Create Template

---

Select Create Template to change the instrument settings and store them into a new template.



Create Template is very similar to the Measurement Setup screen which can be referred to for further information.

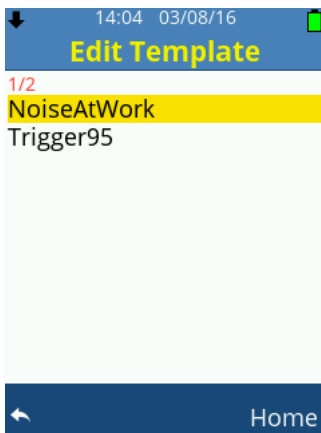
Scroll through the options using the **Up** or **Down Arrow** keys, press **OK** to choose the selection and adjust the instrument settings as required.

**Soft Key 2** labelled **Save** can be used to save the instrument settings into a template.

# Edit Template

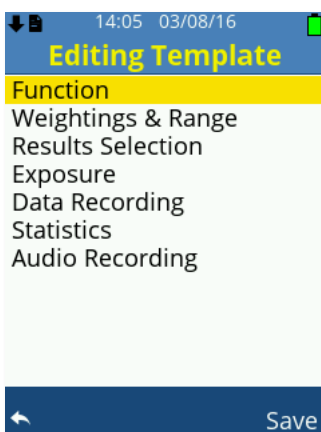
---

Select Edit Template to quickly amend the instrument settings held within a saved template.



Scroll the available templates using the **Up** or **Down Arrow** keys, press **OK** to load and edit the highlighted template.

If multiple templates exist, then the **Left** or **Right Arrow** keys can be used to scroll the templates by page.



Editing Template is very similar to the Measurement Setup screen which can be referred to for further information.

Scroll through the options using the **Up** or **Down Arrow** keys, press **OK** to choose the selection and adjust the instrument settings as required.

**Soft Key 2** labelled **Save** can be used to save the new settings and overwrite the existing template.



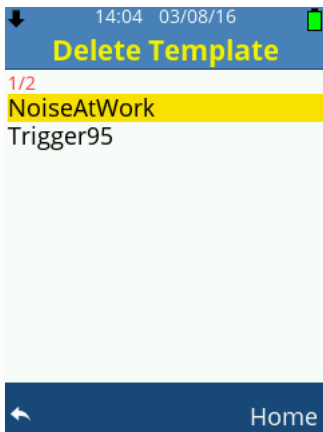
Templates can be modified and saved as new templates. Load the template, edit and then save as a new template.

---

# Delete Template

---

Choose Delete Template to delete one individual template file.



Scroll the available templates using the **Up** or **Down Arrow** keys, press **OK** to select the template to delete.

If multiple templates exist, then the **Left** or **Right Arrow** keys can be used to scroll the templates by page.



Factory pre-installed templates are non-removable.

---



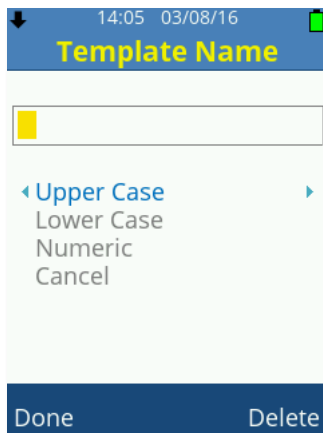
Deleted user templates are unrecoverable.

---

# Save Current Setup

---

Choose Save Current Setup to save the current instrument settings as a template with your chosen name.



Scroll the available options using the **Up** or **Down Arrow** keys, by default Upper Case is selected.

Use the **Left, Right Arrow** keys to adjust the character as required: -

- Upper Case: A to Z
- Lower Case: a to z
- Numeric: 0 to 9

Press the **OK** key move to the next character and repeat the steps until you have successfully entered a template name.

Use **Soft Key 2** labelled **Delete** to delete the highlighted character if required.

Select **Cancel** to return to the previous screen without saving the template.

Use **Soft Key 1** labelled **Done** to save the template using the file name entered.



# Hearing Protection

Hearing Protection is only available on specific dBAir models and is an internally stored database of leading manufacturers hearing protectors.

Selecting Hearing Protection allows you quickly and easily to identify which hearing protector would suit a specific noise environment after analysing your measured data.

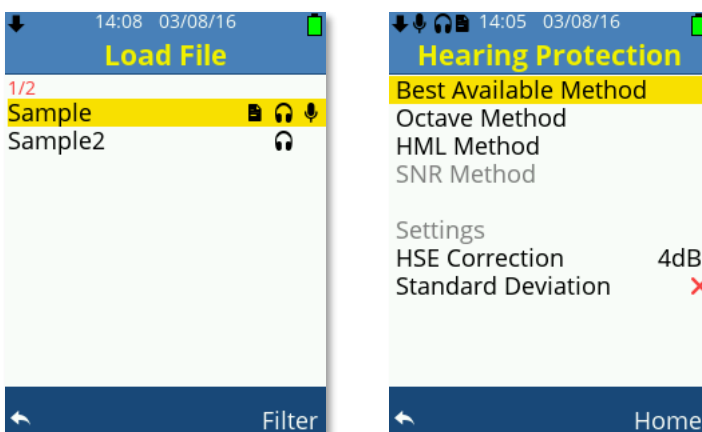
All the assumed protection values calculated are colour coded allowing you to instantly see if the hearing protector offers the right amount of protection: -

APL Value	APL Colour Coding	Protection Level
<=70dB	RED	Over Protected
70 to 80dB	GREEN	Good
80 to 85dB	AMBER	Border Line
>=85dB	RED	Under Protected

It is highly recommended that over protection where levels at the ear are below 70dB are avoided. Over protection can impact on communication causing the user to remove the protection and also reduce the ability to hear warning signals such as fire alarms.

Scroll the available data files using the **Up** or **Down Arrow** keys, press the **OK** key to open the highlighted file.

If multiple files exist, then the **Left** or **Right Arrow** keys can be used to scroll the data files by page.



Method availability will depend on the settings of the selected data recording.

Scroll the available methods using the **Up** or **Down Arrow** keys, press the **OK** key to select the highlighted method.

Under Settings, press the **OK** Key or the **Left, Right Arrow** keys to adjust HSE Correction and/or Standard Deviation.

# Best Available Method

---

Select Best Available Method to automatically choose the best method to analyse your data file.

The order in which the automatic method selection is made is as follows and does depend on how the data recording was configured: -

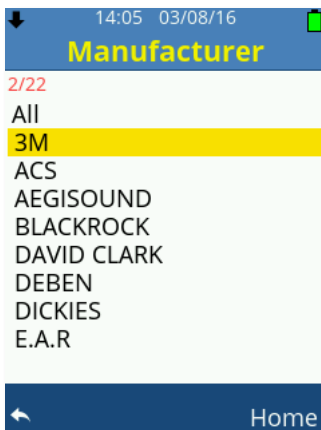
1. Octave
2. HML
3. SNR

## Octave Method

---

The most accurate method to calculate hearing protection data.

Octave Method is only available if your dBAir sound meter model is fitted with octave band analysis and if the data recording was recorded utilising full octave or third octave analysis.



Scroll the available manufacturers using the **Up** or **Down Arrow** keys or by page using the **Left** or **Right Arrow** keys, press the **OK** key to select the highlighted option and show the calculated protection level for each model of the manufacturer.

Alternatively select **All** to show the calculated hearing protection for each model of all the manufacturers.

The selected manufacturer number and the total number of available manufacturers are listed in red.

Hearing protection models are shown alongside the calculated assumed protection value. The listing is in order showing the lowest assumed protection value first.

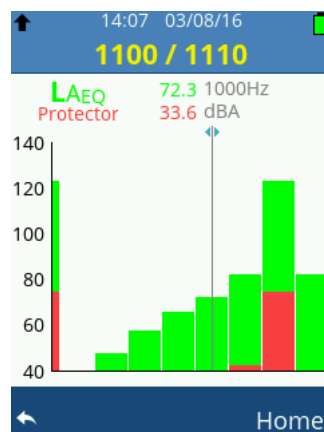
Model Name	APV dB
1100 / 1110	74.7 dB
NO TOUCH	75.2 dB
1120 / 1130	76.1 dB
TORQUE	78.6 dB
1310	80.4 dB
SOLAR	80.9 dB
PULSAR	84.1 dB
TRI-FLANGE	84.3 dB
1436 ENTRY LEV	85.5 dB

Scroll the available hearing protection models using the **Up** or **Down Arrow** keys or by page using the **Left** or **Right Arrow** keys.

Press the **OK** key to select the highlighted model and show the frequency data for the open data file. Use the **Up** or **Down Arrow** keys to toggle between graph or table view, in graph view use the **Left** or **Right Arrow** keys to scroll through the octave bands.

Freq Hz	LAEQ dB	HP dB
63	35.8	30.0
125	47.6	33.1
250	57.6	36.3
500	65.7	38.4
1000	72.3	38.7
2000	82.1	39.7
4000	123.0	48.3
8000	82.1	44.4

APV = 74.7 dBA



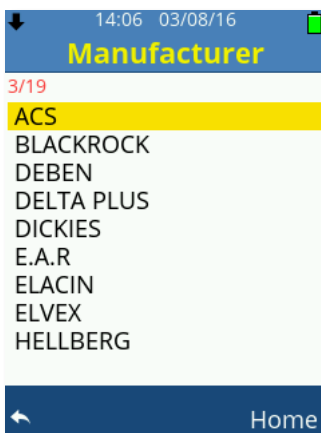
Octave method Hearing Protection Calculations require measurement 1 is 'A' weighted. If the data recording was made with measurement 1 using 'C' or 'Z' frequency weightings, then they will be converted to 'A' weighting for the purpose of calculations only.

The original data file is NOT modified.

# HML Method

The second most accurate method to calculate hearing protection data and one that does not require octave band analysis, however the data file must be recorded using the following Frequency Weightings: -

- Measurement 1 = 'A' Weighting
- Measurement 2 = 'C' Weighting

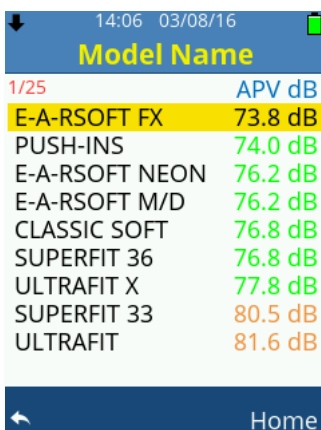


Scroll the available manufacturers using the **Up** or **Down Arrow** keys or by page using the **Left** or **Right Arrow** keys, press the **OK** key to select the highlighted option and show the calculated protection level for each model of the manufacturer.

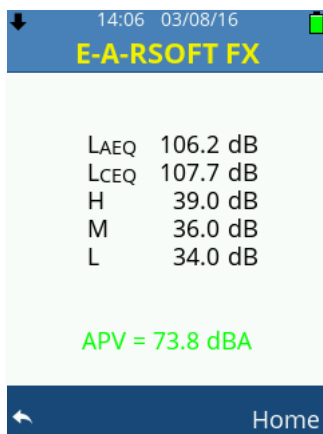
Alternatively select **All** to show the calculated hearing protection for each model of all the manufacturers.

The selected manufacturer number and the total number of available manufacturers are listed in red.

Hearing protection models are shown alongside the calculated assumed protection value. The listing is in order showing the lowest assumed protection value first.



Scroll the available hearing protection models using the **Up** or **Down Arrow** keys or by page using the **Left** or **Right Arrow** keys, press the **OK** key to select the highlighted model and show the data for the open data file.



Not all hearing protectors have HML data.

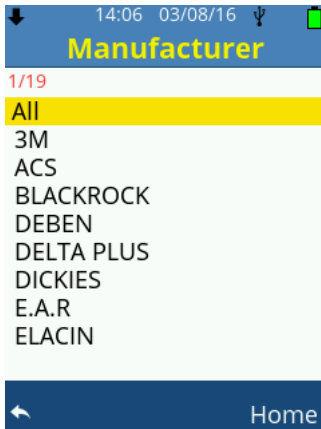


If the data file is not recorded with the frequency weighting 'A' and 'C' for measurement 1 and 2 respectively, then the HML method cannot be used.

# SNR Method

The least most accurate method to calculate hearing protection data and one that does not require octave band analysis, however the data file must be recorded using the following Frequency Weightings: -

- Measurement 1 = 'C' Weighting

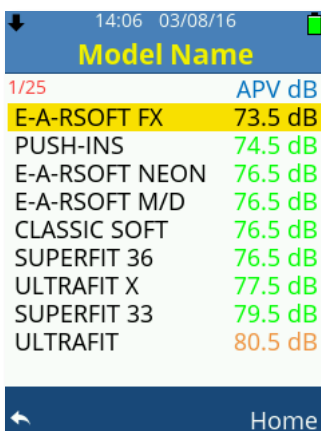


Scroll the available manufacturers using the **Up** or **Down Arrow** keys or by page using the **Left** or **Right Arrow** keys, press the **OK** key to select the highlighted option and show the calculated protection level for each model of the manufacturer.

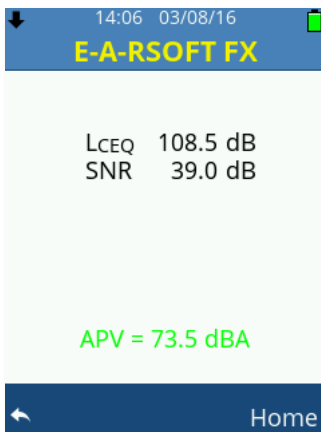
Alternatively select **All** to show the calculated hearing protection for each model of all the manufacturers.

The selected manufacturer number and the total number of available manufacturers are listed in red.

Hearing protection models are shown alongside the calculated assumed protection value. The listing is in order showing the lowest assumed protection value first.



Scroll the available hearing protection models using the **Up** or **Down Arrow** keys or by page using the **Left** or **Right Arrow** keys, press the **OK** key to select the highlighted model and show the data for the open data file.



Not all hearing protectors have SNR data.



If the data file is not recorded with the frequency weighting 'C' for measurement 1 then the SNR method cannot be used.

# Settings

---

Adjust setting values to determine how the assumed protection value is calculated.

## HSE Correction

---

The UK Health & Safety Executive recommend that a 'Real World' derating factor is used when calculating protection levels.

It is highly recommended that in the UK this derating factor is applied by selecting +4dB.

The available options for HSE correction are as follows: -

- Off, +4dB

## Standard Deviation

---

Hearing protector manufacturers provide a standard deviation figure for each particular model of which is subtracted from the mean attenuation also given.

Different countries may require the use of 1 or 2 standard deviations, for the UK it is highly recommended that 1 standard deviation is applied.

The standard deviation is a statistical method for correcting errors in the test results for the performance of the hearing protector. Subtracting 2 standard deviations gives a more conservative estimate of the real-world performance of the hearing protector.

In the UK, the HSE recommend subtracting 1 standard deviation but then applying a +4dB derating factor to allow for real-world errors.

The available options for Standard Deviation are as follows: -

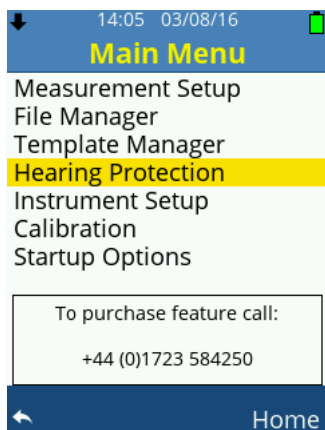
- Off, 1, 2



# Upgrade to Hearing Protection

---

If your particular dBAir model doesn't have access to Hearing Protection, then you will be shown the screen below.



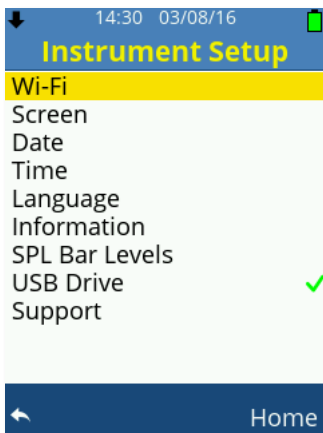
You can upgrade your dBAir sound level meter remotely from your office in a matter of minutes. Call us on +44 (0) 1723 584250.

---

# Instrument Setup

---

Instrument Setup is available to all models of dBAir and is where specific instrument settings are made.



Scroll the available options using the **Up** or **Down Arrow** keys, press **OK** to choose from the following: -

- Wi-Fi
- Screen
- Date
- Time
- Language
- Information
- SPL Bar Levels
- Support

Press **OK** or the **Left, Right Arrow** keys to toggle the following: -

- USB Drive

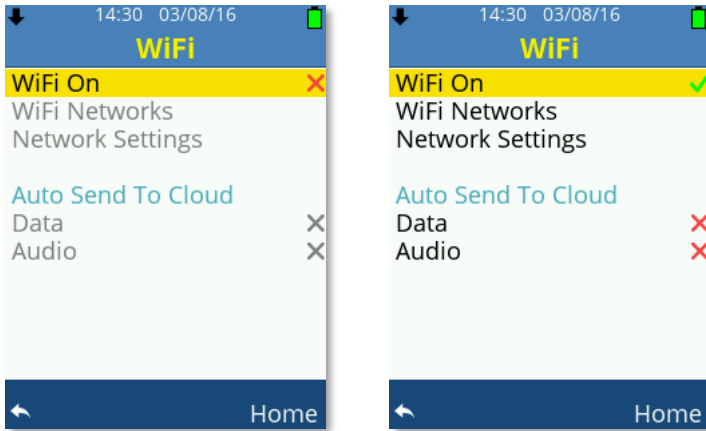


To reduce interference and keep operating power low, dBAir houses a low power omni directional antenna.

---

# Wi-Fi

To upload data to TheCastleCloud.com directly from the instrument using a Wi-Fi connection, Wi-Fi must be enabled on the instrument and connected to a network that is within range.



Press **OK** or the **Left, Right Arrow** keys to toggle WiFi On.

When WiFi On is enabled then the options for Wi-Fi become available, scroll these options using the **Up** or **Down Arrow** keys.

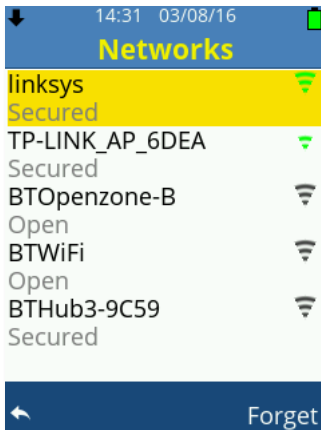
Press the **OK** key to select WiFi Networks or Network Settings.

Press **OK** or the **Left, Right Arrow** keys to toggle Auto Send To Cloud – Data or Audio.

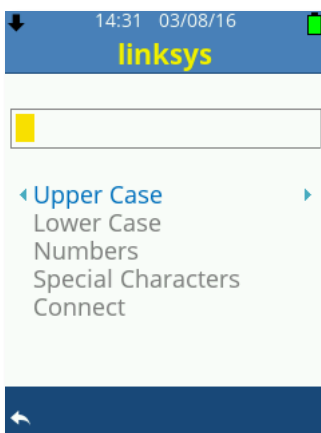
## WiFi Networks

Allow several seconds for your dBAir to discover any networks. The network name is displayed with the connection type or status underneath and the networks signal strength.

Scroll the available networks using the **Up** or **Down Arrow** keys.



Press **OK** to select a network and enter the password up to a maximum of 16 characters if the network requires it: -



Scroll the available options using the **Up** or **Down Arrow** keys, by default Upper Case is selected.

Use the **Left, Right Arrow** keys to adjust the character as required: -

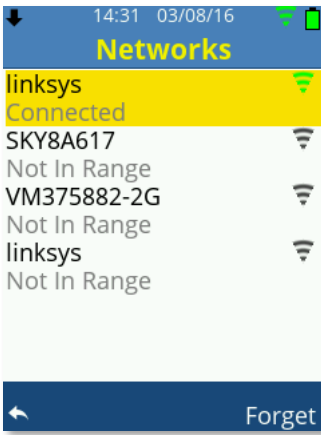
- Upper Case: A to Z
- Lower Case: a to z
- Numeric: 0 to 9
- Special Characters: SPACE ! " # \$ % ' & \* + [ ] , - . / : ; < = > ? @ [ \ ] ^ \_ ` { | } ~

Press the **OK** key move to the next character and repeat the steps until you have successfully entered the correct password.

Use **Soft Key 2** labelled **Delete** to delete the highlighted character if required.

Use **Soft Key 1** to exit password entry without saving.

When the password is entered correctly select Connect and press the **OK** key: -



If the connection is successful, **Connected** will be shown under the network name and the Wi-Fi icon will be shown in the top light blue bar.

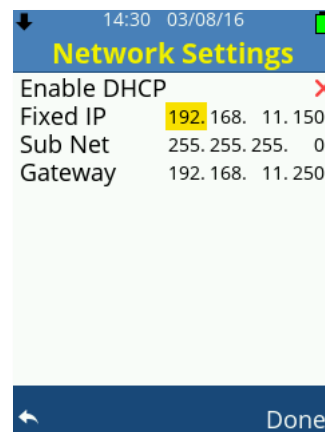
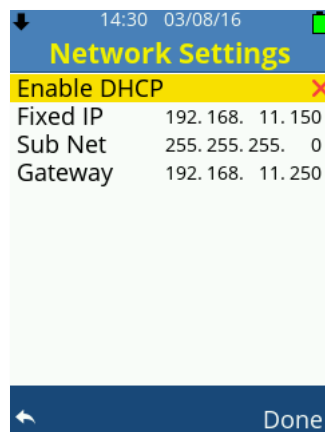


You cannot connect to networks that require a browser login as dBAir does not have a web browser.

## Network Settings

Under most circumstances ensure DHCP is enabled.

If your network does not use DHCP then please see your IT administrator and ask them to set these advanced settings manually based on your particular network.

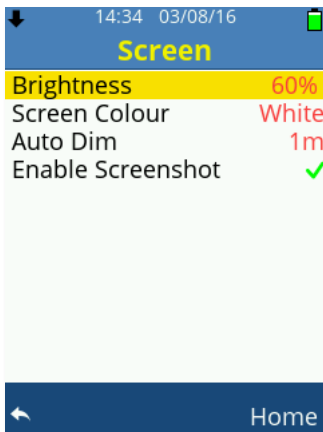


Always use **Soft Key 2** labelled **Done** to accept any changes made under Network Settings.

# Screen

---

Select Screen to amend how the dBAir screen looks and power saving features.



## Brightness

---

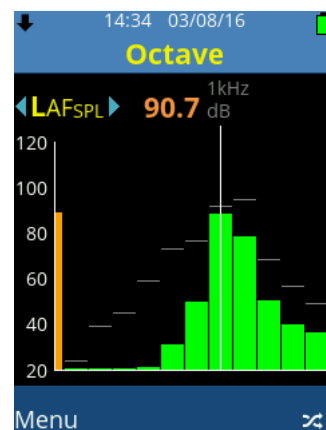
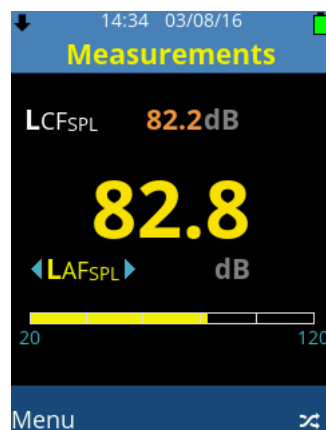
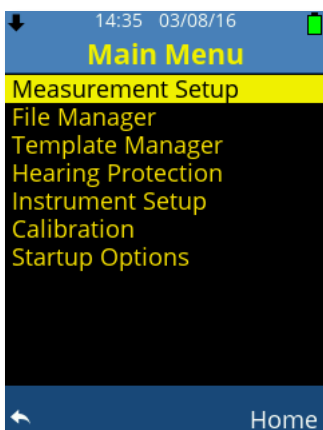
Use the **Left, Right Arrow** keys to adjust the screen brightness as required.

Increased screen brightness reduces battery operating time.

## Screen Colour

---

Use the **Left, Right Arrow** keys to toggle the screen colour between White or Black: -



## Auto Dim

---

The Auto Dim feature will automatically dim the screen to after a set period of time to reduce operating power and increase battery run time.

Use the **Left, Right Arrow** keys to adjust the Auto Dim as below: -

- Off or 1 to 15 (minutes) - 1m recommended



Press any key to exit the active auto dim function.

---

## Enable Screen Shot

---

Press **OK** or the **Left, Right Arrow** keys to toggle Enable Screen Shot.

When screen shot is enabled the **Power** key can be pressed to capture and save the current screen to the internal SD card.

All images are saved in .ppm format, a suitable editor such as 'Gimp' can be used to save the file into other formats.

Gimp can be downloaded free at the following address: -

- <https://www.gimp.org/>

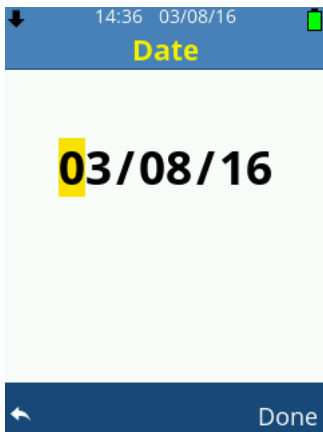
When Screen Shot is enabled the **Power** key cannot be used to reset parameters.

All saved screen shot files are accessible using the dBAir in USB Drive mode.

# Date

---

Enter the current date using the date format specific to your region.



Use the **Up, Down Arrow** keys to adjust the value.

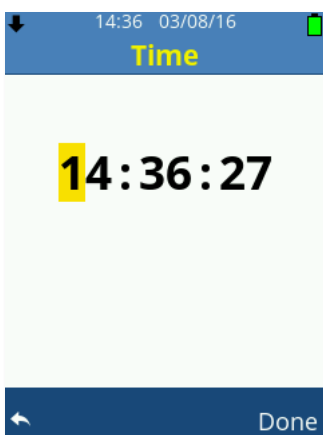
Use the **Left, Right Arrow** keys to move forward or back.

Press **Soft Key 2** labelled **Done** to accept the date changes.

# Time

---

Enter the current date using the date format specific to your region.



Use the **Up, Down Arrow** keys to adjust the value.

Use the **Left, Right Arrow** keys to move forward or back.

Press **Soft Key 2** labelled **Done** to accept the date changes.



# Language

---

Scroll the available operating language options using the **Up** or **Down Arrow** keys.

Press the **OK** key or use the **Left, Right Arrow** keys to switch the selected language as required.



If a language is inadvertently selected, press the following key sequence to access the language screen: -

**Soft Key 1, Up, Up, Up, Ok, Down, Down, Down, Down, Ok**

---

# Information

---

Select to show instrument specific information.



# SPL Bar Levels

---

Select to adjust the levels at which colour coding of the SPL bar appears.



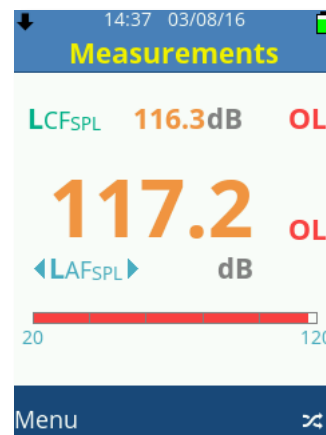
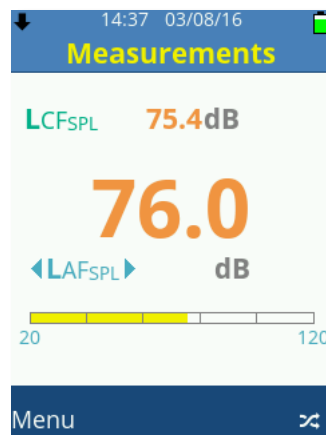
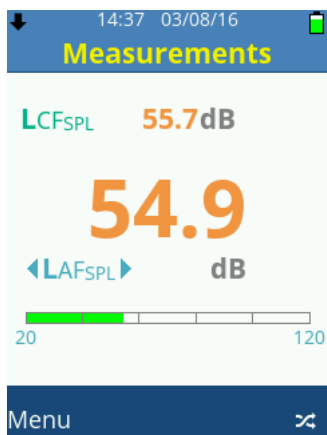
Scroll the options using the **Up** or **Down Arrow** keys.

Use the **Left, Right Arrow** keys to adjust as follows: -

Yellow: 40 to 100dB

Red: 80 to 140dB

Red values cannot be set lower than Yellow values and any value below what is set for Yellow will be displayed Green on the display.



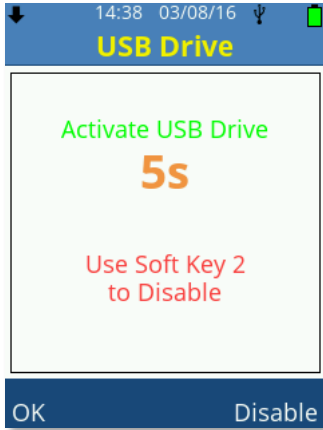
Settings made for Red are range dependant, values between 121 and 140 will only be visible Red on the High range.

---

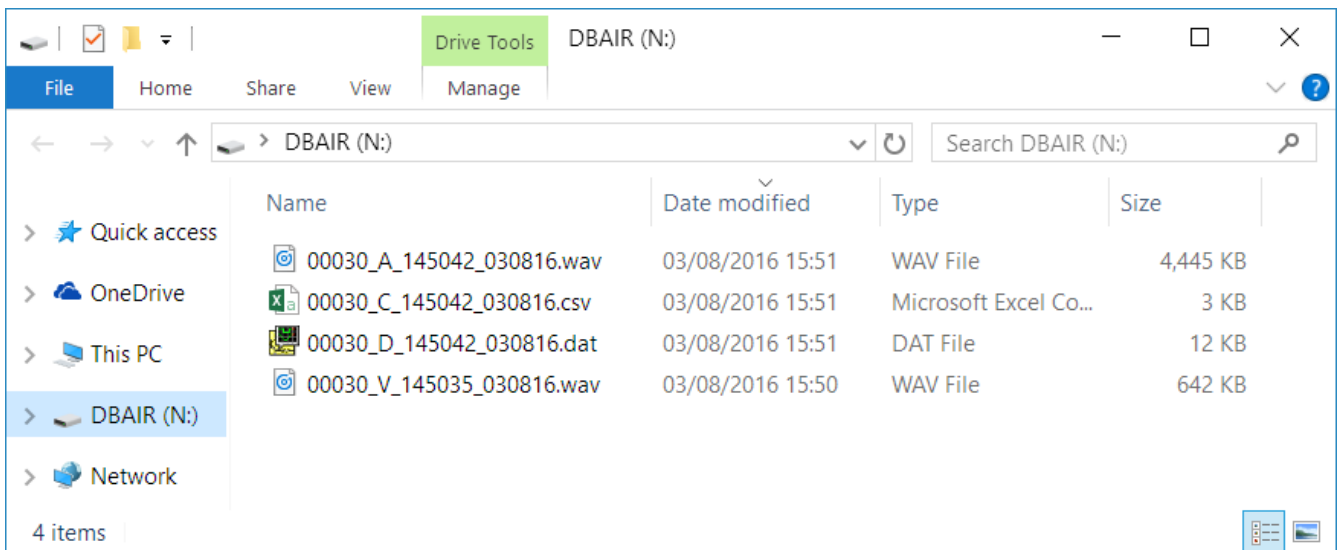
# USB Drive

When USB Drive is enabled and a USB lead is plugged into the dBAir instrument and a PC then the SD card of the dBAir becomes available.

Plug in the USB cable and the following screen to activate the USB Drive will be displayed: -



Press **Soft Key 1** labelled **OK** or wait 5 seconds to activate the USB Drive, or press **Soft Key 2** labelled **Disable** to power the unit via USB only.



The dBAir instrument will open as a folder and files can be copied and deleted as required.

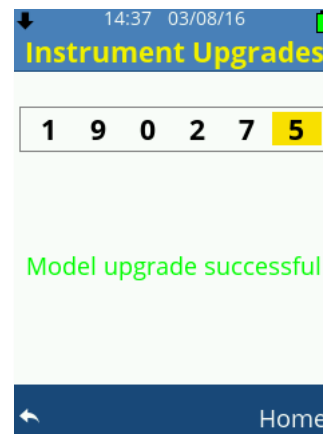
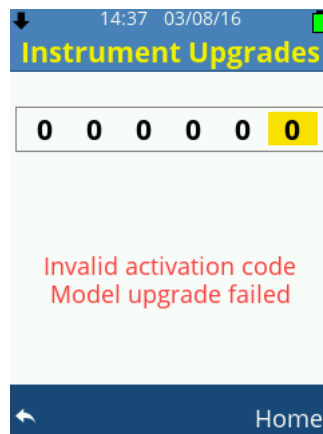
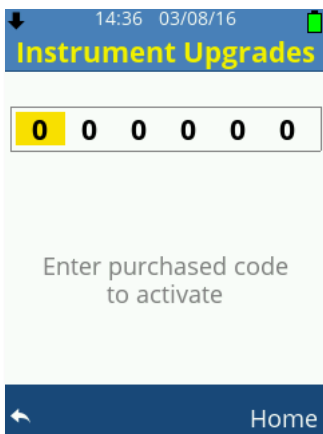
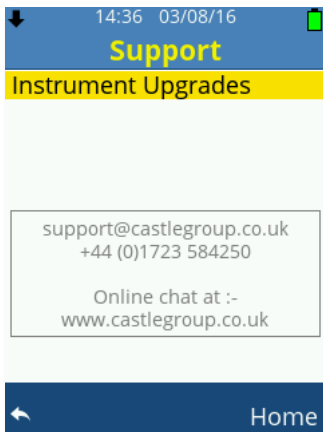
CSV files can be opened directly in most spreadsheet applications and .wav files can be played in most media players.



Deleted files are unrecoverable.

# Support

Press the OK key on Instrument Upgrades to instantly apply any upgrades purchased.



Enter your supplied upgrade code using the **Up, Down Arrow** keys to adjust the value.

Use the **OK** key or the **Left, Right Arrow** keys to move forward or back.

Press the **OK** key to enter to register the code.



You can upgrade your dBAir sound level meter remotely from your office in a matter of minutes. Call us on +44 (0) 1723 584250.

Your instrument serial number is required, please have this ready.

# Calibration

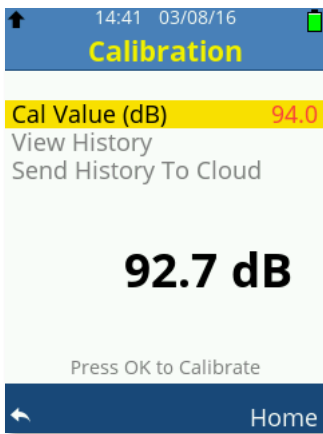
Select Calibration to acoustically calibrate your dBAir sound level meter.

It is recommended that the calibration procedure is undertaken prior to, and after measurements have been taken using the Castle GA607 acoustic calibrator.

Automatic calibration reminder can be activated, see Startup Options.

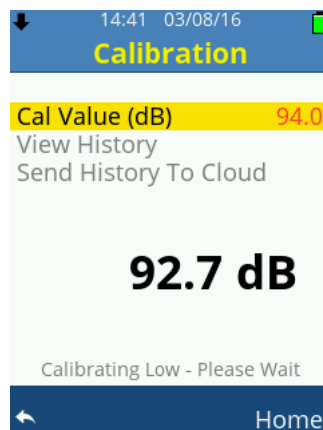
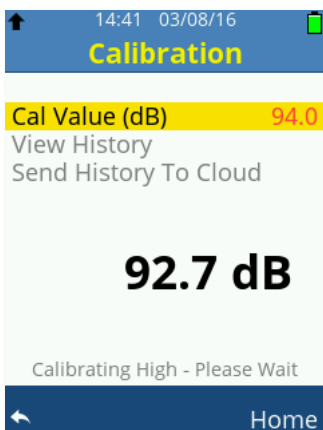
## Cal Value (dB)

Adjust the Cal Value (dB) using the **Left** or **Right Arrow** keys between 90.0 and 114.5 dB in 0.1 dB steps. Include both atmospheric pressure and microphone dependant pressure to free field corrections in the Cal Value.

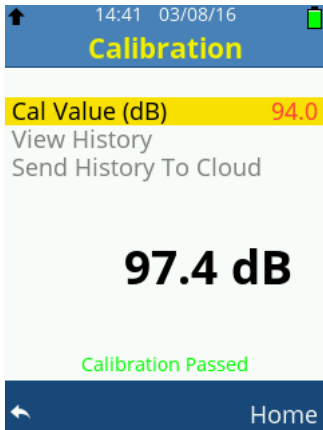


Ensure the calibrator is attached to the microphone by gently inserting the microphone into the cavity of the calibrator. A certain amount of resistance should be felt whilst inserting the microphone as the O-ring on the calibrator forms a seal around the microphone. Ensure that the calibrator is switched on and set to the output level 94dB.

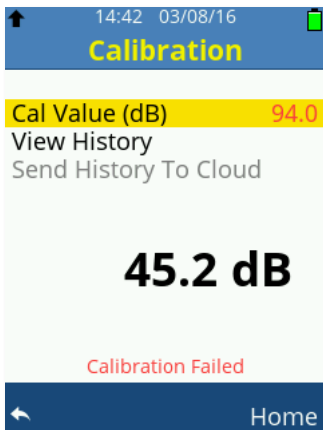
When the Cal Value is set correctly, including corrections, press **OK** to begin calibrating your dBAir sound meter.



If the calibration is successful, then you will be shown the following: -



If the calibration is not successful, then you will be shown the following: -



Please ensure your calibrator is switched on giving the correct output level and that you have entered the correct Cal Value.

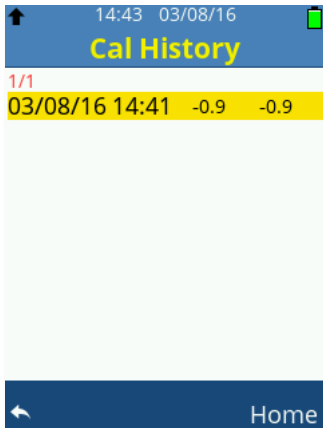
# Cal History

---

The dBAir sound level meter will store the time and date of the last 1000 successful calibrations.

To the right of each calibration are internal scaling factors for the low and high ranges, these figures have only one purpose and this is to indicate any drift in your calibrations.

Scroll the calibration history using the **Arrow** keys as required.



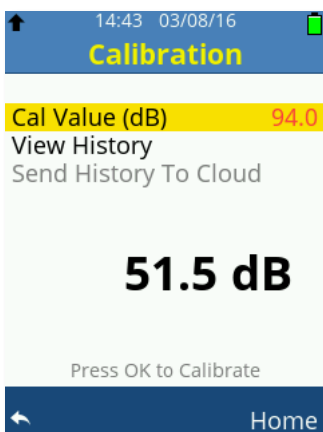
Calibration History cannot be disabled or deleted.

---

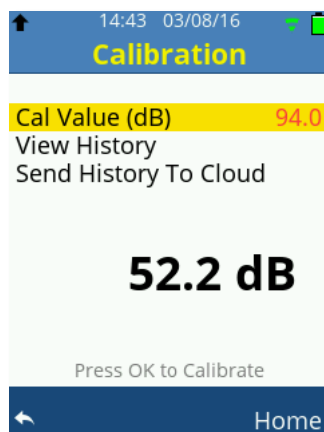
# Send History To Cloud

---

The calibration history can be sent to TheCastleCloud.com where you can also view the history online. The instrument must have Wi-Fi enabled and connected to a network that is within range.



Wi-Fi Off

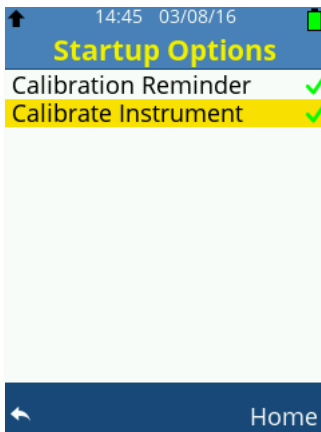


Wi-Fi On

# Startup Options

---

Select useful reminders when the dBAir instrument powers on.



Scroll the options using the **Up** or **Down Arrow** keys,

Use the **OK** key or the **Left, Right Arrow** keys to toggle the selection.

## Calibration Reminder

---

Enable to show if the dBAir instrument has a valid calibration and when the next factory calibration is due.



## Calibrate Instrument

---

Enable to automatically enter the instrument calibration function during start-up.

It is recommended that this option is enabled.



# Chapter 8

## Measurement Screens

---

The dBAir sound level meter can independently and simultaneously record two measurements. Each measurement can have different time weightings and/or frequency weightings. To clearly identify these, they are named Measurement 1 and Measurement 2 on your instrument where any ambiguity may arise.

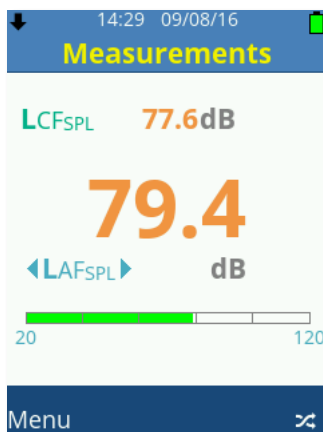
Where fitted, octaves and percentiles are only ever available for Measurement 1.

Scroll the available measurement screens using the **Up** or **Down Arrow** keys.

## Measurements

---

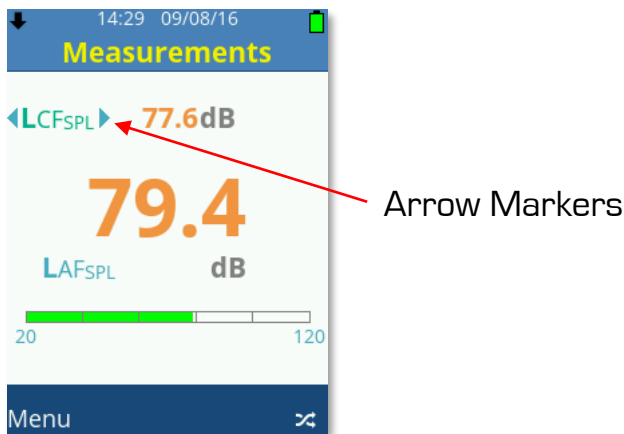
Your dBAir instrument will always start showing the Measurement Screen shown below and is available for all models of the dBAir: -



Measurement 1 on this screen is identified by having the larger font size, required for legislation in certain countries.

The colour coded measurement bar graph is only applicable to Measurement 1, and the values at which the colour banding changes can be amended. See **SPL Bars Levels** under **Instrument Setup** for details.

Press **Soft Key 2** to swap between the selection of Measurement 1 and Measurement 2. The selected Measurement is identified by having arrow markers encapsulating the parameter: -



Use the **Left** or **Right Arrow** keys to scroll the available parameters on either Measurement 1 or 2.

To disable or enable the parameters available on the **Measurements** Screen see **Results Selection** in the **Measurement Setup** menu.

Only parameters specific to the model of dBAir sound meter owned are available, see **dBAir Models & Features** for specific parameter availability as required.

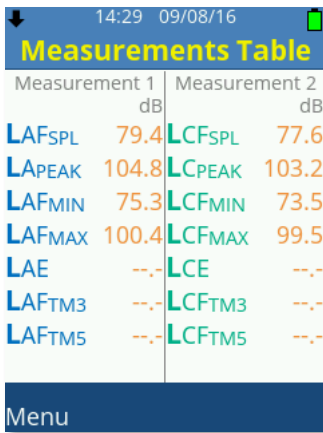


You can upgrade your dBAir sound level meter remotely from your office in a matter of minutes. Call us on +44 (0) 1723 584250.

---

# Measurements Table

The Measurements Table screen shows all standard parameter values available on your dBAir sound meter conveniently on one screen for both Measurement 1 and Measurement 2. The Measurement Table is available for all models of the dBAir: -



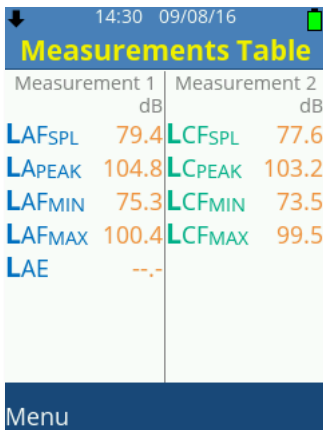
Measurement 1		Measurement 2	
dB		dB	
LAFSPL	79.4	LCFSPL	77.6
LAPEAK	104.8	LCPEAK	103.2
LAFMIN	75.3	LCFMIN	73.5
LAFMAX	100.4	LCFMAX	99.5
LAE	--.	LCE	--.
LAFTM3	--.	LCFTM3	--.
LAFTM5	--.	LCFTM5	--.

Menu

To disable or enable the parameters available on the **Measurements Table** Screen see **Results**.

Only parameters specific to the model of dBAir sound meter owned are available, see **dBAir Models & Features** for specific parameter availability as required.

An example of the Measurements Table is shown below which has fewer parameters selected: -

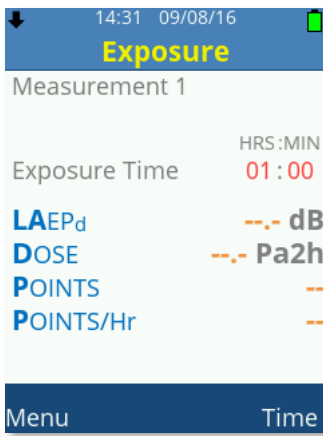


Measurement 1		Measurement 2	
dB		dB	
LAFSPL	79.4	LCFSPL	77.6
LAPEAK	104.8	LCPEAK	103.2
LAFMIN	75.3	LCFMIN	73.5
LAFMAX	100.4	LCFMAX	99.5
LAE	--.		

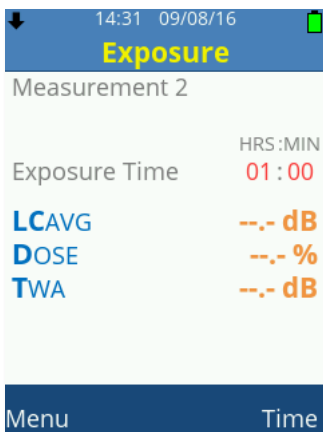
Menu

# Exposure

The Exposure screen is only available for dBAir sound level meters fitted with this option and can either be calculated from Measurement 1 or Measurement 2. See **Exposure** in **Measurement Setup** for details on how to change the calculated Measurements.

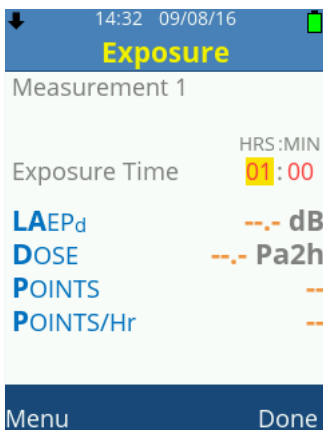


To comply with legislation for various countries the instrument can be set to EU settings as shown above or OSHA settings as shown below: -



Custom settings may also be set, see **Exposure** in **Measurement Setup** for instructions on how to change the Exposure settings.

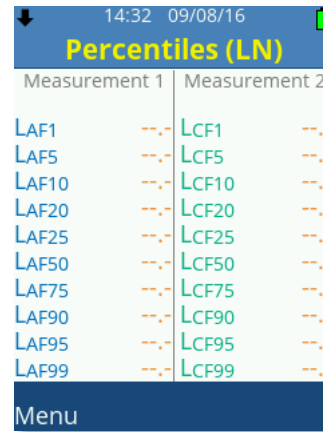
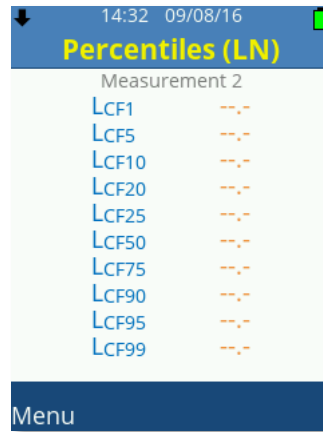
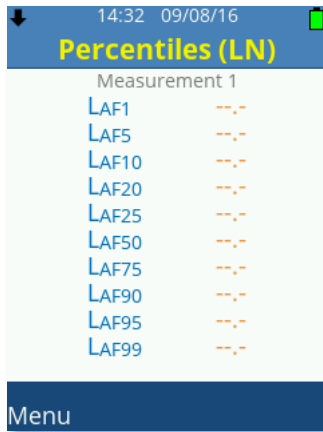
To edit the Exposure Time value, press **Soft Key 2** to highlight HRS, use the Up/Down Arrow keys to adjust the value, Left/Right to move and **Soft Key 2** to confirm: -



# Percentiles (LN)

The Percentiles (LN) screen is only available for dBAir sound level meters fitted with this option.

Percentiles can be turned Off and the percentile level changed. See **Percentiles (LN)** in **Measurement Setup** for further details.

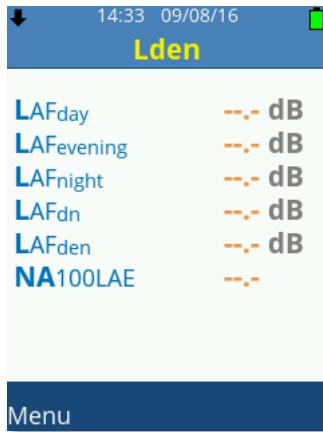


# Lden

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The Lden screen is only available for dBAir sound level meters fitted with this option and only calculated from Measurement 1.

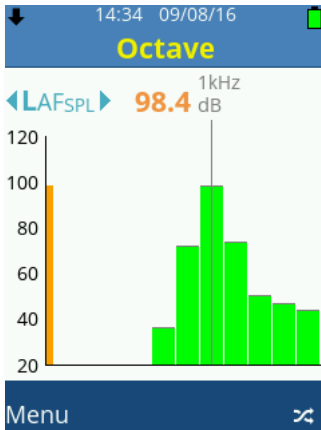
Lden parameters can be turned Off and the times and penalties amended. See **Lden** in **Measurement Setup** for further details.



# 1/1 Octave

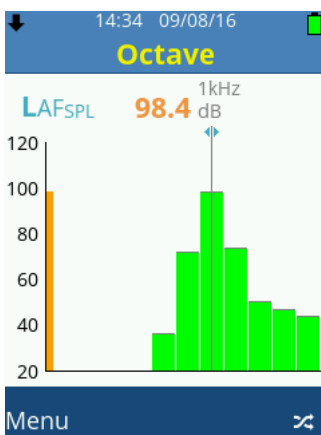
The 1/1 Octave screen is only available for dBAir sound level meters fitted with this option and only calculated from Measurement 1.

The 1/1 Octave can be turned Off if required. See **Function** in **Measurement Setup** for further details.



To change parameter, ensure the parameter name is selected, identified by having arrows markers encapsulating the parameter and then use the **Left** or **Right Arrow** keys to scroll the available parameters.

Press **Soft Key 2** to swap between the parameter selection and frequency bands.



When the 1/1 octave bands are selected use the **Left** or **Right Arrow** keys to change the selected frequency band.

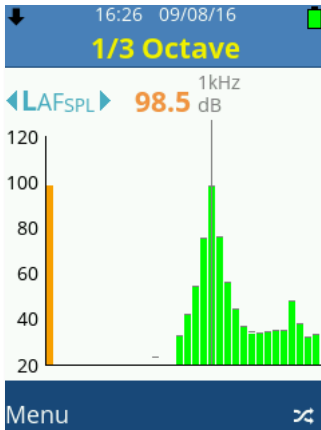
The orange band can also be selected and shows the value calculated across the whole first octave band range.

Only parameters specific to the model of dBAir sound meter owned are available, see **dBAir Models & Features** for specific parameter availability as required.

# 1/3 Octave

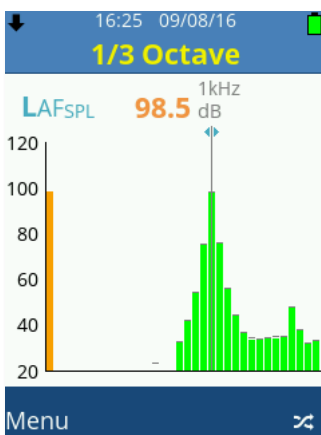
The 1/3 Octave screen is only available for dBAir sound level meters fitted with this option and only calculated from Measurement 1.

The 1/3 Octave can be turned Off if required. See **Function** in **Measurement Setup** for further details.



To change parameter, ensure the parameter name is selected, identified by having arrows markers encapsulating the parameter and then use the **Left** or **Right Arrow** keys to scroll the available parameters.

Press **Soft Key 2** to swap between the parameter selection and frequency bands.



When the 1/3 octave bands are selected use the **Left** or **Right Arrow** keys to change the selected frequency band.

The orange band can also be selected and shows the value calculated across the whole third octave band range.

Only parameters specific to the model of dBAir sound meter owned are available, see **dBAir Models & Features** for specific parameter availability as required.



# Chapter 9

## Accessories

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Item	Order Code
Kit Case for dBair & Accessories	KA017
Dual Level Calibrator	GA607
Weatherproof Enclosure (48 Hours)	KA022
▪ Spare 12V / 12Ah Lead Acid Battery	01KA021BATT
Weatherproof Enclosure (4 Days)	KA023
Weatherproof Enclosure (8 Days)	KA024
▪ Spare 12V / 22Ah Lithium Battery	01KA023BATT
Microphone Extension Cable (1 to 10m)	ZL141-SOx
USB Cable 1m (A to micro B)	ZL1109-01
USB Wall Plug (UK)	PSU6
Rubber Protective Sleeve - Blue	dB001B
Rubber Protective Sleeve - Yellow	dB001Y
Techno Line NiMH Battery Charger (UK)	01BATTCHARGER
Eneloop Pro AA Rechargeable Batteries (Pack 4)	01AANiMH-ENELOOP
Class 1 Microphone 50mV/Pa	MK75
Class 2 Microphone 25mV/Pa	MK79
Pre-Amplifier Assembly (Microphone Not Included)	MK141
Hand Strap	70MIS02525