



## SoundCHEK Essential Sound Level Meter

Cat. Nos. 702-001 and 702-002  
Operating Instructions

NEED HELP?

SCAN OR CLICK HERE  
TO CONTACT US



Air-Met Scientific  
www.airmet.com.au



Figure 1. SoundCHEK Essential Overview

## Table of Contents

Introduction.....	4
Checking Kit Contents .....	4
Parameters and Features.....	4
Microphone and Pre-amplifier .....	4
Removing the Microphone .....	4
Attaching/Removing the Pre-amplifier .....	5
Certifiable Calibration .....	5
Measuring Sound .....	5
Sound Level – General Recommendations .....	5
Reflections .....	6

Time Weighting .....	6
Frequency Weighting Filters .....	6
Overload and Under Range .....	8
Getting Started .....	10
Using the Keypad .....	10
Powering the Sound Level Meter .....	10
Determining Battery Level .....	10
Turning Power On/Off.....	11
Interpreting Instrument Icons.....	12
Operation.....	13
Real Time Mode .....	13
Recording Mode .....	13
Recording Screen Display .....	13
Time History Disabled.....	14
Time History Enabled.....	14
Time History Disabled, Duration Timer Set .....	14
Time History Enabled, Duration Timer Set .....	15
Stop Active Recording .....	15
File Review Mode .....	15
Auto Playback .....	16
Menu Structure .....	17
Menu Navigation and Settings .....	18
Measurement Setup.....	18
File Manager .....	22
Load File .....	23
Delete File .....	24
Delete All Files .....	24
Auto Playback .....	24
Templates .....	25
Instrument Setup.....	25
Date.....	26
Time .....	26
Bar Levels .....	27
Language .....	28
Calibration .....	28
View History .....	29

Information .....	31
Measurement Screens .....	31
Measurements .....	32
Measurements Table .....	33
Exposure .....	33
Percentiles (LN) .....	34
Accessories/Replacement Parts .....	35
Appendix A: Performance Profile .....	36

## INTRODUCTION

### Checking Kit Contents

If you ordered Cat. No.	Your package should contain
702-001	<b>Class 1 meter</b> , rubber boot, 4 AA batteries USB cable, wrist strap, windscreen, and USB drive with manual, in a protective carry case
702-002	<b>Class 2 meter</b> , rubber boot, 4 AA batteries USB cable, wrist strap, windscreen, and USB drive with manual, in a protective carry case

### Parameters and Features

Template: All Parameters
<b>Measurement 1:</b> LEQ, LMIN, LMAX, LE, LEP'd, LAVG, % Dose, % Dose per Hour, Exposure (Pa2h), TWA, L10, L90, (L1, L5, L50, L95 or L99)
<b>Measurement 2:</b> LEQ, LMIN, LMAX, LPEAK
Template: Environmental
<b>Measurement 1:</b> LEQ, LMIN, LMAX, LE, L10, L90, (L1, L5, L50, L95 or L99)
<b>Measurement 2:</b> LEQ, LMIN, LMAX, LPEAK
Template: Noise at Work
<b>Measurement 1:</b> LEQ, LMIN, LMAX, LE, LEP'd, LAVG, % Dose, % Dose per Hour, Exposure (Pa2h), TWA
<b>Measurement 2:</b> LEQ, LMIN, LMAX, LPEAK

### Microphone and Pre-amplifier

#### *Removing the 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 a counterclockwise 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.

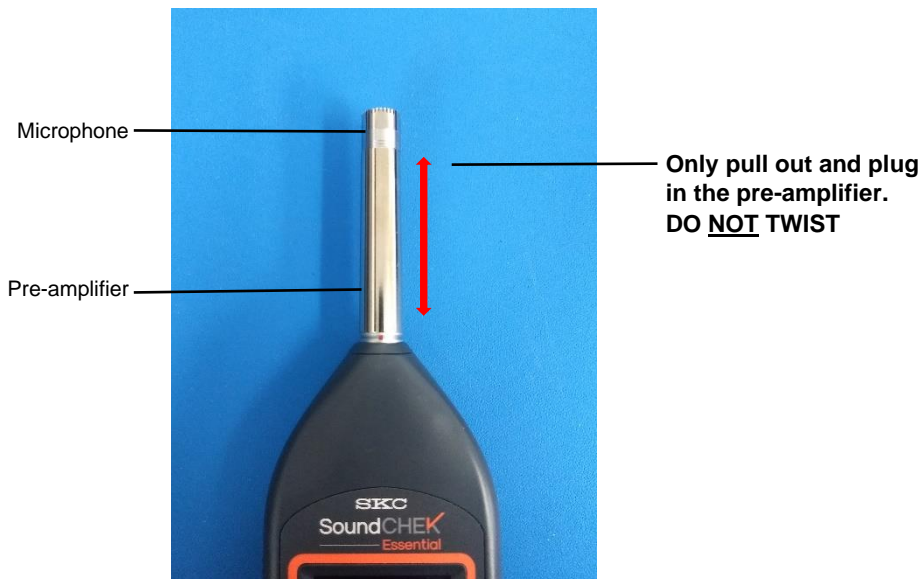


**Underneath the protection grid is the microphone diaphragm, which should never be touched or be subject to dust or dirt. Doing so may damage the microphone beyond repair or affect its acoustic response dramatically.**

### **Attaching/Removing the Pre-amplifier**

To attach the pre-amplifier (see *below*), position the RED orientation key on the pre-amplifier with the RED identification mark on the 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.



### **Certifiable Calibration**

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

SKC offers a complete calibration service offering a NIST calibration that 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.

### **Measuring Sound**

- *Always calibrate your SoundCHEK Essential sound level meter prior to and after taking measurements using an SKC AcoustiCHEK Calibrator Cat. No. 703 Series.*

#### **Sound Level – General Recommendations**

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

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

The SoundCHEK Essential will register an overload if the noise level exceeds the linear operating range of the range selected by 0.5 dB, so it is advisable to determine if an overload will occur on the selected range before measuring. In such cases, you will need to select a higher range to accommodate the higher peak levels.

If the noise levels are 0.1 dB 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 detailed information, see *Measurement Setup, Weightings & Range*.

If measuring low level noise, 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 10 dB of the lowest quoted level on the lowest measuring range may be influenced by the self-noise of the system.

### ***Reflections***

The sound level meter operator and the sound level meter itself can interfere with the measurements being made, reflecting the noise signal. The instrument case for all SKC sound level meters has been designed to minimize reflections while also being of rugged construction.

To minimize reflections from the operator, hold the sound level meter at arm's length or mount the sound meter on a suitable tripod.

### ***Time Weighting***

The time weighting is a time constant that modifies the response of the instrument to fluctuating noise levels. Without time weighting the meter display would fluctuate following the measured noise level and would be unreadable, the selected time weighting therefore softens these fluctuations over the time periods described below and in doing so the meter has a more readable display.

All SoundCHEK Essential sound level meters use digital time weighting filters for higher accuracy. The following standardized time weightings are available:

- **Slow Weighting** shows a slow rise in the Sound Pressure Level even for a sharp rise in the noise level, likewise a rapid reduction in noise will be shown as a slow decrease in Sound Pressure Level. The rise and fall times applied for Slow Weighting are 1 second.
- **Fast Weighting** is the most commonly used time weighting. It follows the noise level closer than slow weighting by displaying a fast rise and fall in the Sound Pressure Level. The rise and fall times applied for Fast Weighting are 125 milliseconds.
- **Impulse Weighting** allows your meter to show rapid rises in the noise level but has a very slow decay. The rise and fall times for Impulse Weighting are 35 milliseconds and 1.5 seconds, respectively.

### ***Frequency Weighting Filters***

Frequency Weightings are where the Sound Pressure Level is modified by use of filtering. All SoundCHEK Essential sound level meters use digital frequency weighting filters for higher accuracy. The following standardized frequency weightings are available; the frequency weighting curve for each one is shown in the graph below.

### **A Weighting**

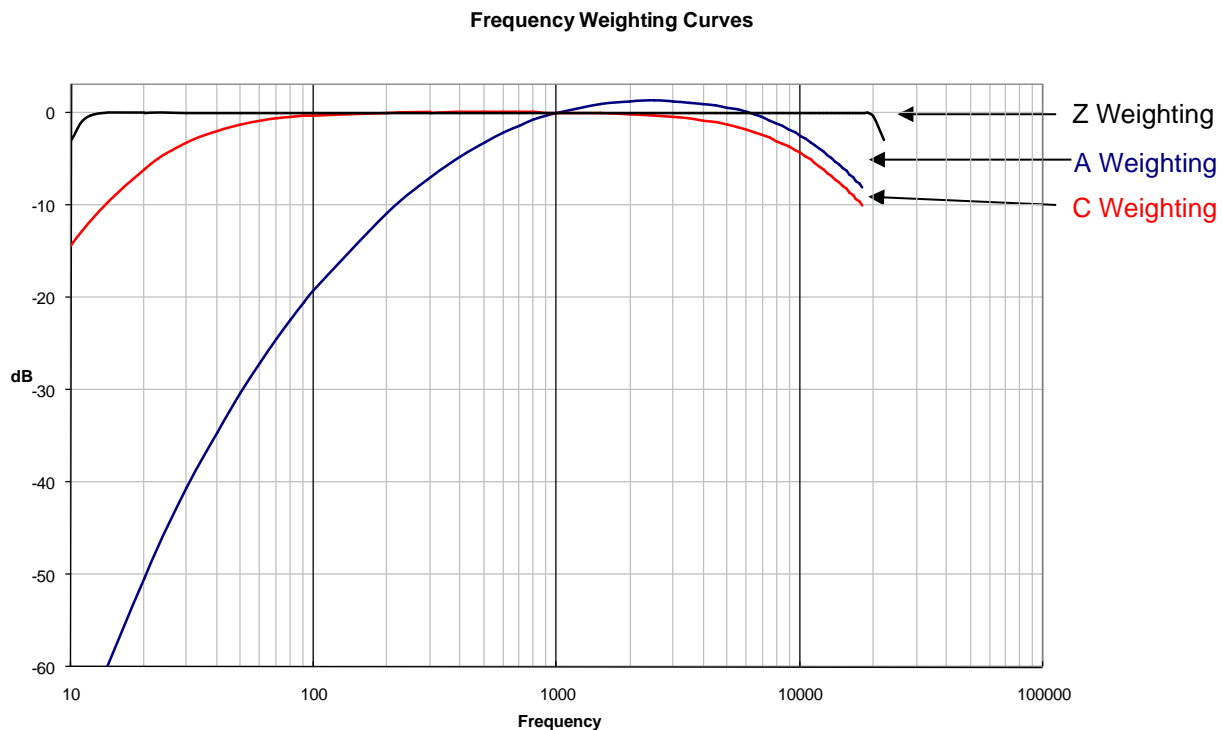
The SPL is filtered in such a manner as to reflect the hearing response of a human ear. The signal is progressively attenuated at the higher and lower ends of the audible frequency range but much more attenuation occurs at the lower end of the audible frequency range. Generally, this is the most commonly used frequency weighting.

### **C Weighting**

The signal is progressively attenuated at the higher and lower ends of the audible frequency range, however, the attenuation at the lower end is much less than with A Weighting. The response has a flat area between 200 and 1250 Hz and has -3 dB points at 31.5 Hz and 8kHz. It is generally used for the acoustic emissions of machinery and for peak sound levels.

### **Z Weighting**

Often referred to as the FLAT or LIN response, this weighting has a virtually flat response over the entire audible frequency range.



### ***Overload and Under Range***


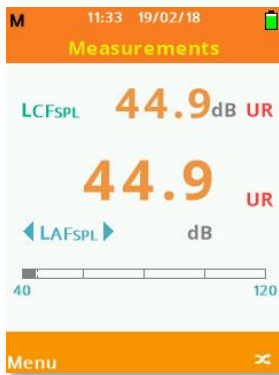
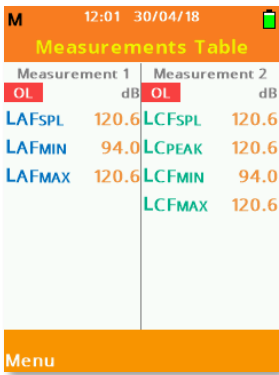
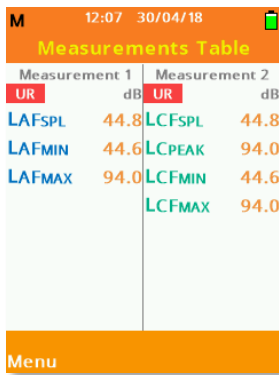
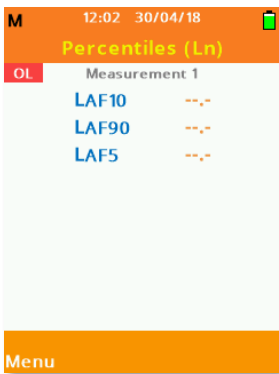
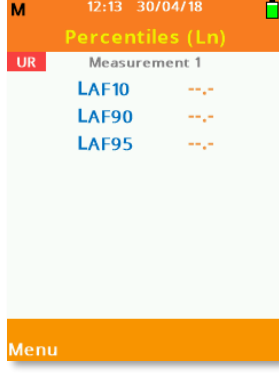


As mentioned in *Sound Level – General Recommendations*, the SoundCHEK Essential will register an overload if the noise level exceeds the current measurement range and will register under range if the noise levels are too low for the current range.

The SoundCHEK Essential will display these events as “OL” (overload) and “UR” (under range) in bold red lettering or inside a red box. They will always be displayed in the same place on each measurement screen. *See the table on the next page.*

Under range on each measurement acts independently and under some conditions may display under range on only one measurement. Overload does not act this way and will display an overload for both ranges.

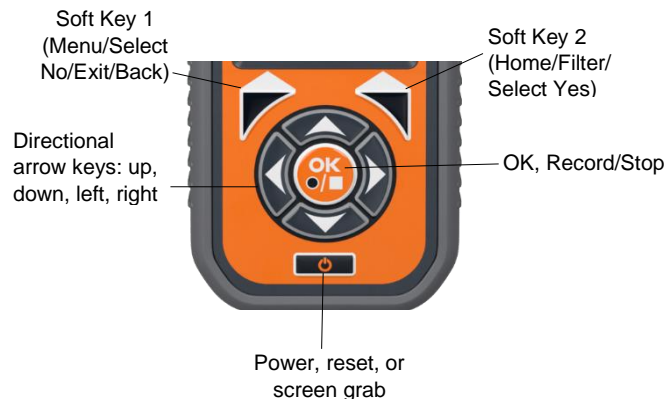
During overload or under range conditions, the bar displayed at the bottom of the measurement home screen will change to grey, indicating that operation is outside of the current range.



Overload	Under Range
	
	
	
	

## GETTING STARTED

### Using the Keypad

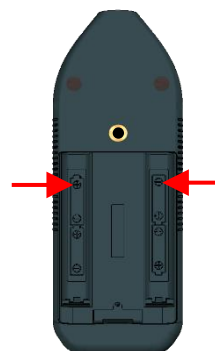


### Powering the Sound Level Meter

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

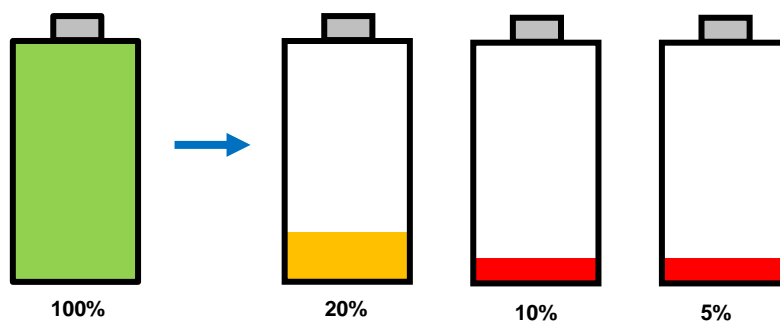
The battery compartment is located on the back of your sound meter. Remove the battery door and insert the batteries using the correct polarity shown where the batteries are fitted (*see right*).

Replace the battery door securely before using the instrument.

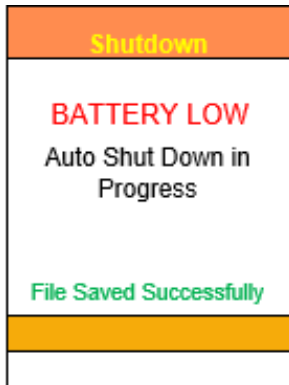


### Determining Battery Level

The SoundCHEK Essential is equipped with a multi-level battery indicator:



At approximately 5% charge, the battery indicator will FLASH **RED**. If the batteries are not replaced, the unit will automatically shut down and save the recording if necessary.

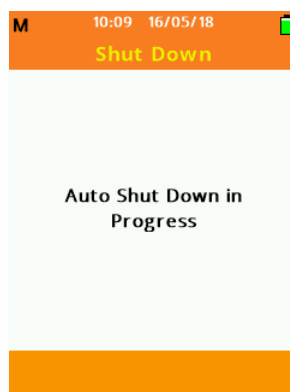


## Turning Power On/Off

**Turn on:** In all power configurations, press and hold the **Power key** for approximately one second.





**Turn off:** Hold the **Power key** down for approximately two seconds and follow the on-screen instructions shown below.

**Note:** *If no key is pressed within two minutes of turning on the sound level meter, the unit will automatically power down. See below.*



## Interpreting Instrument Icons

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

<b>L</b>	Low Measuring Range Active
<b>M</b>	Medium Measuring Range Active
<b>H</b>	High Measuring Range Active
	USB Active
	Battery Charge
	Recording Data Active
	File Review Active

The top dark orange bar on the screen displays most of the information icons, the current time, date, measurement range and the current screen selected.



The bottom, lighter, orange bar will display the Record or File Review symbols in a similar position to the image shown at right. **Note:** The image shown here may have different values than those on your display.

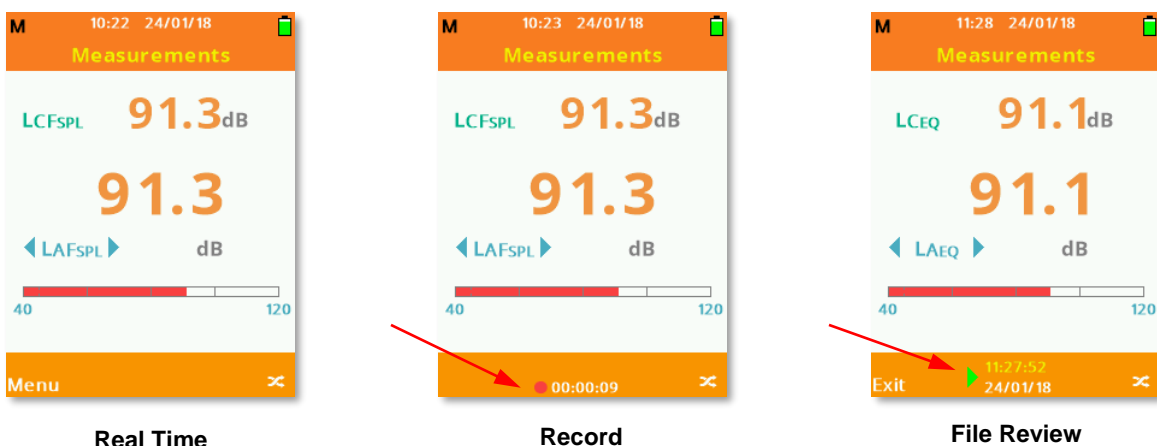


## OPERATION

The SoundCHEK Essential sound level meter has three primary operational modes:

- Real Time
- Recording
- File Review

Each mode can be quickly identified by viewing the bottom bar: Real Time has no icon, Record has a standard red record symbol, and File Review shows a green directional arrow.



### Real Time Mode

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

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

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

It is possible to reset parameters in real time mode by quickly pressing the **Power** Key.

### Recording Mode

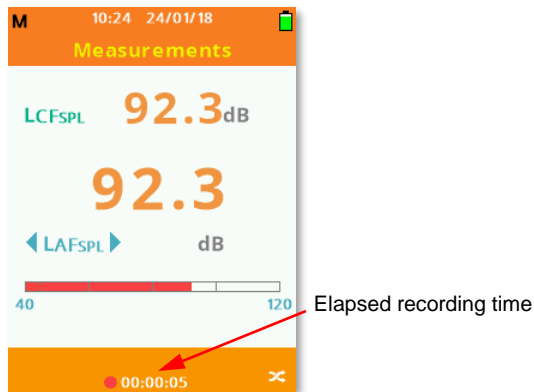
Recording data is achieved by pressing the **Record** key while in real time mode. The settings for recording are applied under **Measurement Setup, Data Recording**.

#### *Recording Screen Display*

The settings made under Data Recording will affect the information and how it is displayed on your SoundCHEK Essential instrument.

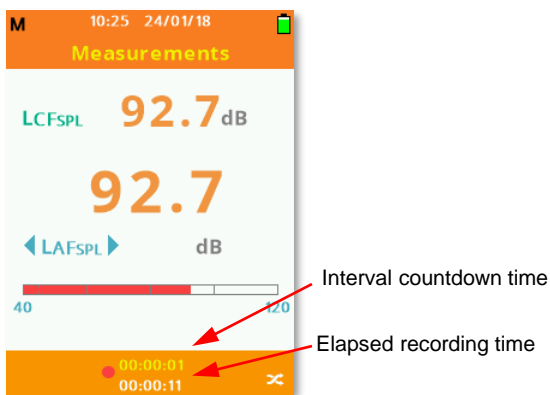
### **Time History Disabled**

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



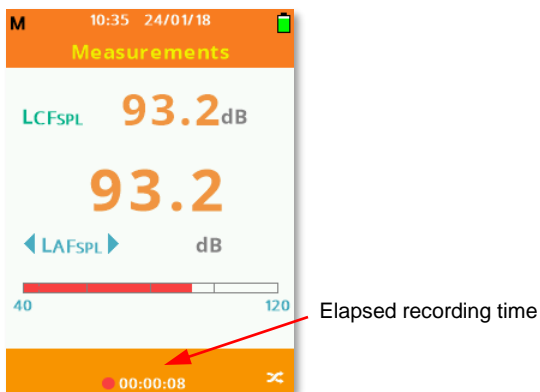
### **Time History Enabled**

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



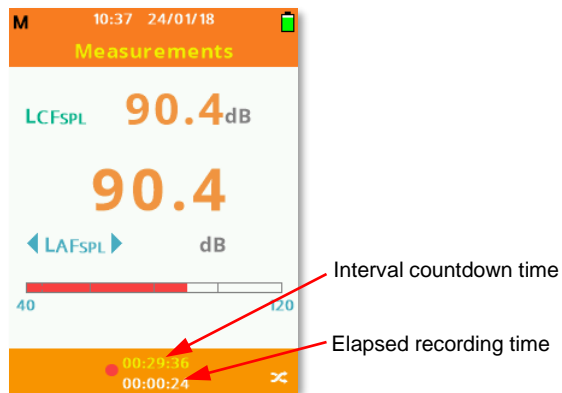
### **Time History Disabled, Duration Timer Set**

When Time History is disabled for the recording but the Duration Timer is enabled, the bottom bar will only display the elapsed recording time.



### Time History Enabled, Duration Timer Set

When both Time History and Duration Timer are enabled for the recording, the bottom bar will display the elapsed recording time and the current interval countdown time.



### **Stop Active Recording**

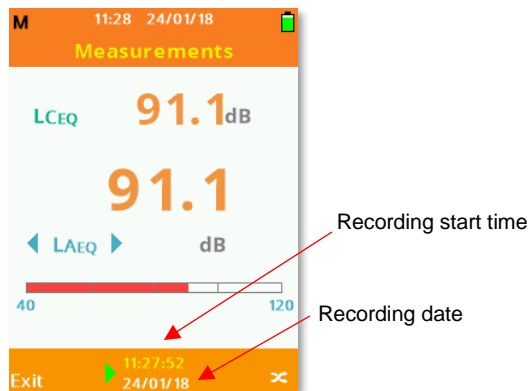
Pressing the **Stop** key during an active recording will display the available options:

**Save:** Select Yes by pressing **Soft Key 2**.

**Don't Save:** Select No by pressing **Soft Key 1** to return to Real Time mode.

### **File Review Mode**

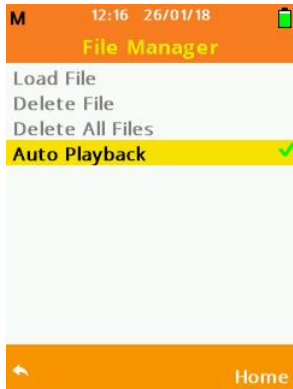
File Review can be accessed by either manually loading a file under **File Manager**, or by enabling the Auto Playback function (see *Auto Playback*).



1. Use the **Up** or **Down Arrow** keys to scroll measurement screens or the **Left** or **Right Arrow** keys to scroll measurement parameters.
2. Use **Soft Key 2** to swap between measurement 1 or measurement 2.
3. Use the **Left** or **Right Arrow** keys to scroll parameters.
4. Select Exit using **Soft Key 1** to quit File Review and return to Real Time mode.

### ***Auto Playback***

Auto Playback is located in the **File Manager** section of the **Main Menu** and can be enabled or disabled by pressing **OK**. When enabled, after a recording has been saved, your SoundCHEK Essential will automatically enter File Review instead of returning to Real Time mode.

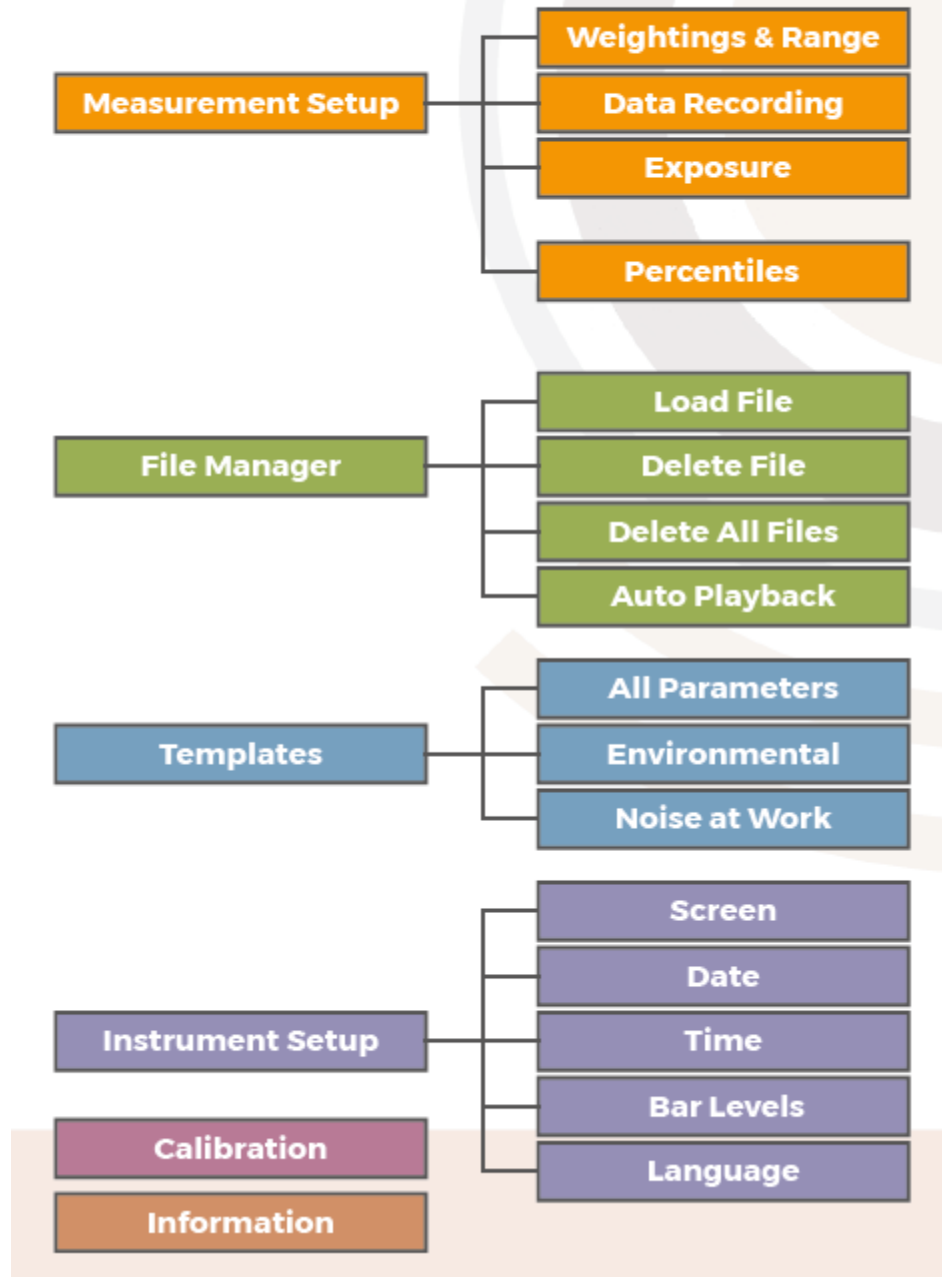




## Menu Structure


# Menu Structure

The complete menu structure is shown below: -



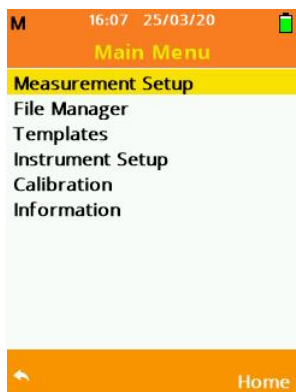
## Menu Navigation and Settings

The Main Menu can be selected using **Soft Key 1** when labelled as **Menu**.

On most screens in the SoundCHEK Essential menu system, **Soft Key 1** can be used to go back to the previous screen. This will be displayed as 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. Scroll through the available options using the **Up** or **Down Arrow** keys and press **OK** to choose the highlighted selection.

**Note:** The Main Menu is not available when the sound level meter is recording.



### Measurement Setup

Select Measurement Setup to change your recording settings and how information is displayed.



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

### Weightings & Range

Select Weightings & Range to change the measurement range and the weightings 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 change the selection.



**Range:** SoundCHEK Essential has three operating ranges: Low, Medium, and High. Each range measures linearly, with Low measuring 25 to 100 dB, Medium measuring 45 to 120 dB. and High measuring 65 to 140 dB.

**Frequency Weighting:** SoundCHEK Essential simultaneously measures sound on Measurement 1 and Measurement 2, and each one has different Frequency Weightings applied.

Measurement 1 is locked to 'A' weighting, however, Measurement 2 can be moved freely among 'A', 'C' and 'Z' weightings.

**Time Weighting:** Both Measurement 1 and Measurement 2 can also have independent Time Weightings applied. Select from 'S' - Slow, 'F' - Fast or 'I' - Impulse weightings.

### Data Recording

Select Data Recording to enable Time History and to choose any time interval periods required.

The time periods recorded by the instrument are determined by the Time History settings, the settings made within the Timer Selection or by the user manually stopping the recording.

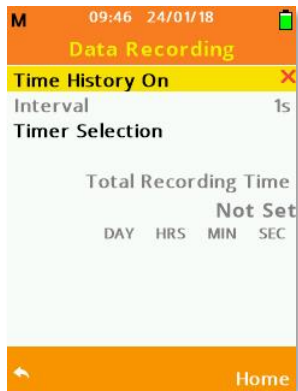
If the Duration Timer has been set under Timer Selection, this will be shown on the Data Recording screen as the Total Record Time. If no settings are made with Timer Selection, then **Not Set** will be shown.



1. Scroll the available options using the **Up** or **Down Arrow** keys.
2. Press **OK** or the **Left, Right Arrow** keys to toggle Time History On.
3. Use the **Left** or **Right Arrow** keys to amend the values for Short Time Interval and Long Time Interval.
4. Press the **OK** key to select Timer Selection.

**Time History On – Disabled:** If Time History On is disabled, then all data recordings made will not contain any Time History data and the Interval settings become unavailable.

In this case, the instrument will record one set of measurements over the total measurement time.



**Time Interval:** When Time History On is enabled, each recording will calculate data over the Time Interval selected. The available options for Time Intervals are 1s, 10s, 1m, 5m, 10m, 15m, 30m, 1hr, 8hr, 12hr.

**Note:** *Calculations over Time Intervals are not displayed on screen.*

**Timer Selection:** Choose Timer Selection to set the overall automatic recording length.



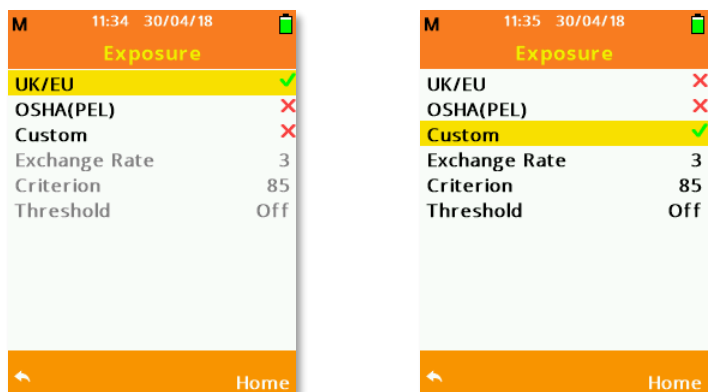
1. Press **OK** to enable the Duration Timer.
2. With the option enabled, use the **Left** or **Right Arrow** keys to move and highlight the selection to change.
3. Use the **Up** or **Down Arrow** keys to change the selection. The Duration Timer can be used with or without Time History enabled.

The settings can be changed from: 00 to 23 HRS, 00 to 59 MIN, 00 to 59 SEC

## **Exposure**

The Exposure menu allows you to alter how SoundCHEK Essential records Exposure data.

Scroll the available options using the directional **Arrow** keys and press the **Left** and **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: LEPd, LAVG, Exposure ( $\text{Pa}^2\text{h}$ ) % DOSE, % DOSE/HR, POINTS, POINTS/Hr.

**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: LEPd, LAVG, Exposure ( $\text{Pa}^2\text{h}$ ) % DOSE, % DOSE/HR, TWA.

**Custom:** Select this option to manually set legislation requirements:

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

When Custom is selected the Exposure measurement screen displays and records the following parameters: LEPd, LAVG, Exposure ( $\text{Pa}^2\text{h}$ ) % DOSE, % DOSE/HR, TWA.

**Note:** TWA is calculated using the instrument Exposure Time, to achieve TWA(8), ensure the Exposure Time is 8 hours. TWA is not available for EU or UK exposure settings.

## Percentiles

Under Percentiles, commonly referred to as LNs, you can select one user defined LN level that is to be recorded. Highlight the required LN and press the **OK** key to toggle the LN on.

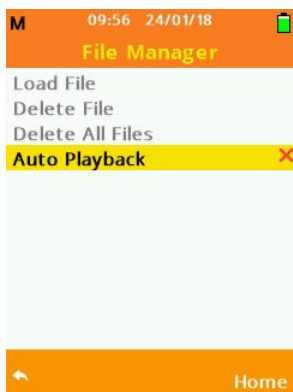


### Notes:

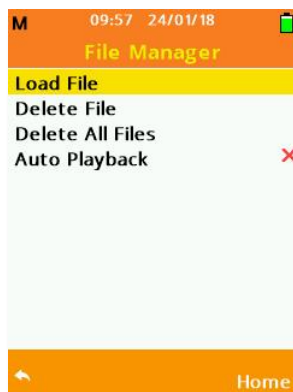
- The instrument can measure 3 Percentiles simultaneously, one user selected from the selection above and L10 and L90, which are fixed.
- Percentiles (LNs) ideally require at least 5 minutes recording time to gather enough data to be accurate.

## File Manager

Select File Manager to load saved files, delete saved files, and toggle Auto Playback off/on. Option availability will depend on data files being saved:



No files saved



Files saved

Scroll through the available options using the **Up** or **Down Arrow** keys. Press **OK** to choose from the following:

- Load File
- Delete File
- Delete All Files
- Auto Playback

### Load File

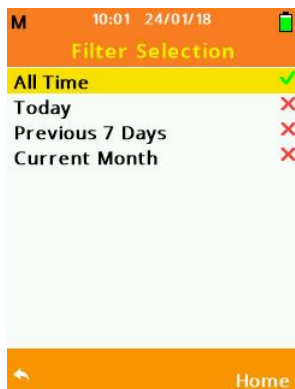
1. Scroll through the saved data files using the **Up** or **Down Arrow** keys and press the **OK** Key to open the selected file in File Review mode. The file number and total number of data files saved are located at the top left hand side of the list. If multiple files exist, use the **Left** or **Right Arrow** keys to scroll the data files by page.



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

**Filter Selection:** Filter the list of saved data files by the selections made.

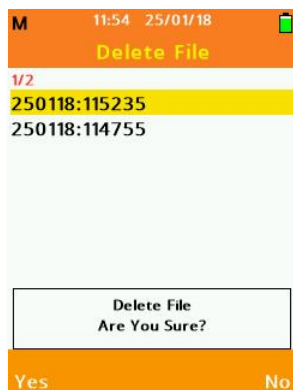
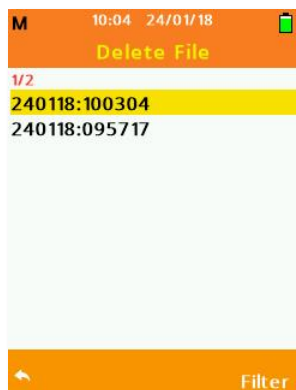
Scroll through the options using the **Up** or **Down Arrow** keys and press the **OK** Key or the **Left, Right Arrow** keys to toggle each available option. Only one option from **All Time**, **Today**, **Previous 7 Days** or **Current Month** can be selected at any time.



### **Delete File**

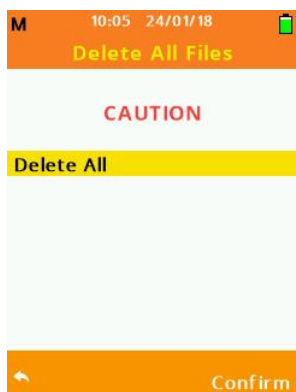
Choose Delete File to delete one individual data recording.

1. Scroll through the available data files using the **Up** or **Down Arrow** keys and press **OK** to select the file to delete. If multiple files exist, use the **Left** or **Right Arrow** keys to scroll the data files by page.
2. **To delete all associated files**, press **Soft Key 1** labelled **Yes**.
3. **To cancel**, press **Soft Key 2** labelled **No**.



### **Delete All Files**

Choose Delete All Files to delete all data recordings.



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

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

**Notes:** Deleted files are unrecoverable.

Delete all may take several minutes to clear the internal memory.

### **Auto Playback**

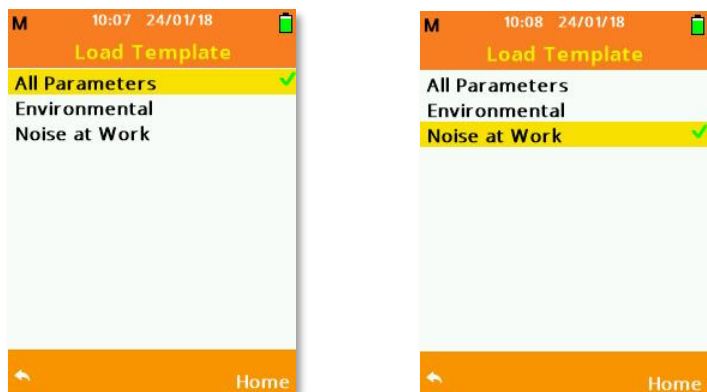
See description under File Manager.



## Templates

Select Templates to change your current Template.

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



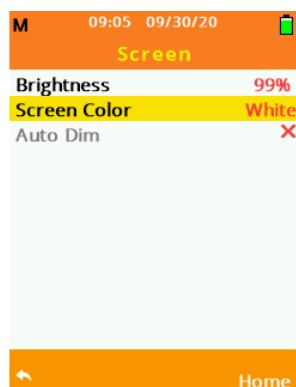
The Template enabled will determine which parameters your instrument will or will not measure:

- Noise at work will enable Exposure and disable Percentiles
- Environmental will enable Percentiles and disable Exposure
- All Parameters will enable all parameters.

## Instrument Setup

### Screen

Select Screen to adjust screen brightness and color and to access the power-saving feature auto-dim as follows:



1. **Brightness:** Adjust brightness using the **Left, Right Arrow** keys to the required level. **Note:** *Increased screen brightness reduces battery operating time.*
2. **Color:** Adjust color using the **Left, Right Arrow** keys to toggle the screen color between White or Black. *See examples below.*



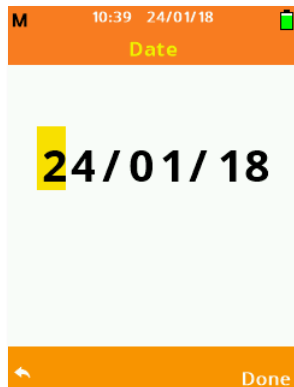
3. **Auto Dim** will automatically dim the screen to after a set time to reduce operating power and increase battery run time. Use the **Left, Right Arrow** keys to adjust the Auto Dim to:

Off or 1 to 15 (minutes) – 1 minute is recommended

**Note:** Pressing any key while auto dim is active will return the screen to its standard brightness setting.

### Date

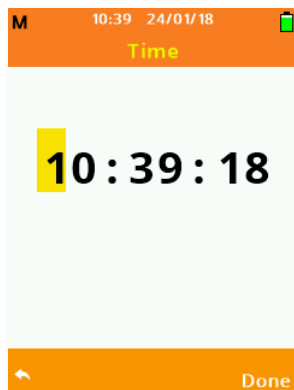
Enter the current date using the date format specific to your region.



1. Use the **Up, Down Arrow** keys to adjust the value.
2. Use the **Left, Right Arrow** keys to move forward or back.
3. Press **Soft Key 2** labelled **Done** to accept the date changes.

### Time

Enter the current time using the time zone specific to your region.



1. Use the **Up, Down Arrow** keys to adjust the value.
2. Use the **Left, Right Arrow** keys to move forward or back.
3. Press **Soft Key 2** labelled **Done** to accept the time changes.

## **Bar Levels**

Select to adjust the levels at which color coding of the bar levels appear (*see examples below*).



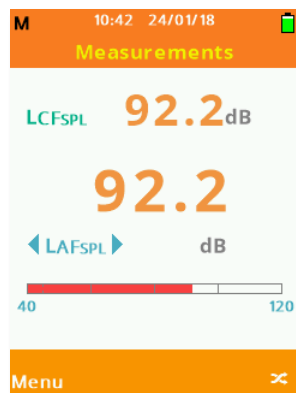
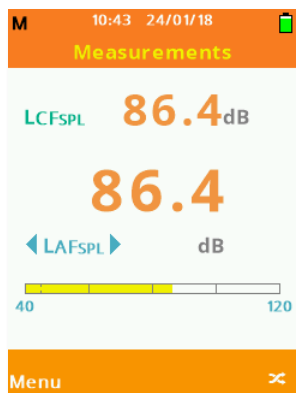
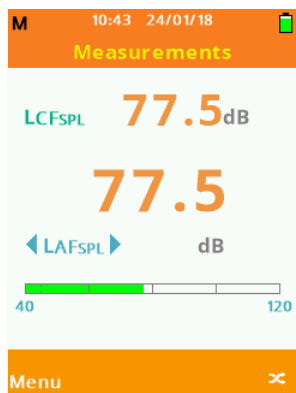
1. Scroll the options using the **Up** or **Down Arrow** keys.
2. Use the **Left, Right Arrow** keys to adjust as follows:

**Yellow:** 40 to 100 dB

**Red:** 80 to 140 dB

Red values cannot be set lower than Yellow values, and any value below Yellow will be displayed as Green on the screen.

**Note:** Settings made for Red are range-dependent, and values between 121 and 140 will only be visible Red on the High range.



## Language

Select the desired operating language of the instrument by scrolling through the options using the **Up** or **Down Arrow** keys and pressing **OK** to confirm the selection.



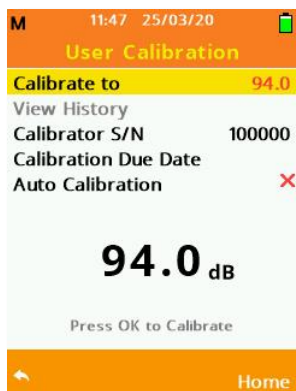
## **Calibration**

Select Calibration to acoustically calibrate your SoundCHEK Essential sound level meter.

It is recommended that the calibration procedure is performed before and after measurements have been taken using an SKC AcoustiCHEK Calibrator Cat. No. 703 Series with an equivalent class rating (or better) to match the model of your SoundCHEK Essential sound level meter.

Select **User Calibration** to allow access to the calibration routine and allow the user to set calibration settings.

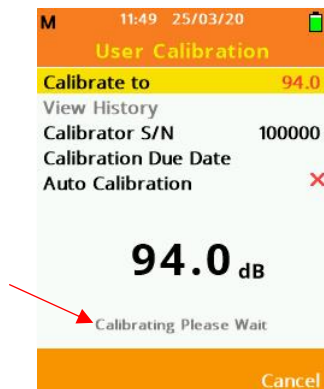
## Calibrate to



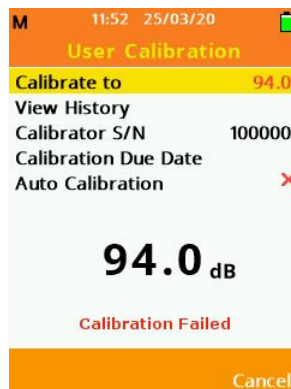
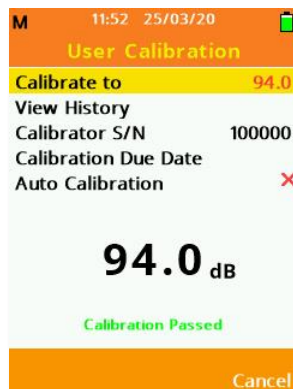
1. Adjust the **Calibrate to** value between 91.0 and 120.0 dB in 0.1-dB steps using the **Left** or **Right Arrow** keys or 1-dB steps using the **Up** or **Down Arrow** keys. Only include the microphone-dependent pressure to free field correction in this calibration adjustment.

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 while inserting the microphone as the O-ring on the calibrator forms a seal around the microphone. Switch the calibrator on and set to the required output level.

- When the **Calibrate to** value is set correctly, including corrections, press **OK** (see screen at above right) to begin calibrating your SoundCHEK Essential sound meter. A message will appear at the bottom of the screen indicating that calibration is taking place.



- After calibration, successful or unsuccessful calibration will be indicated (see below). **Note:** If the calibration is unsuccessful, ensure that your calibrator is turned on and is giving the correct output level, and that you have entered the correct **Calibrate to** value.



### View History

View History shows all user calibrations that have been performed.

- Scroll through the History list using the **Up** or **Down Arrow** keys.
- Press the **OK** key to view additional calibration information.



- Press **Soft Key 2** labelled **Delete** to delete individual calibration history records.

### **Calibrator S/N**

Enter the serial number (S/N) of the calibrator being used to calibrate your SoundCHEK Essential sound level meter here. The entered number will be linked as reference with the calibration history, allowing for calibration traceability.

1. Use the **Up, Down Arrow** keys to adjust the value.
2. Use the **Left, Right Arrow** keys to move forward or back.
3. Press the **OK** key on the last digit to accept the serial number.

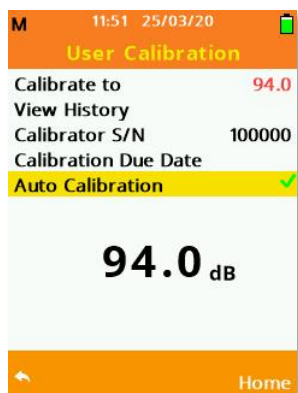
### **Calibration Due Date**

By default, the Calibration Due Date is set to one year from purchase, however, this date can be changed to suit you or your company's calibration schedule.

1. Use the **Up, Down Arrow** keys to adjust the value.
2. Use the **Left, Right Arrow** keys to move forward or back.
3. Press **Soft Key 2** labelled **Done** to accept the Calibration Due Date.

### **Auto Calibration**

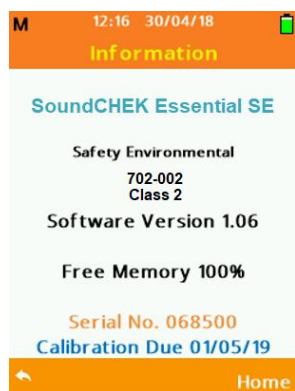
The Auto Calibration function intelligently detects that an acoustic calibration source is being input to the microphone. Once detected, the sound level meter will automatically perform a calibration to the set **Calibrate to** value. Auto Calibration is enabled by default.



Press the **OK** key to enable/disable this feature.

### ***Information***

Select Information to show instrument-specific details.



### **Measurement Screens**

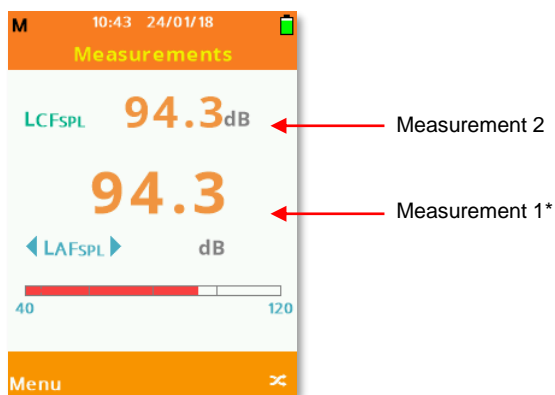
The SoundCHEK Essential sound level meter can independently and simultaneously record two measurements. Each measurement can have different time weightings and/or frequency weightings. To clearly identify these, they are named Measurement 1 and Measurement 2 throughout the menu system when choosing settings.

Percentiles are only ever available for Measurement 1.

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

## Measurements

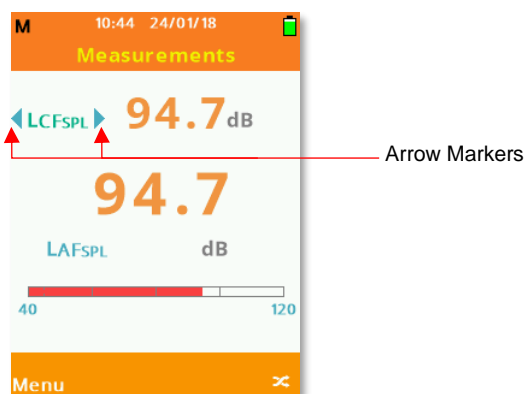
Your SoundCHEK Essential instrument will always show the Measurement Screen below after powering up:



*\*Measurement 1 on this screen is identified by the larger font size.*

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

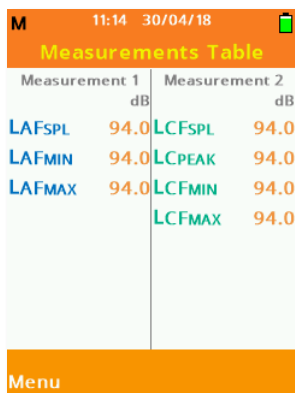
Press **Soft Key 2** to move between the selection of Measurement 1 and Measurement 2. The selected Measurement is identified by having arrow markers on either side of the parameter as shown below. Use the **Left** or **Right Arrow** keys to scroll to the available parameters on either Measurement 1 or 2.





## Measurements Table

The Measurements Table conveniently shows all standard parameter values available on the sound level meter for both Measurement 1 and Measurement 2:



The screenshot shows the 'Measurements Table' screen. At the top, it displays 'M', the time '11:14', and the date '30/04/18'. The title 'Measurements Table' is in yellow. Below the title, there are two columns: 'Measurement 1' and 'Measurement 2', both with units 'dB'. The parameters listed are LAFSPL, LAFMIN, LAFMAX for Measurement 1, and LCFsPL, LCPEAK, LCFMIN, LCFMAX for Measurement 2. All values are 94.0. At the bottom, there is an orange bar with the word 'Menu'.

Measurement 1	Measurement 2
dB	dB
LAFSPL 94.0	LCFsPL 94.0
LAFMIN 94.0	LCPEAK 94.0
LAFMAX 94.0	LCFMIN 94.0
	LCFMAX 94.0

Menu

## Exposure

The Exposure screen is calculated from Measurement 1 only. See **Exposure in Measurement Setup** for details on how to change the calculated Measurements.



The screenshot shows the 'Exposure' screen. At the top, it displays 'M', the time '11:13', and the date '30/04/18'. The title 'Exposure' is in yellow. Below the title, it says 'Measurement 1'. The parameters listed are Exposure Time (01:00 HRS:MIN), LAEPd (dB), LAAVG (dB), Exposure (Pa2h), %DOSE (%), %DOSE/Hr (%), POINTS (--), and POINTS/Hr (--). At the bottom, there is an orange bar with 'Menu' and 'Time'.

Measurement 1	HRS:MIN
Exposure Time	01:00
LAEPd	-- dB
LAAVG	-- dB
Exposure	-- Pa2h
%DOSE	-- %
%DOSE/Hr	-- %
POINTS	--
POINTS/Hr	--

Menu Time

To edit the Exposure Time value:



The screenshot shows the 'Exposure' screen with the 'Exposure Time' value highlighted in yellow. The title 'Exposure' is in yellow. Below the title, it says 'Measurement 1'. The parameters listed are Exposure Time (08:00 HRS:MIN), LAEPd (dB), LAAVG (dB), Exposure (Pa2h), %DOSE (%), %DOSE/Hr (%), TWA (dB). At the bottom, there is an orange bar with 'Menu' and 'Done'.

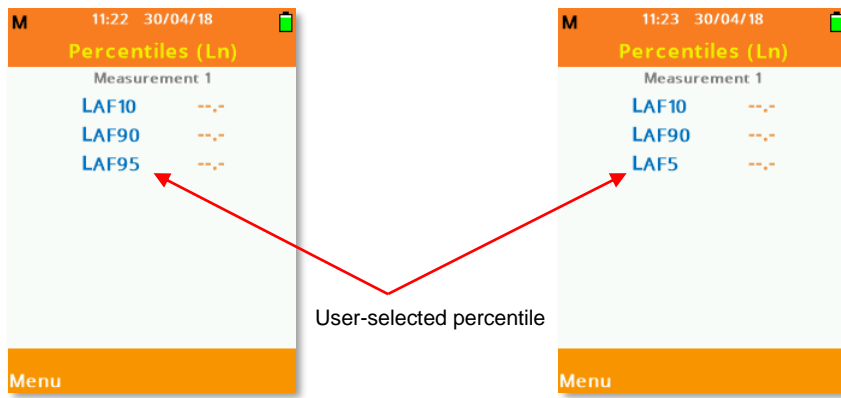
Measurement 1	HRS:MIN
Exposure Time	08:00
LAEPd	-- dB
LAAVG	-- dB
Exposure	-- Pa2h
%DOSE	-- %
%DOSE/Hr	-- %
TWA	-- dB

Menu Done

1. Press **Soft Key 2** to highlight **Time**.
2. Use the Up/Down Arrow keys to adjust the value, Left/Right to move and **Soft Key 2** to confirm.

### **Percentiles (L<sub>N</sub>)**

SoundCHEK Essential can measure a maximum of 3 percentiles at any one time. L10 and L90 are fixed and one additional percentile can be selected from L1, L5, L50, L95 or L99 under **Percentiles (LN)** in **Measurement Setup**.



## ACCESSORIES/REPLACEMENT PARTS

### Accessories

### Cat. No.

**AcoustiCHEK Calibrator, Class 2, 114 dB**

703-002

**AcoustiCHEK Calibrator, Class 1, with Built-in Barometer**

703-001

### Replacement Parts

### Cat. No.

**Replacement Windscreen**, 2.5-inch diameter for ½-inch microphones

702-016

**Replacement Microphone**, Class 2, ½-inch pre-polarized with  
25 mV/Pa microphone capsule

702-019

**Replacement Microphone**, Class 1, ½-inch pre-polarized with  
25 mV/Pa microphone capsule

702-020

**Replacement Pre-amp Assembly**

702-023

### SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to [skcinc.com/warranty](http://skcinc.com/warranty).

## APPENDIX A: PERFORMANCE PROFILE

<b>Class</b>	Available in Class 1 or 2
<b>Measurement Range</b>	<b>Linear</b> 25 to 140 dB <b>Peak</b> 40 to 143 dB
<b>Frequency Range</b>	20 Hz to 20 kHz
<b>Frequency Weighting</b>	A, C, and Z
<b>Response Time</b>	Fast, Slow, and Impulse
<b>Measurement Channels</b>	Two
<b>Exchange Rate</b>	3 dB, 4 dB, and 5 dB
<b>Threshold Level</b>	Off, -5 dB, -10 dB
<b>Parameters</b>	Lp, Leq, Lmax, Lpeak, Exposure Pa2H, Lep'd, %Dose, %Dose Per Hour, Points Per Hour, Under Range, Overload
<b>Standards</b>	Meets ANSI S1.4 2014, ANSI S1.25:1991 R2007, IEC 61672-1:2013 Class 1 or Class 2 Group X
<b>Languages</b>	English UK and U.S., Chinese, French, German, Italian, Portuguese, Brazilian, Russian, Spanish, Dutch, Greek
<b>Memory</b>	4 MB – up to 4000 Data intervals
<b>Power</b>	4 AA batteries (up to 24 hours) or USB
<b>Temperature</b>	<b>Class 1:</b> 14 F to 120 F (-10 to 50 C) <b>Class 2:</b> 32 F to 104 F (0 to 40 C)
<b>Humidity</b>	25 to 90%
<b>Atmospheric pressure</b>	65 to 108 kPa
<b>Dimensions</b>	8.3 x 2.8 x 1.2 in (21 x 7.1 x 3 cm), includes microphone
<b>Weight</b>	10.6 oz (300 g) with batteries
<b>Display</b>	2.4 in, full color TFT 240 x 320 pixels