Document Type – User Manual

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The g/210L BrAC reading obtained by correct use of this device is only considered accurate at the time of testing. Great care has been taken to ensure the accuracy of each reading.
Neither the manufacturer, the distributor, nor the owner accepts liability or responsibility due to any action or claim arising from the reading produced by this device, whether used correctly or incorrectly.

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1 Introduction

This User Manual details the operation of the Alcolizer HH4 Alcohol Tester.
The manual is divided into various Sections and Sub-sections to enable the user to access the required information with ease. It includes Cautions and Notes applicable to the HH4 device and Specifications table.

Note

This User manual is applicable to the Alcolizer HH4 alcohol tester certified to AS3547:2019.

2 Training

Alcolizer recommends operators of this device undergo appropriate training in both how to use this instrument and how to conduct an effective Breath testing program. Alcolizer offers a wide range of training courses from product familiarisation to advanced certified training programs.

Visit www.alcolizer.com/solutions/training for more information on training programs or discuss your needs with your local sales representative.

3 Description of HH4

3.1 Equipment Overview

The HH4 Equipment List includes the following items:

- HH4 Handheld Device (Li-ION powered)
- USB Cable
- Battery Chargers (240VAC and 12VDC Vehicle Charger)
- Wrist Strap
- Carry Bag or Hard Plastic Carry Case (Optional), and
- Bluetooth Printer (Optional)

3.2 Device Overview

The HH4 is a handheld device consisting of a hard-plastic case, rubberised hand grip, wrist strap and the following user displays, buttons and adaptor sockets. (Refer to Figure 1)

- Mouthpiece Locator and Sample Inlet Spigot
- LCD Colour Graphics Display
- Test Key
- Up and Down Buttons
- USB Port
- Wrist Strap, and
- Battery Charging Port (refer to Figure 2- Charging Port)

Figure 1 - User Display, Buttons and Adapter Sockets

Figure 2 - Charging Port

3.2.1 Test Key

The Test Key activates selected functions.

3.2.2 LCD Colour Graphics Display

Displays the various functions of the device including:

- Welcome screen which included days remaining until the next calibration (If Activated)
- Various Test Modes (Mouthpiece, Passive Standard and Passive Only)
- Extensive menus and options
- Ready Notification
- Blow Notification including progress bar
- BrAC Level in various formats
- Printer Setup
- Records Information

These and other displays are explained in the Operating Instructions Section of this manual.

3.2.3 Mouthpiece Locator and Sample Inlet Spigot

This disposable mouthpiece (sample tube) is located on the Mouthpiece Locator which surrounds the Sample Inlet Spigot.

3.2.4 Up and Down Buttons

The Up and Down buttons allow access to various sub menus. Operation of both buttons also facilitates access to the Off function (Refer to Section 3).

3.2.5 USB Port

The USB Port facilities connection of the device to a USB equipped computer using the cable included with the device. Refer to AlcoCONNECT Toolbox User Manual for instructions on using the AlcoCONNECT toolbox.

3.2.6 Battery Charger Port

The Battery Charging Port is located beneath a moisture proof cap under the wrist strap bracket and facilities connection to the battery chargers included with the device.

4 Operating Instructions

CAUTION

While the HH4 is a robust device, it does contain sensitive instrumentation and should not be subject to rough handling or become submerged in water.
Do not store the device in direct sunlight or places where extreme temperature conditions can occur.

Note

The HH4 has optional functions which may or may not be active on your device. The screen images shown in this User Manual may differ to your device depending on the options fitted or functions enabled.

4.1 General Information

The following information should be observed when conducting a breath test analysis using this device:

- Operators should use the appropriate personal protective equipment (PPE) when conducting a test – gloves, mask, protective eyewear or full-face mask based on the situation.
- For accurate testing results, food, beverages, medications, smoking, vaping or substances that contain alcohol should not be consumed for at least 15 minutes prior to testing.
- Allow 15 minutes for any potential interfering alcohol to be cleared from the donor before testing again.
- Blood alcohol concentration can continue to rise for up to 2 hours after the cessation of drinking and care should be taken if a result close to the designated blood alcohol concentration is indicated.
- When a high blood alcohol level has been reached, it can take 10 hours or more for the blood alcohol level to return to zero.
- If the test result is above the operational maximum limit, a plus sign (+) after the result will be displayed.

4.1.1 Cleaning Requirements

- We recommend that appropriate PPE be used during the cleaning process eg; gloves
- The instrument should be cleaned with a soft cloth and antibacterial spray or anti-bacterial wipes. It is recommended that the instrument is turned off before cleaning.
- The outside of the instrument can be cleaned by wiping it over with a soft moist cloth followed by a soft dry cloth.
- Screen – the screen of the instrument can be cleaned by wiping it over with a soft moist cloth followed by a soft dry cloth.
- Ensure the Spigot Inlet is not blocked.
- **Do not** use alcohol based cleaners.
- **Do not** use harsh cleaning agents, abrasive cleaning pads or chemicals.
- Dispose of mouthpieces after use into a bin, this can be done by easily ‘tapping’ the mouthpiece on the edge of the bin and it will ‘pop’ off. Ensure gloves and PPE are used during this process

4.2 Turning on the Device

Turn the device on as follows:

NOTE: At start up a clicking sound will be heard

- Press either the Test Key or Up/ Down buttons. A company logo screen will appear for a period of five seconds prior to the test screen displaying. The logo screen can be terminated sooner by pressing either the Test Key or Up/ Down buttons a second time.

Note

On specially configured devices, additional information may be displayed on start-up e.g. Device serial number, Sample module serial number and days till calibration.
To permanently display this information, hold the Test key down for an extended period upon start up.

- The Display will show *press to test* (Refer to Figure 3).

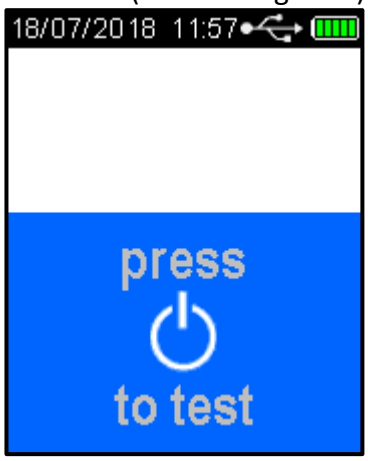


Figure 3 - Press To Test Message

4.3 Charging the Battery

Prior to initial use, the HH4 battery should be fully charged. The battery charge cycle may take up to two hours.

CAUTION

The battery in the HH4 device is a Li-ION battery. As such it should not be tampered with in anyway. Should any problems occur that are related to the battery, contact your local Alcolizer representative for advice.

Only use the battery charger supplied with the Alcolizer certified equipment. Use of non Alcolizer battery chargers could damage the device and render it inoperative.

Charge the battery as follows:

- Connect the charger DC socket to the HH4 battery charging port (Refer to Figure 2)
- Connect the AC or DC (vehicle) plug to a suitable power supply and switch on power.

The device will automatically start, and *Charging* will be displayed.

When the battery is fully charged, the battery condition indicator on the LCD Colour Graphics Display will display five bars. (Refer to Figure 4 - Battery Condition Indicator)

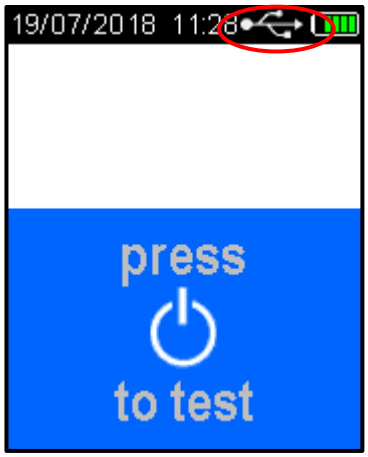


Figure 4 - Battery Condition Indicator

Recharge the battery when the Battery Condition Indicator shows one bar to ensure testing will not be interrupted by a flat battery.

Note

The device cannot be used for testing during charging but can be used for accessing Records.

4.4 Testing Types

The HH4 can perform both Mouthpiece and Passive (Passive Standard and Passive Only) testing. Mouthpiece testing provides a BrAC reading in g/210L and Passive testing will display the presence of alcohol in breath. Following a Passive test that indicates the presence of alcohol, a Mouthpiece test should then be performed if an accurate BrAC is required.

Note

Mouthpiece testing is also referred to as Standard or Active testing.

4.4.1 Mouthpieces

There are two types of Mouthpieces available for use on the HH4 (Refer Figure 5).
Mouthpiece Types:

- Spit Trap Non-Return Valve Mouthpiece (2 variants), and
- Standard Spigot Locator Mouthpiece.

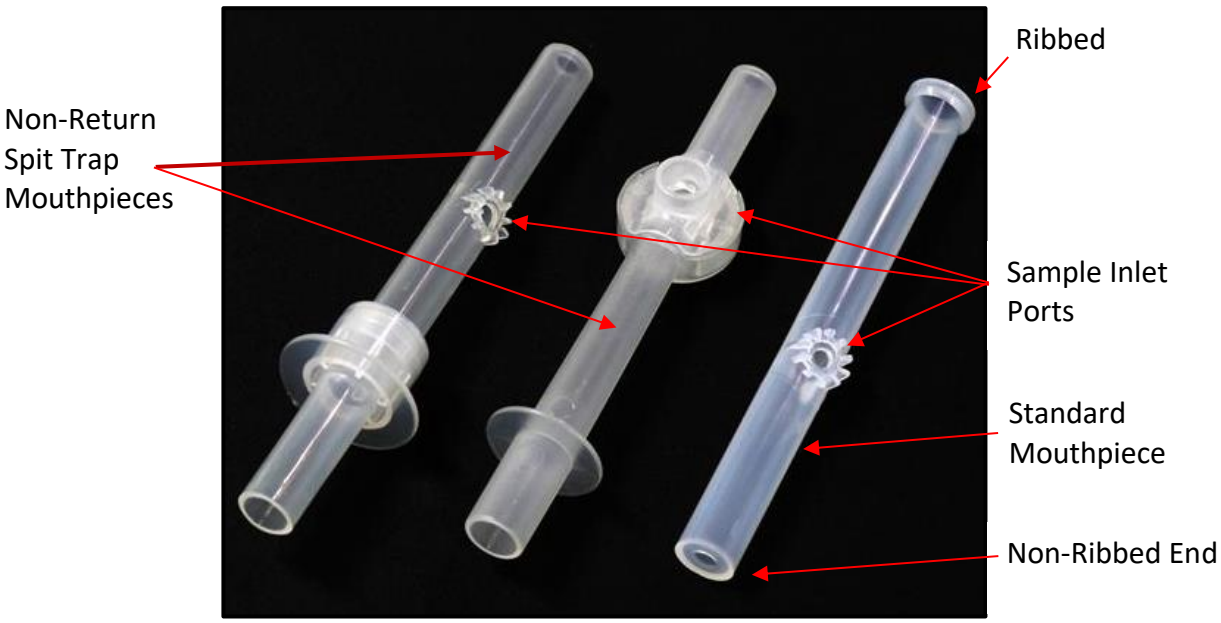


Figure 5 - Mouthpiece Types

The advantage of using the spit trap mouthpieces is that most of the saliva in the exhaled breath is collected in the mouthpiece and does not enter the device.

4.4.2 Mouthpiece Testing

CAUTION

To maintain a healthy sampling environment, the following procedures must be strictly adhered to.

Attach the mouthpiece to the device as follows:

- Grasp the mouthpiece at the ribbed end and tear the plastic wrapping from the non-ribbed end, downwards to expose the sample inlet hole.
- Locate the mouthpiece sample inlet port over the mouthpiece locator in line with the recess that surrounds the spigot (Refer Figure 6).
- Press the mouthpiece sample inlet port onto the locator until it is attached securely (Refer Figure 7). The orientation of the mouthpiece will not affect the sampling.

- Remove the remaining portion of the plastic wrap just prior to testing to ensure hygienic use.
- A new mouthpiece must be used for each mouthpiece test.

Figure 6 - Locating the Mouthpiece

Figure 7 - Mouthpiece Correctly Positioned

4.4.3 Taking a Mouthpiece (Active) Breath Sample

Note

Before taking a breath sample, ensure the subject has not consumed alcohol for at least 15 minutes.

If any step in a breath test sequence is not completed or the device is left idle for a prolonged period of time, the device will then terminate the breath test and display Test timed out. The device will return to the press to test display

The standard breath test time out period is 60 seconds. If a test time out does occur during a breath test, a new breath test must be performed.

Perform a Mouthpiece Test as follows:

- Press the Test key and the device will perform a self-test and *Please wait...* and a progress bar will be displayed.

Note

If the self-check is unsuccessful an error code will be displayed, and the device will not accept a breath sample.

- *Blow* will be displayed when the device is ready (Refer to Figure 8).

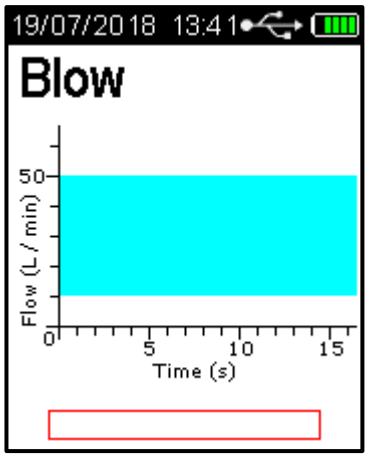


Figure 8 - Blow is displayed when the device is ready

After taking a deep breath, the test subject places their mouth over the mouthpiece inlet (ribbed end) and blows a gentle to medium breath sample into the mouthpiece (Refer Figure 9).

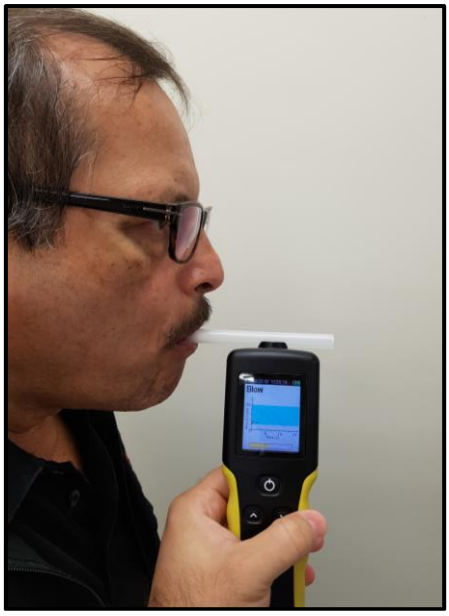


Figure 9 - Providing A Sample

- The exhaled flow is indicated via a bar graph; showing air flow over time in seconds (Refer to Figure 10). A beeping sound is also heard during the breath sample delivery phase, indicating a satisfactory breath sample is being delivered.

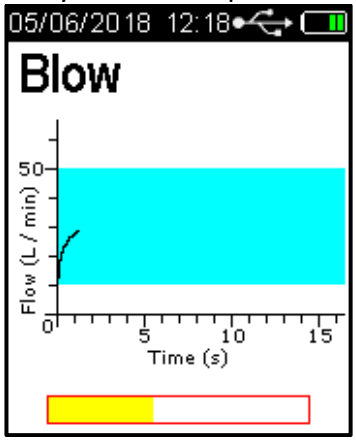


Figure 10 - Sample Process Bar

- The test subject continues blowing until the device takes a sample of the exhaled breath volume, indicated by a click and long beep sound.
- The frequency of the sound beeps increases with the intensity of the blow pressure. Blowing too hard or too soft will result in *Invalid Sample Try Again* being displayed (Refer Figure 11). The device will return to the Blow screen, another sample can now be taken.

Figure 11 - Invalid Sample Try Again Message

4.4.4 Analysing a Mouthpiece Breath Sample

After a valid breath sample is taken, the *Analysing Sample* message is displayed until the device calculates the BrAC reading. This will normally take a few seconds. In cold climate conditions it may take longer to display the BrAC reading (Refer to Figure 12)

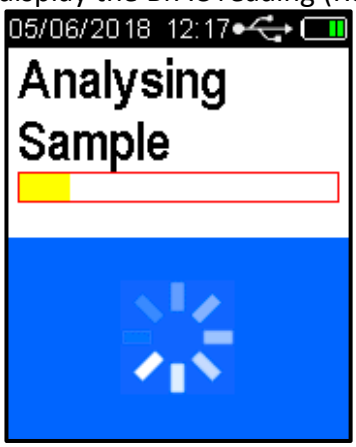


Figure 12 - Analysing Sample Message

When the BrAC reading is calculated, it will be displayed on the screen together with the unit of measurement (e.g., g/210L BrAC, g/100ml BAC) and be retained until the recovering period has ended. The screen colour will vary depending on the percentage of alcohol present:

- Green for 0.000 g/210L BrAC
- Yellow for readings above zero to 0.049 g/210L BrAC
- Red for readings greater than 0.050 g/210L BrAC.

The Recovering period is indicated by 'Recovering' shown on the display (Refer to Figure 13a)

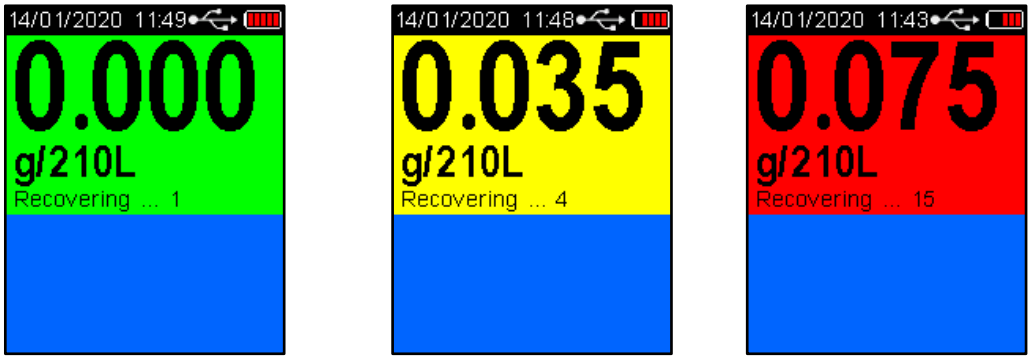


Figure 13a - Various BrAC and Screen Colours Displayed

- The Recovering period is the time the fuel cell sensor requires to recover from the previous breath test. This period will vary according to BrAC readings displayed, longer for higher readings.
- Remove the used mouthpiece by rotating it and it will come away from the spigot easily. Dispose of the mouthpieces in a responsible manner.
- To perform another breath test, repeat steps from section 3.4.2. Results will display on the screen for 10 seconds. A user is able to override this function by pressing key to continue as displayed on the screen.
- Overrange result is if a result above 0.462g/210L is obtained the below screen will appear (Figure 13b)

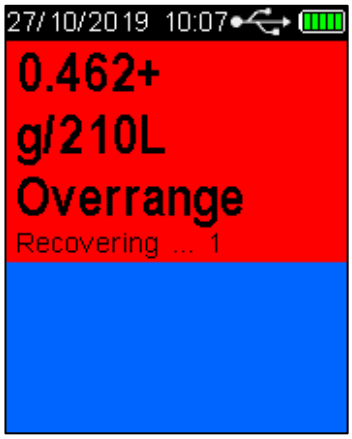


Figure 13b – Overrange Results

4.4.5 Passive Testing

Passive testing is a test that is performed without using a mouthpiece. The HH4 can perform two types of passive testing, that is trigged by button or blow pressure.

All Passive testing is performed by holding the device approximately 50mm in front of the test subject's mouth and asking them to count or talk so that exhaled breath may be picked up by the device and analysed for the presence of any alcohol.
When using Passive Standard testing, a Mouthpiece test is automatically enabled should the device detect alcohol on the subject's exhaled breath. Passive Only testing does not prompt the user to perform further testing.

4.4.6 Enabling Passive Standard

If passive standard mode has not been enabled, proceed as follows:

- With the screen displaying *press to test*, press the Up and Down buttons simultaneously. The User Menu will be displayed.
- Press the down button to scroll down to *Test Type* (Refer to Figure 14).

Figure 14 - Test Type Displayed

- Press the Test key until *Passive Std* is displayed (Refer to Figure 15).

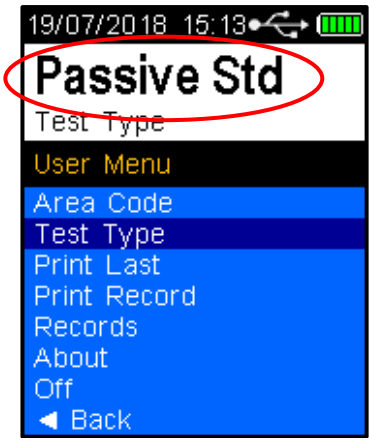


Figure 15 - Passive Standard Displayed

- Press the Up and Down buttons simultaneously. Passive Standard is now enabled or press the Down button until *Back* is highlighted then press the Test key to leave the User Menu.

4.4.7 Taking a Passive Standard Breath Sample

Note

If any step in a breath test sequence is not completed or the device is left idle for a prolonged period of time, then the device will terminate the breath test and display Test timed out the device will return to the press passive test display.
The standard breath test time out period is 60 seconds. If a test time out does occur during a breath test, a new breath test must be performed. Press the Test key to perform a new passive breath test as per steps above.

Perform a Passive Standard test as follows:

- On the *press test* screen, press the Test key. *Ready for passive test* is displayed (Refer to Figure 16)

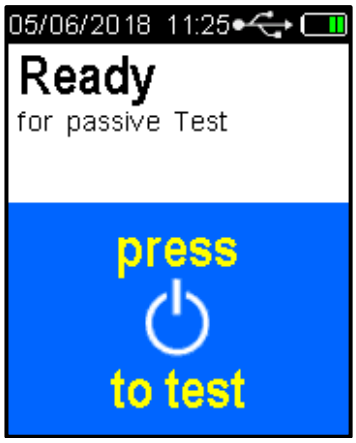


Figure 16 - Ready for Passive Test Message

- Press the Test button. The device will perform an electronic auto check and then return to *Ready for passive Test*.
- Hold the device 50mm in front of the test subjects mouth: so that the subject is breathing or talking directly into the device's sample inlet port (Refer to Figure 17).

Figure 17 - Providing a Passive Sample

- Ask the Subject to start counting from 20 onwards with a one second rhythm, until you tell them to stop, "20…21…22…23…24…25…etc."
- Press the Test button while the subject is counting. The device will make a series of clicking sounds as the sample is being taken,
- The device is set to take three pump samples. During these three pumps the operator must hold the device steady and at the same distance from the subject. The device will give three sample pump clicks, followed by a long beep sound. Analysing Sample will then be displayed (Refer to Figure 18).

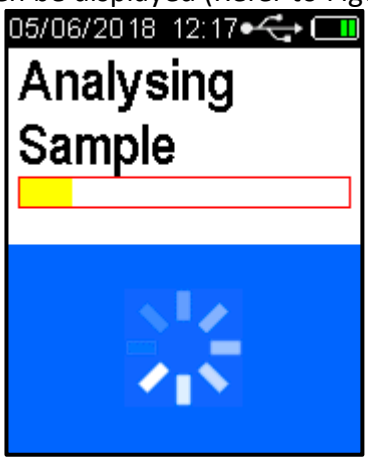


Figure 18 - Analysing Sample Message

4.4.8 Analysing a Passive Breath Sample

- After a valid breath sample is taken, the *Analysing Sample* message is displayed until the device determines if alcohol is present. This will normally take a few seconds. In cold climate conditions it may take longer to display the result.
- When the Passive standard reading is calculated, it will be displayed and retained until the Recovering period has ended.
- If a *Pass No Alcohol* reading is displayed the device has indicated that no alcohol was detected in the near vicinity of subject's exhaled breath. When the Recovering period has ended the device is ready for the next Passive standard breath test (Refer to Figure 19).

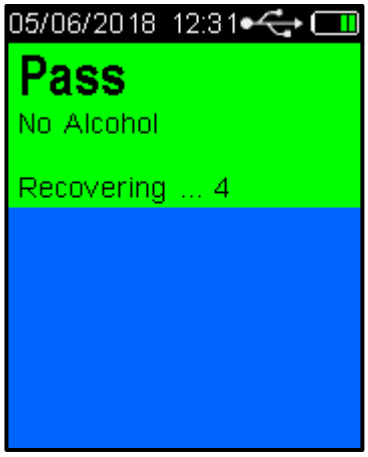


Figure 19 - Pass No Alcohol Message

- To perform another Passive Standard breath test, repeat these steps again.
- If a *Warning Alcohol Present* reading is displayed the device has indicated that alcohol was detected in the near vicinity of subject's exhaled breath (Refer to Figure 20).

Figure 20 - Warning Alcohol Present Message

- After the recovery period has ended, the device is enabled automatically to take an Active (Mouthpiece) sample (Refer to Figure 21). Perform an Active test in accordance with the procedures in section 3.4.2.

Figure 21 - Warning Alcohol Present/ Press for Active Test Display

4.4.9 Enabling Passive Only

To enable Passive Only, perform the same steps as in paragraph 3.4.6. Press the Test key until *Passive Only* is displayed.

> ***Note***
> *A Passive Only test will not automatically enable an Active (Mouthpiece) test the same way a Passive Standard test does.*

4.4.10 Taking a Passive Only Breath Sample

The procedures for performing a Passive Only test is the same as those for performing a Passive Standard test (refer paragraph 4.4.7).

> ***Note***
> *When a Warning Alcohol Present reading is displayed after performing a Passive Only test, it is strongly recommended that a Mouthpiece Breath Test be performed, after the recovery period has ended.*

4.4.11 Pressure Activated Passive- Blow Testing

The Pressure Activated Passive testing is used when it is desired that the subject's blow starts a sampling.

4.4.12 Enabling Pressure Activated

To enable the pressure activated, access the device setup menu (refer to paragraph 0)

> ***Note***
> *Pressure Activated or Passive Blow testing stands for the triggering method used on Passive testings.*

Enable the pressure activated as follows:

- Press the Down button until *Test Options* is highlighted (Refer to Figure 22).

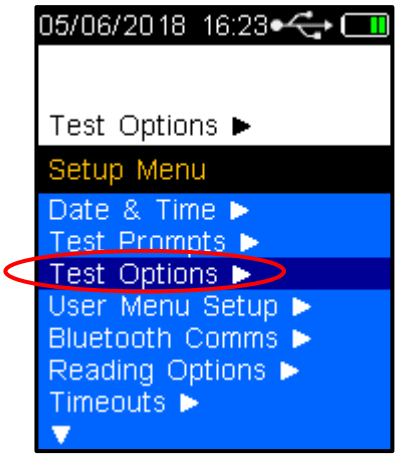


Figure 22 - Test Options Menu

- Press the Test key. The screen will display the Test Options.
- Using the down button, scroll down to *Passive Trigger* (Refer to Figure 23).

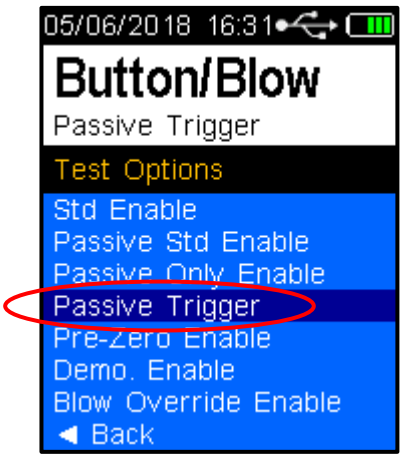


Figure 23 - Passive Trigger

- Press Test key to select *Blow or Button/Blow*.

Then go down to Back and Back again

> ***Note***
> *Blow Only Passive Trigger set the Passive Standard and Passive Only to take a sample only when a difference in pressure is detected on device's spigot locator.*
> *Button/Blow Passive Trigger set both Passive testing to take a sample by pressing the test button or when a difference in pressure is detected.*

4.5 Back Operation

The user menu includes a Back selection which when selected will return to the previous screen. To select Back, proceed as follows:

- Press the Up/down buttons until ◀ ***Back*** is highlighted (Refer to Figure 24).

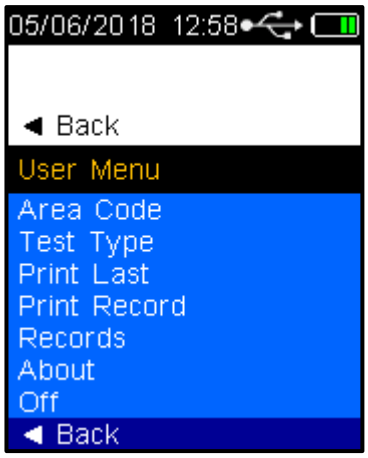


Figure 24 - Screen Back Selection

- Press the Test key and the display will return to the previous screen.

4.6 Shutting Down

The HH4 will automatically shut down after a period of inactivity. Should the device be required to be shut down manually (e.g. to conserve battery life), perform the following procedures:

- With the screen displaying press to test, Press the Up and Down buttons simultaneously. The User Menu will be displayed (Refer to Figure 13).
- Using the down button, scroll down to Off. (Refer to Figure 25).

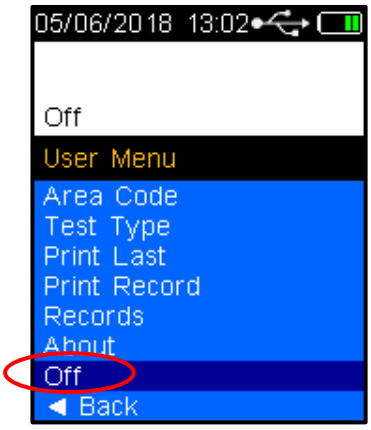


Figure 25 - Off Displayed

- Press the Test Key and the device will turn off.

To further conserve battery life, the device will automatically switch off the display back light after two minutes. To re-activate the device following back light power down, Press the Test key or Up/down buttons. The device will display the last screen that was activated at the time the back light switched off.

5 Test Options Menu

5.1 Test Cancel

If the user wishes to cancel a test, perform the following steps:

- With the Blow screen displayed, Press the Up and Down buttons simultaneously. The *Test Options Menu* will be displayed and using the down arrow to *Test Cancel* is selected (Refer to Figure 26).

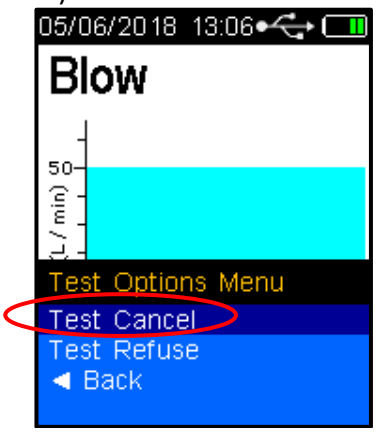


Figure 26 - Test Options Menu and Test Cancel

- Press the Test key and the screen will return to the press to test display.

5.2 Test Refusal

If a test is refused, the user can activate the Test Refuse option as follows:

- With the Blow screen displayed, press the Up and Down buttons simultaneously. The *Test Options Menu* and *Test Cancel* is displayed (Refer to Figure 26).
- Press the Down button to highlight *Test Refuse* (Refer to Figure 27).

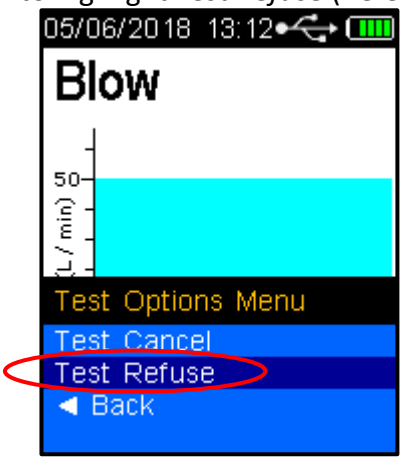


Figure 27 - Test Refuse Displayed

- Press the *Test key*. The device will beep rapidly for one second and *Test Refused* will be displayed flashing momentarily (Refer to Figure 28). The screen will then return to *the press to test* display. The test refusal will be recorded in Records.

Figure 28 - Test Refused Displayed

6 Accessing the Setup Menu

To make changes to the LE5 setup and the available functions, access the Setup Menu

- With the screen displaying press to test, Press the UP and Down buttons simultaneously for approximately five seconds. The menu screen will be displayed during this process and then the password set-up code '00000000' will be displayed (Refer
  Figure 29).

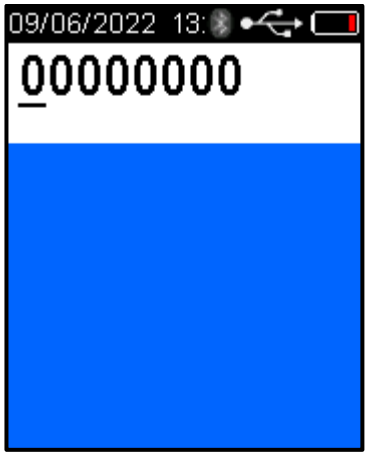


Figure 29 Password Set-up Code 00000000

- Press the test key until the cursor is under the fifth '0'.
- Press the Up button until that number us '5' (Refer **Error! Reference source not found.**).

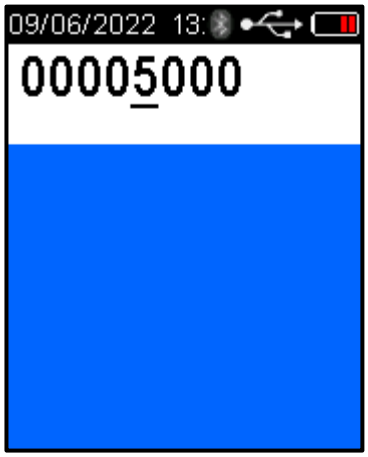


Figure 30 Password Set-up Code 00005000

- Press the test key until the Setup menu is displayed.
- In the Setup Menu you will be able to modify the following features
  - Date & time
  - Test Prompts
  - Test Options
  - User Setup Menu
  - GPS Logging
  - Bluetooth Comms
  - Reading Options
  - Timeout
  - Localization
  - Keep Previous
  - Records
  - Speaker

- LCD Brightness
- Recovery Countdown Enable

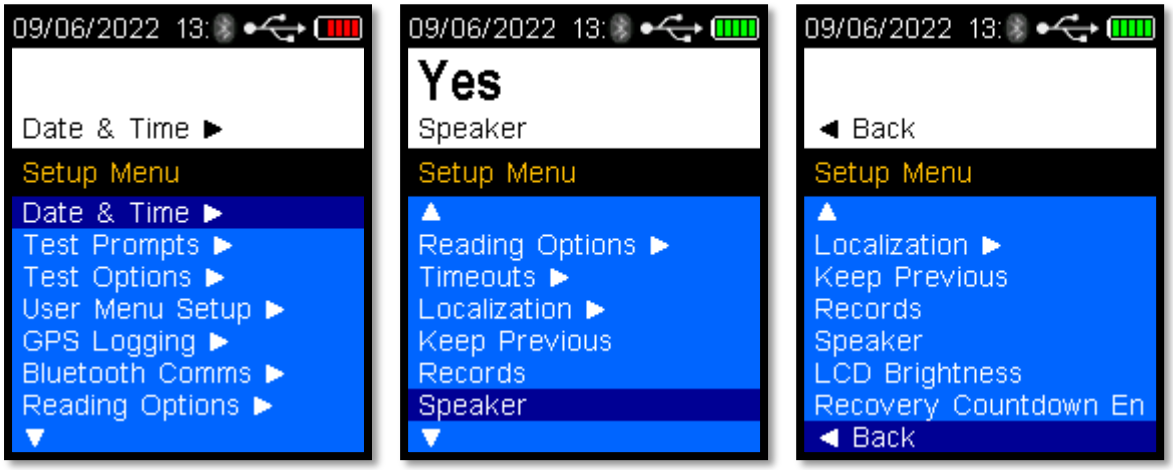


Figure 31 Setup Menu

6.1 Date & Time

The Date & Time on the LE5 can be adjusted to match your local requirements.
In the Setup Menu use the Up and Down buttons to highlight Date & Time, press the Test Key to access.

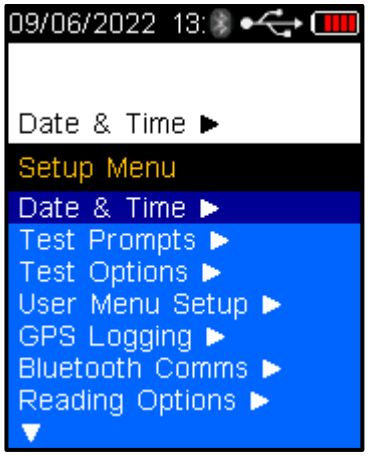


Figure 32 Date & Time

In the Date & Time menu use the Up and Down buttons to highlight Set Time and press the Test Key to access.

Figure 33 Set Time

- The hour setting will be highlighted, use the up and down arrow keys to adjust the hour to your requirements, press the Test Key to accept and move to the minute's

adjustment. Use the up and down buttons to adjust to your requirements, press the Test Key to accept.

- Repeat for the seconds then press the Test Key to accept.
- Use the up and down buttons to highlight back and press the test key to select, this will return to the Date & Time menu.

Figure 34 Set Time

In the Date & Time menu use the Up and Down buttons to highlight Set Date and press the Test Key to access.

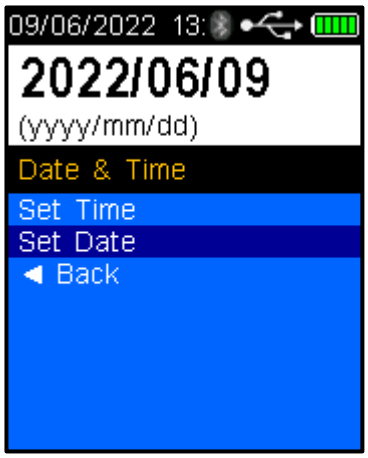


Figure 35 Set Date

The year setting will be highlighted, use the up and down arrow keys to adjust the year to your requirements, press the Test Key to accept and move to the month adjustment. Use the up and down buttons to adjust to your requirements, press the Test Key to accept. Repeat for the day then press the Test Key to accept.

6.2 Test Prompts

Test Prompts allows the setup of specific test or donor questions and selection of pre-defined criteria. Select Test Prompts from the Setup Menu. Use the Test Key to toggle between Yes and No to enable or disable each of the Test Prompts.

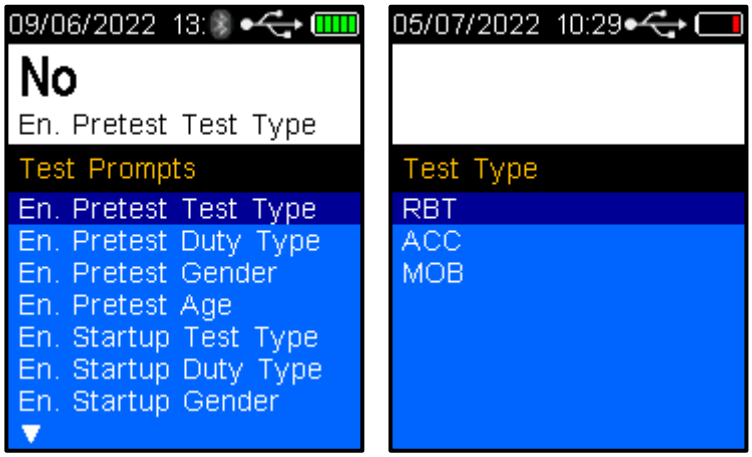


Figure 36 Enable Pretest Test Type

Selecting Test Type will result in the LE5 prompting to select one of three options when a breath test is activated.

RBT – Random Breath Test
ACC – Accident
MOB – Mobile

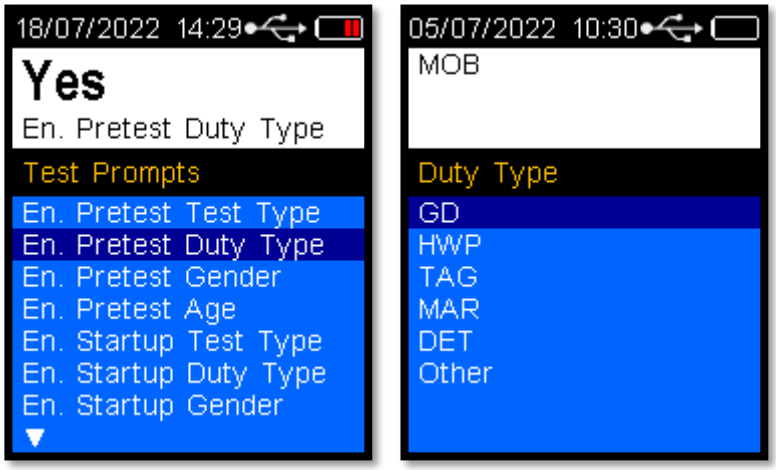


Figure 37 Duty Type

These acronyms will be attached to the test result and stored in the logs of the LE5.
Selecting Duty Type will result in the LE5 prompting to select one of three options when a breath test is activated.

GD – General Duties
HWP – Highway Patrol
TAG – Tactical Action Group
MAR – Marine
DET - Detectives

These acronyms will be attached to the test result and stored in the logs of the LE5.

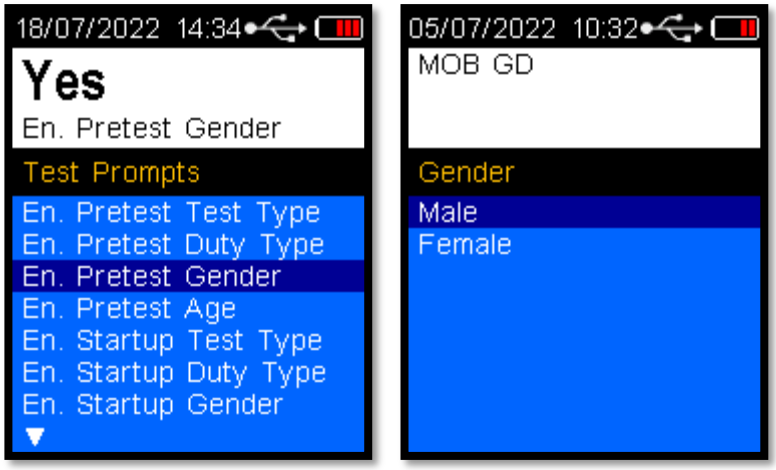


Figure 38 Gender

Selecting Gender will result in the LE5 prompting to select one of two options when a breath test is activated.

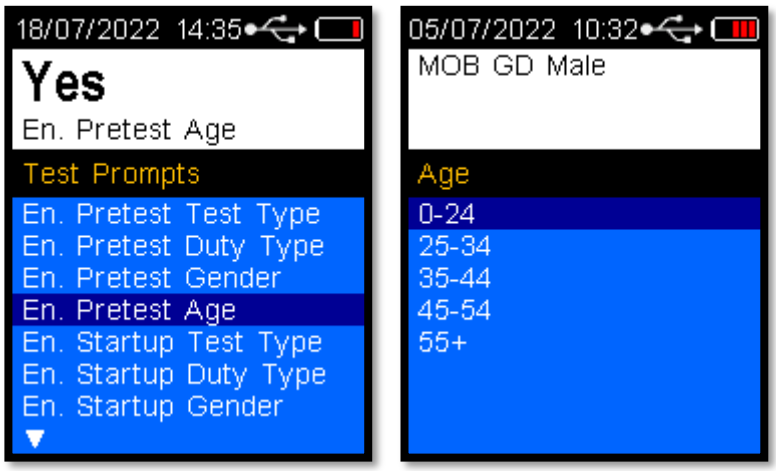


Figure 39 Age

6.3 Test Options Menu

Test Options allows the user to enable or disable specific Test Types. Use the Test Key to toggle between Yes and No to enable or disable Test Options.

- Standard (Mouthpiece) tests
- Passive Standard Tests
- Passive Only Tests

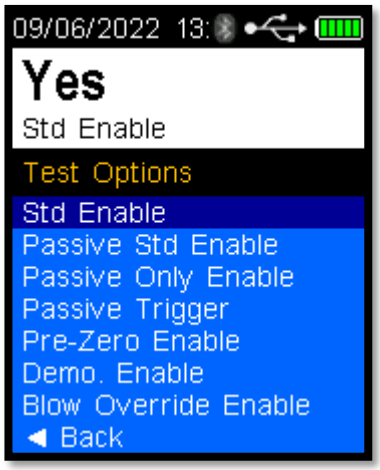


Figure 40 Test Type Option

- Passive Trigger allows the user to determine how a Passive Test can be triggered. Options are Button Only trigger, blow pressure only (Pressure Activated Passive) or both Button and Blow triggers able to be used

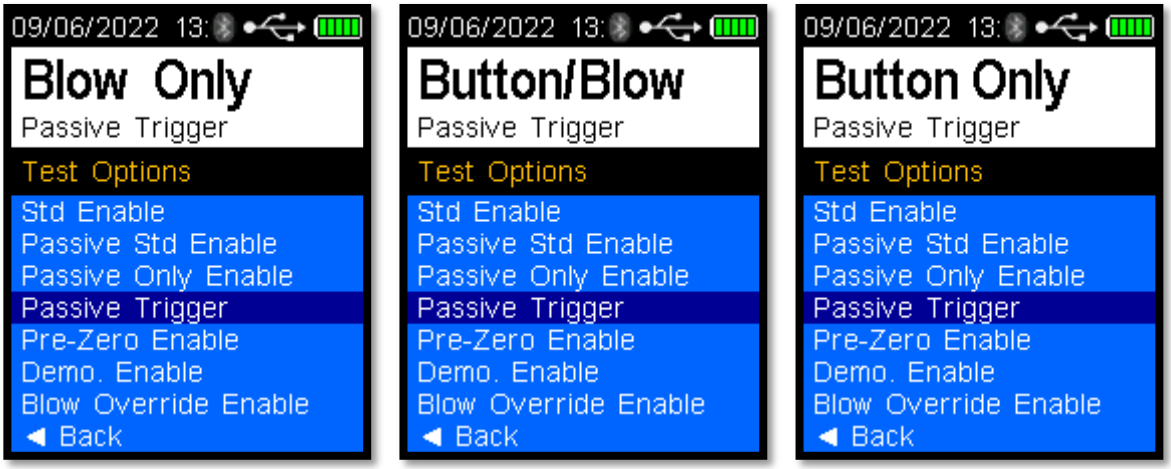


Figure 41 Passive Trigger Settings

- Pre-Zero enable allows the LE5 to complete a single test sample (noted by a click prior to a test commencing). This function is to test the local environment to ensure there is no contamination of the air with alcohol and ensure the LE5 is environment is at 0.00 BrAC.

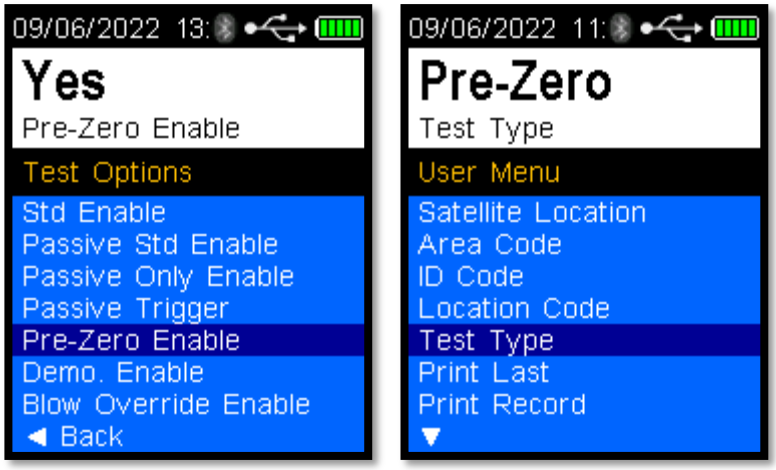


Figure 42 Pre-Zero

- Demo enable allow the user to do a demo test without the result showing in the records

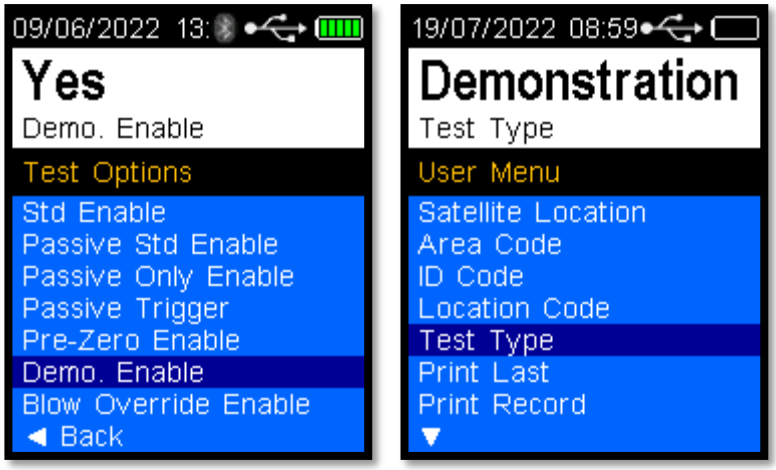


Figure 43 Demonstration Test

- Blow Override allows the user to force a manual sample to be taken at the Blow screen
- By pressing the up and down keys together, the Test Options Menu will open with the Blow Override menu item available
- Selecting the Blow Override option will force a sample to be taken, even if no blow is detected
- "Blow Override" will be recorded on the test record

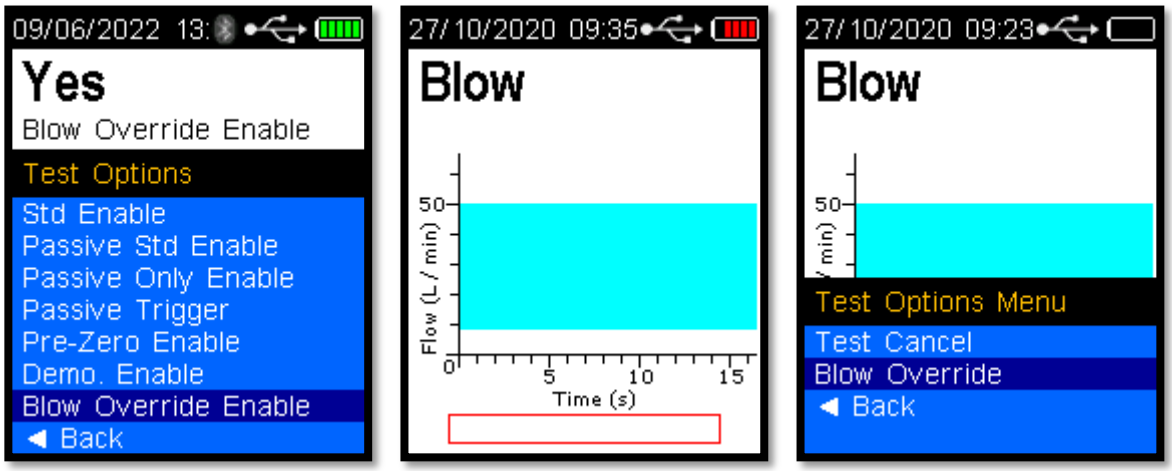


Figure 44 Blow Override

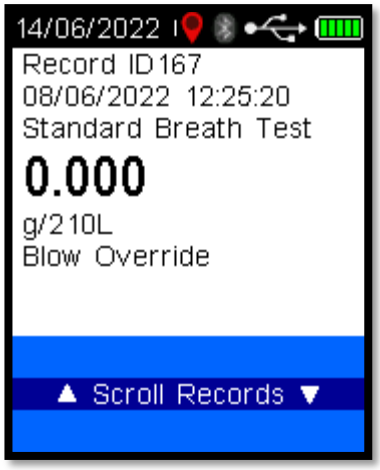


Figure 45 Test Record Showing Blow Override

6.4 User Menu Setup

The User Menu Setup allows you to select which LE5 features are shown on the User Menu Use the Test Key to toggle between Yes and No to enable or disable features in the User Menu.

6.4.1 Enable GPS

Enable GPS allows for the GPS function to be shown in the User Menu. Please refer to Section 9 for instructions on the GPS function operations.

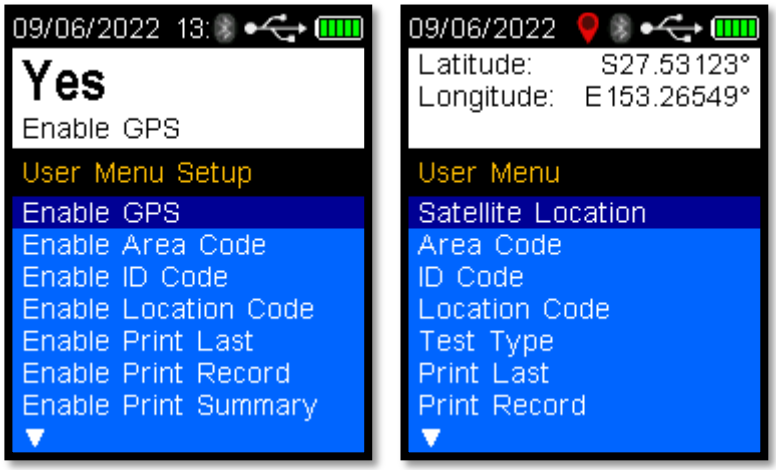


Figure 46 GPS

6.4.2 Enable Area Code

Area code is used to identify the location of a breath test by local Area Code.

- Press the down button and scroll to Area Code (Refer Figure 47).

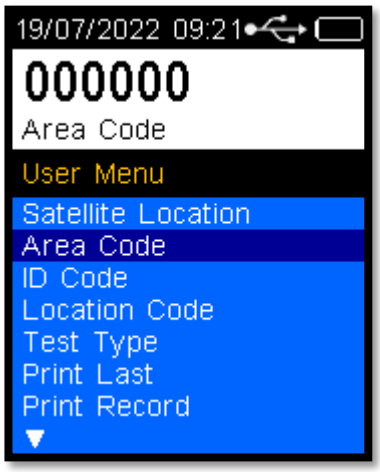


Figure 47 Area Code Displayed

- Press the test key, the cursor will move below the first digit
- Use the up/down buttons to advance the digit to the required number
- When the correct number is displayed, press the test key. The number will be set, and the cursor will move the next digit.
- Repeat the above step until all the number required are displayed (Refer Figure 48).
- The Area Code is now set

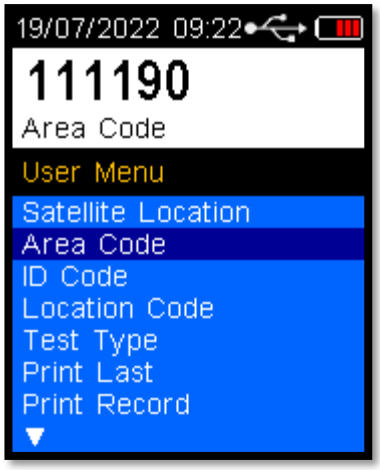


Figure 48 Area Code Set

- Press the down button until <Back is displayed
- Press the test key to return to the press to test screen.

6.4.3 Enable ID Code

ID Code is used to identify the ID Code of the Tester.

- Press the down button and scroll to ID Code (Refer Figure 49).

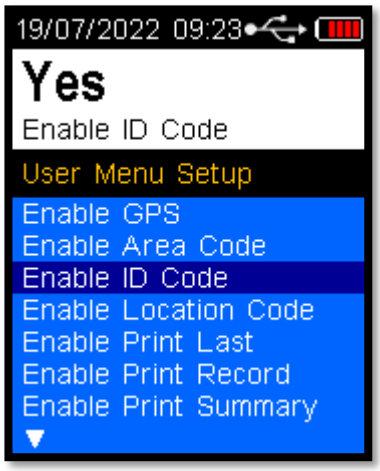


Figure 49 ID Code

- Press the test key, the cursor will move below the first digit
- Use the up/down buttons to advance the digit to the required number
- When the correct number is displayed, press the test key. The number will be set, and the cursor will move the next digit.
- Repeat the above step until all the number required are displayed (Refer Figure 50).
- The ID Code is now set

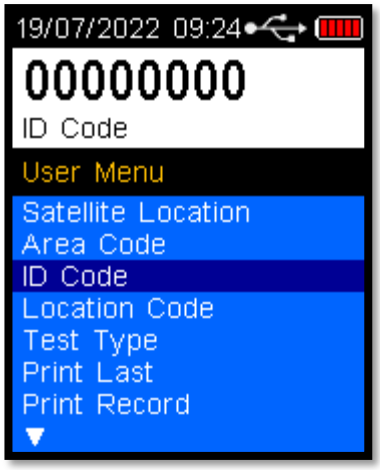


Figure 50 ID Code

- Press the down button until <Back is displayed
- Press the test key to return to the press to test screen.

6.4.4 Enable Location Code

Location Code is used to identify the location of a test based on specific locations codes that the tester can choose.

- Press the down button and scroll to Location Code (Refer Figure 51).

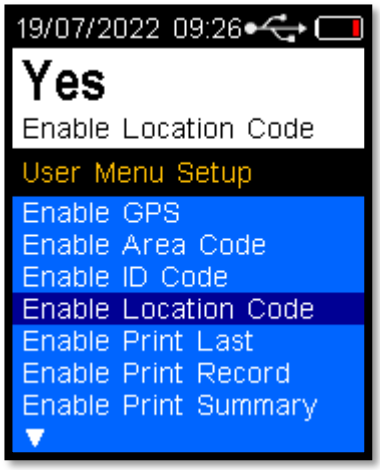


Figure 51 Location Code

- Press the test key, the cursor will move below the first digit
- Use the up/down buttons to advance the digit to the required number
- When the correct number is displayed, press the test key. The number will be set, and the cursor will move the next digit.
- Repeat the above step until all the number required are displayed (Refer Figure 52).
- The Location Code is now set

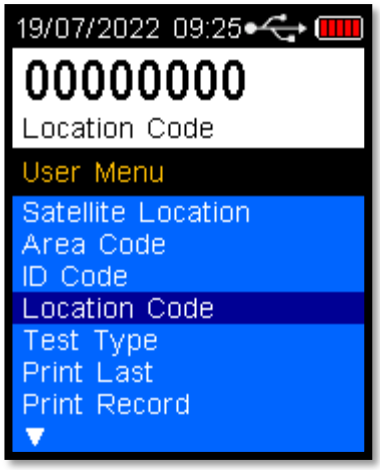


Figure 52 Location Code

- Press the down button until <Back is displayed
- Press the test key to return to the press to test screen.

6.4.5 Enable Print Last

Enable Print Last allows the Tester to be able to print the last test result directly from the User Menu. Use the Test Key to select Yes or No. If yes is selected Print Last will appear on the User Menu.

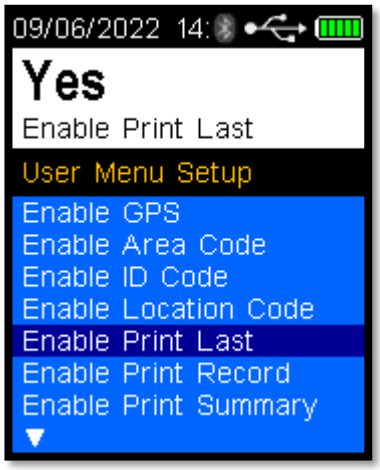
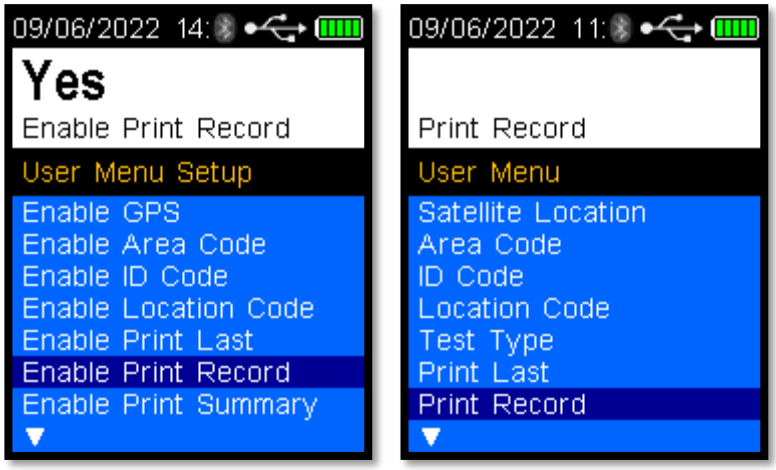


Figure 53 Enable Print Last

6.4.6 Enable Print Record

Enable Print Record allows the Tester to print a record directly from the User Menu. Use the Test Key to select Yes or No. If yes is selected Print Record will show in the User Menu. If this feature is selected from the User Menu, it will take the Tester to the Records Menu where they can scroll using up and down buttons to locate the record to print. Once located pressing the Test Key will activate the print function (NOTE: The Printer must be setup and connected for printing to occur).



6.4.7 Enable Print Summary

Enable Print Summary allows the Tester to print a Summary of range of test records from the User Menu. Use the Test Key to select Yes or No. If yes is selected Print Summary will show in the User Menu. If this feature is selected from the User Menu the tester can select a range of record numbers to print a Summary of results.

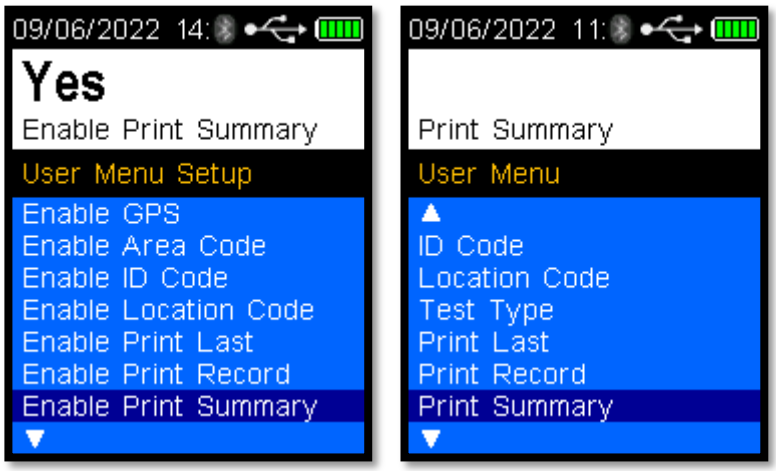


Figure 54 Print Summary

Use the up and down arrow keys to select the number of the initial record required to print. Press the Test Key to move to the next number. When the initial record number is selected press the Test Key.

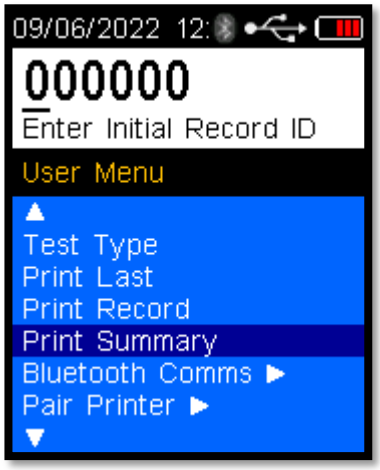


Figure 55 Print Summary

Use the up and down arrow keys to select the number of the Final record required to print. Press the Test Key to move to the next number.

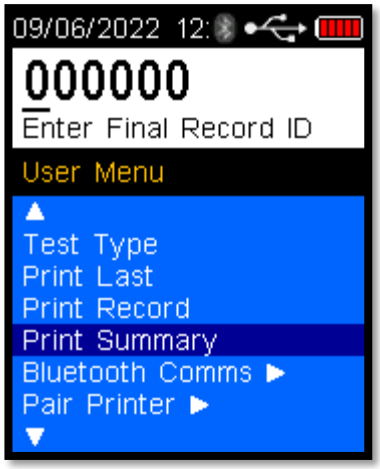


Figure 56 Print Summary Code

When the Final record number is selected press the Test Key which will activate the print function (NOTE: The Printer must be setup and connected for printing to occur, refer section 7)

6.4.8 Enable Print Setup Menu

Enable Print Setup allows the Bluetooth Comms function to be shown on the User Menu. Use the Test Key to select Yes or No. If yes is selected Bluetooth Comms will show in the User Menu.

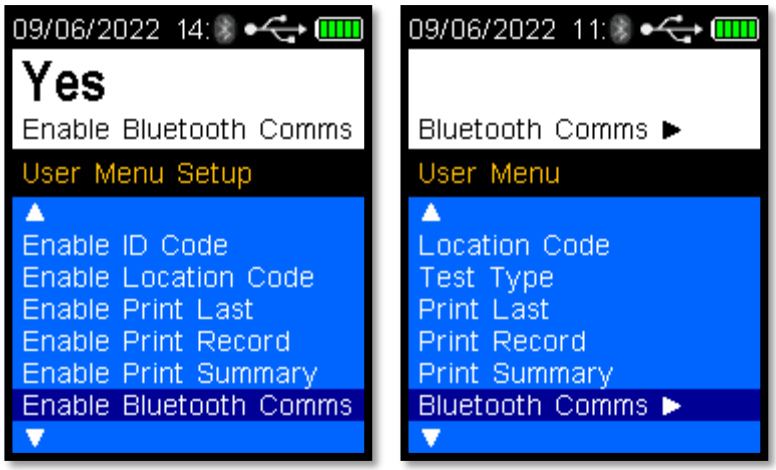


Figure 57 Bluetooth Comms

6.4.9 Enable Show Last Record

Enable Show Last Record allows Show Last Record to be a selectable function in the User Menu. Use the Test Key to toggle this feature Yes or No. When Yes is selected Last Test Result will show in the User Menu, when this is highlighted in the User Menu the last test result will show in the panel at the top of the screen.

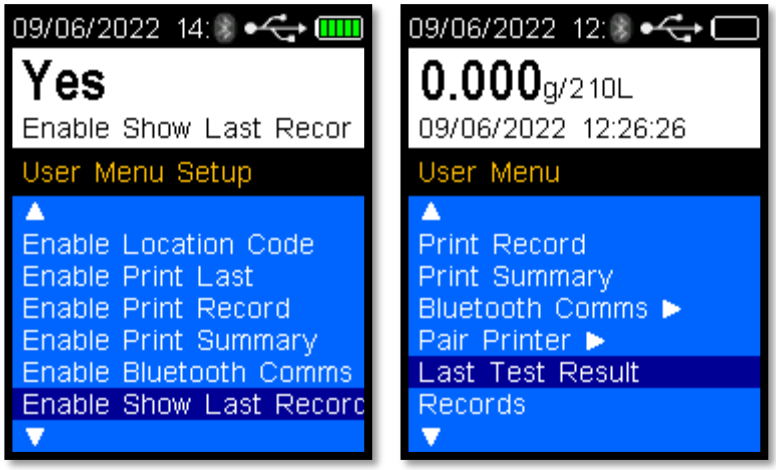


Figure 58 Enable Last Record Display

6.4.10 Accessing Records

Records are retained in the instrument and can be downloaded via the AlcoCONNECT Toolbox software (Refer AlcoCONNECT Toolbox User Manual). It is recommended that records are periodically downloaded and erased form the instrument. Access the records as follows:

- Switch the instrument on (Refer paragraph 4.2)
- With the screen displaying press to test, press the up and down buttons simultaneously. The User Menu will be displayed.
- Using the down button, scroll down to Records

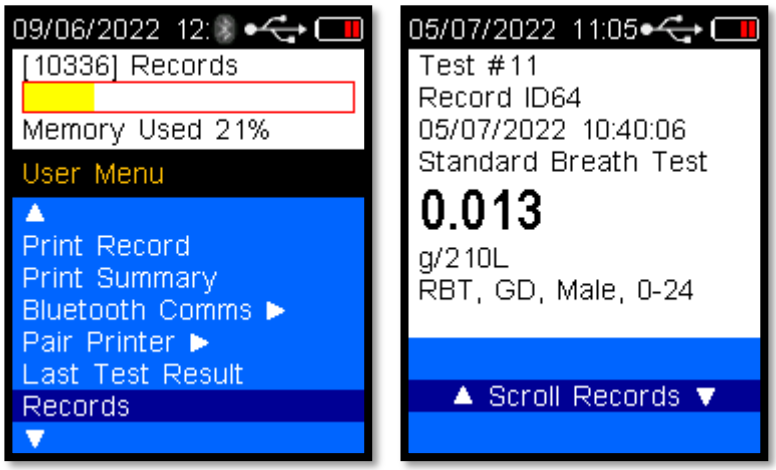


Figure 59 Records Display

- Press the test key to activate records
- Press the up/down buttons to navigate through the records as required
- Press the up and downs simultaneously to return to the User Menu.

Note

For information about printing records, refer to section 8.6.2.

6.4.10.1 *Clearing Records*

As the instrument automatically stores records, the memory will eventually reach capacity and unless the data is downloaded, the storage of records will cease.
The instrument provides a series of warnings regarding memory capacity including memory reaching capacity, memory full and days since the memory has been full.

Refer to the AlcoCONNECT Toolbox User Manual.

6.4.11 Enable Set Time

Enable Set Time allows the Set Time feature to be available in the User Menu. Use the Test Key to toggle between Yes and no.

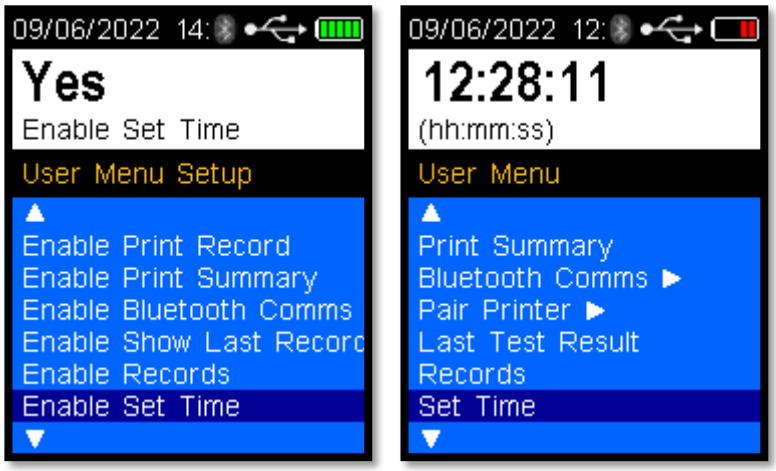


Figure 60 Set Time

6.4.12 Enable Set Date

Enable Set Date allows the Set Date feature to be available in the User Menu. Use the Test Key to toggle between Yes and No.

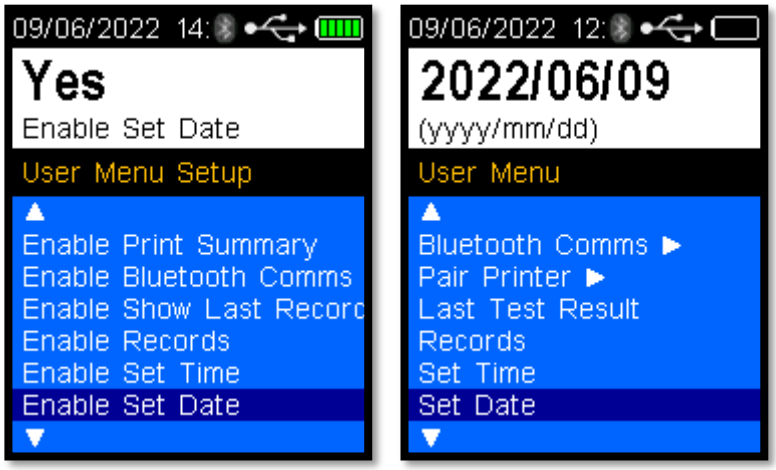


Figure 61 Set Date

6.4.13 Enable Test Counter

Enable Test Counter activates the Test Counter feature in the User Menu. Use the Test Key to toggle between Yes and No. The Test Counter feature shows the number of tests and test types conducted.

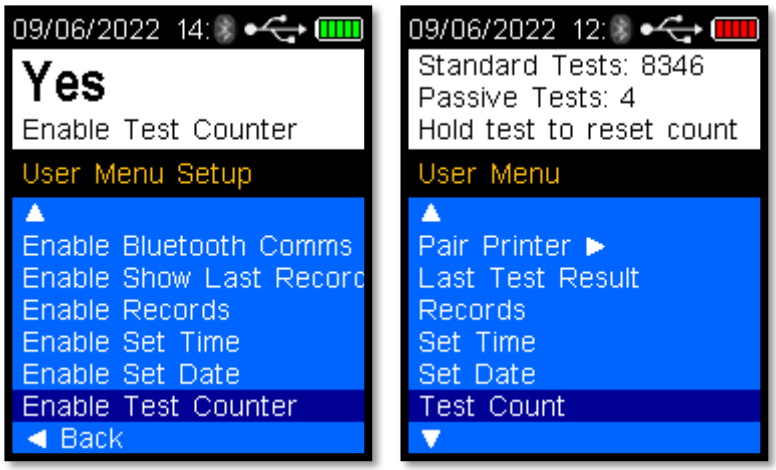


Figure 62 Test Counter

6.5 GPS

The Global Positioning System (GPS) function (if installed) enables the exact location of the instrument to be known and under certain circumstances, the location of testing to be recorded.

Note

Depending on the specific configuration of the instrument, the GPS functions are either enabled or disabled. These functions are generally enabled as a customer requirement by Alcolizer Technology. Should the instrument require the enabling of certain GPS functionality, contact Alcolizer Technology for further advice.

6.5.1 GPS Location

To acquire GPS location information, perform the following steps:

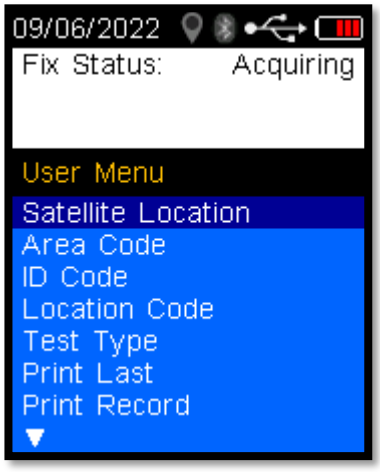


Figure 63 Satellite Location

- With the screen displaying press to test, Press the Up and Down buttons simultaneously. The User Menu will be displayed.
- Press the Down button to highlight Satellite Location (Refer **Error! Reference source not found.**). The preview bar will display current state of GPS location fix.
- Press the test key, the GPS location information screen will be displayed.

The satellite location page shows the current GPS fix status. Once the GPS fix has been acquired, the GPS location information such as latitude and longitude will be shown (Refer Figure 64).

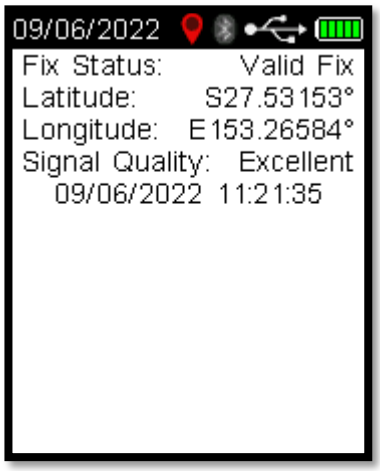


Figure 64 GPS Acquisition

Once the GPS location is acquired, it will be visible on the menu screen (Refer Figure 65).

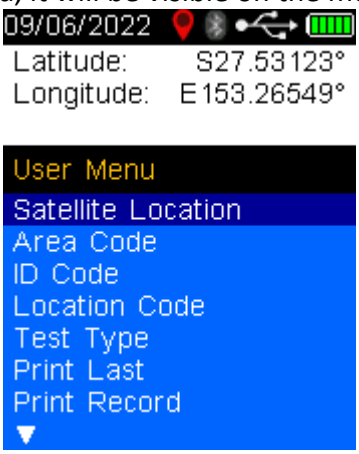
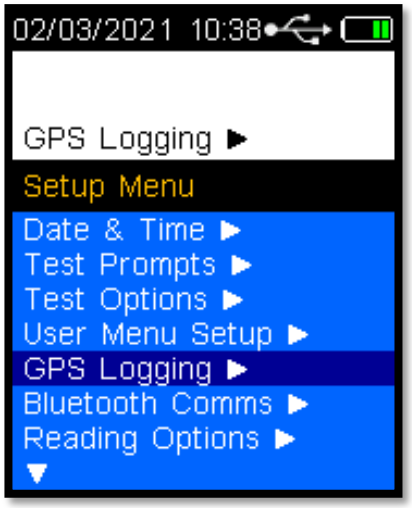


Figure 65 Location Shown on Top Bezel

6.5.2 GPS Status Logo

When GPS is enabled, a logo is displayed in the status bar to indicate the state of the location fix. A grey GPS location logo is displayed when the device is attempting to a acquire a GPS fix.

Once a valid GPS location fix has been acquired, the status bar logo is rendered in red and location can now be logged with standard breath test records.



6.5.3 GPS Logging Configuration

The device can be configured into different operating modes when logging GPS location with standard breath test. Supported GPS location modes include *Off*, *Positive Tests*, *All Tests* and *Threshold*. The GPS will attempt to acquire for a location fix in the background in all modes except *Off* mode.

6.5.3.1 *Off*

When the GPS location logging is disabled, the GPS location is never logged with alcohol test results. The GPS functionality is switched off in this mode.

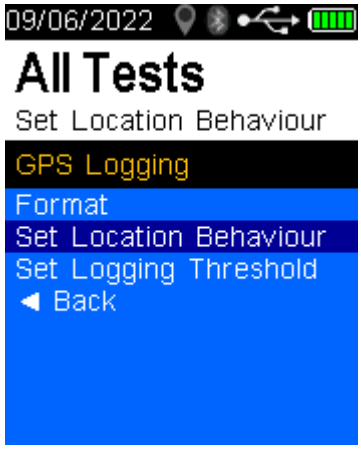


Figure 66 Set Location Behaviour

6.5.3.2 *Positive Tests*

In this mode, the GPS location is logged only for standard breath test which contain a positive test result. All other tests are logged without GPS location.

6.5.3.3 *All Tests*

The GPS location is logged for all standard alcohol breath tests.

6.5.3.4 *Threshold*

In this mode, location is logged only for standard breath test where the reading exceeds the predefined threshold value. Location is never logged for tests where reading is below the threshold level.

6.5.4 Set Logging Threshold

The menu item allows operators to configure the blood alcohol level (ug/L) used to determine whether the GPS location will be logged with the rest result. If the standard

alcohol test reading is greater than or equal to the threshold value, then the location information will be recorded with test.

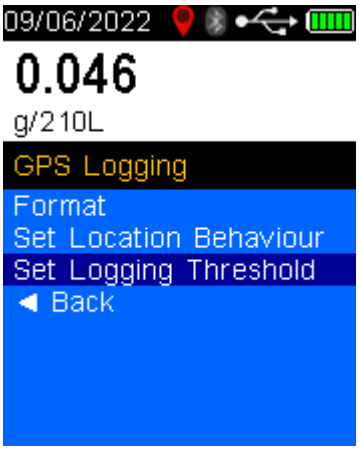


Figure 67 GPS Logging Threshold

6.5.5 GPS Location Logging

When the GPS logging is enabled, the instrument will attempt to acquire a valid GPS fix in the background. Once the GPS location is acquired, the instrument will log a GPS position fix with every Standard Active Breath Test when the BrAC reading is displayed. The GPS position fix will then be logged with the test reading.

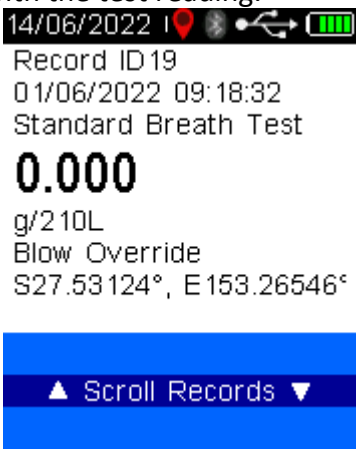


Figure 68 Location Displayed in Record

If a standard breath test is conducted while the instrument is still attempting to achieve a valid GPS fix, the operator will be prompted with a new screen informing that the GPS is currently acquiring location fix.

Figure 69 Locating GPS Position

If a valid location fix is acquired, then the device will notify the operator and then the GPS location will be logged with the standard test result.

Figure 70 GPS Position Found

However, If GPS position fix could not be achieved successfully then the operators are prompted with an option to either continue looking for GPS location fix or log the test result without location information.

6.6 Reading Options

6.6.1 Changing colour set points

To change the colour set points, access the Setup Menu using the 00005000 code (see section 6.1 Bluetooth Connection).

- From the Setup Menu, arrow down to 'Reading Options'

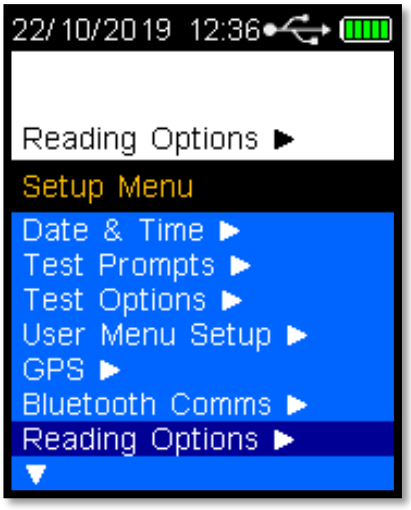


Figure 71 Reading Options

- From the Reading Options Menu, arrow down to Low Setpoint and then High Setpoint.
- Use the Test Key and arrow keys to set the required levels.

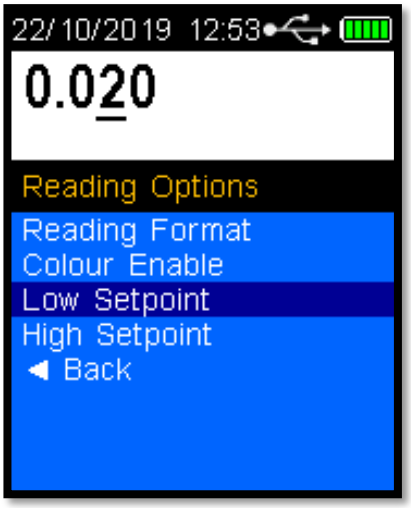


Figure 72 Setting the Reading Options

- Arrow Up or Down to 'Back' to Return to the User Menu
- Use the Test Key and arrow keys to set the required levels.

6.7 Timeouts

The Timeouts feature allows the user to change the duration of time for: Auto backlight off Auto instruments turn off

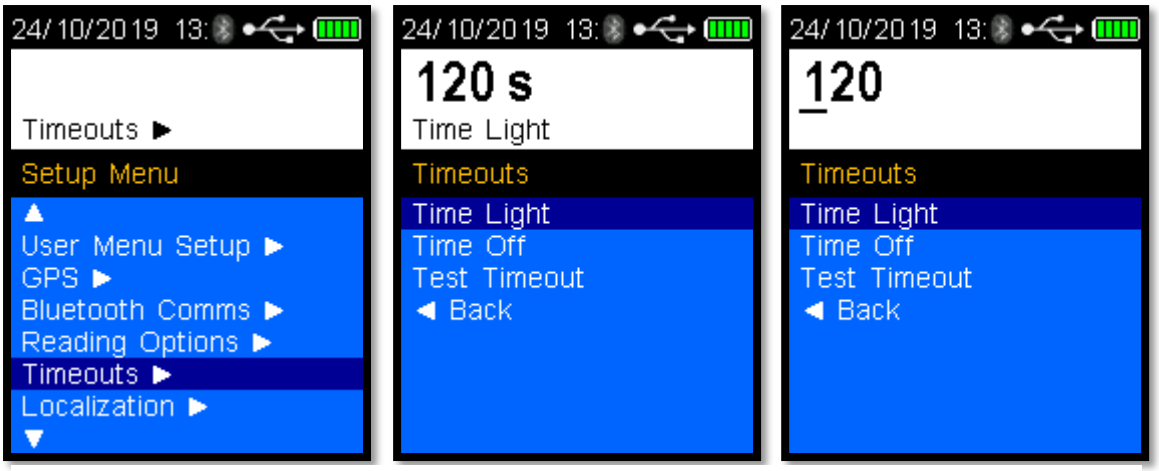


Figure 73 Timeouts

- From the Setup Menu, arrow down to 'Timeouts', press the Test Key to select
- Use the Test Key and arrow keys to set the required times in seconds for each setting.

6.8 Localization

- The Localization setting is where the user can select local settings for:
  - Language – chose from listed languages
  - Time Format – 12hr/24hr, HH:MM: SS
  - Date Format – dd/mm/yyyy, mm/dd/yyyy, dd/mm/yy, dd-mmm-yyyy, yyyy/mm/dd
  - Decimal Mark or Comma for numeric differentiator

- From the Setup Menu, arrow down to ‘Localization’, press the Test Key to select

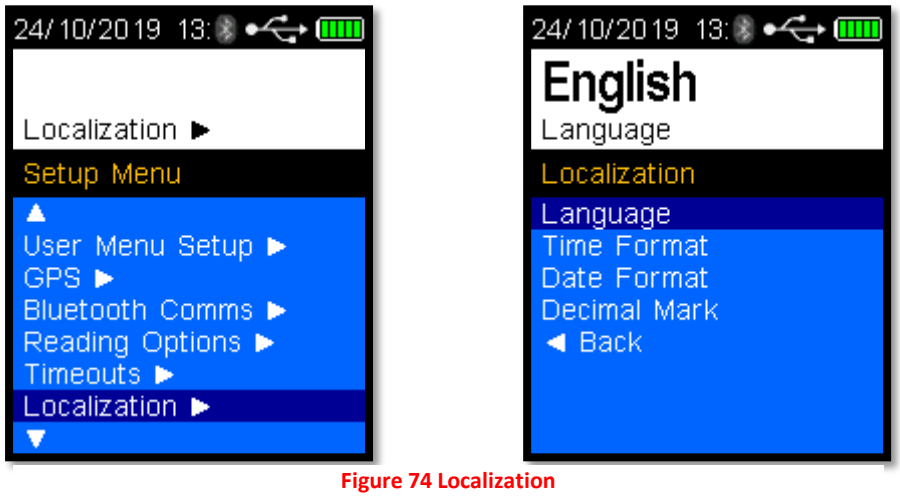


Figure 74 Localization

- Use the Test Key and arrow keys to set the required formats for each setting.

6.9 Keep Previous

The Keep Previous function will display the last test record in the top of the screen in the Press to Test screen.

- From the Setup Menu, arrow down to ‘Keep Previous’. Pressing the Test Key will change the setting from No to Yes.

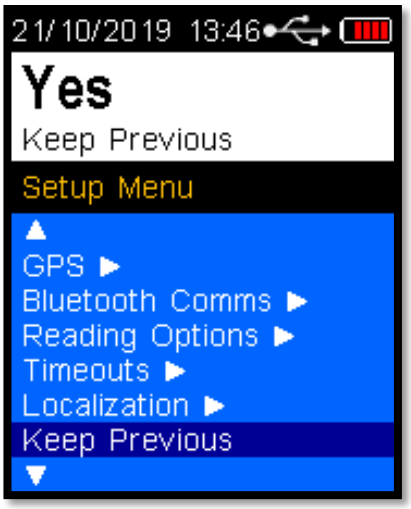


Figure 75 Keep Previous

- Arrow Up or Down to ‘Back’ to Return to the User Menu

Figure 76 Area Code Set

Use the Test Key to select Yes or No. If yes is selected in the Keep Previous function the LE5 will display the last test record in the top of the screen.

6.10 Records

The Records feature will display current records on the instrument and percentage of memory used. Selecting Records using the Test Key will take you to the Records screen where individual records can we scrolled using up and down buttons.

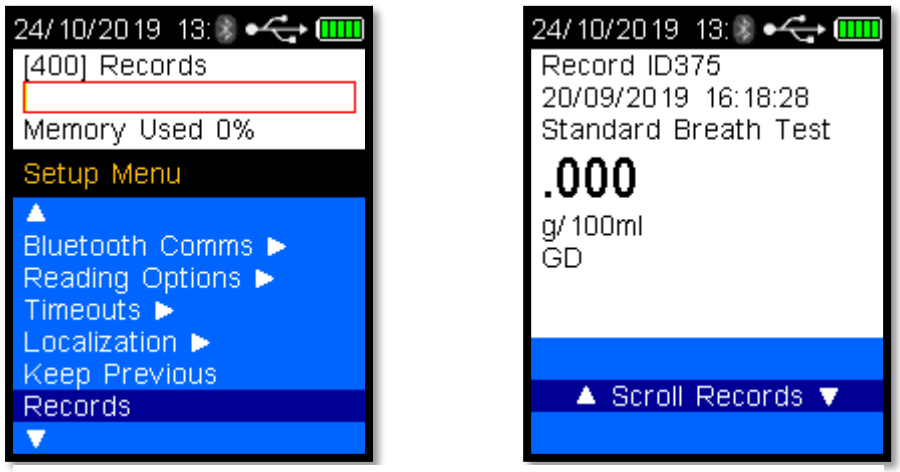


Figure 77 Records

6.11 Speaker

The Speaker function allows the user to turn on/off the speaker on the LE5. Use the Test Key to toggle between Yes and No. Yes, will turn on the Speaker, No will turn it off.

6.12 LCD Brightness

The LCD Brightness feature allows the user to adjust the brightness of the LCD screen. Use the Test Key to select LCD Brightness. Then use the up and down arrow keys to increase or decrease the brightness. Once the desired brightness is selected press the Test Key to select.

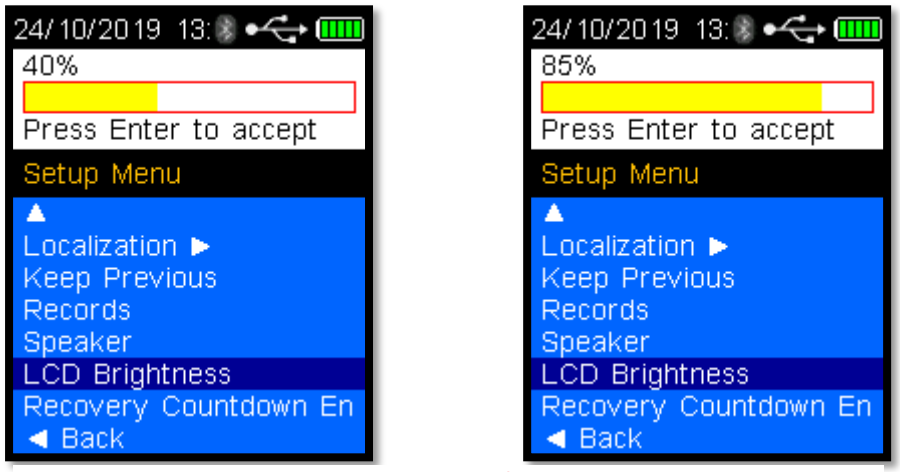


Figure 78 LCD Brightness

6.13 Recovery Countdown

The Recovery Countdown feature allows for a countdown to zero display on screen for instrument recovery after a breath test. Use the Test Key to toggle between Yes and No. Yes, will activate the Recovery Countdown feature, No will turn it off.

Figure 79 Recovery Countdown

7 Printing Function

The printing function (if installed) enables the printing of records by connecting the HH4 to a portable printer via Bluetooth connection.

The device supports the following printers:

- SPRT SP-T7
- Confucian 200-BU
- Custom MYPrinter
- POS-5802DD

> ***Note***
> *For information on operating the printer, refer to the appropriate printer User Manual.*

7.1 Accessing Bluetooth

To establish the connection with the printer via Bluetooth, access the device set up menu (Refer to Section 0).

7.2 Enabling Bluetooth

Establish Bluetooth connectivity as follows:

- Press the Down button until *Bluetooth Comms* is highlighted (Refer to Figure 80).

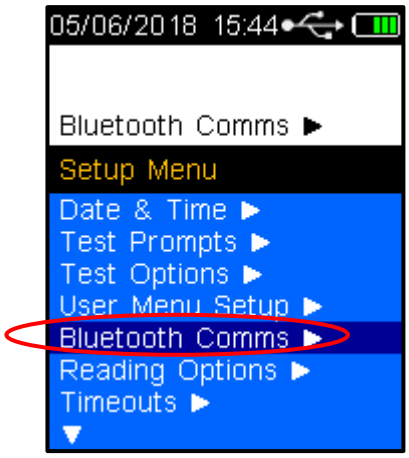


Figure 80 - Bluetooth Comms

- Select the test key to Enable Bluetooth (Refer to Figure 81).

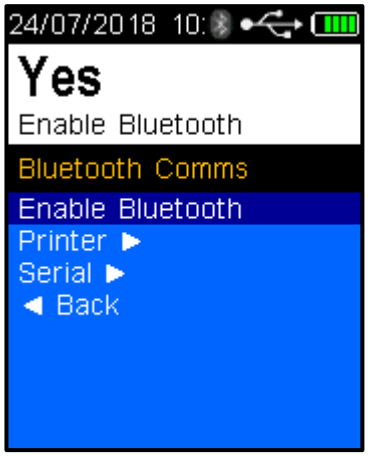


Figure 81 - Enable Bluetooth

7.3 Bluetooth Printer PIN

A Bluetooth Printer is required to proceed, to set the PIN proceed as follows:

- Press the down button once and use the test key to select Printer (Refer to Figure 82).

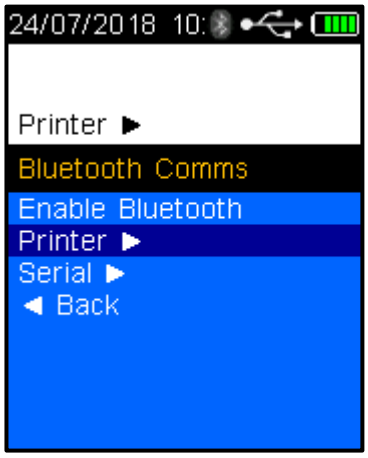


Figure 82 - Selecting Printer

- Use the down arrow and test key to select Edit PIN (Refer to Figure 83).

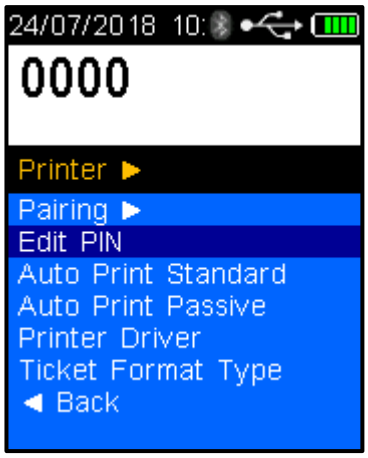


Figure 83 - Edit PIN

- Refer to the below table for the printer PIN length and number.

Standard Printers	PINs
Bixolon SPP-R200	0000
SPRT SP-T7	1234
Confucian 200-BU	0000
POS-5802DD	1234

- Using the Up/down buttons, select the PIN length that applies to the printer, e.g. for the Bixolon SPP-R200, select 4.
- Use the Up or Down buttons to display the first number of the PIN, e.g. 0.
- Press the Test key to advance to the next number.

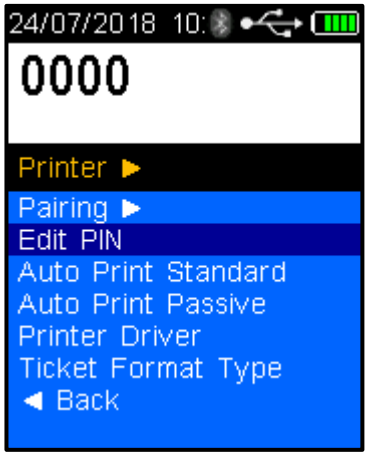


Figure 84 - PINs Entered

7.4 Pairing the Printer

To Pair the device to the nominated printer, proceed as follows:

- Select the up button once and use the test key to select Pairing (Refer to Figure 85).

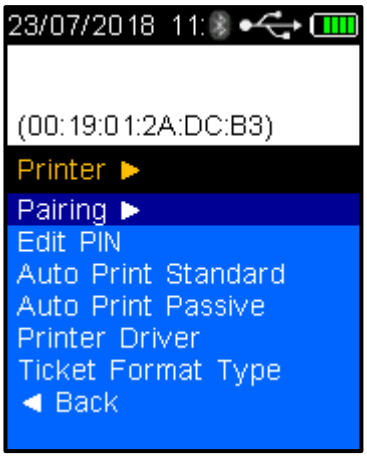


Figure 85 - Pairing Selected

- Place the HH4 device next to the Bluetooth printer and switch the printer on. Press the test key and he HH4 will search for the printer and display *Searching…* (Refer to Figure 86).

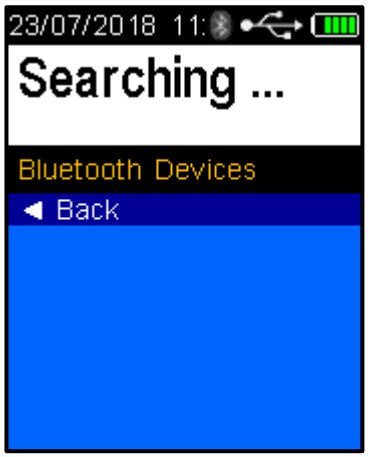


Figure 86 - Searching Displayed

NOTE

The HH4 will search and display all Bluetooth devices in range. To avoid attempting to connect to a device other than the intended printer, move other Bluetooth items away.

When the HH4 identifies the printer, the printer type will be displayed, e.g. “SPP-R200” (Refer to Figure 87).

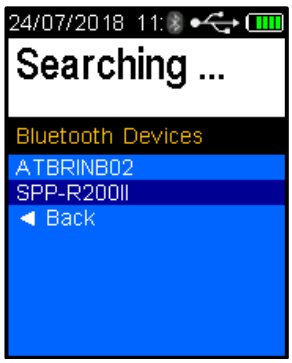


Figure 87 - Printer Identified

Press the test key to accept the selected printer, the device will then show Pairing… then Paired

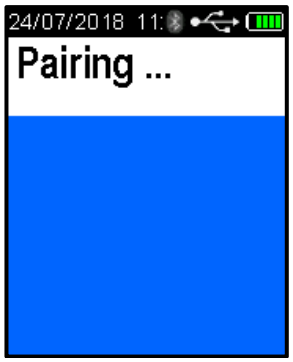


Figure 88 - Printer Pairing..

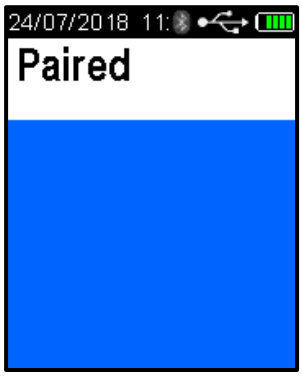


Figure 89 - Printer Paired

7.5 Printer Driver

7.5.1 Installing the Printer Driver

To install the printer driver, proceed as follows:

- Access the Printer Menu as described in paragraphs 0
- Press the Down button and scroll down to *Printer Driver* (Refer to Figure 90).

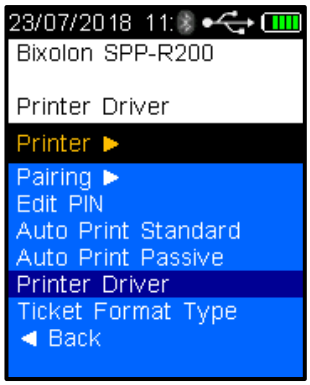


Figure 90 - Printer Driver Selected

- Press the test key to select
- Press the down button and scroll down to the printer brand and type, e.g. Bixolon SPP-R200 and press the test key to select (Refer to Figure 91).

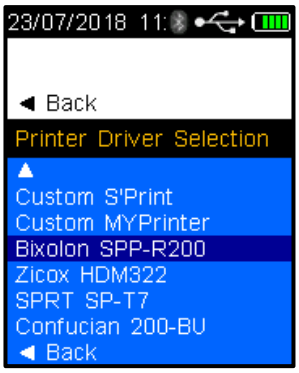


Figure 91 - Printer Selected

- Once the HH4 device is paired with the printer a Bluetooth icon is visible on the screen at all times (Refer to Figure 92).

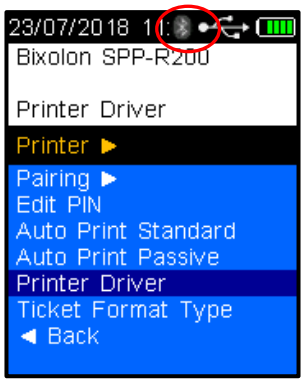


Figure 92 - Bluetooth Icon on Screen

- During printing (and sending) a connection is established, and the Bluetooth icon will change from grey to blue indicating the link is active. After printing is completed, the icon will return to grey indicating the link is inactive again. **Bluetooth is active only when required.**

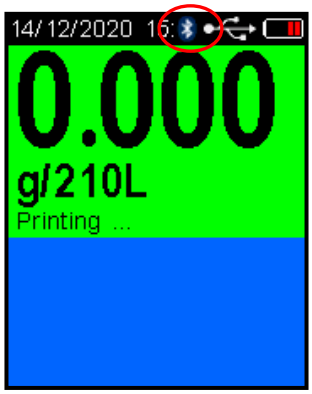


Figure 93 – Bluetooth Active Icon

7.6 Auto Print

The Auto Print functions allow the automatic printing of results via a Bluetooth connection to a paired printer.

NOTE

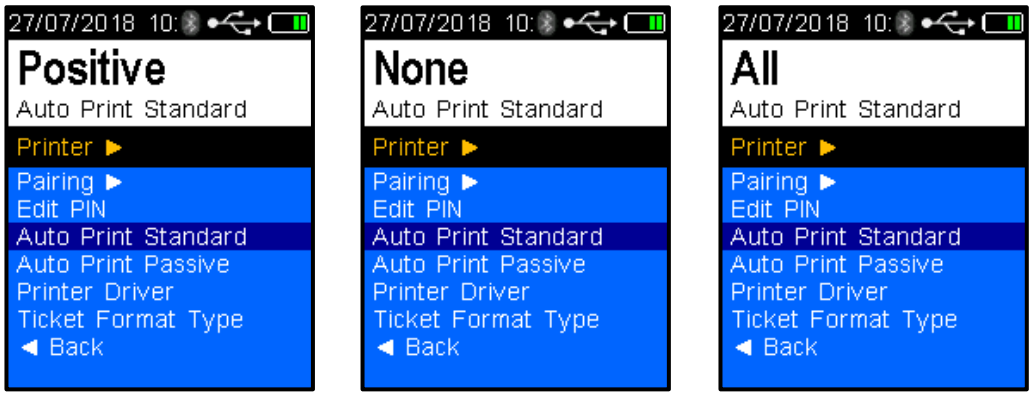
To ensure the correct operation of the Auto Print function, Auto Send Standard and Auto Send Passive must be set to **None**!

7.6.1 Auto Print Standard

Auto Print Standard applies only to Mouthpiece (Active) testing. Depending on the Auto Print Standard option selected, the following information will be printed following tests:

- Positive – if alcohol is detected: a complete report including device serial number, record no, date, time, result etc will be printed.
- All – regardless of results: a complete report including the device serial number, record no, date, time, result etc will be printed.
- None – regardless of results: nothing transmitted.

To set the HH4 to Auto Print Standard, scroll down until *Auto Print Standard* is highlighted. Positive is the default option. To select *All or None*, press the Test key until the desired option is highlighted.

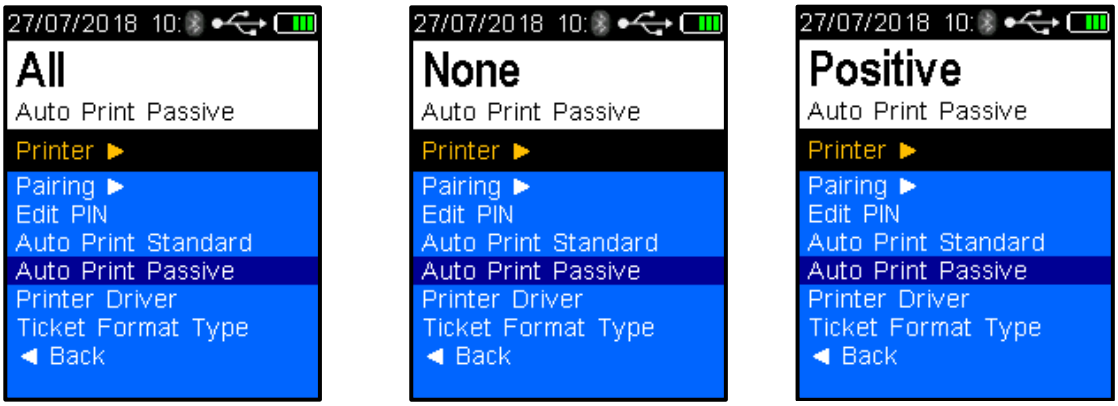


7.6.2 Auto Print Passive

Auto Print Passive applies only to *Passive testing*. Depending on the Auto Print Passive option selected, the information may be printed following the various tests except *None*. The result will be either *false* if no alcohol is detected or *true* if alcohol is detected per the following explanations:

- Positive – if alcohol is detected: A short report including the device serial number, record number, date, time and a pass/fail result.
- All – if alcohol is either detected or not: A short report including the device serial number, record number, date, time and a pass/fail result.
- None – regardless of results: nothing transmitted.

To set the HH4 to Auto Send Passive, scroll down until *Auto Print Passive* is highlighted in a similar manner to *Auto Send Passive*. Positive is the default option. To select *All or None*, press the Test key until the desired option is highlighted.



7.7 Ticket Format Type

- Ticket Format Type 0- Default Format, Standard English
- Ticket Format Type 1- Vietnamese Format 1
- Ticket Format Type 2- Vietnamese Format 2
- Ticket Format Type 3- Extended English ticket format with main and sample module serial numbers
- Ticket Format Type 4- Chinese Format
- Ticket Format Type 5- Taiwan (Specific Alterations)
- Ticket Format Type 6- Taiwan (Specific Alterations)

8 Sending Data (Serial)

8.1 Accessing Bluetooth

To establish the connection with the printer via Bluetooth, access the device set up menu (Refer to Section 0).

8.2 Enabling Bluetooth

Refer to Section 7.2

8.3 Bluetooth Printer PIN

A serial PIN number is required to paring device to a computer or other device. If a PIN is not setup, device will use as default '0000'.

- Use the down arrow and test key to select Edit PIN.

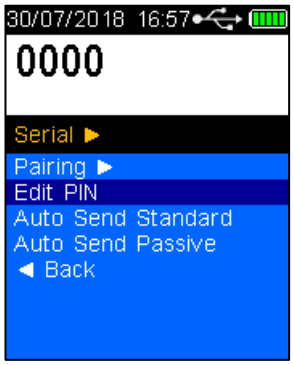


Figure 94 - Serial PIN

8.4 Pairing as Serial Device

To Pair the device to a computer as serial device proceed as follows:

- Setup an incoming Bluetooth COM port.
- Ensure application on computer is running this incoming Bluetooth COM port.
- Go to Bluetooth device option on computer and select 'Add Bluetooth'.
- Select 'Pairing' on HH4 to search for Bluetooth devices (Refer to Figure 95).

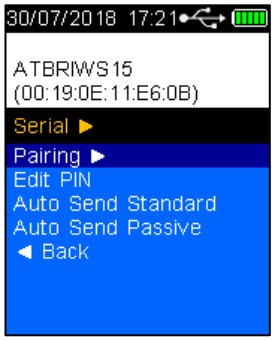


Figure 95 - Pairing Selected

NOTE

The HH4 will search and display all Bluetooth devices in range. To avoid attempting to connect to a device other than the intended printer, move other Bluetooth items away.

- Select the Bluetooth device which HH4 require to be paired (Refer to Figure 96).

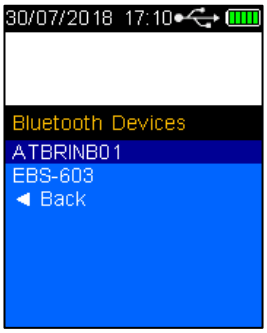


Figure 96 – Bluetooth Devices

- Press the test key to pair HH4 with device. Unit will display a PIN number sent by the computer in this case.

Figure 97 - Printer Pairing...

- Follow instruction on computer screen to confirm PIN so pairing is completed.

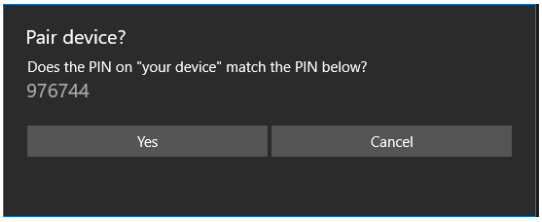


Figure 98 - Pairing Confirmation

- Select 'Yes' to pair if PIN match with displayed on HH4 screen. Then, HH4 will be paired with computer.

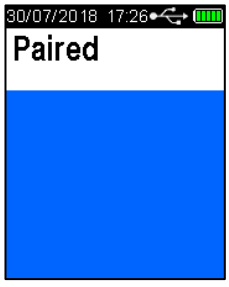


Figure 99 – HH4 Paired

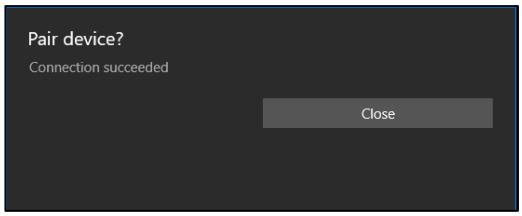


Figure 100 - Device Paired

8.5 Auto Send

NOTE

To ensure the correct operation of the Auto Send function, Auto Print Standard and Auto Print Passive must be set to **None**!

The Auto Send functions allow the automatic sending of results via a Bluetooth connection to a paired device (laptop computer, PC) in a serial data format. The data can be read/received by a serial terminal application e.g. Putty.

There are two Auto Send modes and each of these has three options. These are Auto Send Standard and Auto Send Passive. Both have the following options:

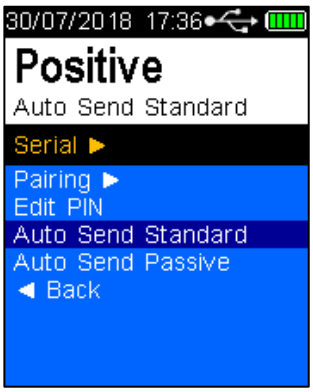
- Positive – sends positive results after test is completed.
- All – sends positive and zero results after test is completed.
- None – regardless of results: nothing transmitted.

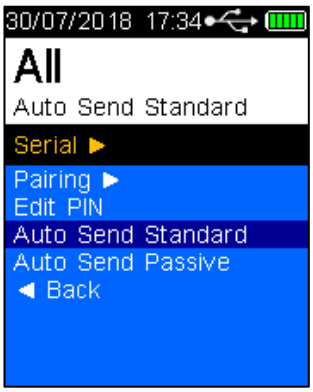
8.5.1 Auto Send Standard

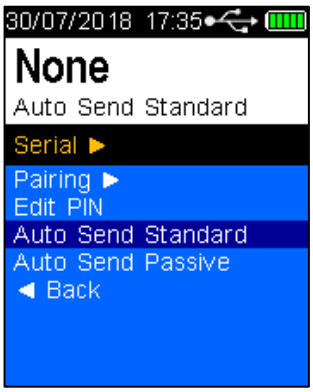
Auto Send Standard applies only to Mouthpiece (Active) testing. Depending on the Auto Send Standard option selected, the following information will be transmitted following tests:

- Positive – if alcohol is detected: a complete report including time, location, test type, result etc will be transmitted.
- All – regardless of results: a complete report including time, location, test type, result etc will be transmitted.
- None – regardless of results: nothing transmitted.

To set the HH4 to Auto Send Standard, scroll down until *Auto Send Standard* is highlighted. Positive is the default option. To select *All or None*, press the Test key until the desired option is highlighted.





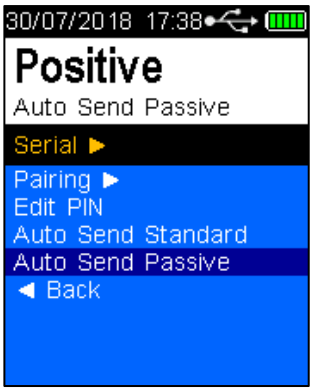


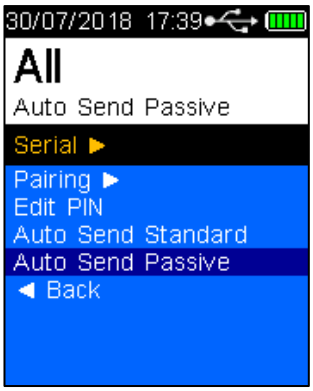
8.5.2 Auto Send Passive

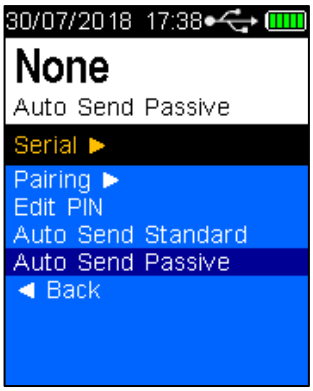
Auto Send Passive applies only to *Passive testing*. Depending on the Auto Send Passive option selected, the information may be transmitted following the various tests except *None*. The result will be either *false* if no alcohol is detected or *true* if alcohol is detected as per the following explanations:

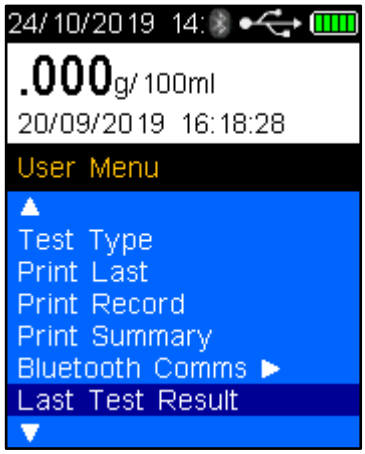
- Positive – if alcohol is detected: A short report including time, device information, test type, etc will be transmitted.
- All – if alcohol is either detected or not: a short report including time, device information, test type, etc will be transmitted.
- None – regardless of results: nothing transmitted.

To set the HH4 to Auto Send Passive, scroll down until Auto Send Passive is highlighted. *Positive* is the default option. To select All or None, press the Test key until the desired option is highlighted.







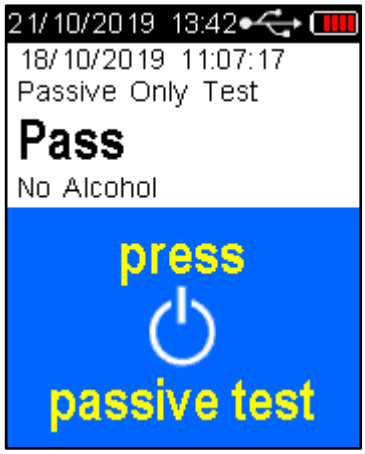


8.6 Keep Previous

The Keep Previous function will display the last test record in the top of the screen in the Press to Test screen.

- From the Setup Menu, arrow down to 'Keep Previous'. Pressing the Test Key will change the setting from No to Yes.

- Arrow Up or Down to 'Back' to Return to the User Menu



Use the Test Key to select Yes or No. If Yes is selected in the Keep Previous function the HH4 will display the last test record in the top of the screen.

9 Area Code

Area codes are used to identify the location of a breath test. To set an area code, perform the following procedures:

- With the screen displaying *press to test*, press the Up and Down buttons simultaneously. The User Menu will be displayed.
- Press the Down button and scroll to *Area Code*

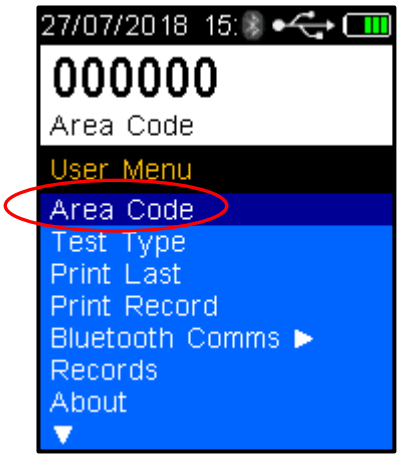


Figure 101 - Area Code Displayed

Press the Test key. The cursor will move below the first digit.
Use the Up/down buttons to advance the digit to the required number.
When the correct number is displayed, press the Test key. The number will be set, and the cursor will move the next digit. Repeat steps if necessary to all required numbers are displayed.

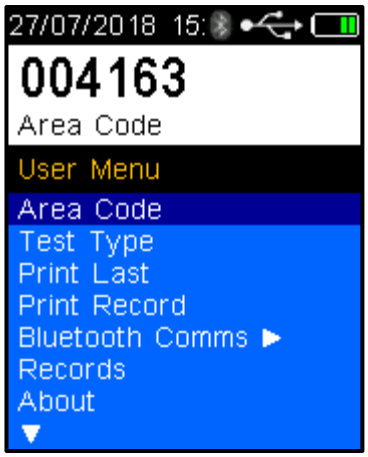


Figure 102 - Area Code Set

The Area Code is now set.
Press the Down button until ◂ *Back* is displayed.
Press the Test Key to return to the *press to test* screen.

10 Records

10.1 Accessing Records

Records are retained in the instrument and can be downloaded via AlcoCONNECT Toolbox (Refer to AlcoCONNECT Toolbox User Manual). It is recommended that records are periodically downloaded and erased from the device. Access the records as follows:

- Switch the device on
- With the screen displaying *press to test*, press the Up and Down buttons simultaneously, the User Menu will be displayed.
- Using the down button, scroll down to *Records* (Refer to Figure 103 – Records Figure 103).

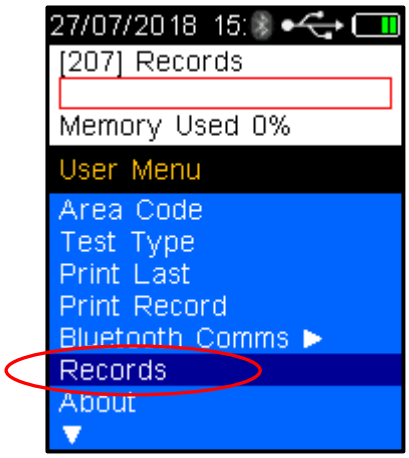


Figure 103 – Records

Press Test key to activate the records.
Press the Up/down buttons to navigate through records as required.
Press the Up and Down buttons simultaneously to return to the User Menu.

10.2 Clearing Records

As the device automatically stores records, the memory will eventually reach capacity and unless the data is downloaded, the storage of records will cease.
The device provides a series of warnings regarding memory capacity including memory reaching capacity, memory full and days since the memory has been full.

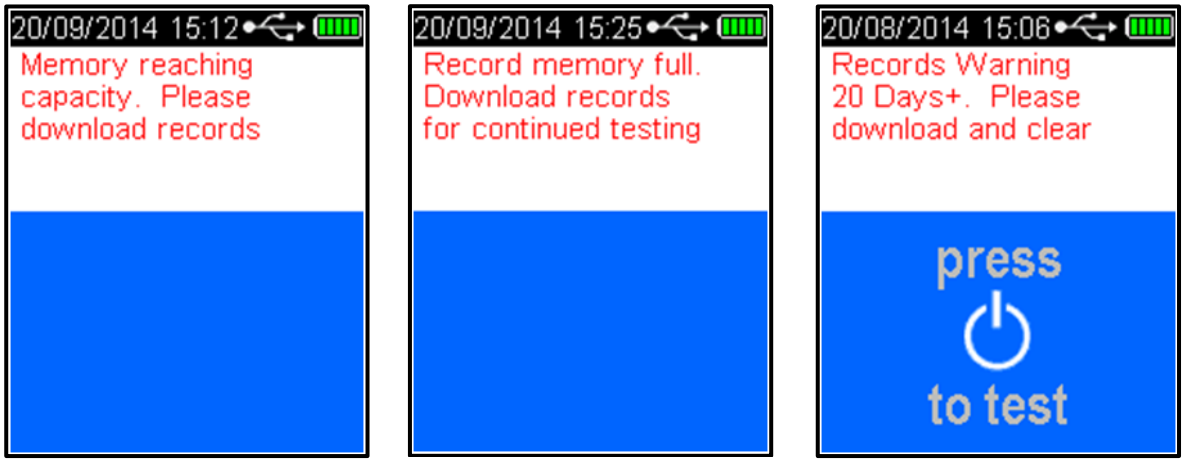


Figure 104 - Memory Capacity Warnings

11 Calibration

11.1 Calibration Alerts

The Alcolizer HH4 requires calibration every twelve months as per Australian Standards Certification Requirement, AS3547:2019.

The device will display a warning message after switching on if 14 days or less remain before calibration is required (Refer to Figure 105).

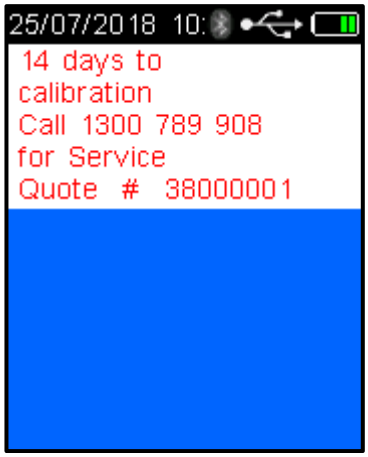


Figure 105 - Days to Calibration Displayed

To cancel the warning message, press the test key and the device will resume normal operations until zero days to calibration is reached.

When the calibration warning message period has expired, the Calibration Due Now screen is displayed, the device is locked and preventing any further breath tests until the device is calibrated (Refer to Figure 106).

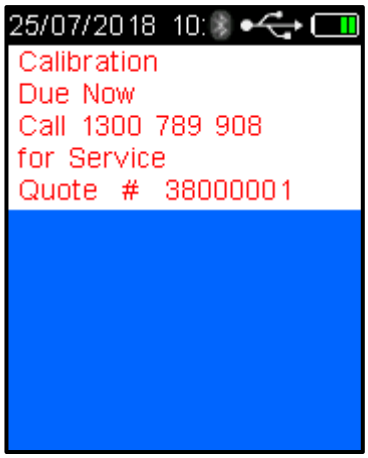


Figure 106 - Calibration Due Now Message

CAUTION

It is recommended that calibration of the device is performed before the warning message period expires. This will ensure uninterrupted testing can continue.

11.2 Calibration Process

The Alcolizer HH4 calibration can be quickly and conveniently booked online at www.alcolizer.com

The Serial Number of the instrument, your Purchase Order number if you have an account with us, or credit card details will be required. Then post your Alcolizer HH4 to our Service Centres in Cleveland or Perth.

- Unit 9/ 132-140 Ross Court, Cleveland QLD 4163
- 36 Mumford Place, Balcatta WA 6021

12 Specifications

The technical specifications of the HH4 are detailed below,

Instrument Application	*Industry – Mouthpiece and Passive*
BrAC Range	0.000 - 0.462 g/210L
Accuracy	Better than 0.005 at 0.100 g/210L BrAC
Test Time	Within 3-5 seconds at 0.100% BrAC
Recovery Time	Instantaneous for 0.0000 BrAC readings (reading remains on screen for 10 seconds)
Operating Temperature	-5°C to +55°C
Operating Humidity	30% to 93% RH
Storage Temperature	-10°C to +70°C
Minimum Air Flow Rate	10L/min
Mouthpiece Type	Standard spigot locator or non-return mouthpiece. (Mouthpieces are not required for Passive testing)
Sensor Type	Law enforcement grade electrochemical fuel cell (premium platinum)
Power Supply	Rechargeable Li-ION battery
Weight	272 grams (Including battery and cover)
Dimensions	202mm H x 63mm W x 39mm D
Calibration	12 monthly recalibrations at Alcolizer Technology's service facility

Figure 107 - Setup Successful

13 About Screen

1. To access the about screen, navigate to user menu. Select About.
2. The below screen will appear

Figure 108 – About Screen Display

3. Press the key button and the device information will appear as displayed below.

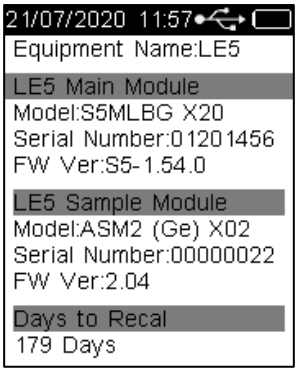


Figure 109 – Device Information Display

4. If you continue to press the key button further information displays about the device will display.
5. If bluetooth is connected the final page will show bluetooth information

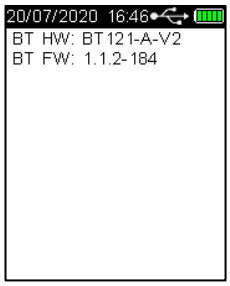


Figure 110 – Bluetooth Display

14 Splash Screen Display

This feature will allow the splash screen to be held on the screen at startup. The splash screen hold time can be configured by setting configuration item “Splash Screen Timeout”.

1. Power on the device and set configuration item “Splash Screen Timeout” to 2. (i.e. 2 seconds)
2. Power off the device.
3. Press and release the test key to turn on the device.
4. Observe that the splash screen is retained on the screen for a duration of 2 seconds

END OF DOCUMENT