Lifeloc

TECHNOLOGIES

Lifeloc FC20BT
Operations Manual

Unlock the Power of Alcohol Testing

Lifeloc FC20BT

Attention FC20BT Operator:

Congratulations on your purchase of a Lifeloc FC20BT (Bluetooth).

For over 25 years, Lifeloc Technologies has been providing advanced alcohol testing equipment & training to Law Enforcement and Corrections Professionals. We are the leader in product innovation, precision instruments, ease of use & Five Star Customer Care.

The FC20BT breath alcohol tester is manufactured in Wheat Ridge, Colorado, by Lifeloc Technologies, Inc. Lifeloc offers premium quality products combined with exceptional service and technical support.

The FC20BT incorporates unique cutting edge technologies:

- Secure wireless printing for unsurpassed testing capability.
- Easy data entry using our wireless keyboard.
- Results on a positive test register within 10 seconds.
- You can take another test within 30 seconds after a positive. Repeatability is not compromised.
- Your FC20BT will automatically take the test when it senses a deep lung sample is delivered.
- Your FC20BT will provide an accurate test, or else explain to you why it cannot, and even provide suggestions on how to proceed to complete an accurate test on your subject.
- AA Alkaline or NiMH batteries last for about 50 "on" hours or up to 1900 tests.

Your FC20BT includes many other features such as: Calibration/Calibration Check, Lock-Out Periods, 4000 test memory, numerous printout options, multiple test modes and optional Password Protection.

The following pages will explain in detail the operation of your FC20BT portable breath tester.

Unlock the Power of Alcohol Testing

Front View (with Mouthpiece)

Mouthpiece

Large Graphic LCD Screen
displays functions and results

Battery Icon indicates
battery level

AUTO TEST
#00011

Mouthpiece Removal Tab

+/- Buttons set
calibration standard

**Bluetooth Status
Indicator**

Execute Button
enables you to perform
the function

Function Button
scrolls through menus
and saves changes

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Power Button
turns unit on and off;
also returns you to
main testing mode

**Wrist Strap
Attachment Loop**

Features

- **Bluetooth Connectivity:** Provides users with truly mobile testing.
- **Large Graphic LCD Display:** Capable of showing numbers, letters, icons and plain English text messages.
- **Simplified Calibration:** Automatic with EASYCAL®. Software controlled guiding you step by step manually.
- **Auto Test Mode:** The easiest way to take a test. Unit automatically takes a deep lung sample when the subject is at end of breath.
- **Manual Test Mode:** Enables the operator to control exact point of breath sample.
- **Passive Test Mode:** Checks for the presence of alcohol in the breath or in an open container, without using a mouthpiece.
- **On Board Memory:** Stores the last 4000 tests.
- **Real Time Clock:** Stores time and date information with test results as well as calibration and cal check results.
- **Wireless Printer Ready:** Print out any or all results using Lifeloc Bluetooth printer with up to 33′ range.
- **Two Printout Options:** Long or short.
- **Data Entry:** Capable of storing two separate data fields, one for subject and one for additional uses, operator, precinct, etc.
- **User-Selectable Test Order:** Allows choice of either Auto Test or Passive Test default mode.
- **Calibration Reminder with Lockout:** Prevents you from using an FC20BT when it is due for calibration.
- **Adjustable Auto Shut-Off:** Preserves battery life.
- **Fast, Simple Operation:** While the FC20BT contains a host of features, it is still easy to use.
- **Automatic Backlight:** Easy viewing of test results either day or night.
- **Exceptional Battery Life:** Up to 50 hours of operation or up to 1900 tests using four AA Alkaline or NiMH rechargeable batteries.

Installing Batteries

Press in and down on the battery door located on the back of the FC20BT.

Install the four AA Alkaline batteries in the direction of the symbols in the battery case.

Close the case by pushing up on the battery door until it locks shut.

See page 34 for directions on using rechargeable batteries.

Turning the FC On and Off
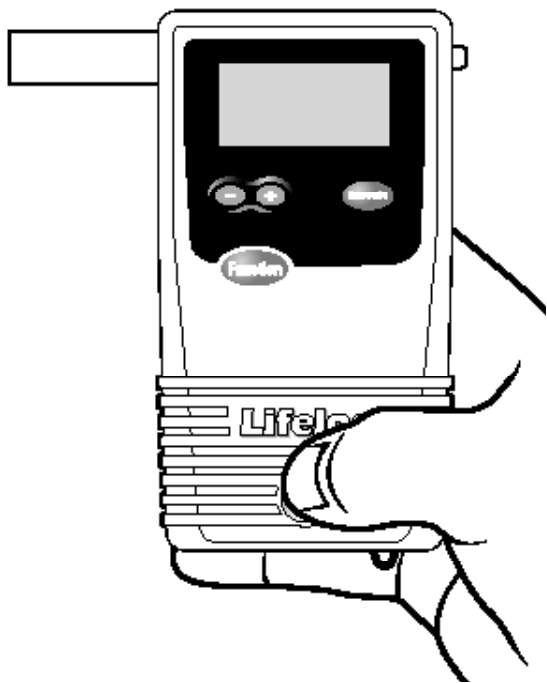
Press and hold the **Power** button on the bottom of the front of the unit until it beeps. The FC20BT performs an automatic internal diagnostics check when turned on.

To turn the unit off, press and hold the **Power** button until it beeps twice. The unit will shut down.

Note: Momentarily pressing the **Power** button when the unit is on will return you to the main menu.

Observing the Subject

The FC20BT provides a highly accurate reading of breath alcohol acquired by sampling deep lung air. Readings will also detect residual mouth alcohol.

To prevent mouth alcohol from affecting a test, make certain that the subject is not allowed to put anything in their mouth for 15 minutes prior to taking a test.

If the subject just took a drink, a 15 minute observation period in which they are not permitted to put anything in their mouth should be observed before testing. This will ensure all residual alcohol from any source has completely dissipated and test results will be valid.

Attaching a Mouthpiece

Remove the mouthpiece from its wrapper, making sure not to touch the end which the subject will be blowing into.

Attach the mouthpiece to the port on the back of the FC20BT.

Line up the mouthpiece port over the holes in the back of the mouthpiece. Press in place.

Ensure it is securely attached.
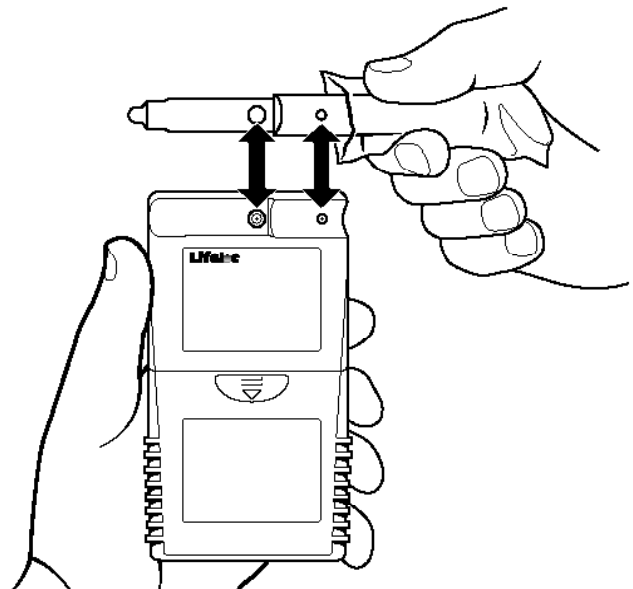
Breath Testing Modes Explained

The FC20BT is capable of conducting Automatic, Manual, and Passive tests.

- **Automatic Test** is the easiest way to achieve a deep lung sample. The FC monitors the subject's breath and automatically takes the sample near the end of the breath flow.

- **Manual Test** is normally used only when the subject is unable to provide a sufficient breath sample for the automatic test.

- **Passive Test** is a quick screen to detect alcohol but is not designed to quantify the results. Passive results are reported as "POS" if alcohol is detected, "NEG" if alcohol is not detected. In this mode, no mouthpiece is use.

End of Breath and Precise Volume Explained

In Auto Test mode, the unit can be set to take a sample either:

- When the subject nears the end of the exhalation **(End of Breath)**

— or —

- When it detects 1.5L of breath **(Precise Volume)**

Both will give accurate results. Precise Volume may work better with uncooperative subjects.

(To select "END OF BREATH" or "PRECISE VOLUME" mode, see Trigger Mode instructions on p.18)

Auto Air Blank Explained (Optional)

If installed, this option inserts an automatic air blank function in front of Auto, Manual, and Passive tests.

An automatic air blank is a test of the ambient air. It checks to ensure that no alcohol is present, which could affect the test result.

If Auto Air Blank is enabled, the FC20BT will prompt you to take a sample before testing the subject.

Auto Air Blank is normally utilized to satisfy the requirements of a specific testing protocol.

Conducting an Automatic Test

Turn the FC20BT on.

Verify the display reads "AUTO TEST".

Attach the mouthpiece to the back of the unit.

Instruct the subject to blow into the mouthpiece **firmly and steadily for as long as they can**. (But not necessarily as hard as they can.) The unit calculates volume and will give an error message if the subject cannot reach 1.3 liters of breath.

Read the result.

After taking a test, the FC20BT will display the results in large numbers on the display.

The result is stored in memory and available for viewing and printing at a later date.

Momentarily press the **Power** button to return to the test mode.
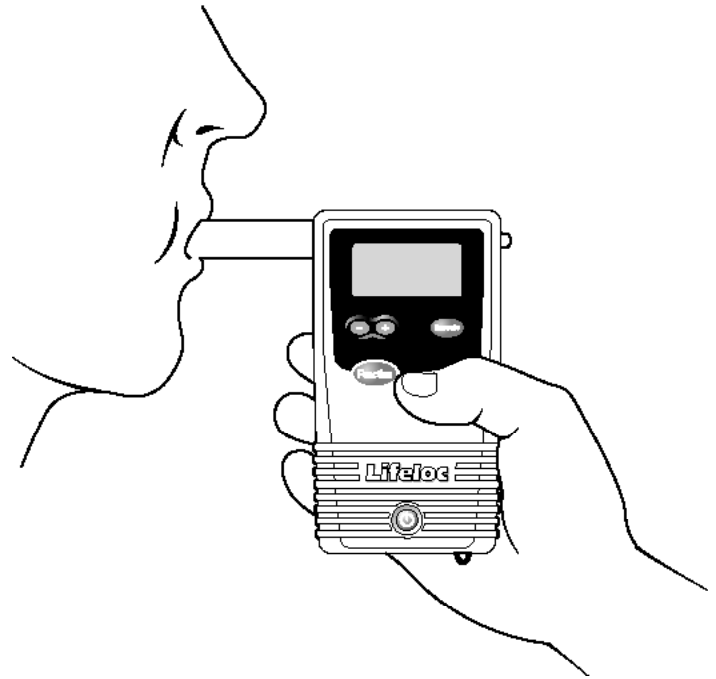
Manual Override during an Automatic Test

Note: This feature allows the completion of a test in the occasional instance when the subject may have diminished lung capacity and cannot activate the Auto Test.

Turn the FC20BT on.

Attach a mouthpiece to the back of the unit and verify the display reads "AUTO TEST".

Instruct the subject to blow into the mouthpiece **firmly and steadily for as long as they can**.

When they are near the end of their breath, press the **Execute** button.

Read the result.

Conducting a Manual Test

Turn the FC20BT on.

Attach the mouthpiece to the back of the unit.

Press the **Function** button until the display reads "MANUAL TEST".

Instruct subject to blow into the mouthpiece **firmly and steadily for as long as they can.**

When they are near the end of their breath, press the **Execute** button.

Read the result.

Please note, manual test mode is pressure activated. If the subject does not blow air into the mouthpiece, the test cannot be conducted.
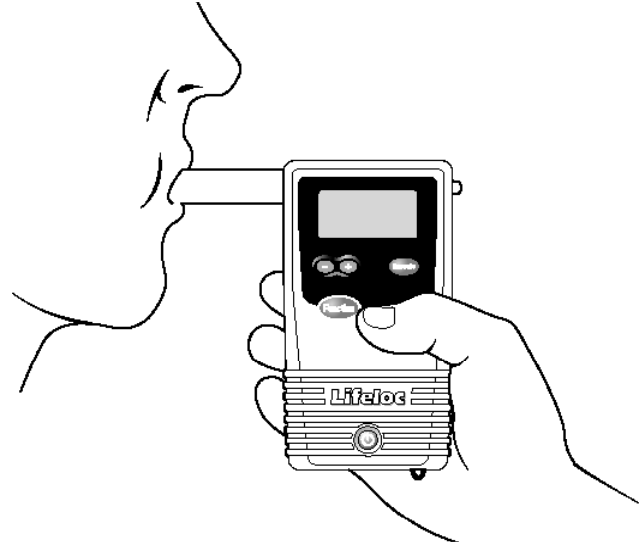
Conducting a Passive Test (No Mouthpiece)

Turn the FC20BT on.

Press the **Function** button, if necessary, until the display reads "PASSIVE TEST."

Hold the FC20BT sample port (orange-colored opening labeled "Port" on the back of the FC20BT) about 4 inches from the subject's mouth.

Have the subject blow toward the port.

Press the **Execute** button while the subject is blowing.

Read the result. The unit will only display "POS" or "NEG". It will not display the actual numerical result.

Note: A passive test can also be done over an open container to detect the presence of alcohol.
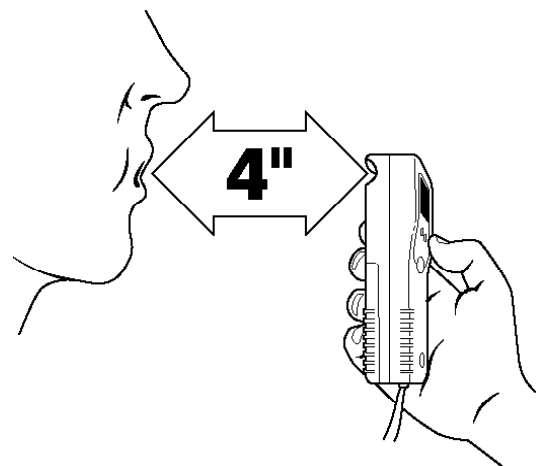
Breath Flow
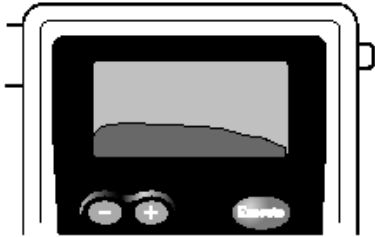
As the subject blows into the mouthpiece, the FC20BT will show a graph of the breath flow on the display, as well as showing the amount of liters. Liters are shown in the upper left corner.

Alcohol Curve
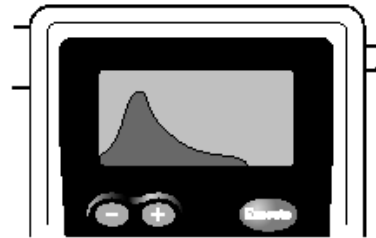
If the FC detects alcohol, the alcohol level is graphed and will be displayed before the result.

Test Results
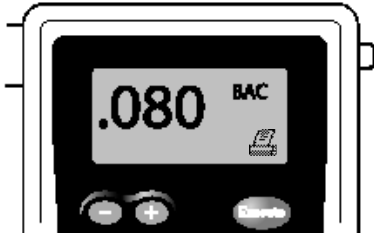
After the alcohol is graphed, the test result is displayed.

The result will remain on the screen until the **Function** or **Power** button is pressed or until shut-off time is reached.

The last 4000 test results are retained in memory.

Viewing Previous Test Results

Press to remove mouthpiece
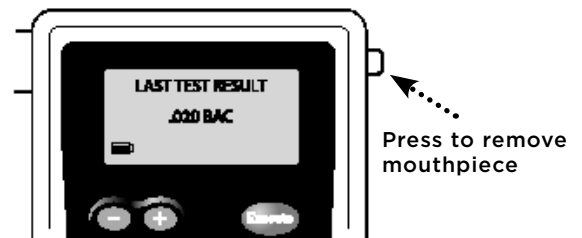
Press the **Function** button until the printer icon is displayed. The results of the last test will be displayed along with its test number at the lower left of the display.

Press the **+ or -** button to scroll between test results.

Momentarily press the **Power** button to return to the testing mode.

Removing the Mouthpiece

Remove the mouthpiece by pushing straight down on the tab at the right of the display screen. DO NOT BEND the tab.

Printing Test Results

Printing the Current Test

Take a test. (See pages 11-13)

Ensure the printer is on.

Press the **Execute** button under the printer icon to print the result.

Printing a Specific Test From Memory

Press the **Function** button until the printer icon is displayed.

Press the **+ or –** button to select the test number you wish to print.

Press the **Execute** button under the printer icon to print the result.

Printing All Tests Stored in Memory

Press the **Function** button until the printer icon is displayed.

Press the **+ or –** button to select "ALL".

Press the **Execute** button under the printer icon to print all of the test results.

Printing Calibration/Calibration Check Data

Press the **Function** button until the printer icon is displayed.

Press the **+ or –** button to select "CAL/CAL CHK".

Press the **Execute** button under the printer icon to print the data.

See sample printout on page 43.

Changing the Time

Press the **Function** button until the display reads "Settings".

Press the **Execute** button.

Display reads "TIME" with the hour digits flashing.

Press the **+ or –** button to change the hour.

Press the **Execute** button to move to minutes.

Press the **+ or –** button to change the minutes.

Press the **Function** button to save your changes.

Momentarily press **Power** to return to the testing mode.

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Changing the Date

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "DATE" with the month digits flashing.

Press the **+ or –** button to change the month.

Press the **Execute** button to move to the day.

Press the **+ or –** button to change the day.

Press the **Execute** button to move to the year.

Press the **+ or –** button to change the year.

Press the **Function** button to save your changes.

Momentarily press **Power** to return to the testing mode.
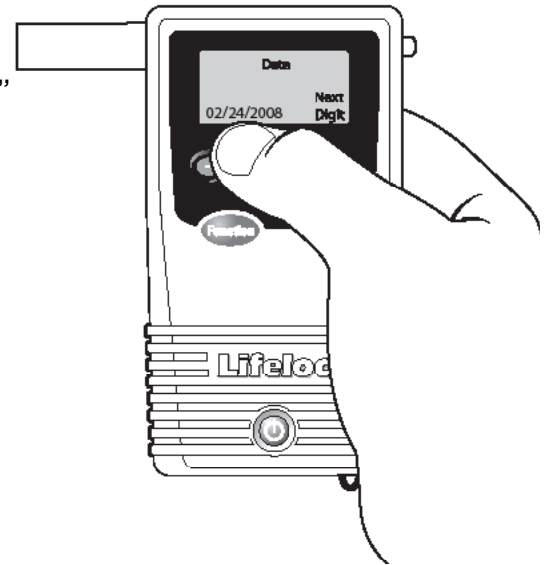
Setting the Automatic Air Blank (Optional Feature)

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "AUTO AIR BLANK".

Press the **Execute** button to turn the air blank "ON" or "OFF."

Press the **Function** button to save your changes.

Momentarily press **Power** to return to the testing mode.

Setting the Auto Shutoff Time

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "SHUTOFF TIME".

Press the **+ or -** button to adjust the shutoff time between 1-15 minutes. Disable auto shutoff by selecting "OFF".

Press the **Function** button to save your changes.

Momentarily press **Power** to return to the testing mode.

Data Entry Explained

The FC20BT allows you to enter I.D. numbers and/or names that will be printed with every test result.

- Subject I.D. - Can identify a unique test subject. You will be prompted to enter name or number each time you administer a test.
- Data Field 2 - Can identify a test administrator or event. Entered once and recorded with every test until changed or disabled.
- Subject I.D. + Data Field 2 - Identifies unique test subject along with administrator or event. Data Field 2 is recorded with every test until changed or disabled. You will be prompted to enter subject name or number each time you administer a test.

Both data entry fields allow for 24 characters.

Using Data Field 2

Press the **Function** button until display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until display reads "I.D. SETTINGS".

Press the **Execute** button until display reads "DATA FIELD 2". Press the **Function** button once. The display will read "DATA FIELD 2".

Press the **+ or -** buttons to enter numbers or letters.
(Hold down to scroll quickly)

Press the **Execute** button to move to the next digit. Up to 24 characters may be entered.

Press the **Function** button to save the Data Field 2. The Data Field 2 is recorded with every test until changed or disabled.

Momentarily press **Power** to return to testing mode.

Entering a Subject I.D.

Press the **Function** button until display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until display reads "I.D. SETTINGS".

Press the **Execute** button until display reads "SUBJECT".

Press the **Function** button to save your changes.

Momentarily press the **Power** button. Display reads "SUBJECT I.D."

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Press the **+ or -** buttons to enter the I.D. numbers or letters.
(Hold down to scroll quickly)

Press the **Execute** button to move to the next digit. Up to 24 characters may be entered.

Press the **Function** button to save the unique Subject I.D. with the next test.

The FC20BT will now prompt you to enter a unique Subject I.D. before every test.

To bypass entering a Subject I.D., simply press the **Function** button and take a test.

You are now ready to conduct a test.

Entering a Subject I.D. + Data Fields

Press the **Function** button until display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until display reads "I.D. SETTINGS".

Press the **Execute** button until display reads "SUBJECT + DATA".

Press the **Function** button once. Display reads "DATA FIELD 2".

Press the **+ or -** buttons to enter the Subject I.D. numbers or letters. (Hold down to scroll quickly)

Press the **Execute** button to move to the next digit. Up to 24 characters may be entered.

Press the **Function** button to save the Subject I.D. The Subject I.D. is recorded with every test until changed or disabled.

Momentarily press the **Power** button. Display reads "SUBJECT I.D."

Press the **+ or -** buttons to enter the I.D. numbers or letters.
(Hold down to scroll quickly)

Press the **Execute** button to move to the next digit. Up to 24 characters may be entered.

Press the **Function** button to save the unique Subject I.D. with the next test.

The FC20BT will now prompt you to enter a unique Subject I.D. before every test.

To bypass entering a Subject I.D., simply press the **Function** button.

You are now ready to conduct a test.

Disabling Subject I.D. and Data Field

Press the **Function** button until display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until display reads "I.D. SETTINGS".

Press the **Execute** button until display reads "OFF."

Press the **Function** button to save your changes.

Now the FC20BT will not prompt you to enter a Subject I.D. (Data Field 2 and Subject I.D. will be blank until they are enabled.)

Press the **Power** button to return to the testing mode.

Setting Trigger Mode

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "TRIGGER MODE".

Press the **Execute** button to select between "END OF BREATH" and "PRECISE VOLUME".

Press the **Function** button to save your changes.

Momentarily press **Power** to return to the testing mode.

Security Settings Explained

Password can be set to protect access to calibration, calibration check, calibration settings and user settings.

Without a password, users are still able to conduct Automatic, Manual and Passive tests; print test results; and check battery status and temperature.

Setting Up Security Password

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "SECURITY SETTINGS".

Press the **Execute** button. The unit is now ready to accept a password. Use the **+ or -** buttons to enter a number or letter.

Use the **Execute** button to move to the next digit. Password is limited to 8 characters.

Press the **Function** button to save your password. Momentarily press **Power** to return to the testing mode.

Note: Record and store your password in a safe place. Lifeloc does not have access to your password. If password is lost, the only way to reset the unit is to call Lifeloc Tech Support at 720.317.2190.

Using Security Password

For access to Calibration, Calibration Check, Calibration Settings or User Settings.

Press the **Function** button until the display reads "CALIBRATION" or "SETTINGS". Select the one you would like to access.

Press the **Execute** button. Display reads "SECURITY CODE".

Enter your password using the **+ or -** buttons. Use the **Execute** button to move to the next digit.

Press the **Function** button to gain access. You now have access to all menus and settings.

Removing Security Password

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "SECURITY CODE".

Enter your password using the **+ or -** buttons.

Press the **Function** button until the display reads "SECURITY SETTING".

Press the **Execute** button. Display reads "SECURITY SETTING" and shows your password in the lower left corner.

Clear your password using the **+ or -** buttons to change the letters or numbers to blank spaces. Use the **Execute** button to move to the next digit.

Press the **Function** button to clear the password.

Momentarily press **Power** to return to the testing mode.

Print Settings Explained

The FC20BT settings allow you to customize your printout to your particular needs. You can choose between the following:

Number of Copies - Choose to print 1, 2 or 3 copies of a test.

Print Format - Choose to include (long format) or not to include (short format) the

calibration and calibration check information with every printout. (See sample printouts on p. 43)

Printer - Select "THERMAL", "IMPACT", or "WIRELESS" to print results to your corresponding printer. Select "ALCOMARK" to download or print results to your computer.

Number of Copies Printed

Press the **Function** button until display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "PRINT SETTINGS".

Press the **Execute** button. Display reads "NUMBER OF COPIES".

Press the **+ or -** button to change the number of copies.

Press the **Function** button to save your changes.

Momentarily press **Power** to return to the testing mode.

Print Format

Press the **Function** button until display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "PRINT SETTINGS".

Press the **Execute** button. Display reads "NUMBER OF COPIES".

Press the **Function** button. Display reads "PRINT FORMAT".

Press the **Execute** button to toggle between "SHORT" and "LONG". **Long** includes Calibration and Calibration Check information on every printout; **Short** does not.

Press **Function** button to save.

See sample printouts on page 43.

Printer Selection

Press the **Function** button until display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "PRINT SETTINGS".

Press the **Execute** button. Display reads "NUMBER OF COPIES".

Press the **Function** button until the display reads "PRINTER".

Press the **Execute** button to select "THERMAL", "WIRELESS" or "IMPACT" and print to

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the corresponding printer; or select "ALCOMARK" and download the results to your computer.

Press **Function** button to save.

Momentarily press **Power** to return to the testing mode.

Adjusting LCD Contrast

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "DISPLAY SETTINGS".

Press the **Execute** button. Display reads "LCD CONTRAST".

Press the **+ or -** buttons to adjust the contrast of the text.
(0 = lightest; 10 = darkest)

Press the **Function** button to save your adjustment. Momentarily press **Power** to return to testing mode.

Setting the Default Test Order

Test Order 1 (Default)	Test Order 2	Test Order 3
Auto Test Manual Test Passive Test	Passive Test Auto Test Manual Test	Auto Test Manual Test

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "DISPLAY SETTINGS".

Press the **Execute** button. Display reads "LCD CONTRAST".

Press the **Function** button. Display reads "TEST ORDER".

Press the **Execute** button to toggle between Test Order 1, 2, and 3 above.

Press the **Function** button to save the changes.

Momentarily press **Power** to return to the testing mode.

Please note: By selecting Test Order 3 you will disable passive testing.

(User settings flow chart is shown on p. 44)

Results Format Explained

Results for Auto and Manual tests can be displayed in a "NUMERIC" or "PASS/WARN/FAIL" (PWF) format. Passive test results, however, can only be displayed as "POS" & "NEG."

NUMERIC results are in a 3-digit BAC format.

PASS/WARN/FAIL results require setting specific levels for Pass and Fail.

For example, if Pass is set at .040 and Fail is set at .080 (default settings on your FC20BT), then:

Pass	=	.000 - .040
Warn	=	.041 - .079
Fail	=	.080 and above

Sample settings only. See page 23 for instructions on setting the Pass/Warn/Fail levels.
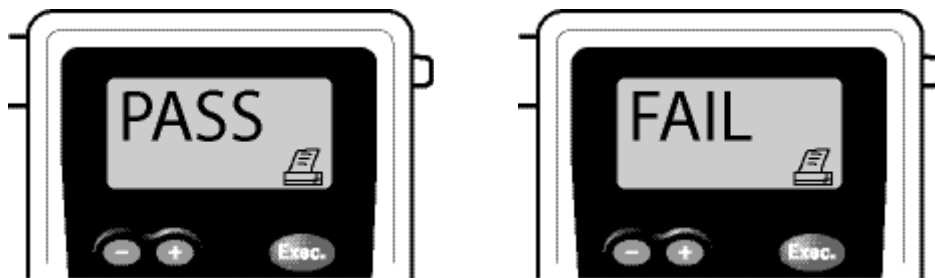
Setting Results Format

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "DISPLAY SETTINGS".

Press the **Execute** button. Display reads "LCD CONTRAST".

Press the **Function** button until the display reads "RESULTS FORMAT".

Press **Execute** to toggle between "NUMERIC" and "PWF."

Press the **Function** button to save your setting.

Momentarily press **Power** to return to the testing mode.

Setting the Pass/Warn/Fail Levels

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display reads "TIME".

Press the **Function** button until the display reads "DISPLAY SETTINGS".

Press the **Execute** button. Display reads "LCD CONTRAST".

Press the **Function** button until the display reads "PASS LEVEL".

Press the **+ or –** button to set the BAC Pass level.

Press the **Function** button. Display reads "FAIL LEVEL".

Press the **+ or –** button to set the BAC Fail level.

Press the **Function** button to save your settings.

Momentarily press **Power** to return to the testing mode.

Note: *An alcohol reading between the PASS and FAIL levels will read WARN.*

BT Keyboard Enabled

The FC20BT allows for data input using an optional Bluetooth (BT) keyboard. With the keyboard, you can easily enter text or numbers in Subject or Data Fields or have full command of the FC20BT menu. If you purchase the Data Management Solutions (DMS) kit, your FC20BT will be set to "BT Keyboard Enabled" in order for FC20BT to connect and communicate with your keyboard.

Bluetooth indicator light   Power indicator light

Micro USB port

'Fn' + 'C' activates Bluetooth signal

Navigation Instructions

> Space or Tab = **Function** Button
>
> Enter = **Execute** Button
>
> Right Arrow = **+** Button
>
> Left Arrow = **-** Button
>
> Escape ('Fn'+'esc') = **Power** Button

With the setting BT Keyboard Enabled, your FC20BT unit will automatically try to connect with your BT keyboard when it is powered on. Please note, the keyboard must be turned on with the Bluetooth function activated ('Fn'+'C') prior to powering on your FC20BT in order for your keyboard and unit to connect and communicate.   If you only want to use your keyboard from time-to-time, you may want to disable your BT Keyboard in Settings. For additional information on connecting to your BT Keyboard, visit pages 34-35.

View Connected Device(s)

Through the Bluetooth Settings menu, your FC20BT will allow you to view your connected devices as well as change or "pair" other Lifeloc Bluetooth devices.

Press the **Function** button until display reads "BLUETOOTH MENU".

Press the **Execute** button and you will see a list of Bluetooth device options.

Press the **Execute** button to select your device type, then press **Function** to enter the device menu.

Current device is displayed.

Changing the Selected Printer

Follow the steps on page 23 and once you see the current device displayed:

Press the **Execute** button to change your device, then wait while the FC20BT scans for other devices. Make sure your Bluetooth device is on.

Note: All Lifeloc Bluetooth devices have a unique ID. The ID for the Lifeloc Bluetooth printer is featured above the battery door.

Press the **+ or –** button to scroll through the list of discoverable devices.

Press the **Execute** button to select your device.

Press the **Function** button once to save and the display will read "Exit".

Changing the Selected Keyboard

Turn on your keyboard by unfolding it. A green light will momentarily appear at the top of the keyboard if it is charged.

Activate the keyboard Bluetooth function by pressing the **'Fn' + 'C'** keys. A flashing blue light will appear at the top keyboard.

Turn on your FC20BT unit.

Press the **Function** button on your unit until you get to the **BLUETOOTH MENU** and press the **Exec.** button.

Press the **Exec.** button again to scroll down the menu to Keyboard.

Press the **Function** button to select Keyboard.

To scan for the 1byone Bluetooth Keyboard:

- If your 1byone Bluetooth keyboard is not paired and no other BT keyboard is paired, you will see the message "**No Valid Devices**". Press **Exec.** twice and your unit will display the message "Scanning...".

- If another BT keyboard is paired with your device, you will see that keyboard displayed. Press **Exec.** to Change keyboards and your unit will display the message "Scanning...".

Once located, your unit will display the message "**1byone Keyboard**" along with the keyboard ID/Serial number. Press **Exec.** to Select this keyboard and the message "Connecting..." will appear.

When pairing is successful, the blue light on the keyboard will stop flashing and the blue light on the FC20BT will remain lit until the Bluetooth connection is disconnected or the unit is turned off.

Note: It must say **BT Keyboard Enabled** in **SETTINGS** for your keyboard to work with your unit. They can still be paired, but they keyboard will not actually work with the unit.

Calibration Explained

You can calibrate and check your FC20BT using either the wet bath or dry gas method. You must first set your FC20BT to recognize which method or which 'Standard Type' you will be using.

Once you choose the Standard Type, the FC20BT will store that information in memory and you do not have to set it again unless you change to a different method of performing a calibration/calibration check.

Dry Gas Calibration requires that, prior to calibration, you enter the Corrected Standard Value based on your altitude or elevation. Using the chart on the outside of the canister,

multiply the number next to your elevation by the standard. **Please note**, if you have purchased the Baro Sensor option for your FC20, you do not need to adjust for altitude or elevation. The Baro Sensor will make the adjustment for you.

Example:

- Denver, Colorado's elevation is 5200 ft. above sea level and dry gas standard = .100 BAC.
- Correction factor from tank is .820
- Corrected Standard = .100 x .820 = .082

If you move to a significantly different altitude before calibrating, you will have to change the standard in the FC20BT .

Wet Bath Calibration does not require altitude correction.

Note: The FC20BT comes from the factory set for Wet Bath type and .100 BAC Calibration Standard.

Selecting the Calibration Standard

Press the **Function** button until the display reads "CALIBRATION".

Press the **Execute** button. The display reads either "WET CHECK" or "DRY CHECK".

Press the **Function** button until the display reads "CAL SETTINGS".

Press the **Execute** button. The display reads "CAL STANDARD".
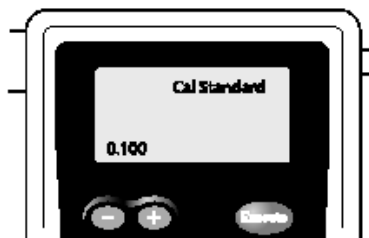
Use the **+ or –** button to change the number to the BAC level of standard you will be calibrating to. It should be the same as on the bottle of certified solution or as your altitude corrected standard, if using a dry gas tank. (See p. 25)

Press the **Function** button to save the settings. Momentarily press **Power** to return to the testing mode.

Once you set the standard, you do not have to set it again unless you change solutions or elevation (dry gas only).

Calibration/Cal Check Explained

Calibration of an FC sets your unit to a known alcohol concentration to enable accurate BAC (Breath Alcohol Concentration) results.

You can use dry gas or wet bath solution to calibrate your FC20BT. Most commonly used solutions are .100, .080 or .040 BAC.

The FC20BT must be between 68° and 95° F (20° - 35° C) to calibrate.

Lifeloc recommends you calibrate your FC20BT:

Once every 12 months, regardless of how many tests you have performed

Or, at intervals specified by your Internal Policies, Quality Assurance Plan, or State Regulations

Or, after one failed Calibration Checks

A Calibration Check simply verifies the FC20BT was calibrated correctly and is within the acceptable accuracy range. *Calibration check is also referred to as "External Calibration Check," "Accuracy Check," "Verification" and "Cal Check."*

Lifeloc recommends you perform a calibration check on your FC20BT:

> **Once** every 30 days
>
> **Or**, at intervals specified by your Internal Policies, Quality Assurance Plan, or
>
> State Regulations

Selecting the Standard Type

Press the **Function** button until the display reads "CALIBRATION".

Press the **Execute** button. The display reads either "WET CHECK" or "DRY CHECK".

Press the **Function** button until the display reads "CAL SETTINGS".

Press the **Execute** button. The display reads "CAL STANDARD".

Press the **Function** button until the display reads "STANDARD TYPE".

Press the **Execute** button to choose between "DRY GAS" and "WET BATH".

Press the **Function** button to save settings. Momentarily press **Power** to return to the testing mode.
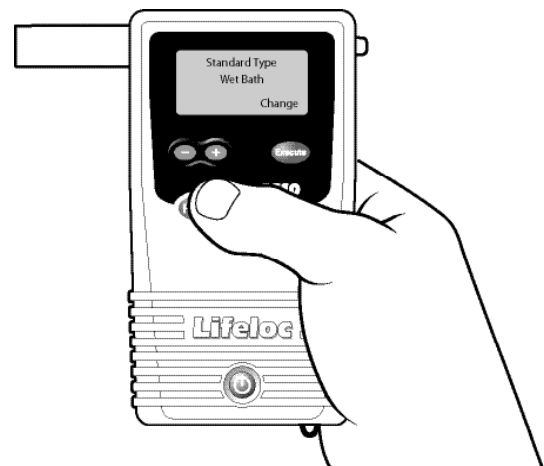
Calibration/Cal Check Lock-out Explained

The calibration/cal check lock-out allows you to prevent usage of your FC20BT if it is not calibrated or cal checked in a specified time period. Time can be registered as days or number of tests.

Beginning 48 hours before the specified lock-out time, the unit will display "WARNING CAL EXPIRING", "WARNING CHECK EXPIRING" or both.

When the time period has elapsed, the unit will display "CAL EXPIRED", "CHECK EXPIRED" or both and not allow testing until it is calibrated and/or cal checked.

You can specify time periods up to 999 days or 65,535 tests between calibrations or cal checks. You can also disable the calibration/cal check lock-out feature. (See below)

Setting the Calibration Lock-out Type

Press the **Function** button until the display reads "CALIBRATION".

Press the **Execute** button. Display reads either "WET CHECK" or "DRY CHECK".

Press the **Function** button until the display reads "CAL SETTINGS".

Press the **Execute** button. Display reads "CAL STANDARD".

Press the **Function** button until the display reads "CAL TIME TYPE".

Press the **Execute** button to select "DAYS" or "TESTS".

Press the **Function** button to save your setting.

Display will now read "CAL TIME" or "CAL NUM TESTS".

Press the **+ or -** button to set the number of days or tests between calibrations. The time starts counting from your last calibration date, not from the date you set it. Choosing "DISABLED" turns this setting off.

Press the **Function** button to save your setting.

Momentarily press **Power** to return to the testing mode.

Setting the Cal Check Lock-out Type

Press the **Function** button until the display reads "CALIBRATION".

Press the **Execute** button. Display reads either "WET CHECK" or "DRY CHECK".

Press the **Function** button until the display reads "CAL SETTINGS".

Press the **Execute** button. Display reads "CAL STANDARD".

Press the **Function** button until the display reads "CHECK TIME" or "CHECK NUM TESTS".

Press the **+ or -** button to set the number of days between calibration checks. The days start counting from your last calibration check date, not from the date you set it.

Press the **Function** button to save your settings.

Momentarily press **Power** to return to the testing mode.

Wet Bath Simulator Set-Up For Calibration & Calibration Check

Pour a bottle of certified alcohol solution into the simulator jar and hand tighten lid.

Connect 11-12″ long tube from input port to output port so no alcohol escapes while simulator heats up.

Plug in the simulator and turn it on.

The simulator automatically heats the solution to 34° C (93.2° F) in about 5 to 10 minutes.

Proper operating temperature is important for accuracy so be certain to check temperature before proceeding.

Performing a Wet Bath Calibration

Prepare the wet bath simulator according to its instructions above.

Disconnect long tube from the output port. Attach a mouthpiece adapter securely to the output port on the simulator lid. Refer to your simulator manual for location.

Turn the FC20BT on. Attach a mouthpiece to the back of the unit.

Press the **Function** button until the display reads "CALIBRATION", then press the **Execute** button. Display reads "WET CHECK".

Press the **Function** button until the display reads "WET CALIBRATE".

Calibration Pump

Simulator

Verify the "CAL STANDARD" is set to the concentration of certified alcohol solution you will be using when you calibrate. To select a new Calibration Standard, see page 25.

Slide the FC20BT mouthpiece over the mouthpiece adaptor on the simulator.

Be prepared to blow into the tube for up to 10 seconds.

Start blowing

- Blow through the input tube (or use a calibration pump) to create and maintain 1/2″ of bubbles on the surface of the solution.
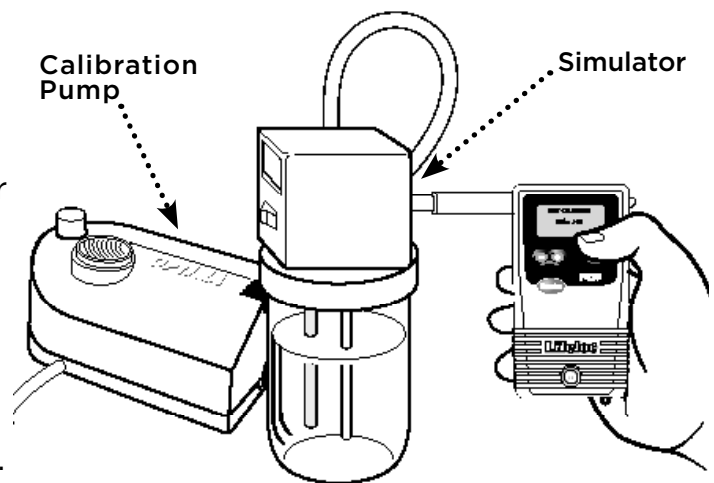
- Press **Execute** to proceed and start a 3 second countdown.
- When "Sample" shows after countdown, press **Execute** to take a sample.
- Continue blowing for another 3 seconds.

Stop blowing

If successful, the display will read "CAL COMPLETE."

If no alcohol is detected, display reads "INVALID CALIBRATION." Please repeat calibration setup and test, starting with wet bath simulator setup.

Disconnect the unit and wait at least two minutes before conducting a Cal Check to verify the accuracy of your calibration. Use a dry mouthpiece for Cal Check.

Note: Following calibration, a Cal Check is required before the unit allows you to conduct any tests.

(Calibration display flow chart is shown on p. 45)

Performing a Wet Calibration Check

Prepare the wet bath simulator according to its instructions on page 28.

Disconnect long tube from the output port. Attach a mouthpiece adapter securely to the output port on the simulator lid. Refer to your simulator manual for location.

Turn the FC20BT on. Attach a mouthpiece to the back of the unit.

Press the **Function** button until the display reads "CALIBRATION", then press the **Execute** button. Display reads "WET CHECK".

Verify the "CAL STANDARD" is set to the concentration of certified alcohol solution you will be using when you check the calibration. To select a new Calibration Standard, see page 25.

Slide the FC20BT mouthpiece over the mouthpiece adaptor on the simulator.

Be prepared to blow into the tube for up to 10 seconds.

Start blowing

- Blow through the input tube (or use a calibration pump) to create and maintain 1/2″ of bubbles on the surface of the solution.
- Press **Execute** to proceed and start a 3 second countdown.
- When "SAMPLE" appears press **Execute** to take a sample.
- Continue blowing for another 3 seconds.

Stop blowing

Read the result. It should be within +/- .005 BAC of the standard used. If your solution is

greater than .100 BAC, accurate results will be within +/- 5%.

Example:

- A .100 BAC solution should read between .095 and .105 BAC.
- A .200 BAC solution should read between .190 and .210 BAC.

If no alcohol was detected, the display will read "INVALID CHECK". Repeat wet bath calibration check instructions.

Dry Gas Tank Set-Up

Attach the regulator to the dry gas tank.

Attach the small tube to the output port on the regulator.

Securely fit the mouthpiece adaptor to the small tube on the regulator.

Note: Do not store the dry gas tank with the regulator attached. The regulator is not designed to be the primary sealing mechanism. Leaving the regulator attached may result in a leak.
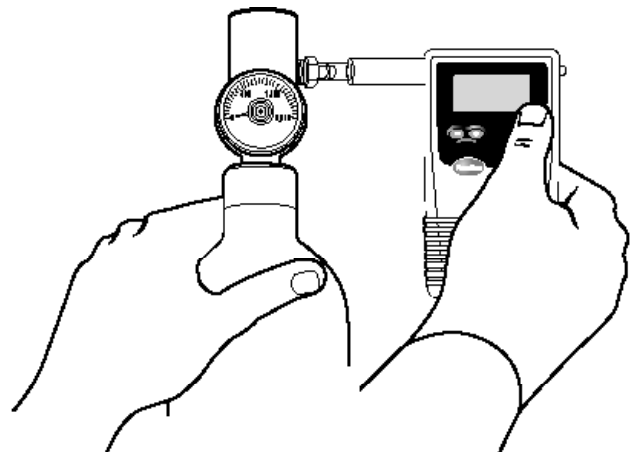
Performing a Dry Gas Calibration

Prepare the dry gas tank according to its instructions above.

Turn the FC20BT on. Attach a mouthpiece to the back of the unit.

Press the **Function** button until the display reads "CALIBRATION".

Press the **Execute** button. Display reads "DRY CHECK".

Press the **Function** button until the display reads "DRY CALIBRATE".

Verify the Calibration Standard is set to the corrected BAC.

Using the Altitude Correction Factor (ACF) chart on the dry gas tank, calculate the corrected BAC.

Corrected Standard = (tank BAC) x (ACF)

As a reminder, if you have purchased the Baro Sensor option for your FC20BT, you do

not need to adjust for altitude or elevation. The Baro Sensor will make the adjustment for you.

Attach the FC20BT mouthpiece to the regulator by sliding it over the mouthpiece adaptor, ensuring a snug fit.

Be prepared to press the **Gas Tank Regulator** button for up to 10 seconds.

Start pressing (gas flow will start)

- Press the **Execute** button to proceed and start a 3 second countdown.
- Press the **Execute** button again to take a sample.
- Continue holding the **Regulator** button for another 3 seconds.

Stop pressing (gas flow will stop)

If successful, the display will read "CAL COMPLETE".

If no alcohol is detected, display reads "INVALID CALIBRATION" Please check gas level on your tank regulator and replace tank if empty. Repeat dry gas calibration instructions on page 31.

Disconnect the FC20BT and wait at least two minutes before conducting a Cal Check.

Note: Following calibration, a Cal Check is required before the unit allows you to conduct any tests.

(Calibration display flow chart is shown on p. 45)

Performing a Dry Gas Calibration Check

Prepare the dry gas tank according to its instructions on page 31.

Turn the FC20BT on. Attach a mouthpiece to the back of the unit.

Press the **Function** button until display reads "CALIBRATION".

Press the **Execute** button. Display reads "DRY CHECK".

Verify the Calibration Standard is set to the corrected BAC.

Using the Altitude Correction Factor (ACF) chart on the dry gas tank, calculate the corrected BAC.

Corrected BAC = (tank BAC) x (ACF)

To select a new Calibration Standard, see page 26.

As a reminder, if you have purchased the Baro Sensor option for your FC20BT, you do not need to adjust for altitude or elevation. The Baro Sensor will make the adjustment for you.

Attach the FC20BT mouthpiece to the regulator by sliding it over the mouthpiece adapter, ensuring a snug fit.

Be prepared to press the **Gas Tank Regulator** button for up to 10 seconds.

Start pressing (gas flow will start)

- Press the **Execute** button on FC20BT to proceed and start a 3 second countdown.
- Press the **Execute** button again to take a sample.
- Continue holding the **Regulator** button for another 3 seconds.

Stop pressing (gas flow will stop)

Read the result. It should be within +/- .005 BAC of the corrected standard used. If your concentration is greater than .100 BAC, accurate results will be within +/- 5%.

Example: A .082 BAC corrected standard should read between .077 and .087 BAC.

If no alcohol is detected, display reads "INVALID CHECK". Please check gas level on your tank regulator and replace tank if empty. Repeat dry gas calibration check instructions on page 32.

(Calibration display flow chart is shown on p. 45)

How to Check Status

This function allows you to check the status and internal conditions of your FC20BT.

Press the **Function** button until display reads "STATUS".

Press the **Execute** button. Display shows Model, Serial Number, Software Version, and Software Release Date.

Press the **Function** button. Display shows Battery Status and battery type.

Press the **Function** button. Display shows Temperature.

Press the **Function** button to exit settings.

Momentarily press **Power** to return to the testing mode.

Fuel Cells

Fuel cells are highly durable sensors that are capable of providing accurate breath alcohol results for years. There are, however, a few precautions you should take to make certain that these devices perform for the longest period of time possible.

Use the device. Fuel cells like moisture, so it is a good idea to take tests periodically to provide needed moisture to the fuel cell, especially in dry climates. You do not need alcohol, just breath.

Avoid cigarette smoke! Make certain no one is permitted to blow cigarette smoke into the unit. This can damage or destroy the fuel cell.

Cleaning

Use of a mild disinfectant cleaner and a soft cloth on the outside of the case is recommended periodically to keep your unit clean. Do not use alcohol to clean the unit.

Batteries

Your FC20BT default setting is for four AA batteries. However, you do have the ability to use NiMH rechargeable batteries as well.

To use NiMH, insert the batteries as directed and power on the unit.

Press the **Function** button until the display reads "SETTINGS".

Press the **Execute** button. Display shows "TIME".

Press the **Function** button until the display shows "BATTERY TYPE".

Press the **Execute** button to change your battery settings.

Press the **Function** button to save your settings.

Momentarily press the **Power** button to return to the testing mode.

The four batteries in your FC20BT should last for about 160 hours of "on" time or up to 6000 tests. It is recommended you use high-quality alkaline batteries with your unit.

Lifeloc Bluetooth Mobile Printer

Your FC20BT is designed for printing with Lifeloc-specific printers such as the Lifeloc Wireless Mobile printer. Please thoroughly read the printer Operations Manual before operating the printer. The wireless printer has been configured and paired with your FC20BT at the factory. Because of this, when you recieve your kit, you simply need to load your Thermalast paper and you are ready to print.

Connecting to the BT Keyboard

Turn on your BT Keyboard by unfolding it. A green light will momentarily appear at the top of the keyboard if it is charged.

Activate the keyboard Bluetooth function by pressing the **'Fn' + 'C'**

Turn on your FC20BT unit.

Your unit display will read "**Connecting...**" and return to your first screen once it has connected to the keyboard.

If your keyboard is not turned on with its Bluetooth function activated, the FC20BT will be unable to locate the keyboard and will flash the message "**Connect FAILED!**" followed by "**Try Again?**":

- If you want to use your keyboard, follow steps 1 and 2 and then press **Exec.** to select Yes. The unit will display the message "**Connecting...**" and will go to your first screen when connected.

- If you do NOT want to use your keyboard, press **Function** to skip the connecting function and you will return to your first screen.

AlcoMark® Explained

AlcoMark is a software program developed by Lifeloc, exclusively for use with Lifeloc's breath testing equipment. AlcoMark software enables you to download, track, store and print test results from your FC20BT to your PC. The AlcoMark CD comes with a cable and instruction manual.

Data Download - With AlcoMark, you can view and download any or all of the tests and any or all of the calibration events stored in the FC20BT to a Microsoft Excel spreadsheet, a comma delimited text fi le or an XML file.

Printout - With AlcoMark, you can print any test result or calibration event stored in your FC20BT through your computer's printer.

Remote Diagnostics - With AlcoMark, you can save time and money by having remote diagnostics performed after downloading information from your FC20 to your computer and e-mailing it to Lifeloc.

Please note: AlcoMark is not Bluetooth capable. You will still need to connect your FC20BT to the computer.

AlcoMark® Set-up

Install the software on your computer using the AlcoMark CD and instruction manual.

Select AlcoMark as your printer by following the printer selection instructions on page 20.

Connect the FC20BT to the serial port on your computer, using the computer cable supplied with AlcoMark software.

Messages Explained

Message	Explanation
<1.3L Retest or Try Manual Test	Breath flow ended before the subject blew 1.3 liters of breath. Instruct subject to try again or use manual test mode.
>0.6	BAC is unusually high and above 0.6 BAC. Subject may require medical attention.
Air Blank Failed	Alcohol was detected during an air blank. Move to another location and retry.
Calibration/Cal Check Expired	Calibrate or Cal Check the unit.
Calibration/Cal Check Expiring	The unit is within 48 hours of the Calibration or Cal Check lockout time.
External Interference	External interference has been detected. Move to a different location and try again. If error persists call Lifeloc Technical Support
Flow Error - Retry & Blow Steadily	Exhalation not complete or interrupted. Instruct subject to blow steadily as long as they can.
Invalid Calibration/Cal Check	No alcohol was detected. Repeat setup, then retest.
Log Empty	There are no test results in the memory.
Low Battery	Battery voltage is too low to take a test. Replace batteries.
Low Li Battery	The internal clock battery is low. Contact Lifeloc Technical Support.
Printer Error	Check that printer is powered on and synched to your unit.
Pump Reset Needed	The pump needs to be reset. Follow onscreen instructions.
Temperature	When calibrating or taking a test, unit is outside of temperature limits. Calibration range = 68° - 95° F (20° - 35° C) Testing range = 32° - 130° F (0° - 55° C)
Timeout	User blew for > 15 seconds. Try again, blow harder.

Lifeloc Factory Warranty

The FC20BT comes with a one year limited parts and labor warranty, effective on the date of purchase by the end-user.

The Warranty covers:

- Parts and labor on covered repairs
- Software updates, as applicable
- Freight back to the customer after the unit is repaired (U.S. only)

The Warranty does not cover:

- Freight to the Lifeloc factory
- Misuse, abuse, negligence or accidents

Lifeloc Technologies, Inc. ("Lifeloc") warrants to the buyer that at the time of shipment from Lifeloc's facilities, all new Lifeloc Equipment purchased through Lifeloc or one of our authorized distributors will be free from defects in material and workmanship, under normal use and service, provided that the buyer gives Lifeloc written notice of any defect within twelve (12) months from original invoice date (the "Warranty"). The term "Lifeloc Equipment" includes all [portable hand-held and fixed station breathalyzers manufactured by Lifeloc], as well as all printers, keyboards, cables, cases, and power supplies purchased as part of a new Lifeloc kit configuration. Software is warranted to perform substantially in accordance with Lifeloc user manuals and to be free from defects in materials and workmanship under normal use and service for a period of twelve (12) months from original invoice date.

The Warranty does not apply if the product has been altered, customized, repaired, reported stolen or modified by someone other than a Lifeloc factory authorized technician, or if parts other than Lifeloc approved parts are used in replacement or repair.

The buyer's exclusive remedy and Lifeloc's sole liability for breach of the Warranty shall be repair, replacement or, at Lifeloc's option, refund of the original purchase price paid by the buyer to Lifeloc for the Lifeloc Equipment that is shown, to Lifeloc's reasonable satisfaction, to be defective in breach of the Warranty ("Defective" and, the defect causing the Lifeloc Equipment to be Defective, a "Defect"). Under no circumstance shall Lifeloc be liable for an amount that exceeds the lesser of the cost of replacement or the original purchase price paid by the buyer to Lifeloc for the Lifeloc Equipment. Lifeloc shall not be responsible for any customer software, customer settings or configuration data or customer test records resident in any products returned for service, repair, warranty or recertification.

Lifeloc assumes no risk for damage in transit. If Lifeloc determines that a Defect was outside of or not covered under the Warranty, Lifeloc will estimate repair and service charges and obtain the buyer's authorization prior to conducting any work to repair the Defective Lifeloc Equipment. Following repair, the Lifeloc Equipment will be returned to the buyer via standard ground transportation prepaid. Express charges, if authorized by the buyer, will be invoiced at the difference between the express charges and the standard return shipping charges.

Lifeloc shall not incur costs related to loss, damage or incomplete or inaccurate paperwork of returned product regardless of origination point.

THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. LIFELOC SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, WHETHER ARISING FROM BREACH OF WARRANTY OR BASED ON CONTRACT, TORT, RELIANCE OR ANY OTHER THEORY.

NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THE FOREGOING WARRANTY, OR IN ANY AGREEMENT BETWEEN THE BUYER AND LIFELOC PERTAINING TO ANY LIFELOC EQUIPMENT, OR AT LAW OR IN EQUITY:

THE WARRANTIES, OBLIGATIONS, AND LIABILITIES OF LIFELOC, AND THE REMEDIES OF THE BUYER SET OUT IN THE FOREGOING WARRANTY, ARE SOLE AND EXCLUSIVE, AND ARE MADE AND ACCEPTED BY THE BUYER IN LIEU OF, AND THE BUYER WAIVES AND RELEASES, ALL OTHER WARRANTIES, OBLIGATIONS, AND LIABILITIES OF LIFELOC, AND ALL OTHER CLAIMS AND REMEDIES OF THE BUYER, EXPRESS OR IMPLIED, ARISING BY STATUTE OR OTHERWISE, WITH RESPECT TO ANY DEFECT IN LIFELOC EQUIPMENT, INCLUDING BUT NOT LIMITED TO THE WAIVER AND RELEASE BY THE BUYER OF THE FOLLOWING: (i) ANY STATUTORY OR IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PURPOSE, (ii) ANY IMPLIED WARRANTY ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE OR USAGE OF TRADE, AND (iii) ANY OTHER RIGHT, CLAIM, OR REMEDY WHATSOEVER OF THE BUYER OR OF ANY PERSON OR ENTITY CLAIMING BY, THROUGH, OR UNDER THE BUYER AGAINST LIFELOC, WHETHER ARISING PURSUANT TO THE FOREGOING WARRANTY, PURSUANT TO ANY AGREEMENT PERTAINING TO LIFELOC EQUIPMENT, OR IN CONTRACT, IN INDEMNITY, IN TORT (INCLUDING, BUT NOT LIMITED TO, NEGLIGENCE), IN PRODUCTS LIABILITY, IN STRICT LIABILITY, OR OTHERWISE. BY ACCEPTING OR USING LIFELOC EQUIPMENT, THE BUYER FURTHER ACKNOWLEDGES, UNDERSTANDS, AND AGREES THAT NO STATEMENT OR REPRESENTATION HAS BEEN MADE BY LIFELOC, OR RELIED UPON BY THE BUYER, THAT IS INCONSISTENT WITH THE FOREGOING WARRANTY.

Without prejudice to the foregoing, Lifeloc shall not have any obligation or liability, and the buyer acknowledges that Lifeloc shall not have any obligation or liability whatsoever,

to the buyer, or to any person or entity claiming by, through, or under the buyer, whether arising pursuant to the foregoing Warranty, pursuant to any agreement pertaining to Lifeloc Equipment, or in contract, in indemnity, in tort (including, but not limited to, negligence), in products liability, in strict liability, or otherwise, (i) for any transportation, installation, removal, reinstallation, adjustment, or other expenses related to any Lifeloc Equipment covered by the Warranty or to other property, (ii) for any damage or loss to any property other than the Lifeloc Equipment covered by the Warranty, or (iii) for any special, indirect, incidental, or consequential damage or loss, even though such expenses, damages, or losses may be foreseeable, including, but not limited to: loss of profits or revenues, loss of use or equipment, cost of capital, cost of substitute equipment, repairs, or facilities, cost of downtime, or cost of purchased or replacement equipment or parts.

The limited remedies of the buyer set forth above shall be exclusive even though they may fail of their essential purpose. No agreement varying or extending the foregoing Warranty, no remedies, no exclusions, or no limitations shall be effective unless in a writing signed by an executive officer of LIFELOC. The correction of any Defect shall in no way extend the duration of the Warranty; only the unexpired warranty term of the Lifeloc Equipment applies to any repaired or replacement Lifeloc Equipment that is provided under the Warranty.

The Warranty is non-transferable and is effective on all Lifeloce Equipment purchased from and after [September 1, 2014]. Rights and recourse may vary by country.

Lifeloc Limited Lifetime Fuel Cell Warranty*

Unless otherwise set forth in the applicable purchase agreement, Lifeloc warrants to the original purchaser of Lifeloc breath alcohol testers that the fuel cell purchased with the instrument shall operate without defect for the life of the instrument subject to the following conditions:

1) Lifeloc shall, at its option, elect to repair or replace any fuel cell returned to Lifeloc as defective.

2) All fuel cells returned to Lifeloc as defective become the property of Lifeloc.

3) Warranty applies only to fuel cells purchased with new instruments after June 1, 2014.

4) Warranty is valid only to the original purchaser of an instrument. Warranty does not pass to subsequent users if the instrument is resold, stolen, donated or given to anyone other than the original purchaser.

5) Warranty is invalidated if, in the opinion of Lifeloc, the instrument has been misused, abused, modified or improperly maintained. Lifeloc shall conduct its normal billable Factory Diagnostic Test on all instruments submitted for Lifeloc Limited Lifetime Fuel Cell Warranty evaluation prior to acceptance by Lifeloc of the Lifeloc Limited Lifetime Fuel Cell Warranty claim.

6) The Lifeloc Limited Fuel Cell Warranty does not apply if the product has been repaired or modified by someone other than a Lifeloc factory authorized technician and/or if parts other than Lifeloc approved parts are used in replacement or repair; or if any Lifeloc serial number has been removed or defaced.

7) Upon subsequent instrument trade-in, there shall be no residual monetary value associated with the fuel cell owing to the owner.

8) The Lifeloc Limited Fuel Cell Warranty does not survive past the end-of service and support life of the instrument as determined by Lifeloc Technologies in its sole discretion.

9) Other than as set forth above, all Lifeloc fuel cells are subject to Lifeloc's standard Warranty.

*Lifetime fuel cell warranty is valid throughout the US and Canada. International Customers please contact Lifeloc directly for specific terms and conditions.

Extended Service Plans

Extended Service Plans are available for your FC20BT. These provide complete coverage for an additional year at a reasonable cost and include free factory diagnostic checks. Call Lifeloc for details or purchase online at www.lifeloc.com/esp.aspx.

Service

If your FC20BT should require repairs or maintenance, Lifeloc is here for you. Just an email or phone call will put you in contact with our technical support personnel. Many minor adjustments can be made over the phone. To reach our service department call 720.317.2190 for an RA number or download the service request form from www.lifeloc.com.

Repairs are completed within 5 days for up to 5 units or it's free.

Notice

The FC20BT is a professional device designed to be used by trained operators in conjunction with a specified, periodic maintenance and calibration/calibration check regimen. **Use by untrained operators or without periodic calibration or calibration checks may result in invalid results or incorrect interpretation of results. FC20BT is not to be used by children under 12 years of age.**

DO NOT DRINK AND DRIVE. Lifeloc strongly recommends that no vehicle or machinery be operated after alcohol consumption. Even small quantities of alcohol can result in driving impairment.

The FC20BT is not waterproof and should not be immersed in or exposed to excessive water. The FC20BT is not suitable for use in a potentially explosive environment. The FC20BT cannot be used inside an oxygen tent.

If instrument will not be used for more than 6 months remove battery to avoid damage to the instrument caused by leaking battery acid.

Disposal of Instrument
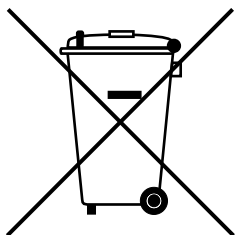
At the end of the instrument's service life:

- Do not dispose of the FC20BT as unsorted municipal waste.
- Dispose of the FC20BT in accordance with national waste disposal regulations.

Specifications

Size	2.6″ x 5″ x 1.25″ (66 x 127 x 32 mm)
Weight [w/ batteries]	9 oz. (255 grams)
Measurement Range	.000 to .600 BAC
Accuracy	$\pm$.005 BAC up to .100 BAC
	$\pm$5% for .100 - .400 BAC Unit will read up to a .600
Battery Life	Approximately 50 hours or up to 1900 tests

We recommend storing the FC20BT in temperatures between 32° - 130° F (0° - 55° C)

Accessories & Supplies

Lifeloc offers a complete line of accessories and supplies for your FC20BT, including:

For the most current listing of supplies for your FC20BT, go to:

• **www.lifeloc.com. Click on Order Products**

You can place your order online, via fax to 303.431.1423 or call Customer Service at 303-431-9500 or 800-722-4872.

Mouthpieces

Rubber Grip

Carrying Cases

Certified Simulator Solution

Dry Gas Standards and Calibration Kits

EASYCAL®
Calibration Station

Available Upgrades

The FC20BT has extended features that can be ordered from the factory. These are not standard on the unit and are only available as special order items.

The available factory options include Auto Air Blank and QWERTY keyboard.

Sample Printouts

Long Printout

```
-----------------------------
Lifeloc Technologies, Inc.
FC20                v6.00
Serial No.          01080
-----------------------------
Units:                BAC

AUTO TEST #           857

Result:               .101
Time:                09:53
Date:          12/12/2005

Last Calibrated:
Cal Standard:         .040
Time:                07:47
Date:           5/11/2005
Temperature:        24.6C

Last Check:
Cal Standard:         .040
Result:               .040
Time:                11:25
Date:           5/14/2005

_____
        Subject

        I.D.
_____
        Operator
```

Short Printout

```
-----------------------------
Lifeloc Technologies, Inc.
FC20                v6.00
Serial No.          01080
-----------------------------
Units:                BAC

AUTO TEST #           857

Result:               .101
Time:                15:26
Date:          05/20/2005
Temperature:        24.6C


_____
        Subject

_____
        I.D.

_____
        Operator
```

Cal/Cal Ck Printout

```
-----------------------------
Lifeloc Technologies, Inc.
FC20                v6.00
Serial No.          01080
-----------------------------
Units:                BAC

Last Calibrated:
Cal Standard:         .040
Time:                07:47
Date:          02/11/2005

Last Check:
Cal Standard:         .040
Result:               .040
Time:                15:26
Date:          02/14/2005
-----------------------------
```

User Settings Chart

```
Settings  — Execute →   Time
                          |
                       Function
                          ↓
                         Date
                          |
                       Function
                          ↓
                    Auto
                    Air Blank
                    (optional)
                          |
                       Function
                          ↓
                      Shutoff
                       Time
                          |
                       Function
                          ↓
                       I.D.
                      Settings
                          |
                       Function
                          ↓
                       Data
                      Field 2
                     (optional)
                          |
                       Function
                          ↓
                      Trigger
                       Mode
                          |
                       Function
                          ↓
                      Security
                      Settings
                          |
                       Function
                          ↓
                       Print
                      Settings ─────→ Execute ──→  Number of
                          |                          Copies
                       Function                        |
                          ↓                         Function
                      Display                          ↓
                      Settings ───────────→ Execute  Print
                          |                          Format
                       Function                        |
                          ↓                         Function
                      Battery                          ↓
                       Type                         Printer
                          |                            |
                       Function                     Function
                          ↓                            ↓
                        Exit                        Printer
                                                   Darkness
                                                      |
                                                   Function
                                                      ↓
                                                     Exit
```

Number of Copies → Function → Print Format → Function → Printer → Function → Printer Darkness → Function → Exit

LCD Contrast → Function → Test Order → Function → Results Format → Function → Pass Level → Function → Fail Level → Function → Exit

Lifeloc FC20BT

Calibration Display Chart
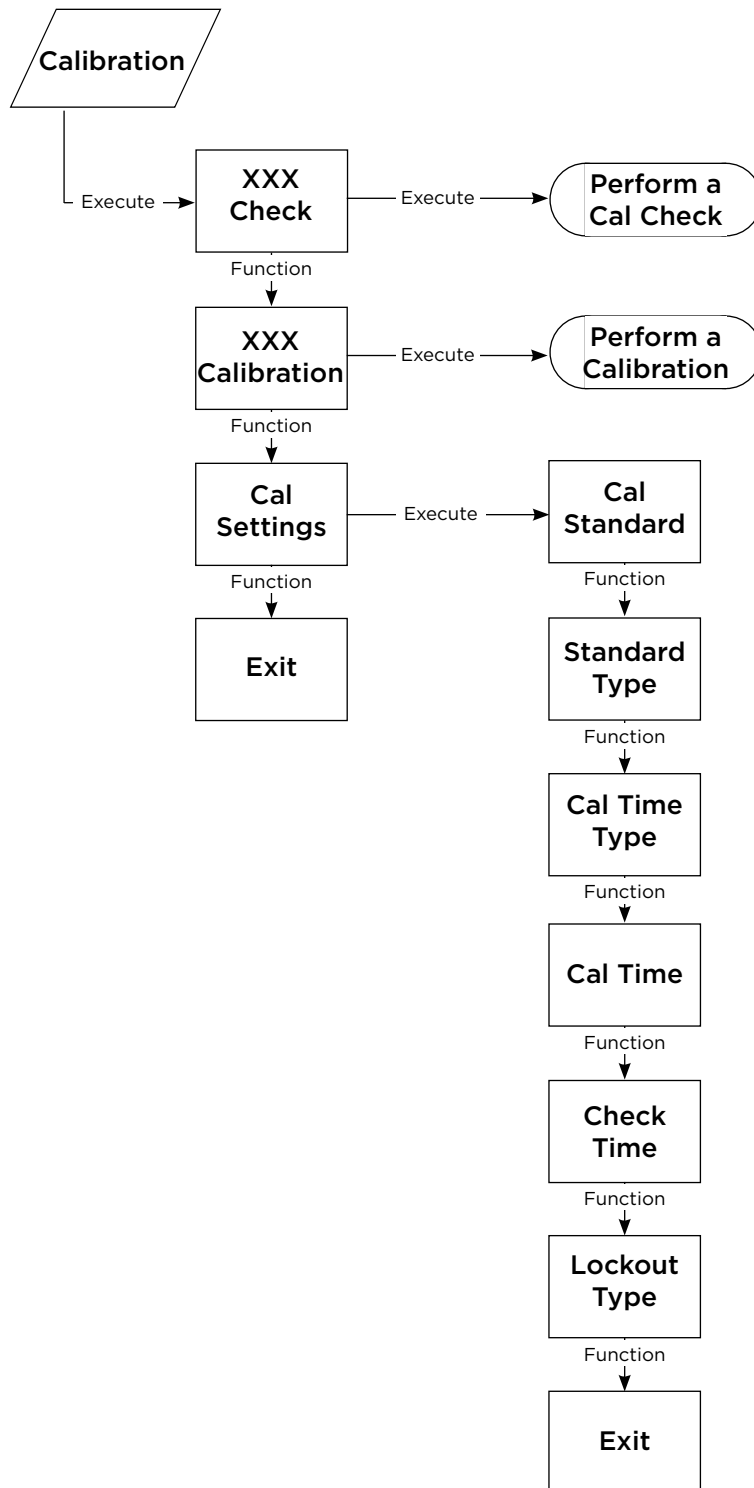
```
        Calibration
             │
             │                    ┌──────────┐   Execute    ╭─────────────╮
             └── Execute ───────► │   XXX    │ ──────────►  │  Perform a  │
                                  │  Check   │              │  Cal Check  │
                                  └──────────┘              ╰─────────────╯
                                    Function
                                       │
                                       ▼
                                  ┌──────────┐   Execute    ╭─────────────╮
                                  │   XXX    │ ──────────►  │  Perform a  │
                                  │Calibration│             │ Calibration │
                                  └──────────┘              ╰─────────────╯
                                    Function
                                       │
                                       ▼
                                  ┌──────────┐   Execute    ┌──────────┐
                                  │   Cal    │ ──────────►  │   Cal    │
                                  │ Settings │              │ Standard │
                                  └──────────┘              └──────────┘
                                    Function                  Function
                                       │                         │
                                       ▼                         ▼
                                  ┌──────────┐              ┌──────────┐
                                  │   Exit   │              │ Standard │
                                  │          │              │   Type   │
                                  └──────────┘              └──────────┘
                                                             Function
                                                                │
                                                                ▼
                                                           ┌──────────┐
                                                           │ Cal Time │
                                                           │   Type   │
                                                           └──────────┘
                                                             Function
                                                                │
                                                                ▼
                                                           ┌──────────┐
                                                           │ Cal Time │
                                                           └──────────┘
                                                             Function
                                                                │
                                                                ▼
                                                           ┌──────────┐
                                                           │  Check   │
                                                           │   Time   │
                                                           └──────────┘
                                                             Function
                                                                │
                                                                ▼
                                                           ┌──────────┐
                                                           │ Lockout  │
                                                           │   Type   │
                                                           └──────────┘
                                                             Function
                                                                │
                                                                ▼
                                                           ┌──────────┐
                                                           │   Exit   │
                                                           └──────────┘
```

Bluetooth Settings Chart
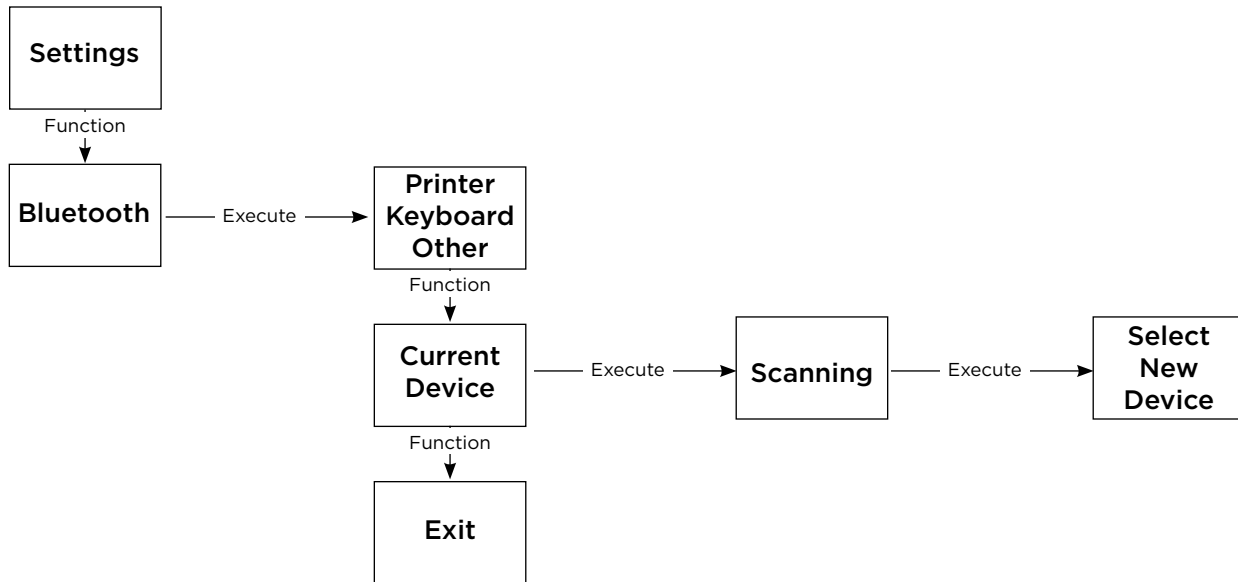
```
┌──────────┐
│ Settings │
└──────────┘
     │ Function
     ▼
┌──────────┐              ┌──────────┐
│          │              │ Printer  │
│ Bluetooth│── Execute ──▶│ Keyboard │
│          │              │  Other   │
└──────────┘              └──────────┘
                               │ Function
                               ▼
                          ┌──────────┐            ┌──────────┐            ┌──────────┐
                          │ Current  │            │          │            │  Select  │
                          │ Device   │── Execute ─▶│ Scanning │── Execute ─▶│   New    │
                          │          │            │          │            │  Device  │
                          └──────────┘            └──────────┘            └──────────┘
                               │ Function
                               ▼
                          ┌──────────┐
                          │   Exit   │
                          └──────────┘
```

Lifeloc
TECHNOLOGIES
Unlock the Power of Alcohol Testing

Hours of Operation: 7:30 am - 5:00 pm MST
If you are calling outside of these hours, please leave us a voice message. We will contact you the following business day!

From our single location in Wheat Ridge, Colorado, we manufacture and service our products with you in mind. Every product is designed with quality and ease-of-use as our priorities. And our 5 Star Service is the fastest in the industry.

Lifeloc breath testers are used across the US and in over 35 countries. We carry all of the accessories and supplies for your breath test equipment. Please call us to reorder supplies and accessories or for information on purchasing additional testers.

Lifeloc FC20BT
Operations Manual