

BACtrack® ECLIPSE



PRODUCT MANUAL

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INTRODUCTION

The BACtrack® Eclipse is a evidential grade alcohol tester, designed to be used by law enforcement professionals to determine the amount of alcohol in the breath.

The BACtrack Eclipse provides a digital result, displaying an estimate of the subject's BAC (Blood Alcohol Content).

Before you begin testing, it is very important to read the entire operator's manual.

It is also very important to have the BACtrack calibrated periodically as recommended on page 19. Failure to do so may result in readings that are inaccurate.

ALCOHOL AND ITS EFFECTS ON THE HUMAN BODY

Alcohol is absorbed from the mouth, throat, stomach, and intestines into the bloodstream.

Alcohol ingested by the human body can be detected in the breath because of its presence in the bloodstream. Alcohol cannot be digested and it cannot be chemically changed in the bloodstream. As the blood flows through the lungs, alcohol in the bloodstream moves across the membranes of the lung's air sacs (alveoli) into the air. The concentration of the alcohol in the alveolar air is directly related to the concentration of the alcohol in the blood. As the alveolar air is exhaled, the alcohol in it can be detected by the breath alcohol testing device.

The alcohol concentration in the breath is related to that in the blood, and because of this, an individual's BAC can be determined by measuring alcohol in the breath. The ratio of breath alcohol to blood alcohol is generally estimated to be 2,100:1. Therefore, 2,100 milliliters (ml) of alveolar air will contain approximately the same amount of alcohol as 1 ml of blood.

ALCOHOL IS A DRUG

Alcohol is the chemical (ethanol or ethyl alcohol) resulting from the fermentation of grapes or grain. Alcohol is absorbed directly into your bloodstream. From your bloodstream, the fluids in your body tissues absorb the alcohol. Your brain is made up of a large concentration of fluids and will absorb a large amount of any alcohol you drink. Your liver eliminates the absorbed alcohol at its own rate of time and nothing you eat or drink can speed up the process. Your liver does this by oxidizing the alcohol (converting it into water and carbon dioxide). Coffee, food or any other "cure" will not sober you up; only time will do that.

HOW DOES ALCOHOL AFFECT MY BODY?

Alcohol is a depressant. It has a relaxing effect on the muscles in your body. The muscles of your eyes relax and lose focus. Your eyesight will become fuzzy and you may experience double vision. Brain activity is slowed. Your judgment, reflexes, and coordination are all negatively affected.

Some vision impairments that occur when you have been drinking include:

- Narrowing of your field of vision
- Reduction in your depth perception
- Decreased ability to see in darkness
- Increased sensitivity to glare and a longer time for your eyes to readjust from the glare

Some mental impairment can occur when you have been drinking, including:

- Reduced awareness of danger
- Becoming overly confident and reckless
- Difficulty in making decisions
- Reduction in balance
- Slowed reflexes
- Impaired judgment

HOW DOES ALCOHOL AFFECT MY DRIVING?

We can't emphasize enough how dangerous it is for you to drink and drive. Your vision and your brain are the most important factors in driving safely. If you jeopardize either by drinking, and then you drive, you are likely to be involved in a serious or fatal collision.

Do not use your BACtrack as a tool to determine whether you should operate a motor vehicle or equipment, or perform any other dangerous act. Do not drink and drive. Always have a designated driver when alcohol is being consumed.

EFFECTS OF ALCOHOL*

0.02–0.03% BAC	Slight euphoria. Loss of shyness Depressant effects are not apparent. Impairment possible in some individuals.
0.04–0.06% BAC	Feeling of well-being, relaxation, lower inhibitions and sensation of warmth. Euphoria. Some minor impairment of reasoning and memory. Lowering of caution. Driving skills may be impaired at this level of intoxication.
0.07–0.09% BAC	Slight impairment of balance, speech, vision, reaction time, and hearing. Euphoria. Judgment and self-control are reduced. Caution, reason and memory are impaired. Driving skills are always impaired at this level of intoxication and higher.
0.10–0.12% BAC	Significant impairment of motor coordination and loss of good judgment. Speech may be slurred. Balance, vision, reaction time and hearing will be impaired. Euphoria.
0.13–0.15% BAC	Gross motor impairment and lack of physical control. Blurred vision and major loss of balance Euphoria is reduced and dysphoria (anxiety, restlessness) begins to appear.

0.16–0.20% BAC

Dysphoria predominates. Nausea may appear.

0.25% BAC

Need for assistance in walking. Total mental confusion. Dysphoria with nausea and some vomiting.

0.30% BAC

Loss of consciousness. Onset of coma. Possible death due to respiratory arrest**.

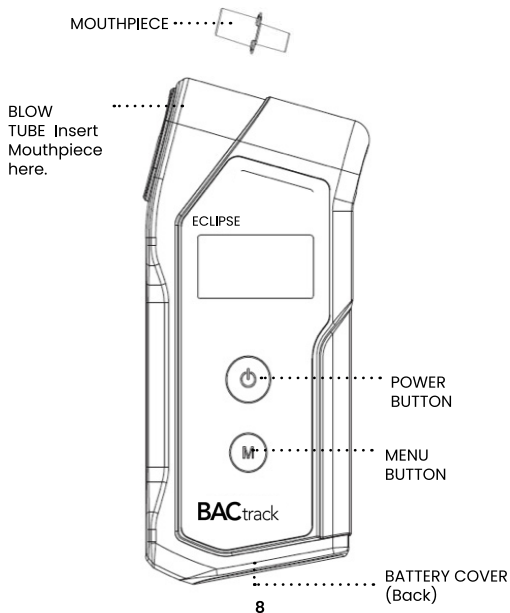
* The effects of alcohol intoxication are greatly influenced by individual variations among users. Some users will be intoxicated at a much lower BAC than shown on the previous page.

** Death can occur at a lower BAC in some individuals.

The generally accepted legal standard for alcohol intoxication in Canada/the United States is 0.08%. However, your driving skills can be impaired at any level above 0.00% BAC. It is never safe to drink any amount of alcohol and drive.

COMPONENTS DIAGRAM

FRONT VIEW



PRECAUTIONS

1. Wait at least 20 minutes after drinking, eating or smoking before testing. Not observing this waiting period can cause inaccurate readings and damage the sensor.
2. Do not blow smoke, food, or liquids into the BACtrack because this will damage the sensor.
3. Do not test in areas with strong winds, smoke, or in an area where a large amount of alcohol is being consumed.
4. Avoid testing in the presence of any substances that contain methyl alcohol, isopropyl alcohol or acetone. These substances may interfere with the results of the test.
5. Replace the two AAA batteries when the battery indicator icon reaches one bar.
6. Send your tester in for periodic calibration service as required. (See Calibration).
7. The BACtrack Breathalyzer is designed to be used in a temperature range of 32-104 °F (0-40 °C).
8. You cannot use the results of this product in court
9. Do not use the BACtrack as a tool to determine whether you should operate a motor vehicle or equipment, or perform any other dangerous act.
10. Do not drink and drive. Always have a designated driver when alcohol is being consumed.

OPERATION

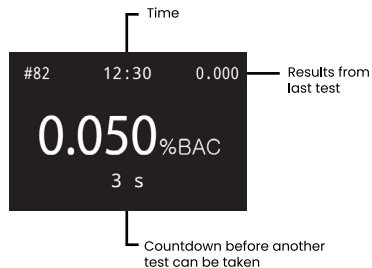
- STEP 1** Install two AA alkaline batteries in the battery compartment.
- STEP 2** Insert a mouthpiece into the mouthpiece slot
- STEP 3** Power on the BACtrack by pressing the power button for 2 seconds.
- STEP 4** The BACtrack will warm up until the "START BLOW" displays with a double beep sound.

STEP 5

Blow through the mouthpiece. The BACtrack beeps and the blue light flashes in the blow tube while the breath sample is collected. There will be two clicks at the end indicating the breath sample has been captured.

STEP 6

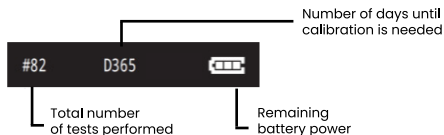
Your estimated BAC result will display for 4 seconds.



In 3 seconds, Retest will appear on the display. Please press the power button to immediately take another test.

Press and hold the power button for 2 seconds to turn off the BACtrack. It will automatically turn off after 3 minutes.

STATUS DISPLAY



MENU OPTIONS

To access the Menu, press and hold the Menu button for 2 seconds during the warm up (see Step 4 in Operation)

Navigating and saving Menu options:

- Press the Power button (up), or, the Menu button (down) to move through the options.
- To select an option, press the Power button for 2 seconds.
- To save the setting, press and hold both the Power and Menu buttons for 2 seconds until a beep is heard.
- To leave the menu without saving, press the Menu Button and hold for 2 seconds.

1 TEST RESULT

The most recent test result will appear.

To see previous test result, press the Power button.

To see the next results, press the Menu button.

To return the menu, press the Menu button for 2 seconds.

The test result will show the following:

Test Number	NO.0082
Result	0.050 %BAC
Date	DATE 02-10-19
Time	TIME 12:30:10

2 TEST MODE

Change the test mode between "Fixed Volume" and "End of Breath" mode.

Fixed Volume mode will take a breath sample when 1.2 liters of air volume is delivered to the device.

End of Breath mode will take a breath sample at the end of a breath, when there is approximately 1.2 liters of air delivered to the device.

3 UNIT

Test results can be displayed in the following units of measure:

- ug/L
- mg/L
- ‰
- mg/100mL
- %BAC (Default)

4 BRIGHTNESS

The brightness of the display can be changed to:

- HIGH
- MID (default)
- LOW

5 SOUND

The following options are available to change the sound volume:

- HIGH
- MID
- LOW (default)
- OFF

6 BREATH VOLUME

The following options are available for Breath Volume:

- 1.2 L
- 1.5 L
- 1.8 L

7 ALARM LIMIT

This setting controls an audible warning based on BAC results. It is off by default. There will be an audible warning while displaying the test result if the test result is equal to or higher than the set alarm limit.

8 INFORMATION

The following information about the device is available:

- Version of Firmware
- The calibration date
- The total number of tests performed

9 SET TIME AND DATE

To change the date and time, press the power button for 2 seconds.

To increase the time and date, press the power button.
To decrease the time and date, press the menu button.

10 CALIBRATION

To enter Calibration mode, press the Power button for 2 seconds.

Enter the pin number. (Default PIN code is 0000) Press and hold the Power button and the Menu button simultaneously for 2 seconds.

Use the Power button and Menu button to toggle between the two options for performing calibration.

- WET 0.05 %BAC
- DRY 0.05 %BAC
- DRY 0.10 %BAC

See Calibration Section page 12 for specific instructions.

11 PIN

To change the PIN number, press the power button for 2 seconds. The default PIN code is 0000. It can be adjusted from 0000 to 9999. Use this option if you wish to restrict access to the calibration settings.

To increase the number of the PIN code, press the power button.

To decrease the number of the PIN code, press the Menu button.

TROUBLE SHOOTING

	What it Means	Action
BLOW ERROR	Breath sample was not sufficient.	Press the power button to retest.
LOW BATTERY	The battery is low.	Insert new AA batteries.
EXCESS MOISTURE	Excess saliva was blown into the sensor during the test.	Wait 20 minutes, and then try again. Contact support backtrack.com if this error code continues to appear.
OUT OF TEMP RANGE	The BACtrack has been stored in an environment outside of the recommended temperature range.	Power off the BACtrack and retest once it has been stored in an acceptable environment.
NO MEMORY CAPACITY AVAILABLE	Calibration service is required. The device will be blocked if the number of tests reaches 10000.	Contact BACtrack to have your device calibrated. www.BACtrack.com/calibration
CALIBRATION SERVICE IS REQUIRED	Reminder use of the device will be blocked when test count reaches 10000.	Contact BACtrack to have your device calibrated. www.BACtrack.com/calibration

SPECIFICATIONS

Detection Range	0.000 – 0.500 %BAC
Accuracy	±0.005 %BAC (at 0.100 %BAC, at 77 °F)
Warm up time	Within 10 seconds at 0.050 %BAC * *Warm up time may vary depending on the BAC measured
Sensor Technology	Fuel Cell
Power Supply	Two AA alkaline batteries, included
Memory Capacity	100 test results with test number, date and time
Battery Life	Approximately 1000 tests
Dimensions (WxHxD)	2.25 x 5.0 x 0.875 inches (60 x 128 x 24 mm)
Weight	4.5 oz (130 g) including batteries
Calibration	Every 12 months or after 500 tests
Operating Temperature	32 – 104 °F (0 – 40 °C)

CALIBRATION

The BACtrack Eclipse is calibrated during manufacture using advanced alcohol simulation equipment. Known alcohol concentrations are passed through the sensor to set baseline values for testing. During testing, the unit compares a user's breath sample to these baseline values.

The accuracy of breath alcohol testers can fluctuate after six to twelve months of normal use, depending on the number of tests performed and operating conditions.

If this product is providing inconsistent test results, is not providing any test results, or provides unusually high or low test results, the product should be recalibrated immediately by a trained professional.

The product should be recalibrated:

- 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 two failed Calibration Checks.

CALIBRATION CHECK

A Calibration Check simply verifies the BACtrack Eclipse 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.”

BACtrack recommends Law Enforcement Personnel perform a calibration check on your BACtrack Eclipse once every 30 days or at intervals specified by your Internal Policies, Quality Assurance Plan, or per State Regulations.

Calibration Instructions

Please visit www.bactrack.com/calibration or call 415.693.9756 for information on how to get your BACtrack calibrated. Calibrations are an important part of the maintenance of your breathalyzer and should be performed regularly.

Law Enforcement Personnel should follow the instructions below to calibrate their unit.

CALIBRATION INSTRUCTIONS

1 Equipment for Calibration

WET GAS	DRY GAS
Simulator Alcohol solution Air Pump Simulator Mouthpiece Adaptor	Regulator with flow meter Dry gas cylinder Simulator Mouthpiece Adaptor

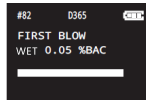
2 Equipment for Calibration

TYPE	WET	DRY
Alcohol solution	0.05 %BAC	0.05 or 0.10 %BAC
Flow rate	12 L/min	4 L/min
Blow time	4 s	4 s
Ambient temp.	25 ± 2	
Solution temp	34 ± 0.1	—

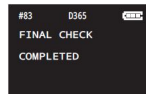
3 Accessing Calibration Mode on the BACtrack Eclipse

After the equipment is prepared, place the BACtrack in calibration mode by going to the menu item 8 – Calibration.

- a. During the product warm up, press and hold the menu button for 2 seconds
- b. Press the power button twice to get the Calibration menu option
- c. Press the power button for 2 seconds to enter the Calibration menu option
- d. Enter the PIN code, press and hold the power and menu buttons simultaneously for 2 seconds
- e. Choose the Calibration option and then press and hold the power and menu buttons simultaneously for 2 seconds
 - i. WET 0.05 %BAC
 - ii. DRY 0.05 %BAC
 - iii. DRY 0.10 %BAC



Attach the BACtrack to the simulator. Follow the instructions on the screen. Blow 0.05% BAC alcohol solution through...

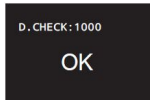


When the calibration has been successfully completed, "Completed" will appear and the BACtrack will turn off.

4

Wet Bath Calibration

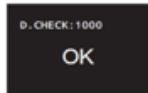
Device Check – Press the power button if "OK" appears on display. If the message "Fail" appears, the unit can not be calibrated. Please contact support@bactrack.com.



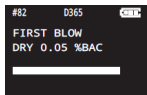
5

Dry Gas Calibration

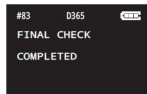
Enter the altitude for the current location. Range: 0 – 1000 m. Press and hold the power and menu buttons simultaneously for 2 seconds.



Device Check – Press the power button if "OK" appears on display. If the message "Fail" appears, the unit can not be calibrated. Please contact support@bactrack.com.



Attach the BACtrack to dry gas. Follow the instructions on the screen, to blow 0.05% or 0.10 % BAC through the BACtrack for the specified periods of time.



When the calibration has been successfully completed, "Completed" will appear and the BACtrack will turn off.

Performing a Calibration Check

Using the calibration equipment listed above and 0.05% BAC solution, attach the Eclipse to the simulator. Power on the BACtrack Eclipse and take a test.

The results should be within ± 0.005 BAC of the standard used. Example: A 0.05% solution should read between 0.045 and 0.055 BAC.

OBTAINING WARRANTY SERVICE

CALIBRATION ERROR MESSAGES

Messages	What it Means	Action
Peak low	The characteristic value of sensor is not enough to complete the calibration process.	1. Conduct the calibration process again after 30 minutes of waiting. 2. Contact support@bactrack.com
A low		
average low	A gap in measurement value between the first and second blowing is too wide to complete the calibration process.	
ratio over		

DO NOT DRINK AND DRIVE

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Questions?

We're here to help.



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M-F, 9am-5pm PST



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