

INFRARED BREATH TESTING DEVICE



STUDENT MANUAL

Vermont Criminal Justice Training Council/Vermont Department of Health
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Infrared Breath Testing Device Student Manual

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PLEASE NOTE:

The information provided herein is not designed to make the operator an expert on the BAC DataMaster. Proper operation of the BAC DataMaster does not require an understanding of infrared technology, respiratory physiology, or microprocessing. The Infrared Breath Testing Certification is intended to ensure that officers can determine when an instrument is operating properly, and administer a test in accordance with the instructions/questions prompted by the instrument.

INFRARED BREATH TESTING

Training Goals and Objectives

Learning Goal

To certify Vermont law enforcement officers in the operation of the BAC DataMaster and enable them to obtain a breath sample from a DUI subject to determine the breath alcohol concentration.

Objectives

As a result of this training, students will be able to:

- a) Ensure the DUI subject has been advised of his/her rights appropriate to this test and that the 15-minute observation period is properly administered.
- b) Determine the BAC DataMaster breath-testing instrument is prepared to analyze a breath sample.
- c) Operate the BAC DataMaster breath-testing instrument in accordance with the instructions/questions prompted by the instrument.
- d) Verify that the BAC DataMaster completes the performance checks according to the prescribed sequence.
- e) Inspect the test record (evidence ticket) to ensure all information is printed accurately.
- f) Make a log entry of the subject test at the time the test is completed.
- g) Ensure that the subject has a copy of the evidence ticket.
- h) Be prepared to testify in court about the procedure followed in operating the BAC DataMaster.

SECTION I

SCIENTIFIC PRINCIPLES

The information provided in this section is for reference purposes only. An understanding of this material is not necessary to properly and effectively operate the BAC DataMaster breath testing device.

SCIENTIFIC PRICIPLES

A law in science is a statement of an order or relation that, as far as is known, is invariable under a given set of conditions. In other words, under the same set of conditions, the same things will happen each time. The following gas laws are applied in the design and operation of breath testing instruments.

Henry's Law

This law, discovered in 1803 by William Henry, a noted British chemist, applies to all breath testing regardless of the type of instrument used. If a water solution of a somewhat volatile chemical compound (ethyl alcohol) is brought to equilibrium with air at a constant pressure and temperature, a fixed ratio exists between the concentration of the compound in air and the concentration in water.

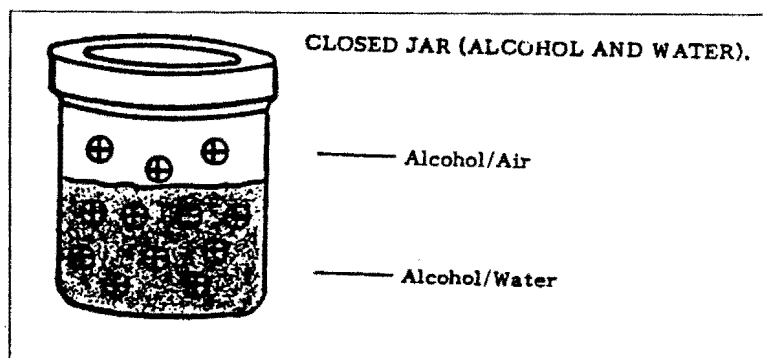


Figure 1: Alcohol and Water Jar

Volatile refers to any compound that evaporates rapidly. A state of equilibrium exists when there is no further change in the concentration of alcohol in the air and the concentration in the liquid. Figure 1 represents a closed jar containing an ethyl alcohol-water solution with an air space above the solution. Being volatile, ethyl alcohol will evaporate into the air space above the solution. Equilibrium is reached when there is no change in the concentration of alcohol in either of the two phases of the system.

The application of Henry's Law occurs in the innermost part of the lungs. In this region, blood and air (breath) are in contact with one another. Just as in the closed jar example, alcohol in the blood will evaporate until a state of equilibrium is reached between the alcohol in the blood and the alcohol in the breath. This principle of Henry's Law accounts for the fact that by taking a breath sample, the concentration of alcohol in the blood can be determined.

Henry's Law is also applied in the use of a breath alcohol simulator that is used as a reference sample in the BAC DataMaster instrument. Here a solution of ethanol in water is heated to 34 degrees Celsius and allowed to come to equilibrium. An amount of alcohol initially put into the water will cause a concentration in the air above the water to be about the same as a 0.10 g/210L breath sample. This remains the same as long as alcohol is not removed from the system.

Beer-Lambert Law

Documented by Lambert in 1760 and later detailed by Beer, the Beer-Lambert Law applies to those breath-testing instruments, which utilize the principle of absorption of infrared energy by ethyl alcohol. As infrared energy and a breath sample are introduced into the breath test instrument, a measured amount of the infrared energy is absorbed. The energy absorbed is directly proportional to the amount of alcohol in the

breath sample. The greater the amount of alcohol in the sample, the greater the absorption of infrared energy. This law also says that over the range of physiologically meaningful alcohol concentrations the relationship of absorption to concentration remains constant and is considered to be linear.

INSTRUMENTATION

Please note that the information provided in this section is not designed to make the operator an expert on the BAC DataMaster design and operational principles. It is to provide a basic understanding of what an instrument is doing during a breath test.

The BAC DataMaster currently in use in Vermont was originally developed in 1985. Its forerunner, the BAC Verifier was introduced in the United States in 1981. The operation of the instrument and storage of test data are controlled by a microcomputer. The instrument employs the principle of absorption of infrared energy to identify the presence of ethyl alcohol in a sample and to determine the amount of alcohol present.

Infrared spectroscopy has been used for many years as an analytical method in chemistry. It can be used to characterize unknown compounds or to quantify the amount of some known compound in a sample. Infrared energy spans one small portion of the electromagnetic spectrum, which includes gamma rays at the high-energy end of the spectrum through ultraviolet and visible light all the way to lower energy radio waves.

Violet Blue Green Yellow Orange Red	Electromagnetic radiation Name of Region	Wavelength	Energy
	Gamma Rays	Short	High
	X rays		
	Ultraviolet		
	Visible		
	INFRARED		
	Microwaves		
	Radar		
	TV & FM		
	AM radio waves		
	Electric Current	Long	Low

Figure 2: EM Spectrum Chart

The chart above shows types of electromagnetic energy in order of increasing wavelength.

A prism or grating can be used to separate visible light into its individual colors. This is a very simple example of spectroscopy. A rainbow after rain also displays the colors that are present in light. Light is one form of electromagnetic energy, which travels in rays or waves. The description of the electromagnetic radiation can be given as units of energy or as a measure of the length of the wave of energy produced.

Infrared 'light' separated into its individual bands of energy can be used to detect the presence of ethyl alcohol in an air sample and by applying the Beer-Lambert Law, the amount of alcohol in the sample.

The principle of infrared absorption is based on scientific observations that molecules of various chemical compounds will absorb infrared energy at certain wavelengths. Since these observations are repeatable, they form the basis for a scientific law.

The absorption of infrared energy by ethyl alcohol can be used for both qualitative identification of the presence of the alcohol in a breath sample and the amount present. By looking at the complete absorption spectrum of ethyl alcohol, we can determine at what wavelengths it is the most specific. Ethyl alcohol absorbs infrared energy at two distinct wavelengths in the 3 to 4 micron range. The instrument uses filters to isolate infrared energy at these specific wavelengths. When these wavelengths are monitored in an instrument designed to accept breath samples, the presence of alcohol is determined by the loss of energy from a steady source reaching an infrared energy detector.

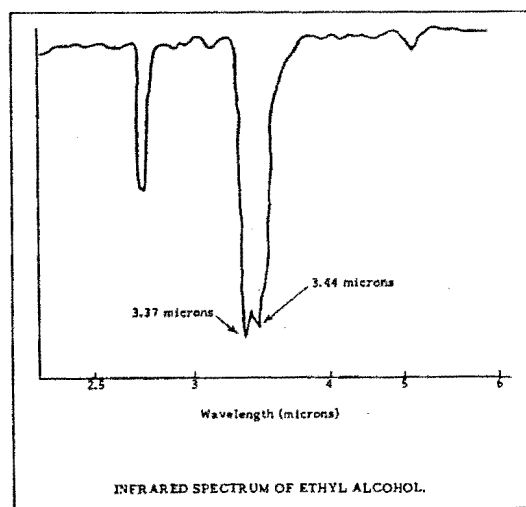


Figure 3: Partial IR Spectrum of ETOH

The amount of alcohol present is determined by measuring the amount of infrared energy absorbed by the alcohol in the sample relative to the amount of energy absorbed by a sample with a known amount of alcohol in it. An instrument is calibrated for quantifying the amount of alcohol present in an unknown sample by first introducing a sample of known amount and defining the amount of light absorption for that sample as representative of that concentration. Any sample showing greater or lesser absorption will have greater or lesser amounts of alcohol in them proportionately.

SECTION II

OPERATIONAL PRINCIPLES

Operational Principles of the BAC DataMaster

Basic Components of the BAC DataMaster

1. IR Source. A lamp which emits infrared energy (light).
2. Sample Chamber. The volume of the sample chamber is approximately 50 cc. The chamber is composed of three parallel sections with a total length of 1.1 meters through which the infrared energy passes. Mirrors are used to reflect the light through the entire length of the chamber.
3. Filters. The filters are used to isolate a specific wavelength by filtering out all other wavelengths. The BAC DataMaster has two filters, one, which filters infrared energy at 3.44 microns (Ethanol) and a second, which filters infrared energy at 3.37 microns (Acetone). The purpose of the second filter is to separate other compounds, such as acetone, that could be in the individual's breath and that also absorb infrared energy at or near the same wavelength as ethyl alcohol.
4. Quartz Standard. An internal quartz plate with a known infrared absorption for verification of calibration.
5. Chopper. A device, which breaks up the light into shorter, beams or pulses before they reach the detector.
6. Detector. The detector is used to determine the amount of infrared energy. The amount of infrared energy absorbed is proportional to the amount of ethyl alcohol present in the sample.
7. Microcomputer. The microcomputer controls the test sequence and instructs the electronic components to automatically perform the various functions during the analysis. It also provides the instructions for storing the data collected on each test.
8. Simulator. The simulator is designed to contain a water-ethanol solution and is attached to and housed in the BAC DataMaster. The simulator is a temperature-controlled instrument that provides a high precision ethanol-air standard. The solution in the simulator is maintained at a temperature of 34 degrees (+ or - .5 degrees) Celsius by an internal heater.

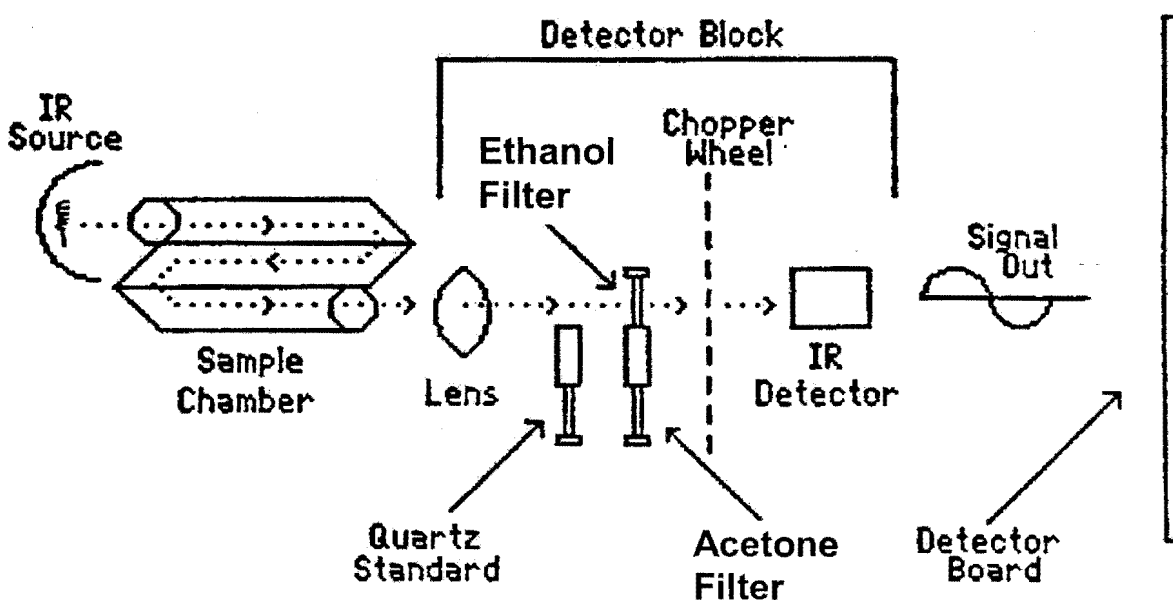


Figure 4: Basic DataMaster Components

External Features of the BAC DataMaster

1. LCD. The liquid crystal display (LCD) identifies each part of the test procedure as it occurs and provides information to the operator to complete the test. The LCD displays 24 characters, which can be letters, numbers, or symbols.
2. Supervisor Panel. The supervisor control panel contains a set of buttons or pads, which control special functions. This is not found as a separate keypad on instruments having s/n 95xxxx or higher. The equivalent functions are found on the upper row of the built-in keyboard.
3. Evidence Ticket Slots. There are two slotted openings on the lower left front of the instrument. An evidence ticket is inserted in the lower slot when prompted by the DataMaster. When the test is completed, the ticket will be ejected through the upper slot.
4. RFI Antenna. The Radio Frequency Interference antenna monitors the instrument environment for the presence of RFI during the test. Operation of the DataMaster is canceled when RFI is present.
5. Power Cord. The power cord is attached to the rear of the instrument.
6. Power ON/OFF Switch. The power ON/OFF switch is located on the rear panel. Power to the instrument is always left on in normal use. Only a DataMaster supervisor, VT. Health Department Alcohol Program staff member or VT. Health Department designee should turn off an instrument except in emergency situations.
7. Heated Breath Tube. An electrically heated tube which provides a breath path from the mouthpiece to the sample chamber.
8. CPY (COPY) Button. Will print a copy of the last test run providing the power has not been turned off, or no other buttons or keys have been pressed.

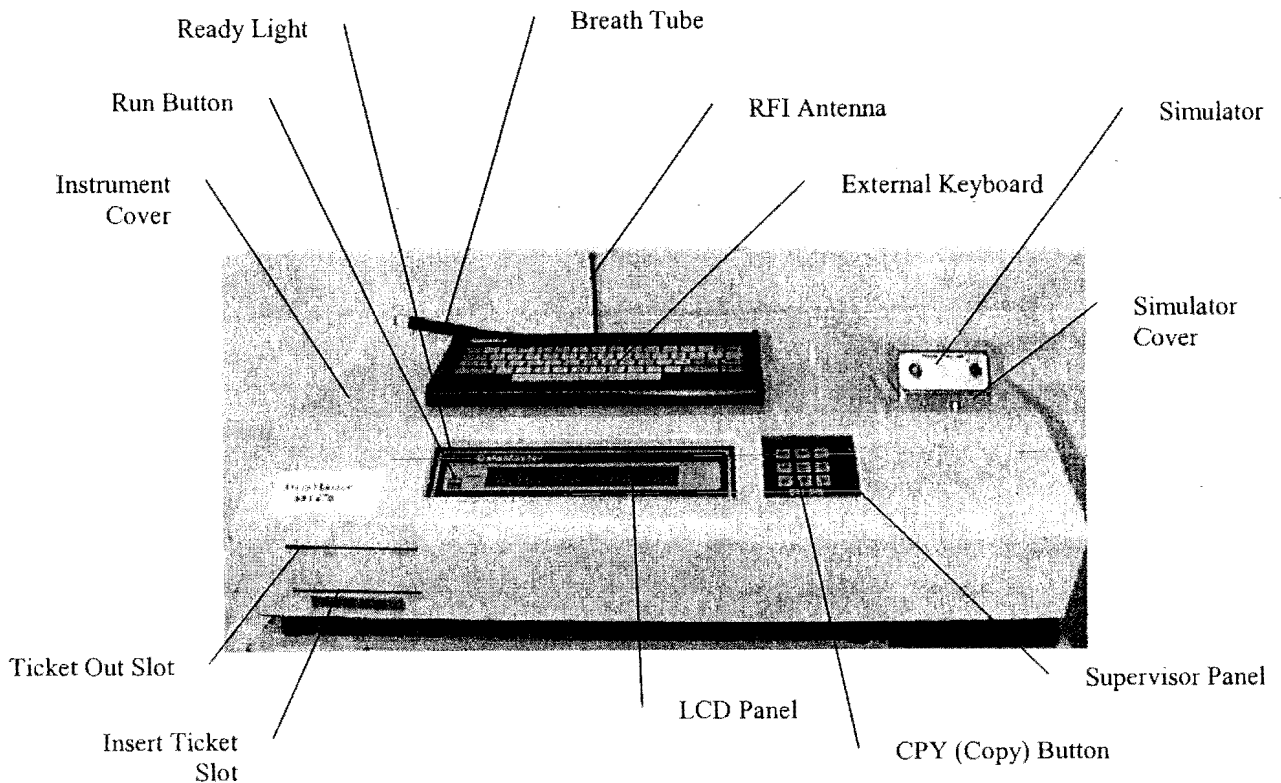


Figure 5: 88XXXX DataMaster External Components

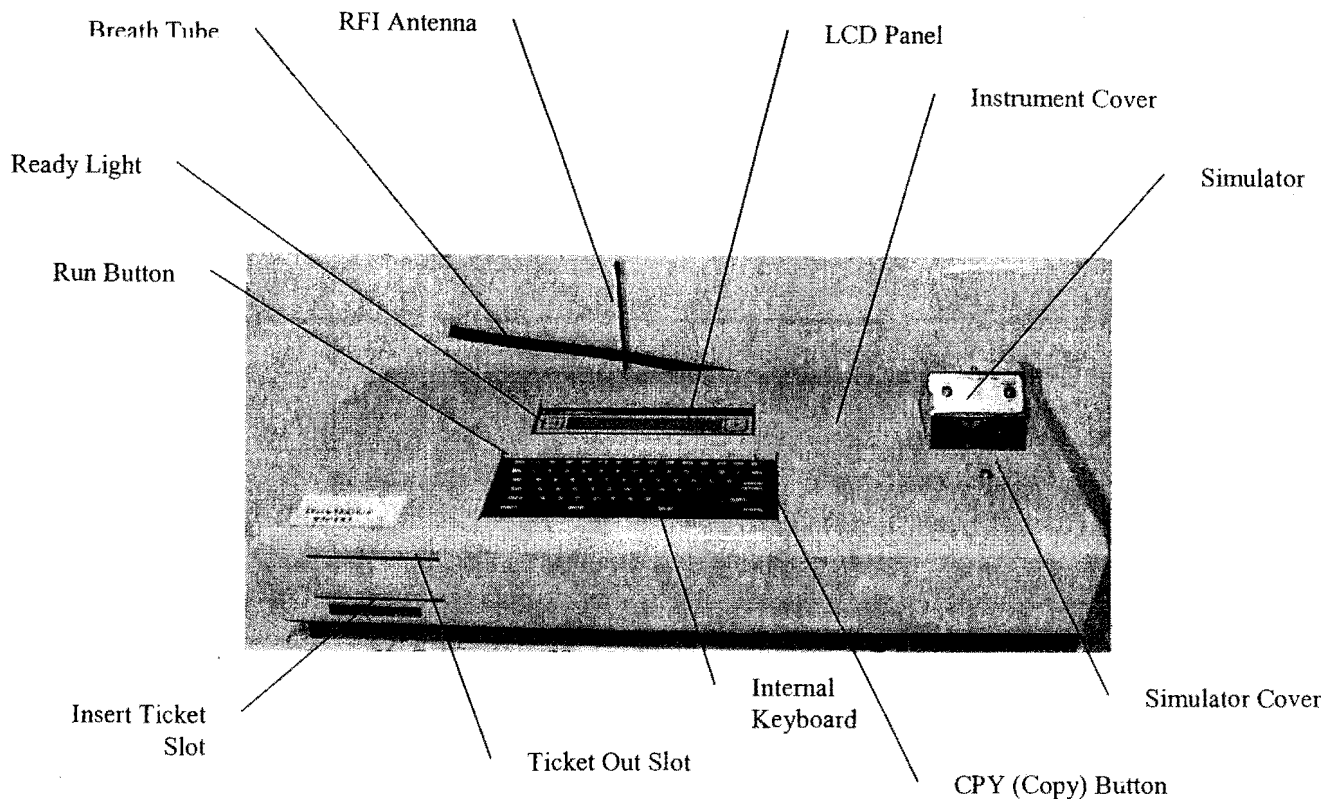


Figure 6: 95XXXX DataMaster External Components

The BAC DataMaster breath-testing instrument is designed to undergo a number of processing steps to assure fair and accurate analysis of a breath sample introduced into it. These steps include checking components for function; checking detector response; adjusting a measurement baseline to ambient air; introducing an external standard of simulated breath containing alcohol vapor; measuring the quality of breath; and monitoring heated zones within the system for appropriate temperature to avoid measurement bias due to condensation.

The figure below is a general graphic example of the monitoring of a breath sample to assure that what is measured meets minimal criteria. Both alcohol concentration and breath volume criteria must be met for the analysis to be completed and reported as a breath alcohol concentration. As a sample is introduced into the instrument the flow rate is continually monitored. When the minimum flow rate is achieved it must remain at or above that rate for enough time to account for delivery of at least 1.5 liters of breath. Simultaneously the alcohol concentration in the sample is monitored four times per second. A valid breath sample is expected to show a fairly rapid rise in concentration with a leveling off to a fairly constant amount as breath continues to flow. If these criteria are met the instrument will report a breath alcohol concentration.

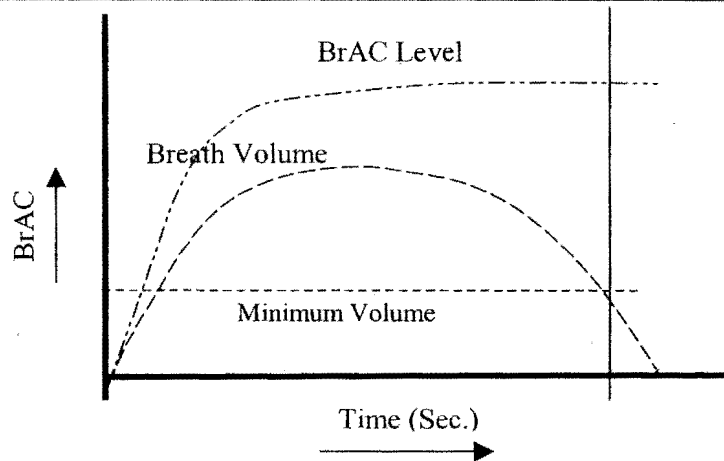


Figure 7: BrAC/Breath Volume vs. Time

Initial Installation and Out of Service Start-Up Procedure

Only trained DataMaster Supervisors, Department of Health Alcohol Program staff or their designees may turn on instruments being initially installed or being started up after having been out of service. Officers certified solely in the operation of the DataMaster for use in processing DUI subjects are not required nor qualified to perform this function.

Steps of Operation of BAC DataMaster

- Step 1: ---Visually observe subject for any evidence of food, gum, tobacco, or any other foreign matter in the mouth. Ask subject if she/he has any food, gum, tobacco, or anything else in their mouth. Have anything found in the mouth removed before starting 15-minute observation period. Record the time of this examination using either the DataMaster LCD clock, the clock in the agency or processing room, or your own watch. Record which one you use and compare to the DataMaster time. Begin 15-minute observation period. **NOTE:** Time of the breath test will be recorded automatically by the BAC DataMaster. If at any time during the observation period the subject burps, belches, or vomits, the 15-minute observation period MUST be restarted.
- Step 2: Confirm power (display) to BAC DataMaster is on and that the green "READY" light is on. Always leave instrument turned on.
- Step 3: Confirm breath tube is heated by touching it.
- Step 4: The DataMaster displays the date, time, "READY" and a flashing "PUSH RUN". The operator must push the RUN button to begin the breath analysis process.
- Step 5: The instrument will then display: "INSERT TICKET"
Follow instructions on ticket, which indicate "This Side Down - This Edge In". Insert the evidence ticket face down into the lower slot marked "INSERT TICKET".

Step 6. The DataMaster will then sequentially prompt the operator to enter the information for twelve (12) pre-programmed questions, which pertain to the subject and circumstances of the DUI incident. The questions are as follows:

"CASE NUMBER"
 "TOWN CODE"
 "SUBJECT'S NAME"
 "SUBJECT'S DOB MM/DD/YY"
 "SUBJECT'S SEX"
 "LOCATION OF STOP"
 "TIME OF STOP HH:MM"
 "ACCIDENT? (Y/N)"
 "TEST OPERATOR'S NAME"
 "OFFICER ID NUMBER"
 "DEPARTMENT"
 "REVIEW DATA (Y/N)"

See pages 24-28 for more specific information about the format for data entry for these items.

After all the above data have been entered correctly, two events will occur simultaneously:

1. Data will be entered into the memory of the instrument.
2. The BAC DataMaster will begin the breath test sequence.

Step 7: The instrument will sequentially display the following:

"PURGING .### " - Room air is being pumped into sample chamber through the breath tube.

"AMBIENT ZEROING" - Establishing zero reference based on room air in sample chamber.

"BLANK TEST" ### - Check of sample chamber for contaminants.

"INTERNAL STANDARD" .### - An automatic check by the instrument to ensure the DataMaster is functioning properly.

"EXTERNAL STANDARD" .### - The DataMaster automatically analyzes air sample from the external standard (simulator) attached to the instrument.

"TEST RESULTS ALCOHOL" .### - The result from the external standard analysis is displayed.

The result of the external standard test should be between .090 and .110, inclusively.

If the external standard is less than .090 or greater than .110, then:

1. Instrument will display "Simulator Out Of Range" on LCD and ticket.
2. Start testing procedure again.
3. If the Instrument displays "Simulator Out Of Range" on LCD and ticket again, it will not allow further operation and will be out of service until the DataMaster Supervisor takes appropriate action.
4. Take subject to another DataMaster instrument or take to hospital to have blood drawn.

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5. Report "Simulator Out of Range" to your DataMaster Supervisor.

After the external standard is run, the instrument then displays:

"PURGING"
"AMBIENT ZEROING"
"BLANK TEST"

Step 8. "SUBJECT TAKE TEST (Y/N)"

- A. If the subject consents to the breath test, type "Y".
- B. If the subject refuses to provide a breath sample, type "N" for a refusal. The evidence ticket, when printed, will document the refusal and the breath sampling sequence will automatically end at this point. All refusals must be documented with an evidence ticket.

Step 9: If the subject has consented to the breath test, the display now flashes: "PLEASE BLOW".
An intermittent tone will be heard.

Insert a new mouthpiece into the breath tube.

NOTE: Each mouthpiece is in its own plastic bag. Open one end of the plastic bag. Use the plastic bag to avoid *touching the mouthpiece* as you firmly insert the mouthpiece into the breath tube. Be sure that no plastic from the bag remains on the mouthpiece end to obstruct breath flow.

At this time, the operator will instruct the subject to provide a slow, consistent, continuous breath sample through the mouthpiece attached to the breath tube of the instrument. This may take 6-12 seconds or longer depending on the individual. The internal electronics of the instrument determine when an adequate sample has been obtained. It is not necessary to instruct the subject to take a deep breath prior to giving sample.

As the subject complies, the words "PLEASE BLOW" no longer flash, but remain on the display and a steady tone will be heard. Subject must continue to blow until told to stop by the officer. A BAC result will then appear for only a few seconds in the lower right hand corner of the display. Inform the subject of this test result.

"TEST RESULTS
ALCOHOL" .###

Operator must **immediately** remove the mouthpiece and discard it.

Step 10: The following displays will then appear on the LCD:

"PURGING"
"2ND TEST REQUESTED (Y/N)"

Step 11: The operator must inform the subject of the result of the evidentiary test and ask if the subject wishes to have a second test. If the subject declines the second test, the operator should enter "N" and an evidence ticket will be printed. The evidence ticket will indicate the result of the evidentiary test, and will also show "SECOND TEST NOT TAKEN" and "SIMULATOR

TEMPERATURE” with the specific temperature of the simulator at the time of the test sequence.

If the subject requests a second test, the operator should press “Y”.

The instrument will then display:

“PURGING”
“AMBIENT ZEROING”
“BLANK TEST”
“INTERNAL STANDARD CHECK”
“EXTERNAL STANDARD”
“TEST RESULTS ALCOHOL”
“PURGING”
“AMBIENT ZEROING”
“BLANK TEST”

Following completion of the blank test, the instrument will display:

“PLEASE BLOW”

The operator should insert a **NEW** mouthpiece in the breath tube and instruct the subject to provide a breath just as was done during the first test.

Once a sufficient sample has been collected, the instrument will display:

“TEST RESULTS
ALCOHOL” .###

The operator must **immediately** remove the mouthpiece and discard it.

“PURGING”

An evidence ticket will then be printed.

After the evidence ticket has been printed, the ticket will advance through the upper slot on the front of the instrument.

Remove the ticket **after** the printer has stopped.

NOTE: The evidence ticket is printed in triplicate. It is intended that:

1. The top sheet (white) goes with the rest of the paperwork of the case to the State’s Attorney.
2. The second sheet (yellow) is retained by the arresting officer.
3. The third sheet (pink) is given to the subject.

NOTE: If you get an incomplete or unreadable ticket from the DataMaster another ticket can be printed by following these steps:

1. Press the “CPY” key on the keyboard or supervisor panel.
2. Insert a new evidence ticket when prompted by the DataMaster display.
3. The instrument will take the ticket automatically and print another copy of the information from information from the most recent test sequence.

DATA REVIEW PROCEDURES

The BAC DataMaster will ask you 12 questions regarding your DUI arrest. Use the keyboard to type in answers (data) to these questions. Use the backspace to correct typing errors as you enter the data. After each answer, press the return key to advance the display to the next question. When you answer the last question (and press the return key), the display will ask, "Review Data". Type "Y" for yes. The first question will reappear. Pressing the return key advances the display to the next question. If you find data has been entered incorrectly, there are two methods available to correct it.

1. Press control and "I" keys simultaneously. This will move the cursor to the right.
2. The backspace key can also be used. This will move the cursor to the left.
3. The delete key will remove the character that the cursor is on.

Note: As you type in each character (letter and number), you will hear a beep. If a disallowed character is typed, you will hear a louder beep and the character will not be displayed. The table below summarizes how to correct answers (data) to the operator questions.

Modes

<u>Press Key(s)</u>	<u>Enter Mode</u>	<u>Review Mode</u>
BACKSPACE	Erases one character at a time; moves cursor left.	Does not erase; moves cursor left one at a time.
CONTROL AND X	Erases entire line; puts cursor at the start.	Does not function.
CONTROL AND I	Does not function.	Does not erase; moves cursor right one space at a time.
DELETE	Does not function	Deletes the character the cursor is on; leaves no space.

NOTE: After editing data the instrument will ask if you again wish to "Review Data". If you are satisfied that the information is correct, press "N" for no.

NOTE: The following is a representative list of error messages that may appear. If any of the following messages are displayed, the instrument will not function:

"FATAL SYSTEM ERROR"

"CALIBRATION ERROR"

"TEMPERATURE HIGH" or "TEMPERATURE LOW"

"DETECTOR OVERFLOW"

"PUMP ERROR"

"SIMULATOR TEMPERATURE ERROR"

You may attempt to restart the test by pushing the “RUN” key.

A. If the message persists:

1. Take subject to another DataMaster instrument or have blood drawn.
2. Report instrument out of service to your DataMaster Supervisor.
3. Retain error ticket and attach to your case.

TIME RESTRICTIONS ON DATA ENTRY AND PROCESSING

The operator will have approximately five (5) minutes when prompted to enter data. If data is not entered, the instrument will return to the beginning of the data entry procedure. When prompted by the instrument for a decision (“Subject Take Test [Y/N]”, “Review Data”, or “Use Previous Data”) the operator will have one (1) minute to enter the reply.

Once the data has been entered, and the “Please Blow” prompt is displayed, the subject will have approximately two (2) minutes to give a sample. If a sample is not given, the instrument will return to the “Subject Take Test” prompt.

ERROR MESSAGE RESPONSES

If any of the error messages given below appear on the DataMaster instrument display, follow the appropriate instructions for response to that message that are listed below. It is recommended that, when the DataMaster operator is unable to clear the error message and resume processing, a notice be placed on the instrument, which states "OUT OF SERVICE" until the DataMaster Supervisor or Department of Health Alcohol Program staff corrects the problem.

1. BLACK BAR appears on upper half of display.

- A. Turn instrument OFF with switch at rear of instrument.
- B. Wait one (1) minute and turn instrument ON.
- C. If dark bar remains:
 - 1. Take instrument out of service by turning it off with the ON/OFF switch on the back panel of the DataMaster.
 - 2. Post notice on DataMaster stating "Out of Service."
 - 3. Contact your DataMaster Supervisor for corrective action.

2. INCORRECT TIME appears in upper right corner of display.

- A. Contact DataMaster Supervisor for corrective action.
- B. Record discrepancy.

3. INCORRECT DATE appears in upper left corner of display.

- A. Contact DataMaster Supervisor for corrective action.
- B. Record discrepancy.

4. KEYBOARD does not function.

- A. Disconnect keyboard from rear of instrument.
- B. Reconnect keyboard into terminal marked "KEYBOARD" at rear of instrument.
- C. If keyboard still does not function post notice on DataMaster stating "Out of Service."
- D. Contact DataMaster Supervisor for corrective action.

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5. **“NOT SET UP”** - default options not located in instrument.
 - A. Contact DataMaster Supervisor for corrective action.
 - B. Post notice on DataMaster stating "Out of Service."

 6. **“SYSTEM WON'T ZERO”** - message appears when instrument is unable to zero.
 - A. Remove mouthpiece from breath tube.
 - B. Open windows or use fan to draw fresh air into room.
 - C. Start testing procedure again.
 - D. If “SYSTEM WON'T ZERO” message remains:
 1. Place fresh mouthpiece on breath tube.
 2. Alternately blow into and suck back strongly and rapidly on mouthpiece 5-6 times.
 3. Start testing procedure again.
 - E. If "SYSTEM WON'T ZERO" message remains:
 1. Post notice on DataMaster stating "Out of Service."
 2. Contact DataMaster Supervisor for corrective action.

 7. **“PLEASE BLOW”** flashes - but instrument does not take sample
 - A. Remove mouthpiece from breath tube and replace with a new mouthpiece.
 - B. Have subject provide breath sample again.
 - C. If “PLEASE BLOW” error message remains:
 1. Turn instrument OFF for one minute
 2. Turn instrument ON and wait for “READY - PUSH RUN” to appear on display panel.
 3. Start testing procedure again
 - D. If “PLEASE BLOW” error message remains:
 1. Post notice on DataMaster stating "Out of Service."
 2. Contact your DataMaster Supervisor for corrective action.
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8. **“PRINTER ERROR”** - evidence ticket has jammed or printer has malfunctioned.
- A. Gently remove evidence ticket.
 - B. Press **CPY** button on the supervisor panel [s/n 88xxxx] or keyboard [s/n 95xxxx or later].
 - C. Insert evidence ticket in lower slot when prompted by instrument display screen.
 - D. A new evidence ticket will be printed.
 - E. This process can be repeated as needed until another test of any type is run.
 - F. If "PRINTER ERROR" remains, post notice on DataMaster stating "Out of Service."
 - G. Contact your DataMaster Supervisor for corrective action.
9. **“PUMP ERROR”** – may be due to sticking valve.
- A. Place fresh mouthpiece on breath tube.
 - B. Alternately blow into and suck back strongly and rapidly on mouthpiece tube 5-6 times.
 - C. If “PUMP ERROR” remains post notice on DataMaster stating "Out of Service."
 - D. Contact your DataMaster Supervisor for corrective action.
10. **“SIMULATOR OUT OF RANGE”** - simulator solution concentration is not in range.
- A. If ambient conditions (temperature, etc.) are extreme, try adjusting them and attempt to operate DataMaster one more time.
 - B. Post notice on DataMaster stating "Out of Service."
 - C. Contact your DataMaster Supervisor for corrective action.
11. **“SIMULATOR TEMPERATURE ERROR”** - simulator temperature is out of range.
- A. Wait for a few minutes. Consider changing room temperature, if needed.
 - B. Press “RUN” button.
 - C. Insert ticket when prompted.
 - D. When “USE PREVIOUS DATA (Y/N)” prompt is displayed, enter “Y”.
 - E. Review data and make necessary corrections.
 - F. Process subject.

-
- G. If "SIMULATOR TEMPERATURE ERROR" remains, post notice on DataMaster stating "Out of Service".
- H. Contact your DataMaster Supervisor for corrective action.
12. **"RADIO INTERFERENCE"** – may be triggered by attempting to transmit from a portable radio near the instrument or by physical contact with the antenna while DataMaster is in the processing sequence.
- A. Turn radio "OFF" and/or be certain antenna is not touched during processing.
 - B. Press "RUN" button.
 - C. Insert ticket when prompted.
 - D. When "USE PREVIOUS DATA (Y/N)" prompt is displayed, enter "Y".
 - E. Review data and make necessary corrections.
 - F. Process subject.
 - G. If "RADIO INTERFERENCE" message remains, post notice on DataMaster stating "Out of Service."
 - H. Contact your DataMaster Supervisor for corrective action.
13. **"NOT CALIBRATED"** - instrument has lost calibration.
- A. Post notice on DataMaster stating "Out of Service."
 - B. Contact your DataMaster Supervisor for corrective action.
14. **"INVALID SAMPLE"** - caused by subject bringing alcohol into mouth by burping, belching, vomiting, etc.
- A. Start 15-minute observation period again.
 - B. Press "RUN" button.
 - C. Insert new evidence ticket when prompted.
 - D. When "USE PREVIOUS DATA (Y/N)" prompt is displayed, enter "Y".
 - E. Review data and make necessary corrections.
 - F. Process subject using new mouthpiece.
 - G. If "INVALID SAMPLE" message appears again may consider treating as a refusal.
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15. **"INTERFERENCE DETECTED"** - material other than ethyl alcohol is detected.
- A. Start 15-minute observation period again.
 - B. Press "RUN" button
 - C. Insert new evidence ticket when prompted.
 - D. When "USE PREVIOUS DATA (Y/N)" prompt is displayed, enter "Y".
 - E. Review data and make necessary corrections.
 - F. Process subject.
 - G. If "INTERFERENCE DETECTED" message appears again, have subject's blood drawn.

16. **TICKET IS INCOMPLETE or UNREADABLE** – the printer temporarily jammed causing the printed lines to overstrike (lines prints over each other).

If you run another test or shut the instrument off, you can **NOT** get a copy of the ticket for the test that was run. **DO NOT run another test** until you have tried the following.

- A. Press "CPY" (copy) button on keyboard or supervisor panel.
 - B. Insert new evidence ticket when prompted by instrument display screen.
 - C. A new evidence ticket will be printed.
 - D. This process can be repeated, as needed.
 - E. If the ticket continues to be unreadable post notice on DataMaster stating "Out of Service."
 - F. Contact your DataMaster Supervisor for corrective action.
17. **TICKET WON'T PRINT** - the instrument prompted the Operator to "Insert Ticket". The ticket fed properly but the printer will not print the ticket at the completion of the DUI Subject Test. If you run another test or shut the instrument off, you can **NOT** get a copy of the ticket for the test that was run. **DO NOT run another test** until you have tried the following.

Extreme care must be taken when pulling the ticket from the bottom slot. The printer ribbon may be pulled into the worm gear and printer head causing major damage to the printer assembly.

- A. Carefully pull the ticket out approximately 2 to 3 inches from the bottom slot.
- B. Press the CPY button. The ticket should start to print.
- C. If ticket still won't print post notice on DataMaster stating "Out of Service."
- D. Contact your DataMaster Supervisor for corrective action.

18. **"INCOMPLETE"** prints on the evidentiary ticket across from "SUBJECT SAMPLE ---→".
an insufficient breath sample was administered.

Common cause is:

The instrument "TIMES OUT" three (3) times for the same DUI subject test.

The Operator has responded "Y" to "SUBJECT TAKE TEST <Y/N>". A sufficient breath sample was not administered.

The Operator has responded "Y" to "SUBJECT TAKE TEST <Y/N>" a second time. A sufficient breath sample was not administered for a second time.

The Operator has responded "Y" to "SUBJECT TAKE TEST <Y/N>" a third time. The ticket will print with an "INCOMPLETE" on it.

- A. Observe 15-minute observation period once again
- B. Give clear instructions to the DUI subject on how to provide an adequate breath sample.
- C. Process subject using new mouthpiece.

SAMPLE QUESTION DISPLAYS

Question 1 - CASE NUMBER

Agency Case Number. A maximum of 20 characters is allotted for the case number. They may be:

1. a number
2. a hyphen
3. a letter of the alphabet

Example: "95-021-B—00001"

Press RETURN key to continue.

Question 2 - TOWN CODE

County/Town Code. This is the assigned code for the county/town. See Appendix for a county/town code table. This is the county/town in which the offense took place, NOT where the processing is done. A maximum/minimum of four (4) characters are required. They must be numbers.

Example: "1128" (Code for Rutland County/Town of West Rutland)

Press RETURN key to continue.

Question 3 - SUBJECT'S NAME

Subject's Name (L/F/M): Forty characters are allotted for subject's name. They may be:

1. a letter
2. a slash
3. a hyphen
- 4.

Type "last name/first name/middle initial"; use slash to separate as shown below. Use hyphen *only* when part of subject's name. If no middle initial, leave blank.

Examples: ALLEN/DOUGLAS

ST. JOHN-SMYTHE/CARLYNN/A

Type in subject's name. If subject's name is unknown, type in UNKNOWN.

Press RETURN key to continue.

Question 4 – SUBJECT'S DOB

Subject's date of birth.

mm/dd/yy

The month/day combination must be valid. All six characters must be entered. All characters must be numeric.

Date of Birth Format Examples:

<u>Correct Forms</u>	<u>Incorrect Forms</u>
01/07/56	1/7/56
07/07/76	7/7/76
10/01/10	10/1/10
10/10/01	10/10/1
01/10/10	1/10/10

Type in month, type in day (slash (/) is typed automatically), type in year. If birth date is unknown, type in the date sample is collected.

Press the RETURN key to continue.

Question 5 - SUBJECT'S SEX

One character is required. Must be either "M" or "F".

Press RETURN key to continue.

Question 6 - LOCATION OF STOP

Location where vehicle was stopped or accident occurred. A maximum of 40 characters is allotted. They may be:

- A. a letter
- B. a number
- C. a hyphen
- D. a slash

Be as specific as possible. It is NOT necessary to include name of town/city as this information is recorded in Question # 2.

Examples:

Route 7/Blakely	(On Rte 7 at Blakely)
Church and Main	(At intersection of Church & Main)
189/MM90	(Interstate 89 at Mile marker 90)
SR116/2 mi. South of Bristol	(State Rte 116 as indicated)

Press RETURN to continue.

Question 7 - TIME OF STOP

Time of stop (hh/mm)

When this display occurs, type in the time you stopped vehicle and made contact with the subject. Record time in 24 hour time.

Examples:

0300, 1408, 2318

Press RETURN key to continue.

Question 8 - ACCIDENT?

Did this incident involve a motor vehicle accident? One character is required and must be either a "Y" for yes or "N" for no.

Press RETURN key to continue.

Question 9 - TEST OPERATORS NAME

Operators name (L/F/M).

Note: Operator refers to the operator of BAC DataMaster.

Forty characters are allotted. They may be:

- A. a letter
- B. a slash
- C. a hyphen

Type "your last name/first name/middle initial". If no middle initial, leave blank. Use hyphen *only* when part of your name. Use slash to separate as shown above.

Examples:

FURILLO/FRANK/J

DAVENPORT-FURILLO/JOYCE/A

Press RETURN key to continue.

Question 10 - OFFICER ID NUMBER

Processing Officer's individual **Vermont Traffic Complaint (VTC) number** used in traffic violation cases. A maximum of 7 characters is allotted for the officer's ID number. They may be:

- 1. a letter
- 2. a number

Question 11 - DEPARTMENT

Operator's agency. A maximum of 30 characters is allotted for the officer's agency. They may be:

- 1. a letter
- 2. a number
- 3. a space
- 4. a hyphen
- 5. a slash

Examples:

PD/Colchester

VSP/Bethel

SD/Orleans

FW/Chittenden

DMV/CVE (Commercial Vehicle Enforcement)

Constable/Essex

Press RETURN key to continue.

Question 12 - REVIEW DATA (Y/N)

Type "Y" to review the data you have entered. **ALL DATA MUST BE REVIEWED AT LEAST ONCE!** When reviewing data, operator must press RETURN to advance to next field. When review is complete, press RETURN key to continue. Enter "N" if you have reviewed data and do not wish to do so again.

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SECTION III
LEGAL ISSUES

EXAMPLES OF DIRECT EXAMINATION QUESTIONS FOR A POLICE OFFICER TESTIFYING TO AN INFRARED BREATH TEST RESULT.

Preliminary questions regarding the officer's training, experience, basis for the stop, investigation, field sobriety testing and other observations will remain unchanged.

DIRECT EXAMINATION IR. TEST QUESTIONS:

1. Where did you take the defendant to administer the breath test?
2. Were you the person who administered the breath test to the defendant?
3. Did you use a DataMaster infrared instrument for the breath test?
4. Have you received training in the operation of the DataMaster?
5. Where did you receive this training?

(Questions 6-10 are leading, but should be permitted as foundational only.)

6. Did your training include the procedures for operating the DataMaster?
7. Did you receive any practical experience in operating the DataMaster during your training?
8. Did you pass a written examination as part of your training for operating the DataMaster?
9. Did you pass a proficiency test for operating the DataMaster during your training?
10. How many times have you administered a breath test utilizing the DataMaster?

OBSERVATIONS OF DEFENDANT PRIOR TO TESTING

1. Prior to administering the test, did you observe the defendant?
2. For how long did you observe the defendant?
3. Why did you observe the defendant?
4. During this observation, what were you looking for?
5. As you watched the defendant during the waiting period, did you observe any of the signs that you were trained to look for?
6. If you had observed any of these signs, what would you have done?

TAKING THE TEST

1. After observing the defendant, were you prepared to run a test?
2. Was the DataMaster ready to perform the test?
3. How did you know?
4. After ensuring that the DataMaster was ready, did you press the RUN button?
5. What did the DataMaster tell you to do next?
6. Did you insert the appropriate form into the slot on the front of the instrument?
7. What did the DataMaster ask you to do next?
8. Did you enter the defendant's name and date of birth into the DataMaster as requested?

9. What did the DataMaster ask you to do next?
10. Did you provide all of the information as requested by the DataMaster?
11. What did the DataMaster do next?
12. When the DataMaster display read "PLEASE BLOW", did you attach a new mouthpiece and then have the defendant give a breath sample?
13. What was the time of the stop and what time was the breath sample collected?
14. How much time elapsed between the time of the stop and the time that the sample was collected?
15. Was this elapsed time less than two (2) hours? (This is required to be established so that the test does not need to be related back to the time of operation.)
16. After the defendant gave a breath sample, did a BrAC value appear on the display?
17. Did a BrAC value appear on the printed evidence ticket, which came out of the DataMaster?
18. Did the BrAC value displayed on the DataMaster agree with the BrAC value printed on the printed evidence ticket for the defendant?
19. Was the printed evidence ticket, which displays the defendant's test results attached to the case?
20. Do you recognize that printed evidence ticket?
21. How do you recognize that printed evidence ticket?
22. Does that printed evidence ticket have the defendant's BrAC value of the breath sample taken on (date of test)?
23. What was the defendant's breath alcohol content as determined by the DataMaster?

EXAMPLES OF CROSS EXAMINATION OF THE OFFICER

1. The officer should be prepared to testify to when the DataMaster was last performance-checked. This may best be done by actually having him/her bring a copy of the last page of the Check-Up and Maintenance Log for that particular instrument to court.
2. The officer should also be prepared to testify to how he/she knew the instrument was operating properly when the test was given. The best testimony here would be to state that the DataMaster went through its normal procedures of checking itself and of running the external standard and that, based on the officer's observations and experience, he/she determined the instrument was operating properly. The officer might also wish to testify that if the instrument was unable to zero itself and did not obtain the appropriate result from the analysis of the external standard, it would have shut itself down and not permitted any testing to be done. The reason for the instrument's shutdown would be printed on the evidence ticket.
3. The officer should be able to testify to what would happen if the defendant did not give a proper breath sample or if the instrument detected radio frequency interference (RFI). The officer should testify that if the defendant blows incorrectly the DataMaster will not run a test. If RFI is detected the instrument will display "RADIO INTERFERENCE" on the LCD and will not produce a BrAC reading. The DataMaster will stop processing the breath sample and will print "RADIO INTERFERENCE" on the evidence ticket.
4. An officer may be asked to explain how the DataMaster functions (i.e. how the instrument is able to analyze a sample of breath and determine the BrAC). The officer should state, "I am not qualified to explain that but I do know, based on my training and experience, that the DataMaster was operating properly."

SECTION IV

APPENDIX

FREQUENTLY ASKED QUESTIONS AND ANSWERS

1. Q. How does the instrument work?
A. The subject blows into a heated breath tube leading to the sample chamber, which is in the path of an infrared light beam. The subject must blow at least 6-12 seconds before the instrument will accept the breath sample. This ensures the sample is deep lung air. The instrument measures how much infrared light was absorbed by ethanol at two different wavelengths, the ratio of which is specific for ethanol. The BrAC (Breath Alcohol Concentration) is displayed on the front of the instrument, printed on an evidence ticket, and stored in memory.
2. Q. Is this an accepted method for analyzing ethanol in human breath?
A. Yes. The BAC DataMaster uses well-established techniques, and principles of chemistry (infrared spectroscopy and the Beer-Lambert Law).
3. Q. Will anything besides ethanol show an absorption of infrared light?
A. Many substances will absorb infrared light. However, the BAC DataMaster measures the absorption of ethanol at two different wavelengths, the ratio of which is specific for ethanol. If any substance besides ethanol is present, the instrument will recognize it as an interference.
4. Q. Can acetone in the breath of a diabetic or fasting person affect the breath alcohol reading?
A. Possibly. Acetone at high enough levels can impact the results of the BAC DataMaster. However, the DataMaster is programmed to abort the analysis if the level of acetone reaches 0.01%.
5. Q. Do changes in line voltage have an affect on a BrAC reading?
A. No. Ordinarily, regular line voltage fluctuations have no effect on DataMaster operation.
6. Q. Can the reading be affected by changing external conditions?
A. No. Internal and external standards protect against false readings due to ambient conditions.
7. Q. Is it possible for the operator to change a subject's breath test result?
A. No. The operator simply follows instructions displayed by the instrument. Operator involvement is minimized. He/she is not involved in the determination of the result.

COUNTY/TOWN CODESADDISON

0101 Addison
0102 Bridport
0103 Bristol
0104 Cornwall
0105 Ferrisburgh
0106 Goshen
0107 Granville
0108 Hancock
0109 Leicester
0110 Lincoln
0111 Middlebury
0112 Monkton
0113 New Haven
0114 Orwell
0115 Panton
0116 Ripton
0117 Salisbury
0118 Shorham
0119 Starksboro

0120 Vergennes
0121 Waltham
0122 Weybridge
0123 Whiting

BENNINGTON

0201 Arlington
0202 Bennington
0203 Dorset
0204 Glastenbury
0205 Landgrove
0206 Manchester
0207 Peru
0208 Pownal
0209 Readsboro
0210 Rupert
0211 Sandgate
0212 Searsburg
0213 Shaftsbury
0214 Stamford
0215 Sunderland
0216 Winhall
0217 Woodford
0218 Old Bennington

CALEDONIA

0301 Barnet
0302 Burke
0303 Danville
0304 Groton
0305 Hardwick
0306 Kirby
0307 Lyndon
0308 Newark
0309 Peacham
0310 Ryegate
0311 St. Johnsbury
0312 Sheffield
0313 Stannard
0314 Sutton
0315 Walden
0316 Waterford
0317 Whellock

COUNTY/TOWN CODESCHITTENDEN

0401 Bolton
0402 Buel's Gore
0403 Burlington
0404 Charlotte
0405 Colchester
0406 Essex
0407 Hinesburg
0408 Huntington
0409 Jericho
0410 Milton
0411 Richmond
0412 St. George
0413 Shelburne
0414 So. Burlington
0415 Underhill
0416 Westford
0417 Williston
0418 Winooski

ESSEX

0501 Averill
0502 Avery's Gore
0503 Bloomfield
0504 Brighton (Island Pond)
0505 Brunswick
0506 Canaan
0507 Concord
0508 East Haven
0509 Ferdinand
0510 Granby
0511 Guildhall
0512 Lemington
0513 Lewis
0514 Lunenburg
0515 Maidstone
0516 Norton
0517 Victory
0518 Warner's Grant
0519 Warren's Gore

FRANKLIN

0601 Bakersfield
0602 Berkshire
0603 Enosburg
0604 Fairfax
0605 Fairfield
0606 Fletcher
0607 Franklin
0608 Georgia
0609 Highgate
0610 Montgomery
0611 Richford
0612 St. Albans City
0613 St. Albans Town
0614 Sheldon
0615 Swanton

GRAND ISLE

0701 Alburg
0702 Grand Isle
0703 Isle LaMotte
0704 North Hero
0705 South Hero

COUNTY/TOWN CODESLAMOILLE

0801 Belvidere
 0802 Cambridge
 0803 Eden
 0804 Elmore
 0805 Hyde Park
 0806 Johnson
 0807 Morristown
 0808 Stowe
 0809 Waterville
 0810 Wolcott

ORANGE

0901 Bradford
 0902 Braintree
 0903 Brookfield
 0904 Chelsea
 0905 Corinth
 0906 Fairlee
 0907 Newbury
 0908 Orange
 0909 Randolph
 0910 Strafford
 0911 Thetford
 0912 Topsham
 0913 Tunbridge
 0914 Vershire
 0915 Washington
 0916 West Fairlee
 0917 Williamstown

ORLEANS

1001 Albany
 1002 Barton
 1003 Brownington
 1004 Charleston
 1005 Coventry
 1006 Craftsbury
 1007 Derby
 1008 Glover
 1009 Greensboro
 1010 Holland
 1011 Irasburg
 1012 Jay
 1013 Lowell
 1014 Morgan
 1015 Newport City
 1016 Newport Town
 1017 Troy
 1018 Westfield
 1019 Westmore

RUTLAND

1101 Bensen
 1102 Brandon
 1103 Castleton
 1104 Chittenden
 1105 Clarendon
 1106 Danby
 1107 Fair Haven
 1108 Hubbardton
 1109 Ira
 1110 Mendon
 1111 Middletown Springs
 1112 Mt. Holly
 1113 Mt. Tabor
 1114 Pawlet
 1115 Pittsfield
 1116 Pittsford
 1117 Poultney
 1118 Proctor
 1119 Rutland City
 1120 Rutland Town
 1121 Sherburne
 1122 Shrewsbury
 1123 Sudbury
 1124 Tinmouth
 1125 Wallingford
 1126 Wells
 1127 West Haven
 1128 West Rutland

COUNTY/TOWN CODESWASHINGTON

1201 Barre City
1202 Barre Town
1203 Berlin
1204 Cabot
1205 Calais
1206 Duxbury
1207 E. Montpelier
1208 Fayston
1209 Marshfield
1210 Middlesex
1211 Montpelier
1213 Northfield
1214 Plainfield
1215 Roxbury
1216 Waitsfield
1217 Warren
1218 Waterbury
1219 Woodbury
1220 Worcester

WINDHAM

1301 Athens
1302 Brattleboro
1303 Brookline
1304 Dover
1305 Dummerston
1306 Grafton
1307 Guildford
1308 Halifax
1309 Jamaica
1310 Londonderry
1311 Marlboro
1312 Newfane
1313 Putney
1314 Rockingham
1315 Somerset
1316 Stratton
1317 Townsend
1318 Vernon
1319 Wardsboro
1320 Westminster
1321 Whitingham
1322 Wilmington
1323 Windham

WINDSOR

1401 Andover
1402 Baltimore
1403 Barnard
1404 Bethel
1405 Bridgewater
1406 Cavendish
1407 Chester
1408 Hartford
1409 Hartland
1410 Ludlow
1411 Norwich
1412 Plymouth
1413 Pomfret
1414 Reading
1415 Rochester
1416 Royalton
1417 Sharon
1418 Springfield
1419 Stockbridge
1420 Weathersfield
1421 Weston
1422 West Windsor
1423 Windsor
1424 Woodstock

Officer's Name: _____ Department _____

[illegible]

BAC DATAMASTER
OPERATOR USE LOG

Department/Agency _____

DataMaster Serial Number _____

DATE	OPERATOR	SUBJECT'S NAME	EXT. STD.

ALC 603 REV 01

page _____

FACE THIS SIDE DOWN - THIS EDGE IN FIRST



BREATH ALCOHOL ANALYSIS
EVIDENCE TICKET

STATE OF VERMONT
BAC DataMaster 881332

OCTOBER 17, 2000

CASE NUMBER: 0000
TOWN CODE: 0404
SUBJECT'S NAME:
TEST/DEMO
SUBJECT'S D.O.B.: 10/16/00
SUBJECT'S SEX: F
LOCATION OF STOP:
VDH
TIME OF STOP: 07:30
ACCIDENT?: N
TEST OPERATOR'S NAME:
MEREDITH/J
DEPARTMENT: VDH

— BREATH ANALYSIS —

BLANK TEST	.000	07:56
INTERNAL STANDARD	VERIFIED	07:56
EXTERNAL STANDARD	.101	07:57
BLANK TEST	.000	07:57
SUBJECT SAMPLE	—> .000	07:58

SECOND TEST NOT REQUESTED
SIMULATOR TEMPERATURE 33.8c

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BREATH ALCOHOL ANALYSIS
EVIDENCE TICKET

STATE OF VERMONT
BAC DataMaster 881332

OCTOBER 17, 2000

CASE NUMBER: 0000
TOWN CODE: 0404
SUBJECT'S NAME:
TEST/DEMO
SUBJECT'S D.O.B.: 10/16/00
SUBJECT'S SEX: F
LOCATION OF STOP:
VDH
TIME OF STOP: 07:30
ACCIDENT?: N
TEST OPERATOR'S NAME:
MEREDITH/J
DEPARTMENT: VDH

— BREATH ANALYSIS —

BLANK TEST	.000	08:15
INTERNAL STANDARD	VERIFIED	08:15
EXTERNAL STANDARD	.100	08:15
BLANK TEST	.000	08:16
SUBJECT SAMPLE	—> .000	08:16

BLANK TEST	.000	08:17
INTERNAL STANDARD	VERIFIED	08:17
EXTERNAL STANDARD	.100	08:18
BLANK TEST	.000	08:19
SUBJECT SAMPLE	—> .000	08:19

SIMULATOR TEMPERATURE 33.8c

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STATE OF VERMONT
BAC DataMaster 881332

OCTOBER 17, 2000

CASE NUMBER: 0000

TOWN CODE: 0404

SUBJECT'S NAME:

TEST/DEMO

SUBJECT'S D.O.B.: 10/16/00

SUBJECT'S SEX: F

LOCATION OF STOP:

VDH

TIME OF STOP: 07:30

ACCIDENT?: N

TEST OPERATOR'S NAME:

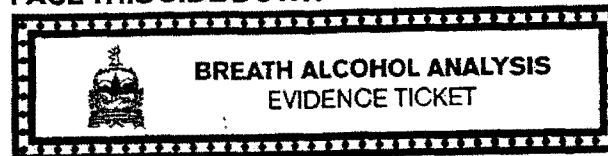
MEREDITH/J

DEPARTMENT: VDH

— BREATH ANALYSIS —

BLANK TEST	.000	08:07
INTERNAL STANDARD	VERIFIED	08:08
EXTERNAL STANDARD	.101	08:08
BLANK TEST	.000	08:09
RADIO INTERFERENCE		

FACE THIS SIDE DOWN - THIS EDGE IN FIRST



STATE OF VERMONT
BAC DataMaster 881332

OCTOBER 17, 2000

CASE NUMBER: 0000

TOWN CODE: 0404

SUBJECT'S NAME:

TEST/DEMO

SUBJECT'S D.O.B.: 10/16/00

SUBJECT'S SEX: F

LOCATION OF STOP:

VDH

TIME OF STOP: 07:30

ACCIDENT?: N

TEST OPERATOR'S NAME:

MEREDITH/J

DEPARTMENT: VDH

— BREATH ANALYSIS —

BLANK TEST	.000	08:01
INTERNAL STANDARD	VERIFIED	08:01
EXTERNAL STANDARD	.101	08:01
BLANK TEST	.000	08:02
SUBJECT SAMPLE	—> REFUSED	08:02
SIMULATOR TEMPERATURE	33.8c	

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STATE OF VERMONT
BAC DataMaster 881332

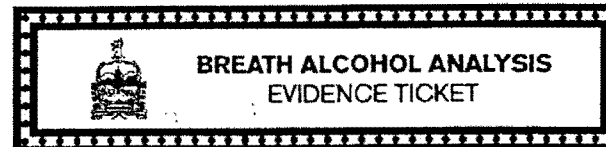
OCTOBER 17, 2000

CASE NUMBER: 0000
TOWN CODE: 0404
SUBJECT'S NAME:
TEST/DEMO
SUBJECT'S D.O.B.: 01/01/68
SUBJECT'S SEX: F
LOCATION OF STOP:
VDH
TIME OF STOP: 13:00
ACCIDENT?: N
TEST OPERATOR'S NAME:
MEREDITH/J
DEPARTMENT: VDH

--- BREATH ANALYSIS ---

BLANK TEST	.000	13:26
INTERNAL STANDARD	VERIFIED	13:26
EXTERNAL STANDARD	.100	13:26
BLANK TEST	.000	13:31
SUBJECT SAMPLE	-----> INCOMPLETE	13:34
SIMULATOR TEMPERATURE	33.8c	

FACE THIS SIDE DOWN - THIS EDGE IN FIRST



STATE OF VERMONT
BAC DataMaster 881332

OCTOBER 17, 2000

CASE NUMBER: 0000
TOWN CODE: 0404
SUBJECT'S NAME:
TEST/DEMO
SUBJECT'S D.O.B.: 01/01/67
SUBJECT'S SEX: F
LOCATION OF STOP:
VDH
TIME OF STOP: 14:00
ACCIDENT?: N
TEST OPERATOR'S NAME:
MEREDITH/J
DEPARTMENT: VDH

--- BREATH ANALYSIS ---

BLANK TEST	.000	14:52
INTERNAL STANDARD	VERIFIED	14:52
EXTERNAL STANDARD	.102	14:52
BLANK TEST	.000	14:53
INVALID SAMPLE		

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BREATH ALCOHOL ANALYSIS
EVIDENCE TICKET

STATE OF VERMONT
BAC DataMaster 881332

OCTOBER 17, 2000

CASE NUMBER: 0000
TOWN CODE: 0404
SUBJECT'S NAME:
TEST/DEMO
SUBJECT'S D.O.B.: 01/01/67
SUBJECT'S SEX: F
LOCATION OF STOP:
VDH
TIME OF STOP: 14:00
ACCIDENT?: N
TEST OPERATOR'S NAME:
MEREDITH/J
DEPARTMENT: VDH

--- BREATH ANALYSIS ---

SIMULATOR TEMP. ERROR

FACE THIS SIDE DOWN - THIS EDGE IN FIRST



BREATH ALCOHOL ANALYSIS
EVIDENCE TICKET

STATE OF VERMONT
BAC DataMaster 881332

OCTOBER 17, 2000

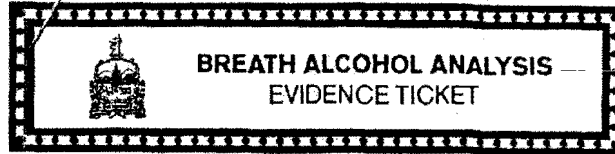
CASE NUMBER: 0000
TOWN CODE: 0404
SUBJECT'S NAME:
TEST/DEMO
SUBJECT'S D.O.B.: 10/16/00
SUBJECT'S SEX: F
LOCATION OF STOP:
VDH
TIME OF STOP: 07:30
ACCIDENT?: N
TEST OPERATOR'S NAME:
MEREDITH/J
DEPARTMENT: VDH

--- BREATH ANALYSIS ---

BLANK TEST	.000	08:10
INTERNAL STANDARD	VERIFIED	08:11
EXTERNAL STANDARD	.100	08:11
BLANK TEST	.000	08:12
SUBJECT SAMPLE	----> .000	08:12

SYSTEM WON'T ZERO

FACE THIS SIDE DOWN - THIS EDGE IN FIRST

STATE OF VERMONT
BAC DataMaster 881332

JULY 28, 2000

CASE NUMBER: 000
TOWN CODE: 0404
SUBJECT'S NAME:
TEST
SUBJECT'S D.O.B.: 07/20/00
SUBJECT'S SEX: F
LOCATION OF STOP:
VDH
TIME OF STOP: 08:45
ACCIDENT?: N
TEST OPERATOR'S NAME:
MEREDITH/J
DEPARTMENT: VDH

--- BREATH ANALYSIS ---

BLANK TEST	.000	09:02
INTERNAL STANDARD	VERIFIED	09:02
EXTERNAL STANDARD	.006	09:02
SIMULATOR OUT OF RANGE		

TECHNICAL ASSISTANCE RESOURCES**VERMONT DEPARTMENT OF HEALTH**

Robert Drawbaugh, Toxicology Program Chief	bdrawba@vdh.state.vt.us	863-7622
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Jennifer Hubbard, Senior Chemist	lab_alc@vdh.state.vt.us	863-7412

LEGAL ISSUES

Robert Sand, Windsor County State's Attorney	rsand@sas.state.vt.us	295-8870
Diane Wheeler, Franklin County Deputy State's Atty.	diane@sas.state.vt.us	524-7920

TRAINING AND CERTIFICATION

Carolyn Fredette, Training Specialist, VCJTC	cfredette@vtcjt.state.vt.us	483-6228
----------------------------------------------	-----------------------------	----------

VCJTC DUI INSTRUCTORS

Sgt. James Roy, Colchester Police Department	jroy@dps.state.vt.us	655-3053
Sgt. Brad Vail, Hartford Police Department	bvail@dps.state.vt.us	295-9425
Off. Shawn Burke, Burlington Police Department	sburke@dps.state.vt.us	658-2704 X285
Off. Keith Clark, Dover Police Department	kclark@dps.state.vt.us	464-2020