

# **INTOXILYZER<sup>®</sup> 5000**

## **Alcohol Breath Analysis Instrument**

# Operator's Manual

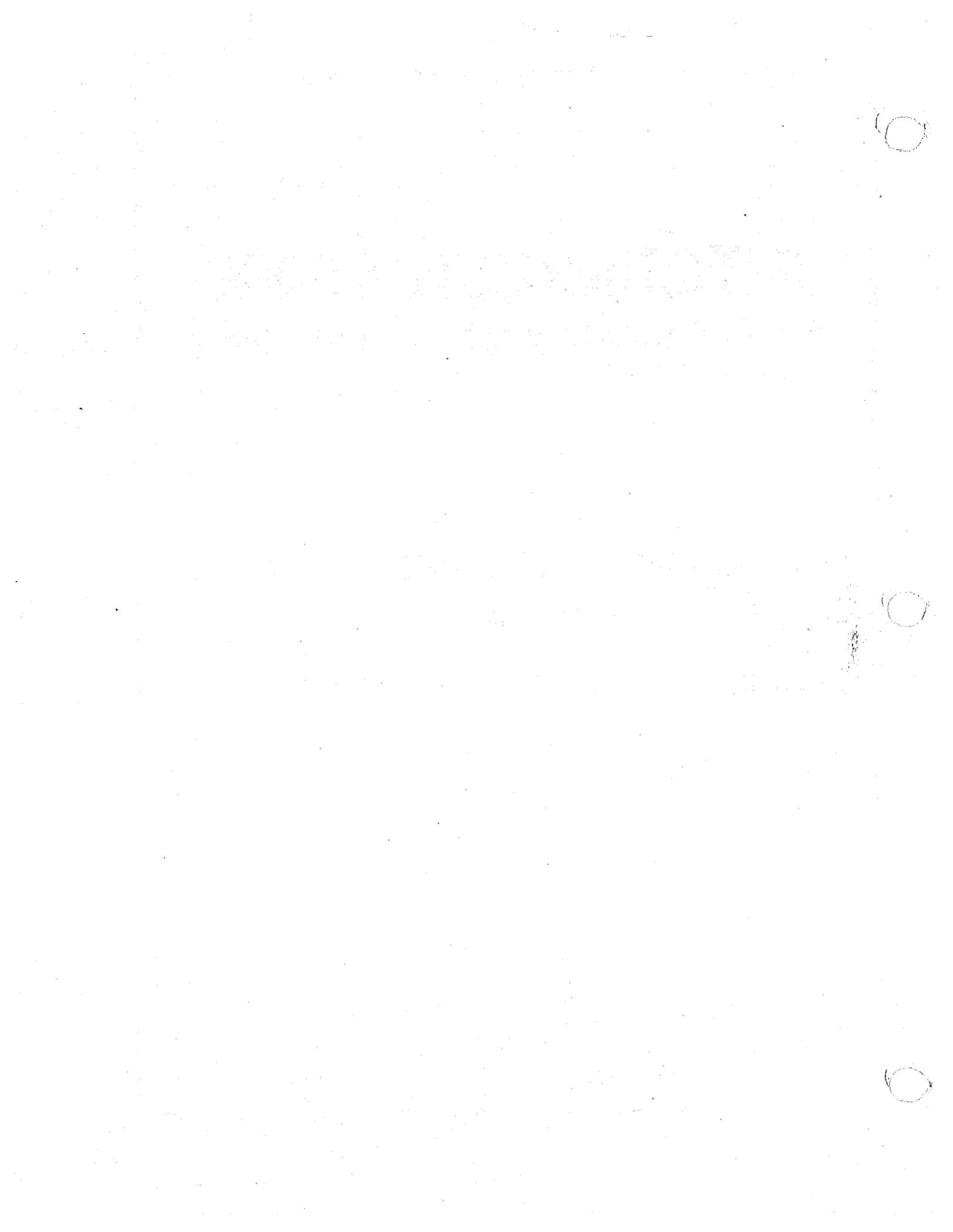
**CMI MPH**

subsidiaries of MPD Inc.

316 East Ninth Street, Owensboro, KY 42301  
(502) 685-6200 or 1-800-835-0690

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INTOXILIZER 5000 SPECIFICATIONS

5000 CELL & SYSTEM VOL

SMALL CELL

I.D. 1.905 CM

LEN. 28.575 CM

VOL. = LEN X AREA

VOL. = 28.575 CM X ( X .9525<sup>2</sup> CM)

VOL. = 81.44531 CC

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LIGHT PATH LENGTH

11.4 INCHES

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PLUMBING

I.D. .635 CM

LEN. 93.98 CM

VOL. = LEN X AREA

VOL. = 93.98 CM X ( X .3175<sup>2</sup> CM)

VOL. = 29.762731 CC

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SYSTEM VOL.

SMALL CELL = 111.20804 CC

5000 DIMENSIONS

WIDTH: 18 - 3/4"

DEPTH: 17 - 3/4"

HIGH: 5 - 1/4"

WEIGHT: 30 LBS. APPROXIMATE

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ACCURACY

+/- .005% BrAC OR

5% OF THE BrAC WHICHEVER IS GREATER

PRECISION

AVERAGE STANDARD DEVIATION OF NO MORE THAN .0042% BrAC

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OPERATIONAL TEMPERATURE RANGE

68 DEGREES F TO 86 DEGREES F  
(20 DEGREES C TO 30 DEGREES C)

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STORAGE TEMPERATURE RANGE

-20 DEGREES F TO 140 DEGREES F  
(-29 DEGREES C TO 60 DEGREES C)



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**Intoxilvzer® 5000 Specifications****Functional**

1. Controls
  - A. Power Switch: Activates all internal circuits.
  - B. Start Test Switch: Activates operation of the instrument test mode sequence.
  - C. Mode Selection Switches: Enable selecting a test mode sequence, setting time and date.
2. Input/Output
  - A. Digital Display: A 16 character 18 segment (vacuum fluorescent) alphanumeric display which relates the operations of the instrument, alerts the operator to required actions, and expresses Alcohol Concentration in weight by volume.
  - B. Audible Tones: Audibly relates the completion of an operation, the presence of a malfunction, incorrect operational procedure, or unfulfilled test requirements.
  - C. Printer Card: Provides a printed record of the date, model, and serial number of the instrument test procedure, test results, and time of the test on a multi-copy card. (Typically three copies).
  - D. Breath Sampling: Instrument automatically senses end expiratory air (alveolar) using the technique of slope detection in conjunction with a minimum pressure and a minimum sample time requirement.
3. Calibration: None required; the instrument is permanently calibrated.
4. Reagents Required: None
5. Consumables: Evidence cards and disposable mouthpieces.
6. Battery Back-up real Time Clock: A battery back-up time clock automatically maintains month, day, hour and minute. (The clock operates on a lithium battery which has an expected five year life).
7. Serial Number: Instrument serial number is permanently stored externally and internally (Serial Number is permanently stored internally in circuitry).

**Performance**

1. Range: 0.000 to 0.45 grams/210 liters
2. Accuracy: Better than  $\pm .005$  grams/210 liters or  $\pm 5\%$  of target value whichever is greater.
3. Precision: Standard deviation of better than .0042 grams/210 liters.
4. Test Time: Typically less than one minute (with basic program).

**Electrical**

1. Power
  - A. Input voltage: 110 volt AC
  - B. Input Current: 2 AMP maximum average at 110 volts AC with 3 amp fuse protection. M.O.V. (Metal Oxide Varistor) is installed on input for line transient suppression. Optionally compatible with international voltages and frequencies.
2. Circuitry: Modular plug-in type printed circuit boards are used for ease of repair.

**Optical**

1. Light Source: Quartz-Iodide lamp rated 50,000 hours lifetime.
2. Absorption Wave Length: Three wavelengths used for: alcohol, acetone and reference.
3. Light Path Length: 11.4 inches, single path.
4. Detector: Lead Selenide detector with a life expectancy greater than seven years.

**Environmental**

1. Operating Temperature: Better than DOT specifications.
2. Storage Temperature Range: -20°F to 140°C (-29°C to 60°C).
3. Humidity: 10% to 90%



**Mechanical**

1. Dimensions: 18.75" wide x 17.35" deep x 5.5" high (476mm w x 450mm d x 139.7mm h). (With organizer 26.25" wide x 19.25" deep x 10.5" high) (666.75mm w x 488.95mm d x 266.7mm h).
2. Weight: 30 lbs (13.6 kg)
3. Sample Chamber: 81.4cc.
4. Breath Tube: Instrument is provided with external, detachable, heated breath tube.

**Computer Based**

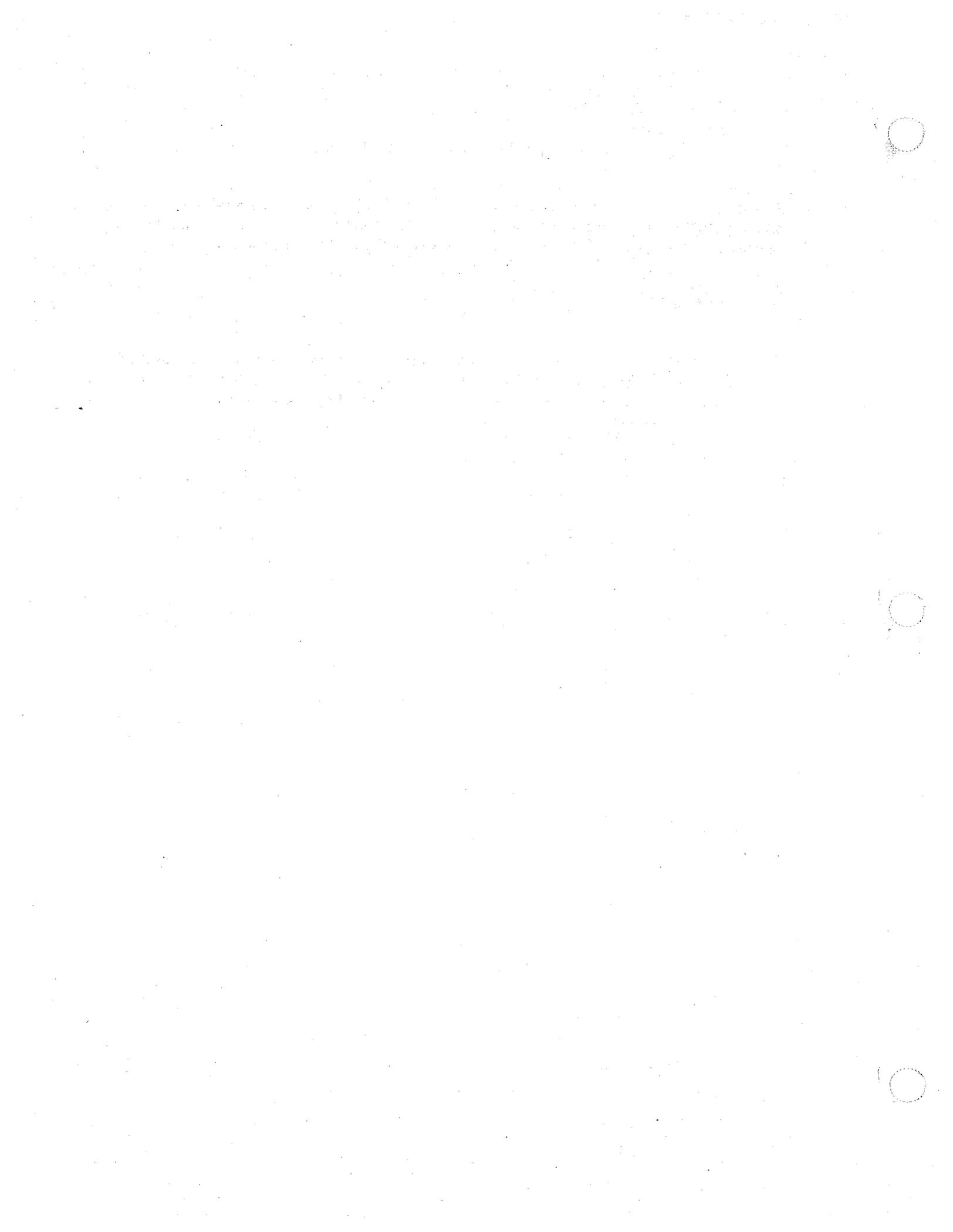
Z80 based microprocessor: Unit is composed of 24k EPROM (erasable programmable read only memory) and 2K of RAM (Random Access Memory) The computer controls every aspect of operation from displaying and printing the information to the basic electrical mechanical functions.

**Warranty**

One year parts and labor

**Optional**

1. Keyboard & Communications: The instrument can be optionally equipped with detachable membrane keyboard and RS-232 port for external computer interface (See ADAMS brochure). Optional 32 K of battery backed RAM is available and is required for ADAMS compatibility or keyboard operation.
2. Recirculation: The instrument may be equipped with a second solenoid to recirculate simulator vapor to extend life of simulator solution.
3. Sample Capture: Instrument can be equipped with sample capture. (Switch Selectable). To preserve breath sample on consecutive tests utilizing silica gel (Toxtrap) for re-analysis of breath sample.



# Statement of Warranty

CMI, Inc. warrants that each new product will be free from defects in material and workmanship, under normal use and service, for a period of one year from the date of invoice to the initial purchaser. CMI's obligation is limited to repairing or replacing, as CMI may elect, any part or parts of such product which CMI determines to be defective in material or workmanship. Warranty repairs will be performed only at authorized factory service centers.

Any part or product considered to be covered by the conditions of this warranty shall be returned, freight pre-paid, to an authorized service center. The repaired or replacement part or product will be returned from CMI pre-paid.

Repaired products are warranted for 90 days from the date of repair, subject to the same limitations at this warranty.

Warranty coverage extends only to the original purchaser and does not include normal wear and tear, unusual abuse, or use of the product for other than its intended purpose. This warranty is voided if the product is adversely effected by attaching any feature or device to it, or is in any way tampered with or modified without express written permission from CMI.

There are no warranties expressed or implied, including but not limited to, any implied warranties of merchantability or fitness for a particular purpose. In no event shall CMI be liable for any loss of profits or any indirect or consequential damages arising out of any such defect in material or workmanship.

As a further limit on warranty and as an express warning, the user should be aware that harmful personal contact may be made with seller's product use in automobiles in the event of violent maneuvers, collision, or other circumstance, even though said products are installed according to instruction. CMI specifically disclaims any liability or injury caused by the products in all such circumstances.



subsidiaries of MPD Inc.

316 East Ninth Street  
Owensboro, KY 42301  
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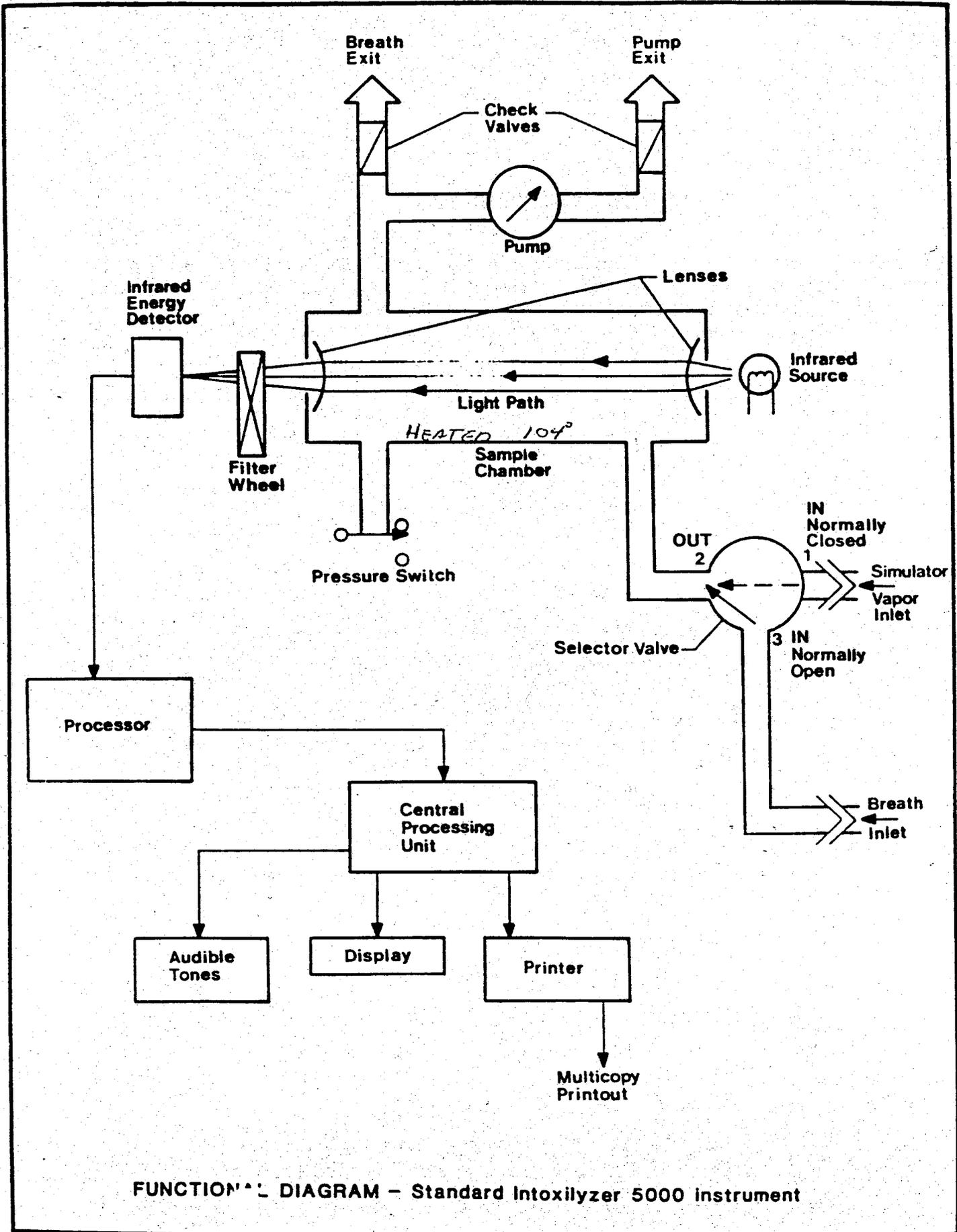
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## GENERAL INFORMATION

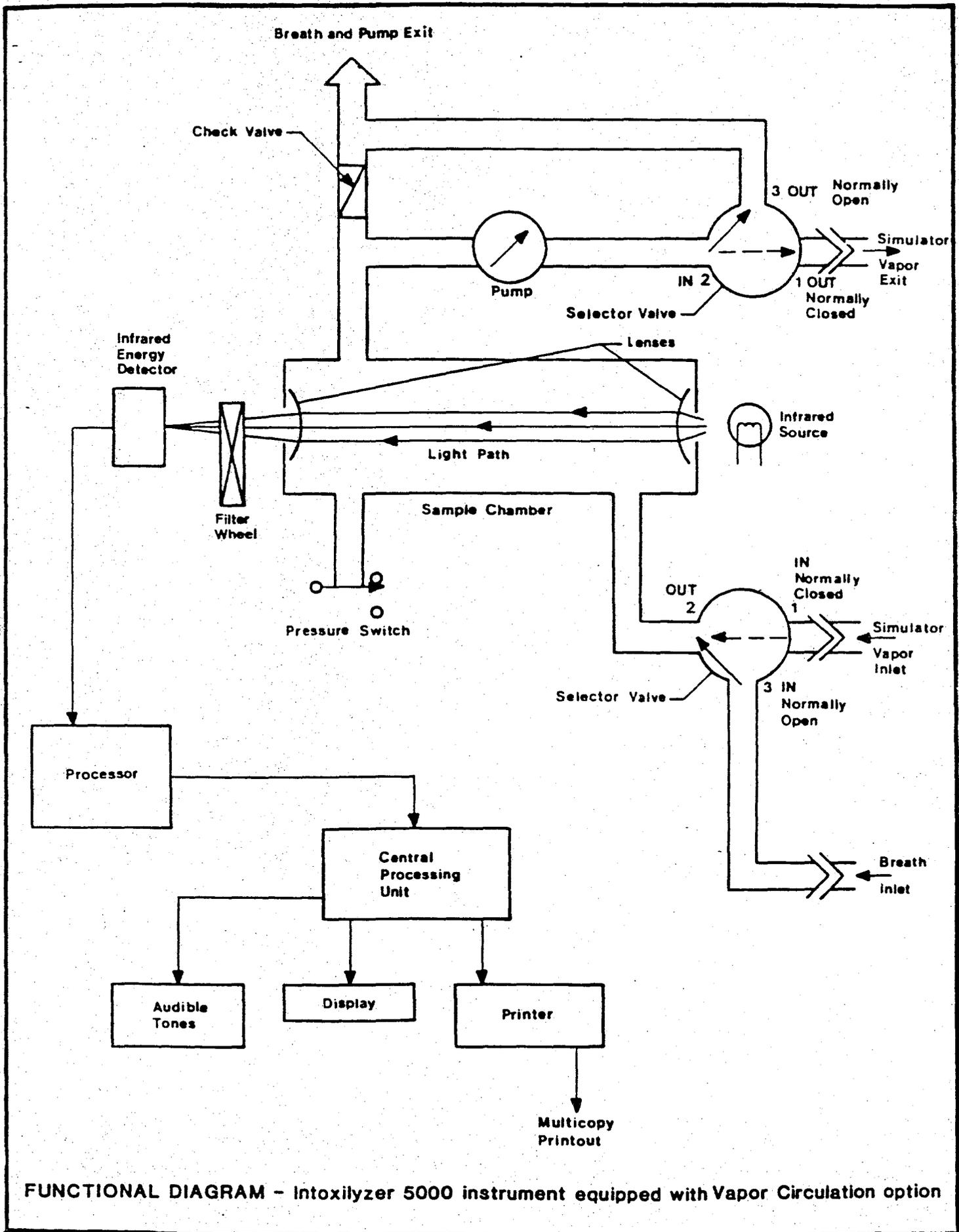
Depending on their physical size and structure, alcohol molecules absorb light energy at specific frequencies. Using an infrared energy absorption technique, the Intoxilyzer 5000 Series alcohol breath analysis instrument determines the alcohol concentration in a breath sample.

The core of the Intoxilyzer 5000 Series instrument is its sample chamber. At one end of the chamber, a tungsten halogen lamp emits infrared light energy, which is directed through the chamber by a Fresnel lens. At the opposite end of the chamber, a second lens focuses the energy leaving the chamber through three rotating filters and onto an infrared energy detector. The filters allow only certain wavelengths of light energy to pass through.

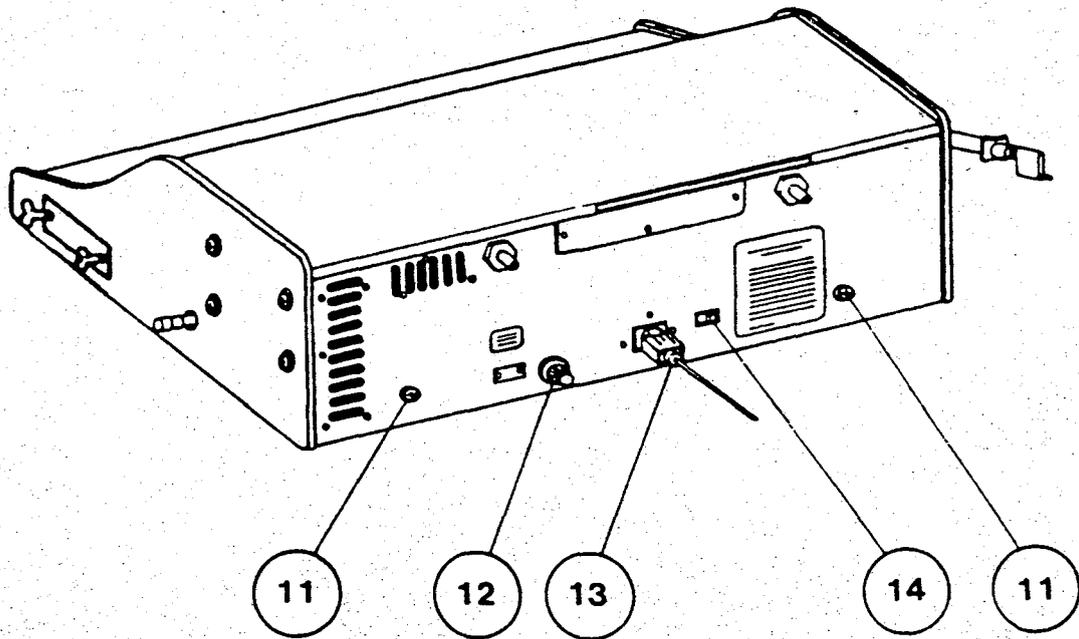
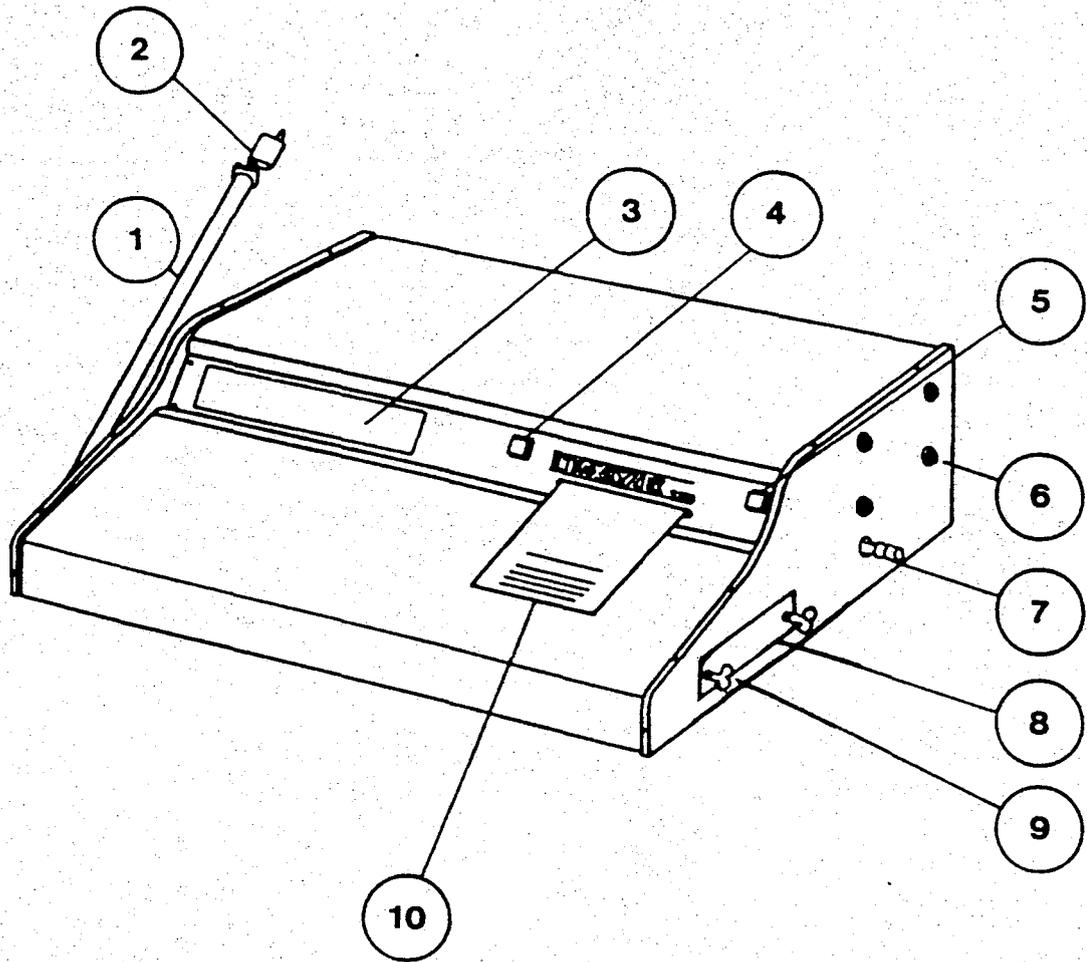
Initially, the instrument establishes a zero reference point by measuring the amount of infrared energy striking the detector when the sample chamber is filled with ambient room air. During a breath test, as the amount of alcohol vapor in the chamber rises, the amount of infrared energy reaching the detector decreases. Therefore, by finding the difference between the zero reference point and the breath test measurement, the instrument determines breath alcohol concentration. Since a proportional relationship exists between the amount of alcohol in one's blood and the amount of alcohol in one's breath, the unit converts breath alcohol concentration to blood/breath alcohol concentration. The result is then displayed in percent weight by volume in accordance with the Uniform Vehicle Code. To assure accurate test results, the Intoxilyzer 5000 alcohol breath analysis instrument also detects and compensates for acetone and other interfering compounds which absorb infrared light energy in the same frequency range as alcohol.



FUNCTIONAL DIAGRAM - Standard Intoxilyzer 5000 instrument



FUNCTIONAL DIAGRAM - Intoxilyzer 5000 instrument equipped with Vapor Circulation option



## HARDWARE, CONTROLS, AND DISPLAYS

To familiarize yourself with the hardware, controls, and displays of the Intoxilyzer 5000 Series breath analysis instrument, refer to the illustration on the previous page and the cross-referenced explanations below.

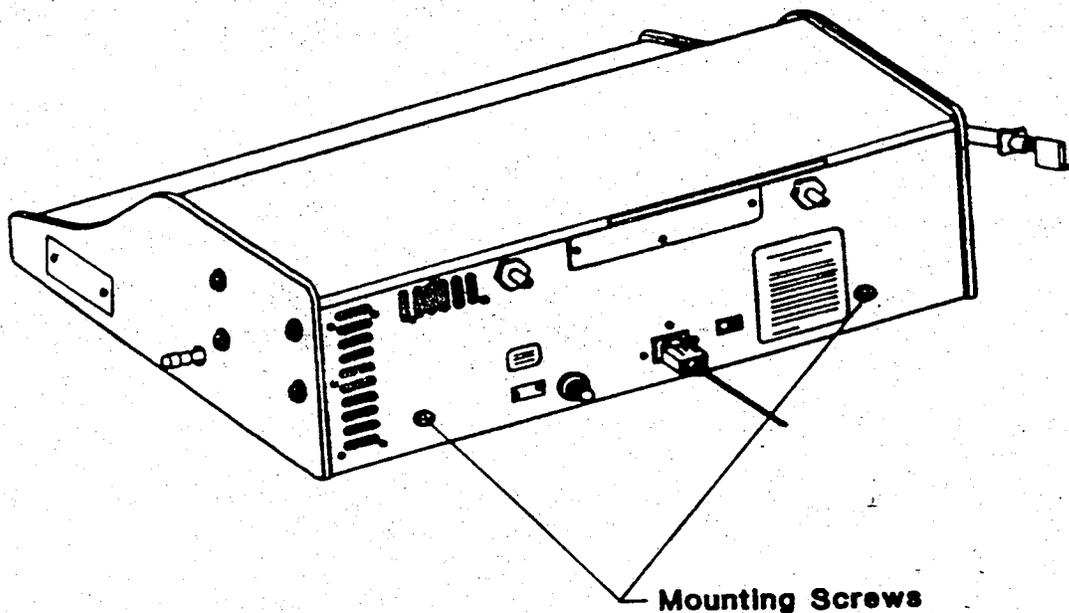
1. Breath Tube - A heated reinforced plastic tube through which the subject blows into the sample chamber.
2. Mouthpiece - A disposable, clear plastic trap which fits in the end of the breath tube, accepts the subject's breath, and prevents unwanted substances from entering the instrument.
3. Digital Display - A sixteen character alphanumeric readout that indicates which operation the instrument is performing, alerts the operator to required actions, and expresses Blood Alcohol Concentration/Breath Alcohol Concentration (BAC/BrAC) in percent weight by volume.
4. "START TEST" Switch - A push button switch used to initiate a test.
5. "POWER" Switch - A push button switch used to apply AC power to the instrument.
6. Simulator Bracket Screws - Four screws used to attach a bracket that holds a alcohol breath simulator.
7. SIMULATOR VAPOR PORT - A male adapter through which alcohol vapor passes from an attached alcohol breath simulator to the instrument's sample chamber.
8. Key Latch - Two hardened steel locks with removable keys used to unlock the door on the side of the instrument to expose the Mode Selection switches. Replace the key with Part # 410097. (See "ACCESSORIES," page 61.)
9. Mode Selection Switches - Dip, slide, and BCD (Binary Coded Decimal) switches located on the side of the instrument behind a lockable door. The Mode Selection switches enable one to select a mode sequence, set the time and date, and perform diagnostic tests on several of the instrument's basic operations. (See "MODE SELECTION SWITCHES," page 17.)

10. Evidence Card - A formatted, multi-copy card that provides a printed record of the date, model and serial number of the instrument, test procedure, test results, and time of testing sequence.
11. Mounting Screws - Two miscellaneous, 10-32 x 3/8 screws that can be used to secure the instrument to a surface.
12. Three amp Fuse - The instrument's main fuse. Replace with CMI Part Number 140037: 3 amp Little fuse 312 003 or equivalent.
13. Power Cord - A power cord that supplies power to the instrument. Replace with CMI Part Number 330196: Corcom 80-1245 Power Cord or equivalent.
14. Computer "RESET" Switch - A rocker switch activated only in isolated circumstances to cancel all operations and return the instrument to its initial "NOT READY" condition.

## INSTALLATION

To assure adequate ventilation, locate the instrument at least one inch away from a back wall and on a hard surface, ( not on a surface covered with a rug-like material.) The instrument's operational environment should be relatively dust free. You can purchase an optional dustcover by ordering Part Number 011111. (See "ACCESSORIES," page 61.) Power to the instrument should be OFF while this cover is in use.

If you wish to secure the instrument in place, you can use the two miscellaneous 10-32 x 3/8 screws on the back of the instrument for attaching your own mounting setup.



If not adjusted by CMI, set the Mode Selection switches so the Intoxilyzer breath analysis instrument conducts a breath test according to your department's requirements. (See "MODE SELECTION SWITCHES," page 17.)

## SETUP

Before using the Intoxilyzer 5000R breath analysis instrument, complete the following steps:

1. Plug the instrument into an electrical outlet. The instrument operates on 95-130 volts AC at 60 Hz.

\*\*\*\*\*

### WARNING

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IN KEEPING WITH STANDARD SAFETY PRACTICE, THE METAL BASE PLATE OF THE INSTRUMENT IS GROUNDED THROUGH THE THIRD WIRE OF THE POWER CABLE. IF THE INSTRUMENT MUST BE PLUGGED INTO A TWO-WIRE RECEPTACLE, USE A 3-2 ADAPTER. BE SURE TO CONNECT THE GROUNDING LEAD OF THE ADAPTER TO THE RECEPTACLE OR SIMILAR EARTH GROUND.

2. Push the "POWER" switch "on." The display will read "NOT READY" for approximately 20 minutes.
3. Wait until the following message appears on the display:

"CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN; "DATE MM/DD/YY"

The instrument is now ready for use.

4. Set the time and date if incorrect. (See "S10 = Set Time" on page 22 and "S11 = Set Date" on page 23.)
5. If your mode sequence contains a control check operation, attach a wet bath simulator to the instrument's "SIMULATOR VAPOR PORT." (See "CONTROL CHECK," page 36.)

## DISPLAY MESSAGES AND COMMANDS

The Intoxilyzer 5000R breath analysis instrument visually communicates by displaying the following messages and commands. Commands "flash" to indicate that the instrument expects a response.

### Display

### Description

"NOT READY"

The instrument is purging the sample chamber and initializing the computer, processor, and printer.

"PROM CHECK ####"

The instrument is finding a checksum of all program bytes and is comparing it to an internal checksum.

"TEMP CHECK"

The instrument is checking the temperature of the sample chamber.

"RAM CHECK"

The instrument is checking each byte in RAM for possible failure.

"PROCESSOR CHECK"

The computer is testing the output of the processor, the stability of the signal, and the speed of the chopper wheel.

"PRINTER CHECK"

The instrument is checking the movement of the printer head.

"DIAGNOSTIC OK"

The instrument did not find a malfunction while performing diagnostic checks on its components and operational standards.

"CLOCK ERROR"

"PROM ERROR"

"TEMP ERROR"

"PRINTER ERROR"

"RAM ERROR ####"

The instrument is indicating where a malfunction exists. The number denotes the actual address location of the error.

"PROCESSOR ERROR 1"

No sync pulse was found. A problem exists in the sync

"PROCESSOR ERROR 2"

pulse chain.

The sync pulse rate is out of range.

"PROCESSOR ERROR 3"

An unacceptable negative processor drift was found.

"PROCESSOR ERROR 4"

An unacceptable positive processor drift was found.

"PROCESSOR ERROR 5"

The processor's reference value is out of range.

Scrolling across the display -  
"CMI INC INTOXILYZER - ALCOHOL  
ANALYZER FL MODEL 5000R-PUSH  
BUTTON TO START TEST"; "PUSH  
BUTTON" (FLASHING); "TIME ##HR  
##MIN" "DATE MM/DD/YY"

The instrument is ready for operation; you may begin a test by pushing the green "START TEST" button.

"INSERT CARD" (flashing)

The instrument is requesting that an evidence card be inserted. Be sure printing on card is up and gummed edge is inserted first.

"AIR BLANK .000"

The instrument is purging the sample chamber and all hosing that is associated with the path of the subjects breath.

"TIME ##HR ##MIN"

Local time.

"DATE MM/DD/YY"

Current date.

">>>>>>>>"

The instrument is establishing a zero reference point.

"UNSTABLE REF"

The microprocessor was unable to obtain a stable reference signal from the processor. The instrument halted the test.

"PLEASE BLOW/R INTO MOUTHPIECE  
UNTIL TONE STOPS"; "PLEASE  
BLOW/R" (flashing)

To insure delivery of a sufficient sample, the instrument is requesting the subject to blow into the mouthpiece until the tone stops. The tone does not actually stop until the

subject stops blowing. Starting when this command appears on the display, the subject has approximately three minutes to deliver a minimum acceptable breath sample.

"PLEASE BLOW .###" followed by "PLEASE BLOW 0.###"

The instrument is displaying the subject's rising, falling or constant blood/breath alcohol concentration (BAC/BrAC) in percent weight by volume as the subject blows into the mouthpiece. The continuous tone indicates that the subject is blowing with sufficient pressure. When the zero appears before the BAC/BrAC value (0.###), the subject has delivered a minimum acceptable breath sample.

If S5 (Display During Test) is "off," the instrument will not display the subject's blood/breath alcohol concentration until the subject stops blowing and has delivered a minimum acceptable breath sample. The instrument will also not display the zero indicating when the subject has delivered a minimum acceptable breath sample.

"PLEASE BLOW" (flashing)

The subject stopped blowing before providing a sufficient sample.

"PLEASE BLOW" flashes and a beep sounds approximately every three seconds until the subject begins blowing or approximately three minutes have lapsed from the time the instrument initially requested the subject to blow into the mouthpiece.

"SUBJECT TEST .###"

The instrument is displaying

"AIR BLANK .000"

the subject's blood/breath alcohol concentration in percent weight by volume. The instrument is displaying the amount of alcohol (in percent weight by volume) remaining in the sample chamber while the sample chamber is being purged. Accordingly, during the purge operation, the number following "AIR BLANK" gradually decreases to .000.

"TEST COMPLETE"

The test and all printing are complete.

"PLEASE ATTACH COLLECTOR DEVICE AND DEPRESS START TEST SWITCH";  
"ATTACH COLLECTOR" (flashing)

When S6 (Sample Capture Option) is ON, the instrument inserts this command in the mode sequence chain requesting you to attach a collector device.

"PLEASE DETACH COLLECTOR DEVICE DEPRESS START TEST SWITCH";  
"DETACH COLLECTOR" (flashing)

When S6 (Sample Capture Option) is ON the instrument inserts this command in the mode sequence chain requesting you to detach a collector device.

"INVALID TEST"

The "START TEST" button was pushed at the wrong time, the evidence card was pulled from the printer, or the instrument's pump inadequately purged the sample chamber. The instrument canceled the test.

"INVALID SAMPLE"

The subject's breath sample contains residual mouth alcohol.

"INVALID MODE"

The Mode Selection switches located on the side of the instrument are set improperly.

"INHIBITED - RFI"

High level radio frequency interference is present. The instrument canceled the test.

"LOW SAMPLE VOL"

The subject did not supply an minimum acceptable breath sample within approximately three minutes.

"INTERFERENT"

The subject's breath sample or the standard alcohol vapor from an attached wet bath simulator contains a substance, such as acetone, that absorbs infrared energy in the same frequency range as alcohol. The instrument will compensate for the amount of infrared energy absorbed by acetone, and complete the mode sequence.

Note - The intoxilyzer 5000 Series instrument will display "INTERFERENT" when substances which absorb infrared energy in the same frequency range as alcohol are present in the sample chamber.

"DVM TEST .###"

(Differential Voltage Measurement) The instrument is displaying the differential voltage between the BAC/BrAC output of the processor board and a stable voltage reference. This display voltage allows a trained technician to check for signal drift and stability.

"CONTROL TEST .###"

The sample chamber is filled with a standard vapor from an attached wet bath simulator; the instrument is displaying the simulated blood/breath alcohol concentration in percent weight by volume.

"IMPROPER SAMPLE"

Introduced sample at improper sequence (Instrument displays IMPROPER SAMPLE and prints INVALID TEST.)

## TONES

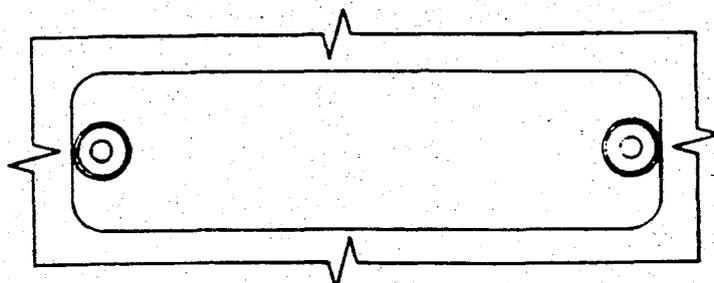
In addition to communicating through displayed messages and commands, the INTOXILYZER 5000 Series breath analysis instrument also communicates by sounding three distinct tones:

1. A beep sounds after the completion of each operation.
2. A continuous tone sounds while a subject blows into the mouthpiece.
3. A low-high tone sounds intermittently in the event of a malfunction, incorrect operational procedure, or unfilled test requirement.

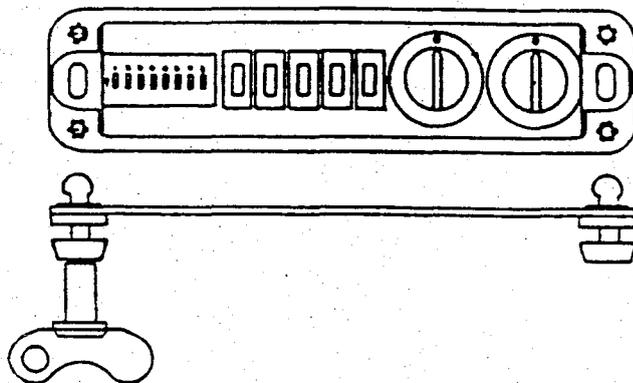
Starting when the instrument displays the command "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS"; "PLEASE BLOW/R" (flashing), the subject has approximately three minutes to deliver a minimum acceptable breath sample. If the subject stops blowing before delivering a minimum acceptable breath sample and before the lapsing of approximately three minutes, "PLEASE BLOW" flashes on the display and a beep sounds approximately every three seconds. The beeping stops when the subject again begins to blow or approximately three minutes have lapsed.

### MODE SELECTION SWITCHES

Located on the side of the Intoxilyzer 5000R breath analysis instrument and protected by a lockable door are the Mode Selection Switches.

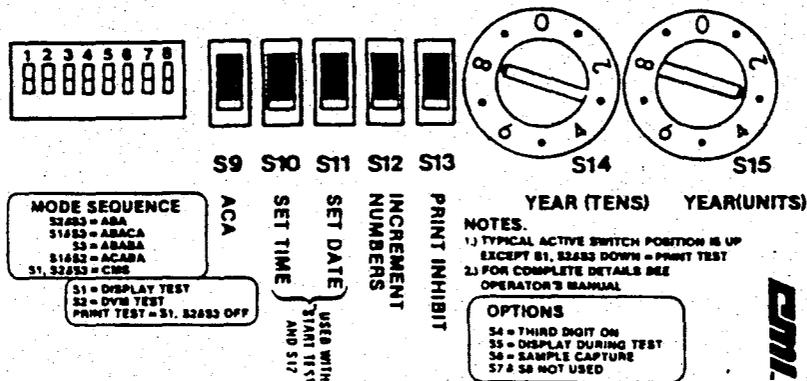


To open the door, insert each key into the door latch and rotate it counterclockwise until it catches. Then, press in on the keys and continue to rotate it counterclockwise until the latch opens.



To lock the door, press in on each key and simultaneously rotate it clockwise until the latch locks. Then, remove the keys by rotating counterclockwise for 1/4 turn. You may purchase replacement keys by ordering Part # 410097.\* (See "ACCESSORIES," page 61.)

\*Note: Some units may contain Thumbscrews instead of Keylocks. The Intoxilyzer 5000 Series breath analysis instrument provides the following functions: up to 5 mode sequences, a custom-programmed mode sequence, 3 options to the mode sequences, 4 diagnostic tests, and several other functions.



Switch Function Label

### Mode Sequences

A mode is a particular operation by the instrument; accordingly, a mode sequence is a series of operations performed consecutively by the instrument.

- Mode Legend:
- A = Air Blank Mode - The instrument's pump purges the sample chamber and internal and external breath tubes.
  - B = Breath Test Mode - The instrument analyzes a breath sample for alcohol concentration.
  - C = Control Check Mode - The instrument analyzes alcohol vapor from an attached wet bath simulator.
- (BA) = A breath test only if sample 1 and 2 do not agree within .020% BAC/BrAC.

Programmed into the Intoxilyzer 5000 Series breath analysis instrument and controlled by switches S1, S2 and S3 are the following mode sequences. Active switch position is "up."

<u>5000R OPTION</u> (five mode)			<u>5000 SERIES OPTION</u> (four mode)		
Switches	Mode		Switches	Mode	
<u>1</u> <u>2</u> <u>3</u>	<u>Seq.</u>		<u>1</u> <u>2</u> <u>3</u>	<u>Seq.</u>	
off on on	ABA		off on on	ABA	
on off on	ABACA		on off on	ABACA	
off off on	ABABA		off off on	ABABA	
on on off	Control ABACABA (BA)		on on off	ACABA	
on on on	Custom ABABA (BA)				

### Switch Settings

On = (up)  
OFF = (down)

For example, with S1 in the "off" position and S2 and S3 in the "on" position, the instrument automatically carries out the operations ABA (Air Blank, Breath Test, Air Blank).

### Setting The Mode Selection Switches

You may set the Mode Selection switches at any time; however, the instrument checks the switch settings only after the "START TEST" button is pushed following the display "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc." For example, if the instrument is in the middle of an ACA test (S9 "on") and you switch S9 "off" and S11 (Set Date) "on," the instrument will first complete the ACA test and subsequently display "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc.." Now if the "START TEST" button is pushed, the instrument will enter the Set Date Mode.

## Special Options

If your department requested special options, e.g., a control breath test mode sequence, custom breath test mode sequence, a keyboard, non-standard software, etc., information and instructions pertaining to those options are given in the "REQUESTED OPTIONS SECTION" at the back of this manual. This section is separated from the standard manual by a divider.

## Options

When on -

- S4 = Third Digit On - The instrument displays and prints values in three digits (.000). When S4 is "off," the instrument truncates the third digit and displays and prints values in two digits (.00).
- S5 = Display During Test - The instrument displays a value continuously during an operation. For example, while the subject blows into the mouthpiece (The Breath Test Mode), the instrument continually displays the subject's rising, falling or constant BAC/BrAC value.
- When S5 is "off" the instrument does not display a value until an operation is complete. For instance, during the Breath Test Mode, the instrument will not display the subject's BAC/BrAC value until the subject stops blowing and has delivered an adequate breath sample.
- S6 = Sample Capture Option - The instrument inserts commands in the mode sequence chain requesting you to attach and detach a collector device. (See "THE SAMPLE CAPTURE OPTION," page 43.)
- S7 = Operator Check - The instrument will run three calibration checks enabling the operator to check calibration of the instrument against standard vapor, from an attached wet bath simulator. (See "CONTROL CHECK," page 36.)
- S8 = Not used.
- S9 = ACACACACACA (Air Blank, Control Check, Air Blank....) - Enables you to check the instrument's calibration against standard vapor from an attached wet bath simulator at any time. Before beginning a calibration check, complete the "SETUP" procedures on page 10. (See "CONTROL CHECK," page 36.)

## Other Functions

When on -

S10 = Set Time - Enables you to set the time displayed on the instrument.

Note - On instruments equipped with a keyboard and battery backup RAM, the keyboard is used to set the time. If your instrument has a keyboard and battery backup RAM, set the time as described in the "REQUESTED OPTIONS SECTION" at the back of this manual. If your instrument does not have a keyboard, set the time as described below.

The Intoxilyzer 5000 Series breath analysis instrument has a battery backup 24-hour time clock. To set the time, place the instrument in the Set Time Mode by activating S10. Before proceeding complete the "SETUP" procedures on page 10.

When "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc." appears on the display, push "START TEST." The display will show the time in hours and minutes.

Push "START TEST" again, and the minutes will start flashing. To advance the minutes one number at a time, activate and deactivate S12 until the display shows the correct minutes. If you leave S12 "on" for more than two seconds, the minutes will advance at a rate of two numbers per second until you turn S12 "off." Activating S12 while the minutes are flashing also stops the clock and sets the seconds to zero.

Push "START TEST." The clock will restart and the hours will begin flashing. To advance the hours one number at a time, activate and deactivate S12 until the display shows the correct hour. If you leave S12 "on" for more than two seconds, the hours will advance at a rate of two numbers per second until you turn S12 "off." Activating S12 while the hour is flashing does not stop the clock; therefore, you can change the hour (e.g., daylight savings time) without altering the minutes or seconds.

To stop the hour from flashing, push "START TEST." The display will show the set time for approximately 10 seconds. When "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc." appears on the display, turn "off" S10.

S11 = Set Date - Enables you to set the date displayed on the instrument.

Note - On instruments equipped with a keyboard and battery backup RAM, the keyboard is used to set the date. If your instrument has a keyboard and battery backup RAM, set the date as described in the "REQUESTED OPTIONS SECTION" at the back of this manual. If your instrument does not have a keyboard, set the date as described below.

To set the date, place the instrument in the Set Date Mode by activating S11. Before proceeding, complete the "SETUP" procedures on page 10.

Note - Change the year only when the instrument is set in the Set Date Mode (S11 ON). Changing the year when the instrument is set in any other mode will not properly program the automatic leap year compensation circuits.

When "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc." appears on the display, push "START TEST." The display will show the month, date, and year. Push "START TEST" again, and the month will start flashing. To advance the months one number at a time, activate and deactivate S12 until the display shows the correct month (i.e., January = 1, February = 2, etc.). If you leave S12 "on" for more than two seconds, the months will advance at a rate of two numbers per second until you turn S12 "off."

Push "START TEST." The date will start flashing. To advance the date one number at a time, activate and deactivate S12 until the display shows the correct date. If you leave S12 "on" for more than two seconds, the date will advance at a rate of two numbers per second until you turn S12 "off."

Push "START TEST." The year will begin flashing. To change the tens digit (e.g., "8" in "84"), rotate S14 until the proper tens digit appears on the display. Likewise, to change the units digit (e.g., "4" in "84"), rotate S15 until the display shows the proper units digit.

Stop the flashing by pushing "START TEST." The display will show the set date for approximately 10 seconds. When "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R-PUSH BUTTON TO etc." appears on the display, turn "off" S11.

S12 = Increment Numbers - See "S10 = Set Time" and "S11 = Set Date." If turned "on" and "off," S12 increments flashing digits one at a time. If S12 is left "on" for more than two seconds, the digits increment at a rate of approximately two counts per second until the switch is turned "off."

Note - If your instrument is equipped with keyboard and battery backup RAM, refer to the "REQUESTED OPTIONS SECTION" at the back of this manual for the function of S12.

S13 = Print Inhibit - The instrument does not display a command requesting you to insert an evidence card; therefore, the instrument does not provide a printed record of the test procedure and results.

S14 = Year (Tens) - See "S11 = Set Date."

S15 = Year (Units) - See "S11 = Set Date."

## Diagnostic Tests

When ON -

S1 = Display Test - All displayable characters scroll across the display.

To place the instrument in the Display Test Mode, turn "on" S1 and turn "off" S2 and S3. Before beginning a display test, complete the "SETUP" procedures on page 10.

When "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc." appears on the display, push "START TEST." The following characters will scroll across the display:

∇ " = ∩ ∩ ∇ / ( ) \* / , - .  
/ ∇ 1 2 3 4 5 6 7 8 9 - ,  
( - ) P Q R S T U E F G H  
I J K L M N O P Q R S T U  
V W X Y Z [ \ ] ^ \_ ` ∩  
∇

If any of the characters do not appear on the display, a malfunction may exist in the character generator.

Next, 16 characters, each having all 14 segments illuminated, appear on the display for several seconds. This enables you to check for a faulty signal between the CPU board and the display, and for defective light segments.

To stop the display test, push "START TEST." When "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc." appears on the display, reset the Mode Selection switches or begin another Display Test by pushing "START TEST."

S2 = DVM Test - The processor's output appears on the display. The displayed processor output allows a trained technician to check the signal's drift and stability.

To place the instrument in the DVM Test Mode, turn "on" S2 and turn "off" S1 and S3. Before beginning a DVM test, complete the "SETUP" procedures on page 10. When "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc." appears on the display, push "START TEST." The instrument will display "DVM Test .###." The three digit number displayed with "DVM Test" is the processor's output. Regardless of how S4 (Third Digit On) is set, the DVM number is always displayed in three digits.

To stop the DVM Test, push "START TEST"; the instrument displays "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc.." Reset the Mode Selection switches or begin another DVM Test by pushing "START TEST."

When Off -

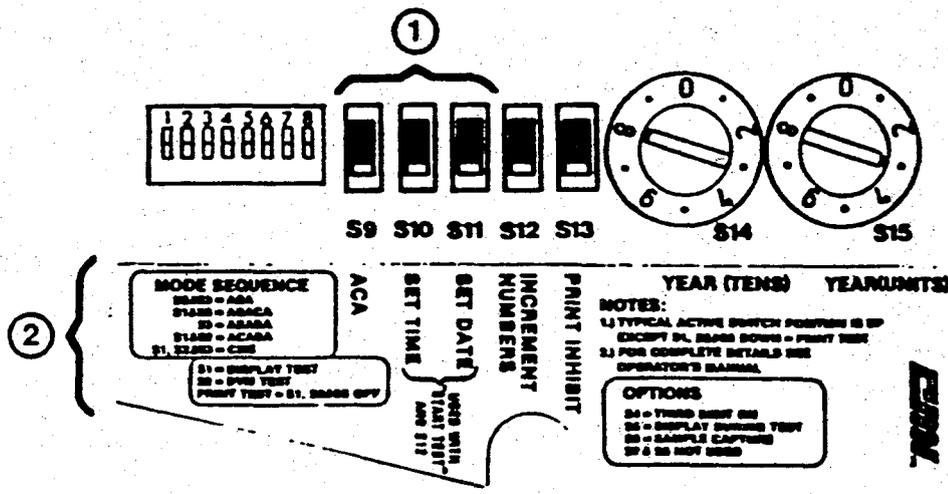
Print Test = S1, S2, & S3 must be off, (switches S9, S10, and S11 should also be in the off position) - The instrument prints a series of characters and transistor numbers. The printed characters and transistor numbers tell a trained technician where a malfunction may exist.

To set the instrument in the Print Test Mode, turn "off" S1, S2, and S3. Before beginning a Print Test, complete the "SETUP" procedures on page 10. When the instrument displays "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc.," push "START TEST." The instrument will request an evidence card, blank the display, and print a series of characters and transistor numbers. Regardless of how S13 (Print Inhibit) is set, the instrument always requests an evidence card when set in Print Test.

After the instrument releases the evidence card and displays "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc.," reset the Mode selection switches or begin another Print Test by pushing "START TEST."

## Switch Priorities And Invalid Modes

### Switch Priorities and Invalid Mode



The circled numbers show in the illustration above indicate the priorities of the Mode Selection switches. For example, if S2 (DVM Test) and S9 (ACA) are both "on," the instrument will be set in ACA. In other words, the instrument responds to the positions of S9, S10, and S11 before it responds to the positions of the other switches.

~~Only one out of the three switches - S9 (ACA), S10 (Set Time), and S11 (Set Date) - can be "on" at once.~~ Consequently, if two or all three switches are "on" when you push "START TEST," "INVALID MODE" will appear on the display and a low-high tone will sound intermittently for five seconds. "INVALID MODE" will also appear on the display if the instrument is set in Custom Mode Sequence (CMS), (S1, S2 and S3 "on") and the instrument's software does not contain a CMS.

The following switches are not operational when the instrument is set in Display Test, DVM Test, Print Test, Set Time, and Set Date: S13 (Print Inhibit), S4 (Third Digit On), S5 (Display During Test), and S6 (Sample Capture). S6 (Sample Capture) is also not operational when the instrument is set in ACA (S9 "on").

Note - On instruments equipped with a keyboard, communication and battery backup RAM, the switch priorities may vary from the priorities described above. If your instrument has a keyboard communication and battery backup RAM refer to the "REQUESTED OPTIONS SECTION" at the back of this manual for the priorities of the Mode Selection switches.

## OPERATING PROCEDURE

The mucous lining of the mouth cavity and nasal passages stores alcohol for some time after a person consumes alcohol. Normal body processes eliminate residual mouth alcohol within approximately 15 minutes. Therefore, observe the subject for at least 15 minutes before performing a test. During the observation time, the subject may not smoke, eat, drink, or introduce any substance into his/her mouth. Furthermore, if the subject regurgitates, note the time and delay starting a breath test for at least 15 minutes.

The positions of the Mode selection switches determine the order of operations carried out by the instrument as well as the messages and commands that will appear on the display. (See "MODE SELECTION SWITCHES," page 17-23.) For example S2 and S3 "on" and S1 "off" places the instrument in the ABA (Air Blank, Breath Test, Air Blank) mode sequence. In other words, the instrument automatically purges the sample chamber (Air Blank), analyzes the breath sample (Breath Test), and again purges the sample chamber (Air Blank).

Following is the order of messages and commands given by the display when the instrument is set in the ABA mode sequence. To conduct a breath test, simply respond to the displayed messages and commands as indicated in the right column.

### Typical ABA Test

<u>Display Reads</u>	<u>Description/ Required Operator Action</u>
1. Scrolling across the display:  "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R- PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN" "DATE MM/DD/YY"	Insert a new mouthpiece in the end of the breath tube. To start the test, push the "START TEST" button at any time.
2. "INSERT CARD" (flashing)	Insert an evidence card into the card slot located on the front panel of the instrument. Make sure to insert the card face up with the top edge "in" according to the instructions printed on the card. You have approximately 30 seconds to

insert the evidence card, after which the instrument will return to its initial ready to start message. If S13 (Print Inhibit) is also in the "on" position, the instrument does not request an evidence card.

3. "AIR BLANK .000"

During this "AIR BLANK," the instrument purges the sample chamber, internal and external breath tubes, and analyzes the air for substances that could potentially interfere with the accuracy of a test.

If the ambient air contains potential interfering substances the instrument:

- cancels the test
- displays "AMBIENT FAILED"
- prints "INVALID TEST";  
"CHECK AMBIENT CONDITIONS."

4. "TIME ##HR ##MIN"

5. "DATE MM/DD/YY"

6. "AIR BLANK .000"

7. ">>>>>>>>>"

8. "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS"; "PLEASE BLOW/R"

Request subject to blow into the mouthpiece until the tone stops; the subject has approximately three minutes to provide a minimum acceptable breath sample.

To insure delivery of a minimum acceptable breath sample, the displayed command requests the subject to blow into the mouthpiece until the tone stops. The tone does not actually stop until the subject stops blowing.

Pressing the "START TEST" switch at any time other than to start the test will invalidate and cancel the test, except in the control & custom modes. (See "REQUESTED OPTIONS SECTION.")

9. "PLEASE BLOW .###"  
followed by "PLEASE  
BLOW 0.###"

In order to provide a minimum acceptable breath sample, a subject must blow for approximately six seconds. As the subject blows into the mouthpiece, the instrument sounds a continuous tone and displays the message to the left; "PLEASE BLOW .###." The three digit (optional two digit) number is the subject's rising, falling or constant blood/breath alcohol concentration in percent weight by volume. The continuous tone tells you that the subject is blowing with sufficient pressure. When the zero appears before the BAC/BrAC value (0.###), the subject has delivered a minimum acceptable breath sample. Do not instruct the subject to stop blowing when the zero appears.

If S5 (Display During Test) is "off," the instrument will not display the blood/breath alcohol concentration value until the subject stops blowing and has delivered a sufficient breath sample. The instrument will also not display the zero indicating when the subject has delivered a minimum acceptable breath sample.

If the subject stops blowing before providing a sufficient sample, "PLEASE BLOW" flashes on the display and a beep

sounds approximately every five seconds. If this occurs, request the subject to blow into the mouthpiece until the tone stops.

In the event that the subject fails to provide a minimum acceptable breath sample within approximately three minutes, "LOW SAMPLE VOL" is displayed accompanied by a low-high tone. The asterisk (\*) is a cross reference to the message printed at the bottom of the evidence card: "\* LOW SAMPLE VOL - VALUE PRINTED WAS HIGHEST OBTAINED."

Evidence Card Format - "Low Sample Vol" (ABA)

```
HRS IMPLIED CONSENT
INTOXILYZER - ALCOHOL ANALYZER
FL MODEL 5000R      SN 66-001464
05/22/90

TEST          %BAC          TIME
AIR BLANK     .000           11:00
*SUBJECT TEST .000           11:12
AIR BLANK     .000           11:12

* LOW SAMPLE VOL - VALUE
PRINTED WAS HIGHEST OBTAINED.

SAMPLE CAPTURE REQUESTED.
```

10. "SUBJECT TEST .###"

11. "AIR BLANK .000"

12. "TEST COMPLETE"

Remove evidence card after it is released by the instrument.

13. Scrolling across the display  
"CMI INC etc."

Regardless of which standard mode sequence the instrument is programmed to perform, your required actions will be the same as those shown in the typical ABA test. When S6 (Sample Capture Option) is "on," the instrument will insert commands in the mode sequence chain requesting you to attach and detach a collector device. (See "THE SAMPLE CAPTURE OPTION," page 43.) Also, if the instrument is set to carry out the operations of a custom or control breath test mode sequence, messages and commands and your required actions may vary. (See "REQUESTED OPTIONS SECTION.")



An incorrect operational procedure or condition will cause the instrument to either cancel or complete a mode sequence and print one of the following messages: (See page 35).

1. "INVALID TEST" - The "START TEST" button was pushed at the wrong time, the evidence card was pulled from the printer, or the instrument's pump inadequately purged the sample chamber.
2. "INVALID TEST"; "SAMPLE INTRODUCED AT IMPROPER TIME." - The instrument displayed improper sample. The subject blew into the mouthpiece at the wrong time.
3. "INVALID TEST"; "UNABLE TO OBTAIN STABLE REFERENCE" - The microprocessor was unable to obtain a stable reference signal from the processor.
4. "\* LOW SAMPLE VOL - VALUE PRINTED WAS HIGHEST OBTAINED"- The subject did not provide an minimum acceptable breath sample within approximately three minutes. The instrument printed the highest obtainable BAC/BrAC value indicated by the asterisk (\*) printed before "SUBJECT TEST."
5. "INVALID TEST"; "INHIBITED RFI" - Radio frequency interference is present.
6. "INTERFERENT SUBTRACTED" - The subject's breath sample or the standard vapor from an attached wet bath simulator contained a substance, such as acetone, that absorbed infrared energy in the same frequency range as alcohol. The instrument compensated for the amount of infrared energy absorbed by acetone.  
  
Note - The Intoxilyzer 5000R instrument will display "INTERFERENT" when a large quantity of any substance that absorbs infrared energy in the same frequency range as alcohol is present in the sample chamber.
7. "INVALID SAMPLE .XXX" - The instrument detected residual mouth alcohol in the subject's breath sample and printed "INVALID SAMPLE .XXX" in place of "SUBJECT TEST .###" and prints "INVALID SAMPLE - MOUTH ALCOHOL."
8. "SUBJECT TEST REFUSED" - The "START TEST" button was pushed after the initiation of a breath test. The instrument displays "REFUSED", and prints "SUBJECT REFUSED TO CONTINUE" on the evidence card.

Evidence Card Samples

(1) INVALID TEST

SN 66-001464 07/30/90  
E00.00 13:36  
INVALID TEST

(2) INVALID TEST

SN 66-001464 05/22/9  
E00.00 14:4  
INVALID TEST  
SAMPLE INTRODUCED  
AT IMPROPER TIME.

(3) INVALID TEST

SN 66-001464 07/30/90  
E00.00 15:49  
INVALID TEST  
UNABLE TO OBTAIN A  
STABLE REFERENCE.

(4) LOW SAMPLE VOLUME

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/28/90

TEST	%BAC	TIME
AIR BLANK	.000	14:3
*SUBJECT TEST	.039	14:3
AIR BLANK	.000	14:3

\* LOW SAMPLE VOL - VALUE  
PRINTED WAS HIGHEST OBTAINED.

(5) INVALID TEST

SN 66-001464 07/30/90  
E00.00 14:46  
INVALID TEST  
INFINITE - REF

(6) INTERFERENT SUBTRACTED

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/30/90

TEST	%BAC	TIME
AIR BLANK	.000	15:4
SUBJECT TEST	.034	15:4
INTERFERENT SUBTRACTED		
AIR BLANK	.000	15:

(7) INVALID SAMPLE

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/30/90

TEST	%BAC	TIME
AIR BLANK	.000	15:09
INVALID SAMPLE	.XXX	15:09
AIR BLANK	.000	15:10

INVALID SAMPLE - MOUTH ALCOHOL

(8) SUBJECT TEST REFUSED

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001  
07/30/90

TEST	%BAC	TIME
AIR BLANK	.000	14
SUBJECT TEST REFUSED		14
AIR BLANK	.000	14

SUBJECT REFUSED TO CONTINUE

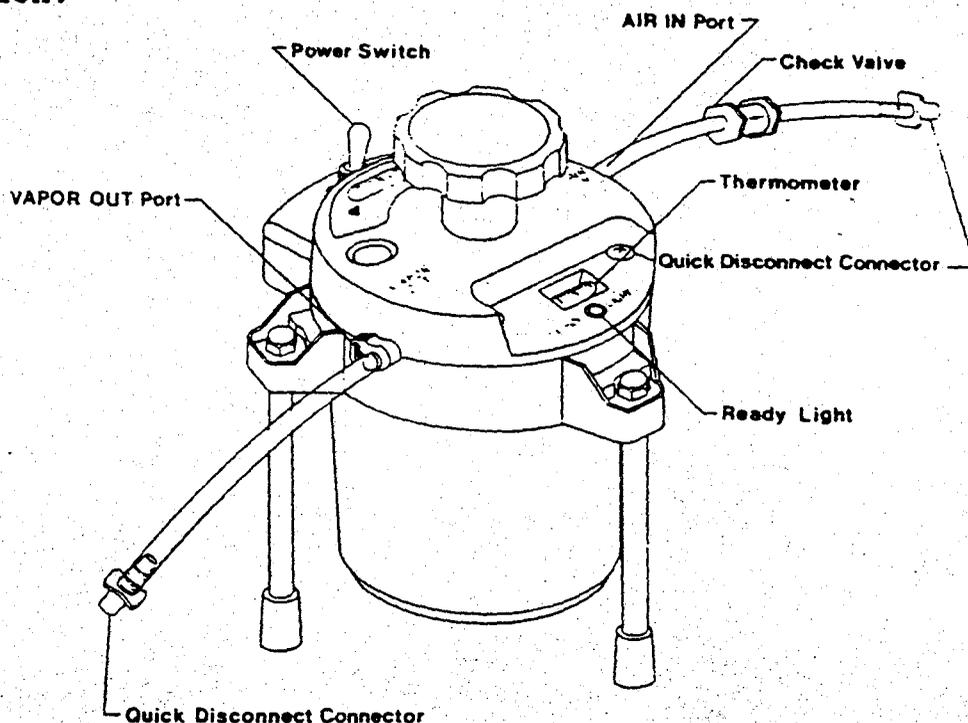
## CONTROL CHECK

Although the Intoxilyzer 5000 Series breath analysis instrument is permanently calibrated, some installations may require periodic checks. To check the instruments' calibration against a standard alcohol solution, CMI recommends using the TOXITEST II™ Model alcohol breath simulator (or its equivalent). You can purchase the TOXITEST II simulator by ordering part # 014024. (See "ACCESSORIES," page 61).

Note - A calibration check will be displayed on the instrument as "Control Test .###."

Following is the standard procedure for attaching the TOXITEST II simulator to the Intoxilyzer 5000 Series instrument and for performing a control check. For a detailed description of how to operate the simulator, refer to the instructions accompanying the unit.

1. During a control check, the instrument's pump draws air through the simulator; consequently, a tightly sealed simulator is essential. After filling the simulator's container with a standard alcohol solution, check for air leaks by blowing into the simulator's "AIR IN" port while plugging the "VAPOR OUT" port. You should note a large difference in pressure and bubbles in the simulator's solution.

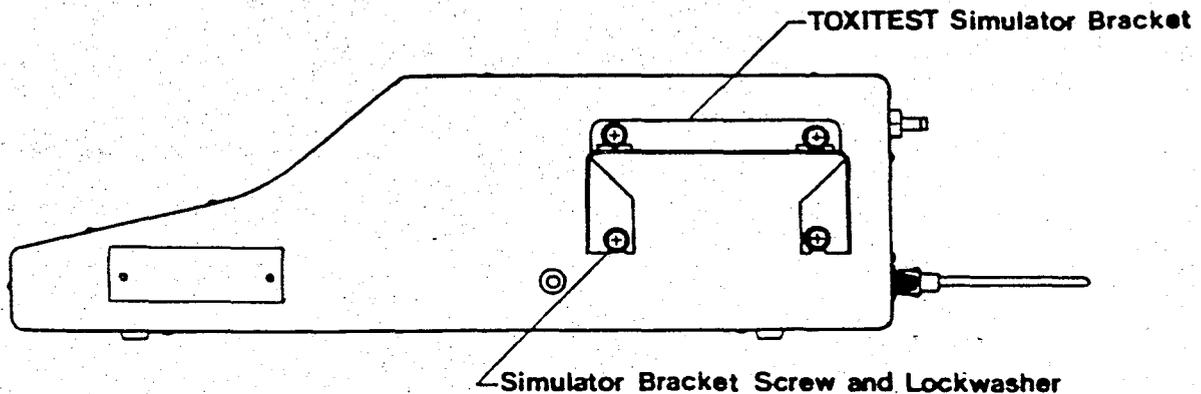


Toxitest II alcohol breath simulator.

2. Plug in the simulator's power cord, turn the "POWER" switch to the ON position, and wait until the solution temperature is 34 degrees C  $\pm 0.2$  degrees C ("READY" light "on"). You can verify the temperature by reading the thermometer located next to the "READY" light.

The TOXITEST II model alcohol breath simulator maintains the solution temperature at 34 degrees C  $\pm 0.2$  degrees C. If the solution temperature falls below 34 degrees C, the "READY" indicator light will go out momentarily. At no time shall the solution temperature fall more than 0.2 degrees C below the nominal temperature of 34 degrees C.

3. Available for purchase is an optional bracket that holds the simulator and mounts to the side of the instrument. Order part #440308: TOXITEST II Simulator Bracket. (See "ACCESSORIES," page 61.) To attach the bracket, loosen the four simulator bracket screws on the side of the instrument and slide the bracket in place, fitting the screws into the bracket's slots. Make sure the lock washers contact the outside surface of the bracket; then tighten the screws.



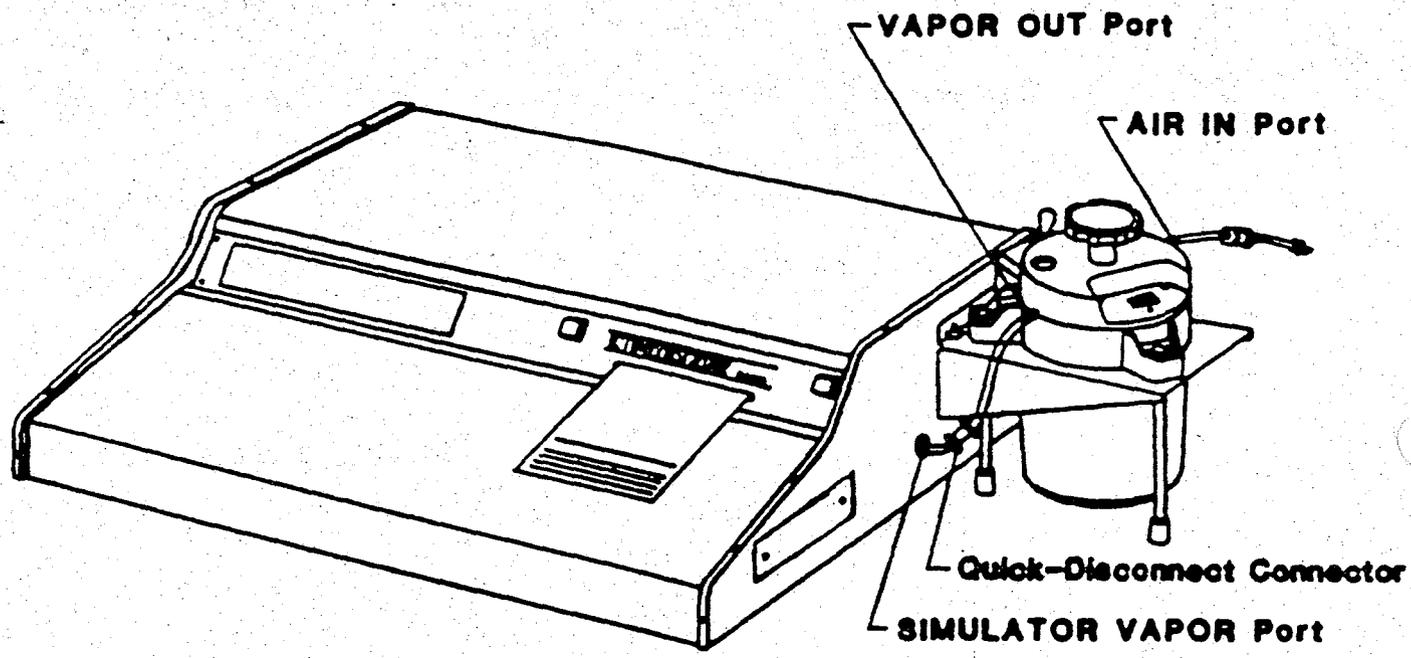
Position the simulator in the bracket so that the leg near the "READY LIGHT" and the leg near the "VAPOR OUT" port fit through the small holes in the bracket. The leg near the "AIR IN" port will be outside the bracket.

Attach a section of flexible, non-absorbent tubing to the "VAPOR FROM SIMULATOR" port of the Intoxilyzer, keeping it as short as possible. Note the type of quick disconnect connector at the end of the tubing attached to the "VAPOR OUT" port of the TOXITEST II simulator. Insert the barbed end of a mating connector into the end of the section of tubing attached to the Intoxilyzer and join the two mating connectors.

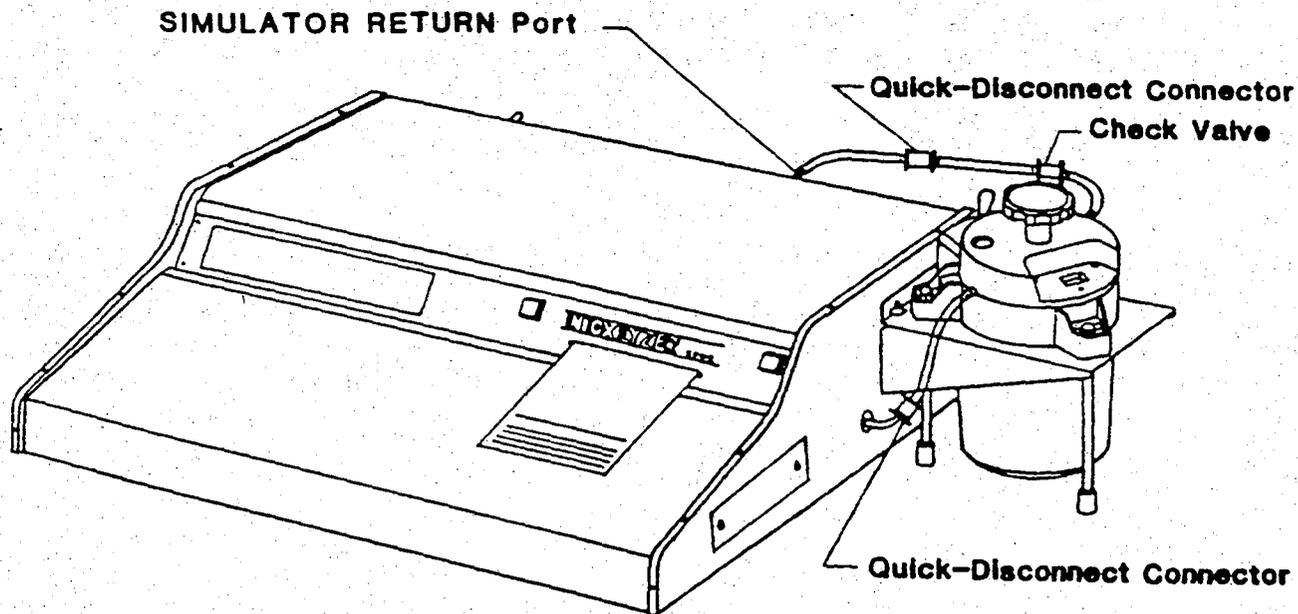
\*\*\*\*\*-  
**CAUTION**  
\*\*\*\*\*

TO AVOID FILLING THE SAMPLE CHAMBER WITH WATER, BE CAREFUL NOT TO CONNECT THE AIR-IN PORT OF THE SIMULATOR TO THE INSTRUMENT.

See following illustration.



Two exhaust ports extend from the back of the instrument. On a standard instrument, the ports are labeled "PUMP EXHAUST/SAMPLE CAPTURE" and "BREATH EXHAUST." On an instrument equipped with the Vapor Recirculation option, the ports are labeled "SIMULATOR RETURN" and "EXHAUST/SAMPLE CAPTURE." If your instrument is equipped with the Vapor Recirculation option, attach the simulator to the instrument as described in the preceding paragraph. Next, attach a section of flexible tubing to the "SIMULATOR RETURN" port on the back of the instrument. Note the type of quick disconnect connector at the end of the tubing attached to the "AIR IN" side of the simulator. Insert the barbed end of a mating connector into the end of the section of tubing and join the two mating connectors as shown below.



Do not attach the "AIR IN" port of the simulator to the instrument if the ports on the back of the instrument are labeled "PUMP EXHAUST/SAMPLE CAPTURE" and "BREATH EXHAUST."

An optional bracket that mounts to the side of the instrument is also available to hold a Smith and Wesson Mark IIA Simulator. Order part # 440273: S and W Simulator Bracket. (See "ACCESSORIES," page 61.) To attach the bracket, loosen the four simulator bracket screws on the side of the instrument and slide the bracket in place, fitting the screws into the bracket's slots. The attached end of the bracket's metal tab should be "up." Make sure the lock washers contact the outside surface of the bracket; then tighten the screws. Position the simulator in the large hole of the bracket; the metal tab will secure the simulator in place.

Use 1/4 inch flexible tubing to connect the outlet port of the simulator to the SIMULATOR VAPOR port of the instrument. To avoid filling the sample chamber with water, be careful not to connect the inlet port of the simulator to the instrument. Use the shortest section of tubing possible to reduce the effects of condensation.

If your instrument is equipped with the Vapor Recirculation option, connect your wet bath simulator to the instrument as described above. Next, use 1/4 inch flexible tubing to connect the inlet port of the simulator to the SIMULATOR RETURN port on the back of the instrument. Use the shortest section of tubing possible. Do not connect the inlet port of the simulator to the instrument if the ports on the back of the instrument are labeled PUMP EXHAUST/SAMPLE CAPTURE or BREATH EXHAUST.

4. Three of the five possible mode sequences controlled by the Mode Selection switches allow you to check calibration while running a breath test. For example, if S1 and S3 are "on" and S2 is "off," the mode sequence is ABACA (Air Blank, Breath Test, Air Blank, Check, Air Blank). When the instrument arrives at the control check operation, a valve closes off air entry through the breath tube and opens up air entry through the simulator. Next, the instrument's pump fills the sample chamber with the standard alcohol vapor contained in the simulator, and the instrument performs a control check. The control check value appears on the display and on the evidence card released at the end of the test sequence.

After the instrument completes the control check, a valve closes off air entry through the simulator and reopens air entry through the breath tube. Therefore, you can leave the simulator attached to the instrument while it is performing an operation other than a control check.

5. S9 of the Mode Selection switches allows you to check the instrument's calibration against a standard alcohol solution while not running a breath test. When S9 is activated, the instrument carries out the operations ACACACACACA (Air Blank, Control Check, Air Blank, ...). Also See S7 switch function.

To perform a control check while in the ACA mode sequence, complete steps 1-10.

Display Reads

Required Operator Action

1. Scrolling across the display  
"CMI INC INTOXILYZER-ALCOHOL  
ANALYZER FL MODEL 5000R--PUSH  
BUTTON TO START TEST"; "PUSH  
BUTTON" (flashing); "TIME ##HR  
##MIN" "DATE MM/DD/YY"

To start the control check, push the "START TEST" button at any time.

2. "INSERT CARD" (flashing)

Insert an evidence card into the card slot located on the front panel of the instrument. Make sure to insert the card face up with the top edge "in" according to the instructions printed on the card. If S13 (Print Inhibit) is also in the "on" position, the instrument will not request an evidence card.

3. "AIR BLANK .000"

4. "TIME ##HR ##MIN"

5. "DATE MM/DD/YY"

6. "AIR ELANK .000"

7. ">>>>>>>>"

8. "CONTROL TEST .###"

The instrument performs a control check by analyzing alcohol vapor from an attached wet bath simulator to insure proper calibration of the instrument.

Note - The instrument will complete five control checks before completing the sequence.

9. "AIR BLANK .000"

10. "TEST COMPLETE"

Remove the evidence card  
after it is released by  
the instrument.

## THE SAMPLE CAPTURE OPTION

The Intoxilyzer 5000R breath analysis instrument uses a nondestructive infrared absorption technique to find the alcohol concentration of a breath sample. Consequently, one may preserve the alcohol in an analyzed sample by evacuating the contents of the sample chamber through a tube containing a desiccant, such as silica gel. Since the desiccant collects alcohol, it enables one to reanalyze a breath sample at a later date.

Some alcohol-capture techniques channel the analyzed sample through the collector tube and into the room. Occasionally, passing the breath sample through the collector tube only once fails to trap all of the alcohol - a phenomenon known as blow-by. Therefore, to prevent blow-by, the Intoxilyzer 5000R breath analysis instrument recirculates an analyzed sample through the collector tube until no alcohol remains in the sample.

Following a breath test, the instrument automatically purges the sample chamber. During a purge operation, the instrument's pump forces the breath sample out an exit port by sucking room air into the sample chamber through the breath tube. Therefore, following a breath test, one may preserve the alcohol in a breath sample by connecting one end of a collector tube to the sample chamber's exit port and the other end of the breath tube. Thus, during the purge operation, the instrument's pump circulates the breath sample instead of exhausting it into the room.

While the desiccant collects the alcohol and water present in the breath sample, the instrument's display shows "AIR BLANK" and a three digit (optional 2 digit) number. The number is the alcohol concentration present in the sample chamber converted to an equivalent blood/breath alcohol concentration in percent weight by volume. Consequently, as the desiccant traps the alcohol, the number displayed with "AIR BLANK" decreases. "AIR BLANK .000," then, indicates that the desiccant has captured all the alcohol.

Following is the order of statements and commands given by the instrument's display when the Intoxilyzer 5000R breath analysis instrument is set with the Sample Capture Option activated (S6 "on") and in the ABABA mode sequence (S3 "on," S1 and S2 "off"). To conduct a breath test, simply respond to the displayed message and commands as indicated in the right hand column.

## Typical ABABA Test with Sample Capture

<u>Display Reads</u>	<u>Description/ Required Operator Action</u>
1. Scrolling across the display "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R-PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ## HR ##MIN" "DATE MM/DD/YY"	Insert a new mouthpiece in the end of the breath tube. To start the test, push the "START TEST" button at any time.
2. "INSERT CARD" (flashing)	Insert an evidence card into the card slot located on the front panel of the instrument. Make sure to insert the card face up with the top edge "in" according to the instructions printed on the card. If S13 (Print Inhibit) is also in the "on" position, the instrument does not request an evidence card.
3. "AIR BLANK "	
4. "TIME ##HR ##MIN"	
5. "DATE MM/DD/YY"	
6. "AIR BLANK .000"	
7. ">>>>>>>>>"	
8. "PLEASE BLOW/R INTO MOUTH- PIECE UNTIL TONE STOPS"; "PLEASE BLOW/R" (flashing)	Request subject to blow into the mouthpiece until the tone stops; the subject has approximately three minutes to provide a minimum acceptable breath sample.  To insure delivery of a minimum acceptable breath sample, the displayed command requests the subject to blow into the mouthpiece until the tone stops. The tone does not actually stop until the subject stops blowing.

9. "PLEASE BLOW .###" followed  
by "PLEASE BLOW 0.###"

In order to provide a minimum acceptable breath sample, a subject must blow for a minimum of approximately 6 seconds. As the subject blows into the mouthpiece, the instrument sounds a continuous tone and displays the message "PLEASE BLOW .###." The three digit (optional two digit) number is the subject's rising, falling or constant blood/breath alcohol concentration in percent weight by volume. The continuous tone tells you the subject is blowing with sufficient pressure. When the zero appears before the BAC/BrAC value (0.###), the subject has delivered a minimum acceptable breath sample. Do not instruct the subject to stop blowing when the zero appears.

If S5 (Display During Test) is "off," the instrument will not display the blood/breath alcohol concentration value until the subject stops blowing and has delivered a minimum acceptable breath sample. The instrument will also not display the zero indicating when the subject has delivered a minimum acceptable breath sample.

If the subject stops blowing before providing a minimum acceptable breath sample, "PLEASE BLOW" flashes on the display and a beep sounds approximately every five seconds. If this occurs, request the subject to blow into mouthpiece until the tone stops.

In the event that the subject fails to provide a minimum

acceptable breath sample within approximately three minutes, "LOW SAMPLE VOL" appears on the display accompanied by a low-high tone sounding intermittently for approximately five seconds. Next, the instrument displays "SUBJECT TEST .###" (the highest BAC/BrAC value obtainable from the given breath samples) and completes the mode sequence. On the evidence card, the instrument indicates the highest obtainable BAC/BrAC value by printing an asterisk (\*) before "SUBJECT TEST .###." The asterisk (\*) is a cross reference to the message printed at the bottom of the evidence card: "\* LOW SAMPLE VOL - VALUE PRINTED WAS HIGHEST OBTAINED."

10. "SUBJECT TEST .###"

Displays actual result of BAC/BrAC.

11. "PLEASE ATTACH COLLECTOR DEVICE AND DEPRESS START TEST SWITCH"; "ATTACH COLLECTOR" (flashing)

Remove the mouthpiece from the breath tube, attach the collector tube and its associated plumbing to the instrument, and depress the "START TEST" button.

You have approximately 60 seconds to attach the collector tube and its associated plumbing to the instrument and to depress the "START TEST" button. This sequence is broken into six, approximately 10 second intervals with a tone sounding after each interval.

If you fail to depress the "START TEST" button in approximately 60 seconds, the instrument moves on to the "AIR BLANK" operation and skips the command requesting you to detach the collector device.

12. "AIR BLANK .000"

13. "PLEASE DETACH COLLECTOR  
DEVICE AND DEPRESS START  
TEST SWITCH"; "DETACH  
COLLECTOR" (flashing)

Detach the collector tube and its associated plumbing from the instrument, depress the "START TEST" button, and insert a mouthpiece in the end of the breath tube.

You have approximately 60 seconds to detach the collector tube and its associated plumbing from the instrument and to depress the "START TEST" button. The approximately 60 seconds is broken into six, approximately 10 second intervals with a tone sounding after each interval.

If you fail to depress the "START TEST" button in approximately 60 seconds, the instrument moves on to the next operation.

14. ">>>>>>>>>"

15. "PLEASE BLOW/R INTO MOUTH-  
PIECE UNTIL TONE STOPS";  
"PLEASE BLOW/R" (flashing)

See number 8.

16. "PLEASE BLOW .###"

See number 9.

17. "SUBJECT TEST .###"

See number 10

18. "PLEASE ATTACH COLLECTOR  
DEVICE AND DEPRESS START  
TEST SWITCH"; "ATTACH  
COLLECTOR" (flashing)

See number 11.

19. "AIR BLANK .000"

20. "PLEASE DETACH COLLECTOR  
DEVICE AND DEPRESS START  
TEST SWITCH"; "DETACH  
COLLECTOR" (flashing)

See number 13.

21. "TEST COMPLETE"

Remove the evidence card when released by the instrument.

Regardless of which mode sequence the Intoxilyzer 5000R breath analysis instrument is set to perform, activating S6 (Sample Capture Option) programs the instrument to do three things:

1. Request the attachment of a collector device following completion of each breath sample analysis.
2. Request the detachment of the collector device following completion of the purge operation following each sample analysis.
3. Print "SAMPLE CAPTURE REQUESTED" on the evidence card.

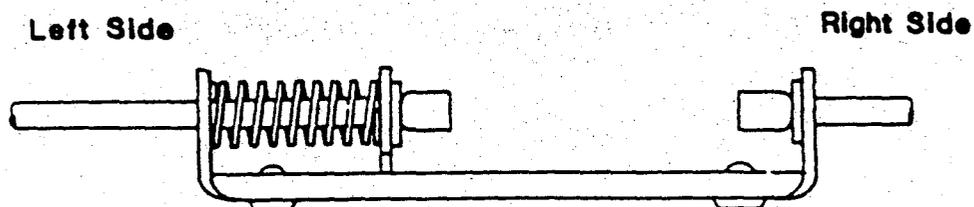
TOXTRAP collector tubes and a TOXTRAP Holder are accessory items available for purchase. TOXTRAP tubes can be purchased in lots of 100 by ordering Part # 015014. The TOXTRAP Holder can be purchased by ordering Part # 011109. (See "ACCESSORIES," page 61.) The following diagrams and text show the TOXTRAP tube as well as the TOXTRAP Holder and give instruction on their use.

#### Instructions For Using The Collector Tube And The Toxtrap Holder

TOXTRAP collector tubes are individually wrapped in waterproof plastic bags. The labeling on each plastic bag is important because it gives the name of the breath analysis instrument the tube was designed to be used with. Therefore, prior to using a TOXTRAP collector tube, make sure the label on the bag reads "USE WITH THE INTOXILYZER 5000."

Two brass exhaust ports extend from the back of the instrument. On a standard instrument, the ports are labeled "PUMP EXHAUST/SAMPLE CAPTURE" and "BREATH EXHAUST." On an instrument equipped with the Vapor Recirculation option, the ports are labeled "SIMULATOR RETURN" and "EXHAUST/SAMPLE CAPTURE."

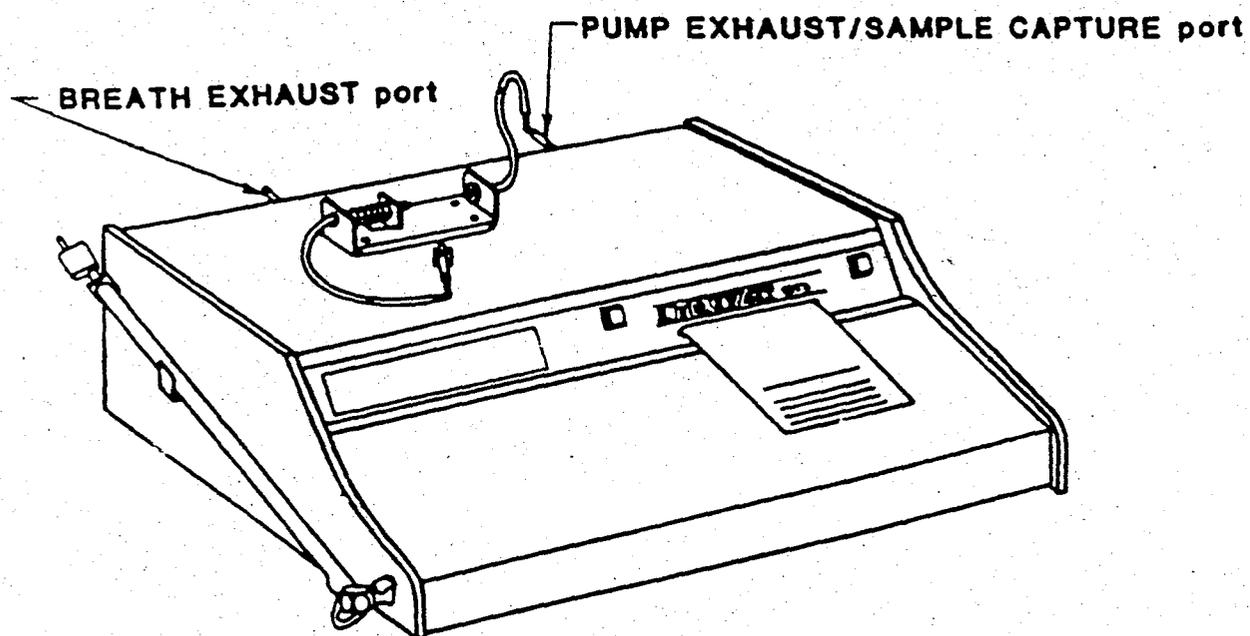
For clarity, the following instructions will refer to the right and left side of the TOXTRAP Holder as indicated below.



**Preliminary Hookup:**

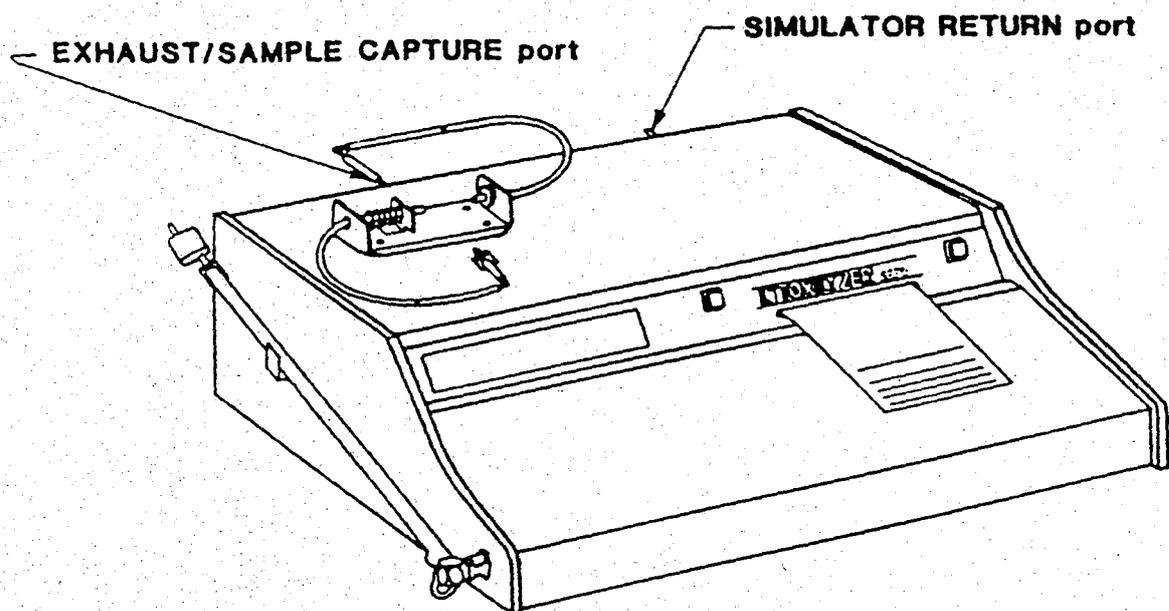
1. Make sure all connectors are properly matched.
2. On a standard instrument, before beginning a breath sample analysis, insert a new mouthpiece in the end of the breath tube and connect the tubing on the right side of the Toxtrap Holder to the instrument's "PUMP EXHAUST/SAMPLE CAPTURE" port.

5000 Series Instrument Without Recirculation



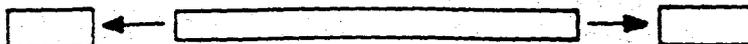
On an instrument equipped with the Vapor Recirculation option, connect the tubing on the right side of the TOXTRAP Holder to the "EXHAUST/SAMPLE CAPTURE" port.

5000 Series Instrument With Recirculation

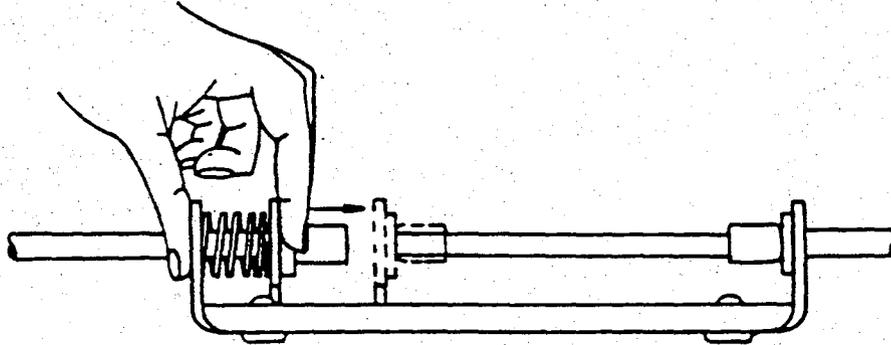


When the instrument displays a command requesting you to attach the collector device, complete the following steps:

1. Make sure the label on the bag enclosing the TOXTRAP collector tube reads "USE WITH THE INTOXILYZER 5000 SERIES"; then remove the tube from the bag and the end caps from the tube.



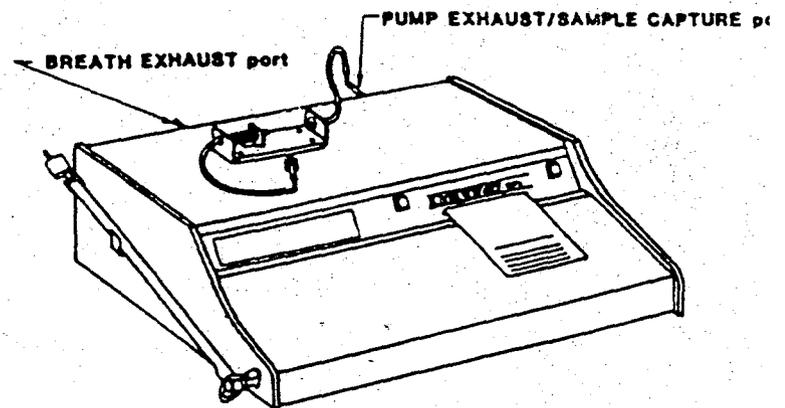
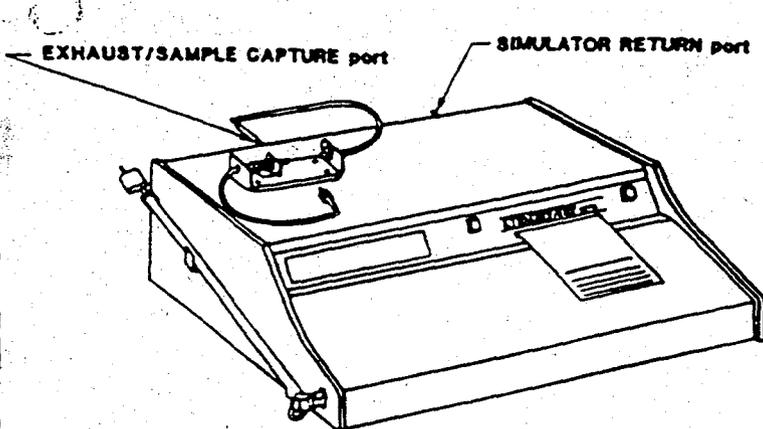
2. Insert the ends of the collector tube into the TOXTRAP Holder as shown.



3. Remove the mouthpiece and connect the unattached tube of the TOXTRAP Holder to the breath tube.

With Recirculation

Without Recirculation



4. Depress the "START TEST" switch.

When the instrument requests you to detach the collector device, complete the following steps:

1. Remove the TOXTRAP collector tube from the TOXTRAP Holder.
2. Recap the TOXTRAP tube.
3. Disconnect the TOXTRAP Holder from the breath tube; the TOXTRAP Holder may remain attached to the "PUMP EXHAUST/SAMPLE CAPTURE" port on a standard instrument or to the "EXHAUST/SAMPLE CAPTURE" port on an instrument equipped with the Vapor Recirculation option.
4. Depress the "START TEST" switch.

\*\*\*\*\*  
NOTICE  
\*\*\*\*\*

TO PREVENT UNNECESSARY WEAR OF THE TOXTRAP HOLDER, DO NOT ALLOW A COLLECTOR TUBE TO REMAIN IN THE TOXTRAP HOLDER FOR EXTENDED PERIODS OF TIME. CONNECT AND DISCONNECT THE COLLECTOR TUBE ONLY WHEN THE DISPLAY REQUESTS YOU TO ATTACH AND DETACH THE COLLECTOR DEVICE.

#### Capturing Standards

Activating S6 (Sample Capture) does not program the instrument to request the attachment of a collector device following a calibration check. Therefore, to capture a standard alcohol vapor from a wet bath simulator, you must fill the sample chamber with the standard alcohol vapor during the breath test mode. The following steps describe the procedure.

1. Activate the Sample Capture option (S6 "on") and the ABA mode sequence (S1 "off," S2 and S3 "on"). Complete the "SETUP" procedures on page 10 and begin the mode sequence by pushing "START TEST."
2. When the display reads "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS"; "PLEASE BLOW/R" (flashing), attach the outlet port of a wet bath simulator containing a standard alcohol solution to the breath tube. (For additional information about the wet bath simulator, see "CONTROL CHECK," page 36.)
3. Fill the sample chamber with the standard vapor by blowing into the simulator's inlet port.
4. Detach the simulator from the breath tube and capture the standard alcohol vapor as you would a breath sample.

## MALFUNCTIONS AND DISPLAYED ERROR MESSAGES

### "NOT READY" And The Diagnostic Checks

When one turns "on" the Intoxilyzer 5000R breath analysis instrument, "NOT READY" appears on the display. While in "NOT READY," the instrument purges its sample chamber, initializes the computer, processor, and printer, and deactivates the "START TEST" button. Upon exiting "NOT READY," the instrument performs the following diagnostic checks on its components and operational standards:

<u>Display Reads</u>	<u>Components or Standard Being Checked</u>
1. "PROM CHECK ####"	ERROR chips on CPU board: the instrument is finding a checksum of all program bytes and is comparing it to an internal checksum.
2. "TEMP CHECK"	Temperature of the sample chamber.
3. "RAM CHECK"	RAM chip on CPU board: The instrument is carefully checking each byte in RAM for possible failure.
4. "PROCESSOR CHECK"	Output of the processor and the stability of the signal.
5. "PRINTER CHECK"	Movement of the printer head.

If the unit locates a malfunction while performing the diagnostic checks, the display gives an error message and a low-high tone sounds intermittently for approximately five seconds. For example, if the temperature of the sample chamber is too low, "TEMP ERROR" appears on the display and the low-high tone sounds. The "START TEST" button remains deactivated until the instrument completes the diagnostic checks without finding a malfunction.

The following are the error messages that may appear on the display during the diagnostic checks and the actions you should take in response to a given error message:

## Displayed Error Messages

"PROM ERROR ###"

"TEMP ERROR"

"PRINTER ERROR"

"RAM ERROR ###"

"PROCESSOR ERROR 1 OR 2"

"PROCESSOR ERROR 3, 4, OR 5"  
displayed for approximately  
five seconds followed by "DVM  
TEST .###"

## Corrective Operator Actions

Trip the computer "RESET" switch located on the back of the instrument. Tripping the computer "RESET" switch cancels all operations and returns the instrument to its initial "NOT READY" condition.

After exiting "NOT READY," the instrument performs the diagnostic checks. If the error message again appears on the display, turn the instrument "off" and consult a repair technician.

The three digit number displayed with "DVM TEST" is the processor's output, which normally ranges between .020 and .600. If the number is between .000 and .600, trip the computer "RESET" switch located on the back of the instrument. The instrument will return to "NOT READY" and subsequently perform the diagnostic checks. If the instrument again displays "PROCESSOR ERROR 3, 4, OR 5" followed by "DVM TEST .###," turn the instrument "off" and consult a repair technician.

When the displayed number is greater than .600, wait until the number drops to or below .600; then trip the computer "RESET" switch. In the event that the number does not drop to or below .600 in approximately 10 minutes, turn the instrument "off" and consult a repair technician.

After completing the diagnostic checks without finding a malfunction, the instrument displays "DIAGNOSTIC OK." Next, the instrument reactivates the "START TEST" button and indicates that it is ready for operation displaying the following message:

"CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN" "DATE MM/DD/YY"

### Clock Errors

Consult a repair technician if:

1. The time or date or both are erratic and "CLOCK ERROR" appears periodically on the display accompanied by a low-high tone sounding intermittently.
2. The instrument fails to update the time while turned "off."

### Other Error Messages

Following are other error messages that may appear on the display. The error messages are accompanied by a low-high tone sounding intermittently for approximately five seconds.

#### Displayed Error Message

#### Description and Corrective Operator Action

"UNSTABLE REF"

The microprocessor was unable to obtain a stable reference signal from the processor. The instrument halts the test, prints "INVALID TEST"; "UNABLE TO OBTAIN STABLE REFERENCE," and prepares itself to start another test. If the instrument is set in "DVM TEST" when "UNSTABLE REF" appears on the display, the instrument returns to "NOT READY" followed by the diagnostic checks.

When the display reads "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc.," begin another test by pushing the "START TEST" button. If "UNSTABLE REF" again appears on the display, trip the computer "RESET" switch located on the back of the instrument. The

instrument will return to "NOT READY" and subsequently perform the diagnostic checks. See "Diagnostic Checks" at the beginning of this section: "MALFUNCTIONS AND DISPLAYED ERROR MESSAGES." If the instrument completes the diagnostic checks without finding a malfunction, try running another test. If "UNSTABLE REF" again appears on the display, turn the instrument "off" and consult a repair technician.

#### "INVALID TEST"

The "START TEST" button was pushed at the wrong time, the evidence card was pulled from the printer, or the instrument's pump inadequately purged the sample chamber. The instrument cancels the test, prints "INVALID TEST" (if the evidence card was not pulled from the printer) and prepares itself to begin another test.

When the display reads "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc.," begin another test by pushing the "START TEST" button. Make sure the "START TEST" button is pushed only at the proper time and the evidence card remains in the card slot until the instrument releases it. If the instrument again displays "INVALID TEST" following the purge ("AIR BLANK") operation, turn the instrument OFF and consult a repair technician.

"INVALID SAMPLE"

The instrument detected residual mouth alcohol in the subject's breath sample. The instrument completes the mode sequence, prints "INVALID SAMPLE .XXX" in place of "SUBJECT TEST .###" and prints "INVALID SAMPLE - MOUTH ALCOHOL" at end of the test sequence and prepares itself to begin another test.

Since normal body processes eliminate residual mouth alcohol within approximately 15 minutes, observe the subject for at least 15 minutes before beginning another breath analysis. During the observation time, the subject may not smoke, eat, drink, or introduce any substance into his mouth. Furthermore, if the subject regurgitates, note the time and delay beginning a breath analysis for at least 15 minutes.

"INHIBITED - RFI"

High level radio frequency interference is present. The instrument halts the test, prints "INVALID TEST"; "INHIBITED RFI" and prepares to start another test. If the instrument is set in "DVM TEST" when radio frequency interference activates the RFI detector, the instrument returns to "NOT READY" followed by the diagnostic checks.

Locate the RFI source and either remove the source from the instrument's operational environment or move the instrument to a new environment free from RFI.

"LOW SAMPLE VOL"

The subject did not provide an adequate breath sample within approximately three minutes. The instrument displays "SUBJECT TEST. ###" (the highest BAC/BrAC value obtainable from the given breath samples) and completes the mode sequence. On the evidence card, the instrument indicates the highest obtainable BAC/BrAC value by printing an asterisk (\*) before "SUBJECT TEST .###." The asterisk (\*) is a cross reference to the message printed at the bottom of the evidence card: "\* LOW SAMPLE VOL - VALUE PRINTED WAS HIGHEST OBTAINED."

When the display reads "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R--PUSH BUTTON TO etc.," you may begin another breath analysis.

"INVALID MODE"

The Mode selection switches located on the side of the instrument are set improperly.

Check and reset the switches before beginning another test. (See "Switch Priorities And Invalid Mode," page 27.)

"INTERFERENT"

The subject's breath sample or the standard alcohol vapor from an attached wet bath simulator contains a substance, such as acetone, that absorbs infrared energy in the same frequency range as alcohol. The instrument compensates for the amount of infrared energy absorbed by acetone, completes the mode sequence, and prints the subject's BAC/BrAC value followed by "INTERFERENT SUBTRACTED."

Note - The Intoxilyzer 5000R instrument will display "INTERFERENT" when a large quantity of any substance which absorbs infrared energy in the same frequency range as alcohol is present in the sample chamber.

#### Evidence Card Jammed in Printer

If an evidence card jams in the printer, push the "START TEST" button. The instrument will invalidate the test and try to return the evidence card. If the instrument does not return the evidence card, gently pull the card from the printer. In the event that a section of the card tears off and remains jammed in the printer, turn the instrument "off" and consult a repair technician.

#### General Malfunctions

In the event of a general malfunction (e.g., the display gives erratic information), take the following action(s):

1. Push the "START TEST" button.
2. If pushing "START TEST" fails to correct the malfunction, trip the computer "RESET" switch on the back of the instrument to return the instrument to "NOT READY." (See "NOT READY" and the "Diagnostic Tests" at the beginning of this section: "MALFUNCTIONS AND DISPLAYED ERROR MESSAGES.")
3. If the instrument completes the diagnostic checks without displaying an error message and the malfunction continues, turn the instrument "off" and consult a repair technician.

## PREVENTATIVE MAINTENANCE

1. To assure adequate clearance and ventilation, locate the instrument at least one inch away from a back wall and on a hard surface (not on a surface covered with a rug-like material.)
2. Keep the instrument away from extremes of temperature. The instrument's operational temperature range is 68 degrees F to 86 degrees F (20 degrees C to 30 degrees C); storage temperature range is -20 degrees F to 140 degrees F (-29 degrees C to 60 degrees C).
3. Keep the instrument clean and away from dust; a glass cleaner can be used to clean the instrument's outer surface. You can purchase an optional dustcover by ordering Part # 011111. (See "ACCESSORIES," page 61.) Power to the instrument should be OFF while the dust cover is in use.
4. To prevent unnecessary wear of the instrument's mechanical parts, turn the instrument OFF when not in use for long periods of time. If the INTOXILYZER instrument is used frequently (once every 24 hours), the unit should be left ON, but only if it's in a very clean environment (Minimum dust, smoke, etc.).
5. Do not place heavy objects on top of the instrument.
6. Approximately every 2 years, a qualified service technician should replace the clock battery on the CPU board.

## SERVICE

The only user-serviceable parts of the Intoxilyzer 5000R instrument are the fuse and power cord.

To change the fuse, unplug the power cord, unscrew the fuse holder, and replace the fuse inside with Part # 140037: 3 amp Littlefuse 312 003 (or equivalent).

Replace the Power Cord with Part Number 330196: Corcom 80-1245 Power Cord (or equivalent).

If you experience continued difficulty in preparing the Intoxilyzer 5000 Series instrument for use, do not operate the instrument until it has been inspected by a qualified service technician. To determine the appropriate course of action for specific problems, contact the CMI Service Department at (502) 685-6545.

#### ACCESSORIES

The following accessories are available for purchase from

CMI/MPH Subsidiaries of MPD Inc.  
316 East Ninth Street  
Owensboro, KY 42301  
(502) 685-6545

<u>Part Number</u>	<u>Description</u>
011111	Dustcover
014022	Padded Cloth Carrying Case
014024	TOXITEST II Simulator
440308	Bracket for TOXITEST Simulator
440273	Bracket for S and W Simulator
015007	Mouthpieces - 100 Lot
015012	Evidence Cards - 100 Lot
015014	TOXTRAP Collector Tubes - 100 Lot
011109	TOXTRAP Holder
410097	Key
650106	Operator's Manual
440338	Bracket for Guth Simulator
011110	Processor Test Box
011107	CMI Keyboard and Cable
014033	Simulator Turn On Box and Cable
014034	UDS Modem No. 103JLP
014035	Cartridge for Bernoulli Box
011116	Tool Kit
014008	Simulator Solution .100 BAC/BrAC
014009	Simulator Solution .150 BAC/BrAC
014032	Guth Simulator 120 volt
014041	Guth Simulator 240 volt

REQUESTED OPTIONS FOR THE STATE OF FLORIDA  
(900.01/CMI #017900 SOFTWARE)

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## GENERAL DESCRIPTION

The instrument that you purchased, the CMI Intoxilyzer FL Model 5000R, operates with or without a keyboard, and features a communications interface to a central computer, if desired. Included in this option is a 32 Kbyte semiconductor memory device (RAM) that uses a built-in battery power source to retain information in the instrument's memory in the event of a power failure.

1. The battery backup RAM stores and retrieves information and is divided into four sections:
  - A. The first section stores a maximum of 50 subject tests.
  - B. The second section stores a maximum of 50 calibration checks.
  - C. The third section stores a maximum of 50 diagnostic checks.
  - D. The fourth section stores a maximum of 50 data entry errors.
2. Each section can hold up to 50 tests or records. If a section is full and test (or record) 51 is available for storage, the instrument will store test (or record) 51, but will delete test one. The only way to use stored data or to clear memory is via communications with a remote computer running the proper operations software.

INTOXILYZER FL MODEL 5000R WITH KEYBOARD READY OPTION

Preliminary Data Entry Sequence For Florida  
(HRS Implied Consent)

Keyboard Functions:

You can use the keyboard to initiate an ABA Mode Sequence, an ACA Calibration Check Sequence, a Diagnostic Check, a Print Test or a Preliminary Data Entry Check by completing the following steps:

1. When the instrument displays the ready to start message, "CMI, INC. INTOXILYZER - ALCOHOL, etc.," press the "ESCAPE" key twice within one second. The instrument will display "ENTER B,C,D,P,E" (flashing).

Legend: B = ABA  
C = ACACACA (CONTROL CHECK)  
D = Diagnostic Check  
P = Print Test  
E = Preliminary Data Entry Check

2. Press the letter corresponding to the desired operation. For example, if you want the instrument to perform a Print Test, press the "P" key.
3. Press "RETURN."

<u>Display Reads Action</u>	<u>Description/Required Operator Action</u>
1. Scrolling across the display "CMI, INC. INTOXILYZER - ALCOHOL ANALYZER MODEL 5000R ---PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN"; "DATE MM/DD/YY"	Press the "ESCAPE" key twice within one second.
2. "ENTER B,C,D,P,E, ?" (flashing)	Press "E" then "RETURN."
3. "ENTER TIME HHMM" (flashing)	Press "RETURN"; if a default value exists, it will appear on the display. The displayed time is military time in the format HHMM. For example, if the time is 2:05 p.m., 1405 will appear on the display.

If the default value is incorrect, erase one character at a time by pressing either "BACK SPACE" or "DELETE"; then enter the correct data and press "RETURN." If the default value is correct, press "RETURN."

When a default value does not exist, the instrument will continue to prompt for data entry. If this occurs, enter the correct time, using military time and the format HHMM. When entering a single digit value (e.g., 5 minutes), enter a leading zero. After entering the time, press "RETURN."

4. "DATE= MMDDYY" (flashing)

Press "RETURN"; if a default value exists, it will appear on the display. The displayed date is in the format MMDDYY. For example, if the date is February 15, 1989, 021589 will appear on the display.

If the default value is incorrect, erase one character at a time by pressing either "BACK SPACE" or "DELETE"; then enter the correct data and press "RETURN." If the default value is correct, press "RETURN."

When a default value does not exist, the instrument will continue to prompt for data entry. If this occurs, enter the correct date, using six digits and the format MMDDYY. For example, if the date is February 15, 1989, type 021589. When entering a single digit value (e.g., February = 2), enter a leading zero. After entering the date, press the "RETURN" key.

5. "INSTR LOCATION=" (flashing) Press "RETURN"; if a default value exists, it will appear on the display. If the default value is incorrect, erase one character at a time by pressing either "BACK SPACE" or "DELETE"; then enter the correct data and press "RETURN." If the default value is correct, press "RETURN."

When a default value does not exist, the instrument will continue to prompt for data entry. If this occurs, enter the instrument's location, using a maximum of 25 characters. You may use alpha characters (A-Z), numeric characters (0-9), spaces, periods, virgules (/), commas, or hyphens.

The instrument stores the instrument's location in the battery backup RAM and prints it at the top of each evidence card. After entering your agency's name, press "RETURN."

6. Scrolling across the display  
"CMI, INC. INTOXILYZER -  
ALCOHOL ANALYZER MODEL  
5000R---PUSH BUTTON TO  
START TEST"; "PUSH BUTTON"  
(flashing); "TIME ##HR  
##MIN"; "DATE MM/DD/YY"

The above Preliminary Data Entry Sequence is a typical sequence but may vary in accordance to individual requirements.



The circled numbers in the previous illustration indicate the priorities the instrument gives to the Mode Selection switch settings. That is:

1. The instrument responds to how S9 is set before it responds to how the other switches are set. S9 has priority over all other switch settings. For example, with S9 on, if S2 (DVM Test) and S12 are both ON, the instrument is set in the ACACACACACA Mode (S9).
2. When S9 (ACA) is on, S10 (Set Time) or S11 (Set Date) cannot be ON when "START TEST" is pressed. If either switch is ON, "INVALID MODE" will appear on the display, a low-high tone will sound intermittently for approximately five seconds, and the instrument will return to the ready to start message.

#### Test Data Entry Sequence

1. A Test Data Entry Sequence is a series of commands appearing on the display requesting entry of the information that varies from test to test; such as, the subject's name and the operator's name.
2. The instrument carries out the Test Data Entry Sequence prior to beginning the Set Mode Sequence and following a test, it prints the information requested in the Test Data Entry Sequence along with the test results on the evidence card.
3. When S10 and S11 are OFF (down) and a test is initiated by pressing the "START TEST" button, the instrument carries out only the Set Mode Sequence and prints, but does not store, the test results.
4. When the instrument flashes a data request on the display, use the keyboard to enter the appropriate data. As you type, the typed characters will appear on the display.
5. Since the instrument expects data entry for each request, it will not advance to the next request when you press "RETURN" until you type the requested information.
6. To help insure correct data entries, the instrument uses a character input mask. In other words, if the instrument expects a digit, it ignores all characters except 0-9. Likewise, if the instrument expects an alpha character, it ignores all characters except A-Z.

7. After making an entry, press the "RETURN" key. The instrument will store the information and will display the next request.

#### Data Storage (with communications only)

1. If S12 (Preliminary Data Entry) is ON (up) and tests are initiated by pressing "START TEST," the instrument will store test results and the occurrences of operational errors.
2. If S12 (Preliminary Data Entry) is OFF (down) and tests are initiated by pressing "START TEST," no test results or operational errors will be stored.
3. Regardless of the position of S12, when tests are initiated by pressing the "ESCAPE" key on the keyboard twice, the instrument will store test results and the occurrences of operational errors. See "KEYBOARD FUNCTIONS."

The only way to use the stored data or to clear the memory, is through communications with a remote computer running the proper operations software.

#### Preliminary Data Entry Sequence And Setting Time And Date

##### General Information:

1. Pressing the "ESCAPE" key twice within one second programs the instrument to display a series of commands ("ENTER B,C,D,P,E, ?") requesting entry of the time and date and the data that remains constant for each test; e.g., the header printed at the top of each evidence card. Use the keyboard to enter the requested data.
2. After making a data entry, press "RETURN." The instrument will store the entered data and display the next request.
3. Since the instrument expects an entry for each request, it will not advance to the next request when the "RETURN" key is pressed until the requested information is entered.

4. The Intoxilyzer 5000R instrument is capable of displaying 16 characters. If a data entry requires more than 16 characters, the displayed characters will scroll to the left as each additional character is typed.

#### Default Values

1. The time, date, and agency name may have default values - values previously entered and stored. To display a default value, press "RETURN" after the instrument requests a data entry. If a default value does not exist, the instrument will continue to prompt for data entry. If a default value exists, it will appear on the display.
2. When a default value is correct, press "RETURN."
3. When a default value is incorrect, erase one character at a time by pressing either "BACK SPACE" or "DELETE." Then enter the correct data and press "RETURN."

#### Correcting Entry Errors

Once you complete an entry and press "RETURN," you cannot back up to a previous entry. The last displayed command in the Test Data Entry Sequence enables you to sequentially review the previously entered data and to make any necessary corrections.

Test Data Entry Sequence With Keyboard And Communications For  
Florida Intoxilyzer 5000R (HRS Implied Consent)

<u>Display Reads</u>	<u>Description/Required Operator Action</u>
1. Scrolling across the display - CMI, INC. INTOXILYZER - ALCOHOL ANALYZER FL MODEL 5000R -- PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN"; "DATE MM/DD/YY"	Turn S12 ON, S10, S11 OFF and the switches controlling your desired mode sequence. To start the Test Data Entry sequence, press "START TEST."  NOTE: Make sure keyboard is plugged into the instrument and screws are tightened. Unit <u>should be turned off</u> before plugging in keyboard.
2. "INSERT CARD" (flashing)	Insert an evidence card into the card slot on the front panel of the instrument. You have approximately 30 seconds to insert the evidence card. If S13 (Print Inhibit) is also ON, the instrument will not request an evidence card.
3. "SUB LAST NAME=" (flashing)	Enter the subject's last name, using a maximum of 15 characters. The first character must be alpha (A-Z); the remaining characters may be alpha or the following spacers: periods, commas, spaces, hyphens, or virgules (/).  Press either the "RETURN" key or the "," key.
4. "SUB FIRST NAME=" (flashing)	Enter the subject's first name, using a maximum of 15 characters. The first character must be alpha (A-Z); the remaining characters may be alpha or the following spacers: periods, commas, spaces, hyphens, or virgules (/).

Press either the "RETURN" key or the "," key.

5. "SUB MIDDLE NAME=" (flashing)

Enter the subject's middle name, using a maximum of 10 characters. You may use alpha characters (A-Z) and the following spacers: periods, commas, spaces, hyphens, or virgules (/).

(Press the "RETURN" key.)

6. "OPER LAST NAME=" (flashing)

Enter the operator's last name, using a maximum of 15 characters. The first character must be alpha (A-Z); the remaining characters may be alpha or the following spacers: periods, commas, spaces, hyphens, or virgules (/).

Press either the "RETURN" key or the "," key.

7. "OPER FIRST NAME=" (flashing)

Enter the operator's first name, using a maximum of 15 characters. The first character must be alpha (A-Z); the remaining characters may be alpha or the following spacers: periods, commas, spaces, hyphens, or virgules (/).

Press either the "RETURN" key or the "," key.

8. "MIDDLE NAME=" (flashing)

Enter the operator's middle name, using a maximum of 10 characters. You may use alpha characters (A-Z) and the following spacers: periods, commas, spaces, hyphens, and virgules (/).

Press the "RETURN" key.

9. "REVIEW DATA? Y/N" (flashing)

If you wish to review the entered data, press the "Y" key; then press the "RETURN"

key. The instrument will return to the first data prompt; i.e. "SUB LAST NAME=" (flashing).

To display the previously entered last name, press "RETURN." If the name is correct, press "RETURN" to display the next data prompt. If the name is incorrect, erase one character at a time by pressing either "BACK SPACE" or "DELETE"; then enter the correct name and press "RETURN" to display the next data prompt.

If you do not wish to review the entered data, press the "N" key; then press the "RETURN" key.

10. The first "AIR BLANK" of the set mode sequence.

### Obtaining A Printout

When you use the keyboard to initiate either a Diagnostic Check or a Print Test, the instrument will always request an evidence card, and thus provide a printout, regardless of how S13 (Print Inhibit) is set.

When you use the keyboard to initiate either an ABA Test or an ACACACA Test, the instrument will only request an evidence card, and thus provide a printout, if S13 (Print Inhibit) is OFF (down).

### Diagnostic Check And Printout

To initiate and obtain a printout of the diagnostic checks, complete the following steps:

1. When the instrument displays the ready to start message, "CMI, INC., etc.," press the "ESCAPE" key twice within one second.
2. When the instrument displays "ENTER B,C,D,P,E, ?" (flashing), press the "D" key.
3. Press "RETURN."
4. When the instrument displays "INSERT CARD" (flashing), insert an evidence card into the card slot.

The instrument will perform the following diagnostic checks:

<u>Display Reads</u>	<u>Component or Standard Being Checked</u>
1. "PROM CHECK ####"	The instrument is finding a checksum of all program bytes and is comparing it to an internal checksum.
2. "RAM CHECK #"	The instrument is checking each byte in RAM for possible failure.
3. "TEMP CHECK"	The instrument is checking the temperature of the sample chamber.

4. "PROCESSOR CHECK"

The computer is testing the output of the processor, the stability of the signal, and the speed of the chopper wheel.

5. "PRINTER CHECK"

The instrument is checking the movement of the printer head by printing the alphabet and numbers 0 through 9.



### Failed Diagnostic Check

If the instrument finds a malfunction while performing the diagnostic checks,

1. An error message appears on the display.
2. A low-high tone sounds intermittently for approximately five seconds.
3. The instrument prints "FAILED" next to the name of the failed diagnostic check and next to the name of each succeeding diagnostic check.
4. The instrument releases the evidence card and continues displaying an error message.

Press the "START TEST" button to return the instrument to the "NOT READY" condition. After exiting "NOT READY," the instrument will again perform the diagnostic checks. See the evidence card format on the following page.

Failed Diagnostic Check  
Evidence Card Format

THIS SIDE UP. THIS EDGE IN. FORM NUMBER 015010

KY  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
03/20/90

DIAGNOSTIC TEST 09:28

PROM CHECK	E00.00	PASSED
RAM CHECK		PASSED
TEMP CHECK		PASSED
PROCESSOR CHECK		
SYNC PULSE		PASSED
SYNC SPEED		PASSED
NEG STABILITY		PASSED
POS STABILITY		PASSED
REF RANGE		FAILED

DIAGNOSTIC FAILED

PRINTER CHECK  
ABCDEFGHIJKLMN OPQRSTUVWXYZ  
0123456789

\_\_\_\_\_  
SUBJECT'S NAME

\_\_\_\_\_  
TIME FIRST OBSERVED

\_\_\_\_\_  
INSTRUMENT LOCATION

\_\_\_\_\_  
OPERATOR

\_\_\_\_\_  
ADDITIONAL INFORMATION AND/OR REMARKS

INTOXILYZER INSTRUMENT PRINTER CARD

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## THE CUSTOM BREATH TEST MODE SEQUENCE WITH SAMPLE CAPTURE

### Sample Capture Option Not Activated

The software in your instrument contains a custom breath test mode sequence. To program the instrument to carry out the operations of your custom breath test mode sequence, set the Mode Selection switches labeled CUSTOM - S1, S2, and S3 in the ON (up) position.

Following are the general operations of your custom breath test mode sequence:

1. The instrument accepts and analyzes two breath samples and checks to see if the two results are equal to or less than .020 BAC/BrAC with S4 ON (equal to or less than .02 BAC/BrAC if S4 is OFF).
2. If the two results agree, ( $\leq .020$  or  $.02$ ) the instrument completes the mode sequence and prints the test results. If the two results do not agree, ( $>$  than  $.020$  or  $.02$ ) the instrument accepts and analyzes a third breath sample.
3. The instrument completes the mode sequence, and prints the test results. If the first two test results are greater than  $.020$  or  $.02$  Bac/BrAC, the instrument completes the mode sequence, and prints the results of the three breath tests, and the message, "NO .02% AGREEMENT BETWEEN 1ST AND 2ND SAMPLE. 3RD TEST REQUESTED."

Below is the order of statements and commands given by the display following completion of the Test Data Entry Sequence when the instrument is set to carry out the custom-programmed mode sequence.

#### Ambient Failed Conditions:

<u>Display Reads</u>	<u>Description/Required Operation Action</u>
1. "CMI, INC. INTOXILYZER - ALCOHOL, ANALYZER...FL MODEL 5000R...PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN"; "DATE MM/DD/YY"	Insert a new mouthpiece in the end of the breath tube. To begin test, press "START TEST" button any time.

2. "INSERT CARD" (flashing)

Insert an evidence card into the card slot located on the front panel of the instrument. Make sure to insert the card face up with the top edge "in" according to the instructions printed on the card. You have approximately 30 seconds to insert the evidence card, after which, the instrument will return to its initial ready to start message. If S13 is in the ON position (Print Inhibit), the instrument will not request an evidence card.

3. "AIR BLANK"  
"TIME ##HR ##MIN"  
"DATE MM/DD/YY"

4. "AIR BLANK .000"

During this "AIR BLANK," the instrument purges the sample chamber, internal, external breath tubes and analyzes the room air for substances that could potentially interfere with the accuracy of a test.

If the ambient air contains potential interfering substances, the instrument:

- cancels the test,
- displays "AMBIENT FAILED," and prints "INVALID TEST"; "CHECK AMBIENT CONDITIONS" (See following evidence card).

Ambient Conditions  
Evidence Card Format

THIS SIDE UP. THIS EDGE IN. FORM NUMBER 015010

SN 66-001464                      07/19/90  
E00.00                                      19:07  
INVALID TEST  
CHECK AMBIENT CONDITIONS

\_\_\_\_\_  
\_\_\_\_\_  
SUBJECT'S NAME  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
TIME FIRST OBSERVED

\_\_\_\_\_  
\_\_\_\_\_  
INSTRUMENT LOCATION

\_\_\_\_\_  
\_\_\_\_\_  
OPERATOR

\_\_\_\_\_  
\_\_\_\_\_  
ADDITIONAL INFORMATION AND/OR REMARKS  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

INTOXILYZER INSTRUMENT PRINTER CARD

**EMI**

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Subject Test Refused:

1. "CMI, INC. INTOXILYZER - ALCOHOL, ANALYZER ... FL MODEL 5000R ... PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN"; "DATE MM/DD/YY" Insert a new mouthpiece in the end of the breath tube. To begin test, press "START TEST" button any time.
2. "INSERT CARD" (flashing) Insert an evidence card into the card slot located on the front panel of the instrument. Make sure to insert the card face up with the top edge "in" according to the instructions printed on the card. You have approximately 30 seconds to insert the evidence card, upon which, the instrument will return to its initial ready to start message. If S13 is in the ON position (Print Inhibit), the instrument will not request an evidence card.
3. "AIR BLANK"  
"TIME ##HR ##MIN"  
"DATE MM/DD/YY"
4. "AIR BLANK .000" During this "AIR BLANK," the instrument purges the sample chamber, internal, external breath tubes and analyzes the room air for substances that could potentially interfere with the accuracy of a test.
5. ">>>>>>>>>"
6. "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS"; "PLEASE BLOW/R" (flashing) Request the subject to blow into the mouthpiece until the tone stops; the subject has approximately three minutes to deliver a minimum acceptable breath sample.  
  
To insure delivery of a minimum acceptable breath sample, the displayed command requests the subject to blow into the mouthpiece until the

tone stops. (The tone does not actually stop until the subject stops blowing.)

If the subject refuses to take the test, you can indicate the refusal by pressing the "START TEST" button or by pressing the "R" key followed by "RETURN" anytime during this operation. The instrument:

- A. displays "REFUSED."
- B. sounds an intermittent low-high tone and displays "AIR BLANK .000."
- C. stops mode sequence.
- D. displays "TEST COMPLETE."
- E. print "SUBJECT TEST REFUSED" in place of the BAC/BrAC value then at bottom of card prints "SUBJECT REFUSED TO CONTINUE."

NOTE: Pressing "START TEST" during this operation, to indicate a refusal, works only if the instrument is set in Custom Mode or Control Mode. (See evidence card next page-left). Pressing "START TEST" during this operation when the instrument is set in any other mode sequence will invalidate the test. (See evidence card next page).

SUBJECT TEST REFUSED  
Evidence Card Format

THIS SIDE UP. THIS EDGE IN. FORM NUMBER 015010

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/30/90

TEST	%BAC	TIME
AIR BLANK	.000	13:13
SUBJECT TEST	REFUSED	13:13
AIR BLANK	.000	13:14

SUBJECT REFUSED TO CONTINUE.

\_\_\_\_\_  
SUBJECT'S NAME

\_\_\_\_\_  
TIME FIRST OBSERVED

\_\_\_\_\_  
INSTRUMENT LOCATION

\_\_\_\_\_  
OPERATOR

\_\_\_\_\_  
ADDITIONAL INFORMATION AND/OR REMARKS

INTOXILYZER INSTRUMENT PRINTER CARD

**CMI**

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Low Sample Volume Test:

1. "CMI, INC. INTOXILYZER - ALCOHOL, ANALYZER ... FL MODEL 5000R ... PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN"; "DATE MM/DD/YY"  
Insert a new mouthpiece in the end of the breath tube. To begin test, press "START TEST" button any time.
2. "INSERT CARD" (flashing)  
Insert an evidence card into the card slot located on the front panel of the instrument. Make sure to insert the card face up with the top edge "in" according to the instructions printed on the card. You have approximately 30 seconds to insert the evidence card, after which, the instrument will return to its initial ready to start message. If S13 is in the ON position (Print Inhibit), the instrument will not request an evidence card.
3. "AIR BLANK"  
"TIME ##HR ##MIN"  
"DATE MM/DD/YY"
4. "AIR BLANK .000"  
During this "AIR BLANK," the instrument purges the sample chamber, internal, external breath tubes and analyzes the room air for substances that could potentially interfere with the accuracy of a test.
5. ">>>>>>>>>>"
6. "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS"; "PLEASE BLOW/R" (flashing)  
As the subject blows into the mouthpiece, the instrument sounds a continuous tone and displays the message to the left: "PLEASE BLOW .###." The three digit (optional two digit) number is the subject's rising, falling or constant blood/breath alcohol concentration in percent weight by volume.

To deliver a minimum acceptable breath sample, a subject must blow for a minimum of approximately 6 seconds.

The continuous tone indicates that the subject is blowing with sufficient pressure.

When the zero appears before the BAC/BrAC value (0.###), the subject has delivered a minimum acceptable breath sample. (Do not tell the subject to stop blowing when the zero appears.)

If the subject stops blowing before delivering a sufficient sample, "PLEASE BLOW" flashes on the display and a beep sounds approximately every five seconds. If this occurs, ask the subject to blow into the mouthpiece until the tone stops.

If the subject fails to deliver a minimum acceptable breath sample within approximately three minutes, the instrument:

- A. displays "LOW SAMPLE VOL."
- B. sounds an intermittent low-high tone for approximately three seconds.

Instrument displays actual blood/breath alcohol content in percent weight by volume.

7. "PLEASE BLOW .###"  
followed by "PLEASE BLOW 0.###"

8. "SUBJECT TEST .###"

9. "AIR BLANK .000"

10. "WAIT"

11. ">>>>>>>>>>"

The instrument will display "WAIT."

12. "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS"; "PLEASE BLOW/R" (flashing) Repeat step six.
13. "PLEASE BLOW .###" followed by "PLEASE BLOW 0.###" Repeat step seven.
14. "SUBJECT TEST .000"
15. "AIR BLANK .000" Prints an asterisk (\*) before "SUBJECT TEST .###." The asterisk is a cross reference to the message, "LOW SAMPLE VOL - VALUE PRINTED WAS HIGHEST OBTAINED," printed at the bottom of the evidence card. (See evidence card below.)

Low Sample Volume  
Evidence Card Format

THIS SIDE UP: THIS EDGE IN. FORM NUMBER 015010

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/28/90

TEST	%BAC	TIME
AIR BLANK	.000	14:37
*SUBJECT TEST	.028	14:41
AIR BLANK	.000	14:41
*SUBJECT TEST	.040	14:46
AIR BLANK	.000	14:47

\* LOW SAMPLE VOL - VALUE  
PRINTED WAS HIGHEST OBTAINED.

16. "TEST COMPLETE" Remove the evidence card after it is released by the instrument.

.02 Agreement:

1. "CMI, INC. INTOXILYZER - ALCOHOL, ANALYZER ... FL MODEL 500R ... PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN"; "DATE MM/DD/YY"      Insert a new mouthpiece in the end of the breath tube. To begin test, press "START TEST" button any time.
2. "INSERT CARD" (flashing)      Insert an evidence card into the card slot located on the front panel of the instrument. Make sure to insert the card face up with the top edge "in" according to the instructions printed on the card. You have approximately 30 seconds to insert the evidence card, after which, the instrument will return to its initial ready to start message. If S13 is in the ON position (Print Inhibit), the instrument will not request an evidence card.
3. "AIR BLANK"  
"TIME ##HR ##MIN"  
"DATE MM/DD/YY"
4. "AIR BLANK .000"      During this "AIR BLANK," the instrument purges the sample chamber, internal, external breath tubes and analyzes the room air for substances that could potentially interfere with the accuracy of a test.
5. ">>>>>>>>>>"
6. "PLEASE BLOW R/INTO MOUTHPIECE UNTIL TONE STOPS"; "PLEASE BLOW/R" (flashing)      (See step 6 "Low Sample Volume Test.")
7. "PLEASE BLOW .###" followed by "PLEASE BLOW 0.###"      (See step 7 "Low Sample Volume Test.")
8. "SUBJECT TEST .###"      Instrument displays actual blood/breath alcohol content in percent weight by volume.

9. "AIR BLANK .000"

10. ~~WATT~~

11. ">>>>>>>>"

12. "PLEASE BLOW/R INTO MOUTH- Repeat step six.  
PIECE UNTIL TONE STOPS";  
"PLEASE BLOW/R" (flashing)

13. "PLEASE BLOW .###" followed Repeat step seven.  
by "PLEASE BLOW 0.###"

14. "SUBJECT TEST .000"

15. "AIR BLANK .000"

If the results of the two breath tests agree within .02 BAC/BrAC:

16. "TEST COMPLETE" Remove the evidence card after  
it is released by the  
instrument. (See evidence  
card below.)

.02 BAC/BRAC Agreement  
Evidence Card Format

THIS SIDE UP. THIS EDGE IN. FORM NUMBER 015010

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/29/90

TEST	%BAC	TIME
AIR BLANK	.000	14:24
SUBJECT TEST	.048	14:24
AIR BLANK	.000	14:25
SUBJECT TEST	.049	14:27
AIR BLANK	.000	14:27



Evidence Card Format  
Custom Breath Test Mode Sequence  
Sample Capture Not Activated  
No .02 BAC/BRAC Agreement

THIS SIDE UP. THIS EDGE IN. FORM NUMBER 015010

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SM 66-001464  
07/28/90

TEST	%BAC	TIME
AIR BLANK	.000	15:37
SUBJECT TEST	.000	15:37
AIR BLANK	.000	15:38
SUBJECT TEST	.051	15:40
AIR BLANK	.000	15:40
SUBJECT TEST	.050	15:43
AIR BLANK	.000	15:43

NO .02%BAC AGREEMENT BETWEEN  
1ST AND 2ND SAMPLES.  
3RD TEST REQUESTED.

\_\_\_\_\_  
SUBJECT'S NAME

\_\_\_\_\_  
TIME FIRST OBSERVED

\_\_\_\_\_  
INSTRUMENT LOCATION

\_\_\_\_\_  
OPERATOR

\_\_\_\_\_  
ADDITIONAL INFORMATION AND/OR REMARKS

INTOXILYZER INSTRUMENT PRIN:

**EMI**

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## THE CUSTOM BREATH TEST MODE SEQUENCE WITH SAMPLE CAPTURE

### Sample Capture Option Activated

The Intoxilyzer 5000R breath analysis instrument uses a nondestructive infrared absorption technique to find the alcohol concentration of a breath sample. Consequently, one may preserve the alcohol in an analyzed sample by evacuating the contents of the sample chamber through a tube containing a desiccant, such as silica gel. Since the desiccant collects alcohol, it enables one to reanalyze a sample at a later date.

Some alcohol-capture techniques channel the analyzed sample through the collector tube and into the room. Occasionally, passing the breath sample through the collector tube only once fails to trap all of the alcohol - a phenomenon known as blow-by. Therefore, to prevent blow-by, the Intoxilyzer 5000R breath analysis instrument recirculates an analyzed sample through the collector tube until no alcohol remains in the sample.

Following a breath test, the instrument automatically purges the sample chamber. During a purge operation, the instrument's pump forces the breath sample out an exit port by sucking room air into the sample chamber through the breath tube. Therefore, following a breath test, one may preserve the alcohol in a breath sample by connecting one end of a collector tube to the sample chamber's exit port and the other end of the breath tube. Thus, during the purge operation, the instrument's pump circulates the breath sample instead of exhausting it into the room.

While the desiccant collects the alcohol and water present in the breath sample, the instrument's display shows "AIR BLANK" and a three digit (optional 2 digit) number. The number is the alcohol concentration present in the sample chamber converted to an equivalent blood/breath alcohol concentration in percent weight by volume. Consequently, as the desiccant traps the alcohol, the number displayed with "AIR BLANK" decreases. "AIR BLANK .000," then, indicates that the desiccant has captured all the alcohol.

Following the order of statements and commands given by the instrument's display when the Intoxilyzer 5000R breath analysis instrument is set with the Sample Capture Option activated (S6 "on") and in the ABABA[BA] mode sequence (S1, S2, & S3 on). To conduct a breath test, simply respond to the displayed message and commands as indicated in the right hand column.

## Typical ABABA[BA] Test with Sample Capture

<u>Display Reads</u>	<u>Description/ Required Operator Action</u>
1. Scrolling across the display "CMI INC INTOXILYZER-ALCOHOL ANALYZER FL MODEL 5000R-PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ## HR ##MIN" "DATE MM/DD/YY"	Insert a new mouthpiece in the end of the breath tube. To start the test, push the "START TEST" button at any time.
2. "INSERT CARD" (flashing)	Insert an evidence card into the card slot located on the front panel of the instrument. Make sure to insert the card face up with the top edge "in" according to the instructions printed on the card. If S13 (Print Inhibit) is also in the ON position, the instrument does not request an evidence card.
3. "AIR BLANK"	
4. "TIME ##HR ##MIN"	
5. "DATE MM/DD/YY"	
6. "AIR BLANK .000"	
7. ">>>>>>>>"	
8. "PLEASE BLOW/R INTO MOUTH- PIECE UNTIL TONE STOPS"; "PLEASE BLOW/R" (flashing)	Request subject to blow into the mouthpiece until the tone stops; the subject has approximately three minutes to provide a minimum acceptable breath sample.  To insure delivery of a sufficient sample, the displayed command requests the subject to blow into the mouthpiece until the tone stops. The tone does not actually stop until the subject stops blowing.

9. "PLEASE BLOW .###" followed  
by "PLEASE BLOW 0.###"

In order to provide a minimum acceptable breath sample, a subject must blow for a minimum of approximately 6 seconds. As the subject blows into the mouthpiece, the instrument sounds a continuous tone and displays the message to the left: "PLEASE BLOW .###." The three digit (optional two digit) number is the subject's rising, falling or constant blood/breath alcohol concentration in percent weight by volume. The continuous tone tells you the subject is blowing with sufficient pressure. When the zero appears before the BAC/BrAC value (0.###), the subject has delivered a minimum acceptable breath sample. ( Do not instruct the subject to stop blowing when the zero appears.)

If S5 (Display During Test) is "off," the instrument will not display the blood/breath alcohol concentration value until the subject stops blowing and has delivered a sufficient breath sample. The instrument will also not display the zero indicating when the subject has delivered a minimum acceptable breath sample.

If the subject stops blowing before providing a sufficient sample, "PLEASE BLOW" flashes on the display and a beep sounds approximately every five seconds. If this occurs, request the subject to blow into mouthpiece until the tone stops.

In the event that the subject fails to provide a minimum

acceptable breath sample within approximately three minutes, "LOW SAMPLE VOL" appears on the display accompanied by a low-high tone sounding intermittently for approximately five seconds. Next, the instrument displays "SUBJECT TEST .###" (the highest BAC/BrAC value obtainable from the given breath samples) and completes the mode sequence. On the evidence card, the instrument indicates the highest obtainable BAC/BrAC value by printing an asterisk (\*) before "SUBJECT TEST .###." The asterisk (\*) is a cross reference to the message printed at the bottom of the evidence card: "\* LOW SAMPLE VOL - VALUE PRINTED WAS HIGHEST OBTAINED."

10. "SUBJECT TEST .###"

Displays actual result of BAC/BrAC.

11. "PLEASE ATTACH COLLECTOR DEVICE AND DEPRESS START TEST SWITCH"; "ATTACH COLLECTOR" (flashing)

Remove the mouthpiece from the breath tube, attach the collector tube and its associated plumbing to the instrument, and depress the "START TEST" button.

You have approximately 60 seconds to attach the collector tube and its associated plumbing to the instrument and to depress the "START TEST" button. This sequence is broken into six, approximately 10 second intervals with a tone sounding after each interval.

If you fail to depress the "START TEST" button in approximately 60 seconds, the instrument moves on to the "AIR BLANK" operation and skips the command requesting

you to detach the collector device.

12. "AIR BLANK .000"

13. "PLEASE DETACH COLLECTOR DEVICE AND DEPRESS START TEST SWITCH"; "DETACH COLLECTOR" (flashing)

Detach the collector tube and its associated plumbing from the instrument, depress the "START TEST" button, and insert a mouthpiece in the end of the breath tube.

You have approximately 60 seconds to detach the collector tube and its associated plumbing from the instrument and to depress the "START TEST" button. This sequence is broken into six, approximately 10 second intervals with a tone sounding after each interval.

If you fail to depress the "START TEST" button in approximately 60 seconds, the instrument moves on to the next operation.

14. ">>>>>>>>>"

15. "PLEASE BLOW/R INTO MOUTH-PIECE UNTIL TONE STOPS"; "PLEASE BLOW/R" (flashing)

See step 8.

16. "PLEASE BLOW .###" followed by "PLEASE BLOW 0.###"

See step 9.

17. "SUBJECT TEST .###"

18. "PLEASE ATTACH COLLECTOR DEVICE AND DEPRESS START TEST SWITCH"; "ATTACH COLLECTOR" (flashing)

See step 11.

19. "AIR BLANK .000"

20. "PLEASE DETACH COLLECTOR DEVICE AND DEPRESS START TEST SWITCH"; "DETACH COLLECTOR" (flashing)

See step 13.

21. "TEST COMPLETE"

Remove the evidence card after  
it is released by the  
instrument.

Evidence Card Format  
Custom Breath Test Mode Sequence  
Sample Capture Activated

THIS SIDE UP. THIS EDGE IN. FORM NUMBER 075010

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/28/90

TEST	%BAC	TIME
AIR BLANK	.000	15:46
SUBJECT TEST	.000	15:47
AIR BLANK	.000	15:48
SUBJECT TEST	.000	15:49
AIR BLANK	.000	15:50

SAMPLE CAPTURE REQUESTED.

SUBJECT'S NAME

TIME FIRST OBSERVED

INSTRUMENT LOCATION

OPERATOR

ADDITIONAL INFORMATION AND/OR REMARKS

INTOXILYZER INSTRUMENT PRINTER CARD

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**CMI**

## THE CONTROL BREATH TEST MODE SEQUENCE

### Sample Capture Not Activated

The software in your instrument contains a Control Breath Test Mode Sequence. To program the instrument to carry out the operation of your Control Breath Test Mode Sequence, set the mode selection switches labeled Control - S1 and S2 in the ON (up) position and S3 in OFF position (down).

Following are the general operations of your Control Breath Test Mode Sequence:

1. The instrument accepts and analyzes two breath samples and checks to see if the two results are equal to or less than .020 BAC/BrAC with S4 ON (equal to or less than .02 BAC/BrAC if S4 is OFF).
2. If the two results are equal to or less than .020 or .02, the instrument completes the mode sequence and prints the test results. If the two results are greater than .020 or .02 BAC/BRAC, the instrument accepts and analyzes a third breath sample, completes the breath sequence and prints the test results.
3. Between the first and second breath samples, the instrument performs a "CONTROL TEST."
4. Attach 0.100% alcohol wet bath simulator solution.

Below is the order of statements and comments given by the display following completion of the Test Data Entry Sequence when the instrument is set to carry out the Control Mode Sequence.

Control Breath Mode Sequence ABACABA(BA):

<u>Display Reads</u>	<u>Description</u>
1. Scrolling across the display "CMI, INC. INTOXILYZER ALCOHOL ANALYZER MODEL 5000R --- PUSH BUTTON TO START TEST"; "PUSH BUTTON" (flashing); "TIME ##HR ##MIN" "DATE MM/DD/YY"	Insert a new mouthpiece in end of the breath tube. To start the test, push the "START TEST" button at any time.
2. "INSERT CARD" (flashing)	Insert an evidence card in slot located on the front panel of the instrument. Make

sure to insert the card face up with the top edge "in" according to the instructions printed on the card. You have approximately 30 seconds to insert the evidence card, after which the instrument will return to its initial ready to start message. If S13 (Print Inhibit) is also in the "ON" position, the instrument does not request an evidence card.

3. "AIR BLANK"

During this "AIR BLANK," the instrument purges the sample chamber, internal and external breath tubes and analyzes the air for substances that could potentially interfere with the accuracy of a test. (See page 80, "Ambient Failed" condition.)

4. "TIME ##HR ##MIN"

5. "DATE MM/DD/YY"

6. "AIR BLANK .000"

7. ">>>>>>>>"

8. "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS";  
"PLEASE BLOW/R" (flashing)

Request subject to blow into the mouthpiece until the tone stops; the subject has approximately three minutes to provide a minimum acceptable breath sample.

If a minimum acceptable breath sample is not taken in approximately three minutes, the instrument will sound an intermittent low-high tone for approximately five seconds. (See page 86, "Low Sample Volume" condition.) (See page 83, "Refused" condition.)

9. "SUBJECT TEST .###"

The instrument displays the subject's BAC/BrAC value



Evidence Card Format  
Example: Control Test Out of Range

THIS SIDE UP. THIS EDGE IN. FORM NUMBER 015010

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/29/90

TEST	%BAC	TIME
AIR BLANK	.000	14:46
SUBJECT TEST	.000	14:47
AIR BLANK	.000	14:47
CONTROL TEST	.093	14:47
AIR BLANK	.000	14:48

CONTROL TEST OUT OF RANGE

SUBJECT'S NAME

TIME FIRST OBSERVED

INSTRUMENT LOCATION

OPERATOR

ADDITIONAL INFORMATION AND/OR REMARKS

INTOXILYZER INSTRUMENT PRINTER CARD

**EMI**

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13. "AIR BLANK .000"

14. "WAIT"

The instrument will display "WAIT" for approximately 30 seconds.

15. ">>>>>>>>"

16. "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS";  
"PLEASE BLOW/R" (flashing) See 8

17. "SUBJECT TEST .###"

18. "AIR BLANK .000"

If the results of the two breath tests agree within .02 BAC/BrAC:

19. "TEST COMPLETE"

Remove evidence card after it is released by the instrument. (See evidence card next page.)

OR

If the results of the two breath tests do not agree within .02 BAC/BrAC:

20. "NO .02 WAIT"

The instrument will display "WAIT."

21. ">>>>>>>>"

22. "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS,"  
"PLEASE BLOW/R" (flashing) See 8

23. "PLEASE BLOW .###" followed  
by "PLEASE BLOW 0.###"

24. "SUBJECT TEST .###"

25. "AIR BLANK .000"

26. "TEST COMPLETE"

Remove the evidence card after it is released by the instrument. (See evidence card next page.)

Evidence Card Format

Example .02 Agreement

Example No .02 Agreement

THIS SIDE UP. THIS EDGE IN. FORM NUMBER 015010

THIS SIDE UP. THIS EDGE IN. FORM NUMBER 015010

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/27/90

HRS IMPLIED CONSENT  
INTOXILYZER - ALCOHOL ANALYZER  
FL MODEL 5000R SN 66-001464  
07/29/90

TEST	%BAC	TIME
AIR BLANK	.000	11:37
SUBJECT TEST	.000	11:37
AIR BLANK	.000	11:37
CONTROL TEST	.098	11:38
AIR BLANK	.000	11:38
SUBJECT TEST	.000	11:40
AIR BLANK	.000	11:40

TEST	%BAC	TIME
AIR BLANK	.000	15:03
SUBJECT TEST	.000	15:03
AIR BLANK	.000	15:03
CONTROL TEST	.098	15:04
AIR BLANK	.000	15:04
SUBJECT TEST	.043	15:06
AIR BLANK	.000	15:06

SUBJECT TEST	.000	15:09
AIR BLANK	.000	15:09

NO .02%BAC AGREEMENT BETWEEN  
1ST AND 2ND SAMPLES.  
3RD TEST REQUESTED.

SUBJECT'S NAME

SUBJECT'S NAME

TIME FIRST OBSERVED

INSTRUMENT LOCATION

TIME FIRST OBSERVED

INSTRUMENT LOCATION

OPERATOR

ADDITIONAL INFORMATION AND / OR REMARKS

OPERATOR

ADDITIONAL INFORMATION AND / OR REMARKS

INSTRUMENT PRINTER CARD  
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