DataMaster DMT Operator Manual

CONTENTS

External Features of the DataMaster DMT	Page 2
DataMaster DMT Operational Principles Overview	Page 3
Process for Obtaining an Evidential DUI Subject Test	Page 4
Process for Obtaining a Check-In Confirmation Test	Page 7
Time Restrictions on Data Entry and Processing	Page 9
Examples of Subject Test Reports	Page 10
Common Error Messages and Responses	Page 15

DataMaster DMT Operator Manual

Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 2 of 16
----------------------------------	------------------------------	---	--------------

EXTERNAL FEATURES OF THE DATAMASTER DMT

LCD touch screen: Identifies each part of the test procedure as it occurs and provides information to the instrument operator to complete the test.

Keyboard: Used for data entry.

Stylus: Used on the touch screen to select options in the software.

Power ON/OFF Switch: Located on the back of the instrument. The normal mode for the instrument is to have the power on, the ON/OFF Switch is only to be used under special circumstances.

Breath Tube: The breath tube is electrically heated and provides a path for the breath sample from the mouth piece to the sample chamber. The breath tube also contains a radio frequency antenna.

Simulator: An external attachment used to simulate a breath sample containing a known amount of alcohol; used as a quality control check.



Figure 1: DataMaster DMT

DataMaster DMT Operator Manual

Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 3 of 16
----------------------------------	------------------------------	---	----------------------------

DATAMASTER DMT OPERATIONAL PRINCIPLES OVERVIEW

The DataMaster DMT breath testing instrument is designed to undergo a number of processing steps to ensure a fair and accurate analysis of a breath sample introduced to it. These steps include checking components for function, monitoring heated zones, adjusting a measurement baseline to ambient air, checking detector response, introducing a simulated breath containing alcohol vapor, ensuring sample cross-contamination is prevented, and measuring the quality of breath sample.

The figure below is a graphic example of the monitoring of a breath sample to ensure that measurements meet the minimum criteria. As a sample is introduced into the instrument the flow rate is continually monitored. When the minimum flow rate is achieved it must remain at or above that rate for enough time to account for delivery of at least 1.5 liters of breath. Simultaneously the alcohol concentration in the sample is monitored four times per second. A valid breath sample is expected to show a sharp rise and eventual plateau in the alcohol curve as breath continues to flow. Once collected, the sample is evaluated to ensure it is free from chemical contamination. If these criteria are met the instrument will report a breath alcohol concentration.



DataMaster DMT Operator Manual

Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 4 of 16
----------------------------------	------------------------------	---	----------------------------

PROCESS FOR OBTAINING AN EVIDENTIAL DUI SUBJECT TEST

Preparation:

- If the screen saver is active, touch the screen to remove the DataMaster DMT from standby mode.
- Confirm that the DataMaster DMT displays "READY, PUSH RUN." If the instrument is turned off, or if it displays "NOT IN SERVICE" proceed to a different DataMaster site.
- Visually observe the subject for any evidence of food, gum, tobacco or any other foreign matter in the mouth. Ask the subject if he/she has anything in their mouth. Anything in the mouth must be removed prior to starting the next step. Tongue piercings and dentures may remain in the mouth.
- The DataMaster DMT is programmed with a mandatory 15 minute timer for the observation period. The 15 minute timer must be satisfied before a subject test is allowed. Press the "START TIMER" button to start the timer.
- Observe the subject for 15 uninterrupted minutes. The subject must be within visual and audio proximity for the entire 15 minutes preceding the test. If at any time the subject burps, belches, or vomits, the observation period must be restarted. If at any time the subject puts something into or removes something from their mouth, the item must be removed and the observation period restarted.

Operating the Instrument:

- Push "RUN" to begin the test process.
- From the "TYPE OF TEST? DUI or CHECK-IN" window select "DUI."
- Enter information in the boxes as requested.
 - All boxes in which the command is bold are required fields.
 - Use [TAB] on the keyboard to move between fields.
 - Once all of the information is entered select "OK" on the screen or press [ENTER].

Subject Information
Name (F/M /L) FIRST
Date of Birth 01/08/1995 Age 16 Gender M
License # Guardian Y
Incident Information
Case 00XX1234 Oper. Time 12:20
Test Reason CHECKPOINT
Stop Location
Town WAITSFIELD County WASHINGTON
Operator Information
Name (F/M /L) YOUR FIRST
Agency DOVER PD VTC # VTC
Time Remaining
11:11 Cancel Restart Cancel QK

- Review the information entered for accuracy.
 - A box will pop up prompting "Would you like to review your data? YES or NO". Select "YES".

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Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 5 of 16
----------------------------------	------------------------------	---	--------------

- Once all data is correct select "OK" or press [ENTER]. The box requesting data review will pop up again. Select "NO" once you have reviewed your data and you wish to proceed to the test sequence.
- If the 15 minute timer was not started prior to pressing the "RUN" button, the DataMaster DMT will now prompt "START TIMER?" Press "OK" to start the timer.
- The instrument will begin its quality control checks once the fifteen minute timer is satisfied. If any of the checks fail, the test will be aborted.
- Upon the successful completion of the quality control checks, the DMT will prompt "SUBJECT TAKE TEST? YES or NO".
 - If the subject refuses to provide a breath sample, select "NO".
 - The instrument will then prompt "REFUSAL or INCAPABLE?"
 - If the subject is physically incapable of providing a sample, select "INCAPABLE".
 - If the subject refuses to provide a sample, select "REFUSAL".
 - In both instances a text box will pop up asking for a reason.
 - Type in a reason why the subject did not provide a sample.
 - The breath testing sequence will end and the evidence reports will print.
 - If the subject consents to provide a breath test select "YES"
 - When "YES" is selected, the display will flash "PLEASE BLOW" and an intermittent tone will be heard.
 - Insert a new mouthpiece into the breath tube. For sanitary purposes avoid directly touching the mouthpiece.
 - Instruct the subject to provide a slow, continuous breath sample.
 - The officer should hold the breath tube during delivery of the breath sample.
 - When the subject provides an adequate breath sample the words "PLEASE BLOW" will stop flashing and remain steady on the screen. A constant tone will be heard.
 - An individual should be allowed to deliver a sample for as long as they are able. The internal electronics of the instrument determine when an adequate sample has been obtained.
 - After the breath sample is accepted, the officer should immediately remove the mouthpiece and discard it.
 - The instrument will display the subject's alcohol result. The officer should inform the subject of the result and ask the subject if they wish to have a second test.
 - The instrument will then prompt "SUBJECT TAKE SECOND TEST? YES or NO"
 - If the subject declines the second test, the officer should select "NO" and an evidence report will be printed. The evidence report will indicate the result of the evidentiary test and will show "SECOND TEST NOT REQUESTED".
 - If the subject requests a second test, the officer should select "YES". The instrument will again perform the quality control checks.
 - Following successful completion of the quality control checks, the instrument will again display "SUBJECT TAKE SECOND TEST? YES or NO"

Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 6 of 16
----------------------------------	------------------------------	---	--------------

- If the subject has decided not to take a second test, select "NO". The evidence report will show "SECOND TEST NOT REQUESTED".
- If the subject again consents to a second test, the officer should select "YES". The instrument will display "PLEASE BLOW"
- The officer should insert a new mouthpiece into the breath tube and instruct the subject to provide a breath sample as before.
- Once the breath sample is accepted the officer should immediately remove the mouthpiece and discard it.
- The evidence report is printed in triplicate at completion of the test sequence.
 - \circ One copy of the report should go with the rest of the case paperwork.
 - One copy of the report is retained by the arresting officer.
 - One copy of the report should be given to the subject.
- Make entries regarding the test in the DataMaster Operators' Log (ALC_F200_13), if one is maintained.

DataMaster DMT Operator Manual

Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 7 of 16
----------------------------------	------------------------------	---	--------------

PROCESS FOR OBTAINING A CHECK-IN CONFIRMATION TEST

Preparation:

- If the screen saver is active, touch the screen to remove the DataMaster DMT from standby mode.
- Confirm that the DataMaster DMT displays "READY, PUSH RUN". If the instrument is turned off, or if it displays "NOT IN SERVICE," proceed to a different DataMaster site.
- Visually observe the subject for any evidence of food, gum, tobacco or any other foreign matter in the mouth. Ask the subject if he/she has anything in their mouth. Anything in the mouth must be removed prior to starting the next step. Tongue piercings and dentures may remain in the mouth.

Operating the Instrument:

- Push "RUN" to begin the test process.
- The instrument will prompt "TYPE OF TEST? DUI or CHECK-IN". Select "CHECK-IN".
- Enter information in the boxes as requested.
 - \circ $\,$ All boxes in which the command is bold are required fields.
 - Use [TAB] on the keyboard to move between fields.
 - Once all of the information is entered select "OK" on the screen or press [ENTER] on the keyboard.

M LAST
Age 16 Gender M V
State Guardian Y
YOUR LAST
▼ VTC # VTC
<u>C</u> ancel <u>QK</u>

- Review the information entered for accuracy.
 - A box will pop up prompting "Would you like to review your data? YES or NO". Select "YES" and review all data entered.
 - Once all data is correct select "OK" or press [ENTER]. The box requesting data review will pop up again. Select "NO" once you have reviewed your data and you wish to proceed to the test sequence.

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Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015	Page 8 of 16
		Status: Active	

- The instrument will begin its quality control checks. If any of the checks fail, the test will be aborted.
- Upon the successful completion of the quality control checks the DataMaster DMT will then flash "PLEASE BLOW" and an intermittent tone will be heard.
 - Insert a new mouthpiece into the breath tube. For sanitary purposes, avoid directly touching the mouthpiece.
 - Instruct the subject to provide a slow, continuous breath sample.
 - The officer should hold the breath tube during delivery of the breath sample.
 - When the subject provides an adequate breath sample the words "PLEASE BLOW" will stop flashing and remain steady on the screen. A constant tone will be heard.
 - An individual should be allowed to deliver a sample for as long as they are able. The internal electronics of the instrument determine when an adequate sample has been obtained.
 - After the breath sample is accepted, the officer should immediately remove the mouthpiece and discard it.
- The evidence report is printed in triplicate at completion of the test sequence.
 - One copy of the report should go with the rest of the case paperwork.
 - One copy of the report is retained by the arresting officer.
 - One copy of the report should be given to the subject.
- Make entries regarding the test in the DataMaster Operators' Log (ALC_F200_13), if one is maintained.

DataMaster DMT Operator Manual

Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 9 of 16
----------------------------------	------------------------------	---	--------------

TIME RESTRICTIONS ON DATA ENTRY AND PROCESSING

- Once the 15 minute observation timer is satisfied, the DataMaster DMT will allow an additional ten (10) minutes to press the "RUN" button and begin data entry. If the "RUN" button is not pressed in this time, the 15 minute observation timer will need to be restarted.
- When prompted to enter data five (5) minutes is allotted. If data entry is not finished within the five (5) minutes the instrument will return to "READY, PUSH RUN".
- When prompted to make a decision such as "SUBJECT TAKE TEST? YES or NO" or "USE PREVIOUS DATA," one (1) minute is allotted.
- When prompting "PLEASE BLOW" the subject will have two (2) minutes to provide an adequate breath sample. If at the end of this time an adequate breath sample has not been provided the instrument will prompt "SUBJECT TAKE TEST? YES or NO." After three (3) failures to obtain an adequate breath sample the instrument will rerun its quality control checks. It will then allow the subject up to three (3) more two (2) minute opportunities to provide an adequate sample. All completed and/or attempted breath tests will be documented on the evidence report.

DataMaster DMT Operator Manual

Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 10 of 16
----------------------------------	------------------------------	---	-----------------------------

EXAMPLES OF SUBJECT TEST REPORTS



VERMONT FORENSIC LABORATORY DataMaster DMT Operator Manual Doc. No. Approved by: Effective Date: Page 11 of 16 ALC_D200_2_Version 1 Lab Director 08262015 Status: Active 0.10 40.0 Alcohol(g/210L) Flow Rate(L/M) 0.09 36.0 0.08 32.0 0.07 28.0 0.06 24.0 DUI SUBJECT TEST 0.05 STATE OF VERMONT DataMaster DMT: 103206 Location: VFL Certification Date: 07/27/2012 Installation Date: 07/27/2012 0.04 16.0 0.03 Date: 08/06/2015 Time: 14:35:06 0.02 8.0 SUBJECT NAME: TEST TEST DOB: 01/01/1990 AGE: 25 GENDER: M LICENSE #: 123456 VT 0.01 4.0 CASE #: 123456 TIME OF OPERATION: 12:00 0.00 90 100 110120 10 20 30 40 50 60 70 80 LOCATION OF INCIDENT: MAIN STREET TOWN: WATERBURY COUNTY: WASHINGTON TEST OPERATOR NAME: ROBERT DRISCOLL AGENCY: VFL Obs. Period Start: 14:20 BLANK TEST 0.000 14:36 CALIBRATION CHECK I SIMULATOR VAPOR 34.1°C BLANK TEST SUBJECT SAMPLE INCOM PASSED 14:36 0.098 14:36 0.000 INCOMPLETE 14:37 14:39 BLANK TEST SUBJECT SAMPLE 0.000 14:40 REFUSED 14:40 Subject incapable of providing sample. Reason: could not provide valid sample All alcohol values reported in g/210L Sim. Vapor Concentration 0.100 Sim. Vapor Range 0.095 - 0.105 Lot #: 15-06-100

Page 1 of 1

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DMT Serial Number #103206

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No. .C_D200_2_Version 1	Approved by: Lab Director		08262015 Status: Active	Page 12 of 16
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5	ġ.	0.10		40.0
		0.08		32.0
P.NO	<u>Örna</u>	0.07		28.0
		0.05		20.0
Assessment -	Carlos Contractor	0.04		16.0
		0.03		12.0
	C F	0.01		4.0
	- 25	0.00	20 30 40 50 60 70 8	0.0 0 90 100 110120
		0.10		40.0
CARE LAN	AND BERT	0.09		36.0
		0.07		28.0
DUI SUBJECT TEST		0.06		24.0
		0.03		16.0
STATE OF	A PUMON L	0.03		12.0
DataMaster DMT: 103206 Location: VFL		0.02		8.0
Certification Date: 07	/27/2012	0.00 10	20 30 40 50 60 70 8	0.0
Installation Date: 07/		0.10	20 30 40 50 60 70 8	40.0
Date: 08/10/2015		0.09		36.0
Time: 08:18:32		0.08		32.0
SUBJECT NAME:		0.06		24.0
TEST TEST DOB: 01/01/1990 AGE:	25	0.05		20.0
GENDER: M		0.04		18.0
LICENSE #: 0123456 VT		0.02		8.0
CASE #: 01234		0.01		4.0
TIME OF OPERATION: 12: LOCATION OF INCIDENT:	50	0 10	20 30 40 50 60 70 8	30 90 100 110120
MAIN STREET TOWN: WATERBURY		0.09		36.0
COUNTY: WASHINGTON		0.08		32.0
TEST OPERATOR NAME:		0.07		28.0
ROBERT DRISCOLL		0.05		20.0
AGENCY: VFL		0.04		16.0
Obs. Period Start:	08:03	0.02		8.0
BLANK TEST	0.000 08:19	0.01		4.0
CALIBRATION CHECK SIMULATOR VAPOR 34.0°C	PASSED 08:19	0 10	20 30 40 50 60 70 8	30 90 100 110120
BLANK TEST	0.000 08:20	0.10		40.0
SUBJECT SAMPLE BLANK TEST	INCOMPLETE 08:22 0.000 08:23	0.08		32.0
SUBJECT SAMPLE	INCOMPLETE 08:25	0.07		28.0
BLANK TEST SUBJECT SAMPLE	0.000 08:26 INCOMPLETE 08:28	0.05		20.0
		0.04		16.0 12.0
BLANK TEST CALIBRATION CHECK	0.000 08:29 PASSED 08:29	0.03		8.0
SIMULATOR VAPOR 34.1°C BLANK TEST	0.099 08:29 0.000 08:30	0.01		4.0
SUBJECT SAMPLE	INCOMPLETE 08:32		20 30 40 50 60 70 8	0.0 0 90 100 110120
BLANK TEST SUBJECT SAMPLE	0.000 08:33 INCOMPLETE 08:35	0.10		40.0
BLANK TEST	0.000 08:36	0.03		32.0
SUBJECT SAMPLE	INCOMPLETE 08:38	0.07		28.0
	d test after previously	0.06		24.0
requesting one.		0.04		16.0
All alcohol values rep		0.03		12.0
Sim. Vapor Concentrati Sim. Vapor Range	0.095 - 0.105	0.02		8.0
Lot #: 15-06-100		0.00	20 30 40 50 60 70 8	0.0

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Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 13 of 16
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DataMaster DMT Operator Manual

Doc. No. ALC_D200_2_Version 1	Approved by: Lab Director	Effective Date: 08262015 Status: Active	Page 15 of 16
----------------------------------	------------------------------	---	---------------

COMMON ERROR MESSAGES AND RESPONSES

Some error messages may require a DataMaster DMT Supervisor or the VFL DataMaster Technical Services to inspect and/or service an instrument. When receiving an error message it is permissible to retry the test. If the second attempt results in a passing test, the subject results are acceptable.

DataMaster DMT Supervisors should be made aware of any errors. Any and all reports generated during a testing sequence including those displaying errors should be retained with the case file.

The following are examples of the most common errors and possible remedies. This list is not the complete list of all errors which may be encountered. The remedies listed are not mandatory actions. When encountering error messages that cannot be remedied, post "OUT OF SERVICE" on the DataMaster DMT and leave a **detailed** message for your DataMaster DMT Supervisor.

Subject Sample → INTERFERENCE

Have the subject provide another sample. It is NOT necessary to wait an additional 15 minutes. If the error occurs a second time, take the subject for a BLOOD TEST. This message indicates that there may be a chemical other than ethanol present in the sample and the DataMaster DMT cannot report an ethanol result.

Subject Sample \rightarrow INVALID

Have the subject provide another sample. It is REQUIRED that you wait another 15 minutes during which you ensure the subject does not burp, belch, or vomit. Remind the subject to provide one steady, continuous breath. Huffing and puffing while delivering a breath can cause an INVALID result.

Subject Sample → INCOMPLETE

If the subject PHYSICALLY CANNOT provide a sample, a blood test may be requested. If the subject WILL NOT provide an adequate sample, a refusal may be considered.

RADIO FREQUENCY DETECTED

Ensure all radio transmitters in or around the processing room are not in use and try the test again.

BLANK ERROR or AMBIENT FAIL

Move the subject away from the instrument, draw fresh air into the room, then try the test again.

SIMULATOR OUT OF RANGE

Move the subject away from the instrument, draw fresh air into the room, then try the test again.

Doc. No.	Approved by:	Effective Date:	Page 16 of 16
ALC D200 2 Version 1	Lab Director	08262015	
		Status: Active	

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