

DataMaster DMT Supervisor Training



**VERMONT FORENSIC
LABORATORY
DATAMASTER
TECHNICAL SERVICES**

Contact Information



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Course Goals and Objectives



- Understand responsibilities of DataMaster DMT Supervisor.
- Familiarization with the components and software protocols of the DataMaster DMT.
- Supervisors will be able to respond to error messages or conditions.
- Supervisors will be able to perform routine and simple maintenance and repairs.

Access Levels



Operator Level:

No Password Required

Administer DUI and Check-In breath tests
Copy last breath report generated

Supervisor Level:

Password Required

Access to maintenance protocols via the Functions Menu
Remove/Return instrument to service
Reprint reports not accessible using the copy button
Export data as needed

Supervisor Duties



- Maintain reports, records and logbooks
- Maintain instrument security
- Perform simple maintenance
- Perform Routine Performance Checks
- Maintain DataMaster supplies
 - Mouthpieces, simulator solution, printer paper and ink
- Support DataMaster Operators

Log On



- Deactivate the screen saver
- Touch the DMT logo in the top left corner of the screen to open the drop-down menu (*options menu*)
- Select “Security” → “Enter Password”
- You will notice “Supervisor” on the bottom of the Ready screen

Log Off



- Open the options menu
- Select “Security” → “Log Off”

Records and Reports



- **Reprinting a Subject Breath Test Report**
 - Open the options menu
 - Select “Reports”
 - Scroll down to “DUI Subject Tests” on right side of screen
 - Touch the + symbol next to “DUI Subject Tests”
 - Records are sorted by date/time
 - Touch the + symbol next to the date desired
 - The test highlighted on the right will be displayed on the left
 - When the test desired is displayed, press “Print”

Records and Reports



- Providing monthly updates
- Email records to dps.dmt@vermont.gov
 - If your DataMaster **IS** networked
 - ✦ Photocopies of both logbooks for the previous month
 - Operator Use Logbook (Alc 603) (if used in your county)
 - Check Up and Maintenance Logbook (Alc 803)
 - If your DataMaster DMT is **NOT** networked
 - ✦ Manual download of data to USB
 - Email downloaded zip file
 - ✦ Photocopies of both logbooks for the previous month
 - Operator Use Logbook (Alc 603) (if used in your county)
 - Check Up and Maintenance Logbook (Alc 803)

Supervisor Functions



- Replacing the Simulator Solution
- Performing the Simulator Solution Change Protocol
- Performing the Routine Performance Check Protocol
- Diagnostic Test
- Accuracy and Precision Check
- View Technician Screen
- Purge Sample Chamber
- Remove from / Return to Service

Replacing the Simulator Solution

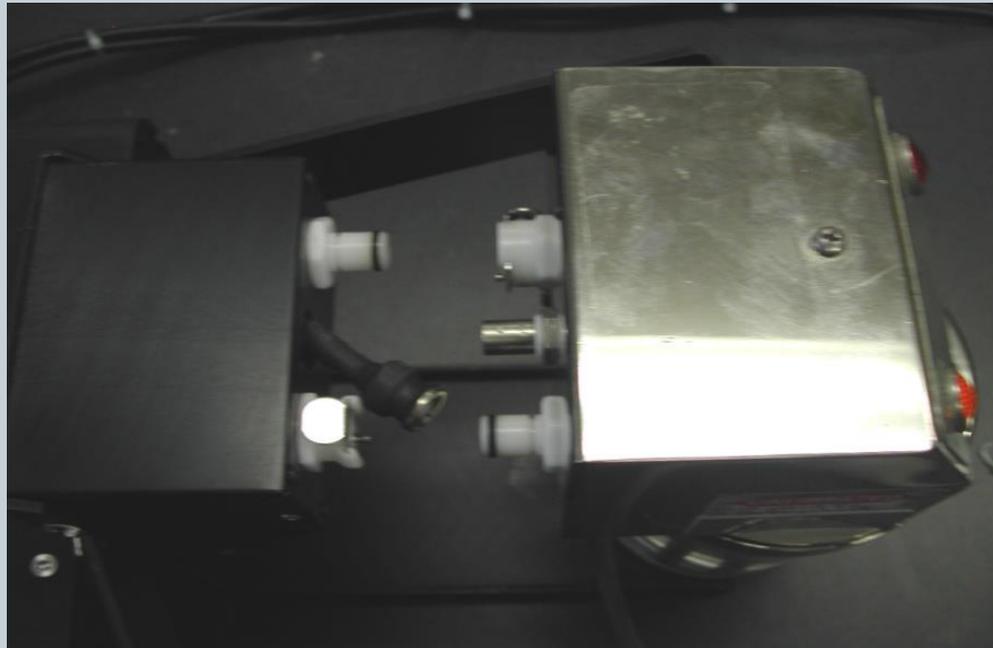


- Ensure you have at least 45 minutes to complete the solution change
- Gather supplies:
 - Fresh, unexpired bottle of solution
 - Paper towels
 - Simulator lock key

Replacing the Simulator Solution



- Unplug and unlock the simulator
- Disconnect the simulator head from the simulator tower



Replacing the Simulator Solution



- Unscrew the simulator head from the jar. Inspect the simulator mechanism, O-ring and jar
- Replace the simulator solution
 - Pour carefully and do not 'glug' the solution into the jar
- Thread the simulator head to the jar until snug. Do not over tighten

Replacing the Simulator Solution



- Plug the simulator in and ensure operation
- Reconnect the simulator head to the simulator tower
- Lock the arms around the simulator
- Affix one solution label to the top of the simulator
- Perform either Simulator Solution Change **OR** Routine Performance Check Protocol
 - RPC is **ONLY** done in February, June and October

Simulator Solution Change Protocol



- Open the options menu
- Select “Protocols” → “Simulator Solution Change”
- Input data (name, lot #, etc.) in required fields
- **Review information for accuracy.** Press Ok
- 30 minute equilibration time...

Simulator Solution Change Protocol



- Once the timer is complete, the instrument will begin an Accuracy and Precision Check
 - 5 analyses of the simulator are done and the average and standard deviation are calculated
 - Average result must be within $\pm 5\%$ of the certified value of the solution. The acceptable range is printed on the solution label
 - Standard deviation must be less than 0.002
 - If either result is not within range, the protocol will automatically fail

Simulator Solution Change Protocol



- Once a passing test is complete, sign in the box then press “Finished”
- One copy of the Simulator Solution Change Report will print. File with your onsite maintenance records

Simulator Solution Change Protocol



- Affix remaining simulator solution label to the Check Up and Maintenance Logbook (Alc 803). Under the label write “Simulator Solution Change”. Date and sign where directed
- In the Operators Logbook (Alc 603) write “Test/Simulator Solution Change” under “Subject’s Name” and the average result from the Accuracy and Precision Check under “Ext. Std. 1”

SOLUTION CHANGE

DataMaster DMT: 100147
Location: VFL Competency
Date: 05/11/2012
Performed by: TEST TEST



Accuracy and Precision Check

Concentration = 0.101 g/210L
Lot # = 12-64-100
Range = 0.096 - 0.106
Average = 0.096 g/210L
Std Dev = 0.0000

Simulator Temperature: 34.4°C

Performed by

A handwritten signature in black ink, appearing to be "D".

Date

05/11/2012

Routine Performance Check



- Must be performed every February, June and October
- A reminder will be displayed during the month in which the RPC is due
- If the RPC is not completed by the end of the required month, the instrument will automatically be removed from service until a passing RPC is completed

Routine Performance Check Protocol



- After changing the simulator solution in the jar:
- Open the options menu
- Select “Protocols” → “Routine Performance Check”
- Input data (name, lot #, etc.) in required fields
- **Review information for accuracy.** Press Ok
- 30 minute equilibration time...

Routine Performance Check Protocol



- Once the timer is complete, the automated protocol will begin
- Diagnostic Check
 - Checks all temperatures, voltages, and mechanical parts to ensure they meet specification
- Accuracy and Precision Check
 - 5 samples of the new simulator solution will be analyzed and an average and standard deviation calculated
 - Average must be within +/- 5% to the certified value of the solution
 - Standard deviation must be less than 0.002

Routine Performance Check Protocol



- Radio Frequency Detection Test
 - Console check (if applicable)
 - ✦ Nothing should happen
 - Handheld radio check
 - ✦ The DMT should beep twice acknowledging it detected RF then move on to the next step
- Sample Acceptance Test
 - Shallow, Intermittent, Suck Back, and 1.5L Alcohol Free breaths
 - Select Yes or No if Sample Acceptance Test is passing or not
 - **Any rise** in the alcohol line is considered failing
- Once a passing test is complete, sign in the box then press “Finished”

Routine Performance Check Protocol



- Affix remaining simulator solution label to the Check Up and Maintenance Logbook (Alc 803). Under the label write “Routine Performance Check”. Date and sign where directed
- In the Operators Logbook (Alc 603) write “Test/RPC” under “Subject’s Name” and the average result from the Accuracy and Precision Check under “Ext. Std. 1”

ROUTINE PERFORMANCE CHECK REPORT



DataMaster DMT: 100147
Location: VFL Competency
Calibration Date: 03/16/2012
Certification Date: 03/16/2012
Installation Date: 03/19/2012
RPC Date: 05/11/2012
Supervisor Name: TEST TEST

Diagnostic Results

VERSIONS
DMT: 1.01
PIC: 2.06
Modem: 2.4
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.7°C
Breath Tube = 44.7°C
Digital Sim = 34.2°C

SETTINGS

Lamp Voltage = 1.53 V
Cooler Voltage = 1.50 V
Bias Voltage = 81 V
Chopper Freq = 539 Hz

PUMP INFO

Flow Rate = 6.088 L/M

DETECTOR INFO

PUMP ON OFF
MAX (V) -0.0035 0.0006
MIN (V) -0.0051 -0.0016

FILTER INFO

Filter 1 -0.001 Zero = true
Filter 2 0.505 Zero = true
Filter 3 1.276 Zero = true

CALIBRATION CHECK

Xq = 0.115 2.25%

Routine Performance Check Passed

Accuracy and Precision Check

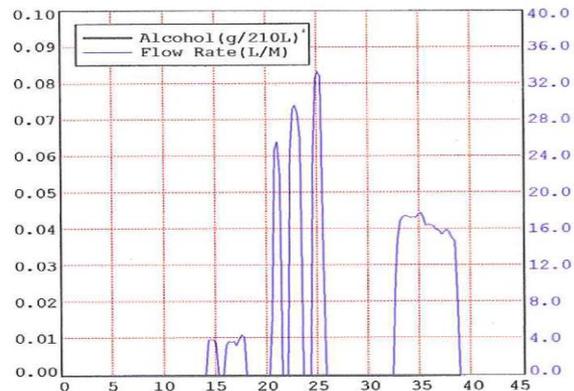
Concentration = 0.101 g/210L
Lot # = 12-64-100
Range = 0.096 - 0.106
Average = 0.096 g/210L
Std Dev = 0.0000

RF Detection Test

Passed

Sample Acceptance Test

Passed



Performed by

Amanda Boche

Date

05/11/2012

Reviewed by

Date

Diagnostic Test



- Used during troubleshooting
- The instrument checks software, hardware, temperatures, optics and mechanical function
- To perform a diagnostic test:
 - Open the options menu
 - Select “Diagnostic”
 - After analysis, a report will print detailing results

DIAGNOSTIC RESULT

DataMaster DMT: 100147
Location: VFL Competency
Calibration Date: 03/16/2012
Certification Date: 03/16/2012
Installation Date: 03/19/2012
Test Date: 05/11/2012
Test Time: 10:42:37



VERSIONS

DMT: 1.01
PIC: 2.06
Modem: 2.4
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.7°C
Breath Tube = 43.2°C
Digital Sim = 34.2°C

SETTINGS

Lamp Voltage = 1.53 V
Cooler Voltage = 1.50 V
Bias Voltage = 81 V
Chopper Freq = 539 Hz

PUMP INFO

Flow Rate = 6.099 L/M

DETECTOR INFO

| PUMP | ON | OFF |
|---------|--------|--------|
| MAX (V) | 0.0067 | 0.0102 |
| MIN (V) | 0.0053 | 0.0091 |

FILTER INFO

| | | |
|----------|-------|-------------|
| Filter 1 | 0.010 | Zero = true |
| Filter 2 | 0.516 | Zero = true |
| Filter 3 | 1.294 | Zero = true |

CALIBRATION CHECK

Xq = 0.115 2.25%

Accuracy and Precision Check



- Used during troubleshooting
- The DMT will run 10 replicate samples of the simulator vapor and report the average and standard deviation
- To perform an Accuracy and Precision check:
 - Open the options menu
 - Select “Accuracy and Precision”
 - Input data (name, lot #, etc.) in required fields
 - Press Ok
 - After analysis, a report will print detailing results
- This will NOT reassign the lot number or target value of the simulator solution



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100154

Date: 09/29/2015

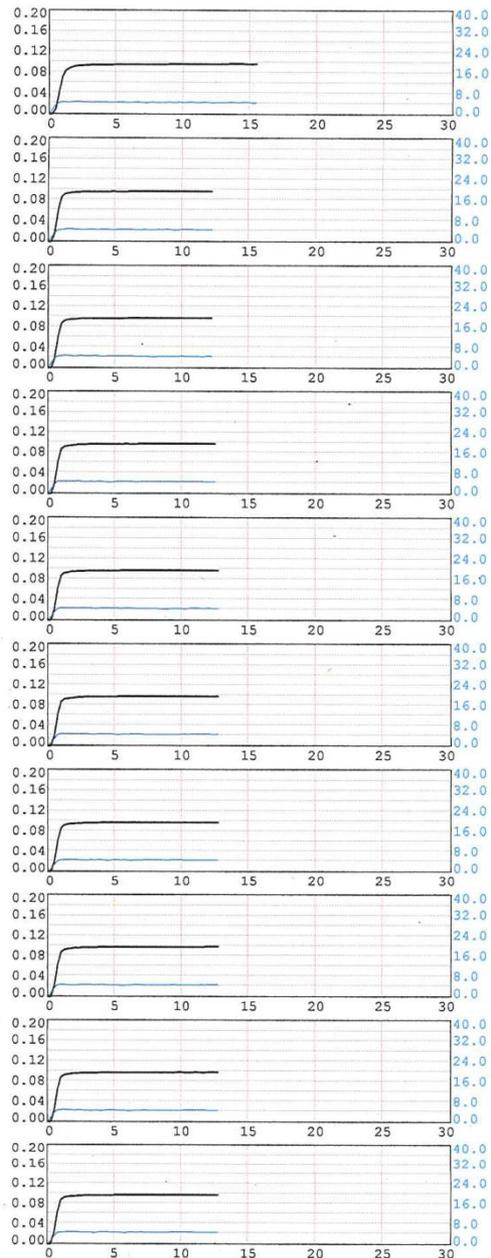
Time: 08:15:42

SUPERVISOR NAME:
RCD CAL CHECK

SOLUTION LOT #: GUTH 15050
SOLUTION CONCENTRATION: 0.100

| | | |
|------------------------|--------|-------|
| BLANK TEST | 0.000 | 08:16 |
| CALIBRATION CHECK | PASSED | 08:16 |
| SIMULATOR VAPOR 34.0°C | 0.097 | 08:17 |
| SIMULATOR VAPOR 34.1°C | 0.097 | 08:18 |
| SIMULATOR VAPOR 34.0°C | 0.097 | 08:19 |
| SIMULATOR VAPOR 34.0°C | 0.097 | 08:20 |
| SIMULATOR VAPOR 34.0°C | 0.097 | 08:21 |
| SIMULATOR VAPOR 34.0°C | 0.098 | 08:22 |
| SIMULATOR VAPOR 34.0°C | 0.098 | 08:23 |
| SIMULATOR VAPOR 34.0°C | 0.098 | 08:24 |
| SIMULATOR VAPOR 34.0°C | 0.098 | 08:25 |
| SIMULATOR VAPOR 33.9°C | 0.098 | 08:26 |
| BLANK TEST | 0.000 | 08:27 |

Average = 0.097
Std Dev = 0.0005



Technician Screen



- As a method for troubleshooting, DataMaster Technical Services may request you access the TECH screen and relay settings
- To access the TECH screen:
 - Open the options menu
 - Select “Technician Mode”

RF Sensitivity

Set

-

+

Save

Temperatures (C)

Sample Cell: 48.6

Sim. Hose: 0.0

Breath Tube: 39.4

Sim. Temp: 34.0

On/Off

Chopper

Pump

Sim. Valve

Gas Valve

Barometer

Current:

Set

Volume (Ltr)

Clear

0.00

Settings

Lamp: 1.61 Save

Bias: 80.2 Save

Cooler: 1.66 Save

Chopper: 535 Save

Stepper

Filter 1 Filter 1 + Quartz

Filter 2 Filter 2 + Quartz

Filter 3 Filter 3 + Quartz

Voltages (V)

Flow: 1.04

Detector: 0.692

Plot

Exit

Purge Sample Chamber



- Used during troubleshooting
- The instrument will draw fresh air through the breath tube and into the sample chamber
- To purge:
 - Open the options menu
 - Select “Functions” → “Purge Sample Chamber”
 - Allow the instrument to purge for 1-2 minutes unless otherwise instructed

Remove From Service



- Open the options menu
- Select “Functions” → “Remove From Service”
- The screen will display “Out of Service” instead of “Ready, Push Run”

Return to Service



- Open the options menu
- Select “Functions” → “Return To Service”
- The screen will now display “Ready, Push Run”

Printer Maintenance



- Each agency is responsible for supplying ink and paper for the printer
- If the DMT displays “Printing” but nothing happens
 - Ensure the printer is on
 - Ensure the ink/paper are full
 - Check the USB cable connection at the DMT and the printer ports

Printer Maintenance



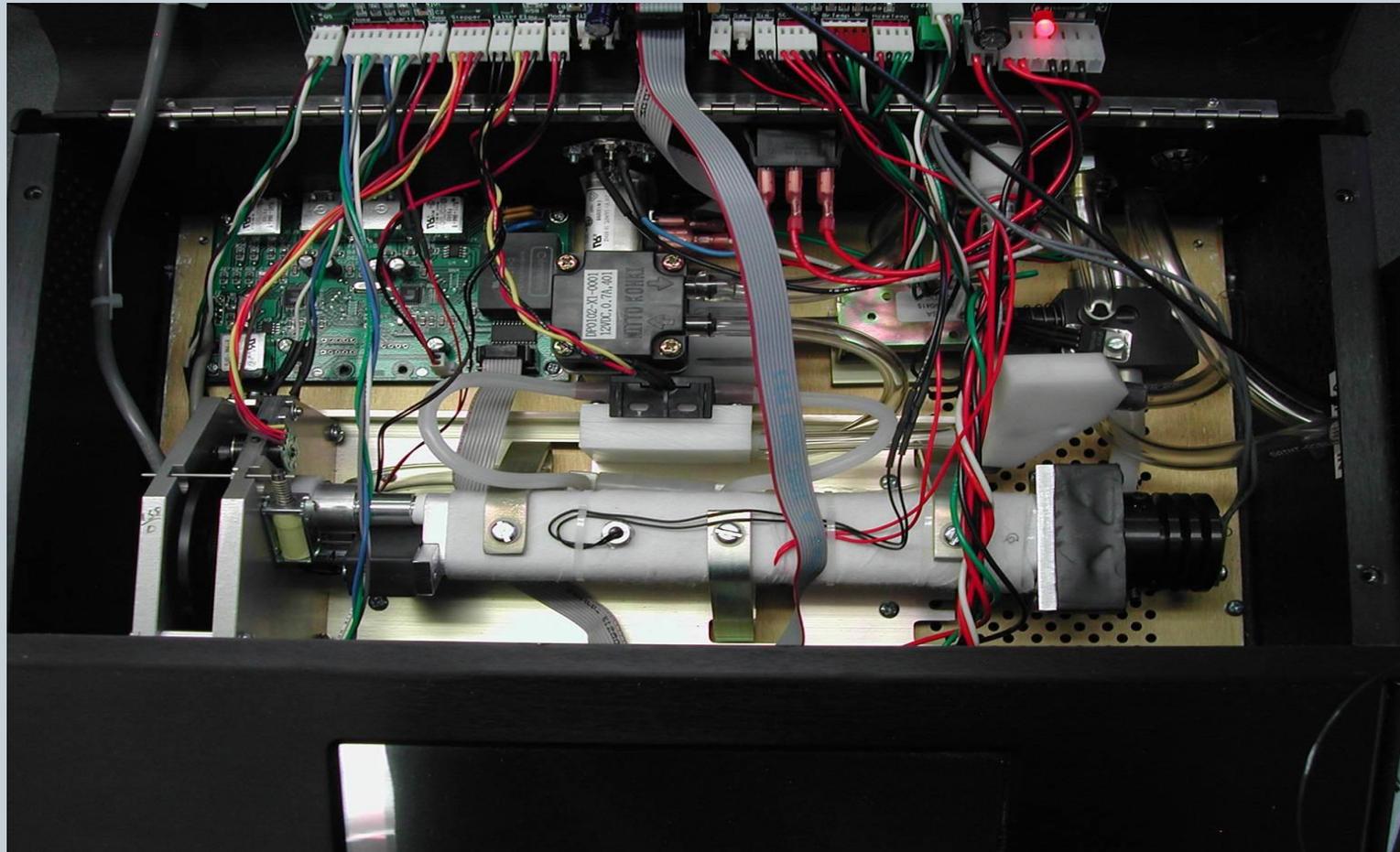
- If the DMT loses communication to the printer, it may be necessary to reboot the DMT to reestablish communication
- Turn the DMT off, ensure the printer is on, properly connected, and free from any errors, then turn the DMT back on
- Press the copy button to check to see if communication has been restored

Troubleshooting



- Error Messages and Conditions are listed beginning on page 18 of your manual
- **All** actions taken to remedy a situation should be documented your Check Up and Maintenance Logbook (Alc 803)
- Contact DataMaster Technical Services if you encounter reoccurring error messages or conditions, even if you fix them

Practical Exercises



Self Assessment



- Please complete the DataMaster DMT Supervisor Training Self Assessment
- You may use your handouts, notes and training manual

Self Assessment Answers



1. February, June and October
2. $\pm 5\%$ from the certified concentration
3. Check the BNC connection to the simulator
4. Simulator solution depletion
5. C) Remove the mouthpiece, move the DUI subject, ventilate room and restart test

Self Assessment Answers



6. E) A and B only
7. False
8. True
9. False
10. False