

Alaska Scientific Crime Detection Laboratory

DataMaster Repair Form

Effective: 3/20/2025

Version: 2.0

Instrument #: 100396

Analyst(s): Derek Watton

Start Date: 06/16/25

Reason for Repair

Detector overflow, chopper wheel motor replacement needed, filter wheel errors

Troubleshooting/Repair

Verified noisy chopper motor, filter wheel error on opening technician screen.

Replaced chopper motor. Filter wheel solenoid appears faulty and wires are losing coating. Replaced o-ring. Replaced filter wheel solenoid. Cleaned quartz and narrow band pass filters with 100% IPA. Routed filter wires separately. Found home and quartz filter wheel sensors to be swapped on controller board. Added screw to tank housing to secure to touch screen panel. Filter wheel assembly works normally now. Noted detector lens is very dirty/cloudy - replaced detector. Noted that the sample chamber mirror blocks were not taped. Replaced the sample chamber with one that was. While replacing the sample chamber I noted that the modem board to controller board connection was broken. Adjusted lamp and cooler voltages. Epoxied double check valve to the side wall. 6/17/25 - I was able to repair the modem cable and the USB functions work normally. Chopper wheel is slightly noisy in certain filter wheel positions. Adjusted detector lamp/cooler settings. Adjusted the chopper wheel position and it's quiet now.

- ☒ VOC (attached) ☒ Verify software version
- ☒ VOC Internal Standard value $\leq 3.00\%$ ☒ Non-Drinking Subject Test (attached)
- ☒ Ready for Adjustment ☐ Ready for Calibration
- ☐ Further Repair Needed ☐ Return to Factory
- ☐ Proceed to Close Out
- Not performed*

End Date: 06/17/25

VERIFICATION OF CALIBRATION REPORT

of DataMaster dmt Breath Test Instrument

State of Alaska

Serial #: 100396

Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 06/17/2025

External Standard Test Values

Diagnostic Check

VERSIONS

DMT: 3.02 ✓

PIC: 3.02

Modem: 2.6

Questions: 2.2

TEMPERATURES

Sample Chamber = 48.7°C

PASSED

(44.0°C - 52.0°C)

Breath Tube = 48.1°C

PASSED

(38.0°C - 50.0°C)

SETTINGS

Lamp Voltage = 1.91 V

PASSED

(1.11 V - 2.59 V)

Cooler Voltage = 1.77 V

PASSED

(1.10 V - 2.56 V)

Bias Voltage = 80 V

PASSED

(48 V - 112 V)

Chopper Freq = 527 Hz

PASSED

(475 Hz - 575 Hz)

Barometer = 29.8 in

PUMP INFO

Flow Rate = 5.292 L/M

PASSED

(3.500 L/M - 6.500 L/M)

DETECTOR INFO

PUMP ON

PASSED

(0.002 V ≤ 0.010 V)

PUMP OFF

PASSED

(0.003 V ≤ 0.010 V)

FILTER INFO

Filter 1

PASSED

Filter 2

PASSED

Filter 3

PASSED

INTERNAL STANDARD

FAILED

Xq = 0.103 6.83% (0.00% - 4.00%)

Diagnostic Check Failed