The DataMaster cdm is a scientific instrument designed to analyze a sample of a person’s breath and determine the Breath Alcohol Concentration (BrAC) in that sample. The DataMaster analyzes the breath sample using infrared absorption spectrometry. The DataMaster is automatic; after the series of questions asked by the unit are answered, the DataMaster will proceed through a number of system checks. At the completion of the initial checks, the DataMaster will request a sample be submitted. Upon completion of the delivery of a sample, the DataMaster will analyze the sample then proceed through a number of final checks before providing the operator with the results. The checks that the DataMaster performs, of itself, the surroundings and the breath sample, are done to ensure that the operator obtains test results under the most favorable conditions.

The DataMaster has an external heated breath hose, an internal quartz calibration check plate, a check valve located in the mouthpiece connector, a Radio Frequency Interference (RFI) detection system, a keyboard, and a modem (at some locations). The printer utilizes a roll of 2-¼ inch calculator paper to provide a hard copy of the test results. The mouthpiece is a spit-trap design intended to prevent saliva from being blown into the sample chamber.

The **Keyboard**

The keys along the top row of keys are called ‘Special Operation’ keys and only three keys may be needed for use by the operator during a normal testing procedure. These are ‘**RUN**’, ‘**NV**’, and ‘**CPY**’. The rest of the keys are password protected, turned off, or simply not of any use during a normal testing procedure.

**RUN** Pressing this key starts the procedure (or re-starts as the case may be.).

**NV** Pressing this key interrupts the breath testing and analyzes whatever sample is in the sample chamber at that time.

**CPY** Pressing this key provides the operator with an additional copy of the last test performed.

<- Pressing this key backspaces the cursor position allowing the operator to correct an incorrect letter or number entry made prior to pressing the ‘ENTER’ key.

The ‘**User 1**’ key advances the paper in the printer.
Running a test

Refer to Operational Checklist for DataMaster cdm.

1. Press the ‘RUN’ key or initiate the test through the TraCS system if so equipped.

2. If running the DataMaster without the TraCS interface, the DataMaster will ask you to answer the following questions:

   {press the ‘ENTER’ key after answering each question}

SUBJECT’S NAME: (last, first middle)
DATE OF BIRTH: (month/day/year – two digits only)
SEX (M/F):
DRIVER’S LICENSE: (letters, numbers or both)
STATE OF ISSUE: (two letter designation only)
INSTRUMENT LOCATION: (ex. – S.O., P.D., ISP District)
OFFICER’S NAME: (name only – no badge numbers)
CASE NUMBER: (letters, numbers or both)

OBSERVATION TIME:

‘OBSERVATION TIME’ will be the time when you began the required 15-minute observation period. The data entered is to be in the form of a 24-hour clock (ex. – 1 a.m. = 0100, 4 p.m. = 1600). Do not enter the time displayed on the DataMaster at the beginning of the test; the DataMaster will note the lack of a 15-minute difference between the current time and the observation time and will not allow the test to be performed. If this occurs, the DataMaster will prompt the operator for the ‘Observation Time’ again. As always, the subject may not eat, drink, smoke, or chew anything during the minimum 15-minute observation period. If the subject should regurgitate during the observation time have the subject rinse his/her mouth with water and restart the 15-minute observation period.

The last question asked before entering into the test sequence is ‘REVIEW DATA? (Y/N)’. A ‘Y’ response allows the operator to go back through each question and check the entry that was made. Any necessary changes to any entry can be made at this time by simply typing over the entry; any new typing action will replace what was there previously. A ‘N’ response allows the DataMaster to proceed into the breath-sampling phase of the test sequence.

Prior to the DataMaster entering the breath test phase, but after the initial tests are complete, the question 'SUBJECT REFUSE? (Y/N)' is asked. A 'Y' response will terminate the test procedure and cause a printout that will include the phrase ‘SUBJECT SAMPLE REFUSED’ where the results would normally be printed. A 'N' response will allow the test sequence to proceed immediately into the breath test phase.
3. When it is ready, the DataMaster will prompt the subject with a flashing ‘PLEASE BLOW’ on the display and beeping tone. Insert a disposable mouthpiece into the breath hose connector* and instruct the subject to provide a ‘long and steady breath’. Do not tell the subject to ‘blow hard’. When the subject is blowing correctly, the flashing ‘PLEASE BLOW’ and beeping tone become a solid ‘PLEASE BLOW’ and a solid tone. If this is not occurring, it is permissible to instruct the subject to ‘blow harder’ in an effort to inform the subject that his/her breath sample flow must be at a flow rate considered acceptable by the DataMaster. The solid ‘PLEASE BLOW’ and solid tone must be maintained continuously throughout the delivery of the breath sample in order to satisfy one of the sample requirements. A ‘break’ in the continuous flow of a breath sample at the proper flow rate for the DataMaster will result in the return of the flashing ‘PLEASE BLOW’ and beeping tone. The subject has approximately two minutes to provide an adequate breath sample. The subject does not need to blow for the entire two minutes; only long enough to satisfy the DataMasters requirements as to an acceptable sample. This may take up to 15 seconds, though the time may vary from subject to subject.

* mouthpiece may be inserted any time prior to ‘Please Blow’ prompt.

4. When the Datamaster has accepted a sample, the display will read:

   ANALYZING
   REMOVE MOUTHPIECE

Remove the mouthpiece from the breath hose immediately. If you do not, a status message may appear and you will have to start over.

5. The DataMaster will analyze the sample twice and then perform its final checks. After the completion of its final checks, the DataMaster will print out the results. **If there is a difference between the test results then the lower of the two test results is to be used.** Three copies of the results will be printed; one for the subject, one for the county attorney, and one for the operator (or officer) requesting the test. (The number of copies may vary depending on departmental request). For those utilizing the TraCS system, only one copy will be printed by the DataMaster. Press the CPY key on the DataMaster if additional copies are needed.

6. Fill out the Operational Checklist. Be sure to fill the appropriate number of checklists as some situations require that more than one checklist be used. Attach all of the printouts to the checklist(s). For those officers/departments who run the DataMaster via the TraCS interface, the TraCS software will generate all other paperwork, including the Operational Checklist.
Addendum for the use of the “NV” key on the DataMaster cdm

If the breath test was not accepted on the DataMaster and the operator believes the subject did not provide an adequate breath sample, the operator may consider using the “NV” (No Volume) key.

The “NV” key may only be used according to the following procedure as found in Section 2, Part C of the Operational Checklist.

1. If the subject fails to provide an adequate breath sample on the first attempt, (Section 1) allow the subject to continue providing breaths for the full 2 minutes allowed by the DataMaster until the DataMaster terminates the test. At this time, the DataMaster will display ‘SUBJECT REFUSE? Y/N’ and you will be asked to type in “Y” for yes (Section 2, Part A) or “N” for no (Section 2, Part B or C). If you determine that the subject has been attempting to comply with your request for a sample, type “N”. At this point, the words “SUBJECT SAMPLE INCOMPLETE” will be printed. Save this printout.

2. If the operator chooses Section 2 Part B or C and the operator determines that a second test attempt will be performed, use a new mouthpiece.

3. Run the test over again from the beginning. After the DataMaster gives the “PLEASE BLOW” instruction, instruct the subject to deliver a long steady breath until the DataMaster accepts the test.

4. If the subject fails to supply an adequate breath sample, and the DataMaster does not accept the test, after a reasonable time (but before the 2 minute automatic termination) you may use the “NV” key if the subject has indicated that he/she cannot supply an adequate breath sample AND the subject has stopped blowing. If the “NV” key is used, the printout will show “SAMPLE CONTROL OVERRIDE” and will also print the breath test results.

5. Save this printout along with the “SUBJECT SAMPLE INCOMPLETE” printout. Both printouts must be preserved as evidence.

Section 2, Part B of the Operational Checklist

If the DataMaster does not accept a breath test and the operator believes the subject provided an adequate breath sample, allow the DataMaster to go the full 2 minutes until it times out/terminates the test (Section 2, Part B). At this time the DataMaster will display ‘SUBJECT REFUSE? Y/N’. Type “N” and save the “SUBJECT SAMPLE INCOMPLETE” printout. Offer a urine or blood test or run the test again using a new Operational Checklist.
### Some Possible STATUS Codes

**INVALID SAMPLE**
Refers to a situation that may be caused by any number of conditions (saliva, mouth alcohol, excessive breath pressure, multiple stop-and-start blowing, etc.). Usually a retest of the subject will result in a valid test. If subsequent tests continue to result in an “INVALID” sample, test the individual on a different DataMaster, or collect a blood or urine sample from the individual.

**INTERFERENCE**
Refers to the situation in which the sample submitted could contain something other than alcohol. Re-start the test. If subsequent tests continue to result in an “INTERFERENCE” sample, test the individual on a different DataMaster, or collect a blood or urine sample from the individual.

**AMBIENT FAIL**
Refers to the situation that the DataMaster detected alcohol or some other substance during a test of the room air. If this occurs, attempt to find the source of the volatile chemical and eliminate it if possible. Re-start the test. If subsequent tests continue to result in an “AMBIENT FAIL”, test the individual on a different DataMaster, or collect a blood or urine sample from the individual.

**PUMP ERROR**
Refers to the condition that the flow detector does not detect pump operation. Check the mouthpiece connector for obstructions and remove the obstruction if found then re-start the test procedure. If subsequent tests continue to result in a “PUMP ERROR”, test the individual on a different DataMaster, or collect a blood or urine sample from the individual.

**RADIO INTEFERENCE**
Refers to the detection of excessive radio frequency energy. This could also be caused by touching the antenna during the test. Re-start the test procedure.
Some Possible STATUS Codes (cont.)

REPLICATE FAIL  Refers to the situation that the DataMaster software has recognized a difference between the replicate tests that falls outside acceptable parameters. Restart the test. If subsequent tests continue to result in a “REPLICATE FAIL”, test the individual on a different DataMaster, or collect a blood or urine sample from the individual. Contact the DCI lab during normal business hours.

SAMPLE CONTROL OVERRIDE  Refers to the fact that the operator chose to press the ‘NV’ key when a subject, for whatever reason, was not providing an adequate breath sample per instructions. The test result is valid for the sample that was in the sample chamber at the time the operator pressed the key. Any test result obtained using this method will result in a lower-than-actual subject alcohol level unless the subject is alcohol free.

Appendix

Special Situations

Status Messages

If a status message appears on the display and/or printout, the DataMaster will not print out a subject’s test result. At this point, the operator has the option to run another test of the subject’s breath. By pressing the ‘RUN’ key the DataMaster will prompt the operator ‘USE PREVIOUS DATA?’ (Y/N). A ‘Y’ will allow the operator to scroll through the information entered previously to verify its accuracy and then proceed into a new opportunity for the subject to provide an acceptable breath sample.

Replacing the mouthpiece

If the subject fails to deliver an adequate breath sample or a status message appears during the breath test and the operator re-starts the test procedure in an attempt to obtain an adequate breath sample from the subject, it is recommended that a fresh mouthpiece be utilized at that time. This does not include those situations that may include multiple stops-and-starts during a single breath test phase.
Incompletes /Refusals

'SUBJECT REFUSE? (Y/N)' will be asked again if the DataMaster has been allowed to go through the 2-minute breath-sampling period without an adequate sample having been provided. If this question is answered with a 'Y' a printout indicating 'SUBJECT SAMPLE REFUSED' will be obtained. If this question is answered with a 'N' the printout will indicate ‘SUBJECT SAMPLE INCOMPLETE’. At this point, the DataMaster would then return to the 'READY–PUSH RUN' screen and if the subject were to be given another opportunity to provide a test, the DataMaster will ask 'USE PREVIOUS DATA?' (Y/N) after the ‘RUN’ key is pressed. A 'Y' will allow the operator to scroll through the information entered previously to verify its accuracy and then proceed into a new opportunity for the subject to provide an acceptable breath sample.

Location Conditions

The DataMaster is capable of detecting the volatile chemicals that produce strong odors such as those from a person’s body, a cleaning agent, or other chemical substances. These can cause a reading of ‘INTERFERENCE’, ‘AMBIENT FAIL’, or ‘BLANK ERROR’. In these cases, it is suggested that one or more of the following be performed: the breath hose be moved away from the odor source, the DataMaster not be used until the odor is removed from the room, the DataMaster be moved to another room, or a different sample (blood or urine) be collected from the subject.

** These instructions are furnished to the DataMaster cdm operator during training that the operator may comply with Iowa Administrative Code 661-7.2(1)(321J).