Today legal challenges to breath alcohol testing evidence are commonplace and vary in complexity. While sometimes these challenges are supported by legal precedence or firmly established scientific principles, often times excerpts or partial offerings of reasonable scientific theories are packaged in such a way as to seemingly negate moderately high breath alcohol concentrations (BrAC). To an alarming extent whimsical and fanciful theories have been accepted by our nation’s courts as legitimate explanations for the difference in measured BrAC and the expected BrAC based on the defendant’s assertion as to the amount of alcohol that was consumed. Modern breath alcohol testing instruments offer data collection and storage capabilities that were not available in instruments 10 to 20 years ago. By incorporating these expanded capabilities into its breath testing program, the objective data generated has allowed the Alabama Department of Forensic Sciences Breath Alcohol Testing Program to assess the merit of many of the common legal challenges. Increased data collection increases knowledge and allows one to verify that the instrument is performing as it is supposed to. This increased knowledge in turn yields increased confidence in the testing process.

Storage and review of critical operating parameters just prior to and just after the collection of the breath samples proves that no critical error or malfunction occurred during the breath test. Storage of breath curve data from the infrared detector allows for the pre-trial review of the breath curve profile to verify the absence of mouth alcohol. Storage and review of the breath curve data from the infrared and electrochemical cell detector allows one to verify that there was no radio frequency interference. Finally, collection and storage of the flow data gives one the ability to assess subject cooperation. An overview of the unique data collection capabilities provided by the firmware utilized with Alabama’s Draeger Alcotest 7110 MKIII-C will be presented.

Keywords: DUI, Breath alcohol, Alcotest, Firmware