A system and method to preserve the integrity of data being extracted from an electronic data recorder ("EDR") of an electronic control module ("ECM") makes use of a forensic link adapter (20) and, optionally, a sensor simulator (10) (when the ECM is out of the vehicle). The forensic link adapter (20) has one or more first microprocessors (23) and a first software means which prevent any message being sent by an external network from corrupting the previously recorded data measurements. The data measurements are then extracted, verified, and stored in a separate file. The sensor simulator (10) has one or more second microprocessors (23), a second software means, and a bank of resistors (21) that mimic sensors normally in communication with the ECM.

The simulator "tricks" the ECM into thinking it is still in the vehicle by using the replicating vehicle system values the ECM normally sees when in the vehicle.