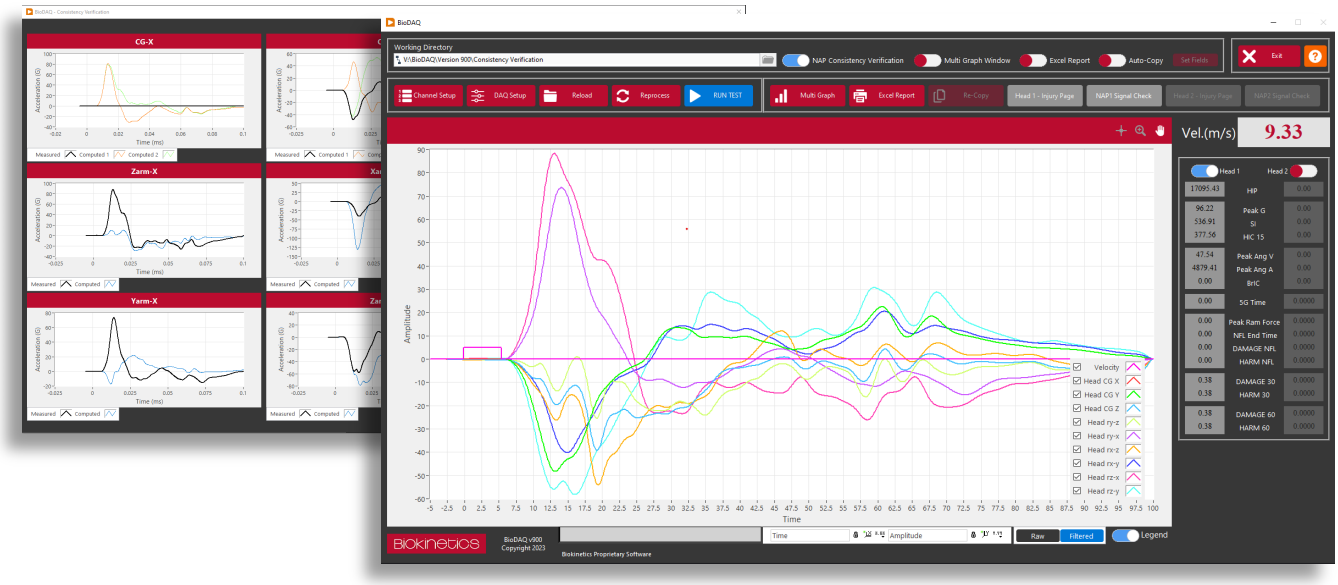
BioDAQ 9.0

Injury analysis software including data acquisition, angular head kinematics and injury metrics

BioDAQ - Data Responses with Injury Metrics and Signal Checking



Features:

- General purpose data acquisition software to collect, condition (remove bias and filter), and process data from most types of sensors including: accelerometers, angular rate sensors, force load cells, moment load cells, laser displacement transducers, linear variable differential transformers, rotary potentiometers, or impedance hammers.
- Recording triggered manually or automatically when a rising/falling digital signal or when an analog threshold is reached.
- Exports data to a text file and MS Excel® in raw and filtered forms. Can automatically export selected criteria to the Clipboard to save time and reduce transcriptions errors when using an external report template.

Head Impact-Specific Features:

- Optional specialized injury metric processing for head impact analysis including Head Impact Power (HIP), Severity Index (SI), peak linear acceleration (Peak G), peak angular velocity and acceleration (peak ω and peak α), Head Injury Criterion (HIC), Diffuse Axonal Multi-Axis General Evaluation (DAMAGE), and Head Acceleration Response Metric (HARM).
- Configures headform mode to read data from an uniaxial accelerometer, triaxial accelerometer, Nine Accelerometer Package (NAP), or triaxial accelerometer with triaxial angular rate sensors (3A-3ω e.g., DTS 6DX Pro). Simultaneously record sensor data for single or double-head impact configurations (i.e., head-on-head impact reconstructions).
- Automatically transforms head kinematic results for skewed or offset accelerometer placement based on the selected headform type (e.g. NOCSAE or Hybrid III ATD).
- Computes rotational brain response estimate with DAMAGE [Gabler et al. 2018] using 30 ms and 60 ms windows or truncated using a ram load cell, [BioCore 2020, Helmet Test Protocol]. Football helmet performance metric is also computed using HARM (Head Acceleration Response Metric), [BioCore 2020, Helmet Test Protocol].
- Head accelerometer consistency check algorithm alerts the user of possible setup/equipment trouble [Takhounts te al., 2003] with the NAP that may include dead channels, incorrect sensitivities, wrong accelerometer offsets or channel mislabelling.

Specifications

Distribution:	Single seat perpetual license.	Computer Requirements:	PC, Intel i5 or better, Windows 11
Data Acquisition:	Compatible ONLY with National Instruments PCIe or USB based data acquisition cards (32-ch max.)	Part Number:	BioDAQ-090

(All specifications are subject to change)