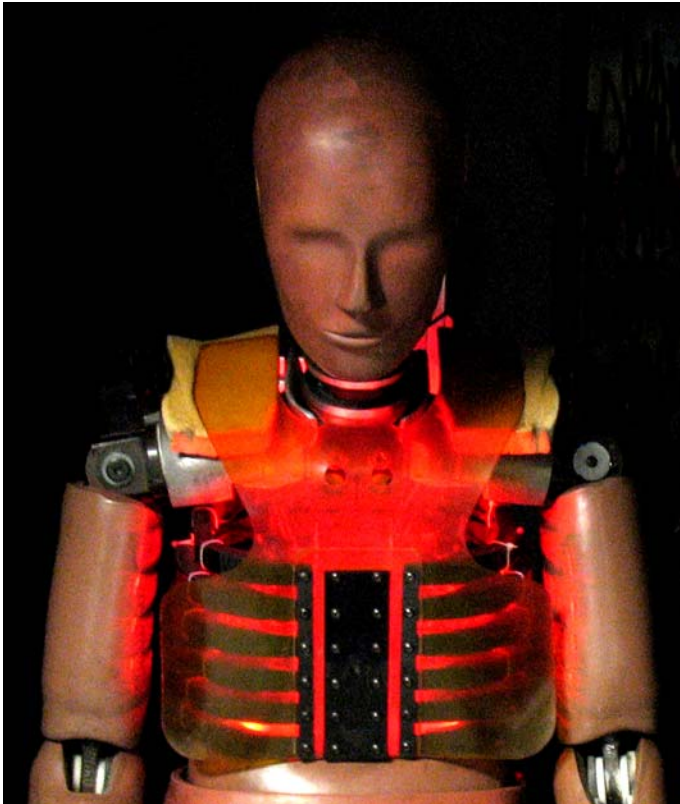# BOXBORO
s y s t e m s

Hybrid III ATD – 50th Male RibEye™
## A Better Way to Measure Thorax Displacement

RibEye Advantages

- Multiple point measurement: 12 points @ 10 kHz sample rate, captures linear and oblique loads

- Multiple-axis: measures X and Y positions for each LED

- Non-contact: no mechanical linkages between spine and ribs

- Shows seat-belt loading effects on all ribs

- Simple installation of LEDs

- Interfaces with existing data acquisition systems: open protocol for RibEye operation by DAS software

- Meets ISO 6487-2000 and SAE J211 specifications

Measurement Capabilities

- Accuracy
  +/– 0.2 mm typical
  +/– 1 mm max. error

- Range
  X axis: up to 85 mm chest compression
  Y axis: +/– 90 mm from center of spine
  Z axis from top rib to bottom rib

- Acquisition time @ 10 kHz sample rate
  30,000 ms (30 seconds) in RAM
  2 seconds in flash memory
  (500 ms pre-trigger/1500 ms post-trigger)

- Temperature range
  Operating, –18°-38°C (0°-100°F)
  Max. accuracy, 18°-29°C (65°-85°F)
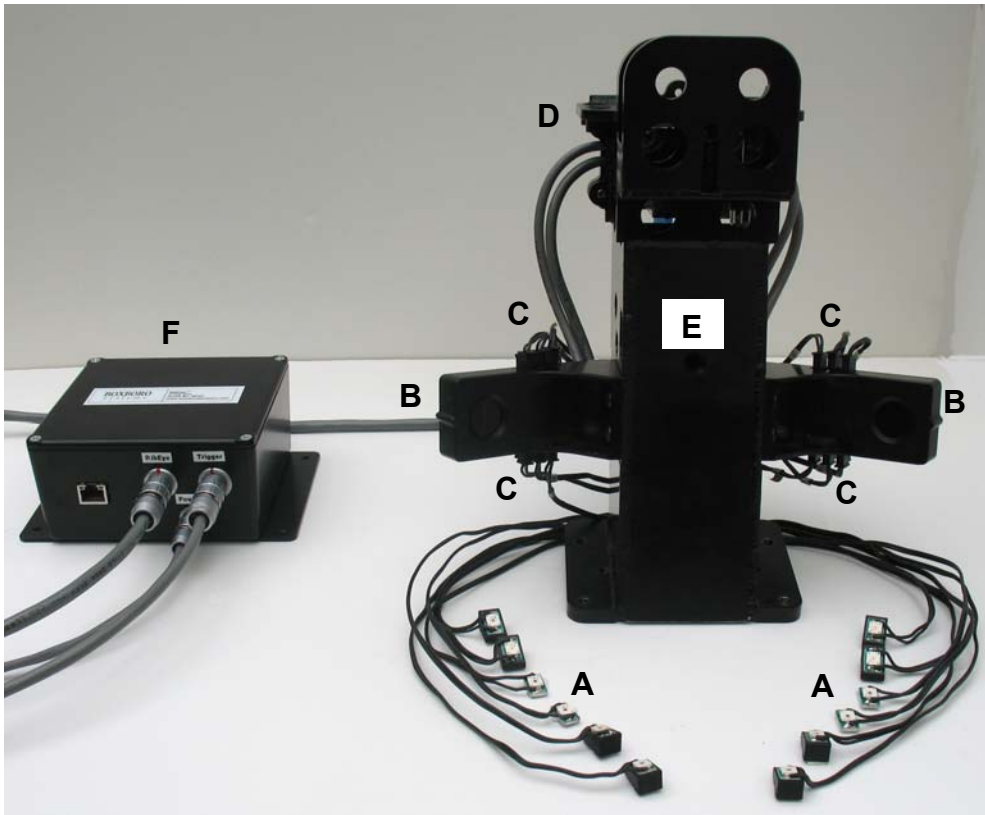
RibEye Components

A 12 LEDs mounted on ribs at measurement points

B Two optical sensor heads to derive LED positions

C LED connector blocks built into sensor heads

D RibEye controller mounted in back of spine

E Spine (existing spines can be modified, or new spines supplied)

F Trunk box (power, trigger, and communications connectors), located externally

Other information

- PC-based control software exports data in Diadem, ISO, or CSV formats (PC not included)

- Power requirement:
  12-36 Volts DC
  8.3 W (data acquisition)
  5.3 W (idle)
  12.3 W (max.)

- U.S. Patent Number 7508530

- For more data, please see our website literature, including papers from the 2011 ESV Conference about third-party testing using the RibEye

www.boxborosystems.com