BOXBORO
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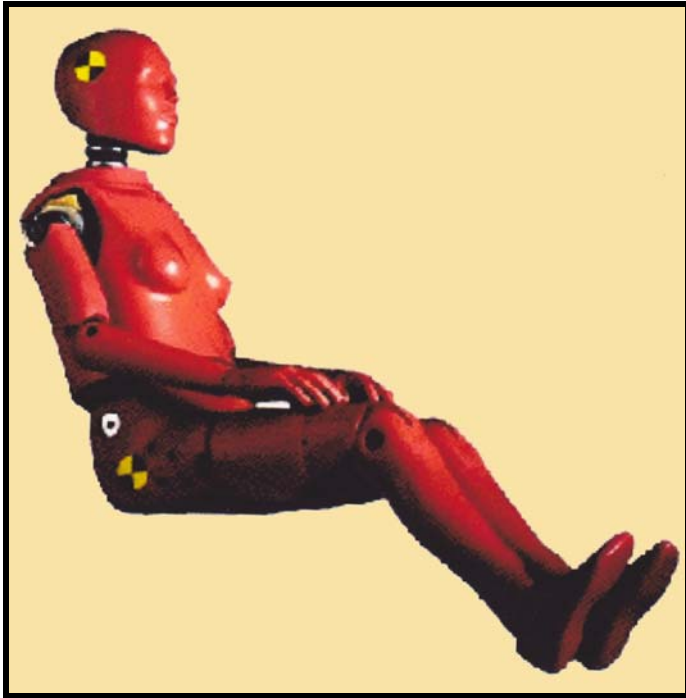
Hybrid III ATD – 5th Female RibEye™
A Better Way to Measure Thorax Displacement

## 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 60 mm chest compression
  Y axis: +/– 75 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)
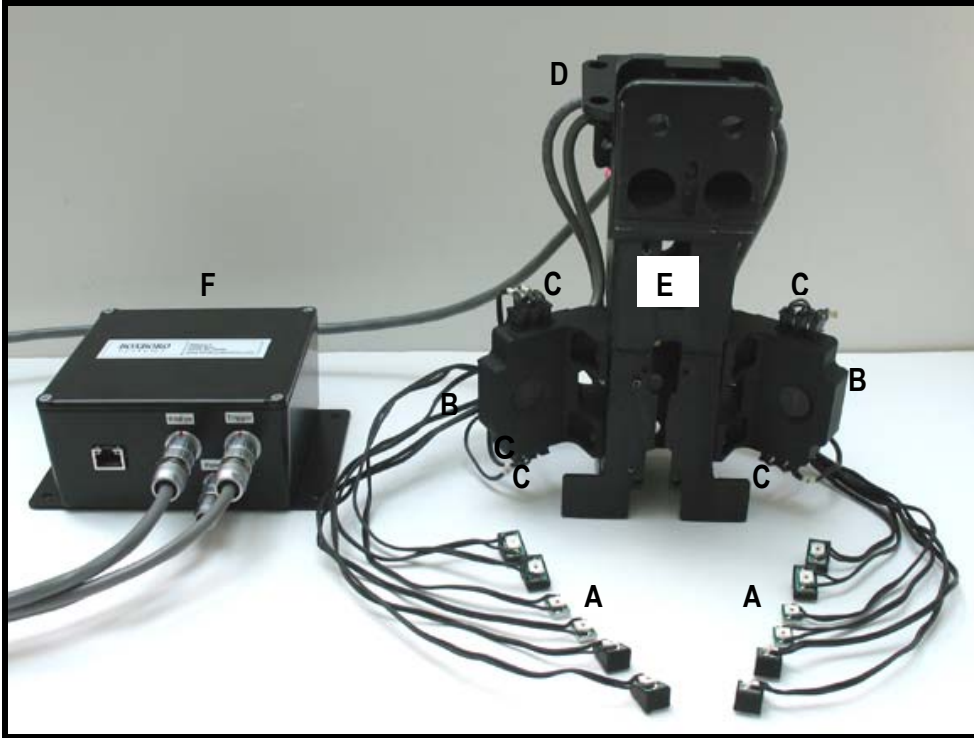
RibEye Components

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

RibEye Ver 3.0

Connect/Setup | Plot | Live Display | Export

RibEye Status

Connected - Idle

RibEye Type:	50th Male
Serial Number:	00075
Calibration Date:	25 January 2010
Firmware Version:	50 S0005

Connect to RibEye via: **Ethernet**

IP Address: **192.168.0.152**

DISCONNECT

Find RibEyes

RibEye Installed in ATD: **HIII 50TH**

Trigger Setting: **Rising Edge**

ISO Test Object: **1 - Vehicle 1**

ISO Position: **1 - Front Left**

Show Current XY's

LED	RIB	POSITION	ISO CODES	X (mm)	Y (mm)
1	1	LEFT	1 1 RIBS 01 LE H3 DS X/Y	0.0	0.0
2	2	LEFT	1 1 RIBS 02 LE H3 DS X/Y	0.0	0.0
3	3	LEFT	1 1 RIBS 03 LE H3 DS X/Y	0.0	0.0
4	4	LEFT	1 1 RIBS 04 LE H3 DS X/Y	0.0	0.0
5	5	LEFT	1 1 RIBS 05 LE H3 DS X/Y	0.0	0.0
6	6	LEFT	1 1 RIBS 06 LE H3 DS X/Y	0.0	0.0
7	1	RIGHT	1 1 RIBS 01 RI H3 DS X/Y	0.0	0.0

ARM

ERASE MEMORY

DOWNLOAD DATA

Data Buffer Operation
Circular — Linear

Data to collect after Trigger (ms)
2000

Data in RibEye (ms)
Start Time: -500
Stop Time: 1500

Data To Download (ms)
Start Time: -10
Stop Time: 400

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