

RibEye for WorldSID 50th

February 16, 2011

Southfield, MI

Original WorldSID RibEYE, Model 8700

- Delivered June 2009
- 3 LEDs per rib, 3-axis measurement, 54 data channels
- Integrated with Mini-DB for power, trigger, Ethernet
- Controlled by RibEye software
- Red set – upper three ribs, Blue set - lower 3 ribs
- Tested at PMG, TRL and RTA

Issues:

- Insufficient measurement range
- Middle rib on each set can block upper and lower ribs on the set
- Sensor connectors damaged during testing
- Lenses moved causing errors
- Firmware bugs

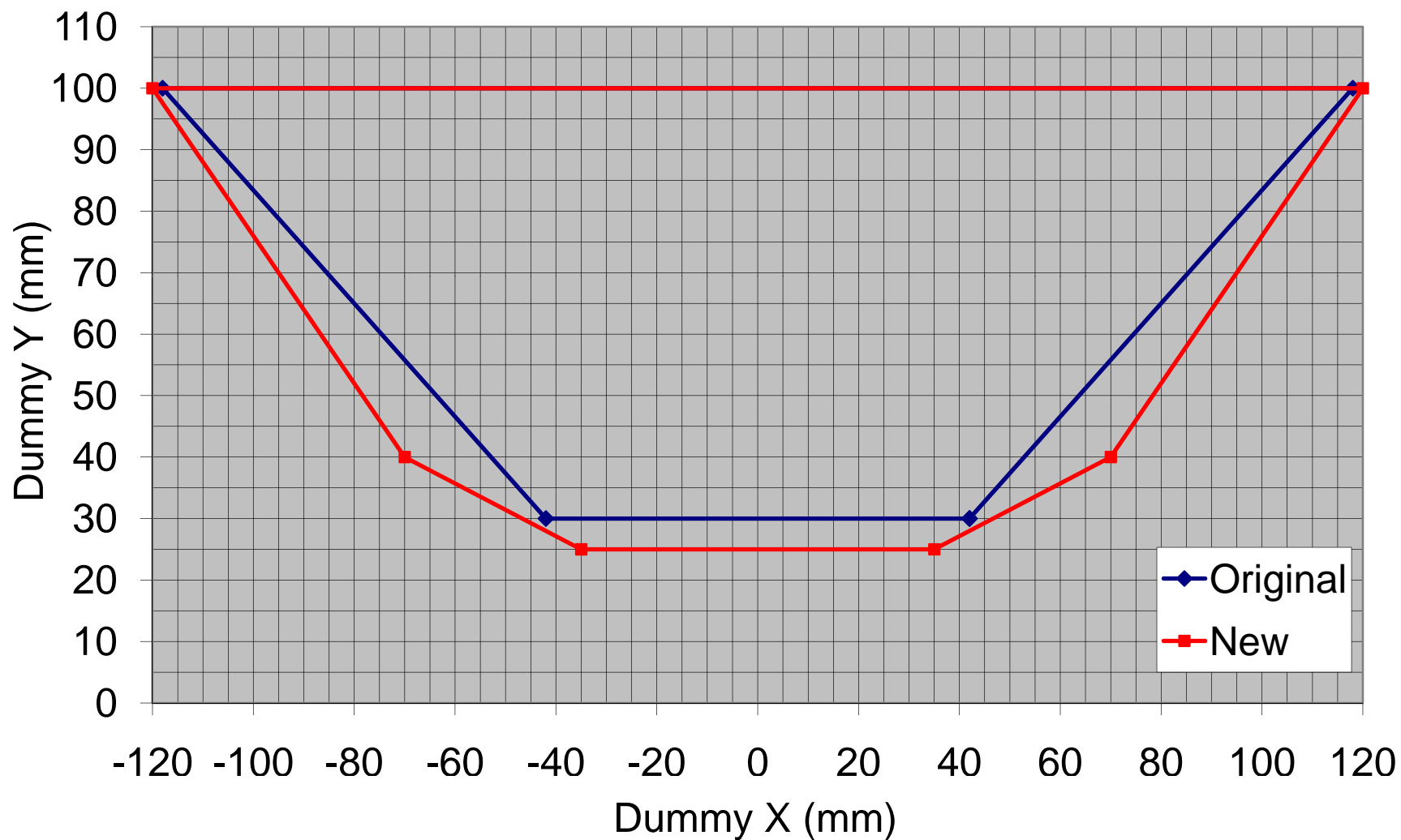
New WorldSID RibEye, Model 10000

- Delivery February 2011
- 3 LEDs per rib, 3-axis measurement, 54 data channels
- Power, trigger and Ethernet through DAS
- Controlled by DAS or RibEye software

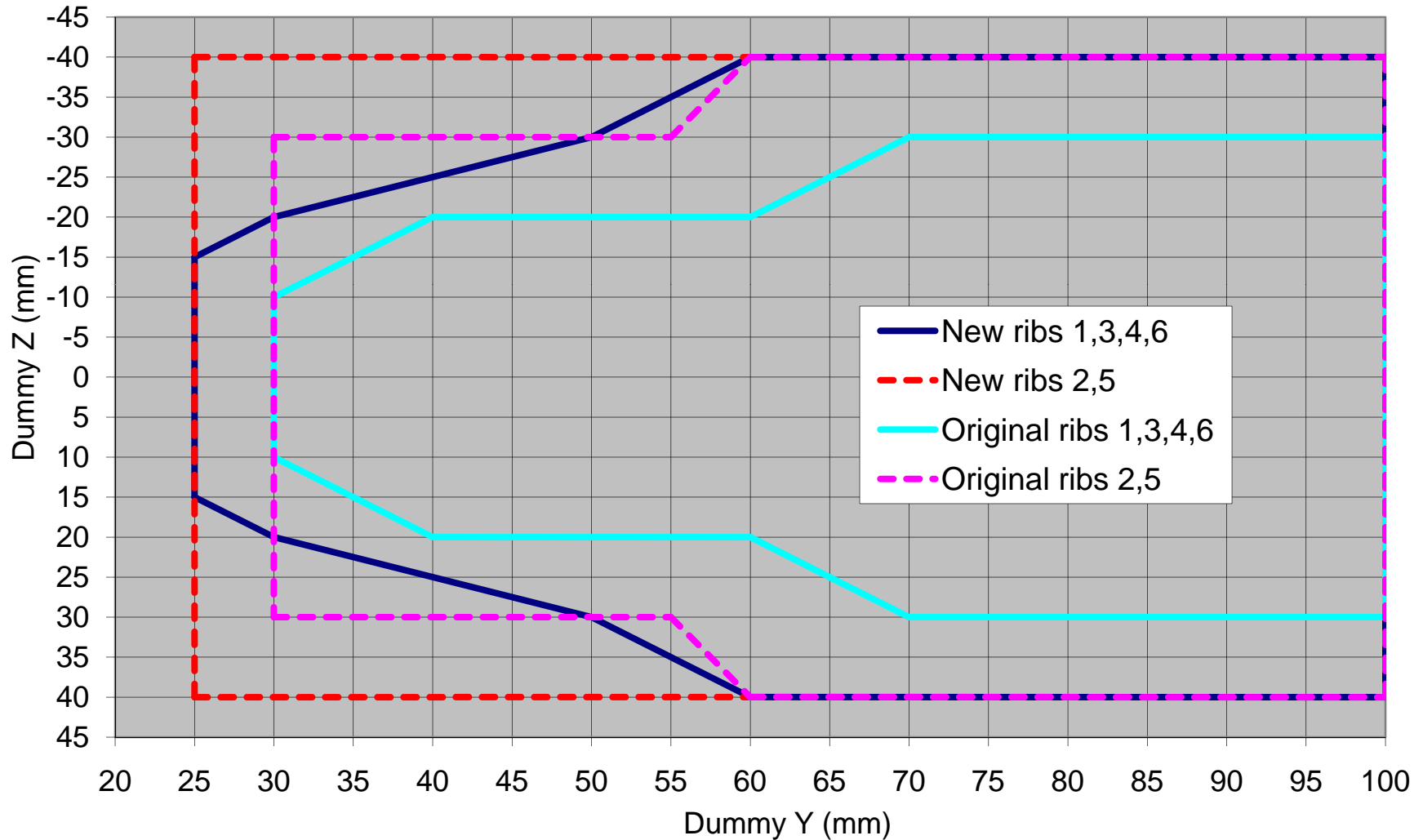
Improvements:

- Increased range
 - LED and sensor angles optimized
 - LEDs relocated on rib mounting blocks
 - Mounting block thickness minimized
 - Updated electronics with improved LED current control
- Improved durability:
 - Sensor connectors relocated on controller
 - Sensor lenses bonded in position
- Firmware improvements

XY Range for all ribs for Y and Z error <1 mm, X error <2 mm



New and Original Y-Z Range for Y and Z errors <1 mm, X errors < 2 mm

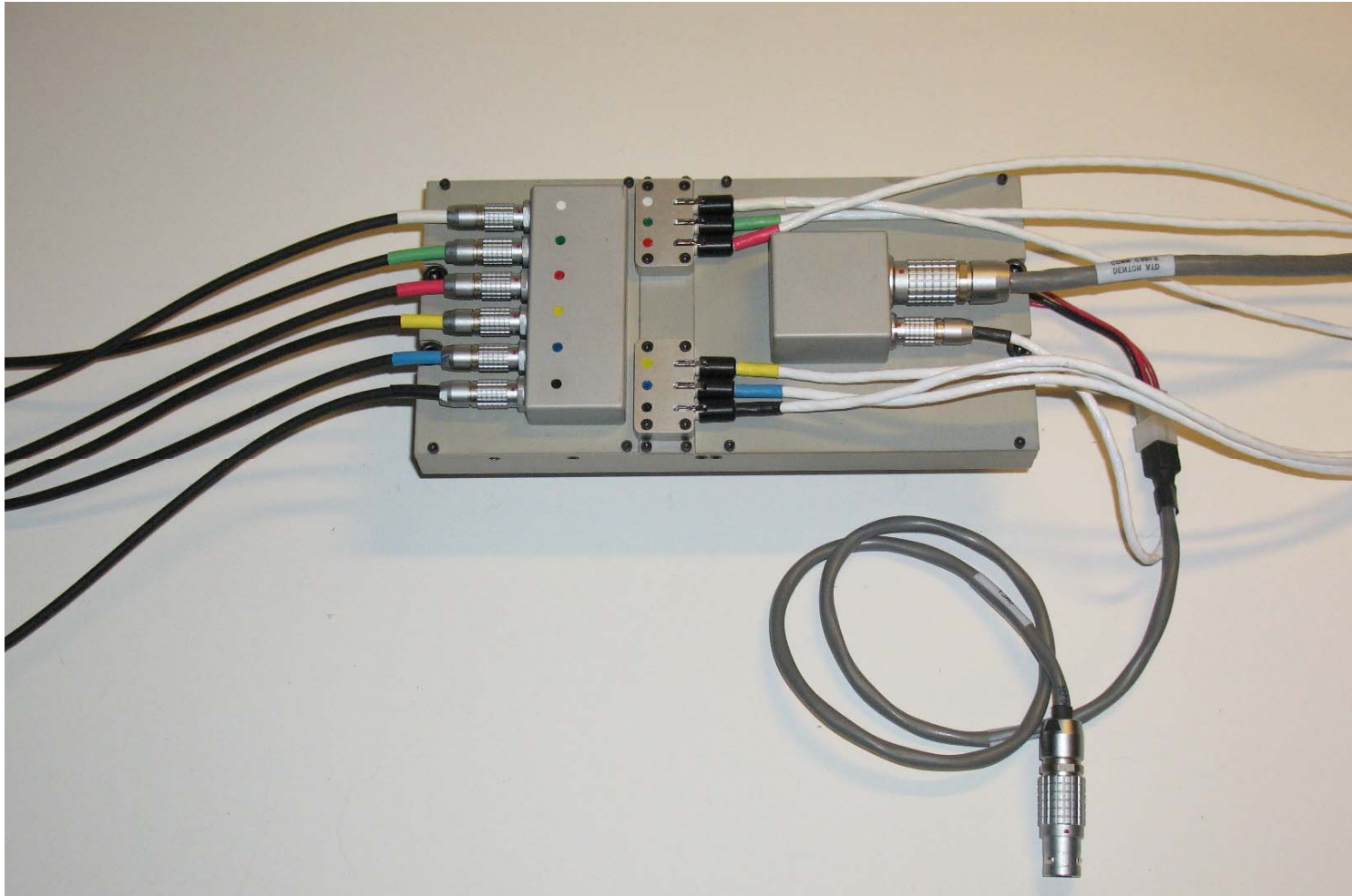


Sensor input connector damage

Bottom of thorax, non-struck side

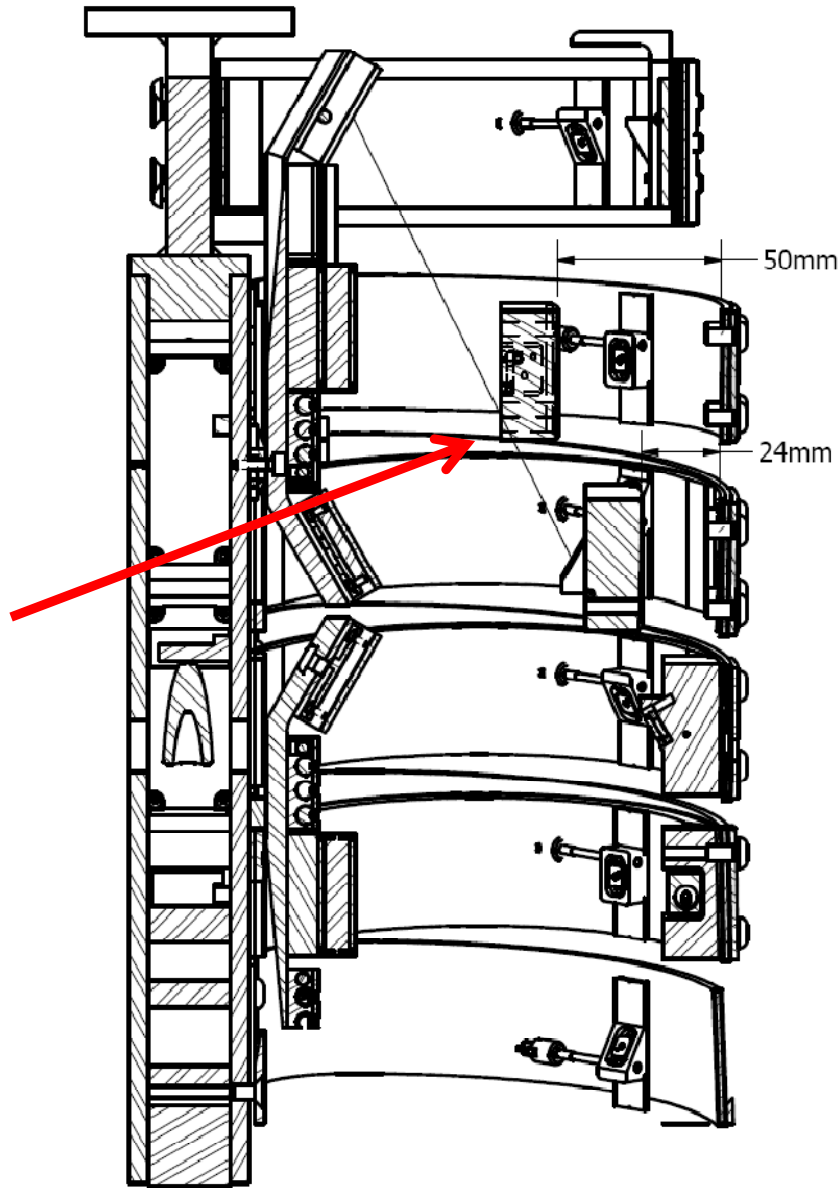


Control enclosure with connectors installed



Model 8700 Middle Rib (Thorax 1 and Abdominal 1) Interference

Middle Rib
LED can
block light
path



Improved LED Housings

Model 10000

Model 8700

