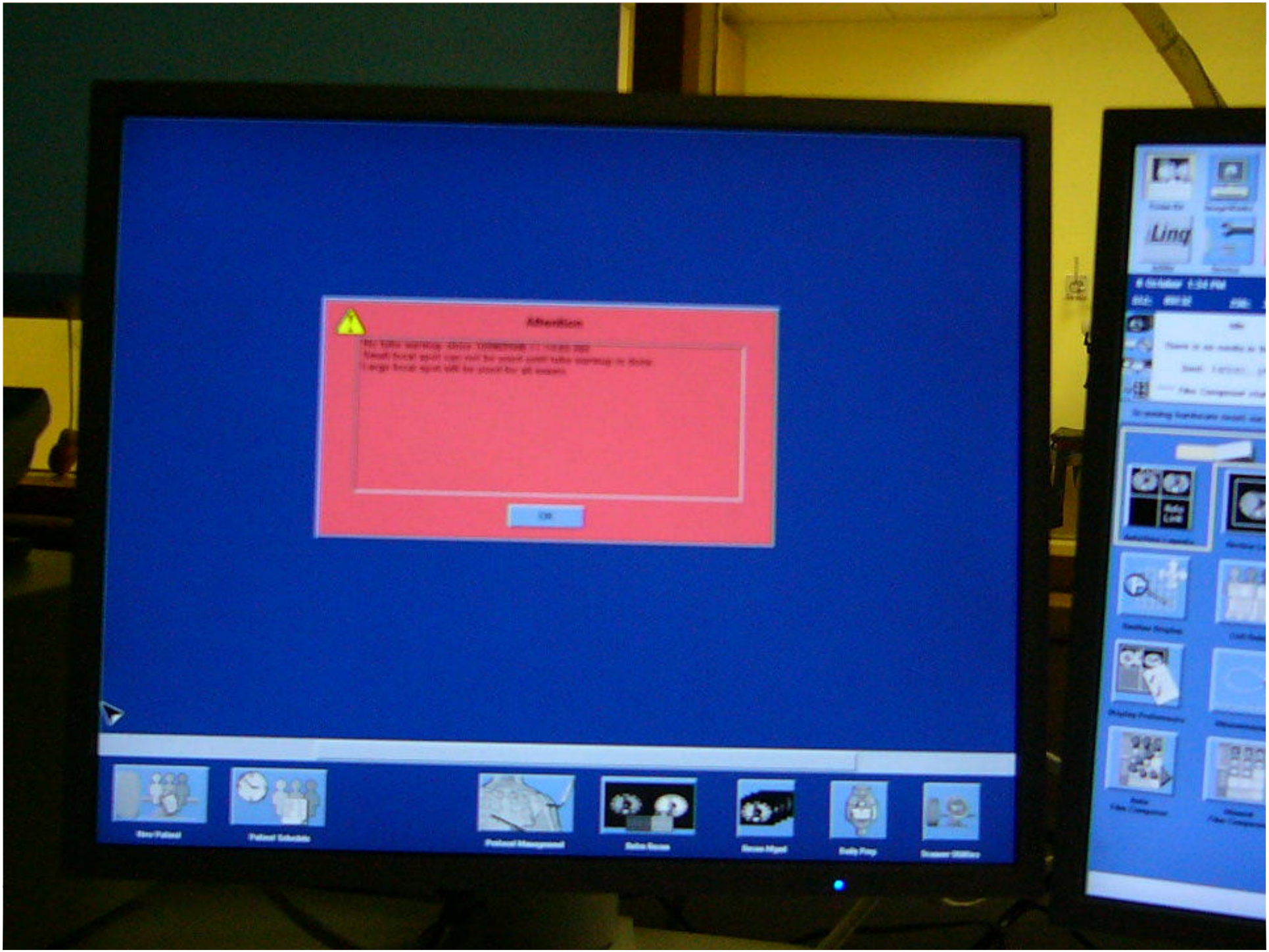
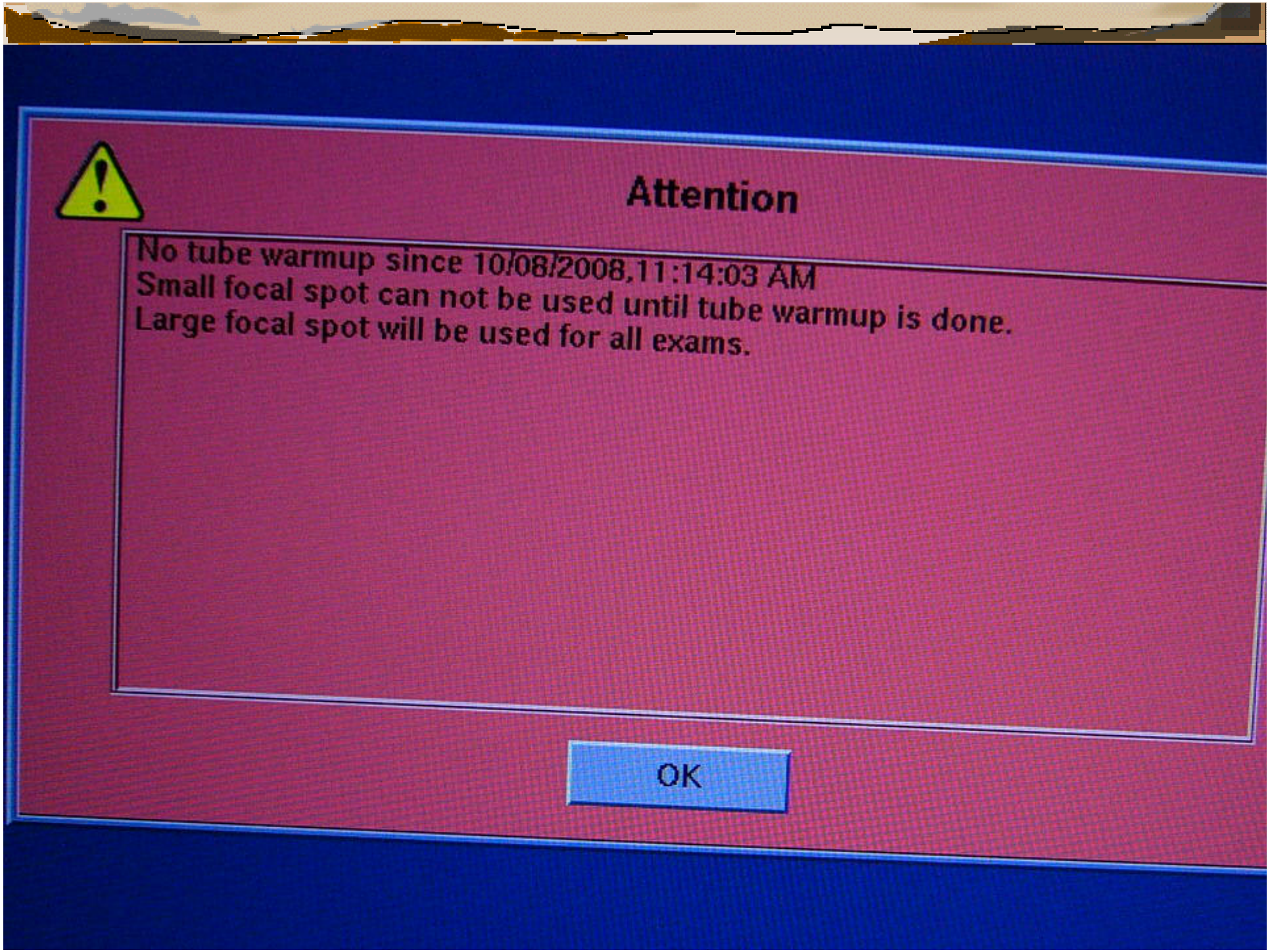
How to Measure FSS in CT?

CT User Group - October 2008

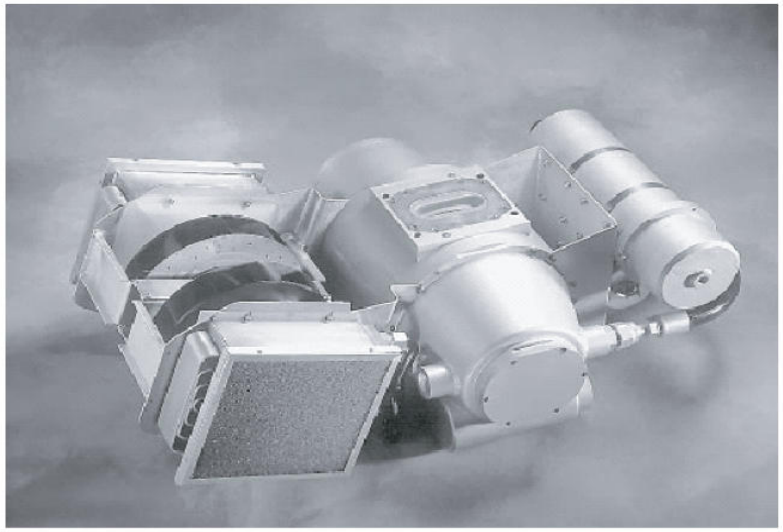
Amal Roche


Attention
OK


Attention
No tube warmup since 10/08/2008,11:14:03 AM
Small focal spot can not be used until tube warmup is done.
Large focal spot will be used for all exams.
OK

Description

CT Performix™ Ultra is designed using GE's revolutionary design for six sigma methodology to optimize overall tube performance while giving unprecedented tube life and reliability. Performix™ Ultra features significant design enhancements to support 0.5 second full scans for increased performance



Features

Higher Throughput

- 6.3 MHU 200mm target design eliminates tube cooling delays.
- Innovative thermal coatings and the unique metal ceramic insert combine with the high dissipation housing design to optimize patient throughput.

Imaging Performance

- Brazed graphite target design utilizing a patented braze process gives superior helical performance.

Reliability

- Innovative high capacity bearing and anode designs give outstanding reliability, even at the high g-loads associated with 0.5s gantry rotations speeds.
- Metal/ceramic frame significantly improves insert reliability for exceptional tube life.
- Patented high-voltage surge protection designed into the tube assembly provides exceptional high voltage stability.
- Each insert is conditioned up to 180 kVp which provides stability at the 140 kVp rating.

User Productivity

- Higher patient throughput obtained by optimizing the thermal design.
- High efficiency motor design provides fast access times.

Specifications

Tube Insert:

Dual Focal Spots:

- Small: 0.7 x 0.6
  Large: 0.9 x 0.9
  (IEC 336/93).
- Small: 0.9 mm (W) x 0.7 mm (L)
  Large: 1.2 mm (W) x 1.2 mm (L)
  (traditional methodology).

Stated values of length and width independently meet NEMA specifications.

Target Angle: 7°

8400 RPM minimum rotor speed.

Maximum target loading 53.2kW for 20 seconds.

Thermal Ratings:

Heat Storage Capacity:

Anode	6300 KHU
Housing	5500 KHU

Tube performance is never limited by the casing.

Heat Dissipation:

Anode: Maximum 840 KHU/min

Tube Assembly Continuous:
300 KHU/min

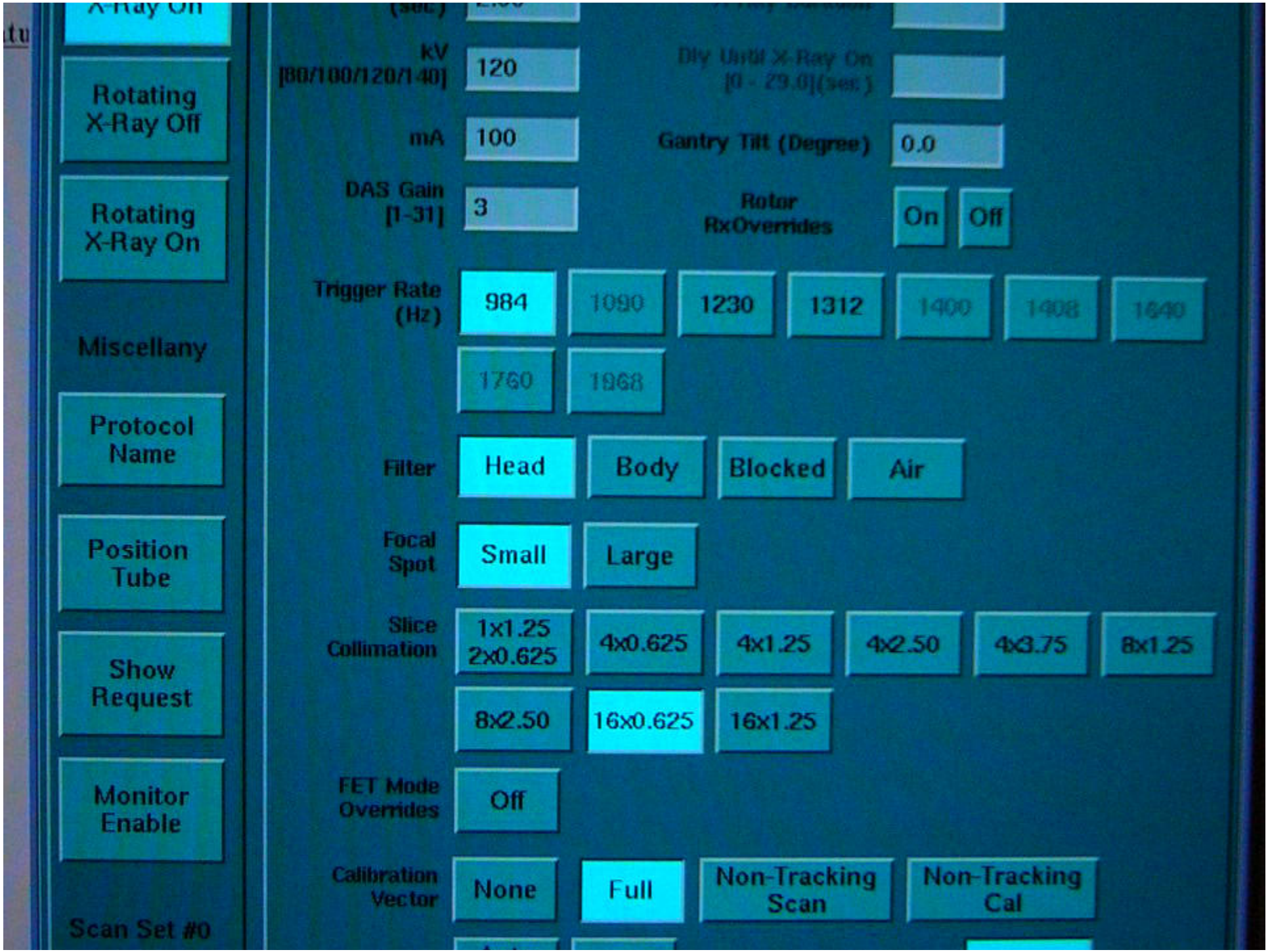
For three phase, twelve pulse equipment, heat units equal the product of the kVp x mAs in seconds x 1.35.

Tube Housing:

Shock-resistant housing constructed of aircraft grade aluminum. Lined with lead to minimize radiation leakage.

Heat exchangers and fans provide exceptional cooling at reduced noise levels.

Pressure switch mounted in tube housing automatically cuts off power to the tube assembly if oil pressure reaches a preset limit.


X-Ray On
Rotating X-Ray Off
Rotating X-Ray On
Miscellany
Protocol Name
Position Tube
Show Request
Monitor Enable
Scan Set #0
kV [80/100/120/140]
120
mA
100
DAS Gain [1-31]
3
Dly Until X-Ray On [0 - 29.0](sec)
Gantry Tilt (Degree)
0.0
Rotor RxOverrides
On
Off
Trigger Rate (Hz)
984
1090
1230
1312
1400
1408
1640
1760
1968
Filter
Head
Body
Blocked
Air
Focal Spot
Small
Large
Slice Collimation
1x1.25 2x0.625
4x0.625
4x1.25
4x2.50
4x3.75
8x1.25
8x2.50
16x0.625
16x1.25
FET Mode Overrides
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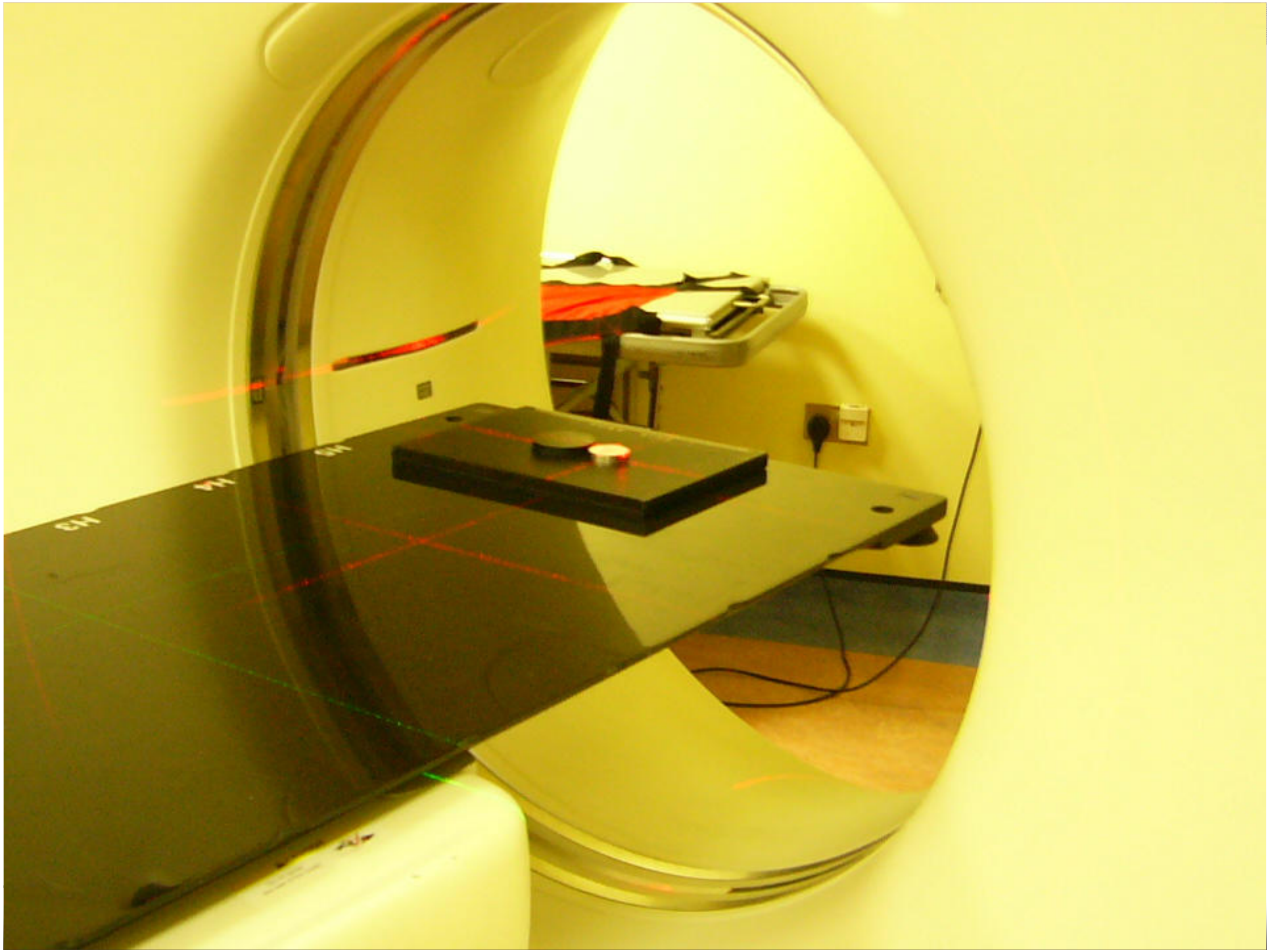
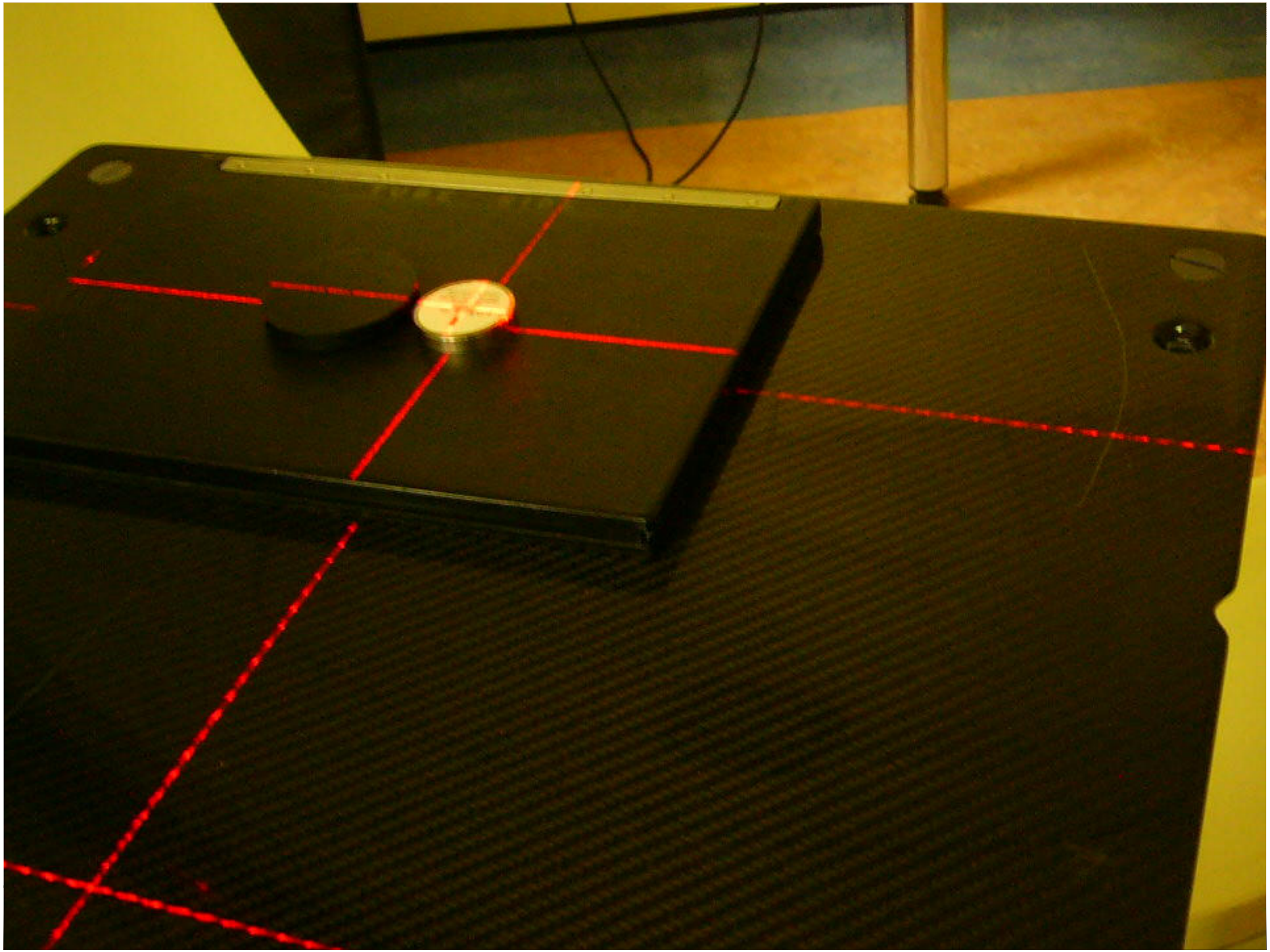
Calibration Vector
None
Full
Non-Tracking Scan
Non-Tracking Cal

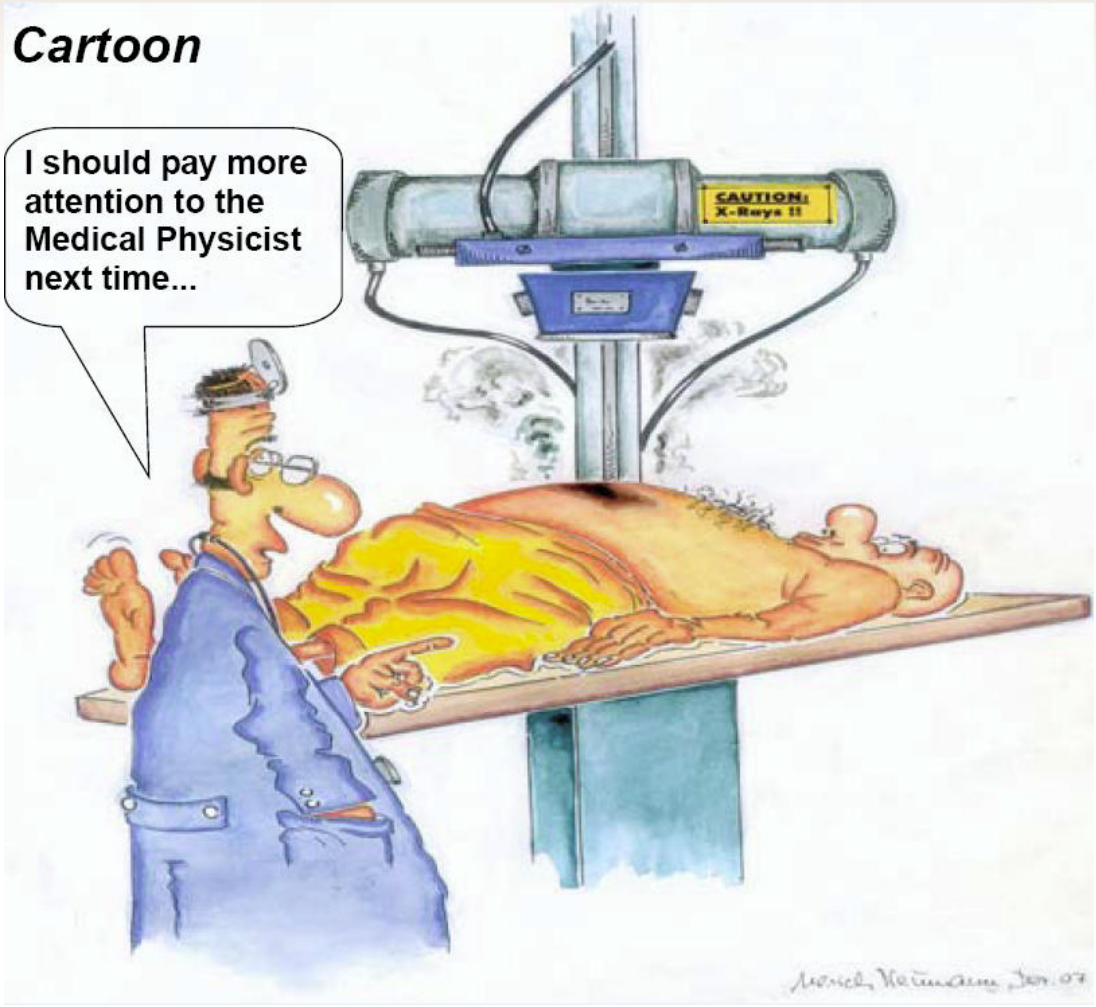




FSS
Small
FSS
Large

Thank you

Cartoon


I should pay more attention to the Medical Physicist next time...
CAUTION: X-Rays !!