

## DR7100S – NDT Digital Radiography System

CIT Part Code: CIT-DR7100S

Introduction of the DR7700S detector into NDT digital radiography inspection environment enables end-users to increase their production throughput. The am-Si detector with CsI conversion screen provides high absorption, thereby, reducing exposure required to obtain a good quality radiographic image. This integrated solution is designed and developed for NDT X-Ray radiograph facility, laboratory or site radiography. The detector can be installed inside the cabinet or the radiation rooms that comply with the radiation safety and ionising health radiation regulations. Increased radiation shielding of the detectors allows higher kV operation.



DR7100S am-Si Detector



Typical NDE Workstation with 3MP Monitor



160kV X-ray Unit

### Salient Features

<p><b>Radiation Detector (am-Si Flat Panel)</b></p> <ul style="list-style-type: none"> <li>• 1516 x 1900 pixels active area</li> <li>• 127 micron</li> <li>• 14 bit dynamic range</li> <li>• Variable frame rate 15/30 fps</li> </ul>	<p><b>Radiography NDT Workstation</b></p> <ul style="list-style-type: none"> <li>• 20.8" Diagonal Screen</li> <li>• 2048 x 1536 Resolution</li> <li>• &gt;750 Cd/m<sup>2</sup> Brightness (colored or monochrome)</li> <li>• Built-in SMPTE calibrated unit into monitor</li> </ul>	<p><b>Radiation Sources</b></p> <ul style="list-style-type: none"> <li>• Up to 225kV x-ray source</li> <li>• Microfocus/Minifocus</li> <li>• Constant Potential</li> <li>• Half wave/full wave</li> </ul>
<p><b>Applications</b></p> <ul style="list-style-type: none"> <li>• Turbine Blades</li> <li>• Carbon Composite Inspection</li> <li>• Inspection of Foils</li> <li>• Casting Inspection</li> <li>• Weld Inspection</li> </ul>	<p><b>Market Sectors</b></p> <ul style="list-style-type: none"> <li>• Petrochemical Refinery</li> <li>• Power stations</li> <li>• Aerospace Industry</li> <li>• Automotive Industry</li> <li>• PCB / Electronics</li> <li>• Foreign Bodies</li> <li>• Forensic</li> <li>• EOD / EID</li> </ul>	<p><b>Inspection Capability</b></p> <ul style="list-style-type: none"> <li>• Volumetric defects in welds and casting of different material</li> <li>• Magnesium, Aluminum, Steel, Inconel, Plastics, Composites</li> <li>• Material characterisation, density analysis</li> <li>• Material calibration</li> </ul>

Detector is manufactured by Varian and system OEM integrated and supplied by CIT

Technical Specifications

**Radiation Detector (am-Si Flat Panel)**

- Conversion screen – CsI, DRZ Plus, Gd<sub>2</sub>O<sub>2</sub>S:Tb
- Imaging Area (Gd<sub>2</sub>O<sub>2</sub>S)– 193 x 242 (H x V) mm
- Imaging Area (CsI,DRZ)– 190 x 238 (H x V) mm
- Pixel matrix (Gd<sub>2</sub>O<sub>2</sub>S)– 1516 x 1900 (H x V) mm
- Pixel matrix (CsI,DRZ)– 1496 x 1874 (H x V) mm
- Pixel Pitch – 127 microns
- Operating speeds – 1 - 10 fps at (1x1)/ 15/30 fps at (2x2)
- Limiting resolution – 3.94 lp/mm<sup>2</sup>
- MTF @ 1lp/mm – >48%
- Dynamic Range - 14 bit

**Power Specifications**

- 90-264 VAC/47-63Hz power input
- Power Output– 15V DC
- Power Rating- 115VAC/60Hz/1.35A
- System Interface – Gigabit Ethernet or C-link

**Regulatory**

- U.S.....UL60601-1/ Canada.....CSA 22.2 No. 601.1-M90

**Radiograph Computer Processor**

- Industrial Standard High Performance Computer System
- Intel Core 2 Duo Processor, 4GB DDR3 RAM, 500MB HD, BluRay Drive
- Ethernet and Modem Connectivity

**Radiograph Display Options**

- Display type: 20.8"
- Display resolution: 3MP (2048 x 1536 pixels)
- Pixel pitch: 207 micron (0.207 mm)

**System Dimensions**

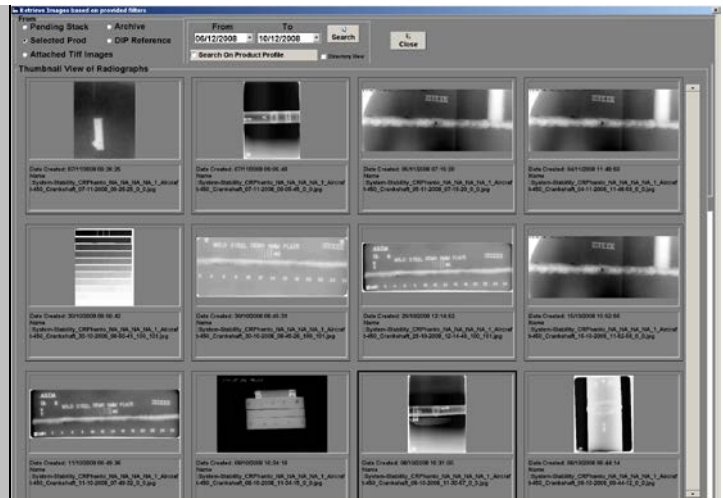
- Detector – 460 x 240 x 26 mm / 4.38Kg
- Housing material – Aluminum
- Sensor protection material – Carbon fibre pate (2.5mm) and alumina
- Processing Unit – 250 x 265 x 156 mm/ 10Kg

**Software**

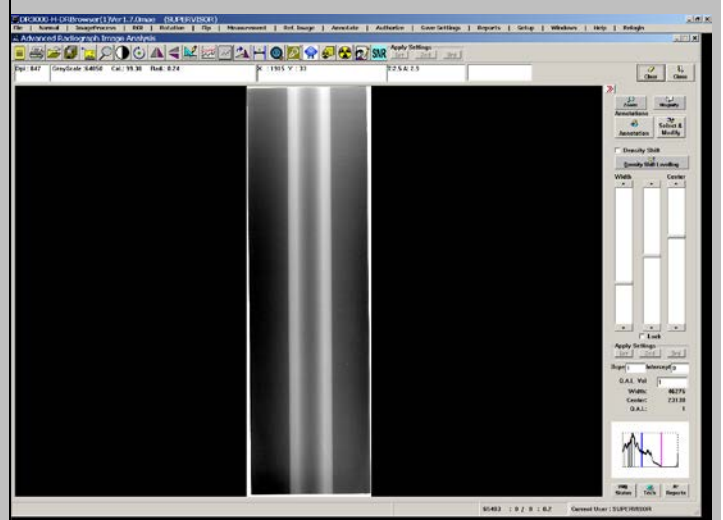
- Radiographic image acquisition
- Cost efficient management of electronic NDE data
- Rapid & active information retrieval and interpretation
- View radiographic technique used to generate the image and reports associated with it
- Total data security with tamper-proof image archiving and data encryption
- Digital measurement tools - line profile and distance measurement
- User customisable data fields
- Defect categorisation
- SNR and SMPTE test chart
- Reporting Tools

**Environmental Conditions**

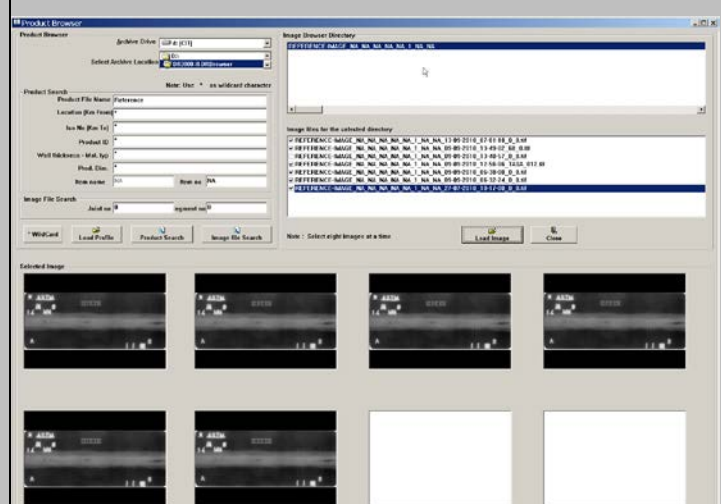
- Shock – High shock tolerance
- Temperature Range – Operating 10°C to 35°C (max.)  
Storage -20°C to +70°C
- Humidity – Operating (non-considering) 10 to 90%  
Storage (non-considering) 10 to 90%



Retrieve Images



Advanced Image Analysis



Product Browser