

DR7800L – Portable Battery Powered Digital Radiography System

CIT Part Code: CIT-DR7800L

Nondestructive Examination (NDE/NDT) of products based upon radiographic inspection technique can be inspected by using Digital Radiography Technology. CIT's DR7800L System is based upon using **Two Dimensional CMOS Photodiode array Sensor Module, Portable X-Ray Generator Unit (160kV) and High Performance NDT Workstation.** The CMOS image sensing technology enables the delivery of lower dose x-ray images yielding higher image quality than a Si flat panels and image intensified devices. The system can be installed in your NDT X-Ray radiograph facility, laboratory or used for Site Radiography or alternatively CIT can supply Radiation Bay with the above system.



Figure1 – X-Ray Generator



Figure2 – CMOS Sensor Module



Figure3 – Portable Computer System

Salient Features

Radiography Sources

- YTB Gamma Source
- Up to 160kV X-Ray Source
- Pulse / CP / Half wave sets

Radiation Detector (CMOS Sensor Module)

- Superior resolution and image quality at up to 2000 X 2560 pixels
- Upto 200 x 250mm Active image Area
- 12 bit Digital Contrast resolution
- 96µm resolution
- Supports X-ray energies up to 160kV
- Fiber optic technology increases life time and improves DQE

Radiography NDT Workstation

- 15" Diagonal Screen
- 1920 x 1080 Resolution
- Colour / High Brightness
- Standalone / networked

Applications

- Carbon Composite Inspection
- Inspection of Foils
- Casting Inspection
- Weld Inspection

Market Sectors

- Petrochemical Refinery
- PCB / Electronics
- Power stations
- Foreign Bodies
- Aerospace Industry
- Forensic
- Automotive Industry
- EOD / EID

Sensor is manufactured by Rad-icon and distributed by CIT

Technical Specifications

Radiation Sources

- YTB Gamma Source
- Up to 160kV X-Ray Source
- Pulse / CP / Half wave sets

Inspection Capability

- Volumetric defects in welds and casting of different material
- Magnesium, Aluminum, Steel, Inconel, Plastics, Composites
- Material characterisation, density analysis
- Material calibration

Radiation Detector (CMOS Photodiode Sensor Module)

- Two Dimensional CMOS Photodiode Array sensor
- Dimensions (L X W X H) – 244 X 279 X 33 mm
- Weight – 3.5 kgs
- Imaging Area – 200 x 250 mm
- Pixel Spacing – 96 µm
- Dynamic Range – 72 dB, 12bit, up to 1.4 frames per second
- Resolution – 2000 X 2048 pixels

Optional

Choice from 3 different electronic modules

- High speed Digital Frame Grabber
- Microprocessor controlled USB interface
- Ethernet interface

CIT7800L 8	10-50 kV energy range
CIT7800L 8 EV	10-160 kV energy range
CIT7800L 8 PT	10-160 kV energy range
CIT7800L 10 EV	10-160 kV energy range

Model	Resolution	Active Area	Remarks
CIT7800L 8	2000 x 2048 pixels	192x197 mm	Standard model for low-dose applications below 50 kV
CIT7800L 8 EV	2000 x 2048 pixels	192x197 mm	Provides increased radiation hardness & DQE at up to 160 kV
CIT7800L 8 PT	2000 x 2048 pixels	192x197 mm	Integrated Ethernet interface for portable, laptop-based application
CIT7800L 10 EV	2000 x 2560 pixels	192x246 mm	8"x10" image format for medical and industrial application

Radiograph Computer Processor

- Industrial Standard High Performance Computer System
- Intel Core 2 Duo Processor, 4GB DDR3 RAM, 1T HD, BluRay Drive
- Ethernet, Satellite and Modem Connectivity

Radiograph Display Options

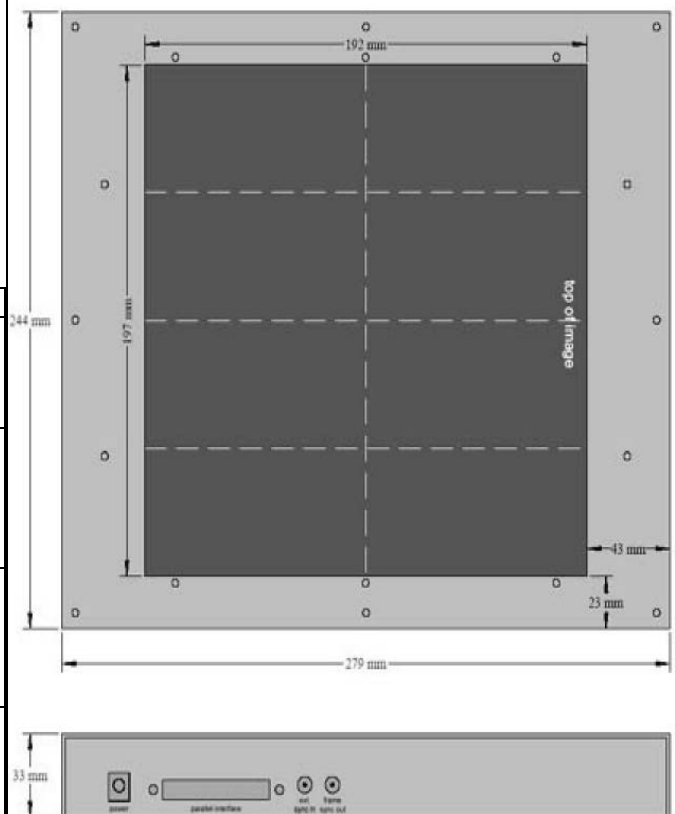
- Display type: 15." [approx.]
- Display resolution: 1920 (V) x 1080 (H) pixels
- Pixel pitch: 165 micron (0.165 mm)
- Feature: colour /high brightness

Software

Easy to repeat testing procedures, enhanced diagnosis tools and data storage and query options, user friendly interface.

Environmental

- Temperature Range – Operating 0°C to 50°C (max.) (Ambient) – Storage -25°C to + 85°C
- Humidity – Operating (non-condensing) 10 to 80% Storage (non-condensing) 10 to 80%



Mechanical Drawing