High Performance
Custom-Designed X-ray Camera

XRC

Continuous Acquisition

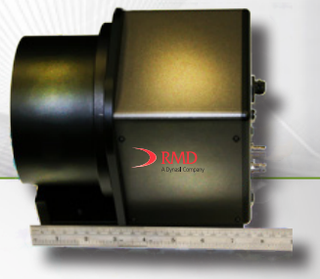
High Resolution

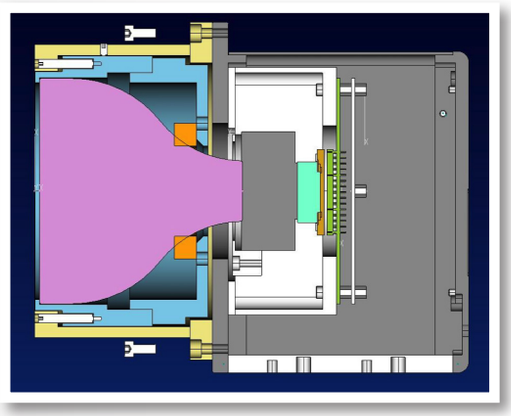
High Frame Rate

The Science Behind the Technology

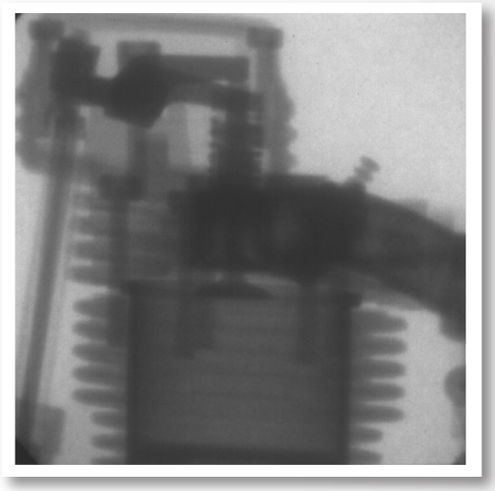
RMD
A Dynasil Company

High Performance
Custom-Designed X-ray Camera





High-Speed Camera
Internal Construction



Internal Combustion Engine

XRC

RMD has developed an advanced high frame rate, large-area, modular X-ray detector capable of acquiring high-speed, high-resolution, high-contrast images of dynamic phenomena, for use in hypervelocity projectile tracking, impact analysis, and other important applications such as high-speed medical X-ray CT and time-resolved X-ray analysis.

The detector configuration is designed for various demanding applications, including time-resolved X-ray diffraction analysis. The design's flexibility allows RMD to re-configure the device for high-energy X-ray imaging by changing the scintillation screen to one most suitable for a client's specific purpose. The design can be modifed to satisfy all training and safety requirements. The overall capabilities of the cameras are unique, unavailable collectively for any other existing detector.

Specifications

CMOS Sensor.....1024 x 1024 pixels
Pixel Size.....17 µm
Dark Noise.....33 e- rms @ 21°C
Full Well Capacity.....42,000 e-,
(excluding system or II noise)
Image Intensifier.....MCP 125
Fiberoptic Taper Ratio.....3.78 : 1
Effective Image Area.....7 cm x 7 cm
Full Frame Rate.....2,000 fps @ 1024 x 1024 pixels
Max. Frame Rate.....120,000 fps @ 128 x 32 pixels
Scintillation Screen.....Customized HSS1*
(or co-doped CsI:Tl,Eu/Sm)

Features

- **High frame rate operation (2,000 to 120,000 frames/sec).**
- **Continuous data acquisition.**
- **High pixel resolution (1024 x 1024).**
- **Large active imaging area (7 x 7 cm^2).**
- **Unique fast, bright, and high-resolution scintillator sensors.**
- **Wide energy range of operation (8 kVp to 480 kVp). Electronic shuttering for nanosecond-range timing and integration.**
- **Abuttable modularity for even larger active areas.**

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