Security

EOD & IED

Special Forces

Counter Surveillance

Border Control

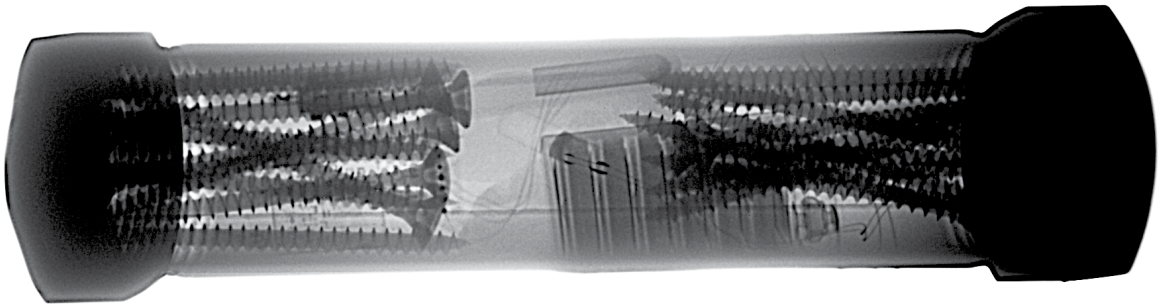
Customs

NOVO

Digital Radiography

INNOVATIVE • COMPACT • RUGGED

Portable Digital Radiography Systems



What Is Digital Radiography?

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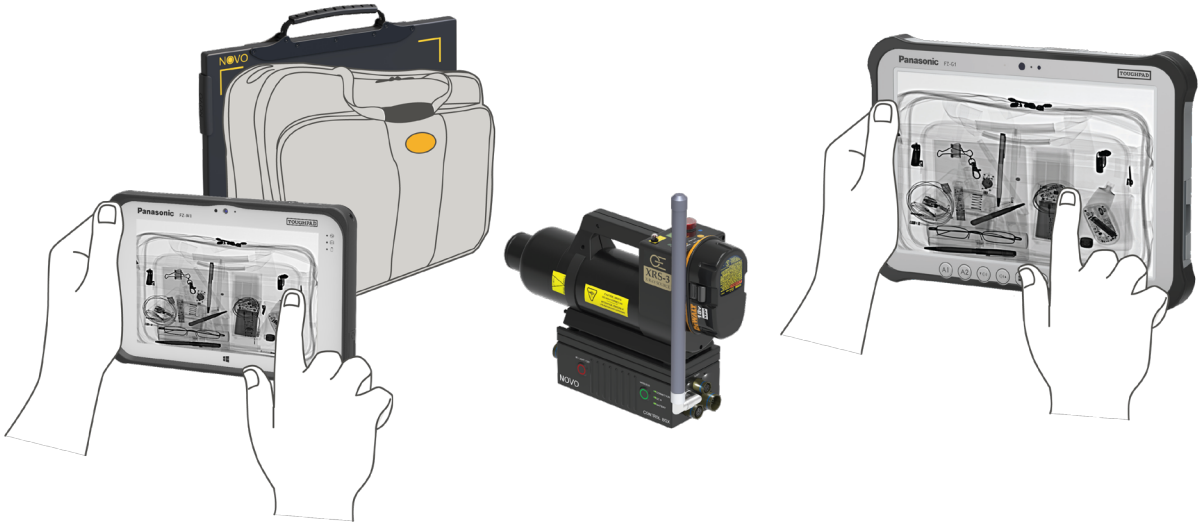
What Is Digital Radiography (DR)?



From bomb detection through Special Forces to counter surveillance and customs, the security sector is facing ever growing challenges. Throughout the years, radiography has been a common imaging method for inspecting suspicious articles and explosive devices.

For a long while, X-ray film was the most common (and practically the only) recording medium. The Digital Age brought about radical changes, and use of Digital Radiography (DR) expanded, while rapidly replacing conventional radiography methods.

Digital Radiography uses X-ray digital detectors instead of traditional film or Phosphor Plates (also known as Computed Radiography or CR). DR yields immediate and superior quality X-ray images at minimum time on target, with minimal radiation levels.

Digital Radiography vs. Film

Much like in a camera, using traditional film in radiography is time consuming and environmentally harmful. Film needs to be chemically developed, and is very limited in terms of image analysis and sharing with others. Instead of film, DR uses a digital image capture device. Utilizing a wide dynamic range and high resolution, an immediate high quality image is generated. The retrieved image is displayed on a tablet and can be processed, enhanced, shared and digitally stored and accessed, all within a matter of seconds.

These attributes are particularly beneficial for the security industry as they:

- Enable a single approach to the suspicious article (no approach needed with robot integration) while facilitating the operator's safety
- Cut response time while allowing for a quick decision making process
- Allow for an infinite number of quality reshoots
- Increase portability by decreasing the need for physical space
- Maximize availability – images can be shared instantaneously i/o a single hard copy
- Yield superb, high resolution, high quality images
- Raise safety and overall performance with exceptional penetration and detection capabilities

Digital Radiography vs. Computed Radiography (CR)

CR makes use of phosphor crystals plates as a recording medium. The X-ray is absorbed and the exposed plate is then scanned with laser. The emitted light captured is converted into a digitized digital image.

Image readout must commence promptly as the amount of energy stored rapidly declines - the recorded image can substantially degrade during processing. Readout process for a single image takes about a minute and requires a dedicated bulky scanner.

With its unique penetration and detection capabilities, DR maximizes speed, safety, quality and overall performance, while making CR pale in comparison:

- DR images are displayed immediately on one or more tablets, whereas CR images need to be scanned and can't be shared in real time
- DR requires a single approach (no approach needed with robot integration), whereas CR requires at least two approaches as well as a trip to the scanner
- DR is light, 100% portable and fits into a small tactical backpack, whereas CR equipment, including a scanner, is heavy and hard to carry

The Advantages of NOVO's Flat Panel Digital Detectors

Digital Radiography changed radiological imaging. Studies and field results clearly show that flat-panel detectors yield the best image quality of all digital detectors and outperform traditional radiographic technologies (film or CR) in every key parameter:

- Set up time
- Time to image
- Image quality
- Safety
- Portability
- Image Processing tools

NOVO's Portable Digital Radiography systems for Security applications provide a complete solution for grabbing and processing high quality X-ray images. Designed with the operator's safety in mind, NOVO's lightweight, durable systems allow for maximum convenience and flexibility in transit, setup and operation.