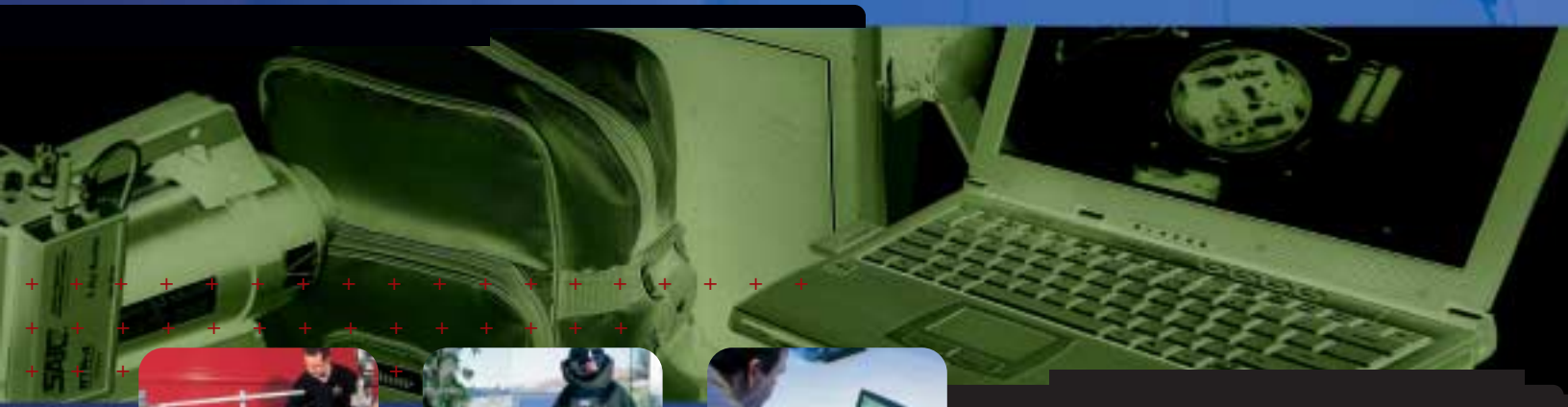


RTR•4[®]

SAIC'S PORTABLE DIGITAL X-RAY IMAGING SYSTEMS



*innovative
solutions for
safety and security*

SAIC[®]
An Employee-Owned Company



RTR-4 set up for inspection of car tire.

The **RTR-4**® – designed with over 30 years of SAIC engineering experience and expertise – is the latest and still the only fully digital, portable X-ray equipment available to Explosive Ordnance Disposal (EOD), security and law enforcement professionals. The patented RTR-4 has proven itself to be the world's most popular X-ray system for EOD applications. It has been selected as the system of choice by the U.S. military and other key law enforcement organizations. Around the world, the RTR-4 is also setting the standard as a tool for professional bomb disposal teams. It has achieved this distinction by providing state-of-the-art features and capabilities in a practical, field-deployable instrument. Consistently, the RTR-4 is enhancing the safety margin for EOD technicians and innocent civilians. The RTR-4's compact and portable design enables it to be set-up in a matter of minutes, when time is of the essence for threat response. Operators can utilize the RTR-4 with the confidence that operator safety has been significantly enhanced.

Features/Capabilities

The RTR-4's exceptional features and capabilities are what make it the undisputed choice in portable, digital X-ray imaging equipment:

- + A fully digital system, including its image transfer. This means the system produces the highest quality image resolution possible with no image degradation during transmission – far superior to analog X-ray imaging systems.
- + The Wireless Option provides a digital and encrypted wireless connection from the Control Unit to the X-ray Imager and Source. The operator, as well as other personnel and property, remain a safe distance from the potentially dangerous item being evaluated. This allows freedom of movement for the operator.
- + Uses a lightweight and powerful notebook computer that possesses all the capabilities necessary to acquire and quickly process images, enabling rapid threat assessment. A high-capacity hard disk, increased memory, built-in DVD/CD-RW, large display for image evaluation, and USB ports are some of the many features that increase user effectiveness and productivity.



Technician acquiring image of suspicious object from a safe distance.



Image of gun found in suspect package.



Image of bomb inside 8 mm thick steel pipe.

- + Provides the highest image quality of any portable, digital X-ray system currently available.
- + Easily mounted on most full-size bomb disposal robots to further enhance safety during initial device evaluation.
- + All components are conveniently stored in one hardened foam-lined case for easy, safe, efficient transport and storage.
- + Offers enhanced database capabilities.
- + Almost any language for the application and operating system is potentially available, with no software changes.
- + The state-of-the-art RTR-4 is based on a commercial off-the-shelf notebook computer.

Configuration

The standard RTR-4 system consists of a notebook computer Control Unit, a choice of pulsed X-ray Sources, and an X-ray Imager. A complete system is contained in a single weatherproof, lightweight container for maximum field mobility. The RTR-4 can be operated from an internal battery, external DC power, or AC line voltage. The system can be set up quickly and easily by one person, with no tools required.

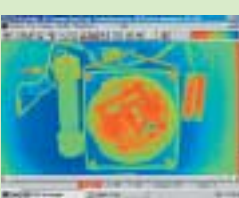
Bomb squad technician sets up RTR-4 to acquire image of suspicious object in a typical office lobby.



RTR-4 can be used for wall inspections.

PSEUDO COLOR

Applies different colors to images, based on the varying density levels of the objects.



CONTRAST STRETCH

Pipe bomb image with 4mm-wall steel pipe. Image modified using contrast stretch, which manually allows changing the distribution of the color or gray levels of the image to better evaluate specific details.



EMBOSS

Makes an image appear raised or stamped.



MULTIPLE WINDOWS

Provides the capability to select and lay out multiple images in a cascade, tile vertical or horizontal format, allowing immediate evaluation and comparison of many images.



ROI PROCESSING

Applies any of 7 enhancements to a specific user-selected region of interest (ROI) versus the entire image.



SMOOTHING

Image of a grenade taken behind 25mm of solid steel. The smoothing function was initially applied, which is typically used to reduce image graininess. Further enhancement was provided by the ROI feature.



EXAMPLES OF RTR-4'S POWERFUL IMAGE-ENHANCING FEATURES

Applications

Due to its compact size, lightweight packaging, and comprehensive software, the RTR-4 can be used for a wide range of applications and personnel, including:

- + Investigation of suspicious packages by security and airport personnel for:
 - improvised explosive devices
 - narcotics
 - other contraband
- + Evaluation of unexploded ordnance by bomb technicians and EOD specialists to help:
 - determine fusing status
 - optimize disarming strategies
 - distinguish chemical from conventional rounds
- + Non-intrusive examination by postal inspectors, customs and security personnel, and home and aircraft inspectors of:
 - packages
 - mail
 - personal belongings
 - vehicle panels
 - tires
 - interior and exterior walls
 - aircraft airfoils



RTR-4 with the Wireless Option shown mounted on robot.



RTR-4 has been successfully used to inspect suspicious vehicles at border crossing locations.

Dynamic Features

Operating System: The RTR-4 system features dedicated function keys utilizing up-to-date Microsoft® Windows® operating software. This permits efficient operation and provides access to the RTR-4's full suite of image enhancement software tools.

Image Enhancement: The RTR-4 offers contrast stretch, zoom with pan and scroll, grid overlay, point-to-point distance measurements, annotation, edge sharpening, smoothing, horizontal and vertical edge detection, histogram equalization, region-of-interest enhancements, and split-screen, multiple-image display.

Database: The RTR-4 is equipped with a more powerful database, allowing the operator the ability to store and query data located in an event logging system. The event logger will organize images obtained by the RTR-4 and other external devices such as digital cameras, voice and video recorders, digital notepads, etc. Combined data may be stored as an event.

Optional Languages: The RTR-4 is offered with multiple languages in the application and operating systems.

The RTR-4 is the optimum choice for portable, digital X-ray equipment. Its unique capabilities, including fully digital operation, single-case transport, wireless capability, and an array of image-enhancing software features, have positioned the RTR-4 as an essential tool for professionals seeking quick, reliable, and accurate X-ray images for optimal object evaluation. Contact us today to learn more about the state-of-the-art and competitively priced RTR-4.



ADVANCED SECURITY PRODUCTS
www.saic.com/products/security

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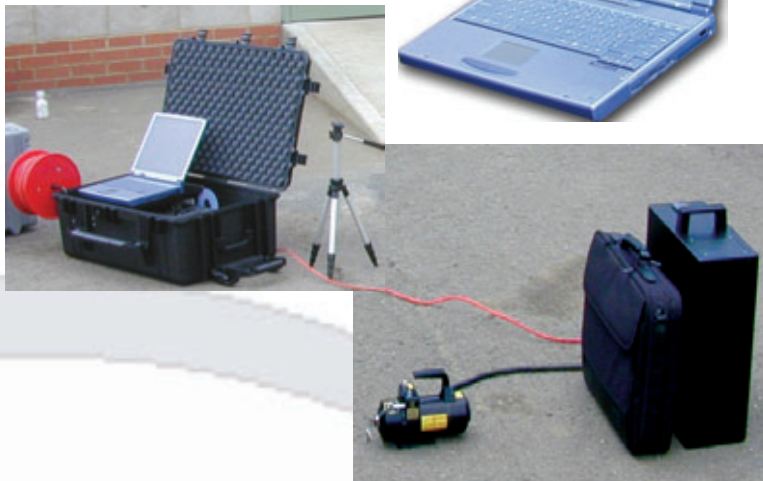
Note: Due to our efforts to continually improve this product, specifications, dimensions, and operating procedures are subject to change without notice. All specifications and measurements are approximate, based on the standard configuration; results may vary with the application and environment.

Our facility has been registered by Underwriters Laboratories Inc. to the International Organization for Standardization ISO 9000 Series Standards for Quality. Registered by UL to ISO 9001, File #A6113.

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SCANTRAK portable digital x-ray system

NATO Stock No: 6665-99-471-2849



SCANTRAK is a multiple application portable x-ray scanner used by Police, Military, EOD, Customs, Law Enforcement Agencies, Prisons and Building Security Managers.

Search and examine suspect articles on the spot

Portable and easy to set up and use in 2 minutes

Digital image transmission ensures high resolution images

Powerful image analysis and enhancement including Zoom, Inverse b/w, pseudo-colour, rotate, 3D, sharpening, smoothing, gamma correction, histogram equalisation, summing, measure, annotation

Designed to work with XR200, XR150 and XRS-3

Image print, fax and email. Archive in excess of 32,000 images on pc or cd

Visual database of x-ray images with query and sort

Multi-language and wireless options



X-ray Investigation and Inspection

SCANTRAK is a compact portable digital x-ray system that allows remote detection and investigation of suspect articles in a wide range of applications, including:

Bomb Disposal

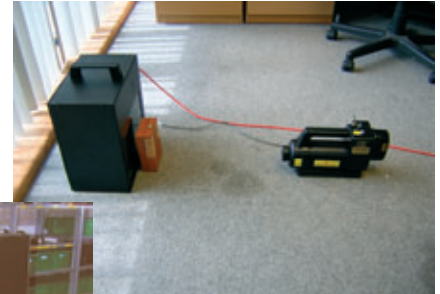
Suspect Package Investigation

Check Unattended Bags

Search for Narcotics and hidden Contraband

Searching behind walls

Vehicle Inspection



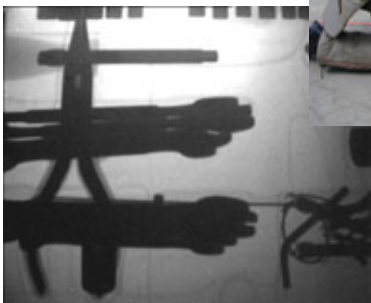
Use SCANTRAK to check unattended articles, mail and parcels

Use SCANTRAK for bomb disposal



Use SCANTRAK to search behind walls, doors or vehicle panels. (hidden contraband, bug detection).

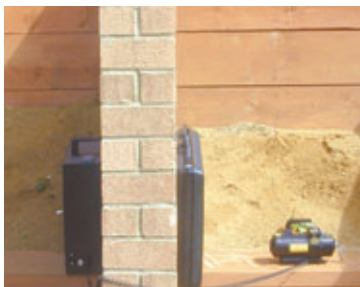
Use SCANTRAK for Non-Destructive Testing



SCANTRAK is easily set up and deployed in minutes by one person and can be configured to suit different environments. It comes with a choice of X-ray sources, adjustable exposure settings, different size ICUs and has both wireless and ROV capabilities. The system can be ruggedised for Military Applications.



Use SCANTRAK to find contraband, narcotics, weapons and IEDs



SCANTRAK penetrates exterior walls. Check items without moving them or search for weapons



Find narcotics hidden in a vehicle tyre



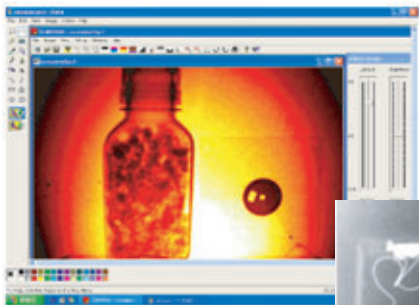
Works with Remotely Operated Vehicles (ROVs)

X-ray images are captured remotely direct from the notebook pc. Captured images can be enhanced using SCANTRAK image software for further analysis and interpretation.

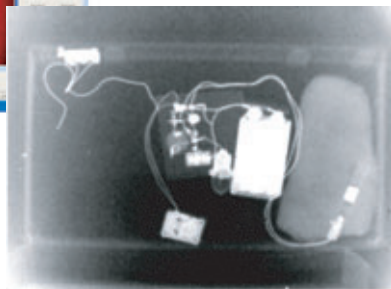


Suspicious baggage? or ordinary suitcase?

Image Analysis



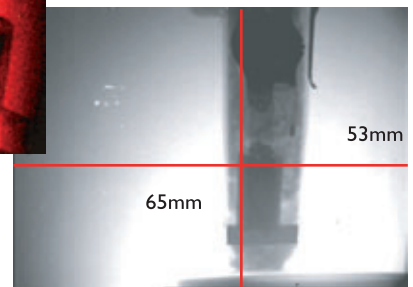
Digital x-ray images download onto pc for analysis



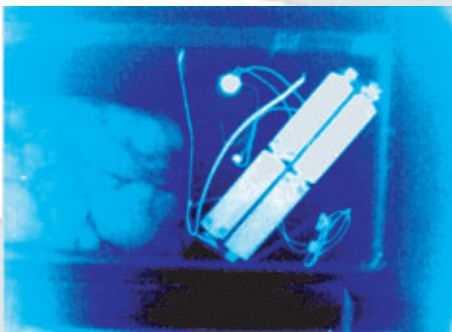
Inverse b/w image clarifies wiring



Pseudo-colour definition according to object density



Take measurements in mm or inches



Use SCANTRAK to find Explosive Devices



Remote image acquisition for safe investigation



Zoom in for close up detail



Store captured digital images on disc or pc



Build an image library

SCANTRAK's powerful image enhancement software allows fast evaluation and identification of hard-to-detect objects.

SCANTRAK offers a wide range of Image Processing Features including:

Zoom, Inverse Image, B/W, Pseudo-colour, Pseudo-3D, Contrast Enhancement, Clean Image, Rotation, Distance, Measure and Show Gradients

SCANTRAK has multi-lingual options in addition to online help and quickstart guides. Online web support also available.

SCANTRAK database software allows you to store over 32,000 images on harddisc or cd. Live and stored images can be exported by email or across a network via built in modem. A range of annotation tools allow you to insert text, notes and highlight suspect areas.

Technical Specifications

ScanTrak standard configuration:



- XR200 or XR150 X Ray Generator
- Laptop PC
- Image Capture Unit (ICU)
- Transportation Case
- 50 metre cable drum and optional wireless control
- Spare Generator Battery
- Battery Charger
- Instruction manuals



A range of x-ray sources



Notebook pc unit

- Screen: Active Matrix 14.1 TFT Colour
- Processor: Pentium IV or Centrino 1.4 GHZ
- Drives: Hard Disk 40 Gb
3.5" floppy
CD ROM with CD Writer
- Memory: 128 Mb RAM expandable
- Operating System: Windows XP (or 98/NT/ME/2000)
- Image Storage: Exceeds 32,000 stored images in .bmp or .jpg
- Power Source: 220VAC 50 Hz or Rechargeable Battery
- Record & Export Facility: Video, Audio & Data, Fax, LAN & Modem 56K

Image Processing Features

- Inverse image
- Pseudo-colour image
- Sub-image
- Pseudo-3D image
- Rotate
- Clean image
- Sharpen and Smooth
- Edge Enhancement
- Brightness and Contrast
- Gamma Correction/Stretch
- Select Region
- Histogram Equalisation
- Histocontrast
- Grid Overlay
- Overlay
- Measure
- Summing
- Copy/Paste
- Multiple Undo
- Image Restore
- Import/Export Image
- Fax Image
- Email Image

Other tools

- Remote X-ray pulse activation
- Visual image database including name, date, category, place, file name
- Query and sort database
- Annotation tools
- Calculator
- User login
- Online help
- Email, fax and print

Due to our policy of continuous design and development, specifications are subject to change without notice



X-ray source

Standard

- XR200:**
150kV maximum energy
Penetration: 15 mm steel
Weight: 5.5 kgs with battery

Option 2

- XR150:** pulsed X-ray with 40 beam angle
150kV maximum energy, 23 microsievert output dose per pulse at 1 m. 0.028 microsievert behind beam
Penetration: 15mm steel.
36 AWG or 32 AWG behind 3mm steel
Weight: 2kgs with battery

Option 3

- XRS-3:**
300kV maximum energy
Penetration: 25 mm steel
Weight: 5.5 kgs with battery



SCANTRAK Image Capture Unit (ICU)

- Standard Image Area : 8 x 10" (20.32 X 25.40 cm)
- Optional: 10 x 13" (25.4 x 33 cm)
- 11 x 15" (28 x 38 cm)
- Custom sizes available

- Camera Type : High Performance CCD
- Resolution : 582 x 752 pixels
- Video Signal/Noise : Better than 40 dB

Options:

- Multi-language
- Wireless

Vidisco foXrayII PC Based X-ray Inspection System

X-RAY

- Fully **Battery Operated** Lightweight System **Housed in One Carrying Case**, including the X-ray Source
- Carrying Case Provides **Operation Platform** for Operating the System Without Having to Remove the Computer
- **Widest Range of Accessories** and 6 Different Fully Interchangeable Imagers - All with the Thinnest Depth Available
- Optional Unique **External Camera** Feature providing live video
- **Longest Battery Operation Time**
- **Highest Image Quality and Resolution**
- **Non-Digitizing Zoom** and Complete Built-In Data Base Features
- **Upgradeable** to operate the New **foX-Rayzor Flat Panel Imager - Thinnest Digital Imager in the World** (just 13mm thin) with **Dual Energy** Package - Enables the Delineation of Organic & Inorganic Substances
- GSA Contract No: GS-07F-0118J and Nato Stock Number: 6350-99-663-5352



The latest generation **foXrayII** PC Based X-ray Inspection System provides the most sophisticated and versatile CCD X-ray system available today. This system incorporates almost two decades of Vidisco experience and expertise producing cutting edge X-ray equipment for the most prestigious security and industrial organizations. No other company can provide the same wide range of unique accessories, options and features, with all equipment being fully interchangeable in the field. The **foXrayII** is currently in use on a day-to-day basis in over 60 countries around the world for a wide range of portable and stationary X-ray missions, encompassing the EOD/IED field, VIP Security, Intelligence and Special Commando Operations, Forensics, Police & Customs and Non-Destructive Testing/Examination tasks.

This battlefield proven system is based on a sophisticated Video Camera Unit (VCU) coupled to a Laptop computer (Control Display Unit - CDU) either through a wire or a wireless system, that allows the operator to fully control the X-ray source from a safe distance. A ruggedized, waterproof carrying case on wheels houses all the components needed to operate the system, including 50m cable on a reel and can accommodate any Golden Pulsed X-ray source. The Vidisco systems are the only Portable X-ray units on the market that provide an Operational Platform or "base station", not only carrying and protecting all the components, but also allowing the operator to work with the system under difficult conditions without having to remove the computer from the case. One simple cable connection connects the VCU and CDU making setup and operation of the system fast and extremely simple.

Experience, Quality & Service

VIDISCO LTD.
CUTTING EDGE X-RAY INSPECTION SYSTEMS

The *foXrayII* is 100% portable allowing for one operator to move the system rolling the case on built-in wheels, set-up within a minute or two, and to have an infinite amount of high quality "X-ray images upon request" within seconds. The equipment can work autonomously for hours on its internal batteries and work for an unlimited time on any AC power (110/220V automatically adjusting), or be powered for almost endless work by a vehicle battery when using a standard DC/AC inverter. Each Vidisco VCU can provide over 2 weeks of operation on a single battery charge.

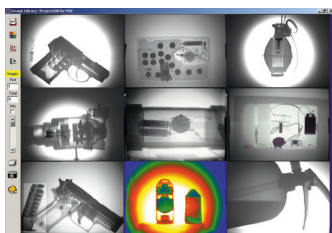
A basic *foXrayII* PC Based X-ray Inspection System comes with following:



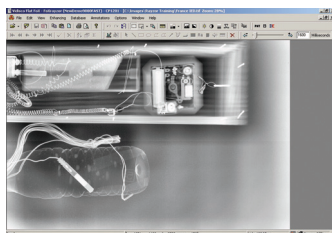
foXrayII System shown with Wireless Accessories

- Ruggedized Pelican Carrying Case & Operation Platform
- State-of-the-art Laptop Computer (CDU) with complete *foXrayII* program and features, including built-in Program Help & Hints
- Video Camera Unit: Standard VCU-10 (8"x10" imaging area)
- 50m of coiled lightweight Cable on a reel attached to the carrying case for easy reel in/out
- X-ray cable, Charge cable and AC cable
- Laminated Quick Start sheet and complete Operation & Maintenance Manual
- Backup CD ROM and Emergency Key, 1 Year Warranty

The standard *foXrayII* incorporates a state-of-the-art laptop computer, with computer configurations constantly rising as new models appear on the market. Proprietary Software has all the built-in tools required to control the X-ray source, take and enhance X-ray images and manage the data. The software can operate in almost any language supported by Windows



Visual Library of Images



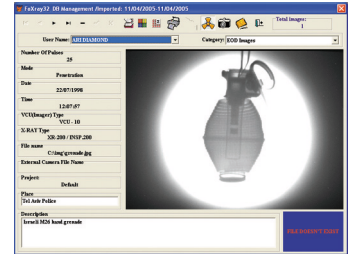
IED Box Bomb

automatically switching the entire program over to the language desired and also has built-in help and an intuitive operator manual available at the press of F1 anywhere in the program.

Vidisco's powerful **Data Base** and **Visual Library**

(allows for viewing multiple images in picture format) provide the operator with immediate access to any image stored on the hard disk, making the search and comparison of images in the field an effortless task. All images added to the Data Base contain a wide range of information which is automatically stored, without the user having to manually enter most of the data. This data includes: date, time, user name, image category, place, file name, project name, type of VCU used, type of X-ray & desired description, and even an external image of the object (along with the X-ray image) when using the external camera option. At any desired moment, the sophisticated Data Based can be Queried and Sorted by multiple parameters for split second image or data search and retrieval.

As the Data Base provides far more than just visual images of the X-rays taken, each X-ray image is actually a **Record**, containing a wide range of additional information attached to it. The powerful **Import** and **Export** function allows for convenient sharing of information with colleagues, giving the user a wide variety of options for easy adding or transferring of images and their associated data to and from the system computer (CDU). The attached information for each Record is automatically bundled with the files being imported and exported and can be encoded for added security, or stored as a standard .exe file for anyone to open, if desired. Of course, complete **Backup** and **Restore** functions are built into the program.



Data Base Info for Image

System Options & Accessories:

6 Imager Options:

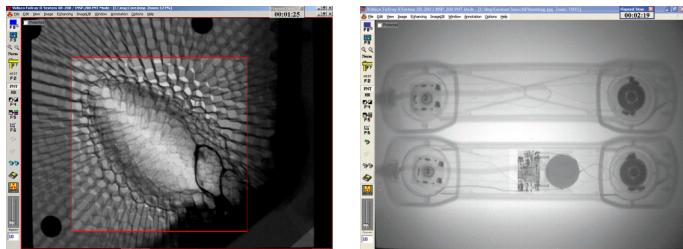
Vidisco imagers are unique for many reasons. Vidisco is the only company that can offer 4 types of VCU's (CCD based) and two types of Amorphous Silicon Flat Panel Imagers which can be operated from the same basic platform. All Vidisco VCU's are all self standing, rectangular in shape, tripod mountable



4 Interchangeable VCU Imagers

and fully interchangeable. The Vidisco imagers offer the best resolution and penetration for each imaging area, and have the **smallest depth, and lightest weight** of any comparable VCU in the market, with the same imaging area. Vidisco is unique in that our VCU's incorporate smart power management technology. The VCU's have built-in smart battery chargers and batteries, meaning that the user never has to take the battery out of the VCU to charge it. This technology allows the imagers to work for over 2 weeks on just one battery charge, and allows for powering the VCU with same standard 50m VCU/CDU cable whenever using an external power source.

SAFER OPERATION: Vidisco's unique power management technology translates in operational terms to the fact that the operator never has to approach the VCU when on target, no matter how long an inspection may take, or whether the VCU battery is fully charged or not. No additional cables are needed to power the VCU, and it is designed to automatically switch over to external power once a DC or AC power source is sensed.



Damaged Core in F-15

Listening Device in Phone

X-ray Sources :

The *foXrayll* unit can work with many different X-ray sources, however only Vidisco systems can completely utilize the full range of the Golden battery operated X-ray sources, from one pulse up to the maximum number of pulses that each source can provide. Only Vidisco systems can use the full potential of slower sources such as the XR150, which can pulse for over 32 seconds.

Penetration:

Over 16mm of steel with a Golden XR150 or XR200 (150 kV) pulsed source, or over 26mm steel with a Golden XRS-3 (270kV) X-ray source.

Resolution (Standard VCU-10):

Over 1.3 lp/mm, 40 AWG wire in open air, higher resolution (1.5lp/mm) afforded by VCU-6 imaging area.

External Camera Option:

This proprietary option allows for attaching an external video camera to any of the Vidisco VCU's (50m from the computer), drawing its power from the VCU battery and providing external live and "grabbed" shots of any item X-rayed.

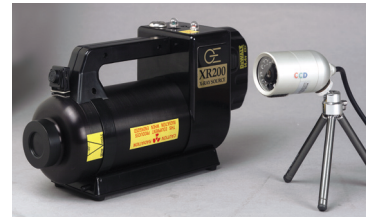


Customs Contraband Inspection

The live external images being relayed back to the computer can be used to monitor a device for any changes, such as smoking, changes in color, etc. These external images are an integral part of the Data Base and are automatically saved as part of the X-ray record if desired.



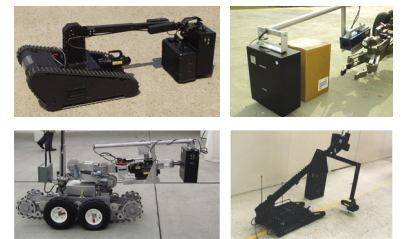
X-ray and External Camera Images



External Camera Option

Robot Operation:

The Vidisco VCU's can be fully integrated for robot operation, not only using the robot as a "mule", but actually integrated into the robot wireless or fiber optic wired system and control station - this enables the usage of the robot lines of communication, in any format.



Vidisco Systems Mounted on all Major Robots

DWV Option:

Integrated Digital Wireless Video accessory eliminates the need for a cable connecting between the CDU and the VCU. The DWV unit connects directly to the VCU and has No Battery, hence no recharging needed - it draws its power directly from the VCU. The DWV unit can be used with all Vidisco system configurations and utilizes Vidisco proprietary encoded protocol, which allows for image transfer at more than twice the standard rate.



Digital Wireless Video (DWV)

WLX Option:

Wireless X-ray Option eliminates the cable connecting between the X-ray source and VCU. This separate option can be used with any X-ray source and provides full flexibility allowing for partial wireless solutions when desired (i.e. X-raying through a wall), and can be moved from any X-ray source to an alternative source, simply by attaching it to the desired source connector.



Wireless X-ray (WLX)

Cable Extensions:

50m and 100m options on external reel. These cables can be used as stand-alone options or connected to the 50m standard cable provided with every Vidisco unit.

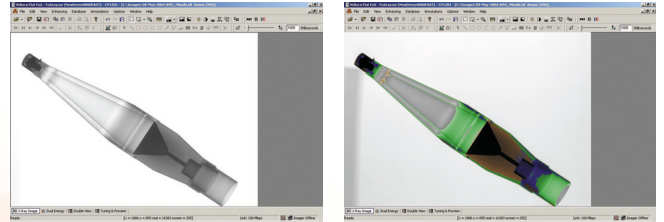
foX Trekker Backpack Unit:

Super compact complete X-ray system in a backpack with various imager and X-ray source options available.



foX Trekker Backpack System with VCU-6

Portable Dual Energy Package - This revolutionary package allows for taking Dual Energy X-rays when using a battery operated continuous variable kV X-ray source along with a **Flat Panel Imager**, highlighting organic (drugs and explosives) and inorganic (metallic) items in the image. This is the first time that a small field X-ray unit can perform Dual Energy shots.



Explosives Highlighted in Dual Energy X-ray of RPG

Flat Panel Technology - Vidisco is the only company in the world that has a line of Portable Amorphous Silicon Flat Panel Systems. The Vidisco Flat foX-17 and foX-Rayzor Flat Panel Inspection systems offer a quantum leap in dynamic range, resolution and imager thinness. These imagers provide 10 times the resolution and 64 times the dynamic range (14 bit imagers) of any CCD based imager, with the foX-Rayzor imager being the thinnest digital imager ever produced at **just 13mm!** In addition, Vidisco has developed the first ever Portable Dual Energy Package with this technology.

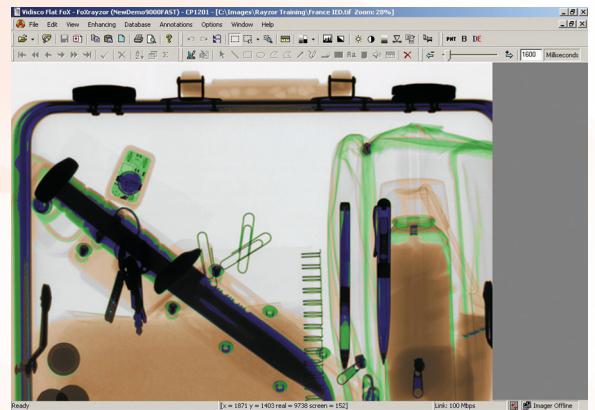
**Thinner than a
Film Cassette!**



Large Format Flat foX-17 Panel



foX-Rayzor 13mm Thin Flat Panel



Organic and Inorganic Material in Suspicious Suitcase

Vidisco equipment has been heavily relied upon to save lives around the world over the last 2 decades. No matter what type of X-ray work is being done in either the security or safety fields (NDT), there is no other company that has the same expertise in producing cutting-edge, easy-to-use and fully portable X-ray Inspection Systems. Vidisco products provide the highest resolution, best dynamic range (penetration) and have the widest selection of accessories & options. Our equipment is designed by users, for users!

For more information, please take a look at our web site (www.vidisco.com) or request an updated technical specification of our latest configurations.

* Vidisco reserves the right to change any technical specification without prior notice.