

Radiology System

X-ray Source: Linear accelerator

Nominal Energy: 3, 6, or 9 MV

Number of Sources: 1 or 2

Number of Views: Side, or side and top, plus manifest

Detector Type: Modular linear array

Detector Pitch: 1.4 mm, 2.3 mm or 4.6 mm

Throughput: 20 to 30 trucks per hour, 24 hours per day

Relative Humidity: Up to 100%

Maximum Vehicle Dimension:

L: 18.9 m (62 ft.), W: 2.6 m (8.5 ft.) H: 4.1 m (13.5 ft.)

Maximum Vehicle Weight: 60 metric tons

Power Requirement: Dependent on site configuration

Facility Specifications

Facility Area: Built to customer requirements

Building Design: Built to customer requirements

Operator Workstation Hardware

Image Display Terminal: Based on most current available Intel® compatible systems

Display Monitors: Single View: Two 1200 x 1600 pixel monitors, 24-bit color

Display Monitors: Dual-View: Three 1200 x 1600 pixel monitors, 24-bit color

Data Storage: 7,500 images

Data Archiving: CD-RW

Image and Data Printer: Color laser printer

Operator Workstation Software

Display Software: Based on Windows® 2000™

Image Analysis Tools: Brightness and contrast adjustments, gray scale or color viewing, zoom (2x, 4x, 6x, 8x in discrete steps, up to 160x zoom when specific value is entered in zoom box), Region-of-Interest (ROI) tool, synchronized ROI on dual-view systems, object measurement tool, annotation, filters, preset density range colorization, single-button judgment

Additional System Components

Database Server: Central database for accessing manifest and image data

Radiology Control Unit: Controls data collection and image generation

Central Control Unit: Controls safety interlocks, transport mechanism, and image routing

Manifest Input Workstation/Scanner: Scans manifest documents into the system prior to scanning vehicle

Maintenance Workstation: For performing remote system maintenance

System Monitoring

Redundant safety interlocks, automated, motorized scan bay doors with redundant safety interlocks, CCTV monitoring of scan bay area, audible alarms, and emergency interrupt switches.

Health and Safety

Conforms to stringent USA and Japanese radiation safety codes limiting exposure to 100 mR/Hr for general public.

Absorbed dose per scan: Nominal 10 mrem

Dose rate in operator premises: < 0.1 mR/Hr

Dose in the environment: < 0.1 mR/Hr

Applications

Trucks, ISO containers, automobiles, at large seaports, border crossings, and logistics centers.

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CARGO SECURITY SYSTEMS



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[System Architecture](#)
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