A scanner with an aperture for oversized objects

Among the L-3 family of conventional X-ray systems, the PX-107 offers an extended height, equipping operators with the largest tunnel size available for non-palletized freight. With an opening that is nearly 40 inches square (1011 mm), the system is ideally suited for airport and break-bulk screening environments. The PX-107 can handle a variety of packages and freight, including oversized/out-of-gauge cartons and irregularly shaped items.

Incorporating L-3's user-friendly operator controls and state-of-the-art imaging, the system offers the added benefit that smaller packages are magnified on the display screen, making it easier to detect fine details that might indicate a threat.

Monitor included but not shown

APPLICATIONS

- Threat detection
- Manifest & declaration verification
- Contraband detection
- Theft prevention
- Regulatory compliance/inspection

COMPLIANCE

- ISO 9001, CE, EUR 1
- Radiation Safety: U.S (21CFR1020.40)
- Film: Ten passes of ISO 1600/33DIN high-speed photographic film
- Operational: U.S. FAA Standards, "Use of X-ray Systems" (Federal Standards 14 CFR 108.17 and 14 CFR 129.26)

The Operator Interface:
Intuitively Simple

L-3's patented operator interface provides a simple, flexible, and powerful way for users to control the system and make maximum use of imaging information. Ergonomically designed to promote rapid learning and ease of use, the interface combines three-button conveyor control with a touch-sensitive pad that allows continuous heads-up operation using icons displayed on the viewing screen.

Image Performance:
Superb Resolution and Clarity

Effective screening starts with advanced imaging capabilities. The PX-107 dual-energy folded detector array includes 1,600 diodes, delivering the highest resolution available in a large-size X-ray screening solution.

Based on research by the International Commission on Illumination (CIE), PX-107 incorporates Transparent Color™, L-3's innovative image processing technique. This unique imaging approach combines the science of the human eye's response to color and the display characteristics of a CRT monitor. With Transparent Color™, operators can interpret threat objects with a much higher degree of confidence due to the crisp, clear, and robust color images that are now possible.
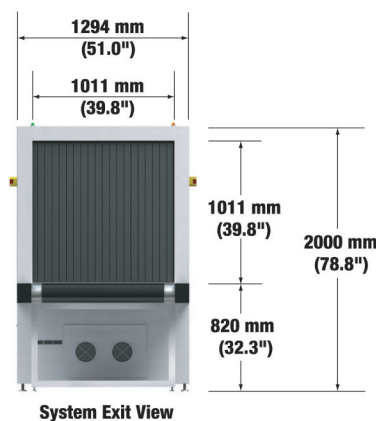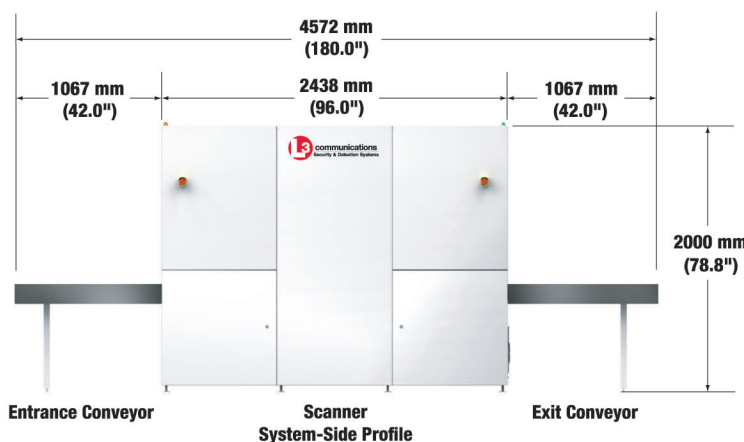
Networking:
Bringing It All Together

Operating on a Windows® platform, the networked PX-107 allows data and images to be accessed in real time by a centralized supervisor workstation. This enables one person to perform key tasks for multiple units, including: second-level screening of suspect objects, centralized monitoring of operators' performance using the Threat Image Projection feature, and administration of all PX systems on the network. The result is that oversight of screening and administrative operations can be streamlined, and costs can be kept in check.

Configurable:
Operational Flexibility

The PX-107 system can be tailored to meet a range of needs.

• Easy customization of software-based controls and tools allows the system to be adapted to diverse operational requirements and evolving security challenges.

• Bidirectional operation allows the system to be incorporated, without modification, into environments that require two-way screening, such as mailrooms and loading docks.

4572 mm (180.0")
1067 mm (42.0")
2438 mm (96.0")
1067 mm (42.0")
2000 mm (78.8")

Entrance Conveyor
Scanner
System-Side Profile
Exit Conveyor

1294 mm (51.0")
1011 mm (39.8")
1011 mm (39.8")
2000 mm (78.8")
820 mm (32.3")

System Exit View

L-3's patented operator interface combines 3-button conveyor control with a touch-sensitive pad that allows continuous heads-up operation using icons displayed on the viewing screen

Operator Tools:
Reliability at Your Fingertips

Numerous features enhance the operator's ability to readily identify and examine suspect objects and detect the subtle but telling details that indicate a true threat, such as the wires associated with explosive devices.

- With diverse image analysis tools, operators can more easily distinguish between organic and inorganic materials and objects having a similar appearance. Image enhancement tools provide varied methods for optimizing images to more readily spot possible threats.

- Operator Assist® (OA) compares scanned objects to data on known threats and highlights suspect items for further examination.

- Threat Image Projection (TIP) inserts fictitious threat images at periodic intervals and tracks operator responses, allowing supervisors to assess the effectiveness of screening operations–and motivating operators to stay alert.

- Image Archiving (IA) supports storage of up to 20,000 images, with image retention determined by user-defined expiration dates or on a first-in, first-out basis.

Features

Imaging Features

- Continuously variable contrast adjustment
- Tri-material discrimination
- Pseudo color imaging
- Zoom 2X - 16X or continuous zoom to 64X
- Edge enhancement
- High/low penetration mode
- Reverse video
- Organic/inorganic stripping
- Transparent Color™
- Best image resolution in its class

Standard Features

- Operator Assist
- Image Archiving
- Uninterruptible power supply (UPS) and input line filter
- Entry/exit conveyors (1067 mm / 42.0" each)
- Patented, heads-up operator display interface with touch pad control
- Configurable operator interface
- Single 17" color monitor
- Remote desktop operator display

Optional Features

- 2438 mm (96") inclined entry/1067 mm (42") entry conveyor
- 1829 mm (72") exit baggage slide
- Threat Image Projection
- External UPS
- Color printer

SPECIFICATIONS:

GENERAL

Dimensions:	2438 mm (96.0") L x 1294 mm (51.0") W x 2000 mm (78.8") H
Length with Conveyors:	4572 mm (180.0")
Tunnel Opening:	1011mm (39.8") W x 1011 mm (39.8") H
Conveyor Height:	820 mm (32.3")
Power Requirements:	100-240 VAC ±10% 50/60 Hz ±1% 1.0 KVA max
Conveyor Speed:	230 mm per second (9.05" per second)
Conveyor Capacity:	136 kg (300 lb)

X-RAY

Voltage: 160 kVp constant potential tube

Duty Cycle: 100%

Cooling: sealed oil bath

Beam Orientation: vertically upward

X-ray Sensor: 1600 photo diodes in folded array (L-shaped) configuration

PHYSICAL SPECIFICATIONS

Weight (Uncrated): approx 1455 kg (3207.7 lb)

Weight (Crated): approx 1727 kg (3807.4 lb)

Construction: steel frame and panels on casters

ENVIRONMENTAL

Operating Temperature: 0°C to 40°C (32°F to 104° F)

Storage Temperature: -20°C to 50°C (-4°F to 122°F)

Humidity: 95% non-condensing

Airborne Noise Level: <70dB (A)

IMAGING AND PERFORMANCE

Resolution: 36 AWG guaranteed, 40 AWG typical

Penetration: 29 mm of steel guaranteed

Contrast Sensitivity: 4096 gray level stored

Video Resolution: 1280 x 1024/24 bits

Video Display: 17" SVGA high-resolution, flicker-free display

Computer Processor: Intel Pentium®

RADIATION SAFETY

All L-3 Communications Security & Detection Systems' X-ray systems are certified to be in full compliance with all radiation safety requirements and external emissions limits as specified in the United States Code of Federal Regulations, Title 21, Section 1020.40 (21CFR1020.40) that apply to our products. Typical leakage radiation is less than 0.1 mR/hr compared to maximum of 0.5 mR/hr permitted by the Federal Standard.

OPERATIONAL STANDARDS

Complies with published International Standards including the U.S. Federal Aviation Administration Standards, *"Use of X-ray Systems"* (Federal Standards 14 CFR 108.17 and 14 CFR 129.26).

FILM SAFETY

Ten passes of ISO 1600/33DIN high-speed photographic film.

DESIGN POLICY

L-3 Communications Security & Detection Systems reserves the right to change specifications in the course of continuous improvement. Specifications are provided for reference only and actual equipment may differ slightly from the description given. Typical dimensions are within ± 5% of nominal values.