



VN-KUE-O7252

Intelligent X-ray Scanning Machine



System Overview

Viruni Intelligent X-ray Scanning Machine has an advanced X-ray image detection system, which integrates semiconductor detectors, digital image processing technology and computer image display technology, to provide users with an efficient, reliable and high-quality image processing system that has service functions. The device has a large HDD capacity that can store massive high-definition images. It supports many functions. It recognizes prohibited objects, alarms when prohibited objects are detected and features person-package linkage, image enhancement, network expansion and interconnection, automatic detection and maintenance and more. In addition, the operation design is simple and user-friendly.

Function

Viruni X-ray Package Image Generating

Viruni X-ray imaging displays the contents, shape and material composition of packages. Differences in absorption help distinguish organic, inorganic and mixed materials. These groups appear in orange, blue and green respectively, allowing operators to examine the distribution of objects and identify suspect contents within the package.

Viruni X-ray Package Image Enhancement

Selectable enhancement modes help operators examine package contents. Available views include colour or monochrome, local, super and edge enhancement, image scanning, inverse, high-energy enhancement, brightness and density alerts. AI overlays, vertical flip and pseudo colour provide further options for reviewing the X-ray image.

Dual-screen Display Video Output

Displays images in security mode (package images) or video surveillance mode.

Dangerous Items Recognition

Automated analysis identifies suspect objects in package X-ray images, including knives, liquids, aerosol cans, guns and lighters. Tracking overlays remain aligned with moving objects and use different colours for risk categories. Event actions can trigger voice prompts, audible or visual alarms and conveyor stopping.

Package Linkage

Included are the entrance camera and exit camera. The system supports real-time recording, and offers person-package linkage storage and search.

Features

- Uses X-ray to generate images of packaged items passing on the conveyor belt, and checks the shape and size of packaged items.
- Displays images of the packages with enhanced effects, such as high energy enhancement, super enhancement, high density alert and image scanning.
- Supports security screening mode and video surveillance mode.
- Recognizes dangerous items such as knives, bottled liquid, spray cans, guns and lighters from scanned images.
- Set danger levels for suspect items and link alarms such as voice prompt, sound and light alarm and conveyor belt stopping.
- Displays AI overlay on suspected objects. The AI overlay box moves with the package.
- All detection results can be stored and generated as reports, which can be searched and exported according to danger level and time.
- 2 built-in cameras that respectively monitor the entry and exit of baggage and the package inspection process.
- Add IP camera and PoE camera for live video, storage and playback. The cameras monitor the entire security inspection.
- Alarms are triggered by system errors such as no HDD, storage error, IP conflict and MAC conflict.
- Supports HDD storage space management and advanced management such as RAID configuration (RAID 0/1/5); ensures data security.
- Supports user group management and multiple authorities setting; supports custom function, permission and password configuration.
- Supports system operation and maintenance management, such as self diagnosis, log and online user search, and device updating

Package Statistics

All detection results can be stored and generated as reports, which can be searched and exported according to danger level and time.

Continuous Scanning

Continuously scans packages and displays their images even when the system restarts after being stopped.

Viruni Safety Protection

X-ray protection is higher than the international standard. The leakage dose is less than 0.9 $\mu\text{Gy/h}$.

Technical Specification

System

CPU	Intel quad-core processor
RAM	16 GB
Operating System	Embedded Linux OS
User Interface	Local GUI (full functions); Web interface

Basic

Tunnels Size	500mm×300mm
X-ray Tube Anode Voltage	160 kV
X-ray Tube Cooling	Sealed oil bath with forced air
Wire Resolution	Typical: 40 AWG (0.08mm); Standard: 40 AWG (0.08mm)
Penetration(steel)	Typical: 39 mm; Standard: 36 mm
Leakage Dose-rate	≤ 0.9 μSv/h (μGy/h)
Noise Level	≤ 65 dB
Conveyor Speed	Selectable: 0.2, 0.3 or 0.4 m/s
Conveyor Height	660 mm to 720 mm adjustable
Maximum Belt Load	170 kg (374.78 lb)
Current Leakage	≤ 0.25 mA
Film Safety	ISO 1600 (33 DIN)

Intelligent

Preview	Real-time display of X-ray package image and camera image; real-time item intelligent analysis
Item Recognition	Recognizes items and displays AI overlay; the AI overlay box moves with packages
Recognition Types	Guns; fireworks; aerosol cans; knives; axes; scissors; lighter fluid; nail polish; bottled liquids; glass, thermos and plastic bottles; handcuffs; nightsticks; brass knuckles; lighters; tools; electronic products; mobile phones; power banks; laptops; umbrellas; batteries; walkie-talkies
Danger Levels	High, medium and low; configurable by object type
Event Linkage	I/O alarm, voice prompt, platform alarm and screen notification can be triggered according to danger levels
Image Storage	Stores as much as 1 million images with information on their danger levels and the types of objects detected. Original and analyzed images can both be viewed.
Baggage Search	Search, playback, and export baggage images and linked videos according to time, objects type and more
Report Search	Generate and export reports according to time and object types
Backup	USB/Network

Performance

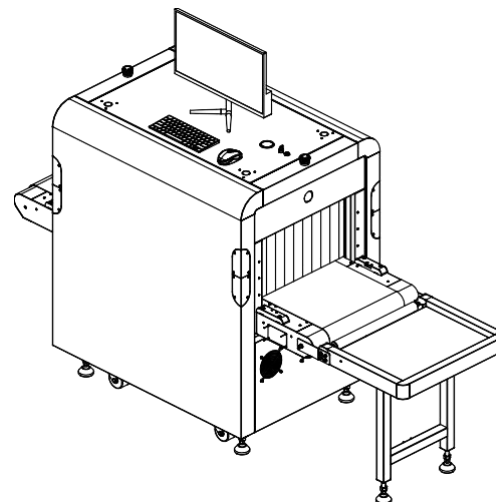
Self-inspection	Automatically detects system failures and prompts error codes
Image Processing	Enhancement functions include color/black and white, local enhancement, super enhancement, edge enhancement, image scanning, organic stripping, metal stripping, mixture stripping, inverse, high-energy enhancement, low-energy enhancement, light, dark, density threat alert Z7/Z8/Z9, high density alert, AI overlay, vertical flip, pseudo color and more
Image Playback	Supports playback of 30 images
Image Zooming	Zoom in X-ray images up to 64x. Drag the focus position using a mouse or direction- keys
Device Diagnosis	Supports diagnosis of key components such as the detector, motor, IR sensor and special keyboard
Detection Configuration	Key function configuration; image display configuration (vertical flip and max zoom times), scan mode configuration (double direction, forward scan, reverse scan, compulsory scan and power saving mode), baggage counter configuration and person-package linkage
Graphics Output	2 HDMI outputs; up to 1920 (H) x 1080 (V) @60 Hz
Monitor	1 × 21.5" LCD monitor
Video Input (Network)	12-channel input (max 4K); 8-channel IPC + 4 PoE (2 PoE by default)
Video Output (Network)	Real-time Baggage Monitoring, Input cameras
Recording Mode	Offers manual recording and recording plan. Recording plan features continuous recording, alarm event linked recording and no recording
Built-in Disks	Supports up to 4 × 10 T SATA disks and configures 1 × 4 T disk by default
Storage Management	Single; RAID 0/1/5 (Enterprise-level disks are recommended); global hot standby
Ethernet Ports	1 RJ-45 10M/100M/1000M self-adaptive Ethernet port; 4 RJ-45 PoE 10M/100M Ethernet ports
Internet Protocols	HTTP; HTTPS; TCP/IP; UDP; RTSP; IPv4; NTP; DHCP; DNS; IP filtering and discovery
Interoperability	ONVIF, SDK and more
Biometrics	User Fingerprint Login (Optional)
USB Port	2-channel USB3.0
Alarm Output	3
Display Port	2 HDMI outputs
Emergency Stop Button	3 (2 buttons on the machine body and 1 button on the operating keyboard)
Power Button	1 (on the operating keyboard)
Key Switch	1 (on the operating keyboard)
Port	
232 Port	1-channel 232 port
Power Port	1-channel port for monitor power supply

Indicator Light	<p>On the machine:</p> <p>Power indicator: Turns solid green when the machine is working and flashes during updates and when an error occurs</p> <p>X-ray indicators: Turn solid red when X-ray is triggered and turns off when X-ray is turned off</p> <p>On the operating keyboard:</p> <p>Key switch indicator: Turns solid green when the switch is turned on and turns off when the switch is turned off</p> <p>Power button indicator: Turns solid green when the power button on the operating keyboard is pressed on.</p> <p>Light turns off when the machine is powered off</p> <p>Press button indicators: Flashes green when one button is pressed on</p> <p>X-ray indicator: the red light is always on when X-ray is turned on, but not when X-ray is turned off</p>
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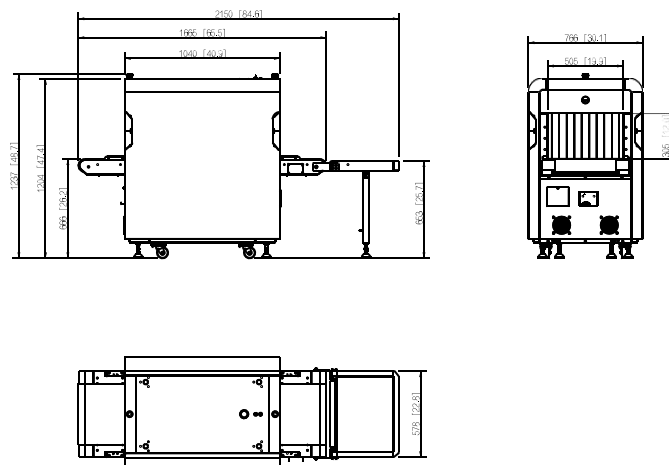
Regular

Power Supply	220–240 VAC, 50/60 Hz; 100–130 VAC, 50/60 Hz (optional)
Typical Power Consumption	450W
Maximum Power Consumption	1 KW
Intelligent Temperature Control	Detects the temperature of main board and HDD and automatically adjusts fan speed to make it work stably and quietly
Operating Temperature	0 °C to +45 °C (32 °F to +113 °F)
Operating Humidity	0%–95% (RH), non-condensing
Storage Temperature	–20 °C to +70 °C (–4 °F to +158 °F)
Storage Humidity	0%–95% (RH), non-condensing
Dimensions	1665 mm × 766 mm × 1237 mm (65.55" × 30.16" × 48.70")
Package Size	1,826 mm × 1,042 mm × 1,472 mm (71.89" × 41.02" × 57.96")
Net Weight	360 kg (793.66 lb)
Gross Weight	490 kg (1080.27 lb)
Installation Mode	Ground mount

Installation



Dimensions (mm[inch])



Ordering Information

Type	Model	Description
Intelligent X-ray Scanning Machine	VN-KUE-O7252	Intelligent X-ray Scanning Machine
		21.5 inch LCD Monitor
		Out roller table
		Special Keyboard, mouse