

GEMINI™ 6040

DUAL-ENERGY PLUS Z BACKSCATTER™ X-RAY INSPECTION SYSTEM



APPLICATIONS

- High-threat facilities
- Airports
- Building lobbies
- Mailrooms
- Security checkpoints
- Correctional facilities
- Customs checkpoints

Gemini systems, with their combination of transmission and Z Backscatter™ technology, provide enhanced detection over transmission-only systems.

Ground-breaking parcel inspection

The ground-breaking Gemini™ parcel X-ray inspection system from AS&E combines dual-energy transmission with patented Z Backscatter™ technology for the most comprehensive threat detection available for parcel, baggage, and mail screening. Gemini system's unique capability to detect both metallic and non-metallic threats — even in cluttered environments — makes it an invaluable inspection tool for security officials.

Powerful combination of technologies

The power of the Gemini system lies in its ability to simultaneously detect both organic and inor-

ganic materials with its combination of dual-energy transmission and Z Backscatter X-rays — two complementary, advanced, and commercially-proven technologies. Together they provide the most information available about the contents of a parcel.

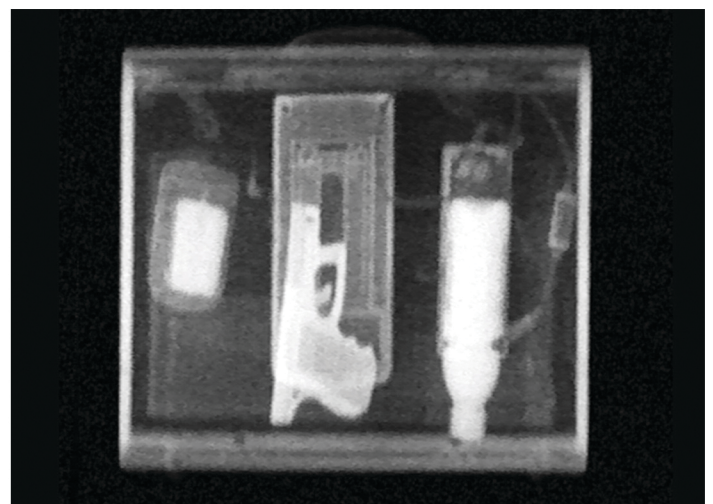
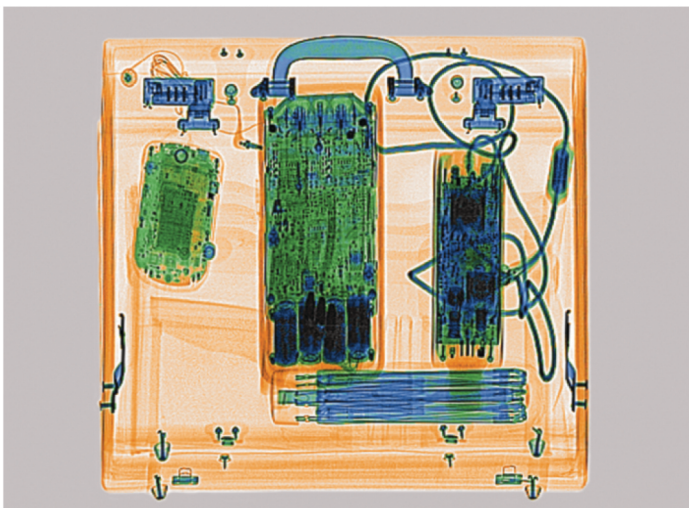


Multi-Technology

Gemini system's dual-energy transmission X-rays generate a high resolution image in which metallic threats, such as guns and knives, are easily detected and fine details, such as tiny wires

that could indicate an improvised explosive device, are discerned. Dual-energy transmission technology uses two X-ray energy levels to determine the “effective” atomic number of objects in the parcel and then colorizes the image based on material type.

Gemini system's Z Backscatter X-rays generate an image in which organic materials—such as sheet, bulk, and liquid explosives; narcotics; and plastic weapons— are bright white. These items are frequently missed in transmission-only systems. Z Backscatter's photo-like images facilitate image interpretation and reduce operator fatigue.



The electronic clutter in the dual-energy transmission image (left) obstructs views of the threats in the briefcase. The Z Backscatter image (right) of the same briefcase exposes the Glock handgun and plastic and liquid explosives.



Enfortech Solution Pte Ltd | 1 Scotts Road #24-10 Shaw Centre | Singapore 228208
Tel: +65 3152 2407 | info@enfortech-solution.com | www.enfortechsolution.com
EXCLUSIVE DISTRIBUTOR FOR INDONESIA



OPERATING FEATURES

X-Ray Sources

Dual-Energy source: 140 keV rated, operating at 140 keV
Z Backscatter source: 160keV rated, operating at 160 keV

Tunnel Opening

Width: 25.0" (63.5 cm)
Height: 17.25" (43.8 cm)
Length: Unlimited

Conveyor

Continuous operation in normal mode. Auto-return allows one person operation.

Width: 25.0" (63.5 cm)
Height: 27" (68.6 cm)
Capacity: 300 lbs (136 kg) distributed

Speed: 23 cm/s at 60 Hz; 20 cm/s at 50 Hz

System Dimensions:

Length: 78" (198 cm)
Width: 33.5" (85 cm)
Height: 53.25" (135 cm)
Weight: 1750 lbs (794 kg)

Transmission beam orientation:

Diagonally upwards

Z Backscatter beam orientation:

Vertically upwards

Portability: Swivel castors allow convenient relocation of unit. Unit passes through doorways greater than 34" (86.4 cm).

Temperature

Operating: 32°F – 104°F (0°C – 40°C)

Storage: -4°F – 140°F (-20°C – 60°C)

Humidity: 5 – 95% relative humidity (non-condensing)

Power

120 VAC +/- 10%
 20 AMP single phase
 220 VAC +/- 10%
 15 AMP single phase
 50Hz/60 Hz

IMAGE DISPLAY

System Performance

Resolution: 40 AWG
Penetration: 30 mm steel
Contrast: 16,000 gray levels visible
 Complete coverage of objects in tunnel – no corner cutoff

Detection Capability

Simultaneous transmission and Z Backscatter imaging. High resolution dual-energy transmission X-ray provides the ability to detect inorganic "High Z" objects such as guns, knives, and wires for IEDs and provides metallic and organic discrimination in uncluttered environments. Z Backscatter detects organic "Low Z" objects such as explosives, plastic weapons, and drugs.

Image Analysis Tools

Operator's Console

User-friendly ergonomic control panel
 Two high-resolution displays present separate and simultaneous transmission and Z Backscatter images

ASE Inspection Software

ASE Inspection is the Windows-based application software used to convert X-ray data into images. ASE Inspection contains a suite of tools for manipulating and enhancing images, and is used for image storage and retrieval.

ASE Inspection Features

Mark and Annotate: Attaches pointers and comment fields to mark an area of interest in an image

Image Save and Restore: Saves images to the hard-drive

Autosave: Setting that allows every image to be saved to the database

Density Expand: Adjusts the contrast of the displayed image, thus enhancing the differences in objects

Edge Enhancement: Accentuates the edges of objects in the image, enabling the operator to recognize objects faster and more readily

Continuous Zoom: Zooms images to 16x magnification

Negative: Displays the normal, "positive" image or the reverse black-and-white "negative" image, thereby enhancing subtle density differences

Color Palette: Adds the ability to evaluate images and regions of interest in greater depth using color

Auto Enhance: Improves resolution of the image by optimizing contrast throughout, thereby enhancing subtle differences in the image

Dual-Energy Specific Image Analysis Tools

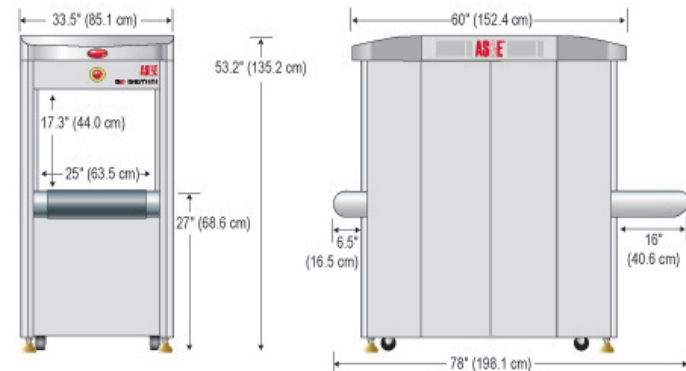
View Z: Toggles the image between black-and-white and colors associated with Z_{eff} allowing the operator to better discriminate different materials in the image

Metallic Stripping: Strips out non-organic material leaving only those colored orange or green, enabling the operator to better identify organic materials

Organic Stripping: Strips out organic material leaving only those colored green or blue, enabling the operator to better identify inorganic materials

ASE Frame: Automatically frames areas of high density where x-rays do not penetrate

High: Image analysis tool that produces an image of virtually higher penetration



SYSTEM FEATURES

Operating System: Windows XPe

Systems diagnostics screen

Monitors: Two 22" 16:9 LED color monitors

≥2.66 GHz Core™2 Quad Core processor

≥2 GB RAM

≥500 GB hard drive

DVD-RW drive

3 USB ports

System utilization display (X-ray hours, system hours, number of inspections)

Image save and restore

Network-capable

Adjustable-height operator console shelf

System Options:

24" 16:9 LED color monitors

Color printer

Global power conditioning (Sola Regulator) 50 or 60 Hz

Steel roller tables (2, 4, 6 ft)

Stainless steel exit trays (18" and 3 ft)

Remote console capability (50', 75', 100')

Remote switching capability

Threat Image Projection (TIP)

Computer-based training

Ergonomic mobile monitor and operator's console cart

Imaging test fixture

Gamma Radiation Detector

ASE Connect networking solution

ASE Learn training solution

HEALTH AND SAFETY

Operator receives less than 0.1 mR/hr (1.0 µSv/hr) at 2" (5 cm) from cabinet.

Complies fully with all applicable federal health and safety regulations:

Center for Devices and Radiological Health Standards for Cabinet X-ray Systems (21 CFR subchapter J Section 1020.40).

Film-safe