MINI Z
HANDHELD Z BACKSCATTER SCREENING SYSTEM

The MINI Z system is the world’s first handheld Z Backscatter® imaging system, providing unsurpassed operational flexibility. Using the same technology that made the ZBV the top-selling cargo and vehicle inspection system in the world, the MINI Z system’s Z Backscatter technology highlights organic threats and contraband. With its small form factor and single-sided imaging, the MINI Z system can access hard-to-reach areas, allowing for the effective screening of a wide variety of items such as bags, walls, furniture, boats, aircraft, vehicle tires, and car interiors.

The MINI Z system is the only handheld X-ray system that can produce images using single-sided imaging to quickly detect anomalies. The MINI Z system is completely self-contained, with no required set-up and no consumables to replenish. Simply power the device on and you’re ready to scan for potential threats and contraband.

Self-contained, portable, easy to use

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Z Backscatter technology

The MINI Z system employs Z Backscatter technology—pioneered and perfected by AS&E. Z Backscatter technology works by displaying X-rays that are reflected from the scanned object. Organic items, such as drugs and currency, reflect X-rays more than metallic objects and appear bright white in MINI Z images (see images). MINI Z has also been successful in revealing anomalies associated with structural modifications and compartments made to conceal contraband (see photo).

Safe, secure, dependable operation

The MINI Z system was designed with safety in mind, and features reliable and redundant safety subsystems. The MINI Z system is safe for operators, bystanders, and the environment. The system conforms to applicable ANSI, ICRP, NCRP, and Euratom radiation safety standards for annual allowable dose for the general public.
System Specifications

X-ray Source: 10-watt 70 keV X-ray tube
Interconnection options: Wireless connection through built-in Wi-Fi; optional hard-wire via Ethernet cable

Scanner Dimensions
- Length: 29.2 cm (11.5 in)
- Width: 24.9 cm (9.8 in)
- Height: 19.3 cm (7.6 in)
- Weight: 4.2 kg (9.2 lbs)

Operating Time
- Scanner Battery: Four hours (typical) per battery; two batteries provided
- Scan Speed: Nominal 15 cm (6 in) per second
- Tablet Battery: Six hours, typical
- System Software: Microsoft® Windows® 8.1 tablet edition with ASEInspection® software

Transport Case Dimensions
- Length: 63.5 cm (25 in)
- Width: 49.5 cm (19.5 in)
- Height: 38.1 cm (15.0 in)
- Full System Weight: 21.8 kg (48 lbs)

System Options
- Tablet Mount Kit: Includes a mount for the tablet and a shorter connector cable
- Tactical Backpack: For greater portability
- Language Kits: Arabic, Chinese, English (standard), French, Polish, Portuguese, Russian, Spanish

System Components

MINI Z Scanner
- Dell® Windows 8.1 Tablet PC with ASEInspection Software
- Rugged Tablet Case with Integrated Stand
- Two Replaceable Batteries
- Battery Charger (with international power cords)
- Transport Case
- Calibration Dock
- Quick-Start Guide
- Shoulder Strap

Health and Safety

Complies fully with all applicable U.S. federal health and safety regulations:
- ANSI/HPS N43.3-2008 Open System Classification
- Conforms to applicable ANSI, ICRP, NCRP, and Euratom radiation safety standards for annual allowable dose for the general public.
- To help prevent inadvertent X-ray emission, the system is equipped with a series of interlocks and audiovisual indicators.
- Contains no live radiation source

Environment

Ambient Operating: 0°C to 45°C (32°F to 113°F)
Storage: -40°C to 60°C (-40°F to 140°F)
Operable in: Rain, snow, high winds, and altitudes up to 3,000 m (9,845 ft) nominally
In compliance with CE directive 2004/108/EC

System Software and Imaging Tools

ASEInspection Software — Tablet Edition
ASEInspection is the Windows-based application software used to control the system operation, manage the data, and analyze the images. The tablet edition includes touch-screen interaction.

System Operation
- Main Screen: Displays system control functions
- Scan Screen: Enables scanner operation and provides real-time image viewing
- Status Bar: Displays connection status, battery levels, and links to Wi-Fi connection and system status screens
- Status Screen: Provides system status overview with detailed page tab that displays current status of key system parameters
- Tablet Connection: Connects to the scanner by Wi-Fi or wired Ethernet
- GUI Skin Support: Adjusts the user interface to improve viewability for operation inside with artificial lighting or outdoors with natural light

Data Management
- Image Groups: Images of the same object may be collected into their own group
- Image Flagging: Images of interest may be flagged or tagged with an optional comment
- Reference Library: Save your reference images to removable media for quick transfer to other tablets
- Image Gallery: See thumbnails of images to quickly find images of interest
- Image Search: Search for images by date taken, group or comment name, or those that have been flagged
- Export Image: Exports images as .jpg or .png files
- Backup and Restore: Backup and restore images
- Incident Reporting: Allows users to save system logs to a removable media for submitting system issues

Image Analysis Tools
- Adjustable Aspect Ratio: Allows users to adjust the image for different scan rates
- Auto Enhance: Applies different levels of contrast to different features in the image, thereby enhancing subtle differences in the image
- Color Palette: Adds the ability to evaluate images in greater depth using color
- Dynamic Contrast: Automatically adjusts image contrast to accommodate different scanning distances and to facilitate image analysis
- Manual Image Stitching: Allows the user to create a composite image using up to four images in a group; composite images can be stored, recalled, and exported
- Negative: Toggle between the normal, “positive” image or the reverse “negative” image, thereby enhancing subtle density differences
- Touch Density Expand: Manually refine image contrast and brightness with your fingers
- Touch Scrolling: Flick an image to scroll to another region
- Touch Zoom: Zoom images up to 16x magnification by pinching or double tapping