

PRODUCT CATALOGUE

VOLUME 2

2017



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APRIL 2017



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AS&E

PRODUCTS AND SERVICES



RAPISCAN AS&E



CARGO SCANNING & SOLUTIONS

ZBV C-CLASS

MOBILE Z BACKSCATTER CARGO AND VEHICLE SCREENING SYSTEM

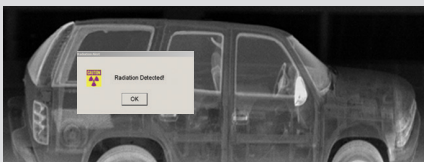
KEY FEATURES AND BENEFITS

- Backscatter imaging for photo-like images
- Easy to use
- High-throughput scanning
- Highly versatile with multiple operational modes



Low-cost, easy to use, and highly versatile, AS&E's ZBV® C-Class system is built into a standard delivery van and can screen vehicles, cargo containers, and other objects for threats and contraband simply by driving past them. The ZBV system's single-sided configuration and varied operating modes provide maximum maneuverability and flexibility for multiple applications, and it can be immediately deployed in response to security threats. With easy-to-interpret imaging for rapid analysis, the ZBV system enables high-throughput screening of vehicles and cargo.

The ZBV system employs Z Backscatter® technology for a photo-like image that reveals threats and contraband that transmission-only X-ray systems can miss. The ZBV system is ideal for screening vehicles for large quantities of concealed cigarettes, currency, drugs, explosives, and stowaways. It can also be equipped with the Tx-View™ option, which provides a dual-energy transmission image for enhanced detection of metallic threats, including weapons. With hundreds sold, the ZBV system is the top-selling, non-intrusive cargo and vehicle inspection solution in the world.



ZBV System Z Backscatter X-ray Images

TOP: Image shows hidden narcotics

MIDDLE: Image reveals smuggled alcohol, hidden to avoid paying duties

BOTTOM: Image accompanies a possible radioactive threat

SPECIFICATIONS

ZBV C-CLASS

OPERATING FEATURES

- **X-ray Source:** 225 keV
- **Penetration:** 7 mm (0.28 in) of steel at a distance of 1.5 m (5 ft) at scan speed of 1.5 kph (1 mph)
- **Scan Speeds (Operator Selectable):** 1.5, 5, and 10 kph (1, 3, and 6 mph)
- **Scan Field of View:** 3.6 m (12 ft) in height at 1.5 m (5 ft) from the side of the ZBV; or 4.3 m (14 ft) in height at 2.3 m (7.5 ft) to scan a hi-cube container

VEHICLE SPECIFICATIONS

- **Manufacturer:** Mercedes-Benz®
- **Model:** Sprinter CDI 4x2 or 4x4¹
- **Engine Type:** Determined by country homologation requirements
- **Right- or left-hand drive**
- **Fuel:** Diesel fuel runs vehicle and X-ray equipment generator. System uses two gallons of fuel per hour when scanning

¹ When supported by country homologation, available as an option

Dimensions (without options)

- **Length:** 6.5 m (21 ft 4 in)
- **Width²:** 2.4 m (8 ft)
- **Height³:** 2.8 m (9 ft 1 in)
- **Weight:** 4,452 kg (9,815 lbs)

² With mirrors extended

³ To top of scanning lights

ENVIRONMENT

- **Operating Temperature:** 0° C to 42° C (32° F to 108° F)
- **Storage Temperature:** -29° C to 60° C (-20° F to 140° F)
- **Operable in:** Rain, snow, high winds, and altitudes up to 3,000 m (9,845 ft) nominally

HEALTH AND SAFETY

- **Radiation Dose:** The dose to the driver (in stationary scan mode) and to the cargo is less than 0.1 µSv (0.01 mR) per scan, at an average speed of 5 kph (3 mph) at 1.5 m (5 ft) distance
- **Radiation Dose to Crew:** 0.5 µSv in any one hour
- **Radiation Standard:** Conforms to ANSI N43.3–2008 for *General Radiation Safety Installations Using Non-Medical X-ray and Sealed Gamma-ray Sources, Energies Up to 10 MeV*

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SYSTEM OPTIONS

- **Stationary Scan Mode:** Scans vehicles driven past parked ZBV; includes shore power (230 VAC +/- 10 VAC, 50/60 Hz, 80 amps, single phase)
- **Remote Operator's Console:** Console can be located up to 500 m (1,640 ft) from parked ZBV; for use in stationary scan mode
- **Tx-View™ Trailer:** Provides a dual-energy transmission image for enhanced detection of metallic threats; includes detectors, low-profile ramp, transport trailer, and image analysis tools. For use in stationary scan mode
- **Scan Area Monitoring Kit:** For applications where vehicle occupants may be scanned; designed for compliance with ANSI 43.17–2009 for personnel scanning; monitors the scan area and stationary scan mode exclusion zone to prevent exposure above the specified limits
- **Radioactive Threat Detection:** Automatically detects both gamma rays and neutrons
- **Isotope Identifier:** Digital, handheld, multi-channel spectrometer providing gamma and neutron isotope identification
- **MINI Z® System:** Handheld Z Backscatter system for auxiliary scanning (see separate data sheet); includes storage location and charging station for scanner batteries and tablet computer
- **Wireless Networking Kit:** For use with ASE Connect™ networking solution to provide interconnected remote image analysis and supervisor stations
- **Audible Scan Notification:** Indicates when system is scanning
- **Four-wheel Drive:** Driver-selectable
- **Hot Weather Package:** Guarantees operation up to 50° C (122° F)
- **Cold Weather Package:** Guarantees operation down to -29° C (-20° F)
- **Harsh Environment:** Includes hot and cold weather packages
- **High Altitude:** Guarantees operation up to 4,250 m (13,943 ft) nominally

Rapiscan | AS&E — Part of the OSI Systems family of security companies. We deliver products and services that help our customers find threats and contraband with ease and confidence, while maximizing operational efficiency. Our global service network enables us to respond to customer needs quickly and provide exceptional support, because we know that every moment of uptime is critical. We understand the importance of our customers' missions—from uncovering trade fraud, to combating terrorism, to detecting drug and weapons smuggling, to exposing illegal immigration. That's why it's our mission to help them succeed.

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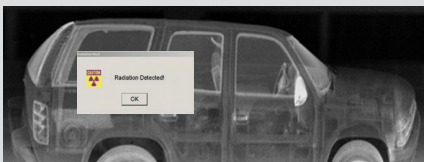
AS&E®

ZBV S-CLASS

MOBILE Z BACKSCATTER CARGO AND VEHICLE SCREENING SYSTEM

KEY FEATURES AND BENEFITS

- Backscatter imaging for photo-like images
- Easy to use
- High-throughput scanning
- Highly versatile with multiple operational modes



ZBV System Z Backscatter X-ray Images

TOP: Image shows hidden narcotics

MIDDLE: Image reveals smuggled alcohol, hidden to avoid paying duties

BOTTOM: Image accompanies a possible radioactive threat

Low-cost, easy to use, and highly versatile, AS&E's ZBV® S-Class system is built into a standard panel van and can screen vehicles, cargo containers, and other objects for threats and contraband simply by driving past them. The ZBV system's single-sided configuration and varied operating modes provide maximum maneuverability and flexibility for multiple applications, and it can be immediately deployed in response to security threats. With easy-to-interpret imaging for rapid analysis, the ZBV system enables high-throughput screening of vehicles and cargo.

The ZBV system employs Z Backscatter® technology for a photo-like image that reveals threats and contraband that transmission-only X-ray systems can miss. The ZBV system is ideal for screening vehicles for large quantities of concealed cigarettes, currency, drugs, explosives, and stowaways. It can also be equipped with the Tx-View™ option, which provides a transmission image for enhanced detection of metallic threats, including weapons. With hundreds sold, the ZBV system is the top-selling, non-intrusive cargo and vehicle inspection solution in the world.

SPECIFICATIONS

ZBV S-CLASS

OPERATING FEATURES

- **X-ray Source:** 225 keV
- **Penetration:** 7 mm (0.28 in) of steel at a distance of 1.1 m (3.5 ft) at scan speed of 1.5 kph (1 mph)
- **Scan Speeds (Operator Selectable):** 1.5, 5, and 10 kph (1, 3, and 6 mph)
- **Scan Field of View:** 3.6 m (12 ft) in height at 1.1 m (3.5 ft) from the side of the ZBV; or 4.3 m (14 ft) in height at 1.7 m (5.5 ft) to scan a hi-cube container in one pass

VEHICLE SPECIFICATIONS

- **Manufacturer:** Mercedes-Benz®
- **Model:** Sprinter CDI 4x2 or 4x4¹
- **Engine Type:** Determined by country homologation requirements
- **Right- or left-hand drive**
- **Fuel:** Diesel fuel runs vehicle and X-ray equipment generator. System uses one gallon of fuel per hour when scanning

¹ When supported by country homologation, available as an option

Dimensions (without options)

- **Length:** 6.9 m (22 ft 10 in)
- **Width:** 2.4 m (8 ft)
- **Height:** 2.8 m (9 ft 4 in)
- **Weight:** 4,445 kg (9,800 lbs)

² With mirrors extended

ENVIRONMENT

- **Operating Temperature:** 0° C to 42° C (32° F to 108° F)
- **Storage Temperature:** -29° C to 60° C (-20° F to 140° F)
- **Operable in:** Rain, snow, high winds, and altitudes up to 3,000 m (9,845 ft) nominally

HEALTH AND SAFETY

- **Radiation Dose:** The dose to the driver (in stationary scan mode) and to the cargo is less than 0.1 µSv (0.01 mR) per scan, at an average speed of 5 kph (3 mph) at 1.1 m (3.5 ft) distance
- **Radiation Dose to Crew:** 0.5 µSv in any one hour
- **Radiation Standard:** Conforms to ANSI N43.3-2008 for *General Radiation Safety Installations Using Non-Medical X-ray and Sealed Gamma-ray Sources, Energies Up to 10 MeV*

SYSTEM OPTIONS

- **Stationary Scan Mode:** Scans vehicles driven past parked ZBV; includes shore power (230 VAC +/- 10 VAC, 60 Hz, 45 amps, single phase)
- **Remote Operator's Console:** Console can be located up to 500 m (1,640 ft) from parked ZBV; for use in stationary scan mode
- **Tx-View™ Trailer:** Provides a dual-energy transmission image for enhanced detection of metallic threats; includes detectors, low-profile ramp, transport trailer, and image analysis tools. For use in stationary scan mode
- **Scan Area Monitoring Kit:** For applications where vehicle occupants may be scanned; designed for compliance with ANSI 43.17-2009 for personnel scanning; monitors the scan area and stationary scan mode exclusion zone to prevent exposure above the specified limits
- **Radioactive Threat Detection:** Automatically detects both gamma rays and neutrons
- **Isotope Identifier:** Digital, handheld, multi-channel spectrometer providing gamma and neutron isotope identification
- **MINI Z® System:** Handheld Z Backscatter system for auxiliary scanning (see separate data sheet); includes storage location and charging
- **Wireless Networking Kit:** For use with ASE Connect™ networking solution to provide interconnected remote image analysis and supervisor stations
- **Audible Scan Notification:** Indicates when system is scanning
- **Four-wheel Drive:** Driver-selectable
- **Hot Weather Package:** Guarantees operation up to 50° C (122° F)
- **Cold Weather Package:** Guarantees operation down to -29° C (-20° F)
- **Harsh Environment:** Includes hot and cold weather packages

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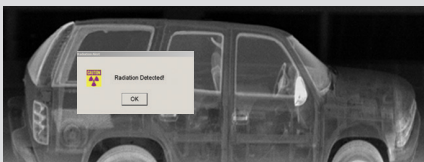
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ZBV R-CLASS

MOBILE Z BACKSCATTER CARGO AND VEHICLE SCREENING SYSTEM

KEY FEATURES AND BENEFITS

- Backscatter imaging for photo-like images
- Easy to use
- High-throughput scanning
- Highly versatile with multiple operational modes



ZBV System Z Backscatter X-ray Images

TOP: Image shows hidden narcotics

MIDDLE: Image reveals smuggled alcohol, hidden to avoid paying duties

BOTTOM: Image accompanies a possible radioactive threat

Low-cost, easy to use, and highly versatile, AS&E's ZBV® R-Class system is built onto a cargo van platform and can screen vehicles, containers, and other objects for threats and contraband simply by driving past them. The ZBV system's single-sided configuration and varied operating modes provide maximum maneuverability and flexibility for multiple applications, and it can be immediately deployed in response to security threats. With easy-to-interpret imaging for rapid analysis, the ZBV system enables high-throughput screening of vehicles and cargo.

The ZBV system employs Z Backscatter® technology for a photo-like image that reveals threats and contraband that transmission-only X-ray systems can miss. The ZBV system is ideal for screening vehicles for large quantities of concealed cigarettes, currency, drugs, explosives, and stowaways. It can also be equipped with the Tx-View™ option, which provides a transmission image for enhanced detection of metallic threats, including weapons. With hundreds sold, the ZBV system is the top-selling, non-intrusive cargo and vehicle inspection solution in the world.

SPECIFICATIONS

ZBV R-CLASS

OPERATING FEATURES

- **X-ray Source:** 225 keV
- **Penetration:** 7 mm (0.28 in) of steel at a distance of 1.5 m (5 ft) at scan speed of 1.5 kph (1 mph)
- **Scan Speeds (Operator Selectable):** 1.5, 5, and 10 kph (1, 3, and 6 mph)
- **Scan Field of View:** 3.6 m (12 ft) in height at 1.5 m (5 ft) from the side of the ZBV; or 4.3 m (14 ft) in height at 2.3 m (7.5 ft) to scan a hi-cube container

VEHICLE SPECIFICATIONS

- **Manufacturer:** Ford
- **Model:** F550 4x4 Crew Cab
- **Engine Type:** 8-cylinder (6.4 L)
- **Transmission:** 5-speed automatic
- **Left-hand drive**
- **Fuel:** Diesel fuel runs vehicle and X-ray equipment generator. System uses four gallons of fuel per hour when scanning

Dimensions (without options)

- **Length:** 8.1 m (26 ft 6 in)
- **Width¹:** 2.7 m (8 ft 11 in)
- **Height²:** 2.9 m (9 ft 8 in)
- **Weight:** 6,396 kg (14,100 lbs)

¹With mirrors extended

²To top of scanning lights

ENVIRONMENT

- **Operating Temperature:** 0° C to 42° C (32° F to 108° F)
- **Storage Temperature:** -29° C to 60° C (-20° F to 140° F)
- **Operable in:** Rain, snow, high winds, and altitudes up to 3,000 m (9,845 ft) nominally

HEALTH AND SAFETY

- **Radiation Dose:** The dose to the driver (in stationary scan mode) and to the cargo is less than 0.1 µSv (0.01 mR) per scan, at an average speed of 5 kph (3 mph) at 1.5 m (5 ft) distance
- **Radiation Dose to Crew:** 0.5 µSv in any one hour
- **Radiation Standard:** Conforms to ANSI N43.3–2008 for *General Radiation Safety Installations Using Non-Medical X-ray and Sealed Gamma-ray Sources, Energies Up to 10 MeV*

SYSTEM OPTIONS

- **Stationary Scan Mode:** Scans vehicles driven past parked ZBV; includes shore power (230 VAC +/- 10 VAC, 50/60 Hz, 80 amps, single phase)
- **Remote Operator's Console:** Console can be located up to 500 m (1,640 ft) from parked ZBV; for use in stationary scan mode
- **Tx-View™ Trailer:** Provides a dual-energy transmission image for enhanced detection of metallic threats; includes detectors, low-profile ramp, transport trailer, and image analysis tools. For use in stationary scan mode
- **Scan Area Monitoring Kit:** For applications where vehicle occupants may be scanned; designed for compliance with ANSI 43.17–2009 for personnel scanning; monitors the scan area and stationary scan mode exclusion zone to prevent exposure above the specified limits
- **Radioactive Threat Detection:** Automatically detects both gamma rays and neutrons
- **Isotope Identifier:** Digital, handheld, multi-channel spectrometer providing gamma and neutron isotope identification
- **MINI Z® System:** Handheld Z Backscatter system for auxiliary scanning (see separate data sheet); includes storage location and charging station for scanner batteries and tablet computer
- **Wireless Networking Kit:** For use with ASE Connect™ networking solution to provide interconnected remote image analysis and supervisor stations
- **Audible Scan Notification:** Indicates when system is scanning
- **Hot Weather Package:** Guarantees operation up to 50° C (122° F)
- **Cold Weather Package:** Guarantees operation down to -29° C (-20° F)
- **Harsh Environment:** Includes hot and cold weather packages
- **High Altitude Package:** Guarantees operation up to 4,250 m (13,943 ft) nominally

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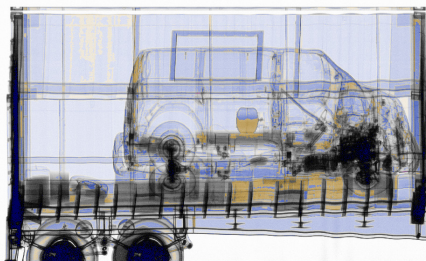
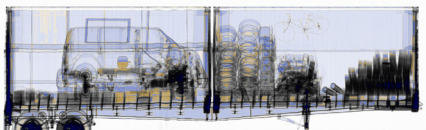
AS&E®

RAPISCAN EAGLE M25

MOBILE CARGO AND VEHICLE SCREENING SYSTEM

KEY FEATURES AND BENEFITS

- High-quality imaging with material discrimination
- Multiple scan modes for maximum flexibility
- Small exclusion zone for deployment in space-constrained areas
- Integrated cab design for operator comfort and efficiency



TOP: Full scan transmission X-ray
BOTTOM: Enlarged section

The Rapiscan Eagle® M25 offers high-quality detection capabilities in a compact, robust, mobile configuration designed for Customs clearance at ports and borders, and security checkpoint applications.

The Rapiscan Eagle M25 can scan stationary cargo or vehicles driven through the X-ray tunnel with automatic cab exclusion or CabScan® mode to image the entire vehicle. The system offers best-in-class, three-color material discrimination for improved detection of threats and contraband. The system itself, along with the associated radiation controlled zone, is smaller than typical high-energy mobile systems, allowing operators to set up scanning areas at congested seaports and land border crossings. The M25 also features an integrated cab design allowing the driver and operators to be co-located in the same spacious cabin for improved comfort and ease of communications. The system is easily driven over public roads and quickly deployed after arriving on site.

SPECIFICATIONS

EAGLE M25

DRIVE-BY PERFORMANCE

- **Penetration:** 205 mm
- **Wire Resolution:** 2 mm

OPERATING FEATURES

- **X-ray Source:** 2.5 MeV
- **Crew:** Minimum of two operators (driver and analyst); ground guide and additional analysts optional
- **Scan Modes:** Drive-by with optional portal and CabScan modes
- **Scan Direction:** Bi-directional in drive-by mode
- **Scanning Speed:** 0.15, 0.25, 0.38 m/s in drive-by; up to 6 km/hr in portal mode
- **System Throughput:** Up to 80 trucks per hour in portal mode
- **Set-up Time:** 20 min in standard operating environment
- **Shore Power Requirements (option):**
 - **50 Hz:** 400 V, 63 A, 44 kVA
 - **60 Hz:** 220 V, 125 A, 48 kVA

SYSTEM DIMENSIONS AND SPECIFICATIONS

Chassis

- **Navistar:** Workstar chassis with crew cab

Stowed Dimensions

- **Length:** 9 m (29 ft 6 in)
- **Width:** 2.6 m (8 ft 6 in)
- **Height:** 4.0 m (13 ft 1 in)

Deployed Dimensions

- **Length:** 9 m (29 ft 6 in)
- **Width:** 7.3 m (23 ft 11 in)
- **Height:** 5.8 m (19 ft)

Maximum Scanned Object Dimensions

- **Width:** 2.8 m (9 ft 2 in)
- **Height:** 4.8 m (15 ft 9 in)
- **Minimum Scan Height:** 0.3 m (12 in) from ground

ENVIRONMENT

- **Operating Temperature:** -30° C to 50° C (-22° F to 122° F)
- **Maximum Wind Speed:** 40 km/h

HEALTH AND SAFETY

- **Open Radiation Exclusion Zone (in drive-by mode; 20 trucks per hour):** 18 m x 36 m (59 ft x 118 ft)
- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Radiation Dose to Driver (in portal mode):** < 0.25 µSv per scan
- **Radiation Dose to Crew:** 0.5 µSv in any one hour (20 scans/hr)
- **Radiation Dose to Cargo:** 1 µSv per scan

SYSTEM OPTIONS

- **Portal Mode:** Supports the drive-through scanning of traffic. Requires the purchase of traffic control and monitoring devices
- **CabScan® Mode:** While in portal mode, safely scans the cab of the truck from front bumper to start of cargo
- **Integrated Peripheral Devices:** License/number plate recognition system, container code recognition system, and manifest scanner
- **Extreme Cold Weather Package:** Extends the system operating temperature to -40° C
- **Extreme Hot Weather Package:** Extends the system operating temperature to +55° C

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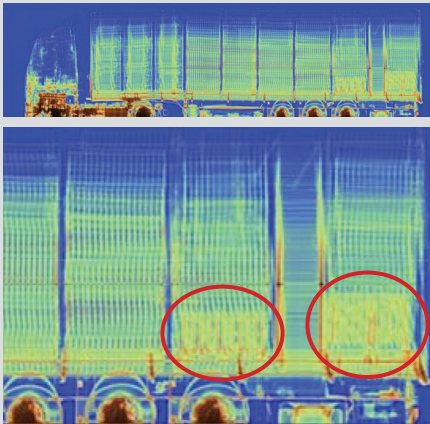
AS&E®

RAPISCAN EAGLE M60

HIGH-ENERGY MOBILE INSPECTION SYSTEM

KEY FEATURES AND BENEFITS

- High-quality imaging with material discrimination
- Multiple scan modes for maximum flexibility
- Scans 5 m tall objects



TOP: Full scan transmission X-ray
BOTTOM: Enlarged section

The Rapiscan Eagle® M60 is a high-energy mobile inspection system designed with multiple operational modes for maximum flexibility as inspection needs change. The system scans stationary cargo in drive-by mode and can also scan vehicles driven through the X-ray tunnel, either with automatic cab exclusion or using CabScan® mode to image the entire vehicle. In driverless mode, operators can scan vehicles without requiring a driver, reducing operating costs.

The system's high-performance transmission imaging offers penetration of up to 330 mm steel with 3- or 4-color material discrimination for improved detection of threats and contraband. The Eagle M60 scans cargo and vehicles up to 5 meters in height and 2.8 meters in width without corner cutoff. The system is easily driven over public roads and quickly deployed after arriving on site.

SPECIFICATIONS

EAGLE M60

DRIVE-BY PERFORMANCE

	M60-S	M60-T	M60-R
Penetration	310 mm	330 mm	320 mm
Wire Resolution	1.2 mm	1.2 mm	0.8 mm
Spatial Resolution	4 mm (H) 4 mm (V)	4 mm (H) 4 mm (V)	3 mm (H) 3 mm (V)

OPERATING FEATURES

- **X-ray Source:** 6 MeV
- **Crew:** Minimum of two operators (driver and analyst); ground guide and additional analysts optional
- **Scan Modes:** Drive-by with optional portal and CabScan modes
- **Scan Direction:** Bi-directional in drive-by mode
- **Scanning Speed:** 0.13, 0.26, 0.4 m/s in drive-by; 3–8 km/hr in portal mode
- **System Throughput:** Up to 80 trucks per hour in portal mode
- **Set-up Time:** 20 min in standard operating environment
- **Shore Power Requirements (option):**
 - **50 Hz:** 400 V, 63 A, 44 kVA
 - **60 Hz:** 220 V, 125 A, 48 kVA

SYSTEM DIMENSIONS AND SPECIFICATIONS

Chassis

- **Mercedes-Benz® Truck:** As determined by country homologation

Stowed Dimensions

- **Length:** 11.1 m (36 ft 5 in)
- **Width:** 2.5 m (8 ft 2 in)
- **Height:** 4.0 m (13 ft 1 in)

Deployed Dimensions

- **Length:** 11.1 m (36 ft 5 in)
- **Width:** 7.6 m (24 ft 11 in)
- **Height:** 5.8 m (19 ft)

Maximum Scanned Object Dimensions

- **Width:** 2.8 m (9 ft 2 in)
- **Height:** 5.0 m (16 ft 5 in)
- **Minimum Scan Height:** 0.4 m (1 ft 4 in) from ground

ENVIRONMENT

- **Operating Temperature:** -10° C to 40° C (14° F to 104° F)
- **Maximum Wind Speed:** 40 km/hr

HEALTH AND SAFETY

- **Open Radiation Exclusion Zone (in drive-by mode; 25 trucks per hour):** 50 m x 40 m (164 ft x 131 ft 3 in)
- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Radiation Dose to Driver (in portal mode):** Less than 0.25 µSv per scan
- **Radiation Dose to Crew:** 0.5 µSv in any one hour
- **Radiation Dose to Cargo:** Less than 20 µSv per scan

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SYSTEM OPTIONS

- **Portal Mode:** Supports the drive-through scanning of traffic. Requires the purchase of traffic control and monitoring devices
- **CabScan Mode:** While in portal mode, safely scans the cab of the truck from front bumper to start of cargo
- **Driverless Mode:** System scans vehicles by autonomously moving between start and stop markers
- **Integrated Radiation Detection:** Gamma or gamma/neutron
- **Integrated Peripheral Devices:** License/number plate recognition system, container code recognition system, and manifest scanner
- **Extreme Cold Weather Package:** Extends the system operating temperature to -40° C
- **Extreme Hot Weather Package:** Extends the system operating temperature to +55° C
- **Car Scanning Ramp:** Stowed on board

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CARVIEW PORTAL

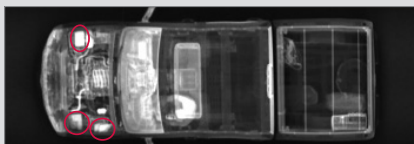
MULTI-TECHNOLOGY, TOP-VIEW PASSENGER VEHICLE INSPECTION SYSTEM

KEY FEATURES AND BENEFITS

- High throughput, drive-through screening
- Multi-technology system for threat and contraband detection
- Small footprint
- Highly relocatable



TOP: Dual-energy transmission image of a scanned vehicle reveals an automatic weapon



BOTTOM: Z Backscatter image of the same vehicle reveals simulated drugs and currency

The AS&E CarView™ Portal offers high-throughput, multi-technology screening of passenger vehicles, helping operators detect threats and prevent them from crossing borders and entering secure facilities. The compact CarView system screens occupied cars and small trucks using innovative detector technology that simultaneously produces two views of the scanned vehicle: a high-quality, dual-energy transmission image and a photo-like Z Backscatter® image. Dual-energy transmission X-rays penetrate the vehicle and generate a colorized image that helps detect threats such as weapons and vehicle-borne improvised explosive devices (VBIEDs). Our proven Z Backscatter technology produces a photo-like image of the contents of a vehicle, highlighting organic materials such as stowaways, explosives, drugs, currency, and other contraband.

The compact CarView system fits into existing traffic lanes and standard tollbooth lanes, while its high scan speeds make it ideal for either primary or secondary inspection applications. As mission objectives change with an ever-evolving threat landscape, the portal can be easily relocated to meet new requirements.

SPECIFICATIONS

CARVIEW PORTAL

OPERATING FEATURES

- **X-ray Source:** 225 keV
- **Crew:** One X-ray system operator/inspector standard. Additional traffic coordinator is optional
- **Scan Modes:** Operator initiated or continuous
- **Scan Speeds :** 2–20 kph (1.2–12.4 mph); Spatial correction software compensates for variations in vehicle speeds
- **Throughput:** Up to 400 vehicles per hour
- **Power Requirements:**
 - **50 Hz:** 400 V, 25 A, 12 kVA
 - **60 Hz:** 480 V, 25 A, 12 kVA

SYSTEM DIMENSIONS AND SPECIFICATIONS

- **Width:** 4.9 m (16.3 ft)
- **Height:** 4.4 m (14.3 ft)
- **Length:** 4.2 m (13.8 ft)
- **Weight:** 5,700 kg (12,570 lbs)

Tunnel Dimensions

- **Width:** 3.7 m (12.3 ft)
- **Height:** 2.8 m (9.3 ft)

Maximum Vehicle Dimensions

- **Width:** 2.7 m (9.0 ft)
- **Height:** 2.7 m (9.0 ft)

ENVIRONMENT

- **Operating Temperature:** -30° C to 55° C (-22° F to 131° F)
- **Storage Temperature:** -40° C to 70° C (-40° F to 158° F)
- **Operable in rain, snow, wind, and blowing sand**

HEALTH AND SAFETY

- **Radiation Exclusion Zone Dimensions (400 cars per hour):** 7.5 m x 5.7 m (24 ft 7 in x 18 ft 8 in)
- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Radiation Dose:** The typical dose to the scanned vehicle and driver is 0.04 µSv (4.0 µRem) per screening
- **Radiation Standards:** System conforms to manufacturers' requirements of ANSI N43.17-2009 *Radiation Safety for Personnel Security Screening Systems Using X-ray or Gamma Radiation*

SYSTEM OPTIONS

- **Integrated Peripheral Devices:** License/number plate recognition system and under-vehicle inspection system
- **Radiation Portal Monitor:** Gamma or gamma/neutron
- **Networking:** ASE Connect™ networking solution provides interconnected remote image analysis and supervisor stations
- **Vehicle Protection Kit:** Vehicle guides and flags to direct traffic through the tunnel and decrease vehicle collisions with the system

Operator Alert Tools

- **Fusion Imaging™ Technology:** Utilizes key attributes of the transmission image to enhance the sharpness of the Z Backscatter image and improve detection capabilities
- **Reference Vehicle Compare:** Based on a user-defined vehicle identifier field, the system automatically compares current and historical scans of a vehicle and highlights any differences between the scans

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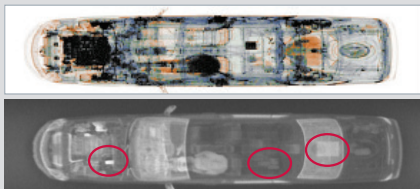
AS&E

Z PORTAL

MULTI-VIEW, MULTI-TECHNOLOGY, CARGO AND VEHICLE SCREENING SYSTEM

KEY FEATURES AND BENEFITS

- Multi-view, multi-technology system for comprehensive detection
- High-throughput, drive-through screening
- Available in two sizes for cars and trucks/buses
- Small footprint and construction-less design



TOP: Top-down transmission view
BOTTOM: Top-down Z Backscatter view



TOP: Left-side Z Backscatter view
BOTTOM: Left-side Forwardscatter view



TOP: Right-side Z Backscatter view
BOTTOM: Right-side Forwardscatter view

The AS&E Z Portal® system gives operators the power to confidently screen cars and trucks by leveraging a unique combination of X-ray technologies that provide multiple views of the entire vehicle. The system uses Z Backscatter®, Forwardscatter®, and dual-energy transmission (optional) technology to simultaneously capture two images from each side of the vehicle and two images from the top of the vehicle—six views in total.

Z Backscatter technology produces photo-like images, ideal for detecting organic contraband such as drugs or cigarettes. The top-down, dual-energy image is ideal for detecting anomalies hidden in the dashboard, gas tank, and center of a vehicle. Forwardscatter technology enables the enhanced detection of dense materials, such as artillery shells.

Armed with multiple images, customers can more effectively stop threats from crossing borders or entering facilities, and successfully recoup lost revenue from trade fraud. The system can scan up to 400 cars or 250 trucks per hour and its efficient design allows it to easily fit into existing traffic lanes.

SPECIFICATIONS

Z PORTAL

OPERATING FEATURES

- **X-ray Source:** 225 keV
- **Crew:** One X-ray system operator inspector standard; additional traffic coordinator is optional
- **Scan Modes:** Operator initiated or continuous
- **Scan Direction:** Single or optional bi-directional
- **Scan Speed:** 2–20 kph (1.2–12.4 mph)
- **Throughput:** Up to 400 cars or up to 250 trucks per hour
- **Power Requirements:**
 - 50 Hz: 400 V, 90 A, 50 kVA
 - 60 Hz: 480 V, 75 A, 50 kVA

SYSTEM DIMENSIONS

	Truck	Car
Overall Dimensions¹		
Width:	6.6 m (21.7 ft)	5.9 m (19.4 ft)
Height:	6.0 m (19.7 ft)	4.1 m (13.5 ft)
Length:	8.2 m (26.8 ft)	6.9 m (22.7 ft)
Tunnel Dimensions¹		
Width:	4.2 m (13.8 ft)	3.4 m (11.1 ft)
Height:	4.7 m (15.4 ft)	2.8 m (9.2 ft)
Maximum Vehicle Dimensions²		
Width:	3.5 m (11.5 ft)	2.7 m (8.8 ft)
Height:	4.6 m (15.1 ft)	2.7 m (8.8 ft)

¹Does not include vehicle ramp (top-down transmission option)

²Allows for vehicle clearance of 0.3 m (1 ft) on each side

ENVIRONMENT

- **Operating Temperature:** -30° C to 60° C (-22° F to 140° F)

HEALTH AND SAFETY

- **Radiation Exclusion Zone Dimensions (400 cars or 250 trucks per hour):** At system boundary
- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Radiation Dose:** The typical dose to the scanned vehicle and driver is 0.05 µSv (5.0 µRem)
- **Radiation Standards:** System conforms to manufacturers' requirements of ANSI N43.17-2009 *Radiation Safety for Personnel Security Screening Systems Using X-Ray or Gamma Radiation*

SYSTEM OPTIONS

- **Top-down Transmission Imaging:** Creates a dual-energy transmission X-ray image from top down, using surface mounted detectors
- **Bi-directional Scan Mode:** Allows operator to easily switch the direction of traffic flow
- **Integrated Peripheral Devices:** License/number plate recognition system, container code recognition system, and under-vehicle inspection system
- **Radiation Portal Monitor:** Gamma or gamma/neutron
- **Networking:** ASE Connect™ networking solution provides interconnected remote image analysis and supervisor stations
- **Scan Activation Station (Z Portal for Trucks only):** Driver or operator initiates X-rays to avoid scanning the cab of the truck
- **Automatic Cab Exclusion (Z Portal for Trucks only):** Technology that automatically avoids scanning the cab of the truck
- **Extreme Cold Operating Temperature Option:** Extends the system operating temperature to -40° C
- **Vehicle Protection Kit:** Vehicle guides and flags to direct traffic through the tunnel and decrease vehicle collisions with the system

Operator Alert Tools

- **Reference Vehicle Compare (Z Portal for Cars only):** Based on a user-defined vehicle identifier field, the system automatically compares current and historical scans of a vehicle and highlights any differences between the scans
- **3D Viewer (Z Portal for Cars only):** Creates a virtual 3D rendering of the vehicle from the Z Backscatter images

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RAPISCAN EAGLE P60

HIGH-ENERGY, DRIVE-THROUGH CARGO & VEHICLE INSPECTION SYSTEM

KEY FEATURES AND BENEFITS

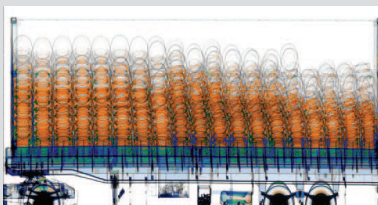
- Reliable 6 MeV X-ray imaging system
- Throughput of up to 100 vehicles per hour
- Three-color material discrimination assists in the classification of materials



The Rapiscan Eagle® P60 inspection system is ideally suited for helping customers fight trade fraud and drug smuggling, as well as combating terrorism. Its high penetration and resolution deliver detailed images of dense and cluttered cargo for deep insight into the contents, increasing the efficiency of scanning operations.

The cab of a truck offers a multitude of concealment options for smugglers of currency, drugs, weapons, and people. Our patented CabScan® technology safely scans the truck cab with low energy and automatically switches to a higher energy to screen the cargo container.

The Eagle P60 was developed with a small system footprint so customers can deploy the high-energy, drive-through system into existing traffic lanes, with minimal interruption to the site layout. The small form factor increases the long-term success and throughput of scanning operations.



Rapiscan Eagle P60 transmission X-ray image with material discrimination

SPECIFICATIONS

EAGLE P60

PERFORMANCE

	P60-S	P60-R
Penetration	330 mm	320 mm
Wire Resolution	1.2 mm	1 mm
Spatial Resolution	5 mm (H) 4 mm (V)	4 mm (H) 3 mm (V)

OPERATING FEATURES

- **X-ray Source:** 6 MeV
- **Crew:** Scan coordinator and image analyst
- **Scan Modes:** Automatic cab exclusion and optional CabScan
- **Scan Direction:** Single or optional bi-directional
- **Scanning Speed:** 3–8 km/hr
- **System Throughput:** Up to 80 trucks per hour
- **Power Requirements:**
 - **50 Hz:** 400 V, 63 A, 44 kVA
 - **60 Hz:** 400 V, 63 A, 44 kVA

SYSTEM DIMENSIONS AND SPECIFICATIONS

Overall Dimensions

- **Width:** 8.4 m (27 ft 7 in)
- **Height:** 5.7 m (18 ft 8 in)
- **Depth:** 3.4 m (11 ft 2 in)

Maximum Vehicle Dimensions

- **Width:** 2.8 m (9 ft 2 in)
- **Height:** 4.6 m (15 ft 1 in)

ENVIRONMENT

- **Operating Temperature:** -10° C to 40° C (14° F to 104° F)

HEALTH AND SAFETY

- **Shielded Radiation Exclusion Zone (80 trucks per hour):** 50 m x 12 m (164 ft x 39 ft 4 in)
- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Radiation Dose to Driver:** Less than 0.25 µSv per scan
- **Radiation Dose to Crew:** 0.5 µSv in any one hour
- **Radiation Dose to Cargo:** Less than 20 µSv per scan

SYSTEM OPTIONS

- **CabScan® Mode:** Safely scans the cab of the truck, from front bumper to start of cargo
- **Bi-directional Scan Mode:** Allows operator to easily switch the direction of traffic flow
- **Integrated Peripheral Devices:** License/number plate recognition system, container code recognition system, and manifest scanner
- **Integrated Radiation Detection:** Gamma or gamma/neutron
- **Extreme Cold Weather Package:** Extends the system operating temperature to -40° C
- **Extreme Hot Weather Package:** Extends the system operating temperature to +55° C

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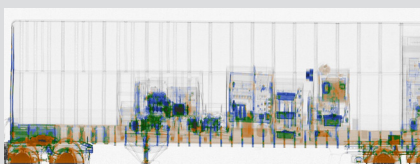
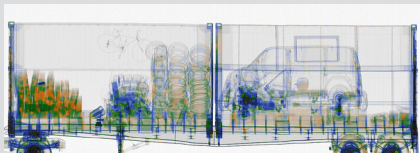
AS&E®

SENTRY PORTAL

HIGH-THROUGHPUT, HIGH-ENERGY X-RAY INSPECTION SYSTEM

KEY FEATURES AND BENEFITS

- High throughput of up to 200 trucks per hour
- High-quality imaging with three-color material discrimination
- Significantly lower dose to vehicle occupants than competing systems
- Small exclusion zone without costly shielding walls



Sentry Portal high-energy,
dual-energy transmission images

AS&E's Sentry® Portal drive-through inspection system provides high-throughput cargo inspection by quickly and safely scanning trucks, cargo containers, and tankers. With a compact footprint and small exclusion zone that allows for installation in space-constrained areas, the Sentry Portal can scan a high volume of containers at seaports, border crossings, and security checkpoints. Using a high-energy transmission X-ray source, it provides excellent penetration for typical cargo, while minimizing the amount of scattered radiation.

A robust container-locating sub-system ensures safe drive-through operation, so that the driver is never exposed to high-energy X-rays. For maximum detection capability, the Sentry Portal's high-energy view can be combined with the multi-view Z Portal® system. This allows for three-sided Z Backscatter imaging of the entire vehicle (including the cab) and improved detection of organic materials, such as drugs, explosives, and stowaways.

SPECIFICATIONS

SENTRY PORTAL

PERFORMANCE

- **High-energy Penetration:** 300 mm
- **Dual-energy Penetration:** 280 mm

OPERATING FEATURES

- **X-ray Source:** 7.5 MeV
- **Crew:** Minimum of one operator
- **Scan Modes:** Drive scan activation, automatic cab exclusion, or optional CabScan mode
- **Scan Direction:** Single or optional bi-directional
- **Scanning Speed:** 12 kph nominal scan speed
- **System Throughput:** Up to 200 trucks per hour
- **Power Requirements:**
 - **50 Hz:** 380 V, 30 A, 17 kVA
 - **60 Hz:** 480 V, 25 A, 17 kVA

SYSTEM DIMENSIONS

- **Width:** 8.2 m (27 ft)
- **Height:** 5.8 m (19 ft)
- **Length:** 3.1 m (10.2 ft)

Maximum Vehicle Dimensions

- **Width:** 3 m (9.8 ft)
- **Height:** 5 m (16.4 ft)

ENVIRONMENT

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

HEALTH AND SAFETY

- **Open Radiation Exclusion Zone (150 trucks per hour):** 14 m x 26 m (45 ft 11 in x 85 ft 4 in)
- **Shielded Radiation Exclusion Zone (150 trucks per hour):** 20 m x 16 m (65 ft 7 in x 52 ft 6 in)
- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Radiation Dose to Driver:** Less than 0.006 µSv per scan
- **Radiation Dose to Crew:** Less than 0.5 µSv in any one hour
- **Radiation Dose to Cargo:** Less than 0.5 µSv per scan

SYSTEM OPTIONS

- **CabScan® Mode:** Safely scan the cab of the truck, from front bumper to start of cargo
- **Air Cargo Scanning:** Allows scanning of air cargo train of unit load devices (ULDs) without scanning tug driver and with segmentation of each ULD trailer as a separate inspection record
- **Z Portal® Co-location:** Complements the Sentry transmission image with AS&E's multi-view Z Portal system, which offers three Z Backscatter imaging modules for left, right, and top-down views of the cargo
- **Bi-directional Scan Mode:** Allows operator to easily switch the direction of traffic flow
- **Radiation Portal Monitor:** Gamma or gamma/neutron
- **Integrated Peripheral Devices:** License/number plate recognition system, container code recognition system, under-vehicle inspection system, and manifest scanner
- **Networking:** ASE Connect™ networking solution provides interconnected remote image analysis and supervisor stations
- **Driver Scan Activation:** Allows scanning a wider variety of vehicle types by having the driver activate scanning after passing through the inactive beam plane

Operator Alert Tools

- **Transmission Operator Alert Software:** Identifies high-density anomalies

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RAPISCAN EAGLE G60

HIGH-ENERGY GANTRY INSPECTION SYSTEM

KEY FEATURES AND BENEFITS

- Reliable 6 MeV X-ray imaging system
- High-quality dual-energy imaging for the detection of explosives, weapons, and contraband
- Multiple configurations and operational modes that cater to various applications



The innovative design of the Rapiscan Eagle® G60 combines high-quality imaging with operational flexibility to meet customers' diverse cargo screening requirements.

The high-energy X-ray, rail-mounted inspection system is ideal for inspection of dense cargo, verification of manifests, and identification of contraband at critical facilities, border crossings, and seaports. The modular design of the Eagle G60 supports both gantry and portal mode operation, allowing for both the inspection of densely loaded containers and the safe screening of drive-through traffic. The multiple levels of imaging performance create flexibility for customers to select the system configuration ideally suited for their unique requirements.



Rapiscan Eagle G60 high-energy transmission image

SPECIFICATIONS

EAGLE G60

GANTRY MODE PERFORMANCE

	G60-S	G60-T	G60-R	G60-HP
Penetration	330 mm	360 mm	350 mm	380 mm
Wire Resolution	1.2 mm	1.2 mm	1 mm	1.4 mm
Spatial Resolution	4 mm (H) 4 mm (V)	4 mm (H) 4 mm (V)	3 mm (H) 3 mm (V)	5 mm (H) 5 mm (V)

OPERATING FEATURES

- **X-ray Source:** 6 Mev
- **Crew:** Scan coordinator and image analyst
- **Scan Modes:** Gantry mode and optional portal mode
- **Scan Direction:** Gantry mode is bi-directional; portal scan mode is single-direction
- **Scanning Speed:** 0.4 m/s (16 in/s) gantry, 3–8 kph portal mode
- **System Throughput:** Up to 20 trucks per hour in gantry mode, up to 100 trucks per hour in portal mode
- **Power Requirements:**
 - **50 Hz:** 400 V, 63 A, 44 kVA
 - **60 Hz:** 220 V, 125 A, 48 kVA

SYSTEM DIMENSIONS AND SPECIFICATIONS

- **Width:** 8.7 m (28 ft 7 in)
- **Height:** 5.5 m (18 ft 1 in)
- **Length:** 3.6 m (11 ft 10 in)

Tunnel Dimensions

- **Width:** 4.7 m (15 ft 5 in)
- **Height:** 4.8 m (15 ft 9 in)
- **Length:** 30 m (98 ft 5 in) rails; Scan object(s) up to 22 m (72 ft) in length at 0.4 m/s

Maximum Vehicle Dimensions:

- **Width:** 2.8 m (9 ft 2 in)
- **Height:** 4.6 m (15 ft 1 in)
- **Length:** 22 m (72 ft 2 in)

ENVIRONMENT

- **Operating Temperature:** -10° C to 40° C (14° F to 104° F)

HEALTH AND SAFETY

- **Shielded Radiation Exclusion Zone (in gantry mode; 20 trucks per hour):** 54 m x 13.4 m (177 ft x 44 ft)
- **Radiation Dose at Exclusion Zone Boundary (in gantry mode):** 0.5 µSv in any one hour
- **Radiation Dose to Driver (in portal mode):** less than 0.25 µSv per scan
- **Radiation Dose to Crew:** 0.5 µSv in any one hour
- **Radiation Dose to Cargo¹:** less than 20 µSv per scan

¹ For G60-S, G60-T, G60-R configurations

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SYSTEM OPTIONS

- **Portal Mode:** Supports the drive-through scanning of traffic. Requires the purchase of traffic control and monitoring devices
- **CabScan® Mode:** While in portal mode, safely scans the cab of the truck from front bumper to start of cargo
- **Integrated Peripheral Devices:** License/number plate recognition system, container code recognition system, and manifest scanner
- **Integrated Radiation Detection:** Gamma or gamma/neutron
- **Extreme Cold Weather Package:** Extends the system operating temperature to -40° C
- **Extreme Hot Weather Package:** Extends the system operating temperature to +55° C

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OMNIVIEW GANTRY

HIGH-ENERGY CARGO AND VEHICLE INSPECTION SYSTEM

KEY FEATURES AND BENEFITS

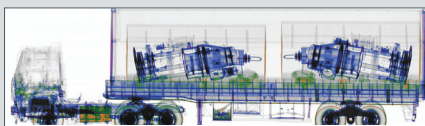
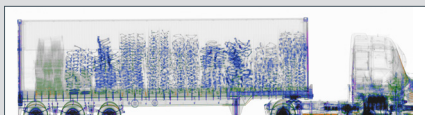
- Superior imaging performance with steel penetration of up to 400 mm and 0.8 mm wire resolution
- Four-color material discrimination
- Large scan tunnel



AS&E's OmniView® Gantry features powerful 6 MeV transmission X-rays that penetrate up to 400 mm (15.7 in) of steel. The system operates by moving on rails past stationary vehicles and cargo.

The bi-directional inspection system scans up to 28 trucks per hour. Ideal for contraband and threat detection and manifest verification at ports, borders, military bases, and security checkpoints, the OmniView Gantry can inspect even the most densely loaded containers.

Its unique design minimizes X-ray scatter in order to create a best-in-class, high-resolution X-ray image. The OmniView Gantry system offers material discrimination with four color categories: organics in orange, non-organics in green, metallics in blue, and heavy metals in purple. The large scan tunnel accommodates vehicles up to 5 meters tall.



Dual-energy transmission images with material discrimination

SPECIFICATIONS

OMNIVIEW GANTRY

PERFORMANCE

- **High-energy Mode Penetration:** 400 mm of steel at 0.2 m/s
- **Dual-energy Mode Penetration:** 380 mm of steel at 0.2 m/s
- **Wire Resolution:** 0.8 mm wire in air

OPERATING FEATURES

- **X-ray Source:** 6 MeV
- **Crew:** Scan coordinator and image analyst
- **Scan Speed:** 0.2, 0.3, 0.4 m/s (8, 12, 16 in/s)
- **Throughput:** 28 trucks per hour, using 54.86 m (180 ft) of rail and two trucks per scan
- **Power Requirements:**
 - **50 Hz:** 400 V, 90 A, 50 kVA
 - **60 Hz:** 480 V, 80 A, 50 kVA

SYSTEM DIMENSIONS AND SPECIFICATIONS

- **Width:** 11.1 m (36 ft 4 in)
- **Height:** 7.7 m (25 ft 2 in)
- **Length:** 5.3 m (17 ft 3 in)

Tunnel Dimensions

- **Width:** 3.6 m (11 ft 10 in)
- **Height:** 5.1 m (16 ft 9 in)
- **Length Options:**
 - **37 m (120 ft) rails:** Scan object(s) up to 19 m (62 ft) in length
 - **55 m (180 ft) rails:** Scan object(s) up to 38 m (125 ft) in length

Maximum Vehicle Dimensions

- **Width (between rub rails):** 3.6 m (11 ft 10 in)
- **Height:** 5 m (16 ft 4 in)
- **Length:** See Tunnel Length Options above

ENVIRONMENT

- **Operating Temperature:** -18° C to 55° C (0° F to 131° F)
- **Enclosed Facility:** System is designed to be deployed in an enclosed facility to reduce the size of the radiation controlled zone and for other environmental conditions

HEALTH AND SAFETY

- **Shielded Radiation Exclusion Zone (15 trucks per hour):** 48.5 m x 14.1 m (159 ft x 46 ft 5 in)
- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Radiation Dose to Crew:** Less than 0.5 µSv in any one hour
- **Radiation Dose to Cargo:** Less than 30 µSv/scan (3 mR) at 0.4 m/s

SYSTEM OPTIONS

- **Integrated Peripheral Devices:** License/number plate recognition system, container code recognition system, under-vehicle inspection system, and manifest scanner
- **Radiation Portal Monitor:** Gamma ray only or gamma/neutron detection
- **Networking:** ASE Connect™ networking solution provides interconnected remote image analysis and supervisor stations

Operator Alert Tools

- **Transmission Operator Alert Software:** Identifies high-density anomalies

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OMNIVIEW ZBx GANTRY

MULTI-TECHNOLOGY, MULTI-VIEW, HIGH-ENERGY CARGO AND VEHICLE INSPECTION SYSTEM

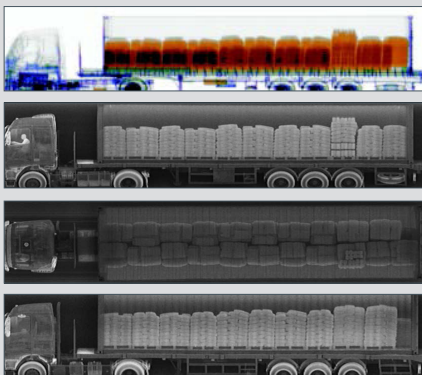
KEY FEATURES AND BENEFITS

- Combination dual-energy and Z Backscatter technologies for thorough inspection
- Unique design for best-in-class imaging technology
- Four-color material discrimination



The OmniView® ZBx Gantry system provides unparalleled detection capability by combining best-in-class dual-energy transmission and Z Backscatter® imaging.

Like no other scanning solution on the market, the OmniView ZBx Gantry provides multi-view and multi-technology imaging of trucks, cargo containers, and tankers. The OmniView ZBx Gantry system features powerful 6 MeV transmission imaging that generates a high-resolution, colorized image, enabling analysts to visually differentiate classes of materials. Simultaneously, the system captures photo-like Z Backscatter images in three additional views for left-, right-, and top-side imaging of cargo. The combination of technologies makes the system the most reliable means of detecting contraband and threatening materials, such as weapons, drugs, and explosives hidden in cargo containers, tankers, and large vehicles.



TOP: High-energy X-rays penetrate dense cargo

BOTTOM : Photo-like images from three sides

SPECIFICATIONS

OMNIVIEW ZBx GANTRY

PERFORMANCE

- **High-energy Mode Penetration:** 400 mm of steel at 0.2 m/s
- **Dual-energy Mode Penetration:** 380 mm of steel at 0.2 m/s
- **Wire Resolution:** 0.8 mm wire in air

OPERATING FEATURES

- **X-ray Source:** 6 MeV
- **Crew:** Scan coordinator and image analyst
- **Scan Speeds:** 0.2, 0.3, 0.4 m/s (8, 12, 16 in/s); optional 0.6 m/s (24 in/s)
- **Throughput:** 28 trucks per hour, using 56.38 m (185 ft) of rail and two trucks per scan
- **Power Requirements:**
 - **50 Hz:** 400 V, 80 A, 45 kVA
 - **60 Hz:** 480 V, 70 A, 45 kVA

SYSTEM DIMENSIONS AND SPECIFICATIONS

- **Width:** 11.1 m (36 ft 4 in)
- **Height:** 7.7 m (25 ft 2 in)
- **Length:** 9 m (29 ft 4 in)

Tunnel Dimensions

- **Width:** 3.6 m (11 ft 10 in)
- **Height:** 5.1 m (16 ft 9 in)
- **Length Options:**
 - **38 m (125 ft) rails:** Scan object(s) up to 19 m (62 ft) in length
 - **56 m (185 ft) rails:** Scan object(s) up to 38 m (125 ft) in length
 - **62 m (204 ft) rails:** Scan object(s) up to 38 m (125 ft) in length at 0.6 m/s (enables high throughput)

Maximum Vehicle Dimensions

- **Width (between rub rails):** 3 m (9 ft 10 in)
- **Height:** 5 m (16.5 ft)
- **Length:** See Tunnel Length Options above

ENVIRONMENT

- **Operating Temperature:** -18° C to 55° C (0° F to 131° F)
- **Enclosed Facility:** System is designed to be deployed in an enclosed facility to reduce the size of the radiation controlled zone and for other environmental conditions

HEALTH AND SAFETY

- **Shielded Radiation Exclusion Zone (20 trucks per hour with 56 m rails):** 75.3 m x 14.3 m (247 ft x 47 ft)
- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Radiation Dose to Crew:** < 0.5 µSv in any one hour
- **Radiation Dose to Cargo:** Less than 30 µSv/scan (3 mR) at 0.4 m/s

SYSTEM OPTIONS

- **Integrated Peripheral Devices:** License/number plate recognition system, container code recognition system, under-vehicle inspection system, and manifest scanner
- **Radiation Portal Monitor:** Gamma ray only or gamma/neutron detection
- **Networking:** ASE Connect™ networking solution provides interconnected remote image analysis and supervisor stations
- **High-throughput Mode:** 32 trucks per hour at 0.6 m/s (24 in/s) using 62 m (204 ft) rails and two trucks per scan

Operator Alert Tools

- **Transmission Operator Alert Software:** Identifies high-density anomalies

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RAPISCAN EAGLE RAIL CARGO SERIES

HIGH-ENERGY RAIL CARGO INSPECTION

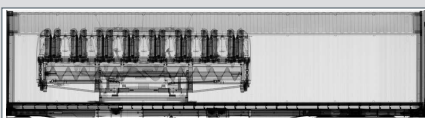
KEY FEATURES AND BENEFITS

- Automated scanning of rail cars
- Available for single or multiple tracks
- High-speed configuration for scanning at up to 60 km/hr
- Material discrimination and optional radioactive threat detection



The Rapiscan Eagle® Rail Cargo Series of high-energy inspection systems enable automated scanning of dense cargo transported by rail, for verifying manifests and detecting contraband.

With high-quality X-ray images and Cargo Viewer software, the Rapiscan Eagle Rail Cargo Series reduces the need for manual inspection. The systems include a fully automated scanning control system that monitors the flow of rail cars, captures identification numbers, acquires high-resolution images of all cargo passing through the system, and controls the X-ray beam to scan only rail cargo specified by the operator. The system is available for single or multiple tracks as well as single or bi-directional scanning. A high-speed, single-track option is also available.



TOP: Transmission image of a 40-ft container

BOTTOM: Transmission image of a rail car

SPECIFICATIONS

EAGLE RAIL CARGO SERIES

The following specifications may vary based on individual site requirements.

PERFORMANCE

	R60	R60-HS	R90
X-ray Source	6 MeV	6 MeV	9 MeV
Penetration	310 mm	310 mm	340 mm
Wire Resolution	2 mm	2 mm	2 mm
Spatial Resolution	5 mm (H) 5 mm (V)	5 mm (H) 5 mm (V)	5 mm (H) 5 mm (V)

SYSTEM DIMENSIONS

	R60	R60-HS	R90
Overall Length	20 m (65 ft 7 in)	20 m (65 ft 7 in)	20 m (65 ft 7 in)
Overall Width	24 m (78 ft 9 in)	19 m (62 ft 4 in)	24 m (78 ft 9 in)
Overall Height	11 m (36 ft 1 in)	7 m (23 ft)	11 m (36 ft 1 in)
Tunnel Width	8 m (26 ft 3 in)	2.5 m (8 ft 2 in)	8 m (26 ft 3 in)
Tunnel Height	3.4 m (11 ft 2 in)	3.4 m (11 ft 2 in)	3.4 m (11 ft 2 in)

OPERATING FEATURES

- **Crew:** Minimum of one operator/analyst
- **Scan Modes:** Fully automated
- **Scan Direction:** Single or optional bi-directional
- **Scanning Speed:**
 - **R60 and R90:** 2–15 km/hr
 - **R60-HS:** 8–60 km/hr
- **System Throughput:** Up to 200 rail cars per hour

ENVIRONMENT

- **Operating Temperature:** -10° C to 40° C (14° F to 104° F)
- **Maximum Wind Speed:** 40 km/hr

HEALTH AND SAFETY

- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Shielded Radiation Exclusion Zone:** Site specific
- **Radiation Dose to Crew:** 0.5 µSv in any one hour
- **Radiation Dose to Cargo:** < 20 µSv per scan

SYSTEM OPTIONS

- **Integrated Radiation Detection:** Gamma or gamma/neutron
- **Extreme Cold Weather Package:** Extends the system operating temperature to -40° C
- **Extreme Hot Weather Package:** Extends the system operating temperature to +55° C
- **Low Minimum Scan Height:** Scan to rail (scan to base of cargo is standard)

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RAPISCAN EAGLE T60

HIGH-ENERGY, TRAILER-MOUNTED INSPECTION SYSTEM

KEY FEATURES AND BENEFITS

- High-energy inspection system on trailer platform allows for efficient screening of vehicles
- High-throughput screening of up to 80 trucks per hour
- Deployed in minutes for fast response to changing operational requirements



The Rapiscan Eagle® T60 is a trailer-mounted, drive-through, high-energy inspection system with material discrimination for efficient screening of vehicles for threats and contraband. The fully self-contained unit can be easily towed and rapidly deployed, and operates in portal mode with automatic cab exclusion or optional CabScan® mode to image the entire vehicle. Vehicles are scanned as they drive through the tunnel at 2–8 km/hr (1–5 mph) and the on-board inspection office can house up to four inspectors to facilitate high-throughput operation.



Rapiscan Eagle T60 high-energy X-ray image with optional CabScan mode, Auto-Z™ detection software, and integrated radiation detection

The Eagle T60 scans vehicles up to 5 meters in height and 2.8 meters in width without corner cutoff. The system is built on a commercially available, heavy-duty, solid-frame trailer chassis with 2 rear axles and a standard fifth wheel for rapid and safe connection to standard tractor units capable of towing a load of at least 25 metric tons.

SPECIFICATIONS

EAGLE T60

PERFORMANCE

- **Penetration:** 320 mm
- **Wire Resolution:** 1.2 mm

OPERATING FEATURES

- **X-ray Source:** 6 MeV
- **Crew:** Up to 4 analyst stations and optional ground guide
- **Scan Modes:** Portal drive-through mode only; start of cargo to rear bumper or CabScan mode
- **Scan Direction:** One direction from rear
- **Scanning Speed:** 3–8 km/hr
- **System Throughput:** Up to 80 trucks per hour
- **Set-up Time:** 20 min in standard operating environment
- **Shore Power Requirements (option):**
 - **50 Hz:** 400 V, 63 A, 44 kVA
 - **60 Hz:** 220 V, 125 A, 48 kVA

SYSTEM DIMENSIONS AND SPECIFICATIONS

Stowed Dimensions

- **Length:** 12.7 m (41 ft 8 in)
- **Width:** 2.6 m (8 ft 6 in)
- **Height:** 3.7 m (12 ft 2 in)

Deployed Dimensions

- **Length:** 12.7 m (41 ft 8 in)
- **Width:** 7.1 m (23 ft 4 in)
- **Height:** 5.8 m (19 ft)

Maximum Scanned Object Dimensions

- **Width:** 2.8 m (9 ft 2 in)
- **Height:** 5 m (16 ft 5 in)
- **Minimum Scan Height:** 0.4 m (16 in) from ground

ENVIRONMENT

- **Operating Temperature:** -10° C to 40° C (14° F to 104° F)
- **Maximum Wind Speed:** 40 km/h

HEALTH AND SAFETY

- **Open Radiation Exclusion Zone (80 trucks per hour):** 50 m x 40 m (164 ft x 13 ft)
- **Radiation Dose at Exclusion Zone Boundary:** 0.5 µSv in any one hour
- **Radiation Dose to Driver:** Less than 0.25 µSv per scan
- **Radiation Dose to Crew:** 0.5 µSv in any one hour
- **Radiation Dose to Cargo:** Less than 20 µSv per scan

SYSTEM OPTIONS

- **CabScan Mode:** While in portal mode, safely scans the cab of the truck from front bumper to start of cargo
- **Integrated Radiation Detection:** Gamma or gamma/neutron
- **Integrated Peripheral Devices:** License/number plate recognition system, container code recognition system, and manifest scanner
- **Extreme Cold Weather Package:** Extends the system operating temperature to -40° C
- **Extreme Hot Weather Package:** Extends the system operating temperature to +55° C

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MINI Z

HANDHELD Z BACKSCATTER SCREENING SYSTEM

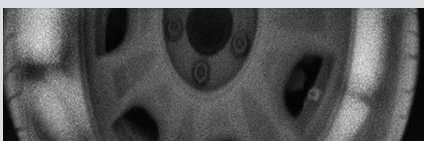
KEY FEATURES AND BENEFITS

- Portable Z Backscatter imaging system
- Easy to use
- Safe for operators, bystanders and the environment



The MINI Z[®] system is the world's first handheld Z Backscatter[®] imaging system, highlighting organic threats and contraband and providing unsurpassed operational flexibility.

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 furniture, packages, vehicle tires, and the interiors of cars, boats, and aircraft. 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. The MINI Z system is inherently low dose and features reliable and redundant safety subsystems.



TOP: MINI Z system scanning a tire
BOTTOM: X-ray image showing tire filled
with simulated cocaine

SPECIFICATIONS

MINI Z

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® 10 IoT 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)

ENVIRONMENT

- **Operating Temperature:** 0° C to 45° C (32° F to 113° F)
- **Storage Temperature:** -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

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

SYSTEM COMPONENTS

- MINI Z scanner
- Microsoft Windows 10 IoT tablet with ASEInspection software
- Rugged tablet case with integrated wrist strap/stand
- Two replaceable batteries
- Battery charger (with international power cords)
- Transport case
- Calibration dock
- Quick-start guide
- Shoulder strap

SYSTEM OPTIONS

- **Tactical Backpack:** For greater portability
- **Language Kits:** Arabic, Chinese, English (standard), French, Polish, Portuguese, Russian, Spanish

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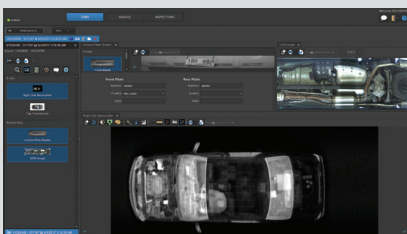
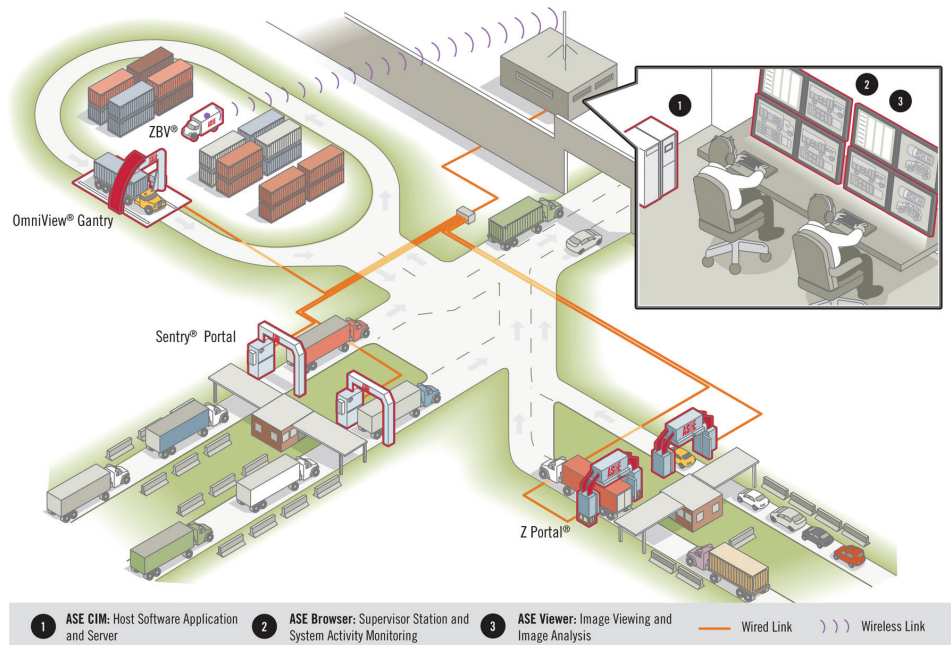
| NETWORKING

ASE CONNECT

NETWORKING SOLUTION FOR AS&E EQUIPMENT

KEY FEATURES AND BENEFITS

- Allows for centralized management of X-ray equipment, images, and associated data
- Speeds up communication between personnel to maximize throughput
- Scalable and customizable

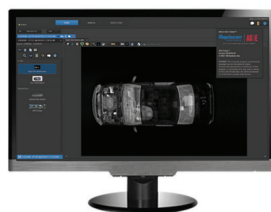


ASE Connect allows for networked image viewing and analysis from a desktop application at a secondary or remote station, or a re-check station.

ASE Connect is the networking solution for our suite of X-ray inspection products, allowing for the centralized management of X-ray equipment, images, and associated data by a common software application. ASE Connect helps sites maximize overall throughput by adding remote image analysis capabilities and speeding up communication between various personnel involved with inspections. This highly flexible solution is scalable and customizable to meet specific requirements.

ASE Connect also helps maximize productivity by centrally managing inspections and operations with ASE Browser. With ASE Connect, inspectors can transmit X-ray images and associated data from peripherals, such as license/number plate readers and cameras, to secondary/remote analysis stations or manual re-check stations for further assessment. From there, analysts can view images, apply image analysis tools, provide threat assessments, and send information to other analysts and supervisors. Supervisors have the capability to run reports on the network, view equipment status, manage users, and manage the database.

ASE Connect features three main components: ASE Viewer, ASE Browser, and ASE CIM (Central Inspection Management).



ASE Viewer allows for networked image viewing and analysis from a desktop application at a secondary station, remote analysis, station, or manual re-check station.



ASE Browser is a web-based application that allows for centralized monitoring and management of equipment typically at a supervisor station.



ASE CIM provides a network connection, and includes the centralized inspection database and the software that implements business rules.

SPECIFICATIONS

ASE CONNECT

ASE VIEWER

Allows for networked image viewing and analysis from a desktop application at a secondary analysis station, remote analysis station or manual re-check station

- View inspections—images and all the associated data such as license plate information—sent from X-ray equipment
- Utilize image analysis tools
- Annotate inspections and send comments to other networked stations
- Process images as “Cleared” or “Suspect” and refer inspections for further analysis
- Form Factor: Desktop
- Processor: >2.4 GHz Intel® Quad Core
- Storage: 1 TB hard drive
- DVD-RW Drive
- One 22” 16:9 LED Monitor
- Mouse and Keyboard
- Microsoft® Windows

Options

- Additional monitors (up to four total)

ASE BROWSER

Web-based application that allows for centralized monitoring and management of equipment typically at a supervisor station. ASE Browser can be accessed using any computer connected to ASE Connect.

- Manage users and user access to the network and individual equipment
- Run reports and view metrics related to user activity, number of inspections, disposition of inspections, and time in queue
- Display equipment status and network connection and manage the database

ASE CIM

Provides a network connection to the X-ray equipment, ASE Viewer, and ASE Browser

- Four levels of server hardware available
- Includes the inspection database
- Includes software that implements conops and directs referrals

ASE CIM SERVER HARDWARE LEVELS

ASE CIM/Viewer Server

Combination of ASE Viewer and ASE CIM server for very small installations

- Form Factor: Desktop
- Processor: >2.4 GHz Intel Quad Core
- Storage: 1 TB hard drive
- DVD-RW Drive
- One 22” 16:9 LED Monitor
- Mouse and Keyboard
- Microsoft Windows
- Microsoft SQL Server

Options

- Additional monitors (up to four total)

Basic Server

For smaller installations

- Form Factor: Desktop
- Processor: >2.4 GHz Intel Quad Core
- Storage: 1 TB SATA
- DVD-RW Drive
- One 22” 16:9 LED Monitor
- Mouse and Keyboard
- Microsoft Windows
- Microsoft SQL Server

Intermediate-Level Server

For mid-scale installations

- Form Factor: Tower
- Processor: >2.33 GHz Intel Quad Core
- Storage: RAID 5 configuration with 2 TB storage
- DVD-RW Drive
- Tape drive can be used for nightly backups
- One 22” 16:9 LED Monitor
- Mouse and Keyboard
- Microsoft Windows
- Microsoft SQL Server

Enterprise-Level Server

For large-scale installations

- Form Factor: 25U Rack
- Processor: >2.4 GHz Intel Quad Core
- Storage: RAID 5 configuration with 10 TB storage
- DVD-RW Drive
- Flip-Up LCD Screen, Keyboard, Mouse
- UPS with Extended Battery Module
- Microsoft Windows
- Microsoft SQL Server

Options

- Additional storage (20 TB, 30 TB, or 40 TB)

WIRELESS CONNECTION WITH ZBV

The ZBV® system may also be connected to ASE Connect wirelessly. Each ZBV system must be equipped with a ZBV Wireless Hardware Networking Kit which can be configured to connect via WiFi, Cellular, or WiFi with a Cellular fail over. In addition, the Wireless Connect Option, which is installed at the customer's facility, is then used to connect the ZBV system with ASE Connect. The Wireless Connect Option includes a Wireless Access Point and router and provides dedicated bandwidth and secure transfer of inspections.

OTHER OPTIONS

Printer: Color laser printer for printing images and reports

UPS: A UPS may be added to the ASE CIM servers and/or ASE Viewer(s). (Note: A UPS is included with the Enterprise-level server only). The UPS powers the server/computer for ~10 minutes to allow for a graceful shutdown of the system.

TYPICAL CUSTOMER SCOPE OF WORK

Customer provides reliable network connections between components capable of Gigabit Ethernet Data Transfer. Enterprise-level server requires server room with specifications to be supplied by AS&E. Customer provides Internet service including cellular service for wireless option.

The performance characteristics and photos in this document are indicative and for information only; the specific characteristics of individual systems may differ based upon customer requirements, operation, and supplied options. In addition, due to continual development of Rapiscan and AS&E products, we reserve the right to amend specifications without notice. Please note that due to U.S. laws and regulations, not all products are available for sale in all countries without restriction. Please contact your Rapiscan | AS&E Cargo Scanning & Solutions sales representative for more information or to discuss additional requirements.

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Rapiscan | AS&E — Part of the OSI Systems family of security companies. We deliver products and services that help our customers find threats and contraband with ease and confidence, while maximizing operational efficiency. Our global service network enables us to respond to customer needs quickly and provide exceptional support, because we know that every moment of uptime is critical. We understand the importance of our customers' missions—from uncovering trade fraud, to combating terrorism, to detecting drug and weapons smuggling, to exposing illegal immigration. That's why it's our mission to help them succeed.

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Rapiscan
systems

AS&E



PROFESSIONAL SERVICES

FIELD SERVICE PACKAGES

CARGO SCANNING & SOLUTIONS



Our packaged and customized service agreements offer flexible solutions and worldwide support. Our certified, expert field service engineers and technical support team can be deployed wherever and whenever needed.

Elite customers in strategic markets around the world choose **Rapiscan Systems | AS&E** to help them protect critical borders, ports, high-threat facilities, and checkpoints. They rely on us to maintain the continued operation of their screening solutions and we understand the importance of their mission—that's why we strive to consistently provide the unsurpassed service and support they have come to expect from our organization.

Comprehensive field service packages

To support our customers' diverse service requirements, Rapiscan Systems | AS&E offers four standard Service Levels: Platinum, Gold, Silver, and Bronze. Each service level is designed to offer comprehensive, expert services at competitive prices. In addition to these packages, we offer custom service offerings tailored to meet unique customer requirements. Technical upgrades for existing equipment is also available.

Utilizing the latest in Customer Relationship Management (CRM) technology, we deploy our world-class Field Service Engineers (FSEs) and Product Specialist team wherever, whenever needed—ensuring that your systems get serviced in the most timely and efficient manner possible.

FIELD SERVICE PACKAGES

CARGO SCANNING & SOLUTIONS

With more than 2,000 cargo and vehicle inspection systems sold in over 100 countries around the world, we have established an unparalleled global service, parts, and manufacturing network equipped with local market knowledge to ensure each customer receives a timely and efficient response.

Spare parts solutions

We provide thorough and cost-effective spare parts solutions customized to your system. We maintain partnerships with UPS, FedEx, and DHL for our worldwide spare parts logistics, enabling us to respond quickly and efficiently. Strategically located spare parts depots are positioned around the globe and customized to support the regional installed base to enable rapid deployment and reduce overall delivery time of parts to customer sites.

Preventative maintenance

Each service level includes Preventative Maintenance schedules for all Rapiscan | AS&E X-ray inspection systems. These schedules are designed to maximize the reliability and availability of each inspection system. During each preventative maintenance visit, our certified FSE will:

- Perform annual radiation surveys to ensure the equipment is operating within specification
- Thoroughly check all safety systems circuits to ensure proper operation
- Calibrate the system to ensure it is operating within factory specifications
- Perform refresher training as needed to ensure system operators understand all effective use and safety procedures

Corrective maintenance

Our Platinum, Gold, and Silver service packages include Corrective Maintenance services. All labor, services, parts, packaging, and shipping are included, based on the service package selected. For Mobile systems, we also offer Bumper-to-Bumper Vehicle Support that covers the chassis of the system.

Technical and Administrative Support

The Rapiscan | AS&E Customer Service Center is backed by expert Technical Product Support personnel. The staff logs each call, establishes a service tracking number, assigns the appropriate FSEs, and performs fault isolation and remediation for issues that can be solved remotely. For more extensive issues, the support team will dispatch FSEs to the system location to repair the fault. Service is available by telephone and/or email 24 hours a day, 365 days a year.

The key to our world-class Service Organization is we employ staff with the necessary skills, knowledge, and ability to understand and respond effectively to our customers' needs. Our highly trained personnel receives unparalleled support from our operations headquarters and is equipped with the tools, systems, and technology to ensure a consistent service delivery model.

Expert Service Team

Our expert FSEs provide support services worldwide. Each FSE has a technical degree in either Electrical or Mechanical Engineering, or equivalent experience, and is trained in the operation and repair of electronics, hydraulics, pneumatics, mechanics, electrical systems, and computers. FSEs are available 7 days a week, 24 hours a day, and are located at Rapiscan | AS&E offices in Asia, Africa, Europe, the Middle East, South America, and North America.

Contacting Your Service Representative

- US Tel: +1.978.262.8700 or 1.800.225.1608 (option 2)
- UK Tel: 0870.777.4301 (options 2, 4, 2)
- Fax: +1.978.262.8702
- Email: service@as-e.com

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FIELD SVC_091517

COMPREHENSIVE SERVICE PROGRAMS

CARGO SCANNING & SOLUTIONS



SERVICES

- Comprehensive Product Training
- Leasing and Rental Programs for the ZBV® System
- Multi-Vendor Services
- Managed Services

A trusted industry leader

Customers around the world rely on **Rapiscan Systems | AS&E** to maintain the continued operation of their screening solutions and we strive to consistently provide the unsurpassed service and support they have come to expect from our organization.

In addition to our full suite of Field Service Packages, we offer several programs to help customers leverage our state-of-the-art products, including comprehensive product training courses, equipment rental and leasing options, multi-vendor services to support and maintain our products as well as third-party security equipment, and managed services for operating existing equipment.

Comprehensive product training

Hands-on training for preventative and corrective equipment maintenance

Proactive preventive and corrective maintenance is the cornerstone of any maintenance program as trained technicians with a solid understanding of maintenance fundamentals can lead to enhanced system reliability and reduced cost. We offer a variety of service training options that allow end users to perform basic and intermediate preventive and corrective maintenance on our equipment. Training is available onsite at our U.S. or U.K. manufacturing facilities, and at customer sites around the world.

COMPREHENSIVE SERVICE PROGRAMS

CARGO SCANNING & SOLUTIONS

ZBV® System Leasing and Rental Programs

Full-service, turnkey solutions for your security inspection needs

The ZBV system is a flexible, easy-to-deploy mobile screening system that uses Z Backscatter® technology to highlight organic threats and contraband—including explosives, drugs, and currency—in vehicles and cargo. Our rental and leasing programs for the ZBV system allow you to quickly meet short-term security needs for one-time or high-profile events and give you the flexibility to utilize operational funds instead of capital funds by spreading your investment over months or years. Programs include delivery, commissioning, and on-site training, with preventative and corrective maintenance throughout the contract term. Short-term rentals start at three-months and long-term leases start at two years, with an option to purchase.



Multi-Vendor Services

Installation, maintenance, and service for third-party systems

Our Multi-Vendor Service team provides service and support of all of your security equipment, including third-party security equipment such as: X-ray systems from other manufacturers, radiation portals, container ID and license plate readers, under-vehicle inspection systems, and other peripheral equipment. You get a single point of contact for all of your security equipment needs, including:

- Call Center/Customer Service Support
- Field Service Mobile Application
- Field Service Engineer
- Installation Service
- Technical Support
- Corrective, Sustaining, and Preventative Maintenance
- Parts Logistics Support
- Documentation Development
- Training Development

Managed Services

Operations and management of existing equipment

With over 75 years of collective industry experience, our personnel are trained to efficiently operate and service your existing security equipment and associated peripherals. Our staff can be deployed as required, including a full-time on-site operations manager, system operators, image analysts, and support personnel. You'll get standardized management operations reporting, fast access to available equipment and spare parts; and extended support through our engineering, services, and training teams. Our Managed Services can also be combined with our rental and leasing options for a complete turnkey product, operations, and service solution.

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TURNKEY SCREENING SOLUTIONS





S2 GLOBAL: BREAKING NEW GROUND WITH TURNKEY SCREENING SOLUTIONS





Screening for revenue assurance and contraband in complex environments can be a daunting task.

S2 Global manages the entire screening solution from planning to operation so your focus can remain on collection and enforcement.

THE NEW MODEL THAT REDEFINES SECURITY SCREENING

Attaining high-level 100% screening at multiple checkpoints is the mandate. Being in compliance now and in the future while also considering the costs takes an entirely new approach.

An S2 Global turnkey screening solution ensures customers can dramatically increase screening capabilities to meet mandates by always having the latest inspection technologies and techniques.

By focusing on delivering the highest level of screening in the most efficient way possible the S2 Global turnkey screening model gives customers a cost effective avenue to focus their efforts on enforcing laws and collecting revenues otherwise missed by traditional screening solutions.

“A screening as service model is the ideal way to obtain all the equipment and expertise needed to ensure a high level of service and greater throughput in less time – all while improving operational efficiency.”

Security Middle East

Minimal-to-No CAPEX

With an S2 Global security screening multi-year contract and low-to-no up front expenditures, the costs of deploying a screening operation is minimal.

One Vendor to Manage

An expert team handles all aspects of implementation and operation – including staff recruitment and training, screening and management.

The Latest Technology

The most current advanced screening technology and image analysis software is always integrated without the cost of upgrading.

Trained Personnel

Operators are trained using a proprietary system on image analysis, interpretation and detection on an ongoing basis to keep up with changes in screening techniques.

Maximum Uptime

A fast data infrastructure connecting inspection equipment and remote analysis centers ensures a maximum uptime of the entire screening operation.

Efficient, Cost-Effective Screening Operation

At the core of an S2 Global turnkey screening solution is the unique understanding of how an efficient operation can solve complex requirements for the partnering organization while being cost-effective.



S2 GLOBAL, IS GUIDED BY A TEAM OF EXECUTIVES WITH DECADES OF EXPERIENCE IN LARGE SYSTEM SECURITY MANAGEMENT, GOVERNMENT AFFAIRS, PROGRAM, AND MAINTENANCE MANAGEMENT.



Albania

In an effort to enhance their capacity to interdict smuggling and undeclared materials the Government of Albania chose S2 Global to provide a turnkey cargo and vehicle security screening program. The Government was interested in improving security while simultaneously increasing the speed, predictability and transparency of customs clearances. As part of the program S2 Global scans inbound, outbound and transit containers/cargo vehicles and has the capacity to scan 100 percent of containers passing through the sites.

With multiple land and sea border screening facilities, the program is modernizing to combine information into an interconnected customs clearance process. By implementing these updated processes the quality of customs declarations is dramatically improving allowing for better trade flow and revenue generation.

Locally, the S2 Global program employs over 75 highly trained technical staff. Trade companies have seen a consistency of customs clearance times, reduced border crossing issues and a faster time to market for their goods.





THE INDUSTRY'S FIRST TURNKEY SCREENING OPERATION HELPS GOVERNMENTS DETER SMUGGLING AND CAPTURE LOST REVENUE



Puerto Rico

When considering vendors to provide a scanning program to mitigate the import of drugs, arms and other contraband, The Port Authority of Puerto Rico chose S2 Global. Awarding S2 Global a multi-year contract to provide a complete and integrated turnkey service to scan up to 100% of imported cargo, the Port of San Juan is now compliant with US mandated screening processes and the tax authority has the ability to collect correct revenues.

With multiple on site inspection stations at the port, incoming cargo is screened for manifest verification. Each station is equipped with an advanced Rapiscan Eagle X-ray system and a trained operator using our proprietary software, CertScan™. The operation runs in partnership with Puerto Rico authorities who both assist with traffic flow and perform their duties based on our inspection analysis.

The S2 solution was implemented in record time, setting a new standard for cost-effective public-private cooperation.



Mexico

Servicio de Administración Tributaria (SAT), the tax authority of Mexico, chose S2 Global to provide a complete and integrated cargo inspection turnkey service in multiple locations across Mexico to enhance their ability to interdict contraband and undeclared goods.

S2 Global is delivering everything needed for screening including equipment, systems integration, staffing and maintenance support throughout Mexico at ports of entry, inland checkpoints and airports.

A state of the art IT infrastructure carries each X-ray image and manifest to remote analysis centers across Mexico for verification and review. Using our proprietary software CertScan™, operators are able to quickly validate shipments.

With the checkpoints in place, SAT will be able to collect correct tax revenue on imported goods and the local authorities will be able to prevent contraband from entering the country.



Ports, land borders, airports:
Successful checkpoint screening
requires comprehensive
planning, cutting edge
technology, trained personnel,
and accurate image analysis.
The unique benefit: A cost-
effective, high-throughput
operation.



FROM YOUR REQUIREMENTS, S2 GLOBAL DELIVERS CRITICAL SERVICES REQUIRED TO MANAGE REVENUE INTEGRITY, SCREEN FOR DANGEROUS MATERIALS AND FIND HIDDEN CONTRABAND.

Planning

S2 Global provides all levels of consulting, assessment, and design services to help implement the most suitable screening solution tailor-made to requirements.

Installation

Experienced S2 Global project managers oversee installation of screening checkpoints to ensure delivery of each site is in compliance with the agreement.

Personnel

Hiring, training, and managing of personnel is the foundation for success in screening operations. S2 Global uses practices widely accepted by governments to keep personnel up-to-date and able to perform at a high level.

Operation

S2 Global employs state-of-the-art equipment and high throughput screening processes for cargo, vehicles, parcels, baggage, and people to keep traffic moving.

Detection

S2 Global provides a dedicated team to operate and perform image interpretation. With our CertScan™ proprietary software, image and form data is combined for a thorough analysis and detection of any discrepancy.

Financial

To make the most of the turnkey screening model, S2 Global has the ability to assess programs available to help customers finance costs associated with implementing a screening services solution.



S2 GLOBAL TRAINING

Training is Critical Requirement for
Effective Screening Operations

“The most sophisticated
machines become worthless if
the people who operate them
and visually inspect the X-ray
images are not qualified to do
so.”*

*“Increasing X-ray image interpretation competency of
cargo security screeners,” International Journal of Industrial
Ergonomics, 2014.



Better threat
detection

Fewer false
alarms

Faster inspections
and throughput

Allows law
enforcement to focus on
high value inspections

COMPREHENSIVE RECRUITMENT AND TRAINING CREATES SIGNIFICANT BENEFITS

Expert Training by S2 Global

Real data, not simulations:

S2 Global uses image and data from real-world inspection situations – not simulations. The result: training that is as close to actual work experience as possible.

Expert trainers with operational experience: S2 Global instructors have decades of experience operating security systems.

End-to-end approach: S2's learning management system and course library offers holistic solutions so students can become experts in their field.



S2 GLOBAL TRAINING IS BASED ON REAL-WORLD EXPERIENCE



Image Library contains over 2,500 scans of baggage, parcels, cargo plus manifest data.

S2 GLOBAL WILL DESIGN CERTIFICATE PROGRAMS BASED ON YOUR NEEDS

S2 Global Training Image Analysis Level 1 Certification Course*

Day 1	Day 2	Day 3	Day 4	Day 5
XRPS Introduction to CBT Scan Software Image Analysis Process Flow Image Density Material Separation What Is Normal?	Introduction to Image Interpretation Weapons Detection Currency Detection Threat Item Detection Contraband Detection	Image Recognition Quiz Random Labs <i>Random Labs feature Level 1 images to include cargo conveyances, cargo shipments and private vehicles.</i>	Demo Image Lab Video Image Labs <i>Image Labs feature Level 1 "real world" scan images. Images include cargo conveyances/ cargo shipments and or private vehicles as per the request of the client.</i>	Image Labs Final Image Lab Level 1 Test

*Example of customs certificate course



S2 Global trains operators to analyse real images with the tools they will use everyday.





S2 GLOBAL INTEGRATION

Continually Improve Screening
Operations with Integrated Processes

With the S2 Global CertScan™
integration platform, non-intrusive
inspection points have the capability
to become complete intelligence and
response centers.



ELEGANT INSPECTION PROCESS WITH THE RIGHT INFORMATION

CertScan™ integration platform is designed for the purpose of streaming multiple input devices into a common operational picture (COP) that provides operators with the intelligence to render important security decisions in a modern, intuitive, responsive, web-browser interface. CertScan's capabilities extend beyond integration of systems into rules based responses allowing for streamlined operations. Within a security framework when CertScan™ is deployed, management of systems and processes from this one interface results in maximum control from a central location.

Friendly Platform

CertScan™ can be configured to work with multi-vendor NII equipment and is compatible with data originating from common computing operating systems and applications. Built on an open architecture, CertScan™ is designed to be flexible and extensible.

Defined by You

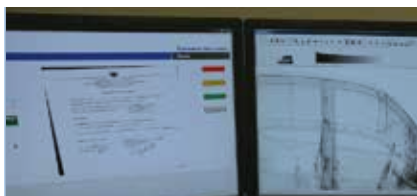
CertScan™ conforms to your rules. Everything including data presentation, detection methods and operational procedures are defined to your specifications and can be updated in real-time to accommodate changing needs.

Centralized or On Site Management

CertScan™ can be used on a per site basis however, the robust platform excels at delivering remote centralized management where control over inspection sites and data can be provided within a secure network.

Bags, Boxes, Containers and Vehicles

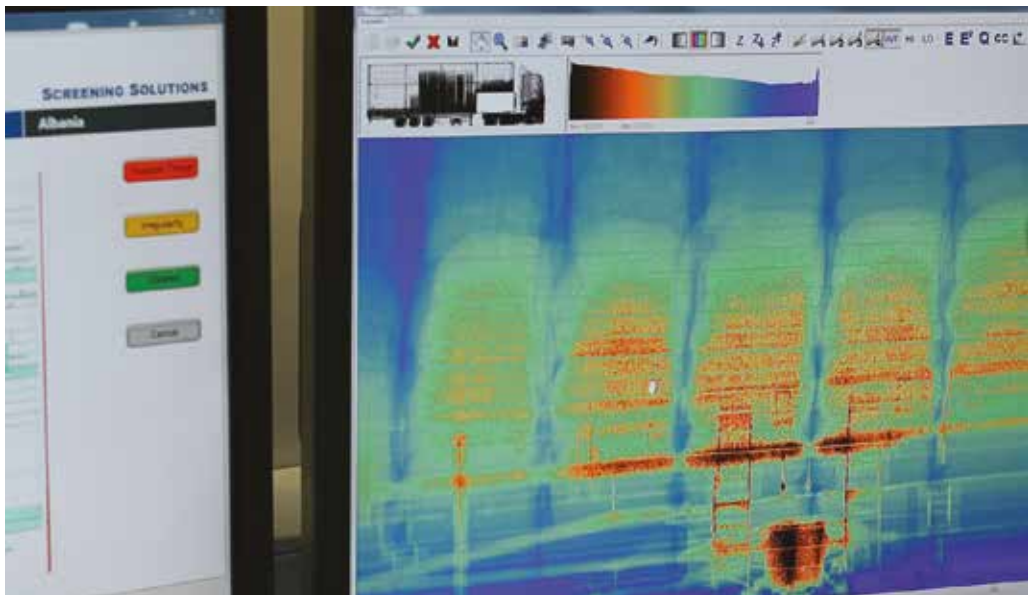
Because CertScan™ conforms to your goals, it can be configured to work for customs, law enforcement, aviation, air cargo and infrastructure including event and stadium security.



CERTSCAN™ IS THE CENTER OF INTEGRATED ACTIONABLE DATA

S2 Global's CertScan™ is field proven in both single site and multi-site programs; CertScan™ is currently in use in over 40 NII inspection sites around the globe.

Unlike other NII integration programs, S2 Global's CertScan™ platform is the foundation upon which you can build a highly efficient inspection process.



PROACTIVELY IMPROVE OPERATIONS WITH CERTSCAN™

With CertScan™, your NII systems are now strategic contributors of actionable data. Begin an analysis of your inspection needs by considering these points:

- What existing data can we incorporate into our operations?
- How can this data be used with our checkpoint to enhance operational efficiencies?
- How do we design the checkpoint to move traffic through as quickly as possible, while at the same time accomplishing all the necessary checks?
- Now that the checkpoint system offers relevant data, what can we do to use that data to proactively improve operations, planning, cost control, training and optimization of revenue streams?



S2 Global, an OSI Systems company, is a world class leader in detection system implementation, training, staffing and maintenance. Our dedication and experience has resulted in a suite of systems, knowledge and experienced personnel available on-demand for clients of all sizes.



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Rapiscan[®]
systems
An OSI Systems Company



PRODUCT CATALOGUE

VOLUME 1
2017



VERSION 5
APRIL 2017

SEE VOLUME 1 FOR ALL OTHER
RAPISCAN AND HERBERT PRODUCTS.



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