MX9080TB Mobile X-ray Inspection System

Technical Proposal
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MX9080TB Mobile X-ray Inspection System

1. Product Introduction

The MX9080TB Mobile X-ray Inspection System comes from the most advanced and best proven CX product platform, and fully inherits and shares improved image quality with a variety of professional image enhancement processing functions, ergonomic and friendly user interface, intelligent networking capabilities and applications, excellent reliability and maintainability.

Based on dual-energy material classification, the MX9080TB is capable of colour coding of organic, inorganic and mixture materials with different effective atomic numbers for better identification of objects. Explosives & narcotics automatic detection and suspect organic materials highlight are also available to aid x-ray screening.

The MX9080TB has a popular tunnel opening of 900mm wide by 808mm high, as well as integrates with vehicle, and it’s the best solution for security and customs requiring mobile and temporary screening of handheld baggage and parcels at airports, rail transportation stations, critical infrastructures and big events, etc.
2. Technical Features

- High mobility capability meets demands of mobile and temporary screening applications requiring fast response.

- Excellent image performance and objects identification capability, comply with EU and China technical standards for aviation security equipment.

- True real-time and smooth image enhancement processing functions are realized directly by GPU (Graphics Processing Unit) operations, no need of waiting for the delayed response of CPU resources.

- Smart image geometry correction algorithm is applied to reduce object distortion in x-ray images for better identification.

- Outstanding accuracy of atomic number signatures acquired builds perfect colour coding of materials in x-ray images, as well as offers high level explosives & narcotics detection.

- Ergonomic, icon-marked and customizable special keyboards, as well as friendly and easy-to-use software interface create efficient and optimal user experience.

- Windows XP based computer platform builds powerful network capabilities with good compatibility and easy extendibility, and gains great advantages in x-ray screening operating by network applications.

- Threat Image Protection with optional large threat object and baggage images library provides the best practice for training and evaluating individual performance of operators.

- Intelligent simulation training adopts and scrolls x-ray images stored inside the equipment in the way just as the real baggage are scanned, but does not need to activate the conveyor system, to make an interactive simulant application for users training.
High reliable operating and data storage safety are guaranteed by applying industrial computer, embedded software system, and user access management.

Practical and complete image management tools are available, including automatic and manual storage capability up to 50,000 images, unlimited preceding images recalling, flexible images query, general image format conversion, image print and export to USB interface storage devices.

Designed with hermetic radiation safety protection, x-ray leakage around the equipment is close to natural background x-ray dose level, and complies with all published international safety and health standards.

Unmatchable maintainability comes from modular system design, improved components layout, full built-in diagnostic tools with easy-to-use graphic user interface, coding error information and system operating logs for reference.
3. Technical Principal

3.1 X-ray Imaging Principle

X-ray is a form of electromagnetic radiation, and it has shorter wavelength than visible light so that it can penetrate objects and image inside structures and areas in a non-intrusive way.

X-ray attenuation varies with object density and composition

When a beam of x-ray is projected toward an object, according to the density and composition of the different areas of the object, a variation of x-ray transmitting through the object are captured by detectors, and then the x-ray signals are digitalized and reconstructed into an 2-dimentional x-ray image, which shows all the superimposed structures inside the object. The following is a typical x-ray image of baggage:
3.2 Dual-energy X-ray Imaging Technology and Material Classification

The dual-energy X-ray imaging technology is to separate among object materials with different atomic number (Z value) elements, and adds colour coding material composition information to the traditional black & white X-ray image, which indicates only the shape of an object.

In the above dual-energy X-ray image, materials with concentration of different Z elements are classified and coded in different colours.
For applying dual-energy x-ray imaging technology, the x-ray beams with two different energy levels are used to irradiate an object, and then the ratio of x-ray attenuation for both energy levels are processed by specific algorithm to acquire the Z values, which indicate the material composition of all object areas.

When a scanned object is made with different material components, the calculated Z value is the average atomic number of all components in the x-ray transmission path, which is also called effective atomic number ($Z_{eff}$).

### 3.3 Explosives & Narcotics Detection and Atomic Number Signatures

The dual-energy x-ray imaging technology is capable of improving substantially the performance of explosives and narcotics detection, as they have Z value signatures showed in the following diagram.
There are some benign materials featuring the similar Z value region as explosives and narcotics, as well as the acquired Z value of explosives and narcotics may also be affected by overlapping with other bulk innocuous objects, so the dual-energy x-ray system will surely give positive and negative false alarms.
4. System structures

4.1 Compartments of the vehicle

From left to right in the above drawing, they are driver’s cab which can hold 2 to 3 persons, x-ray inspection system with foldable conveyors on both tunnel ends, and operator’s cab, where operator can control the x-ray inspection system and view x-ray images.

Detail components layout is as follows:
4.2 X-ray Inspection Basic Configuration & Structure

CX product is mainly built with x-ray generator, detector modules and data acquisition, computer platform and Operating Inspection System (OIS) application, main user interface consisting of monitors and special keyboard, mechanical and conveying structures.
4.2.1 X-ray Generator

The X-ray generator is used to generate x-rays, which will penetrate objects to image. The most key component of an x-ray generator is the x-ray tube. The x-ray tube contains a cathode, which directs a stream of electrons into a vacuum, and an anode, which collects the electrons. The electrons are focused and accelerated by an electrical field in the x-ray tube. When electrons collide with the anode, which is made of tungsten, part of the resulting energy is emitted as X-rays, and the remaining energy is released as heat. An oil recirculating system is necessary to cool the anode.

The X-ray generator applies the pulse-width-modulated technology, and it works by controlling the voltage and current to the x-ray tube, and generates the x-rays of desired energy and dose.

The x-ray generator is equipped with multiple self-protections and alarms capabilities, such as Over Voltage Protection and Over Current Protection, which ensure the high
stability and reliability of the x-ray generator.

4.2.2 Detector Modules and Data Acquisition

Detector modules contain scintillators and photodiodes. The scintillators are used to convert x-rays to visible lights, and the latter are turned to analog electric signals and amplified.

All the detector modules are arrayed in L-shape and installed close to the tunnel, on the opposite side of the x-ray generator, and cover the whole tunnel without blind cut-off areas.

The data acquisition collects the analog signals from all detector modules, and converts them into digital signals, and then the digital data will be transferred to a computer for processing.

4.2.3 Computer Platform and Operating Inspection System

The computer platform, working together with Operating Inspection System (OIS) application, is the core in the CX product, and its main functions include:

- X-ray image reconstruction and enhancement processing.
- Image storage, query, review, general image conversion, print and export to USB interface storage device, etc.
- User management, TIP and simulant training, diagnostic tools and other system functions.
- Network capabilities and support.

The computer platform in CX product is applied with industrial PC (IPC), and it greatly promotes the system reliability by using industrial level components and keeping stable system configurations.
4.2.4 Main User Interface Devices

The main user-machine interface devices include monitors, special keyboards and mouse.

4.2.5 Mechanical and Conveying Structures

The mechanical and conveying structures are designed to make CX product image an object in a line-scanning way, in a tunnel with lead curtains installed at both tunnel openings for radiation protection.

Filtering by a collimator, the x-rays are focused to a beaming plane emitting at the object. While the object moves across the beaming plane in a fixed speed along with the conveying system, its image is constructed line by line.
5. Imaging Performance

Adopting improved x-ray generator and detector technology, combined with optimum image processing algorithms, the MX9080TB is capable of creating excellent imaging performance, and providing outstanding object identification capability.

5.1 Imaging Performance Standards and Certificates

The imaging performance of the MX9080TB is in accordance with the following widely used technical standards and regulations:

- ECAC Doc 30
- EU Regulation No 781/2005
- MD-SB-2007-002 China Aviation X-ray Security Inspection System for Baggage

The MX9080TB has been certificated by the following organization:

- Civil Aviation Administration of China, CAAC
- Ministry of Public Security of China

5.2 Key Specifications of Imaging Performance

<table>
<thead>
<tr>
<th>Item</th>
<th>Best Imaging Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GB15208 Standard (China)</td>
</tr>
<tr>
<td>Wire Resolution</td>
<td>38 AWG</td>
</tr>
<tr>
<td>Steel Penetration</td>
<td>34 mm</td>
</tr>
<tr>
<td>Spatial Resolution</td>
<td>1.3 mm</td>
</tr>
</tbody>
</table>

Note: To get the best imaging performance, the test piece shall be placed in the optimum location, and it is necessary to use image enhancement processing.
functions.
6. Concept of Operations

6.1 X-ray Screening with Explosive & Narcotics Detection Aid

By x-ray screening, most threats like weapons and explosives detonators can be detected by shape characteristic identification from the x-ray images by screeners, while bulk explosives and narcotics can be marked automatically according to atomic number signatures.

6.1.1 Threats Detection by Shape Characteristic Identification in X-ray Images

Analyzing x-ray images is the most effective way for detection of a wide range of threats, which have their own shape characteristics.

An object usually seems different by reading from different views. If something in a baggage is hard to be identified, turning and scanning the baggage in another projection may be a better choice.

![Good projection for identification](image1)

![Bad projection for identification](image2)

6.1.2 Explosives & Narcotics Automatic Detection by Atomic Number Signatures

By applying dual-energy x-ray imaging technology, the atomic number attribute of
materials can be acquired and used to find bulk explosives and narcotics, which usually have Z value signatures different from benign materials.

Suspect threats marked automatically by colourful frames

6.1.3 Maximum Size of Screening Baggage

The MX9080TB has a tunnel opening of 900mm wide by 808mm high, and it is capable of screening baggage up to 890mm wide by 800mm high. It is most suitable for scanning baggage and small cargoes.

6.1.4 X-ray Screening Throughput

The conveyor speed of the MX9080TB is around 0.2 m/s, and it can at least scan 600 baggage which usually have a length less than 1000mm in an hour.

The throughput is also limited by the efficiency of screener’s reading images. For most screening applications, a minimal 6 seconds is recommended to be required for analyzing each x-ray image.

6.1.5 Main User Interface

A display monitor, a special keyboard, a mouse and a USB hub construct main user interface of the MX9080TB.
The monitor is used to display x-ray images, and information like user name, image enhancement processing functions applied, baggage counter and system operating status, etc.

The special keyboard is designed ergonomically, and is capable of fulfilling all system functions. While the mouse can make operations like image zooming, move and menu functions calling more simple and efficient.

Special Keyboard

The USB hub is used to connect with USB storage devices or printers, for exporting or printing images and operating logs.

6.2 Image Enhancement Processing

To make x-ray images to be interpreted easier and more accurately, a variety of image enhancement processing functions are available, and can be applied in true real-time.
6.2.1 Real-time Image Enhancement Processing by GPU

All the image enhancement algorithms are processed by GPU (Graphics Processing Unit), rather than CPU, so they can be applied in real-time smoothly, without stopping baggage conveying.

6.2.2 Default Image Processing

Users are able to customize frequent used and favorable enhancement functions combination as default image processing, which will be automatically used in the x-ray image processing.

6.2.3 General Enhancement

Automatically calculate the contrast of different image area to get the best contrast of whole image and display higher absorbing and lower absorbing material simultaneously on screen.

6.2.4 Edge Enhancement

Highlight the object profile by increasing the grayscale contrast of edge region of object image.
6.2.5 High Penetration

Heighten the contrast of high absorbing material and strengthen the detail display effect against the background of high absorbability material.

6.2.6 Low Penetration

Heighten the contrast of low absorbing material and strengthen the detail display effect against the background of low absorbability material.
6.2.7 Multi-absorptivity

Heighten the contrast of variable absorbing rate material.

6.2.8 Negative

Keep the colour tone of the image unchanged, and negative the saturation (or grayscale for black and white image), i.e. the higher absorbing materials are displayed lighter than the lower absorbing materials, and consequently, the higher absorbing material will be highlighted due to human eye's higher sensitivity to lighter colours.
6.2.9 Organic Stripping

In this mode, organic materials are displayed in grayscale, while inorganic materials are in blue to highlight inorganic objects.

6.2.10 Inorganic Stripping

In this mode, inorganic materials are displayed in grayscale, while organic materials are in orange to highlight organic objects.
6.2.11 Suspect Material Enhancement

Explosives as well as their components are usually with atomic number of 7, meanwhile drugs are usually with atomic number of 9. Suspect Organic Enhancement (Z789) specially highlights the material with atomic number of 7/8/9 separately, and shows them in red colour while others in black and white, thus helps operator better understand the image content.

6.3 Image Zoom

6.3.1 Standard Zoom In

Stepwise zoom in by special keyboard and stepless zoom in by mouse operations are supported, with miniature image indicating the enlargement region of the whole...
image. The maximum zoom factor is up to 32 times.

6.3.2 Magnifier (Local Zoom In)

Magnifier function can be used to magnify ROI (Region of Interest) around mouse cursor position only.

6.4 Image Archive

6.4.1 Image Storage

All x-ray images are saved automatically, along with information such as user ID, date and time, etc.

The storage capability is up to 50,000 images typically, and the automatically saved images will be deleted in the principle FIFO (First in, first out), when the storage is nearly full.

The unused hard disk space for image storage is able to be checked.

Images of interest are also capable of being saved manually, and such images will never be deleted.
6.4.2 Image Counters

OIS offers two image counters for meeting variable application demands.

- A total counter is given to record the total number of screened baggage, and can't be reset by restart the machine.
- A resettable counter is given to record number of screened baggage within a certain period of time, and can be reset automatically or manually.

6.4.3 Image Recalling

If the preceding images of scanned baggage have been scrolled out of the display monitor, the user is able to recall all of them for review.

6.4.4 Image Query & Reading

Images are queried by key information like user ID, date and time, and automatically / manually saving modes. And then the target images can be opened and read with all imaging enhancement processing.

6.4.5 Image Export & Print

Multiple practical image export solutions are available and shown as followed:

- Image export to USB storage device.
- Image print.
- Image written into DVD disc.
- Upload to Centralized Image Storage Server (optional) by local Ethernet network.

6.4.6 General Image Format Conversion

The x-ray images are typically saved in a special data format, which is capable of storing dual-energy material classification information.
To be able to read the x-ray images with general image viewing software in personal computer, OIS software can convert the special data format to general popular image formats, such as JPG, BMP and PNG, etc.

6.5 Threat Image Projection (TIP)

6.5.1 TIP Overview

TIP is an OIS tool that inserts fictional images of threat items into baggage images when the baggage is screened. For the screener operators, it seems the same as real threats are inside the baggage, and whether the screener detects such threats with a response or not will be recorded.

TIP function is designed to enhance threat detection performance of screeners by bring the following key benefit:

- Keep screeners maintaining vigilance by increasing threat targets detection experience.
- Expand screeners’ knowledge base by presenting images of a range of threat types and items.
- The TIP response data of screeners has significant value for evaluating individual performance, and providing guidance on training requirements.

6.5.2 TIP Response and Feedback

When the screener detect threats in the image, they must press a “marking” button on the special keyboard, and the OIS will provide immediately feedback to the screener about the accuracy of their response, to indicate a successful detection or a failed missing of projected threat image.

The feedback to the screener’s TIP response is also necessary to avoid causing an emergency disposal procedure due to mistaking fictional threats for real threats.
6.5.3 TIP Data Analysis and Report

All the TIP response data of the screener are recorded and can be queried and analyzed by the administrator, to obtain the screener’s strengths and weakness in performance.

A TIP data report recording a variety of performance data over time is also available, and can be export to USB storage device.

6.5.4 TIP Image Library Management

A fundamental component of the TIP function is the TIP image library. All the TIP images are stored and grouped by Threat Category (IEDs, Guns, Knives and others) and sub-category.

The TIP image library is updatable, and can be reviewed and managed.

6.5.5 TIP Scheduling

The following TIP settings can be scheduled to maximize the advantages of TIP function application:

- TIP images projection frequency.
- Random degree of TIP images projection.
- User and time range monitored by TIP function.
- Projection ratio of TIP images in each threat category and sub-category.
- The decision time for the screener to give a response to TIP threat.

6.6 Intelligent Simulation Training
All CX products have the Intelligent Simulation Training function, and it is able to scroll x-ray baggage images pre-saved in the display monitor, with the same speed as real baggage is scanned. While there is no real baggage is scanned, and even the conveyor system is stopped.

The Intelligent Simulation Training solution offers users a virtual simulation tool for an efficient x-ray image interpretation training.

6.7 User Management

All the users can be granted system access privilege as operators, administrators and maintainers, and unauthorized access level will be forbidden.

The system is fully protected by user and password verification.

All user operating logs, including login and logout time, working time, baggage screening counter, can be recorded and queried, and the report can be created and output to USB storage devices.
7. Operating Safety

7.1 Radiation Safety

7.1.1 Radiation Safety Design Standards and Certificates

The radiation safety of the MX9080TB is designed to comply with all published international health and safety standards, and has been tested and certificated by The Municipal Center for Disease Prevention and Control.

7.1.2 Radiation Safety for the Public and Users Safety

The x-ray leakage of the MX9080TB is less than 1μGy / hour (5cm distance away from the housing covers of equipment, and the typical value is close to nature background x-ray dose level. All the public and users radiation safety can be guaranteed.

7.1.3 Radiation Safety for Screening Objects

The maximum x-ray dose that screened objects absorbed is less than 3μGy, so the safety of the following categories of object can be guaranteed:
- High speed film up to ASA/ISO1600(33DIN)
- Electric devices and data storage medias for IT equipment
- Foods, beverages and medicines
- Living animals

7.1.4 Radiation Protection Measurements

The following measurements have been applied for radiation protection:
- Lead shielding in the equipment structure and lead curtains installed at tunnel opening are capable of reducing the x-ray leakage to a safe level.
- X-ray ON indicator lamps are installed on the special keyboard and around tunnel opening, which can give a warning when the x-ray generator is activating.
- Emergency Stop Switches are configured on the special keyboard and easy-to-get positions on the equipment. The public and users can actively cut off the power supply of x-ray generator and conveyor system by pressing down Emergency Stop Switches in an emergency, while a dialogue with warning information will be shown on the display monitor. The equipment can be recovered for rescreening in several seconds only by a reset of the Emergency Stop Switch, no need of restarting the system.

- Safety Interlock Switches are built under the housing covers, and they can cut off the power supply of x-ray generator and conveyor system when any housing covers are removed, with a dialogue giving warning information in the display monitor. When the housing cover is closed, the equipment can be recovered in several seconds only, no need of restarting the system.

7.2 System Safety

8. Maintainability

8.1 Modular Design and Interchangeable Spare Parts

The MX9080TB is built from the best proven CX products platform, and shares the flexible modular design, easy-to-maintain components layout, and interchangeable spare parts with other CX models.

8.2 Built-in Diagnostic Tools

To pinpoint the malfunctions quickly, the OIS provides a series of practical diagnostic tools with friendly and graphic user interface, for testing all the key system components as followed:

- X-ray generator
- Detector and Data Acquisition
- Special Keyboard
- Drum Motor and Conveyor System
- Light Sensors for Detecting Ingoing Baggage
- System Communication

8.3 Components and Cables Label

All the components and cables inside the equipment are marked with labels referring to mechanical and electric design drawings, which is necessary for testing and measuring for troubleshooting.

8.4 System Error Coding and Information

When the system detects an error or malfunction, it can automatically give a related exclusive coding and information for quick identifying the trouble cause.
8.5 System Log for Maintenance

All the key system operating actions are selected and recorded in system logs in detail, and such logs can be used for deep analyzing of the system to meet advanced maintenance demand.

8.6 Preventive Maintenance Reminding

To help the users fulfill the preventive maintenance requirements, the OIS software allows users to customize and add all the preventive maintenance measurement reminding messages, and they will be shown on the display monitor according to a reminding setting.

The total time of system power on and x-ray on are also recorded, and can be checked for making a reasonable schedule of preventive maintenance.
9. Standard Configuration

9.1 Vehicle Configuration

<table>
<thead>
<tr>
<th>Parts</th>
<th>Specifications</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Chassis</td>
<td>MERCEDES BENZ Sprinter 515CDI Diesel oil</td>
<td>1</td>
</tr>
<tr>
<td>Air Conditioner</td>
<td>Heating &amp; cooling air conditioning,</td>
<td>1</td>
</tr>
<tr>
<td>Power Generator</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Reversing Monitor System</td>
<td>Including monitor and camera</td>
<td>1</td>
</tr>
<tr>
<td>Entry &amp; Exit Tunnel Opening Monitor System</td>
<td>Including monitor and camera</td>
<td>2</td>
</tr>
<tr>
<td>Entry &amp; Exit Tunnel Opening Audio Signal Collecting System</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Power Socket in Operating Cabin</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Lamps in Operating Cabin</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Power Supply Cable</td>
<td>50 meters</td>
<td>1</td>
</tr>
<tr>
<td>Chairs in Operating Cabin</td>
<td></td>
<td>1</td>
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9.2 Integrated X-ray Inspection System Configuration

<table>
<thead>
<tr>
<th>Parts</th>
<th>Specifications</th>
<th>Quantity</th>
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<tr>
<td>X-ray Main Equipment</td>
<td>MX9080TB</td>
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<tr>
<td></td>
<td>Tunnel Size: 900mm(W) × 808mm(H)</td>
<td>1</td>
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<tr>
<td>Voltage Regulator</td>
<td>2500VA</td>
<td>1</td>
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<tr>
<td>Exit Sliding Bed</td>
<td></td>
<td>1</td>
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<td>Special Keyboard</td>
<td></td>
<td>1</td>
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<tr>
<td>Monitor</td>
<td>17” LCD / 1280×1024</td>
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<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>USB Hub</td>
<td></td>
<td></td>
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<tr>
<td>Mouse</td>
<td>USB interface</td>
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<tr>
<td>Technical Manual</td>
<td>Operating &amp; Maintenance Manual</td>
<td>1</td>
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10. **Technical Specifications**

<table>
<thead>
<tr>
<th><strong>General Specifications</strong></th>
<th></th>
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<tbody>
<tr>
<td>Tunnel Dimensions</td>
<td>900mm(W) × 808mm(H)</td>
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<tr>
<td>Conveyor Speed</td>
<td>0.20m/s</td>
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<tr>
<td>Max. Load</td>
<td>160Kg</td>
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<table>
<thead>
<tr>
<th><strong>Image Performance</strong></th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Wire Resolution</td>
<td>0.1mm(38AWG)</td>
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<tr>
<td>Steel Penetration</td>
<td>34mm</td>
</tr>
<tr>
<td>Display Resolution</td>
<td>1280×1024</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Image Processing System</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Image Enhancement</td>
<td>Color/BW, negative, high/low penetration, organic/inorganic stripping, general enhancement, variable absorptivity and suspect material enhancement, etc.</td>
</tr>
<tr>
<td>Material Classification</td>
<td>According to atomic number signatures</td>
</tr>
<tr>
<td>ROI &amp; Zoom</td>
<td>Step/stepless zoom, up to 32 times enlargement</td>
</tr>
<tr>
<td>Image Recall</td>
<td>Preceding images recallable</td>
</tr>
<tr>
<td>Image Storage Capability</td>
<td>Up to 50,000 images</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Miscellaneous Functions</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Functions</td>
<td>Time/date display, counters, user management, system-on/X-ray-on timers, power on self-test, built-in diagnostic facilities, system log, system standby and training, etc.</td>
</tr>
<tr>
<td>Optional Functions</td>
<td>Explosives/narcotics detections, high-density area alert, threat image projection (TIP)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Health and Safety</strong></th>
<th></th>
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<tbody>
<tr>
<td>X-ray Leakage</td>
<td>Less than 1µGy / h (5cm from the housing), complying with all published international standards</td>
</tr>
<tr>
<td>Film Safety</td>
<td>Guaranteed for high speed film up to ASA/ISO1600 (33DIN)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Chassis Data</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Type</td>
<td>Mercedes-Benz New Sprinter Van 515CDI</td>
</tr>
<tr>
<td>Engine</td>
<td>Diesel oil</td>
</tr>
<tr>
<td>Dimensions / weight</td>
<td>6950 (L) mm×1933 (W) mm×3150 (H) mm (including air conditioning)</td>
</tr>
<tr>
<td>Gross Weight</td>
<td>5000kg</td>
</tr>
</tbody>
</table>