



- [1] Front barrier
- [2] License Plate Recognition camera
- [3] X-ray generator
- [4] Mid sensor
- [5] Control cabinet
- [6] Vehicle body camera
- [7] Start sensor
- [8] Detectors
- [9] End sensor

Overview

The 2M Technology x-ray vehicle security screening system, helps to quickly detect dangerous goods and contraband hidden in a vehicle. Based on the intelligent model, the automatic detection system conducts a complete inspection process, so the vehicle can be inspected while moving, and the loading condition of the vehicle can be clearly discriminated. It integrates x-ray scanning technology with License Plate Recognition (LPR) and video monitoring to provide comprehensive information for inspection accuracy. This product is mainly used in road checkpoints for loading and positioning. Initially for tractor trailer inspections, it can be customized for different requirement. The system can be customized to fit customer requirements and conditions of the installation site.

Specifications

- When the vehicle is passing through the channel, its cargo is continuously scanned.
- Driver cabin is not scanned.
- After scanning, the vehicle's information, a side video of the vehicle and its x-ray fluoroscopic information image are generated at the same time. The loading rate of the vehicle is automatically calculated, and the cargo conditions in the car compartment can be analyzed and differentiated in detail.
- The x-ray images clearly show a detailed image of the compartment, and synchronously prompts the inspector to verify.
- Automatically identifies the information of the scanned vehicle, including the license plate number, color, etc
- The inspection data and inspection results are automatically stored according to the inspector's login information for later use, The vehicle side video and x-ray image are also stored.
- Includes standard Ethernet interface for remote monitoring, debugging and data transmission.

Operation

- When the green indicator light is on, the vehicle is allowed to enter the detection area.
- The front ground coil senses the vehicle, the road barrier automatically lifts up and the vehicle can enter the detection area.
- As the vehicle passes the back ground coil, the road barrier automatically falls, preventing other vehicles from entering the detection area.
- When the vehicle blocks the start sensor, the License Plate Recognition camera takes a picture of the front of the vehicle and automatically records the license plate number and the speed of the vehicle. At the same time, the red indicator light of the x-ray machine lights up to remind the staff that the high voltage has been turned on.
- When the vehicle blocks the mid-sensor, the side camera starts taking the side video and the x-ray is powered on (*note: the red indicator light is on, but no x-ray is generated*).
- When the vehicle blocks the end sensor, the front of the vehicle has passed the x-ray source by 2m~3m to ensure that the cab is not exposed to x-rays, the yellow indicator light is on (x-ray is on) and the x-ray scans the vehicle compartment as it's moving.
- When the rear of the vehicle leaves the mid-sensor, the x-ray ends the scan. The yellow warning light turns off and the side camera stops recording.
- When the rear of the vehicle leaves the end sensor, the x-ray power supply (high voltage) and the red warning light are turned off.
- After the vehicle exits the scanning area, the user can press the "Confirm" button and the system is ready for the next vehicle.

Specifications

GENERAL SPECIFICATION	
Effective Length	2400mm
Pixel Value	<2.5mm
Scanning Vehicle Time	<5s (15 km/h driving speed)
Maximum Vehicle Size	3.5m(W) * 4.5m(H), unlimited length (depending on the length of the lane safety island)
Detection Speed	3~15km/h
Communication	RS232, remote software control trigger

X-RAY GENERATOR	
Focus Size	Nominal value is not more than 0.8mm (according to IEC60336-2005 standard)
X-Ray Fan Radiation Angle	83° x 5.0°
Convergence Window Radiation Angle	no more than 65° x 1.78°
X-Ray Generator	160KV, sealed oil cooling
Tube Current	0.3~1.2mA
Tube Life	>6000 hours
Ray Direction	Sideward
X-RAY DETECTOR	
Detector Type	Line array detector
Height	>2.4 meters
Resolution	<2.5mm
Voltage	12V
VEHICLE SIDE CAMERA	
Fisheye Lens	Focal length and aperture adjustable
Resolution	2048 x 1
Maximum Line Frequency	3.4kHz (To avoid low-speed trailing, line frequency will be reduced).
Pixel Size	7.04 μm
Output Format	GigeE
Size	62 x 48 x 48 mm
OPERATING ENVIRONMENT	
Power Supply Voltage	230VAC +/- 10%, 50/60Hz
Power Supply Current	<2A
Working Temperature	-40°C ~ 70°C
Working Humidity	≤ 95% (no condensation)
COMPLIANCE	
GBZ 143-2015	Radiation Protection Requirements for Cargo/Vehicle Radiation Inspection System
GBZ 117-2006	Industrial x-ray inspection radiological protection standards
GB 18871-2002	Basic standards for ionizing radiation protection and radiation source safety
IEC 60336-2005	Medical electrical equipment - X-ray tube assemblies for medical diagnostics -Characteristics of focus
GB 2423-89	Basic environmental test procedures for electric and electronic products
IEC 61000-4	electromagnetic compatibility
GB/T 17626-1998	electromagnetic compatibility

Imaging System

- The imaging system has the functions of prompting alarm, history data search, printing, etc.
- The main interface displays the current status of the system (automatic, manual), vehicle position, vehicle speed and other information.
- The search interface contains information such as License Plate number, time, result, judgment result, vehicle model, entrance, exit, charging result, tax exemption amount, replenishment amount, and inspector.
- You can choose a fixed time or a fixed inspector to generate the form.
- The image storage format adopts HIS format and can be converted to common and standard image storage formats.
- The stored information includes real-time image of the vehicle from side, x-ray image, the image of the front of the car, the license plate number, the judgment result, the amount of the charge, etc.

