CLAIMS

1. A vehicle contents inspection system for inspecting contents within a moving vehicle, said system comprising:

a vehicle entry gate for facilitating entry of said vehicle;

an exit;

a control unit for controlling operations of said system for scanning said vehicle;

a pair of radiation shielding walls extending from the vehicle entry gate to the exit, having a space therebetween that defines a shielding wall radiation zone to contain dispersed and reflected radiation, which includes a main beam zone;

a radiator, for triggering radiation emission of which a radiation main beam is emitted at the main beam zone across the radiation shielding walls to conduct a scanning process to inspect the contents within the vehicle that passes through the main beam zone, the radiator is switched on to emit radiation when the vehicle reaches the main beam zone and is switched off when the vehicle completely passed through the main beam zone;

an exit vehicle movement monitoring device for monitoring exit movement of said vehicle to ensure clearance at the exit;

a radiation stop sensor that triggers the radiation to stop; and

a vehicle and container optical recognition system for scanning license

plate and container number of said vehicle,

wherein said system is configured to

provide scanning comprising installation of X-ray or gamma ray inspection; and

have its vehicle entry gate allow a subsequent vehicle to enter the shielding wall radiation zone after a prior vehicle completely passed through the main beam zone but still remaining within the shielding wall radiation zone, and upon detection of clearance of the exit by the exit vehicle movement monitoring device after the prior vehicle exits the shielding wall radiation zone through the exit, the subsequent vehicle is allowed to enter the main beam zone to begin the scanning process.

2. The system as claimed in claim 1, further comprising an incoming traffic monitoring device.

3. The system as claimed in claim 1, further comprising a database server.

4. The system as claimed in claim 1, further comprising a traffic light, one or more radiation monitoring devices, a barrier, or a combination thereof.

5. The system as claimed in claim 1, further comprising a remote sensing device.

6. The system as claimed in claim 5, wherein the sensing device is a radar.

7. The system as claimed in claim 5, wherein the sensing device is an optical vision camera.

8. The system as claimed in claim 1, wherein the system is configured to provide a cycle time deduction process control for continuous inspection of the subsequent vehicle.

9. A vehicle contents inspection method for inspecting a moving vehicle according to the vehicle contents inspection system of claim 1, said method comprising the steps of:

switching on a control unit;

opening a vehicle entry gate, to allow entry of the vehicle;

passing the vehicle through a pair of radiation shielding walls extending from the vehicle entry gate to an exit having a space therebetween that defines a shielding wall radiation zone which includes a main beam zone;

finding said vehicle moving into a shielding wall radiation zone, by a radiation stop sensor;

reaching a main beam zone, by the vehicle;

switching on a radiator when said vehicle reaches the main beam zone;

triggering radiation emission as the radiator is switched on for the emission of a radiation main beam at the main beam zone across the radiation shielding walls;

scanning and inspecting contents within the vehicle as it passes through the main beam zone;

scanning license plate and container number of said vehicle using a vehicle and container optical recognition system;

passing through the main beam zone completely, by the vehicle;

triggering, by the radiation stop sensor, to stop emission of the radiation;

ensuring clearance at the exit using the exit vehicle movement monitoring device; and

exiting the system, by the vehicle;

wherein the method further comprises the steps of

providing scanning comprising X-ray or gamma ray; and

allowing a subsequent vehicle to enter the shielding wall radiation zone after a prior vehicle completely passed through the main beam zone but still remaining within the shielding wall radiation zone, and upon detection of clearance of the exit by the exit vehicle movement monitoring device after the prior vehicle exits the shielding wall radiation zone through the exit, the subsequent vehicle is allowed to enter the main beam zone to begin the scanning process.

10. The method as claimed in claim 9, further comprising the steps of

opening a barrier of the vehicle entry gate;

turning a traffic light of the vehicle entry gate to green;

allowing entry of the vehicle; and

closing the barrier after entry of the vehicle for preventing tailgating of the subsequent vehicle entering the system.

11. The method as claimed in claim 9, further comprising the step of stopping radiation emission during an emergency.

12. The method as claimed in claim 9, further comprising the step of of waiting until traffic is cleared.

13. The method as claimed in claim 9, further comprising the step of starting a new cycle.

14. The method as claimed in claim 9, further comprising the step of providing a cycle time deduction process control for continuous inspection of the subsequent vehicle.