

IP-BASED Digital Train Communication System



Digital IP-Based Video Surveillance System

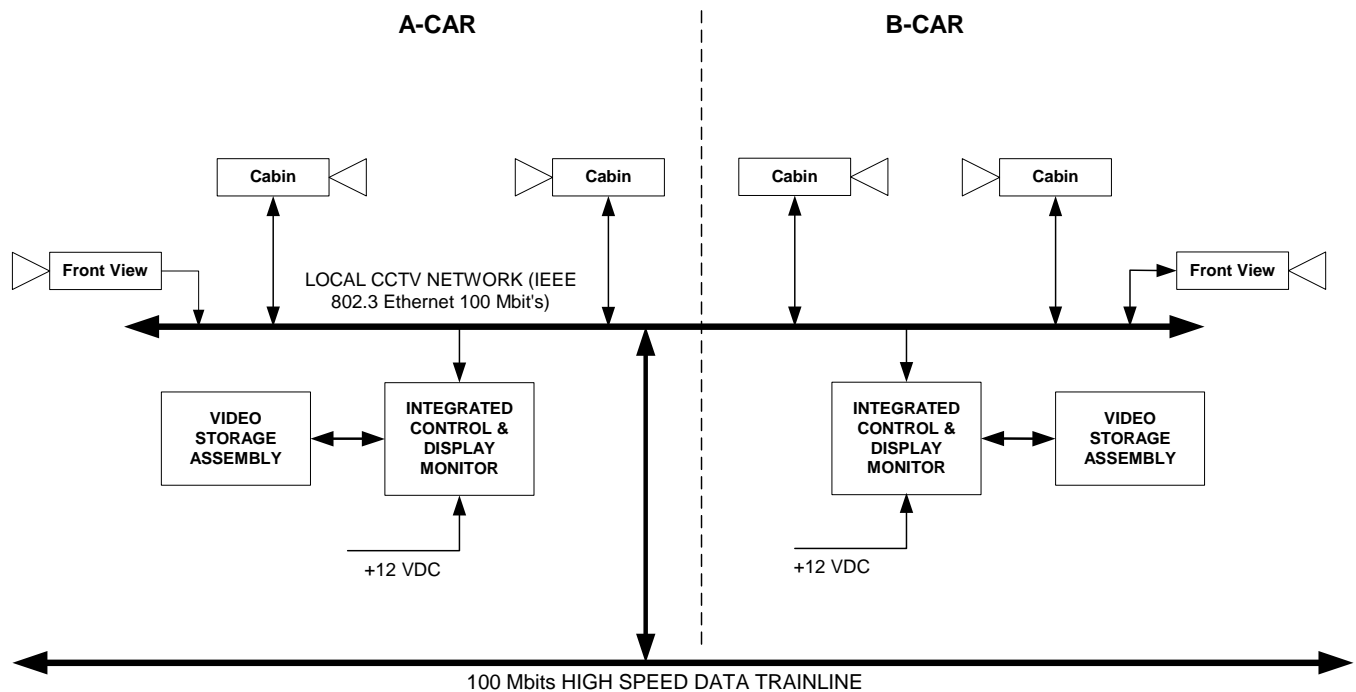
Nowadays, more and more Rail Transit Authorities, equip their fleets with Video Surveillance Systems to provide a sense of security to their users while deterring crime and property damages. These video surveillance systems also ease court proceedings by supplying credible video evidence of on-board incidents.

Interalia Systems Corp. (formerly Envitech Communication) features its fully digital, IP-based Video Surveillance System, integrally integrated to its rail service proven IP-Based Train Communication System.

The Interalia IP-Based Video Surveillance System (iVSS) provides local digital video recording using a Network Video Recorder, supporting IP cameras specially designed for the rail transit industry. The video recordings are stored in a removable HDD carrier supporting 1 mobile rugged hard drive cluster per cab, with variable recording capacities depending on the transit authority's operational requirements. Camera IDs, time and date are also concurrently recorded using tamper-proof algorithms. The iVSS provides consist-wide real-time video viewing on active cab's Integrated Control & Display Monitors (ICDM) at full frame rate, during the activation of a Passenger Emergency Intercom (PEI), located anywhere in the train consist. Digital video stream transport is supported by the Train Communication System digital trainline.

- **IP Cameras.** The cameras are digital dome-type with very small footprint and measuring only 4 cm high. These cameras are palm-sized, rugged, designed to resist vibration and high humidity found in mass rail vehicles and use PoE (Power over Ethernet) technology to reduce car wiring. The cameras use progressive scan technology to provide sharp images of moving objects. It delivers up to 30 frames per second using Motion JPEG or MPEG-4 video compression standards.
- **Integrated Control & Display Monitor.** The cab's viewing display is an 8" panel PC with touch screen, providing real-time viewing of a video stream from anywhere in a consist, during a Passenger Emergency Intercom call or other events. Automatic announcement management and control is also supported by the ICDM. The HD storage media is under the ICDM supervision, which handles the Network Video Recording function.
- **Playback Station.** A Windows based desktop PC station equipped with a hard drive docking bay, is also provided. The PC station is loaded with video management and playback software to select, play and retrieve video recordings from the car's hard drives.
- **Video Security.** Video recording software enhancements providing "chain of evidence" integrity and security can be provided as a value-added feature of the iVSS helpful when video evidence is required in a court of law.

IP-BASED Video Surveillance Architecture



Typical Application

TECHNICAL SPECIFICATIONS

Network Video Recorder

Integrated Control & Display Monitor
IP Cameras

Compatibility
Temperature
Expandability

- 1 GHz Intel fanless processor.
- 80 GB (variable) removable hard drive.
- 48 hours (variable) of recording of multiple video streams.
- Time and location stamping of each alarm or alert event.
- Windows XP OS.
- 8" Fanless Panel PC with touch screen, supporting video recording and Automatic Announcement System control.
- Real time video viewing for Emergency events at full frame rate.
- Fault Logging
- Vandal-resistant fixed dome network IP camera with built-in heater.
- Designed for Rail Mass Transit applications.
- Power over Ethernet.
- MPEG4 Video Compression
- IEEE 802.3 Ethernet
- -20 to + 55° C
- Optional 802.11 wireless uploading of video files from train to wayside at single or multiple locations.