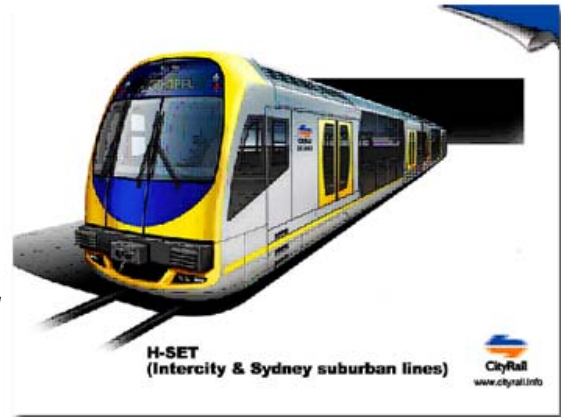




Project Profile: Sydney Outer Suburban Cars PIS, DVA, PA, CCTV, Data Radio

Customer:	<i>Mitsubishi Electric Australia</i>
Project Type:	<i>New Build</i>
Operator:	<i>State Rail Authority, NSW</i>
Franchisee:	<i>State Rail Authority, NSW</i>
Train Owner:	<i>State Rail Authority, NSW</i>
Train Mfg:	<i>Mitsubishi Electric Australia</i>
Train Class:	<i>Mitsubishi Electric Australia EMU</i>
Number of Trains:	<i>70</i>
Number of Cars:	<i>4</i>



System Overview

An integrated passenger information, digital voice announcement, passenger and crew communications, data radio and CCTV system has been fitted to new-build rail cars. Controlled by separate communications and CCTV controllers, the system allows for redundant operation of digital voice announcements and stopping pattern display, passenger and crew voice communications, and CCTV recording. Trains were fitted with fiber optic Ethernet train lines dedicated to CCTV and the communications system. Driver control is provided via the use of a 15" touch screen display fitted to each driver's cab, which allows the driver or guard to view CCTV images.

A Train Operating System interface on each controller allows the driver to control the DVA system, make announcements, and view equipment status via a third party TOS screen & system. Recording from 6 cameras per carriage is also managed by the TransitCam TC-100 to a hot-swappable single-HDD caddy. Data radio systems were also provided to allow remote monitoring and control to the system.



511 Davis Drive, Ste. 300
Morrisville, NC 27560
919.472.5000 www.integrain.com



Project Features

- Redundant Passenger Information/DVA and CCTV systems operation via separate controllers
- Train line fiber optic Ethernet for control
- Remote control of on-train announcements via back-office application
- Internal and External Destination Indicators
- GPS system
- Fully supports coupled-train operation
- High quality, full color, digital hardware MPEG-4 image compression
- Capture rate of 6.25 frames per second per camera
- Resolution of 2CIF
- 168 hours of data storage
- Isolated RS-232 diagnostics and service port
- Storage media operates in overwrite mode with older files being overwritten by current video records
- Local LCD text status display for diagnostics and service
- Configurable car number for incorporation in data files and evidence audit
- 12 Video inputs available, 12 camera configuration
- Internal battery-backed clock calendar maintains time and date while power is off and where PIS signal is not available. Clock calendar is automatically synchronized when PIS signal is next available
- Integrated, 480 line color camera units, electrically isolated, incorporate housing, connector, lens and mounting spacer
- Single coax cable to each camera carries both signal and power
- Local video output can be switched to any camera for camera testing and diagnostics
- Full width 19 inch, 4U rack mount recorder unit



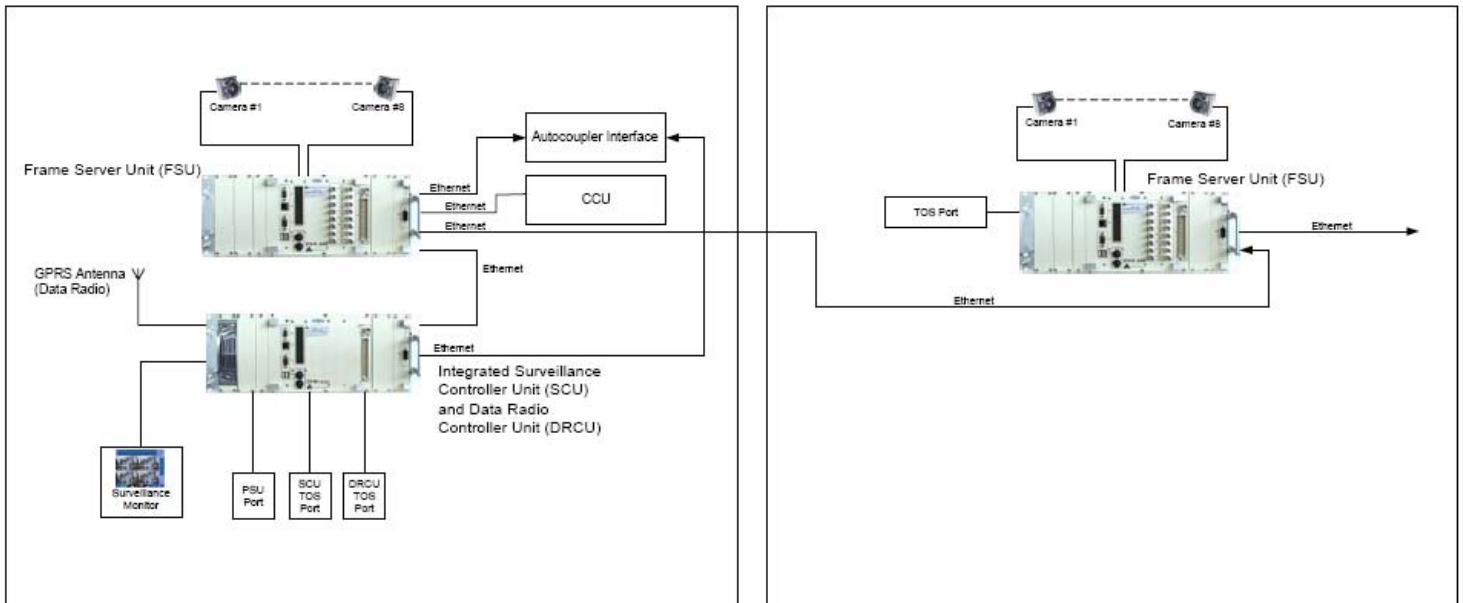
TransitCam TC-100



511 Davis Drive, Ste. 300
Morrisville, NC 27560
919.472.5000 www.integrion.com



System Architecture



511 Davis Drive, Ste. 300
 Morrisville, NC 27560
 919.472.5000 www.integrian.com