

SIL4 Systems Rail Transit Solutions

Asset Management System

- Sub-system Fault Report
- Work Order Generation
- Electronic Manual Guidance
- Diagnostic History
- Electronics Op & Maintenance Manuals
- Electronic Manual Access
- Editable Scripts
- Version Control

Maint. Shop Wireless Comm

- Output power: 25 dBm, Rx Sens: < -107 dBm
- Integrated Router/Firewall/VPN
- T1/E1 Bridged Ethernet via ADSL T3 DS3



SIL4's Central Maintenance Shop

Real-Time Event Recording

- Event Record / Train #
- Event Logger
- Sim Scenarios
- Custom Searches



Operator

Monitoring

- Event Record / Operator
- Train Direction / Location
- Throughput Efficiency
- Voice Communications

Training

- Safety Training Guidance
- Review
- Operational Training
- Alarm/Alert Maintenance



SIL4's Trackside Equipment

Trackside Wireless Comm – WiMax or WiFi

- Available at 2.3 – 2.7GHz and 4.9 – 6.0GHz
- Telco-grade TDM & Ethernet over a single wireless link
- High net throughput, up to 18 Mbps full-duplex
- Long range, up to 80 km/50 miles
- Point-to-Point and Multiple-Pt-to-Pt Architectures
- Advanced OFDM-based air interface, ensuring high quality transmission
- Compliance worldwide Regs FCC, ETSI, IC-Canada and WPC-India



Infrared Day/Night Weatherproof CCTV Security Camera

- 36 High output iIR L.E.D.'s to enhance low light visibility
- 420 lines/color resolution
- 16 mm lens for a long range coverage
- Weatherproof housing w/sun shield
- Temp Range: -10 C ~ 50 C
- Rain and fog resistant glass coating
- Built-in Image Enhancer



Safety Relays (CSP app)

- Replace wayside signaling EM relays
- SIL-2, 3, 4 ratings
- Very Low Maintenance
- Self-Diagnostic
- Wireless access available



Trackside Signaling

Trackside Signaling

Trackside Signaling

Track

SIL4 Systems Car-borne Solutions

Grade-Compensated Accelerometer



Car-borne Wireless Comms

- WiFi + GPS + 3G + GbE



Rooftop Multi-Band Antenna

- 694 - 894 MHz
- 1575 MHz
- 1.7 – 2.7 GHz
- 4.9 - 6.0 GHz



Train Operator Display (TOD)

- Fault Indicators
- Alarm Monitors
- Data Entry (Operator, Train #, Indication of Performance Degradation)
- Time (in sync with Data Radio)
- Status / Op Conditions
- Real-time data
- VMS initiated subsystem test



Portable Test / Diag Unit

- All TOD functionality
- Data Management
- Function Configuration
- SW updates
- Wireless Access



intercom Voice

Vehicle Media



- Vehicle Trainlines
- Master Controller
- Tachometers
- BP, BC, etc. transducers
- Subsystems
- GPS

Compact Safety Platform (Train Interface / ECU)

- Safety Inputs / Outputs
- Generic Digital/Analog IO
- Subsystem Interfaces
- Safe Braking Algorithm
- Spin/Slide Control
- Self-Diagnostics
- Vital Location



High Performance Platform Vehicle Monitoring System (VMS)

- Data Acquisition / Storage
- Fault Handler
- Time Stamp
- Event Recording
- Fault Definition: Level 1, 2, 3
- Fault Management
- GUI for programming



Event Data Recorder

- Data Storage (4GB min)
- 20ms sample rate
- 48 hour storage (min)
- Time Sync
- Download Capability
- Wireless access
- Crash-Hardened Memory

Autonomous Crash Recorder

- IEEE & FRA rated
- Compact Package
- Various Interfaces



Mass Storage Device

- DVR Function
- Time Stamp/Sync
- Search Functions
- 320GB to 1.0TB
- -40C to +70C
- Wireless access



Safety Relays (CSP app)

- Replace carborne EM relays
- SIL-2, 3, 4 ratings
- Very Low Maintenance
- Self-Diagnostic
- Wireless access

