MicroCab Cab Signaling System is the industry standard for dependable and flexible configuration to customer requirements. Systems are now in revenue service on mass transit properties and railways across the U.S. and internationally.

**General Description**

MicroCab can be structured for basic Automatic Train Protection (ATP) with cab display of wayside signals plus overspeed protection and brake assurance, as well as Automatic Train Operation (ATO) functions such as speed regulation, station stopping, door control and berthing. MicroCab is also a key element of the latest driverless Automatic Train Control (ATC) systems such as the Copenhagen Metro, and works in concert with the US&S AF-900 Series Digital FSK Track Circuit to manage a diverse range of vehicle functions for achieving the most demanding headways.

**How it Works**

The MicroCab system may be used for any carborne application using continuous cab signaling, including heavy freight or commuter rail locomotives, heavy or light-rail mass-transit cars (single or married-car train sets) and automated people-movers.

Carborbe ATP control and monitoring functions available with MicroCab can include:

- Cab signal display only;
- Overspeed protection;
- Brake assurance;
- Door control;
- On-board departure test;

MicroCab can be expanded to include ATO and Automatic Train Supervision (ATS) functions, all the way to complete driverless ATC operation.

ATO/ATS-related control and monitoring functions available with MicroCab can include:

- Speed regulation
- Station stopping and departure
- Precision berthing
- Skip stop
- Turn-back
- Door control
- Passenger annunciation
- Automatic station identification
- Train to Wayside Communications (TWC) interface
For ATP and ATO/ATS operations, MicroCab is fully compatible with a variety of external subsystems and equipment such as:

- External event recorders
- Alerters
- Master controllers (monitoring and decoding)
- Brake valve controllers
- Brake pipe pressure transducers
- Trainlines (monitoring and control outputs)
- Vehicle health monitoring system (e.g. TCMS)
- LON Works communications channels

Safety and Reliability Certification

MicroCab vital software has been developed and controlled according to CMM Level II principles: Ansaldo STS has successfully achieved this software requirement. In addition, the MicroCab system has already been independently approved on several major railroads and transit authorities with respect to:

- Operational Safety Design
- Approved Hazard and Safety Analysis
- Environmental Testing & Documentation

Features

- Adaptable to all modes of rail transportation and vehicle configurations
- Readily interfaced to various carborne subsystems and equipment
- Basic cab signal control to complex ATP/ATO/ATS applications
- Suited for driverless vehicle systems and profile-based speed control
- Readily integrated with intermittent speed control systems
- State-of-the-art processor and interface electronics
- Highly flexible application software
- Certified to latest industry safety and reliability standards
- Internal or external event recording capabilities
- Built-in self test, departure test and diagnostics
- Low cost, space-saving solid-state controlling enclosure
- Aspect Display Units incorporate latest operator display/ control technologies
- Modular design expedites upgrades and maintenance

Additional Features

The MicroCab hardware is adaptable to the full range of standard or customized cab signal code rates and carriers, carrier-filtering devices, axle speed sensors, brake, throttle and trainline equipment, Aspect Display Units (ADUs), alerters and external event recorders. The system can be configured for operation with single or multiple-cab carrier frequencies ranging from standard 60/100 Hz rates to audio frequencies used on light or rail mass-transit properties. MicroCab can also be configured for full or partial cut-out of system control by the operator or maintainer. Built-in controls allow precise calibration of variables such as wheel size, carrier, current pick-up levels and operator response times to overspeed and restrictive change in signals.

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