

RFID CASE STUDY



IDENTIFICATION SYSTEMS

THE APPLICATION:

Walt Disney World Monorail facts:

- Straddle-beam Monorail
- Start of Service October 1, 1971
- # of Lines: 3
- # of Stations: 6
- # of Riders: 150,000 per day



Keeping with the original theme of the monorail as a High Tech Train of the future Disney upgraded all the automation controls in each of the 12 trains in operation at the Orlando Theme park. These Upgrades include an automated passenger announcement system both audio and video to alert passengers of their location and upcoming stations and new operator controls for safety and security.

THE APPLICATION PROBLEMS:

- Be able to display the trains location to passengers as they move about the 12 miles of tracks at Disney World
- Trigger audio announcements to the passengers as to location and upcoming stops along the route
- Do this no matter which direction the train is traveling
- Identification at a max. speed of 40 mph
- Train Operators were losing brass keys to operate the train
- Need keyless operation of the train by the train operator
- Need to verify operator is qualified and valid to operate the train
- Schedule verification of the train operator
- Smooth integration with Rockwell Automation controls ControlNet network



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Application Solution:

BALOGH has the best interfaces connecting into Rockwell Automation products in the RFID industry. Walt Disney World chose ControlNet as the communications network for the On-Board controls. The BALOGH BICN would be used to bring the RFID data into the PLC. The controls and transceivers would be mounted on-board the train. One controller and transceiver on the front and back to read the tag depending on the direction of travel. A transceiver would also be mounted inside the cab where the operator would sit and control the train. The operator has to place his RFID key TAG on the transceiver in order to operate the train. This verifies who the operator is, if he is qualified to operate the train, and if he removes the TAG from the transceiver the train then stops



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Application Solution Products:



BALOGH BICN/LP
ControlNet Interface



ERL120 x 120 x 85 wANT80LP
Long Range Transceiver Designed for
Rail Applications w/OLR TAGS



ERP-120A Transceiver for
OP TAGS Located in Train



OLR-85 2 Byte Read Only
Long Range TAG



OP-Keyfab TAG used by Train
Operators for ID to operate the
Train



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APPLICATION IMAGES:

BALOGH Read Only Long Range OLR-85 TAG's are mounted on the side of the concrete rail at key identification points throughout the 12 miles of tracks and at each station. The OLR Read Only TAG is designed for rail applications and can function in a wide range of environmental conditions and can be read at speeds up to 50 mph.



TAG mounted in station at the Contemporary Hotel.



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APPLICATION IMAGES:



Train
On
Approach



The tags are programmed with a read only number as specified by Disney. These numbers trigger specific audio and visual announcements to the passengers on-board.

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APPLICATION BENEFITS:

- 100% Read rate of BALOGH OLR TAGS to trigger Audio Announcements, and Visual Displays.
- Train automation controls always knows the location of the train with OLR TAGs at key ID locations and passenger stations.
- Identification and verification of Train Operators and keyless operation of train
- Elimination of expensive brass keys



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