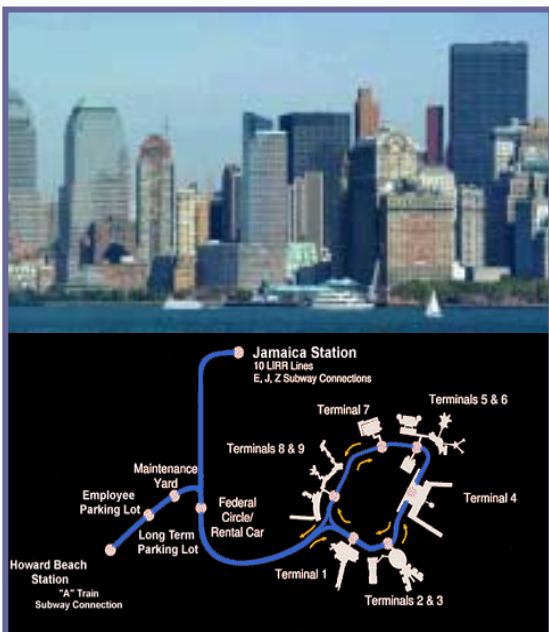


JFK Airport to New York Light Rail system



Project Overview

JFK Airport on Long Island, NY is one of the major airports serving New York City, USA. Ground transport bottlenecks resulted in the need for a light rail system linking the airport and the city. Bombardier Transport was contracted to provide the rail link and COE was contracted to provide the analogue multi-channel, fibre optic based video solution. Video surveillance is installed on all 11 stations and is an aid to the operator in preventing crime, assisting the public and monitoring crowd movement and activity.



Technical Overview

The 10 stations each have up to 32 cameras located across the platforms. All the video signals are transmitted to the Control Centre for viewing and recording via COE V-class fibre optic transmission equipment. Dual redundancy is built into the transmission paths to meet the high system reliability requirement of 99.995%.

Several key parameters needed to be met for the transmission network: quality of transmitted image to enable high quality recording and viewing; high channel count (32) to minimise fibre usage; redundant transmission paths to meet system availability specifications; proven technology; fibre based solution and network management information with control via a Graphical User Interface (GUI). V-class was chosen due to its ability to meet or surpass all criteria whilst being cost-effective within the bounds of the contract.

Transmission Network

The transmission network is based on COE's fibre optic based V-class; a multi-channel FM video system. Each station has a dual redundant 32 channel FM multiplexer and laser based optical transmitter. Real-time analogue full bandwidth video signals are transmitted to Central Control over two fibres, each fibre providing a redundant path for the other. Thus each station is linked to Control with just two optical cores. Automatic switching is incorporated at the Central Control room to minimise system downtime with switchover time at less than one second.

Network Management

A comprehensive network management system has been provided by COE Ltd to allow remote system wide monitoring and control of all V-class transmission node equipment at the Central Control room. This system runs over a system wide Ethernet circuit that can provide rapid feedback and control at any network computer. Operators and Supervisors can readily interact through the GUI, designed specifically for this project, with icon-driven navigation for fast and easy fault location and control.

V-class



In summary, the network solution incorporates the latest optical technology to support the needs of the user today and in the future. This type of solution is typical of the networks designed and supplied by COE Ltd for its clients, where their flexibility and knowledge of technology play a major role in the provision of high capacity video networks.

Key Application Benefits

- Dual redundancy built into both the equipment and transmission paths, creating virtually 100% system reliability
- High quality recording and viewing facilities
- High channel count, minimising fibre usage
- Automatic switching in less than one second at Central Control, keeping system downtime to an absolute minimum
- Remote system-wide monitoring and control of all equipment, including parameters on V-class, from a central point through a Graphical User Interface, with icon-driven navigation for fast and easy fault location



Reference sitesMetro, Light Rail and Underground

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|----------------------------|---------------------------------|
| ■ Manchester Light Railway | ■ London Underground (LUL) |
| ■ Strasbourg Tramway | ■ Lyon Metro |
| ■ Tyne and Wear Metro | ■ Singapore MRT |
| ■ Singapore LRT | ■ Hong Kong MTRC |
| ■ St Louis Metro | ■ BART (Bay Area Rapid Transit) |
| ■ Antwerp Metro | ■ Malaga Light Rail |

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