



Canada Line Richmond-Airport-Vancouver

Client:
Westinghouse Rail
Systems Ltd
for InTransitBC

Location:
Vancouver, BC, Canada



Photo by Michael Berry

Canada Line is a \$2B project involving the construction of a new Light Rail Transportation (LRT) system connecting downtown Vancouver and Richmond to the Vancouver International Airport. The system includes 16 stations, 19 route kilometers of double track, and 20 two-car, fully automated trains. Approximately half the line is underground, while the balance is a combination of elevated and at-grade sections. The system will be open to the public prior to the start of the 2010 Olympic Winter Games being held in Vancouver.

Trak Com designed and built the radio communication system for the project, as a subcontractor to Westinghouse Rail Systems Ltd (WRSL). This includes a 4-channel, 3-site UHF simulcast radio system, a Trak Com radio control system, and an extensive underground antenna distribution system. A total of five Trak Com radio control consoles are used to provide the user interface for the control room operators (CROs) at the Operations and Maintenance Center (OMC).

Trak Com supplied a Communications Control Unit (CCU) for each vehicle, which provides the following facilities:

- Full duplex voice radio communication between the trains and central control
- Passenger Intercom Panels (PIPs) to enable communications between the control center and onboard passengers requiring emergency assistance
- Control of Passenger Information via an onboard Public Address (PA) system and Passenger Information Displays (PIDs), controlled by an onboard passenger information control unit (VPIU) which is triggered from central control through the radio network
- Access to the onboard PA system for manual announcements from control to passengers
- Continuous monitoring of passenger assistance alarms and smoke detectors, with fast reporting to the control center operators



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- Interface to onboard vehicle Health Monitoring Unit (HMU), to provide both communications alarms to and receipt of vehicle alarms from the HMU for transmission over the radio.
- Hostler Access Panels (HAPs) providing radio, intercom, and PA facilities for crews that move trains in the yards or in the event of breakdowns

In addition to train communications, the system also provides voice radio communications to more than 100 handheld portable radios used by the Operational and Maintenance staff. Portable radio features include multi-level call capabilities, unit identification, and selective calling.
