

Icom America Systems

CSX Voting System Case Study

CSX operates railroad systems and yards throughout the United States. Their engineers, field and administrative staff operate over a wide area utilizing portable radios for communications. These systems utilize a centralized repeater system with very good TX coverage, but marginal portable “talk in” capabilities. This means the portable users could “hear” the repeater output but, due to the wide area of operation, the portables could not always “access” the repeater in particular areas. This was due to geographic and fringe area issues.

IAS proposed a RX voting system to integrate with the repeater system. A voting system is comprised of strategically located receive only sites that cover a specific area of operation. Anywhere within the wide area of operation at least one of the RX only sites can “hear” the portable transmissions. This RX audio is then routed, via 2-wire telco circuits, to a centralized voting comparator that constantly monitors all the RX sites for activity.

The voting comparator then instantly routes this RX audio to the repeater for transmission. In many instances, two or more RX only sites hear the portable transmissions. This occurs when the portable user is in between the RX sites. The RX sites that receive valid transmissions route their respective signals to the voting comparator. This clever device then instantly “votes” or chooses the best signal from the valid transmissions and forwards the signal to the repeater for transmission.

This system was designed by the Icom America Systems (IAS) Group and is comprised of IAS Voting Receivers, the JPS SNV-12 Voting Comparator and an ICOM FR Series Repeater. IAS Senior Systems Technologist, Scott Bigger, was on site for the commissioning and deployment of this system. The results are clear and intelligible wide area portable coverage throughout the required area. The System is expandable should additional coverage be required.

Contact Icom America Systems to discuss your unique systems application.

Thank you,

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