TECHNICAL NOTE 06-96

OPERATING ON AN EXISTING FACILITY RADIO CHANNEL
RANS SYSTEMS AND/OR MOBILE MAP PLUS SYSTEMS

BACKGROUND

*One outcome of the trunked radio interface discussion was whether our system can be designed to operate on the facility bus channel, a dedicated VHF frequency that traditionally is a low use radio channel. The answer is **YES** to both the Mobile Map Plus system and the new RANS-DV (or digital voice) system.*

DISCUSSION

1. The Mobile Map Plus system utilizes a digital code wherein all the alarm data is contained in a data pulse less than 300 milliseconds long. Therefore, the signal transmission does not take much air time and will not interfere with other bus channel usage.

2. The new RANS-DV utilizes the same type coded digital signal which is also contained in a data pulse less than 300 milliseconds in length.

3. Mobile Map Plus and RANS-DV can both be used on the same system at the same time. Towers and vehicles that need a graphic display can utilize the Mobile Map Plus displays while selected officers can carry the RANS-DV portable alarm receivers.

4. The alarm encoder is capable of monitoring the radio channel before transmission to be sure the channel is clear before sending the message. Using this system, several adjacent facilities can use the same radio frequency because the system includes separate security codes for each facility. Alarm transmissions are sent multiple times to guarantee the alarm information is properly received.

5. Bus Channel Usage
   A. The bus channel is VHF and within the approved frequency range of our systems.
   B. The existing radios used with the bus channel are (or can be) PL coded so the bus radios will not know that the alarm data is being transmitted.

6. In lieu of bus channel availability, one radio channel in either the VHF or the UHF spectrum can be used for multiple systems installed at adjacent facilities.

The attached RANS-DV brochure explains the details of the new all-digital RANS system. Please contact **CDT** if you have any questions.