



# CONNECTICUT LAND MOBILE RADIO NETWORK

## Technical Advisory Bulletin

### **SUBJECT: VEHICULAR INSTALLATIONS**

**DISCUSSION:** The quality and choice of materials, workmanship, and placement of equipment and antennas on a vehicle all directly impact the performance of the equipment and the experience for the user.

#### EQUIPMENT PLACEMENT

Equipment manufacturer's instructions should be followed with safety of vehicle occupants being considered. Ease of use of the equipment (microphones, control heads) must be considered. Speakers should be placed where safe and unobstructed. Consideration should be made for access in case service is needed.

#### ANTENNAS

Antennas must cover 769-861 Mhz. Design of the system calls for a 3db mobile antenna. Use of an antenna with lower gain will impact system performance. Vehicle use should be considered when choosing an antenna (cruiser, public works vehicle, fire apparatus, etc).

Antennas need to be mounted free of obstruction and away from objects that can interfere with their purpose. Sufficient ground planes should be ensured.

Antennas need to be mounted as far away from commercial wireless antennas as practical.

#### ANTENNA COAX/MOUNT

The choice of coaxial cable and mount is critical at 7/800 Mhz. A low-loss/dual-shield type with the shortest cable run possible should be utilized. An antenna mount specifically designed for high frequency use should be used. One common issue is the re-use of coaxial cable and mounts designed for lower frequency use.

#### ANTENNA CONNECTOR

It is imperative that connectors be prepared and provisioned correctly following manufacturer instructions. Proper tools meeting connector manufacturer specifications are essential.

#### POWER

Proper power connections, including ground, are critical to equipment operation.

NOTE: Some manufacturers have standards that are applicable to mobile radio installation. Installers should be thoroughly familiar with those standards and the installation instructions provided by the manufacturer PRIOR to installation

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