



Central Medical Emergency Direction MSV G2 Installation

Intro

Massachusetts Department of Public Health provided MSV G2 fixed site units accompanied by installation services¹ to the seven (7) regional Central Medical Emergency Direction (CMED) centers in the state of Massachusetts. The Hospital Emergency Preparedness portion of the Hospital Resource Services Administration Grant provided the funding for the equipment, service, and installation. This document details what was included and the standard installation configuration for the regional CMED centers which received installation services.

Provided Equipment

The MSV G2 fixed site installation package includes:

- Hughes 2100 Transceiver Unit
- MSH Technologies DT-200 Handset
- SpaceCom SPAC-MSV220 tracking antenna
- Antenna mounting pole
- One hundred (100) feet of LMR600 N-type prepared cable²
- Two (2) N-type to TNC adapters
- Four (4) wire power cable with two (2) in-line fuses

The contractor provided the following for each region:

- Polyphaser DGXZ+15NFNF-A dual path, DC pass RF protector
- Grounding sheath for antenna cable
- Astron SS-10 power supply (13.8 VDC @ 7 amps)

The contractor provided the following for each region which received installation services:

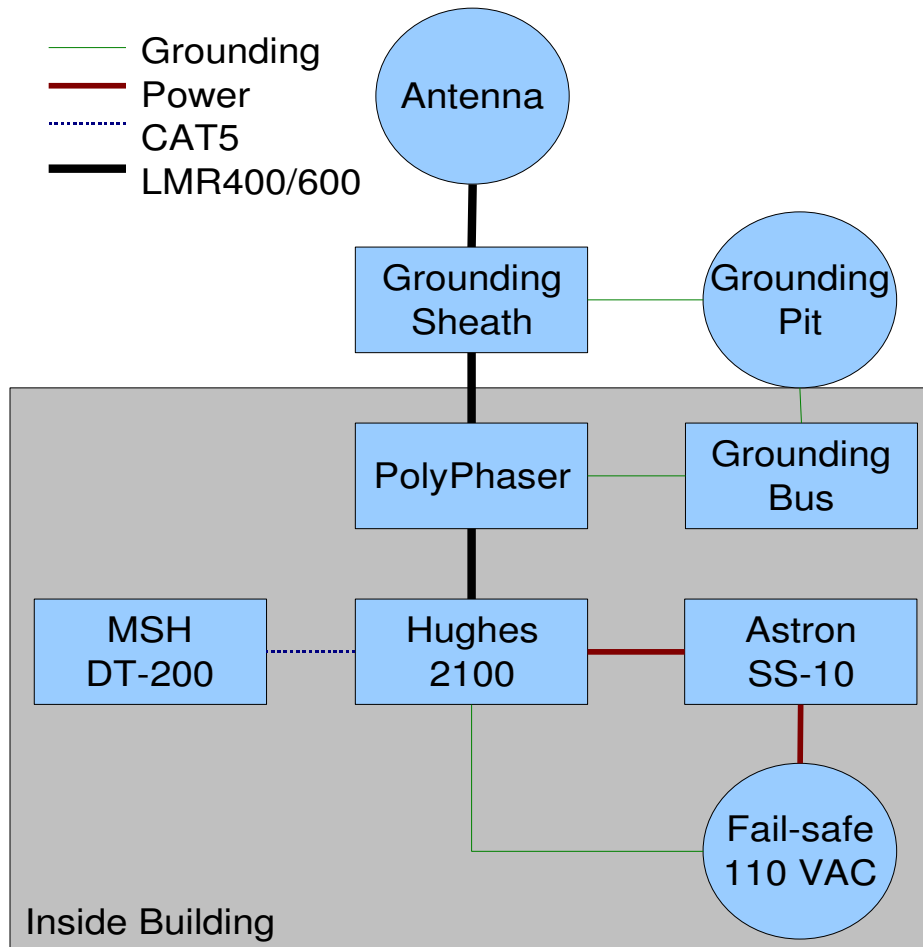
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- 1 Only regions I, II, III, V Plymouth, and V Bristol received installation services. Regions V Barnstable and IV received an offer for installation services.
 - 2 Many installations included modification to the LMR600 cable to the appropriate length or replacement with LMR400 cable cut to the appropriate length. MSV approved the use of LMR240 for runs less than sixty (60) feet and RG223 for runs less than twenty (20) feet.

- TNC right angle connector
- Non-Penetrating tripod
- Two (2) 2x6 wood boards
- Four (4) cinder blocks
- Custom length CAT5e cable for extension of handset cable to handset on console

Accessories or enhancement

- Handi-Remote handset extension
- Battery and charging circuit
- Cross banding interface

Standard Installation Configuration



Lessons Learned

While all of the installations went very smoothly, they taught us a few lessons which are not readily documented or available from MSV. Many of the lessons are representative in the installation described above.

Lightning/Surge Suppression

The installation requires a relatively expensive DGXZ+15NFNF-A Polyphaser due to the DC pass through necessary to power the SpaceCom SPAC-MSV220 tracking antenna. MSV has not tested the solution with any surge suppression device, despite an electrical code requirement for nearly every fixed site installation.

We also included a grounding sheath on the outer conductor before the cable enters the building. It is possible to include one at the antenna as well, which would serve as a ground for the antenna at the mounting site.

The RF cable

While MSV strictly states to not modify the RF cable, we modified the cable for every installation. The instructions are designed for someone unfamiliar with radio installation. The main concern is a poorly modified cable will damage the SpaceCom antenna as well as the TU.

They supplied LMR600 for all of the fixed site units, while we installed most of the units with LMR400. The LMR600 is overkill for any shorter distance than 100' and it is probably overkill for distances much longer than 100'.

Extending the Handset

While the manual recommends that the handset not be extended more than 25', we were successful in extending the handset to over 100'. There is a handset extension device which is included in the accessories list in this document, but we found it exceedingly expensive and unnecessary for the distances we ran.