Disaster Communications

FirstNet

MPSCS

AUX COM

Old School
Disclosures

- Not being paid to talk today
- Some photos and terms are not mine.
- References to providers and equipment are for example only
- Always best to get information on your specific situation from a qualified provider and vendor
- Comments are from my experiences and I do not work for anyone but MMR.
The Lynchpin is Electricity

All critical life support systems depend on power
• Communications and Data
• Public Water and Sewer
• Fuel
• Food Distribution
• Medical Services

Power Systems are not inherently resilient !!!
GET A GENERATOR AND KEEP IT FIT FOR SERVICE......... PLEASE !!
FirstNet

Quality

Priority

Preemption
FirstNet

Is it My Time?

Band14?

What is 5G?
FirstNet

Orange SIM Older devices
Black SIM Newer Devices
List is at Firstnet.com
What is the difference?
Coverage now
Coverage soon
Orange SIM

Older Devices
Commercial Network First
Band 14 second
Can Roam to other providers
Black SIM

Band14 First
Commercial Second
Static IP addresses
Holds Band 14 signal
Good and Bad
Advanced Messaging not in place
Resolved end of 2020
NO ROAMING
Coverage

Local provider will have a map
System is 60% done
Will be 100% of current sites Spring 2020
Full build out scheduled done end 2021
These are MICHIGAN numbers as of last week
MPSCS

Interoperability doesn't mean 4000 talk groups in every radio........

Please use provided Event Channels
Zone F is your Friend
Zone G Dynamic Regroup
Zone F for Ground OPS

Repeated and Direct
Repeated for larger coverage (3 Miles)
Direct for Shorter Distances (1.5 Miles)
  Great Building penetration
  Great Basement Penetration
Can be connected via Gateway to OnNet TGs
Zone F Talk Groups

8CALL90  8CAL90D  7CALL50D
8TAC91   8TAC91D  7TAC51D
8TAC92   8TAC92D  7TAC52D
8TAC93   8TAC93D  7TAC53D
8TAC94   8TAC94D  7TAC55D
AUX COM

We forget about them way too much!!
Can interface with MPSCS
Works outside of MPSCS
Not just Voice..... Data as well and Video
Building Better digital network
Old School radios that will always work as long as they have power.
OLD School or Current

VHF (Line of site) all EMS units

UHF (Line of site Shorter Distance) Some EMS vehicles

FRS (Family Radio Service) (Local 2 watts) Big Box Stores

GMRS (General Mobile Service Radio) (50 watts up to 40 miles)

Citizens Band
Old School Communications

### PEDESTRIAN - TO - VEHICLE

**AVERAGE NORMAL DIRECT RADIO RANGE**

- **VOICE COMMUNICATIONS W/ WHIP ANTENNA**

<table>
<thead>
<tr>
<th>RADIO TYPE, WATTS</th>
<th>MILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAM HF SSB PACK, 20W</td>
<td>12+</td>
</tr>
<tr>
<td>HAM HF SSB HT, 5W</td>
<td>8+</td>
</tr>
<tr>
<td>HAM VHF FM HT, 5W</td>
<td>3</td>
</tr>
<tr>
<td>CB SSB PACK, 12W</td>
<td>7</td>
</tr>
<tr>
<td>CB SSB HT, 5W</td>
<td>5</td>
</tr>
<tr>
<td>CB AM HT, 5W</td>
<td>2</td>
</tr>
<tr>
<td>MURS VHF FM HT, 2W</td>
<td>2</td>
</tr>
<tr>
<td>GMRS UHF FM HT, 5W</td>
<td>1</td>
</tr>
<tr>
<td>FRS HT, 1/2W</td>
<td>½</td>
</tr>
</tbody>
</table>

### BASE - TO - BASE

**AVERAGE NORMAL DIRECT RADIO RANGE**

- **VOICE COMMUNICATIONS W/ BASE ANTENNAS**

<table>
<thead>
<tr>
<th>RADIO TYPE, WATTS</th>
<th>MILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAM HF SSB, 100W</td>
<td>30+</td>
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<tr>
<td>HAM VHF FM, 20W</td>
<td>17</td>
</tr>
<tr>
<td>HAM VHF FM, 5W</td>
<td>15</td>
</tr>
<tr>
<td>CB SSB, 100W</td>
<td>20</td>
</tr>
<tr>
<td>CB SSB, 12W</td>
<td>15</td>
</tr>
<tr>
<td>CB AM, 5W</td>
<td>10</td>
</tr>
<tr>
<td>MURS VHF FM, 2W</td>
<td>12</td>
</tr>
<tr>
<td>GMRS UHF FM, 5W</td>
<td>9</td>
</tr>
<tr>
<td>FRS HT, 1/2W</td>
<td>2</td>
</tr>
</tbody>
</table>

*BASE STATION ANTENNA ON SUBURBAN HOUSE ROOF TOP*
All Michigan EMS Units

Statewide “on-scene” coordination frequency:

VHF 155.355 MHz (Disaster)

VHF VTAC channels
Questions???