Etiquette for Mountain Tops & Base Stations

ALERT Users Group, 27th Flood Warning Systems Training Conference and Exposition

Ventura, California
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Brian Iserman, P.E., CFM
Synopsis

- Repeaters
- Safety Considerations
- Base Stations
- Documentation
Tower and Frame Rigging

- Cable
- Jumpers
Tower and Frame Rigging

Good example of secured transmission lines and ground kits connected to tower buss bar

Example of poor ground kit connection.
• Antennas
• Mounts
• Rust = bad
• Drilling holes = bad
• Abandoned cable = bad
Exterior Cable & Grounding

Soil Amendments
www.harger.com
Interior Cable and Grounding

- LMR 400 for interior coax
- Braided copper for lightning ground
Base Stations

Main-system ground bar

Sub-system ground bar
Cavity Filters

- Spurious RF Noise
- Intermodulation
- Duplexers for when Rx & Tx are different
### TABLE 4-8 GROUNDING CONDUCTOR SIZING

<table>
<thead>
<tr>
<th>Conductor length in linear m (ft)</th>
<th>Conductor size in mm² csa (AWG / MCM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10 (Less than 33)</td>
<td>33.62 (2)</td>
</tr>
<tr>
<td>10.36 – 12.5 (34 – 41)</td>
<td>42.4 (1)</td>
</tr>
<tr>
<td>12.8 – 16 (42 – 53)</td>
<td>52 (1/0)</td>
</tr>
<tr>
<td>16.5 – 20 (54 – 66)</td>
<td>67.4 (2/6)</td>
</tr>
<tr>
<td>20.4 – 25.6 (67 – 84)</td>
<td>85 (3/6)</td>
</tr>
<tr>
<td>25.9 – 32 (85 – 105)</td>
<td>107 (4/0)</td>
</tr>
<tr>
<td>32.3 – 38.1 (106)</td>
<td></td>
</tr>
<tr>
<td>38.4 – 45.7 (122)</td>
<td></td>
</tr>
<tr>
<td>46 – 53.34 (151)</td>
<td></td>
</tr>
<tr>
<td>53 – 76.1 (176)</td>
<td></td>
</tr>
<tr>
<td>76.4 – 91.39 (25)</td>
<td></td>
</tr>
<tr>
<td>Greater than 91</td>
<td></td>
</tr>
</tbody>
</table>

### Figure 4-54

Roof Mounted Antenna Mast Grounding with Supplemental Grounding Electrode System

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Safety

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