SD312-H 2 dipole antenna, 5.0/5.5 dBi gain, HD, 370-512 MHz

- Covers 370-512 MHz in 2 band splits
- 5.0 dBi gain in elliptical (bi-directional) pattern (1/2 wave), 5.5 dBi gain offset pattern (1/4 wave)
- Heavy duty, with 150W power handling
- Recommend using an SMK-125-A7 side mounting kit

The SD312 series is an extremely rugged 2-bay exposed dipole antenna designed for applications where moderate gain is required. These premium-quality antennas are well suited to public safety/public security applications.

The design of these antennas provides for coverage between 370 to 512 MHz in 2 sub bands, 370-460 MHz and 406-512 MHz for private mobile networks, public safety and public security networks.

The standard connector offered is N male which is terminated on a 1 foot cable. Clamps are not included but recommended is a set of #130 clamps.

**Application Notes**

- The SD312 is available in half-wave configuration (P2) providing 4.0 dBi gain in a bidirectional pattern, and a quarter-wave configuration (P4) providing a 4.8 dBi gain in an offset pattern.

- Sub bands:
  - 370-460 MHz (F1)
  - 406-512 MHz (F2)

- For lower gain applications the SD310 single dipole configuration is available. For higher gain, the SD314, 4 dipole and SD318, 8 dipole configurations are available. For medium gain applications the SD312 is ideal.

**Model** | **Description** | **Pattern**
--- | --- | ---
SD312-HF1P2SNM | 5.0 dBi gain, N (male) connector, elliptical, HD, 370-460 MHz | Bi-directional
SD312-HF1P4SNM | 5.5 dBi gain, offset, HD, N (male) connector, 370-460 MHz | Offset
SD312-HF2P2SNM | 5.0 dBi gain, elliptical, HD, N (male) connector, 406-512 MHz | Bi-directional
SD312-HF2P2SNM(D06) | 5.0 dBi gain, elliptical, 6° DT, HD, N (male) connector, 406-512 MHz | Bi-directional
SD312-HF2P4SNM | 5.5 dBi gain, offset, HD, N (male) connector, 406-512 MHz | Offset
## Antennas
### UHF and Tetra Antennas
### SD312-H Series

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency Range, MHz</th>
<th>Gain (nominal), dBi (dBd)</th>
<th>Input VSWR (max)</th>
<th>Polarization</th>
<th>Pattern</th>
<th>Horizontal beamwidth, degrees</th>
<th>Vertical beamwidth, degrees</th>
<th>Average Power Input (max), W</th>
<th>Lightning protection</th>
<th>Bandwidth, MHz</th>
<th>Average Power Input (max), W</th>
<th>Bandwidth, MHz</th>
<th>Mechanical Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD312-HF1P2SNM</td>
<td>370 to 460</td>
<td>5 (7.1)</td>
<td>1.5:1</td>
<td>vertical</td>
<td>Bi-directional</td>
<td>224</td>
<td>34</td>
<td>150</td>
<td>DC ground</td>
<td>90</td>
<td>90 (9)</td>
<td>N (male)</td>
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<tr>
<td>SD312-HF1P4SNM</td>
<td>370 to 460</td>
<td>5.5 (7.6)</td>
<td>1.5:1</td>
<td>vertical</td>
<td>Offset</td>
<td>36</td>
<td>36</td>
<td>150</td>
<td>DC ground</td>
<td>90</td>
<td>90 (9)</td>
<td>N (male)</td>
<td></td>
</tr>
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<td>SD312-HF2P2SNM</td>
<td>406 to 512</td>
<td>5 (7.1)</td>
<td>1.5:1</td>
<td>vertical</td>
<td>Bi-directional</td>
<td>36</td>
<td>36</td>
<td>150</td>
<td>DC ground</td>
<td>90</td>
<td>90 (9)</td>
<td>N (male)</td>
<td></td>
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<tr>
<td>SD312-HF2P2SNM(D06)</td>
<td>406 to 512</td>
<td>5 (7.1)</td>
<td>1.5:1</td>
<td>vertical</td>
<td>Bi-directional</td>
<td>36</td>
<td>36</td>
<td>150</td>
<td>DC ground</td>
<td>90</td>
<td>90 (9)</td>
<td>N (male)</td>
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</table>

**Electrical Specifications**

- **Frequency Range, MHz**: 370 to 460, 370 to 460, 406 to 512, 406 to 512
- **Gain (nominal), dBi (dBd)**: 5 (7.1), 5.5 (7.6), 5 (7.1), 5 (7.1)
- **Input VSWR (max)**: 1.5:1, 1.5:1, 1.5:1, 1.5:1
- **Polarization**: vertical, vertical, vertical, vertical
- **Pattern**: Bi-directional, Offset, Bi-directional, Bi-directional
- **Horizontal beamwidth, degrees**: 224
- **Vertical beamwidth, degrees**: 34, 36, 36, 36
- **Average Power Input (max), W**: 150, 150, 150, 150
- **Lightning protection**: DC ground, DC ground, DC ground, DC ground
- **Bandwidth, MHz**: 90, 90, 106, 90
- **Average Power Input (max), W**: 150, 150, 150, 150
- **Bandwidth, MHz**: 90, 90, 106, 90
- **Horizontal beamwidth, degrees**: 224
- **Vertical beamwidth, degrees**: 34, 36, 36, 36
- **Average Power Input (max), W**: 150, 150, 150, 150
- **Lightning protection**: DC ground, DC ground, DC ground, DC ground
- **Bandwidth, MHz**: 90, 90, 106, 90
- **Average Power Input (max), W**: 150, 150, 150, 150
- **Bandwidth, MHz**: 90, 90, 106, 90

**Mechanical Specifications**

- **Connector**: N (male), N (male), N (male), N (male)
- **Length/Height, in (mm)**: 80 (2032), 80 (2032), 80 (2032), 80 (2032)
- **Width, in (mm)**: 16 (406), 11 (279), 16 (406), 16 (406)
- **Depth, in (mm)**: 3.5 (89), 3.5 (89), 3.5 (89), 3.5 (89)
- **Base pipe diameter, in (mm)**: 1.9 (48), 1.9 (48), 1.9 (48), 1.9 (48)
- **Base pipe mounting length, in (mm)**: 24 (610), 24 (610), 24 (610), 24 (610)
- **Weight, lbs (kg)**: 11 (5), 10.5 (4.8), 11 (5), 11 (5)
- **Actual Shipping weight, lbs (kg)**: 18 (8.2), 20 (9.1), 20 (9.1), 20 (9.1)
- **Shipping dimensions, in (mm)**: 83x5x20 (2108x127x508), 83x5x20 (2108x127x508), 83x5x20 (2108x127x508), 83x5x20 (2108x127x508)
- **Mounting hardware**: clamps not supplied, clamps not supplied, clamps not supplied, clamps not supplied

**Contact Information**

- **Telephone**: USA: 1 800 263 3275, International: +44 (0) 1223 42 03 03, International: +1 905 726 7676
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Dated: 05-02-10
Antennas
UHF and Tetra Antennas
SD312-H Series

Electrical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>SD312-HF2P4SNM</th>
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</thead>
<tbody>
<tr>
<td>Frequency Range, MHz</td>
<td>406 to 512</td>
</tr>
<tr>
<td>Gain (nominal), dBi (dBi)</td>
<td>5.5 (7.6)</td>
</tr>
<tr>
<td>Input VSWR (max)</td>
<td>1.5:1</td>
</tr>
<tr>
<td>Polarization</td>
<td>Vertical</td>
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<tr>
<td>Pattern</td>
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<td>Horizontal beamwidth, degrees</td>
<td>224</td>
</tr>
<tr>
<td>Vertical beamwidth, degrees</td>
<td>36</td>
</tr>
<tr>
<td>Average Power Input (max), W</td>
<td>150</td>
</tr>
<tr>
<td>Lightning protection</td>
<td>DC ground</td>
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<tr>
<td>Bandwidth, MHz</td>
<td>106</td>
</tr>
<tr>
<td>Electrical tilt (available)</td>
<td></td>
</tr>
</tbody>
</table>

Mechanical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>SD312-HF2P4SNM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>N (male)</td>
</tr>
<tr>
<td>Length/ Height, in (mm)</td>
<td>80 (2032)</td>
</tr>
<tr>
<td>Width, in (mm)</td>
<td>11 (279)</td>
</tr>
<tr>
<td>Depth, in (mm)</td>
<td>3.5 (89)</td>
</tr>
<tr>
<td>Base pipe diameter, in (mm)</td>
<td>1.9 (48)</td>
</tr>
<tr>
<td>Base pipe mounting length, in (mm)</td>
<td>24 (610)</td>
</tr>
<tr>
<td>Weight, lbs (kg)</td>
<td>10.5 (4.8)</td>
</tr>
<tr>
<td>Actual Shipping weight, lbs (kg)</td>
<td>20 (9.1)</td>
</tr>
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<td>clamps not supplied</td>
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</table>

Telephone

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Product Specification Sheet

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Antennas
UHF and Tetra Antennas
SD312-H Series

SINCLAIR TECHNOLOGIES

MEASURED RADIATION PATTERN
VERTICAL POLARIZATION

SD312-HF2P2SNM

SD312-HF2P2SNM

MEASURED RADIATION PATTERN
VERTICAL POLARIZATION

Elevation
Relative Gain - 10 dB per Division

SD312-HF2P2SNM(D06)

SD312-HF2P4SNM

MEASURED RADIATION PATTERN
VERTICAL POLARIZATION

Azimuth
Relative Gain - 10 dB per Division

SD312-HF2P2SNM(D06)

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Region
United States
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Caribbean and Latin America
Canada and rest of the world

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Product Specification Sheet
SD312-H

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