



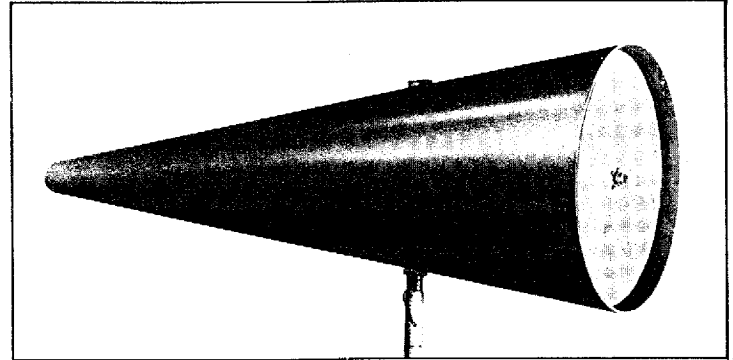
Conical Log-Spiral 93490-1 200 MHz – 1 GHz

Description

Conical Log-Spiral Antenna Model 93490-1 has been developed for use with RFI instrumentation during tests in accordance with MIL-STD-826/461. The antenna has a broadband configuration affording a low VSWR over their complete frequency range. The directional pattern is excellent with respect to back lobe suppression, assuring that interference originating behind the antenna will not affect the test signal under investigation.

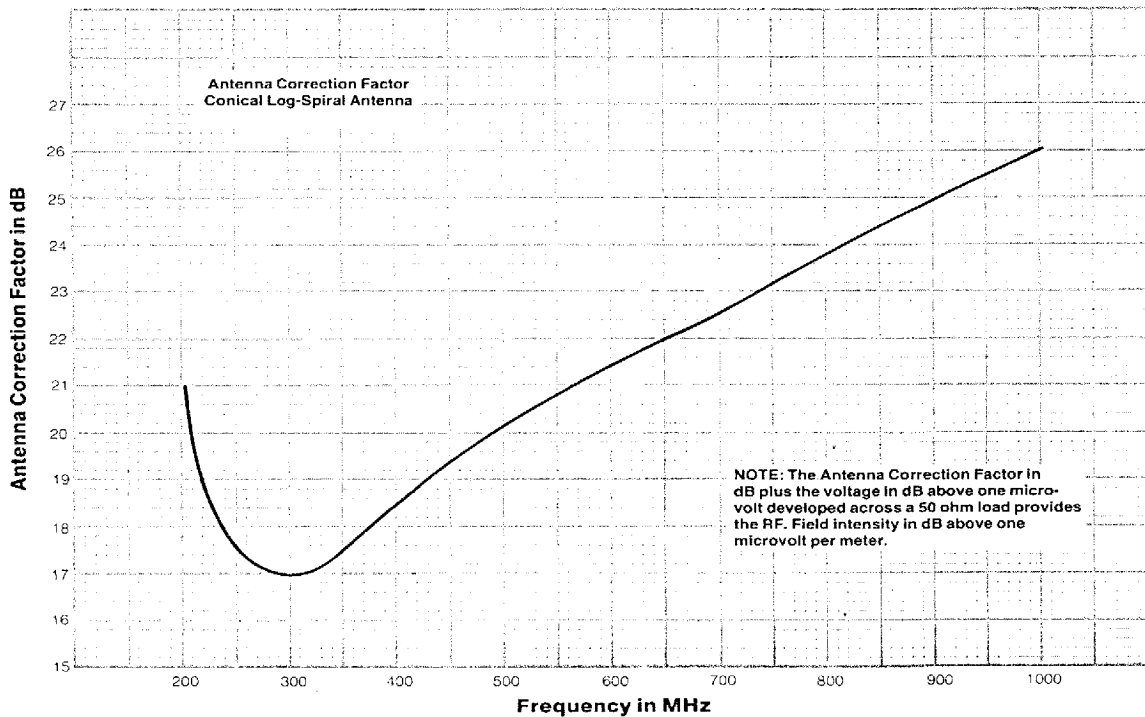
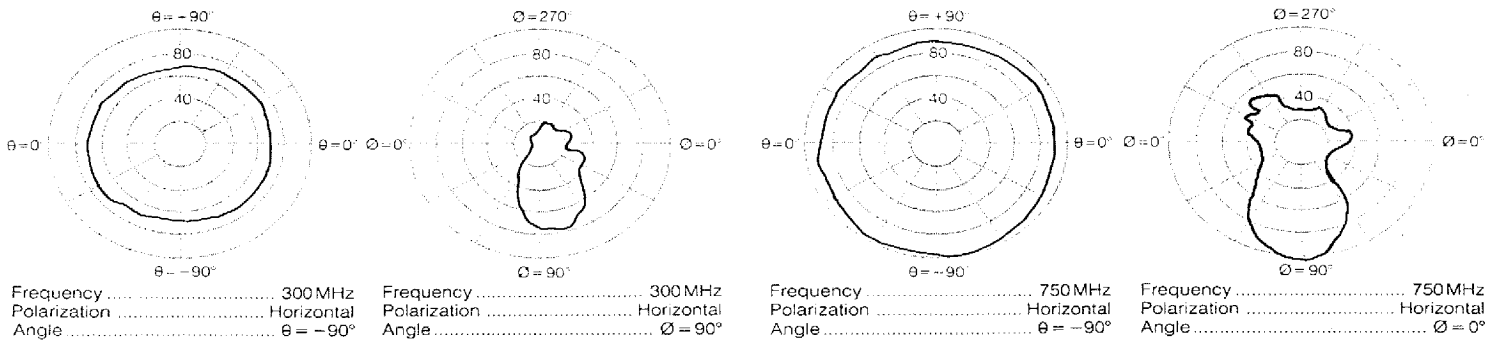
Specifications

Frequency Range: 200 MHz to 1 GHz.
Conforms to U.S.A.F. Drawing: 62J4040
Impedance: Nominally 50 ohms.
Dimensions: 14 inches dia. x 34 inches long.
Weight: 10 lbs.



Optional Accessories

- (1) 91932-2 Antenna Tripod Adaptor
- (2) 91933-2 Tripod
- (3) 90920-2 Antenna Mast Section 36"
- (4) 90933-8 RF Cable N-N 20'



Emission Antennas in the Radiating Mode

Maximum Power Input Table

| | | | |
|------------|--------------------|------------------|--|
| 93490-1 | Conical Log Spiral | 200 MHz-1 GHz | 100w max |
| 93491-2 | Conical Log Spiral | 1 GHz-10 GHz | 10w max |
| 94455-1 | Biconical | 20 MHz-200 MHz | 400w |
| 94605-1 | Loop | 20 Hz-50 kHz | *0.4 amps max I |
| 94608-1 | Loop | 20 Hz-50 kHz | *0.65 amps max I |
| 94612-1 | Log Periodic | 1 GHz-18 GHz | 10w |
| 94623-1 | Horn Kit | 1 GHz-18 GHz | 100w |
| 94626-1 | Horn Kit | 18 GHz-26 GHz | 500w |
| 94627-1 | Horn Kit | 26 GHz-40 GHz | 500w |
| DM-105A-T1 | Dipole Set | 20 MHz-200 MHz | } 5000 watts or 500v across 50 ohms |
| T2 | Dipole Set | 200 MHz-400 MHz | |
| T3 | Dipole Set | 400 MHz-1000 MHz | |

* Load impedance varies with frequency

93490-1 Conical Log Spiral Antenna

| Freq. (MHz) | Typical Gain Numeric | Field Strength | | | |
|-------------|----------------------|----------------|-----------|------------|------------|
| | | 1 V/m (W) | 5 V/m (W) | 10 V/m (W) | 20 V/m (W) |
| 200 | 0.334 | 0.01 | 2.5 | 9.98 | 39.9 |
| 225 | 0.755 | 0.044 | 1.1 | 4.41 | 17.66 |
| 250 | 1.162 | 0.0287 | 0.7 | 2.87 | 11.47 |
| 300 | 1.942 | 0.017 | 0.43 | 1.72 | 6.86 |
| 400 | 2.40 | 0.014 | 0.35 | 1.39 | 5.55 |
| 500 | 2.52 | 0.013 | 0.33 | 1.32 | 5.29 |
| 600 | 2.64 | 0.0126 | 0.316 | 1.26 | 5.05 |
| 700 | 2.73 | 0.012 | 0.30 | 1.22 | 4.88 |
| 800 | 2.67 | 0.0125 | 0.312 | 1.25 | 5.00 |
| 900 | 2.68 | 0.0124 | 0.31 | 1.24 | 4.97 |
| 1000 | 2.64 | 0.0126 | 0.316 | 1.26 | 5.05 |

93491-2 Conical Log Spiral Antenna

| Freq. (GHz) | Typical Gain Numeric | Field Strength | | | |
|-------------|----------------------|----------------|-----------|------------|------------|
| | | 1 V/m (W) | 5 V/m (W) | 10 V/m (W) | 20 V/m (W) |
| 1 | 2.37 | 0.014 | 0.35 | 1.40 | 5.62 |
| 2 | 2.22 | 0.015 | 0.375 | 1.50 | 6.00 |
| 3 | 2.08 | 0.016 | 0.40 | 1.60 | 6.41 |
| 4 | 2.04 | 0.016 | 0.41 | 1.63 | 6.54 |
| 5 | 2.05 | 0.016 | 0.41 | 1.63 | 6.50 |
| 6 | 2.09 | 0.016 | 0.40 | 1.59 | 6.38 |
| 7 | 2.04 | 0.0163 | 0.41 | 1.63 | 6.54 |
| 8 | 1.98 | 0.017 | 0.42 | 1.68 | 6.73 |
| 9 | 1.834 | 0.018 | 0.45 | 1.82 | 7.27 |
| 10 | 1.68 | 0.02 | 0.50 | 1.96 | 7.94 |

94455-1 Biconical Antenna

| Freq. (MHz) | Power Gain (dB) | | |
|-------------|-----------------|-----------------|-----------|
| | 1 Meter Spacing | 3 Meter Spacing | Far Field |
| 20 | -15.4 | -19.4 | -21.2 |
| 30 | -12.7 | -10.4 | -13.8 |
| 40 | -11.7 | -8.2 | -10.5 |
| 50 | -7.3 | -6.9 | -7.4 |
| 60 | -2.4 | -1.9 | +0.1 |
| 70 | +0.4 | +0.4 | +2.8 |
| 80 | -1.1 | -3.7 | +2.0 |
| 90 | -2.2 | -3.5 | +0.2 |
| 100 | -2.7 | +2.0 | +1.65 |
| 110 | -2.1 | +2.1 | +3.0 |
| 120 | -2.0 | +2.4 | +3.4 |
| 130 | -2.7 | -0.5 | +2.5 |
| 140 | -4.3 | -3.7 | +1.0 |
| 150 | -4.5 | +3.1 | -1.0 |
| 160 | -3.5 | -2.2 | -0.5 |
| 170 | -2.1 | -3.9 | +0.3 |
| 180 | +0.1 | +0.4 | +2.1 |
| 190 | +1.8 | +1.9 | +3.3 |
| 200 | +0.8 | +3.6 | +0.6 |

| Freq. (MHz) | Typical Gain | Field Strength | | | |
|-------------|--------------|----------------|-----------|------------|------------|
| | | 1 V/m (W) | 5 V/m (W) | 10 V/m (W) | 20 V/m (W) |
| 20 | 0.03 | 1.10 | 28.0 | 112.0 | 444.0 |
| 30 | 0.055 | 0.60 | 15.0 | 60.0 | 240.0 |
| 40 | 0.07 | 0.48 | 12.0 | 48.0 | 192.0 |
| 50 | 0.19 | 0.18 | 4.5 | 18.0 | 72.0 |
| 60 | 0.60 | 0.06 | 1.5 | 6.0 | 24.0 |
| 70 | 1.10 | 0.03 | 0.75 | 3.0 | 12.0 |
| 80 | 0.80 | 0.04 | 1.0 | 4.0 | 16.0 |
| 90 | 0.65 | 0.05 | 1.25 | 5.0 | 20.0 |
| 100 | 0.60 | 0.06 | 1.5 | 6.0 | 24.0 |
| 110 | 0.70 | 0.05 | 1.25 | 5.0 | 20.0 |
| 120 | 0.70 | 0.05 | 1.25 | 5.0 | 20.0 |
| 130 | 0.50 | 0.065 | 1.6 | 6.4 | 26.0 |
| 140 | 0.37 | 0.09 | 2.25 | 9.0 | 36.0 |
| 150 | 0.35 | 0.095 | 2.4 | 9.5 | 38.0 |
| 160 | 0.45 | 0.075 | 1.9 | 7.5 | 30.0 |
| 170 | 0.60 | 0.06 | 1.5 | 6.0 | 24.0 |
| 180 | 1.00 | 0.033 | 0.85 | 3.4 | 13.5 |
| 190 | 1.50 | 0.022 | 0.55 | 2.2 | 9.0 |
| 200 | 0.80 | 0.04 | 1.0 | 4.0 | 16.0 |