



VERTICAL DIPOLE FM BROADCAST ANTENNAS

P1 SERIES



- **General.** The P1 Vertical Dipole antenna series is designed for FM Broadcast Band (87,5 - 108 MHz). Each antenna is composed of one balun feed vertical dipole, two rigid feed lines and a mounting bracket.
- **Excellent Performance** for stereo and SCA operation.
- **Omni-Directional.** The azimuth pattern is normally circular but could be modified by the mounting structure presence. As an option, the circularity of the horizontal pattern in presence of mounting structure can be factory tested.
- **Antenna systems.** Stacking more antennas it's possible to obtain customized patterns, increase the gain and the power handling capacity according to user requirements. Custom patterns, electrical beam tilt and null fill are available upon request.
- **Broadband.** Suitable for channel or broadband operations with multi-channel combiners.
- **Easy installation.** The standard mounting brackets are designed for instant installation on poles with diameters from 32 mm to 90 mm. Special brackets are available upon request.
- **Water, icing, moisture protection.** The input connector is protected against rain and icing by a special housing. The internal balun is also protected against water, icing and moisture ingress by a sealed housing.
- **State of the art mechanical design,** employing the finest materials (stainless steel, non-corrosive aluminium alloy, marine brass, virgin PTFE) resulting in long life service.
- **Lightning resistance** is guaranteed by the DC ground potential of the entire antenna.

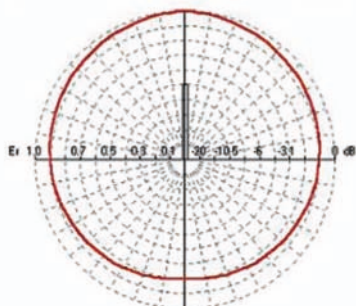
R.F. Data:

| | |
|--|------------------|
| Frequency Range | 87.5 - 108.0 MHz |
| Bandwidth | Broadband |
| Polarization | Vertical |
| Connectors: | |
| P1/N | N female |
| P1/716 | DIN 7/16" |
| P1/LC | LC |
| P1/78 | EIA 7/8" |
| Maximum Input Power: | |
| P1/N | 0.6 kW |
| P1/716 | 1.4 kW |
| P1/LC | 1.6 kW |
| P1/78 | 3.5 kW |
| Gain (at mid band, ref. to $\lambda/2$ dipole) | 2.15 dBd |
| VSWR (in the whole band) | < 1.3 :1 |
| Impedance | 50 Ω |
| Wind load (ref 150 Km/h): | |
| Frontal | 18 Kg |
| Lateral | 26 Kg |
| Grounding | Via clamps |
| Vertical Beamwidth (at -3 dB, at mid band) | 72° |

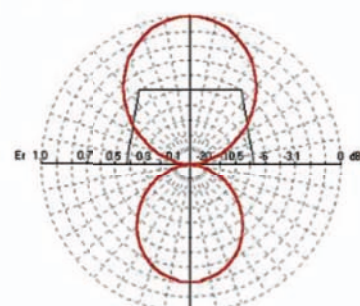
Mechanicals

| | |
|---------------------------|----------------------------------|
| Materials: | |
| P1 | Aluminium |
| PX1 | Stainless Steel |
| Pole diameter | 32 - 90 mm. (others on request) |
| Dimensions (HxWxD) | 1430x60x824 mm |
| Weight (with pole clamp): | |
| P1 | 4.2 kg |
| PX1 | 5.5 kg |

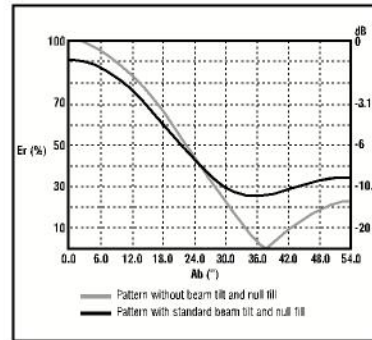
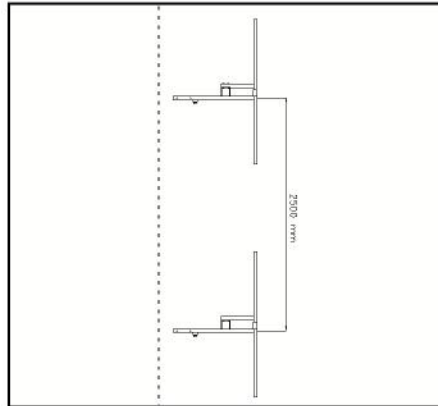
Horizontal Pattern



Vertical Pattern

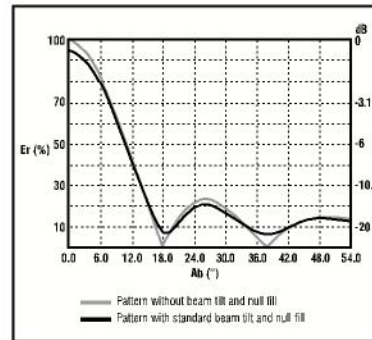
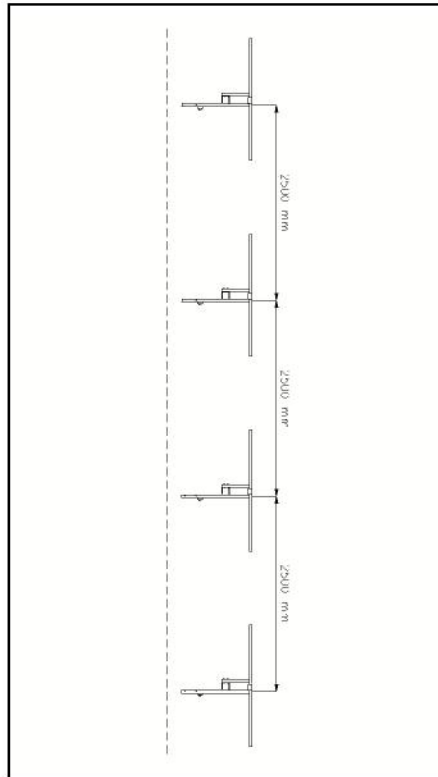


DIPOLES ARRANGEMENT

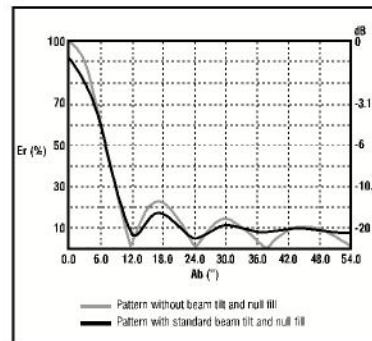


2 P1 DIPOLES - TYPICAL VERTICAL RADIATION PATTERNS AT MID-BAND IN VERTICAL POLARIZATION

DIPOLES ARRANGEMENT



4 P1 DIPOLES - TYPICAL VERTICAL RADIATION PATTERNS AT MID-BAND IN VERTICAL POLARIZATION



6 P1 DIPOLES - TYPICAL VERTICAL RADIATION PATTERNS AT MID-BAND IN VERTICAL POLARIZATION

General arrays specifications

| MODEL | NUMBER OF ANTENNA | MAXIMUM POWER (W) | GAIN (dBd) | WEIGHT (KG) P1 - PX1 | VERTICAL DIMENSIONS (mt) |
|----------|-------------------|-------------------|------------|----------------------|--------------------------|
| P1/N-2 | 2 | 1.200 | + 5.1 | 8.4 - 11.0 | 3.93 |
| P1/N-3 | 3 | 1.800 | + 6.6 | 12.6 - 16.5 | 6.43 |
| P1/N-4 | 4 | 2.400 | + 7.9 | 16.8 - 22.0 | 8.93 |
| P1/N-6 | 6 | 3.600 | + 9.4 | 25.2 - 33.0 | 12.93 |
| P1/N-8 | 8 | 4.800 | + 10.6 | 33.6 - 44.0 | 18.93 |
| P1/716-2 | 2 | 2.800 | + 5.1 | 8.4 - 11.0 | 3.93 |
| P1/716-3 | 3 | 4.200 | + 6.6 | 12.6 - 16.5 | 6.43 |
| P1/716-4 | 4 | 5.600 | + 7.9 | 16.8 - 22.0 | 8.93 |
| P1/716-6 | 6 | 8.400 | + 9.4 | 25.2 - 33.0 | 12.93 |
| P1/716-8 | 8 | 11.200 | + 10.6 | 33.6 - 44.0 | 18.93 |
| P1/LC-2 | 2 | 3.200 | + 5.1 | 8.4 - 11.0 | 3.93 |
| P1/LC-3 | 3 | 4.800 | + 6.6 | 12.6 - 16.5 | 6.43 |
| P1/LC-4 | 4 | 6.400 | + 7.9 | 16.8 - 22.0 | 8.93 |
| P1/LC-6 | 6 | 9.600 | + 9.4 | 25.2 - 33.0 | 12.93 |
| P1/LC-8 | 8 | 12.800 | + 10.6 | 33.6 - 44.0 | 18.93 |
| P1/78-2 | 2 | 7.000 | + 5.1 | 8.4 - 11.0 | 3.93 |
| P1/78-3 | 3 | 10.500 | + 6.6 | 12.6 - 16.5 | 6.43 |
| P1/78-4 | 4 | 14.000 | + 7.9 | 16.8 - 22.0 | 8.93 |
| P1/78-6 | 6 | 21.000 | + 9.4 | 25.2 - 33.0 | 12.93 |
| P1/78-8 | 8 | 28.000 | + 10.6 | 33.6 - 44.0 | 18.93 |