



VERTICAL DIPOLE OMNIDIRECTIONAL FM BROADCAST ANTENNA

P1-series



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- **General.** The P1 Vertical Polarization Dipole Antenna series is designed for FM Broadcast Band (87,5 –108 MHz) . Each antenna is composed of one balun feed vertical dipole and is made with stainless steel (PX1 models) or resistant aluminium alloy (P1 models).
- **Omni-Directional.** The radiation pattern is omnidirectional (see horizontal pattern in the next page).
- **Antenna systems.** By stacking more antennas it is possible to obtain customized patterns, to increase the gain and the power handling capacity according to user's requirements. Custom patterns, electrical beam tilt and null fill designs are available upon request.
- **Broadband.** Suitable for single 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 by a sealed housing.
- **State of the art mechanical design.** By employing the finest materials (stainless steel, non-corrosive aluminium alloy, marine brass, virgin PTFE) it is assured a longer life service.
- **Lightning resistance** is assured by the DC ground potential of the entire antenna.



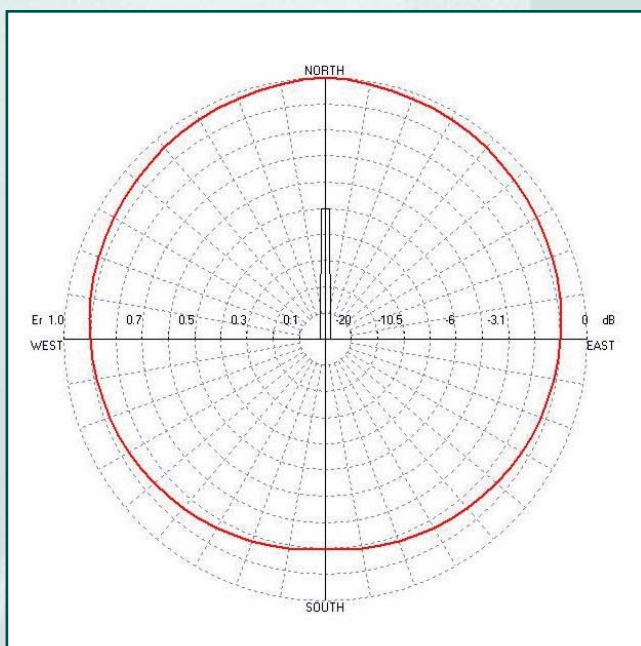
TECHNICAL CHARACTERISTICS

RF DATA

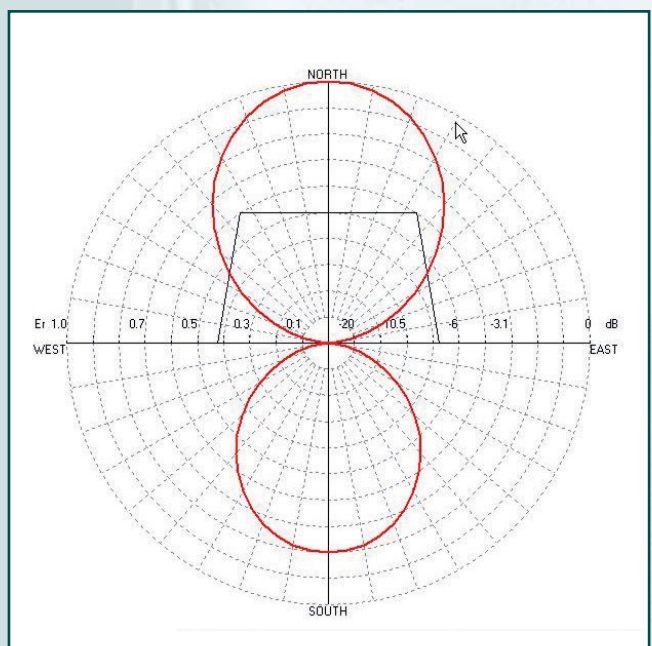
Frequency Range	87.5 - 108.0 MHz
Bandwidth	Broadband
Polarization	Vertical
Connectors:	
P1/N	N female
P1/716	DIN 7/16"
P1/LC	LC
P1/78	EIA 7/8"
Maximum Power Handling Capability:	
P1/N	0.6 kW
P1/716	1.4 kW
P1/LC	1.6 kW
P1/78	3.5 kW
Gain (at mid band, ref. to $\lambda/2$ dipole)	2.15 dBd
VSWR (in the whole 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	Anodized Aluminium
PX1	Stainless Steel
Pole diameter	32 - 90 mm (others on request)
Dimensions (HxWxD)	1430x40x840 mm
Weight (with pole clamp):	
P1	4.2 kg
PX1	6.5 kg

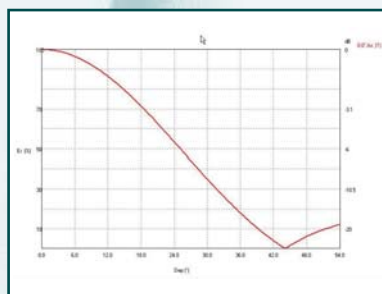
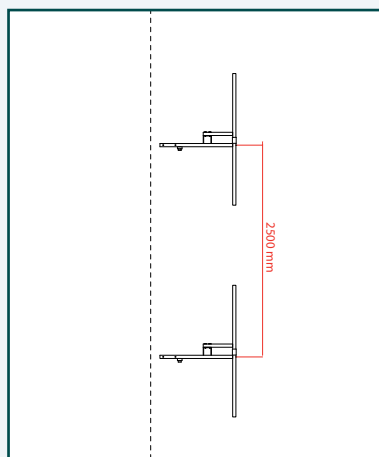


Horizontal pattern



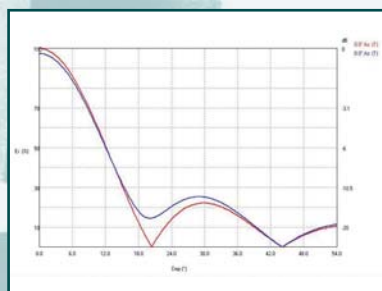
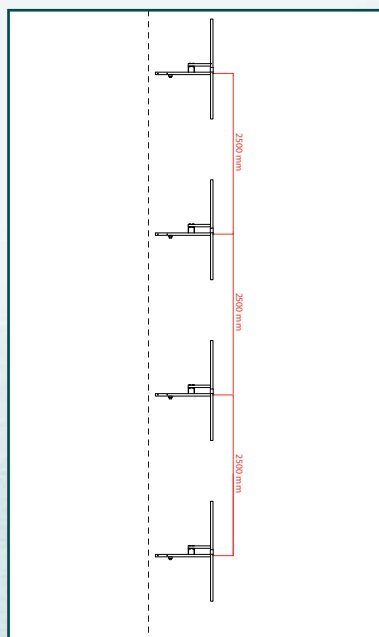
Vertical pattern

DIPOLES ARRANGEMENT

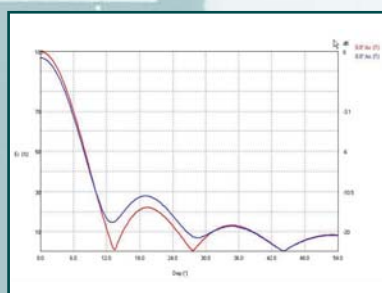


2 P1 DIPOLES – TYPICAL VERTICAL RADIATION PATTERNS AT MID-BAND IN VERTICAL POLARIZATION

DIPOLES ARRANGEMENT



4 P1 DIPOLES – TYPICAL VERTICAL RADIATION PATTERNS AT MID-BAND IN VERTICAL POLARIZATION (red = without null fill optimization; blue = with null fill optimization)



6 P1 DIPOLES – TYPICAL VERTICAL RADIATION PATTERNS AT MID-BAND IN VERTICAL POLARIZATION (red = without null fill optimization; blue = with null fill optimization)

General arrays specifications

MODEL	NUMBER OF ANTENNAS	MAXIMUM POWER (W)	GAIN (dBd)	WEIGHT (KG) P1-PX1	VERTICAL DIMENSIONS (mt)
P1/N-2	2	1.200	+ 5.1	8.4 - 13.0	3.93
P1/N-3	3	1.800	+ 6.6	12.6 - 19.5	6.43
P1/N-4	4	2.400	+ 7.9	16.8 - 26.0	8.93
P1/N-6	6	3.600	+ 9.4	25.2 - 39.0	12.93
P1/N-8	8	4.800	+ 10.6	33.6 - 52.0	18.93
P1/716-2	2	2.800	+ 5.1	8.4 - 13.0	3.93
P1/716-3	3	4.200	+ 6.6	12.6 - 19.5	6.43
P1/716-4	4	5.600	+ 7.9	16.8 - 26.0	8.93
P1/716-6	6	8.400	+ 9.4	25.2 - 39.0	13.93
P1/716-8	8	11.200	+ 10.6	33.6 - 52.0	18.93
P1/LC-2	2	3.200	+ 5.1	8.4 - 13.0	3.93
P1/LC-3	3	4.800	+ 6.6	12.6 - 19.5	6.43
P1/LC-4	4	6.400	+ 7.9	16.8 - 26.0	8.93
P1/LC-6	6	9.600	+ 9.4	25.2 - 39.0	13.93
P1/LC-8	8	12.800	+ 10.6	33.6 - 52.0	18.93
P1/78-2	2	7.000	+ 5.1	8.4 - 13.0	3.93
P1/78-3	3	10.500	+ 6.6	12.6 - 19.5	6.43
P1/78-4	4	14.000	+ 7.9	16.8 - 26.0	8.93
P1/78-6	6	21.000	+ 9.4	25.2 - 39.0	13.93
P1/78-8	8	28.000	+ 10.6	33.6 - 52.0	18.93