

Base Station VHF

FM Broadcast Folded Dipoles & Stacked Arrays

Models FMD, FMD3-SA & FMD6-SA

The FMD series of dipoles are designed as an economical antenna system for medium power FM broadcast stations. They are available in three configurations - single dipole and two or four dipole stacked arrays.

Construction is from heavy extruded aluminium tube with a rugged cast aluminium centre clamp. This clamp is then attached to the boom with three radial bolts to provide a reliable connection. All hardware is stainless steel. To increase the corrosion resistance, the aluminium element and boom are silver anodised.

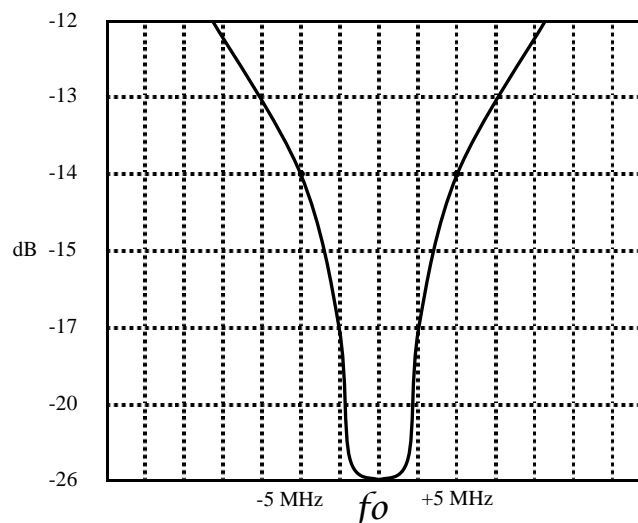
Each Dipole is fitted with a RG213 coax tail, fed down the boom centre and terminated with an N plug connector.

By adjusting the spacing from the steel supporting mast or reflective supporting structure, an offset radiation pattern is achieved providing more gain in the favoured direction. This is shown in the radiation pattern on page 23 with "A" being the 1/4 wave offset and "B" the omnidirectional pattern. Down-tilt can also be provided.

Items supplied for the FMD3-SA - 2 x Dipoles (FMD), 1 x Power Divider (PD-2L)
Items supplied for the FMD6-SA - 4 x Dipoles (FMD), 1 x Power Divider (PD-4L)

Mounting Options:

- Mount to a wooden pole, use the Pole Mount Clamp (CLPM or CLVPM).
- Mount to a vertical tube diameter of up to 48mm, use the Cross Clamp (CLCR).



Typical Return Loss - FMD

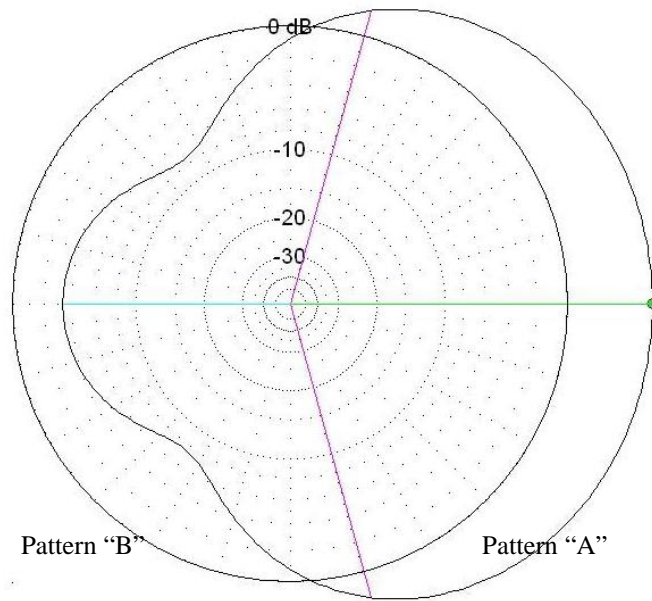
Base Station VHF

Specification:

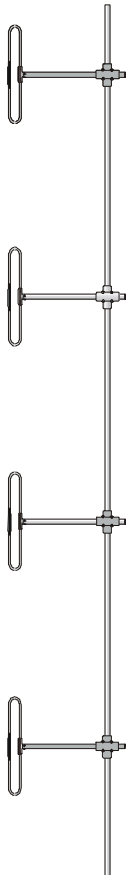
MODEL	FMD	FMD3-SA	FMD6-SA
Number of Dipoles	1	2	4
Frequency Range (MHz)	88 - 108		
Bandwidth (MHz) at -20dB	10		
Polarisation	Vertical		
Omnidirectional Gain (dBd)	0	3	6
Gain with Offset (dBd)	3	6	9
Half Power Beamwidth E Plane (Deg)	N/A	27	13
Input Impedance (Ohms)	50		
Return Loss (dB & VSWR)	<-20dB 1.2:1		
Maximum Power (W) input*	350	700	1400
Cable Type	RG213		
Connector Type	N Plug		
Dipole Length (m)	1.5		
Boom Length (m)	1.5		
Boom Diameter (mm)	48		
Projected Area (m ²)	0.145	0.29	0.58
Wind Loading at 150 km/h (N)	160	320	640
Weight (kg)	4.3	8.8	17.6

- * The power rating is based on a cable type power divider (PD-2 or PD-4).
 A higher rating can be provided by using our tubular type power divider (PD-2FM or PD-4FM).
 Should the broadcast coverage area required be in a small sector, or if further gain is needed, then an alternative would be to use a yagi antenna.

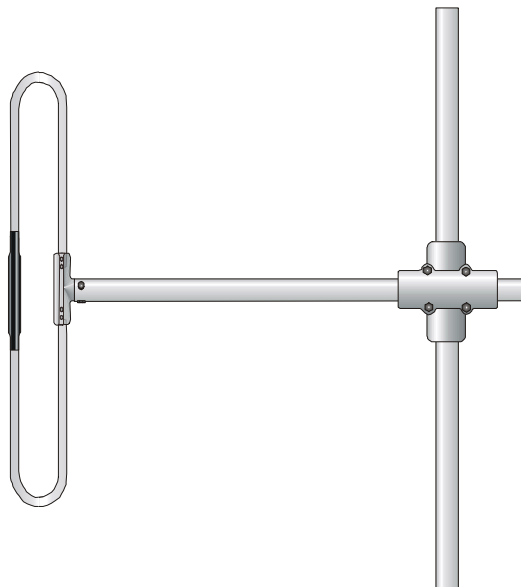
Base Station VHF



FMD H Plane Radiation Pattern with and without Off-set



FMD6-SA



FMD