

Section 2

BROADCAST ANTENNAS

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FM Radio Sidemount Dipoles

Frequency
88 – 108 MHz

Bandwidth
See Table



Sidemount dipoles are an ideal choice for use as an FM radio broadcast antenna. They are of reliable construction, cover a broad bandwidth and permit single antenna sharing with multiple FM transmit frequencies.

Radiating elements operate at DC ground potential. Pattern formation can be varied by altering the dipole to tower distance. With closer dipole to tower spacing approximately 2.3 dBd of forward gain results

- **B46B** is constructed from aluminium and covers the entire FM band 88 to 108 MHz. The 1.5 metre RG213 cable tail is fitted with an N-Type Female connector rated for up to 500 Watts input power per bay.
- **B46BSS** is the stainless steel full band model also with a 1.5 metre RG213 cable tail and N-Type Female connector for 500 Watts per bay.
- **B46BHPSS** is the high power model rated for up to 2 Kilowatts per bay. Constructed from stainless steel, the cable tail is ½" flexible foam dielectric with a 7/16" Female DIN connector fitted. Specify any **10 MHz bandwidth** you desire within the FM band and your dipole will be manufactured accordingly.

For increased gain and power, mount sidemount dipoles in stack array formations using a power divider and branch feeder cables.

Mast mounting clamps, feeder cable, connectors and other accessories are available to complete the FM broadcast antenna installation.



| SPECIFICATIONS | B46B, B46BSS | B46BHPSS |
|-------------------------------|--|--|
| Construction | B46B aluminium, B46BSS stainless steel | Stainless steel |
| Frequency Range | 88 to 108 MHz | 88 to 108 MHz |
| Bandwidth | Full FM Band | Specify any 10 MHz |
| Tuning | Factory | Factory |
| Return Loss | Better than -17 dB | Better than -20 dB |
| Gain | Nominal 0 dBd gain, approximately 2.3 dBd forward gain results from using the mount pole as a reflector at 0.2 wave spacing. 2 Bay Array = 3 dBd, 4 Bay Array = 6 dBd | |
| Polarisation | Vertical | Vertical |
| Impedance | 50 Ohms | 50 Ohms |
| Cable Tail | 1.5 metres RG213 | 1.5 metres ½" flexible foam dielectric |
| Connector | N-Female fitted to the cable | 7/16" Female DIN fitted to the cable |
| Maximum Input Power | 500 Watts per Bay | 2 Kilowatts per Bay |
| DC Grounding | Yes | Yes |
| Dipole Height | 1.4 metres | 1.4 metres |
| Mount Tube | 1.5 metres long x 38 mm diameter | |
| Weight | 3.5 kg in Aluminium, 5 kg in Stainless Steel | |
| Projected Area | 0.090 m ² | 0.090 m ² |
| Wind Load at 160 kph | 10.875 kg, 0.107 kN | 10.875 kg, 0.107 kN |
| Mounting Clamp (Not Supplied) | 1 x Y2300 recommended for Aluminium models, 1 x Y2300SS recommended for Stainless Steel | |
| Warranty | 2 Years | 2 Years |

The Y2300 heavy duty right-angle clamp has galvanised steel components. The Y2300SS clamp is all stainless steel. Secure the U-Bolts to any round mast between 30 mm and 50 mm in diameter. For larger diameter masts up to 70 mm, the galvanised steel Y2300L clamp is available.