



ANTENNA EXPERTS

E-mail: info@antennaexperts.in Website: www.antennaexperts.in

Model # SD12-160

Frequency 155 – 165 MHz.

12dBd. Gain

OMNI-DIRECTIONAL AIS MARINE BAND HIGH GAIN VHF STACKED DIPOLE ARRAY

DESIGN FEATURES: The SD12-160 ultra high performance VHF marine band stacked dipole array is specially designed as AIS base station antenna for AIS Automatic Identification Systems covering entire VHF marine band. The SD12-160 is heavy duty AIS stacked dipole array features, wide bandwidth, high gain, high power handling capacity, low VSWR, low noise performance and null filling coverage with omni-directional characteristics. This AIS stacked dipole array maintains constant gain and VSWR over its 10 MHz bandwidth, making it highly suitable as base station antennas for AIS automatic identification systems used on ships and by vessel traffic services (VTS) for identifying and locating vessels by electronically exchanging data with other nearby ships, AIS base stations, and satellites and any other multi-channel communication systems. The wider 180 Degrees horizontal beam-width with high gain features making the AIS antenna highly suitable for Oceanic Information Region to control the inbound and outbound Oceanic traffic. The Vertical stacking distance is factory adjusted for highest possible efficiency. Specially designed center fed phasing harness ensures equal and in phase signal distribution to all the eight dipoles. The SD12-160 High gain stacked dipole array operates at D.C. ground for protection against lightning.

CONSTRUCTIONS: The stacked dipole array uses 6063T6 ultra corrosion resistant architectural anodized aluminum, consists of Eight folded dipoles stacked vertically, fed in phase. The center fed dipole ends and cable connections to the dipoles are sealed in epoxy at the end of the boom for protection against weather and imparting rigidity and strength to the dipoles structure. All the fasteners are made of marine grade SS. The 12 Meters long central mast for mounting the dipoles is shipped in four sections of 3 Meters each for easy of shipping. The dipoles are mounted on a tubular boom made of high strength aluminum alloy, which offers a low resistance discharge path against any lightning strike during the stormy weather. The N-Female termination of antenna sealed in flame retardant heat shrinking tube ensures complete waterproofing. The antenna can be supplied with or without central mast. The marine AIS Automatic Identification System is a VHF radio broadcasting system that transfers packets of data over the VHF data link VDL and enables AIS equipped vessels and shore-based stations to send and receive identification information that can be displayed on an electronic chart, computer display or compatible radar. This information can help in situational awareness and provide a means to assist in collision avoidance. AIS can be used as an aid to navigation by providing location and additional information on buoys and lights.

ELECTRICAL SPECIFICATIONS:

Frequency Range	155 - 165 MHz.
Gain	12 dBd. (14.15dBi)
Bandwidth	10 MHz.
Polarization	Vertical
Input Impedance	50 Ohms.
Radiation Pattern (Horizontal Beam-width)	180 Degrees
Vertical Beam-width –Half Power Points	9 Degrees
VSWR- Better Than	1.5 : 1
RF Power Handling Capacity	500 Watts
Input Termination	N-Female
Lightning Protection	Direct Ground

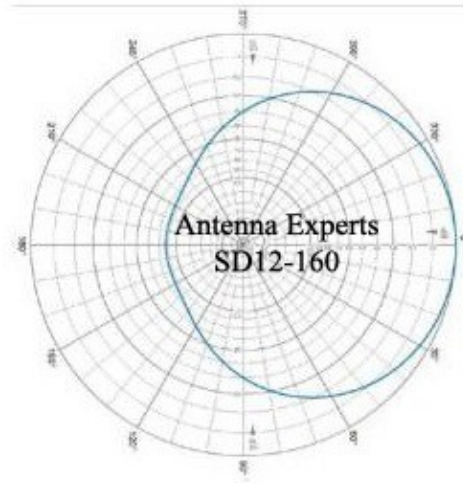
MECHANICAL SPECIFICATIONS:

Mounting Hardware	Stainless Steel
Wind Rating	180 Km/Hr.
Overall Length	12 Meters
Support Pipe Aluminum – Outer Diameter	51 mm
Dipoles Aluminum – Outer Diameter	12.7 mm
Shipping Length	3 Meters
Maximum Mount Pipe Diameter	52 mm (2 Inches)
Gross Weight – with central mast	45 Kg
Gross Weight – without central mast	20 Kgs

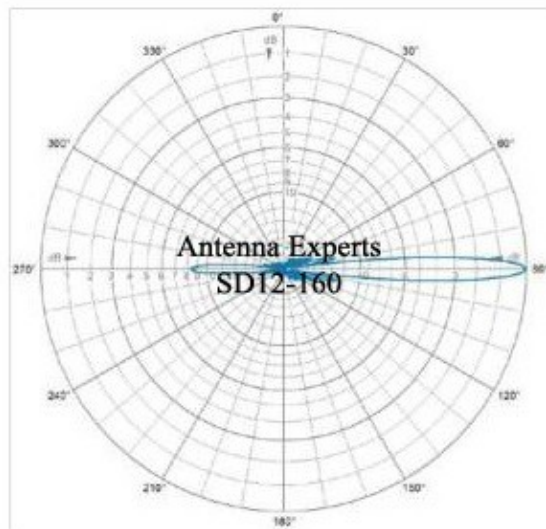
ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature	(-)30 to +70 Degrees Celsius
Storage Temperature	(-)40 to +80 Degrees Celsius
Humidity	0 to 95% RH

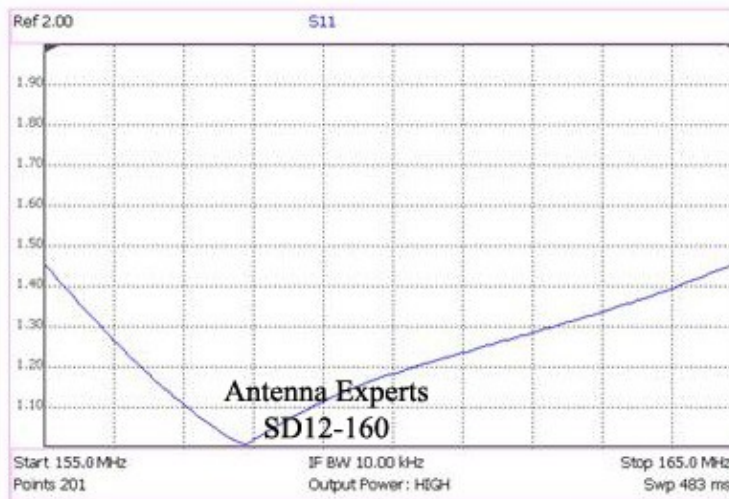
AIS Automatic Identification Systems High Gain Marine Antenna SD12-160



Azimuth Radiation Pattern AIS Antenna SD12-160



Elevation Radiation Pattern AIS Antenna SD12-160



Frequency Vs VSWR Curve of AIS Antenna SD12-160

ANTENNA
EXPERTS
AIS
MARINE
BAND
HIGH
GAIN
STACKED
DIPOLE
ARRAY
MODEL

SD12-160
12 dBd
Gain

