

# CSA Series

## VHF Screened Dipole Array Antennas

148 - 174 MHz



The CSA Series arrays are based on the popular OA Series dipole array antennas. Supplied in "kit" form these antennas are delivered in flatpack packaging to minimise freight and warehousing issues and allow for simplified assembly at time of installation.

The CSA Series arrays have approximately 60 degrees horizontal beamwidth and offer 7 or 9dBd in gain. The use of the corner screen reflector boosts the front to back ratio considerably allowing for tailoring antenna patterns for frequency re-use in extended networks.

CSA Series Arrays feature the same solid construction as the standard array series. The folded dipoles utilise an internal phasing harness in PTFE based double screened coaxial cable with a polyethylene jacket. The screens themselves are also made of fully welded aluminum to assist in minimising PIM.

With all welded construction and superior internal harness construction the antennas provide not only excellent radiation characteristics but also defined, high levels of intermodulation and noise suppression. IM performance is -140dBc based on a two carrier test. The entire array rests at ground potential and offers the ultimate in lightning resistant antennas.

- Offset (cardioid) pattern with 60 Degree nominal Horizontal Beamwidth
- High front to back ratio to allow frequency re-use by tailoring coverage areas
- Hermetically sealed internal PTFE based phasing harness capable of 750W continuous operation.
- Shipped unassembled for ease of handling, easily assembled on site
- Direct DC grounded for lightning protection and reduction of precipitation static noise
- Industry leading dual sectioned antenna PIM ratings (-140dBc) providing low IM and low noise characteristics for optimum performance
- The screen can be purchased to retrofit to an existing OA series array. See table below;



### Kitted components available for individual sale

Complete Array Part Number	CSA10-41-DIN	CSA20-41-DIN
Antenna Only Part Number	M-8648	OA20-41-DIN
Screen Only Part Number	M-8569	M-8567

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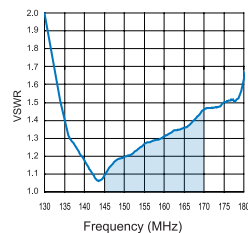
### Electrical Specifications

Model Number	CSA10-41-DIN	CSA20-41-DIN
Nominal Gain <i>dBi</i> ( <i>dBi</i> )	7 (9.1)	9 (11.1)
Frequency <i>MHz</i>	148-174	148 - 170
Tuned Bandwidth <i>MHz</i>	26	22
VSWR (Return Loss)	<1.5 :1 (14)	<1.7 :1 (11.7dB)
Nominal Impedance $\Omega$	50	
Vertical Beamwidth <sup>o</sup>	66	35
Horizontal Beamwidth <sup>o</sup>	64	62
Front / Back Ratio <i>dB</i>	23	24
Input Power <i>Watts</i>	750	
Passive IM 3rd order (2x20W) <i>dBc</i>	-140	

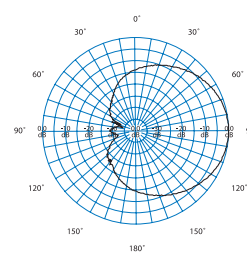
### Mechanical Specifications

Model Number	CSA10-41-DIN	CSA20-41-DIN	
Construction & Configuration	Welded aluminum, corrosion protection plating		
Screen Length <i>inches</i>	51	102	
Screen Width <i>inches</i>	82	82	
Weight <i>lbs</i>	47	172	
Shipping Weight <i>lbs</i>	57	Screen = 92 + Array = 88 (Total=180)	
Shipping Dimensions <i>inches</i>	H	17	Screen = 17 Array = 21
	W	38	Screen = 38 Array = 8
	L	59	Screen = 110 Array = 146
Termination	7/16 DIN female on a 20" cable tail		
Mounting Area <i>inches</i>	Clamps included to suit pole diameter 3.5 to 4.5		
Projected area <i>ft²</i>	No ice	11.4	47.5
	with ice	18.6	64.5
Lateral (Thrust) @ 100mph <i>lbs</i>	No ice	281	1175
	with ice	461	1597
Wind Gust Rating <i>mph</i>	No ice	>150	>150
	with ice	>150	>150
Torque @ 100mph <i>ft-lbs</i>	No ice	449	1100
	with ice	737	1495

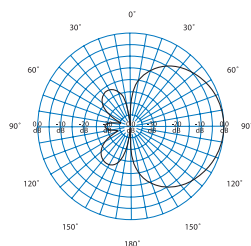
Typical VSWR response (CSA20-41-DIN)



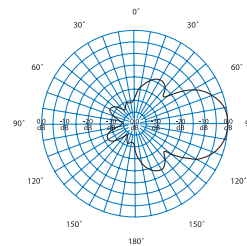
Typical H Plane (CSA20-41-DIN)



Typical E Plane (CSA10-41-DIN)



Typical E Plane (CSA20-41-DIN)



RFI  
2023 Case Parkway North  
Twinsburg, OH 44087  
Phone: 330 486 0706  
Fax: 330 486 0705

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