

# 50MHz Long John Beams

High Gain, Wide Bandwidth, Low-Loss Feeding



This antennas are a variation of the Yagi beams intended for those seeking the highest gain in the 50MHz band. Careful attention to details resulting from the results of long and continuing research and development has produced these fine antennas. Except model CL6A, newly designed the feeding system by adapting folded-dipole type driven element allows for the optimal transmission of high frequency energy from the coaxial cable to the balun and matching stub.

Model CL6DXX and CL6DXZ are high performing antennas modeled after the CL6DX. (Matching stub and U-balun are used in CL6A). Excellent VSWR characteristics are common to all models across 50 to 51MHz. The electrical performance is outstanding and the mechanical construction is similar to that used on large arrays for HF. All the models use high grade diecasting clamps and the booms and brackets are comparable to those of large size of antennas.

Model	CL6A	CL6DX	CL6DXX	CL6DXZ	CL609	CL610A	CL613	CL615
Frequency (MHz)	50	50	50	50	50	50	50	50
No. of Element	5	6	7	8	9	10	13	15
Forward Gain (dBi)	12.0	13.5	14.5	15.0	15.6	16.2	16.8	17.0
F / B Ratio (dB)	20	20	20	20	22	25	25	25
Power Capability (PEP/kW)	2	2	3	3	3	3	3	3
Boom Length (m)	4.0	5.7	7.2	9.3	11.1	13.1	15.8	18.8
Element Length (m)	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Rotational Radius (m)	2.6	3.5	4.0	5.0	6.5	7.3	8.4	9.9
Mast Diameter (mm)	42 ~ 61	42 ~ 61	42 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61
Wind Surface Area (m <sup>2</sup> )	0.2	0.3	0.45	0.55	0.66	0.85	1.0	2.0
Weight (kg)	4.7	6.8	9.0	11.0	14.0	17.0	27.0	43.0
Recommended Rotator	RC5-x	RC5-x	RC5-x	RC5-x	RC5A-x	RC5A-x	RC5A-x	RC5B-x

★ All the models include balun standard, connector type -M-

★ Wind survival rating of all the modes is above 35m/s.

★ Option: 6m Stack Kit, CN056-1 (for CL6A), CN056-2 (for CL6DX, DXX), CN056-3 (for CL6DXZ, 609, 610A)

# 144MHz Long John Beams

High Gain, Superior Strength, Low-Loss, Wide Applications



CD's each model of x209A, x211A, x213 series are Yagi beam antennas offering high gain for VHF bands. The standard model is designed for use at ground stations that require vertical polarization. The spacing and length of the elements used offer the highest obtainable gain and efficiency through several field tests using EME communication and Sun noise receiving. The driven elements are covered with plastic in order to minimize the adverse effects of rain and snow on the performance and thus the electrical characteristics are stable. Model X209A consists of 9 elements while 9 elements for model X211 and 13 elements for X213. Two or Four of these models can be placed in parallel to form an array enable to adjust stacking space either narrow or wide length. CD power splitter is used for impedance matching and high frequency energy distribution. High quality coaxial cable is used for between the power splitter and the driven element. Mechanically, the special construction of the boom provides for minimal distortion in the vertical plane. Junction type joiners of the boom are used to prevent vibration. The brackets are made of a lightweight, rugged magnesium alloy. The stacking distance of each model is selected so as to provide for maximum gain and high front to side ratio.

Model	2x209A	4x209A	2x211A	4x211A	2x213	4x213	4x213H (for EME)
Frequency (MHz)	144	144	144	144	144	144	144
No. of Element	9 × 2	9 × 4	11 × 2	11 × 4	13 × 2	13 × 4	13 × 2 × 2
Forward Gain (dBi)	17.2	19.0	18.3	20.1	19.0	22.0	22.0
F / B Ratio (dB)	20	20	20	25	25	25	26
Power Capability (PEP/kW)	1	2	1	2	1	2	2
Boom Length (m)	3.7	3.7	4.98	4.98	6.04	6.04	6.04
Element Length (m)	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Stacking Space (m)	1.8 ~ 2.5	6.0	2.0 ~ 2.8	6.9	2.4 ~ 3.4	10	3.4 ~ 3.6
Rotational Radius (m)	2.2 ~ 2.4	3.3	2.8 ~ 3.0	3.6	3.5 ~ 3.7	6	—
Mast Diameter (mm)	48 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61
Wind Surface Area (m <sup>2</sup> )	0.5	1.1	0.6	1.4	0.75	1.6	1.64
Weight (kg)	8.0	23.0	13.0	30.0	16.0	49.0	34.0
Recommended Rotator	RC5-x	RC5-x	RC5-x	RC5A-x	RC5-x	RC5A-x	RC5x, ERC5

- ★ All the models include balun standard, connector type -N-
- ★ Wind survival rating of all the modes is above 35m/s.
- ★ Option: 209A-4 Parallel Stack Kit, 211A-4 Parallel Stack Kit, Stack-Over Kit CN053