

# Long John Beams for 430MHz

High Gain, Superior Strength



CD models x727, x720, x713A are Yagi antennas designed from a new concept offering high gain and developed for use at ground stations requiring vertical polarization. This series has incorporated various new technical features that were first utilized in the VHF series of antennas. The spacing and length of elements has been selected so as to maximum gain enable to pick up a weak signal with effective S/N ratio. The distance between the driven element and the first director is very small, about 0.1 Lambda, but excellent gain is still achieved. The driven elements are covered with plastic in order to minimize the adverse effects of rain and snow on the performance, thus the electrical characteristics are stable. Take x727 for instance, forward gain obtained is 20dB single alone while obtain incomparable superior side rob of -20dB. It is upgradable to 2 stack-over. The use of high quality coaxial cable and high efficiency power splitters provide for maximum gain and feeder loss is negligible below 0.2dB. All of the cross brackets are made of a rugged, lightweight magnesium alloy. Model x713 is a single array of 13 elements while the x720 is an array of 18 elements and 27 element for x727.

Model	2x713A	2x720	4x720	4x720-1	8x720
Frequency (MHz)	430	430	430	430	430
No. of Element	13 × 2	20 × 2	20 × 4	20 × 2 × 2	20 × 4 × 2
Forward Gain (dBi)	19.8	22.0	25.0	24.8	27.8
F/B Ratio (dB)	23	23	25	25	25
Power Capability (PEP/kW)	1	1	2	2	2
Boom Length (m)	2.3	4.0	4.0	4.0	4.0
Element Length (m)	0.3	0.3	0.3	0.3	0.3
Stacking Space (m)	1.0	1.4	4.7	1.6 × 1.4	1.6 × 4.4
Rotational Radius (m)	1.5	2.5	3.4	2.5	3.2
Mast Diameter (mm)	48 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61
Wind Surface Area (m <sup>2</sup> )	0.19	0.3	0.7	0.6	1.5
Weight (kg)	4.4	7.8	20.0	15.7	43.0
Recommended Rotator	RC5-x	RC5-x	RC5A-x	RC5-x	RC5A,ERC5A

Model	x727	2x727	4x727-1	8x727V	8x727H (forEME)
Frequency (MHz)	430	430	430	430	430
No. of Element	27	27 × 2	27 × 2 × 2	27 × 4 × 2	27 × 4 × 2
Forward Gain (dBi)	20.9	23.9	26.7	28.9	28.9
F/B Ratio (dB)	25	25	25	25	25
Power Capability (PEP/kW)	0.5	1	2	2	2
Boom Length (m)	6.0	6.0	6.0	6.0	6.0
Element Length (m)	0.3	0.3	0.3	0.3	0.3
Stacking Space (m)	-	1.9	1.9 × 1.9	1.9 × 6.1	2.2 × 5.4
Rotational Radius (m)	3.4	3.6	3.6	4.6	4.5
Mast Diameter (mm)	48 ~ 61	48 ~ 61	48 ~ 61	60 ~ 77	48 ~ 61
Wind Surface Area (m <sup>2</sup> )	0.24	0.55	1.1	2.5	2.5
Weight (kg)	5.7	16.0	32.1	98.0	98.0
Recommended Rotator	RC5-x	RC5-x	RC5A-x	RC5B,ERC5A	RC5B,ERC5A

All the models include the balun transformer, connector type: -N-

Wind survival rating for all the models is above 35m/s.

Option: 720-4 Parallel Stacking Kit, 430-2 Stack-Over Kit, CN057(2-Splitter Type), CN057A(4-Splitter Type)

(Note that CN057A is not applicable to the model 2x713A)

# Long John Beams for 1200MHz

Designed and Developed in Newly Innovated Technology  
High Gain, Low Noise, Low-Loss and Superior Stability



CD x1218, x1230, x1250 series of antennas offering high gain in Yagi type are designed through newly innovated technologies that overcame the difficulties in such a antennas own, 1200MHz which is one of the highest frequency in amateur band, 1200MHz. As it is a matter of common that the difficulties raised in this high frequency antennas usually solve by use of LNA amplifier just mounted below the feed point in order to boost the gain and reduce noise etc. However this series of antenna alone overcome these problems by adapting our new technologies by carefully redesigning structures of antenna, that gives superior beam pattern and F/B ratio together with selectivity. The spacing and length of elements has been selected so as to achieve the excellent gain is achieved. The driven elements together with reflector and 1st director are covered with plastic in order to minimize the adverse effects of rain and snow on the performance, thus the electrical characteristics are stable. The use of high quality coaxial cable and high efficiency power splitters provide for maximum gain and feeder loss is negligible. All of the cross brackets are made of a rugged, lightweight magnesium alloy. Model x1218 is a single array of 18 elements while the x1230 is an array of 30 element and 50 element for x1250.

Model	x1218	2x1230	4x1230-1	2x1250	4x1250-1
Frequency (MHz)	1200	1200	1200	1200	1200
No. of Element	18 × 1	30 × 2	30 × 2 × 2	50 × 2	50 × 2 × 2
Forward Gain (dBi)	19.0	24.0	27.0	26.0	29.0
F/B Ratio (dB)	25	25	25	25	25
Power Capability (PEP/kW)	150	300	600	300	600
Boom Length (m)	1.15	2.3	2.3	3.96	3.96
Stacking Space (m)	-	0.65	H: 0.7 × 0.65	0.9	H: 0.9 × 0.9
Rotational Radius (m)	0.7	1.33	1.5	2.43	2.4
Mast Diameter (mm)	32 ~ 50	48 ~ 61	48 ~ 61	48 ~ 61	48 ~ 61
Wind Surface Area (m <sup>2</sup> )	0.1	0.2	0.4	0.25	0.5
Weight (kg)	1.0	3.5	7.0	8.0	16.0
Recommended Rotator	RC5-x	RC5-x	RC5-x	RC5-x	RC5-x

All the models include the balun transformer, connector type: -N-

Wind survival rating for all the models is above 35m/s.

Option: Stack-Over Kit CN052,(2-Splitter Type), CN052A(4-Splitter Type), CN052-1 Stack-Over Kit for x1218 Single

# Long John Beams for 2400MHz

Incomparable Beam Pattern and Superior Gain  
Low-Loss, High Precision, High Stable and Wide Applications



Model	x2427	2x2427
Frequency (MHz)	2400	2400
No. of Element	27	27 × 2
Forward Gain (dBi)	21	24
F / B Ratio (dB)	25	25
Power Capability (PEP/kW)	100	200
Total Length (m)	1.4	1.4
StackingSpace (m)	-	0.35
Rotational Radius (m)	1.3	1.3
MastDiameter (mm)	48 ~ 61	48 ~ 61
Wind Surface Area (m <sup>2</sup> )	0.08	0.17
Weight (kg)	1.1	2.8
Recommended Rotator	RC5-x	RC5-x

All the models include the balun transformer, connector type: -N-  
Wind survival rating for all the models is above 35m/s.  
Option: Stack-Over Kit CN051 (2-Splitter Type)

CD x2427 series is high performance all weather type Yagi beam antennas for microwave band. The optimum element spacing and length along with precisely determined alignment of each element used in this antenna along with discontinuance of using steel boom tubings offer the highest obtainable gain with comparable beam pattern and radiational efficiency. In coupled with sharp beam pattern, it offers superior selectivity with high S/N ratio as to pick up a weak signal from among unpreferable band condition. The antenna unit is encapsuled with weather-resist plastic case so that the unit will not be affected by snow and rain etc. Hight quality is maintained as a portion of electrical part in the unit is improved the performance by use of micro-wave strip circuit.