DIRECTIVE SYSTEMS

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1296 MHz Loop Yagi Kit, Model 2345LYK

SPECIFICATIONS

Frequency range:	1.25-1.30 GHz	Gain:	20 dBi.
Number of elements:	45	3 dB Beamwidth	
Boom Length:	144"	(E Plane)	16°
Boom Diameter:	1 Inch	F/B ratio:	≥20 dB
Mast diameter:	1 1/2 inches max	Maximum power:	550 watt average
Weight:	5 Lbs. Assembled	Stacking Distance:	24" vertical
Connector:	Type N female		26" horizontal

PARTS LIST

Quantity	*Description*	*Quantity*	*Description*
2 pcs.	drilled boom	12	directors 24-35
1	reflector 1	7	directors 36-42
1	reflector 2	1 pkg	4-40 & 8-32 stainless steel hardware
1	driven element	1	boom to mast bracket
4	directors 1-4 (1/4" wide)	1	boom to mast plate
7	directors 5-11	1	U-bolt with nuts, washers & saddle
6	directors 12-17	1	cable assembly with connector
6	directors 18-23		

ASSEMBLY INSTRUCTIONS

1) Attach loops to the boom with 4-40 screws, nuts and lockwashers in proper sequence. Loops go on the side of the boom marked with an "X" or "top". The boom is spliced between D22 and D23 and is held together by the mounting screws for these elements. When tightening the nuts on the parasitic elements, be careful not to torque them too tightly. Snug down the nuts, align the elements and use a screwdriver for the final tightening. A 1/4 inch nut driver is almost mandatory for this job! Attach the driven element with the 5/16 nut provided. If only a single antenna is being built, it doesn't matter which way the loop is oriented. If antennas are to be stacked, see "Instructions for Stacking Loop Yagis".

2) Attach the boom to mast plate and bracket (square tubing piece). Use 2" X 8-32 hardware for BM bracket, and 1 1/4" X 8-32 haredware for attaching mounting plate to the square BM bracket. . The mounting center is D20. Install U-bolt so that the mast comes up directly under the boom.

3) Install the cable assembly through the hole in the driven element mounting bolt and solder the ends to the ends of the loop. Solder the inner conductor first. Bend the connector assy forward, using your thumb as a forming guide to prevent the coax from crimping as you bend it. Secure the connector / bracket assy to the boom. (The bracket is secured by the nut and screw for D1.) Attach the feedline and tape it to the bottom of the boom. Seal all connections with silicone RTV or equivalent.

4. The SWR should be 1.5:1 or better. Fine tuning can be accomplished by adjusting the distance between the driven element and R-1, or by adjusting the shape of the driven element.

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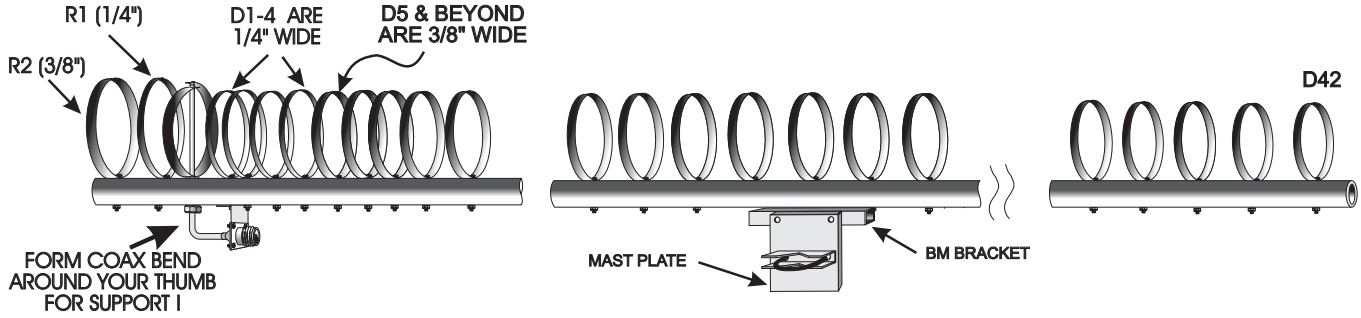
DIMENSIONS OF 1296 MHz LOOP YAGI, MODEL 2345LY(K)



Element	*Spacing from end of boom*	*Circumference*	*Element*	*Spacing from end of boom*	*Circumference*	*Element*	*Spacing from end of boom*	*Circumference*
R2	0.00	9.794	D13	38.04	8.102	D28	91.44	7.740
R1	3.10	9.850	D14	41.60	8.102	D29	95.00	7.740
DE	4.05	9.386	D15	45.16	8.102	D30	98.56	7.740
D1	5.17	8.405	D16	48.72	8.102	D31	102.12	7.740
D2	6.00	8.405	D17	52.28	8.102	D32	105.68	7.740
D3	7.78	8.405	D18	55.84	7.841	D33	109.24	7.740
D4	9.56	8.405	D19	59.40	7.841	D34	112.80	7.740
D5	10.81	8.356	D20	62.96	7.841	D35	116.36	7.740
D6	13.12	8.356	D21	66.52	7.841	D36	119.92	7.640
D7	16.68	8.356	D22	70.08	7.841	D37	123.48	7.640
D8	20.24	8.356	D23	73.64	7.841	D38	127.04	7.640
D9	23.80	8.356	D24	77.20	7.740	D39	130.60	7.640
D10	27.36	8.356	D25	80.76	7.740	D40	134.16	7.640
D11	30.92	8.356	D26	84.32	7.740	D41	137.72	7.640
D12	34.48	8.102	D27	87.88	7.740	D42	141.28	7.640

Note: All dimensions are in inches

The boom diameter is 1 inch, and it is drilled for 4-40 hardware (no. 33 drill bit). The driven element hole is 5/16 inch dia. All elements are 0.032 inch thick and 0.375 inch wide except R1 & D1 thru 4 which are 0.250" wide. Note that the element spacing from D7 on is 3.560 inches. The driven element is installed in the 5/16" hole in the boom. The feed coaxial cable (0.141 inch semi rigid) goes through the mounting bolt and is formed in a 90 degree bend so that the connector bracket can be bolted to the boom at Director #1 using the D1 hardware. The connector end is soldered to the open ends of the brass element. Allow a 1/4" gap at the feedpoint. For best match, the driven element should be approximately 2 3/4 inches high; this makes it wider than it is tall. This shape can be adjusted for best match. This antenna is based on work done by G3JVL.