DIRECTIVE SYSTEMS

177 DIXON RD.
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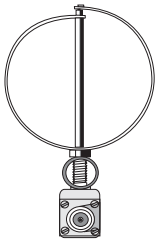
1269 MHz Loop Yagi Kit, Model 2424LYRMK
SPECIFICATIONS

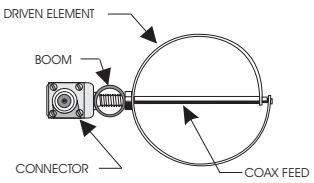


HORIZONTAL POLARIZATION

Frequency range:	1.22 to 1.28 GHz	Connector:	Type-N female
No. of elements:	24	Gain:	18.0 dBi.
Boom length:	72 inches	-3 dB Beamwidth	
Boom diameter:	1 inch	(E Plane):	30 °
Mast diameter:	2" maximum	F/B ratio	>20 dB
Weight:	3 pounds	Maximum Power:	550 watts

PARTS LIST

Quantity	*Description*	*Quantity*	*Description*
1	drilled boom	1 pkg	4-40 X 1 1/4" stainless steel
1	reflector 1		screws, nuts, & washers
1	reflector 2		8-32 Mtg screws, nuts & washers
1	driven element	1	U-bolt w. nuts, washers & saddle
1	directors 1-4	1	cable assembly with connector
4	directors 5-11	1	Rear mount angle bracket
7	directors 12-17		
6	directors 18-21		



VERTICAL POLARIZATION

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 D11 and D12 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 angle bracket (angle piece) behind the second reflector R2 Bracket can be installed for either horizontal or vertical polarization. Install U-bolt and saddle in bracket.

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 toward the rear and secure it to the boom with the bracket provided. (The bracket is secured by the nut for R1.) See the assembly diagram on opposite page. Attach the feedline and tape it to the mast. Seal all connections with butyl rubber, or silicone RTV or equivalent.

4) The SWR should be 1.5:1 or better. Additional tweaking can be accomplished by adjusting the distance between the driven element and R1, or by adjusting the shape of the driven element.

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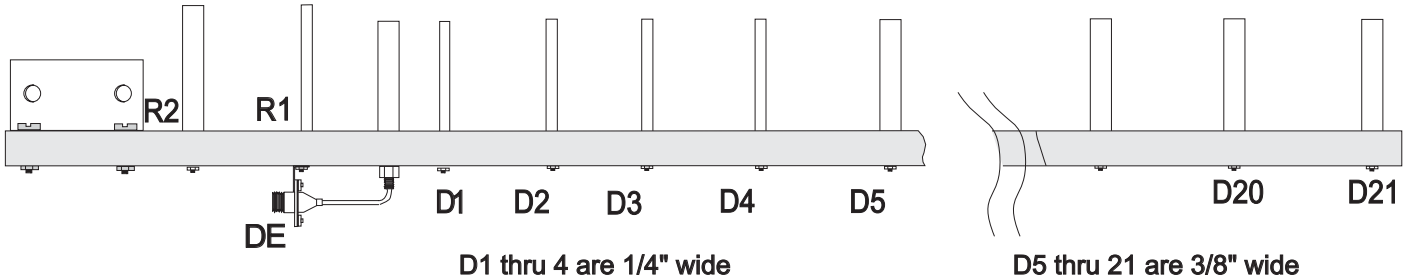
DIMENSIONS OF 1269 MHz LOOP YAGI, MODEL 2424LYRMK



D1 thru 4 are 1/4" wide

D5 thru 21 are 3/8" wide

Element	*Spacing from end of boom*	*Circumference*	*Element*	*Spacing from end of boom*	*Circumference*
R2	0.00	10.002	D10	27.94	8.534
R1	3.17	10.060	D11	31.58	8.534
DE	4.14	9.586	D12	35.21	8.274
D1	5.28	8.584	D13	38.85	8.274
D2	6.13	8.584	D14	42.49	8.274
D3	7.95	8.584	D15	46.12	8.274
D4	9.76	8.584	D16	49.76	8.274
D5	11.04	8.534	D17	53.39	8.274
D6	13.40	8.534	D18	57.03	8.008
D7	17.03	8.534	D19	60.66	8.008
D8	20.67	8.534	D20	64.30	8.008
D9	24.31	8.534	D21	67.94	8.008

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 enlarged to 5/16 inch. All elements are 0.032 inch thick R1 and D1-D4 are 0.250 inch wide; the rest are 0.375 inch wide. Note that the element spacing from D7 on is 3.636 inches. To bend elements, wrap the strip around a suitable form (such as a piece of pipe or tubing). The driven element is formed in the same way, then soldered to the mounting bolt as shown. The feed coaxial cable (0.141 inch semi rigid) goes through the mounting bolt and is soldered to the open ends of the element. For best match, the driven element should be approximately 2.75 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.