



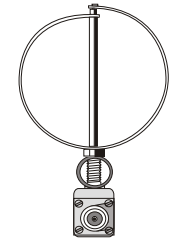
DIRECTIVE SYSTEMS

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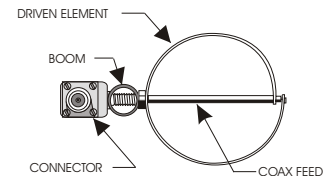
920 MHz Loop Yagi Kit, Model 3318LYKARM

SPECIFICATIONS

Frequency range:	910-930 MHz	Gain:	16.5 dBi.
No. of elements:	18	-3 dB Beamwidth (E Plane):	30°
Boom length:	72 inches	F/B ratio	> 20 dB
Boom diameter:	1 inch	Maximum Power:	550 watts
Mast diameter:	2" maximum	Stacking distance:	
Weight:	3 pounds	vertical:	21 1/2 inches
Connector:	Type N female	Horizontal:	24 inches



HORIZONTAL
POLARIZATION



VERTICAL
POLARIZATION

PARTS LIST

Quantity	Description	Quantity	Description
1	drilled boom	1 pkg	4-40 X 1 1/4" stainless steel
1	reflector 1	1 pkg	screws
1	reflector 2	1	4-40 stainless steel nuts &
1	driven element	1	washers
10	directors 1-10	1	boom-to-mast bracket
5	directors 11-15	1 pkg	U-bolt with nuts & saddles
			cable assembly with connector

ASSEMBLY INSTRUCTIONS

1) Attach loops to the boom with 4-40 screws, nuts and lock washers in proper sequence. Loops go on the side of the boom marked with an "X" or "top". 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 bracket (angle piece) behind the second reflector. Bracket can be installed for either horizontal or vertical polarization. Install U-bolt.

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 so that the mtg hole in the connector bracket is lined up with R1, and secure it to the boom with the bracket provided. (The bracket is secured by the nut for R1.) Attach the feedline and tape it to the bottom of the boom. Seal all connections with silicone RTV or equivalent.

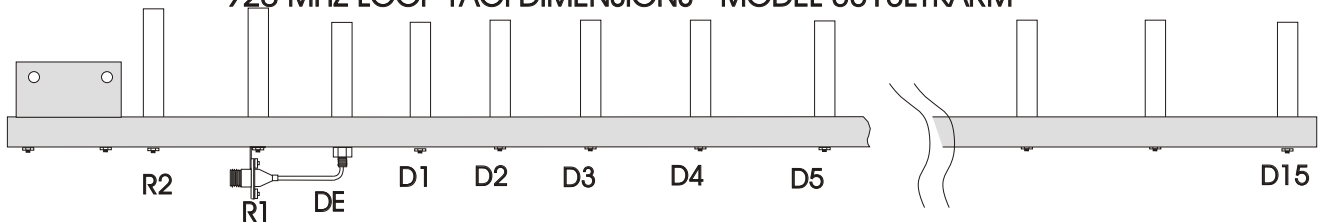
4) The SWR should be 1.5:1 or better. Additional tweaking can be accomplished by adjusting the distance between the driven element and R1, or by adjusting the shape of the driven element.



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920 MHZ LOOP YAGI DIMENSIONS MODEL 3318LYKARM



Element	Spacing from end of boom	Circumference	Element	Spacing from end of boom	Circumference
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R2	0.500	13.722	D7	24.466	11.715
R1	4.454	13.722	D8	29.580	11.715
DE	6.319	13.280	D9	34.695	11.715
D1	7.928	11.715	D10	39.810	11.715
D2	9.121	11.715	D11	44.925	11.353
D3	11.678	11.715	D12	50.040	11.353
D4	14.236	11.715	D13	55.155	11.353
D5	16.032	11.715	D14	60.270	11.353
D6	19.351	11.715	D15	65.385	11.353

spacing

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 and 0.375 inch wide. Note that the element spacing from D7 on is 5.115 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, and then soldered to the mounting bolt as shown. The feed coaxial cable (.141 inch semi rigid) goes through the mounting bolt and is soldered to the open ends of the element. For the best match, the driven element should be approximately 4 inches high: this makes it wider than it is tall. This shape can be adjusted for best match. The space between the loop ends should be 3/8" (9.5mm). This spacing will prevent water from "beading up" there during wet weather. The design of this antenna is based on work done by G3JVL.

