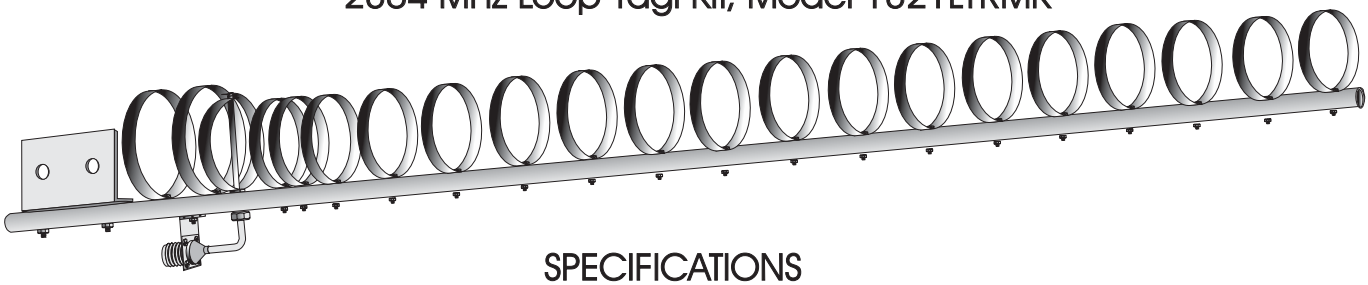
DIRECTIVE SYSTEMS
177 Dixon Road
Lebanon, ME. 04027
TEL: 207-658-7758 FAX 207-658-4337
www.directivesystems.com

2304 MHz Loop Yagi Kit, Model 1321LYRMK



SPECIFICATIONS

Frequency range:	**2.25 to 2.35GHz**	**Gain:**	**17.5 dBi**
Number of elements:	**21**	**3 dB Beamwidth**	
Boom length:	**36 inches**	**(E plane):**	**24°**
Boom diameter:	**0.5 inches**	**F/B ratio:**	**≥ 20 dB**
Mast diameter:	**1 1/2 in. max**	**Maximum Power:**	**400 W average**
Weight:	**2 pounds assembled**	**Stacking distance:**	**9 inches vertical**
Connector:	**Type-N female**		**11 inches horizontal**

PARTS LIST

Quantity	*Description*	*Quantity*	*Description*
1 pc.	drilled boom	1 pkg	4-40 stainless steel screws 4-40 stainless steel nuts, lock washers, 8-32 hdwre
2 pcs.	reflectors 1, 2		
1 pc.	driven element		
5 pcs.	directors 1- 5	1	small 3/4 x 1 3/4" boom - mast bracket
5 pcs.	directors 6 - 10		
4 pcs.	directors 11 - 14	1	U-bolt with nuts & saddle
4 pcs.	directors 15 - 18	1 pkg	cable assembly with connector

ASSEMBLY INSTRUCTIONS

1) Attach loops to the boom with 4-40 x 3/4" screws, lock washers and nuts in proper sequence. Loops go on the side of the boom marked "TOP" or "X". 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" nut driver is almost mandatory for this job! Attach the driven element with the 1/4-20 stainless steel nut. If only a single antenna is being built, it does not 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 and 8-32 x 1" hardware on the rear of the boom. Install U-bolt in the mast plate.

3) Install the connector-cable assembly through the hole in the driven element mounting bolt and and solder the coax ends to the ends of the loop. Solder the inner conductor first. Bend the connector bracket rearward and secure it to the boom with a 3/4" machine screw in the hole between the two reflectors. (Refer to the diagram on page 2) Attach the feedline and tape it to the mast. Seal all connections with silicone RTV or equivalent.

4) The SWR should be 1.5:1 or better from 2250 -2350 MHz. 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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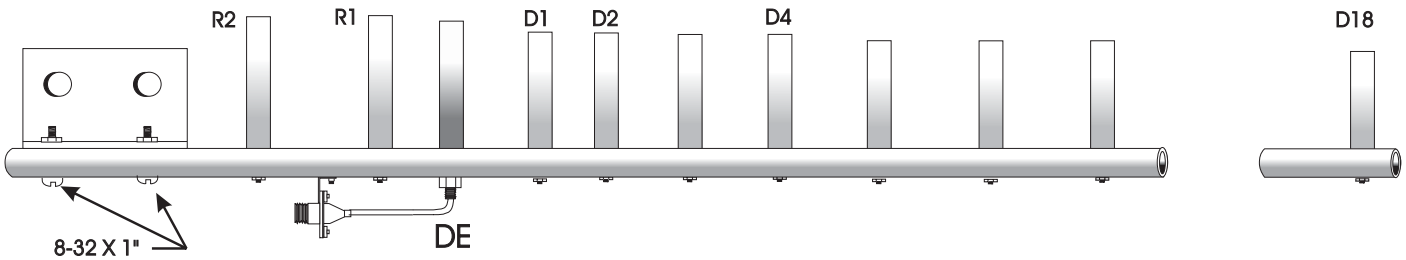
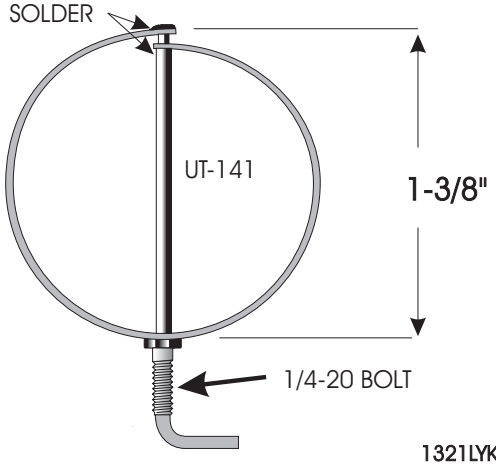
DIMENSIONS OF 2304 MHz LOOP YAGI, MODEL 1321LYRMK



Element	*Spacing from end of boom*	*Circum - ference*	*Element*	*Spacing from end of boom*	*Circum-ference*
R2	0.500	5.675	D9	13.888	4.534
R1	2.244	5.675	D10	15.890	4.534
DE	2.728	5.125	D11	17.893	4.392
D1	3.408	4.676	D12	19.895	4.392
D2	3.875	4.676	D13	21.897	4.392
D3	4.876	4.676	D14	23.900	4.392
D4	5.878	4.676	D15	25.903	4.335
D5	6.581	4.676	D16	27.905	4.335
D6	7.880	4.534	D17	29.908	4.335
D7	9.883	4.534	D18	31.910	4.335
D8	11.885	4.534			

Note: All dimensions are in inches

The boom diameter is 0.5 inch, and it is drilled for 4-40 hardware (no. 33 drill bit). The driven element hole is enlarged to 1/4 inch. All elements are 0.032 inch thick and 0.250 inch wide. Note that the element spacing from D7 on is 2.0025 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 1.375 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.



1321LYK2
Rev 2. 02/2003