

A new 40m antenna design by our own Scott - KG4WEL

Since the tragic fire which destroyed his home, radio shack and everything inside, Scott and his XYL Lisa have moved to a new QTH to begin anew. Scott bought ham equipment and had the time to design his own 40 meter antenna. As you read his story below, and view the design models, you'll see that he made an exciting and efficient antenna.

Ok, here is the modeling of my KG4WEL Loop. Mike, my friend from my old CB days, called with excitement. It seems something went right with my antenna design. Since it was a trapezoid design, Mike being engineer for General Electric Industrial, broke out his dusty trigonometry tables to check on my design concept.

If you have the height, this antenna has about 4db gain over a $1/2\lambda$ dipole and a smooth pattern with moderate nulls and over 7dbi gain on the major lobes at about a 30 degree takeoff angle. I'm definitely going to put this up.

The feed impedance is about 97 ohms which means that if it is to be used as monobander, then all it needs is a $1/4$ wave section of 75 ohm coax prior to the 50 ohm feedline for 1:1 SWR on 7.250. The center frequency can be adjusted by trimming the 75 ohm matching piece.

The "Chew"

SEVENTY-TWO



NEWSLETTER AUGUST 2021

For a multiband fed with window line the SWR is less than 4:1 across the hf bands 40m and shorter. So it is easily tuned with a tuner and has negligible loss when fed with window 450 ladder line. If I keep the ladder line in increments of 180 degrees phase angle then it should have 2:1 or better across the 40m band before the tuner. I suspect that, like most antennas, it will be a little different when erected and may need some feed line trimming.

You might want to put this in the things to do for 40m performance. We'll see how it works. I have a column of sky going north where I can hang 40ft of wire which is why I designed this. It seems like it's going to have plenty of gain.

Of course, as physics dictate, as the frequency goes up more lobes develop; but the nulls are still smoothed. Both 30m and 20m look especially good with more than 7dbi gain if fed with 450 window to balun/tuner.

I have 10-ft sections of aluminum tubing, so I will use that on the bottom as a weight and keep the antenna vertical. This is a vertical loop, horizontally polarized with some vertical polarization components since the downward sides are sloped.

To put in perspective the flattop is 38 ft, each downward leg is 38 ft and the bottom aluminum rail is 20 ft center-fed with the match of one's choice. I'm sharing this with you alone. Right now do not pass it on since it is a unique design in the works. I would like you to beta test it as well as myself, when you get a chance. I know you have tons going on right now. All you need is 50+ ft off the ground, Lower would probably work OK. The takeoff angle would just be higher. You need at least 44 ft between trees to hang it. The coax might pull it in one direction or the other so it also might need some line to compensate and keep it erect.

Anyhoo, the azimuth/gain and elevation plots and fine details will remain with me until testing and refinement is completed.

It's a super simple design, I don't know why this is not marketed. I am thinking it just has to work really well.

Scott, KG4WEL

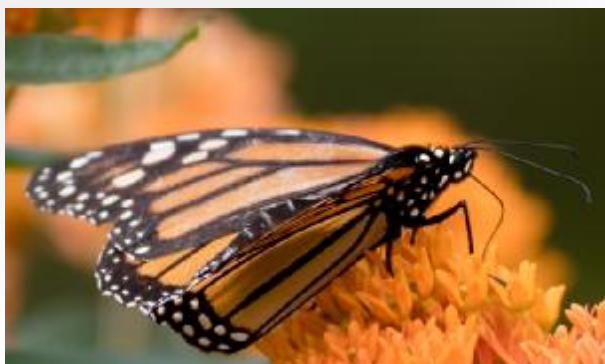


Red Moon Arising

Julie-KC2ZTG send us this stunning photo of an unusually red moon rising over the Thousand Islands. The red moon along with hazy skies over

many northern states, is due to the uncontrollable wild fires in Canada and Oregon. The sun is filtering through our atmosphere creating interesting sunsets to say the least.

Julie has also been busy as a photographer, getting these great nature shots. Here is a Barred Owl chick perched in a tree. Below is a close-up of a Monarch feeding on butterfly weed.



Finally, here is a photo of an Indian pipe.

It's one of those unusual plants that doesn't get its food from photosynthesis. Many thanks to Julie for sharing these photos with us.

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*John-KC2MBB, sends us this remarkable photo from his trip through Alaska.*

*"I was lucky that this fellow landed next to our car earlier today in Homer Alaska. He sat long enough for me to get this photo. PS, the fishing was great! please give my regards to all!"*



## The Eagle Has Landed

## K1R cards still available.

*I have extra K1R seventeenth anniversary cards for anyone wishing one of these great collector cards, for your shack wall.*

*Send me, Loby, a self addressed stamped envelope and I'll send them right out to your QTH. Robert W Lobenstein 1539 Golden Drive Hubertus, Wisconsin 53033-9790*



## A note from your editor ...

Our monthly newsletter "THE CHEW", contains information about the activities and participants in the 7.272 Ragchew Net. We rely on contributions of stories and pictures from the members to keep all of us up to date, impart information we can all use and, of course, to raise a smile and a chuckle or two. If you find a new "Taz" photo that can be used for future certificates and QSLs, that too is greatly appreciated. Without you, there is no Chew!

Please, e-mail your stories, tech info and photos to Loby at [wa2axz@arrl.net](mailto:wa2axz@arrl.net)

*Many Thanks!*

## Volunteers Wanted!



If you would like to be one of our Net Control Stations on a regular schedule or as an occasional fill-in, please contact our net scheduler, Ken-W3XAF.

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