

The Radio Hotel[®] - The Saga of the Full Wave Loops

Part 5 – Esoteric Loops of Various Shapes and Sizes – Series Summary and The End

If you think loops have to be square or triangular in shape, then think again. Many have enjoyed the benefits of loop shapes other than these. Bending a loop into other shapes can provide attributes like 50 ohm feed Z, smaller size, additive phasing, etc. So, let's have a look at a few.

First up, Sam Kennedy's dual band loop rectangle that gives a 50 ohm feed Z. It is easily hung in a tree. Search QST for "A 10/17 Meter Hanging Loop Antenna" QST October 2004. Sam has been a longtime friend of our Tom, W5TOM, so if you have any questions, ask Tom, another BVARC antenna guru.

The Amateur Radio Magazine of Canada had an article "A Shrunken 3-Band Quad System" in their August 2002 edition pages 18 and 19. It looks like a typical multi-band 2 element quad array, but it is much smaller due to the linear loading of all 6 wire elements. It is even fed with a common feedline. Directly fed and much smaller, it might even fit in your backyard. This article can be found with a sleuthy Google search. If not, I can help.

The best esoteric quad shape comes from Andy Pfeiffer, K1KLO. Search in QST for Part 1 in March, 1994 and Part 2 in September 2001 "The Pfeiffer Quad Antenna System". It kind of looks like a wagon wheel or bicycle tire, but all of the spokes are part of the radiating antenna. Andy has had good luck with this design, although the mechanical aspects of it are over the top of the normal ham's capability, IMHO.

Antenna departures are not just the results obtained by North American Hams. JE1DEU, in Japan of course, developed the "Hentenna". I first read about it in Ham Radio magazine in May of 1989. 'Hen' in Japanese, means curious. It looks like Sam Kennedy's vertical rectangle but it is fed to the 2 sides just above the base line. Direct 50 ohm feed makes it convenient. It is, however, a single band antenna.

Ok, one last antenna in the sort of strange category. How about the "Megaloop". 73 magazine July 1991, Stan Gibilisco, W1GV, talks about the performance of a 50 and 100 wavelength loop and its' similar performance to an very long 'Longwire' with diminishing currents and lack of a standing wave along the length of the wire. One cool thing about the Megaloop is that it is so big that it provides its' own "diversity reception", as it covers a huge area. Have a read of Stan's article to get the full effect of using a 50 w/l loop of wire. All I know is that it will not fit on my Sharpstown lot. HI.

Some other quads you might want to research are The Birdcage Quad, The Maltese Quad and The Swiss Quad. There, also, are others, and all it takes is a few hours on the web using Google to chase them all down. All good fun on a rainy day or one of the hot sweltering days we got coming up in the next few months. This research will come in handy for your antenna building party in December, when it is cool.

Summary of "The Saga of the Full Wave Loops" Radio Hotel series.

In the past 5 parts I have covered a lot of loop material, but also not covered quite a bit of information – true to The Radio Hotel's mission statement. "to give you a practical kickstart into exploring the workings of antenna systems" Not to explain it all, but give you a bit of a tickle. That is why I provided the "Full Wave Loop Antenna Series Bibliography" (See www.bvarc.org/tech), in order for you to read the same articles and web pages that I have read in order to write this column for 5 months. Of course, I also have been playing with loops for 25 years, which helps, along with trying to collect every article written about them. So, if you do want to do further your research and experimentation into loops and see some additional reference information that you need, I just might have it in my 22 inch high stack of loop articles. So, just ask. I'd be pleased to see a few club members start messing with loops. As I said in Part 1, loops are the most flexible antenna in the Ham Radio world. I hope I have shown you some good evidence to that effect. Put one up, you'll be glad you did.

Enjoy your hobby. 73...Rick – W5RH

Next time.... The CCD Antenna

*The purpose of **The Radio Hotel** is to give you a practical kickstart into exploring the workings of antenna systems. Google the buzz words and find out what they mean. Read up on antenna system theory to see how it all works together. You will be glad you did.*