**The HIARC Bulletin**

June 2021 Edition

**The Official Bulletin of the Harris-Intersil Amateur Radio Club**

**Club Meetings:** Second Thursday of each month at Meemaw’s Barbecue on Babcock Street between Palm Bay Road and Port Malabar Road. Supper is at 5:30 PM, business is at 6:30 PM. Prizes at 7:00 PM. Our programs start at 7:15 PM. Meeting ends by 8:00 PM. As some members have allergies, we kindly ask that you refrain from wearing fragrances thanks.

**Club Station:** Building 15, Room 321.  E-mail Butchfor access.

**Repeaters:** K4HRS,145.47 Mc, tone 107.2 cycles, elevation 170 feet, Melbourne. Works good with a sensitive receiver.

**HIARC Web Site:** <www.qsl.net/hiarc>. Website administrator; Jim Tonti, KC7SSW

**Officers:** President: Francis (“Butch”), WA4AQV

Treasurer: Open

Secretary: Open

Repeater Chairmen: Open

Program Chairman: Open

Field Day Chairman: Open

Sunshine Chairman: Open

Club Jester: Ken N8KH

**Membership:**

Just come to the meetings at present. No dues until we get a treasurer probably July. Write me if you want on the newsletter mailing list.

**Annual Events:** Annual swapfest at the October meeting. Field Day the fourth full weekend in June.

**Selected Hamfests:**

* June 12, 2021: PCARS Quarterly Tailgate at the Melbourne Fire Department Training Center, 1980 Hughes Road, Melbourne FL. Starts about 9 AM lasts till about 11 AM. Friendly get together. Usually lunch after at TBD location. Talk in and going to lunch discussion is on the 146.61 MHz repeater no tone.
* October 8 and 9. Melbourne Hamfest. [www.pcars.org](http://www.pcars.org)

**Ham Radio Lunches:**

* Every Friday, 11:00 AM till 1:00 PM or so, Golden Corral on Palm Bay Road in Palm Bay. Around 12 people recently and growing.
* Once a month, the Saturday after the PCARS meeting, Sarno Restaurant and Pizzaria, 11:00 AM. This is at the corner of Sarno Road and Croton Road.

**Thursday June 10 HIARC Meeting**

Our next HIARC meeting is this Thursday June 10 in the Babcock Street Meemaws Barbecue Banquet Room at 5:30 PM for dinner, 6:30 PM for business and 7:15 PM for the program.

Agenda:

* Officer nominations and elections
* Field Day
* Doing a 6 meter repeater maybe
* Fun things to do
* The program will be “A DX’pedition To The South Pole Part II” with pictures and recordings.

**Annual HIARC Officer Elections**

Annual officer elections will be held at the June HIARC Meeting. Here are the current nominees:

President: Butch WA4AQV

Secretary: open

Treasurer: Pat KA4ZEC

Repeater Chairman: open

Jester: Ken N8KH

Please come to the meeting or let me know if you want to be a nominee.

**Field Day 2021**

In years past Bill WA4EMU was HIARC Field Day chair. He and family did much of the work required. will discuss further at the June meeting whether and how to do a HIARC Field Day.

Alternatively, both the South Brevard and PCARS clubs have kindly extended an invitation for HIARC members to participate in their Field Days. Here are points of contact:

South Brevard Club, John NV4L [johnadamec@aol.com](mailto:johnadamec@aol.com)>

PCARS Club, Walter K5LD, [k5ld@arrl.net](mailto:k5ld@arrl.net)

The South Brevard Club may do their Field Day at Fisherman’s Landing Park along US1. PCARS Field Day will be the Melbourne Fire Department Training Center, 1980 Hughes Road, Melbourne FL

ARRL Field Day is June 26 and 27.

**Lightning**

<http://en.blitzortung.org/live_lightning_maps.php?map=30>}

**HF Flag Antennas**

Resistively terminated directive loop antennas have recently become popular. The EWE was a resistor terminated loop. One recent terminated loop was an article by Don Kirk WD8DSD in March QST as “Portable Flag Antenna For MF/HF Direction Finding”.

The Don Kirk antenna is cool. So simple and easy for the radio amateur. No tuning. It has become commercialized as well at DX Engineering link:

[https://duckduckgo.com/?q=dx+engineering+loop+interference&t=hd&va=u&ia=web&iai=r1-1&page=1&sexp=%7B%22biaexp%22%3A%22b%22%2C%22msvrtexp%22%3A%22b%22%2C%22mliexp%22%3A%22b%22%7D](https://duckduckgo.com/?q=dx+engineering+loop+interference&t=hd&va=u&ia=web&iai=r1-1&page=1&sexp={"biaexp":"b","msvrtexp":"b","mliexp":"b"})

The Don Kirk QST antenna is a rectangular loop 2 feet tall and 3 feet wide, fed one side in the center and resistively terminated on the other side with 680 ohms. A transformer converted the mostly resistive 680 ohm resistance to 50 ohms. Here is a drawing:

680 ohm resistor

680 to 50 ohm transformer

50 ohm coax

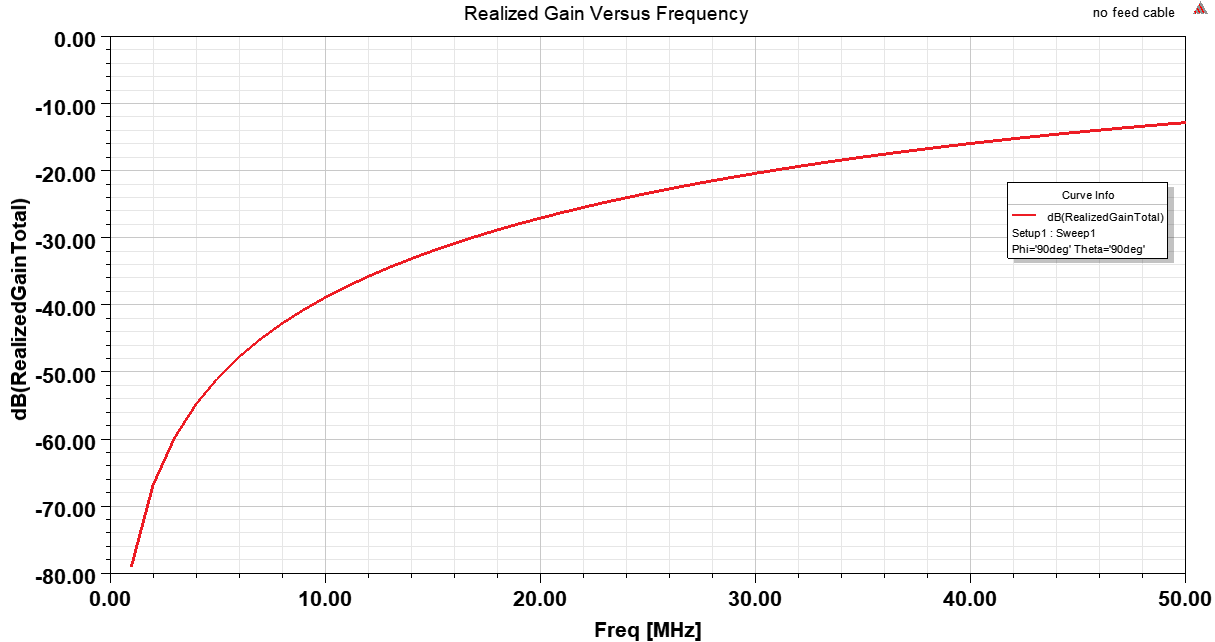
2 x 3 foot wire loop for HF

**Don Kirk March 2021 QST Loop**

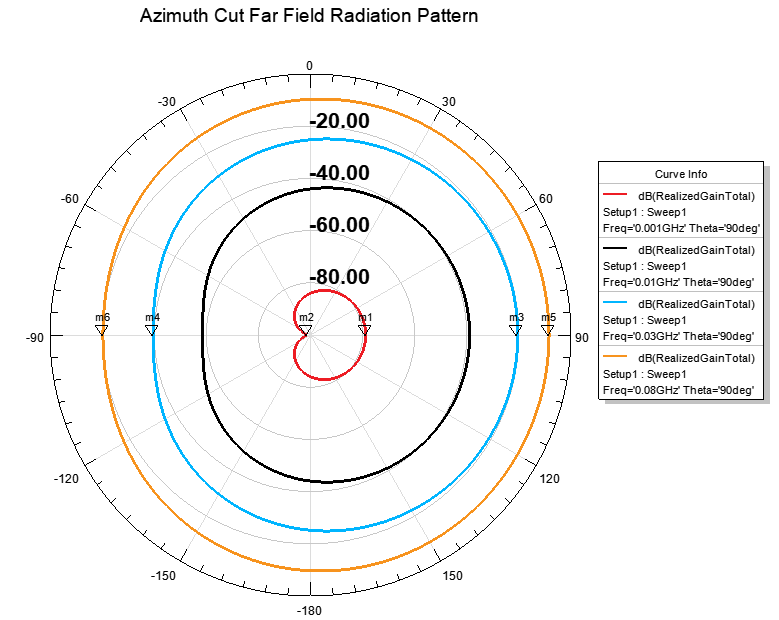
Two electrically short dipoles are provided by the vertical members of the loop. This is like an Adcock Antenna. The short vertical member dipoles are fed by the horizontal portions of the loop, which acts as a 680 ohm or so open wire transmission line. A traveling wave current flow is formed. This is contrast to the pseudo uniform current flow on small transmitting loops and the standing wave current flow on full wave loops for linear polarization.

The resistor terminated antennas have simplicity, broad bandwidth and low gain as their attributes. They are used for low noise receive at HF and also for direction finding. The low gain makes them poor for transmit so “use them responsibly” as they say these days.

An analysis of the WD8DSD Don Kirk QST loop shows a useful directional cardioid radiation pattern, with a null in the direction of the resistor load and as much as 20 dB of nulling depth at lower frequencies. Yes the gain is low. You won’t hear the weak stations at a quiet site. This low gain is somewhat tolerable as the natural noise levels are high at HF. This antenna requires a balun as currents sneaking over the coax cable would otherwise spoil the pattern. In the QST loop the transformer, which was a conventional Amperes Circuital Law induction transformer functioned as a balun a little and there was also a ferrite bead winding in the coax. Transformers are baluns some at lower frequencies especially.



**Realized Gain Versus Frequency**



**Azimuth Radiation Pattern**

Sometimes loop antennas can give confusing directional indications close up at HF. This is because the loop can start to become a transformer so to speak and pick up near fields close to the source of emission. The close in transformer mode pattern within 0.16 wavelengths or so has a lobe where the far away pattern has a null.

How can we improve this?

One of you out there hopefully will invest in the sticks of wood and 10 feet of hookup wire required. You will have many friends after you do. Your new friends will want you to sniff out interference. You can also bring it to the meeting so we can learn more. You can also write a QST follow up article for us.