



MEGAHERTZ TIMES



July 2020

W3AI

PO Box 336, Perkasie, PA 18944

R F Hill Amateur Radio Club 2020

President: KC3HHK,
Jeff Lapin

Vice Pres.: KB3EWV,
John Morell

Secretary: WA3YLQ,
Jim Soete

Treasurer: KC3LXV,
Jim Reed

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CLUB INFORMATION

Mailing address:
PO Box 336, Perkasie, PA 18944

Club Repeaters: 145.31 MHz; input
144.71 MHz PL 131.8 (2 meters)
444.75 MHz, input 449.75 MHz PL
103.5 (70 cm)

Meetings: The club normally meets
at 7:30 PM on the last
Thursday of the Month

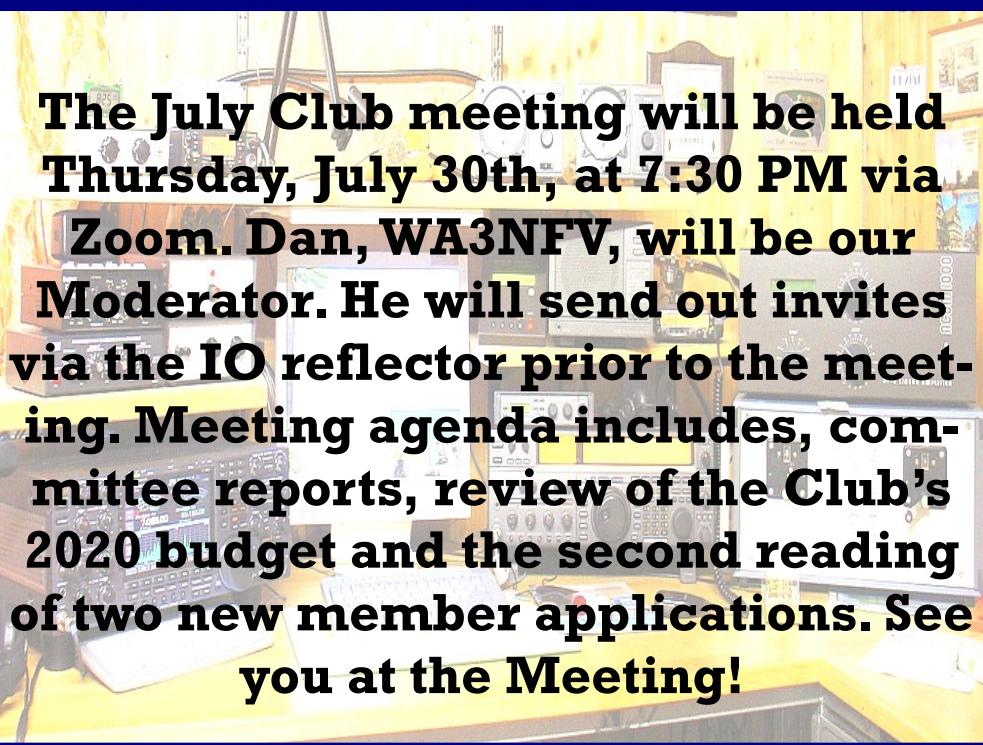
Web page: <http://www.rfhillarc.club>

Email: rfhillarc@yahoo.com

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DEADLINE for article submission is 10 days before the meeting!
Send to rfhillarc@yahoo.com



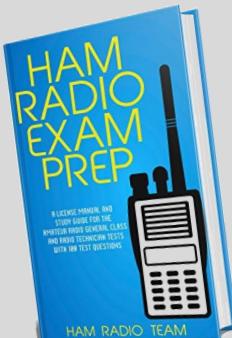
Due to the Covid-19 threat, Peter Becker, as well as most senior living facilities, have closed their campuses to visitors. The administrator at PBC will let us know when that changes.

**Stay safe and best 73,
Jim Soete, WA3YLQ, Secretary
RF Hill ARC, VE Team Liaison**



RF Hill Amateur Radio Club
W3AI

VE TESTING



VE testing for Technician,
General and Extra Class licenses
is held regularly at the Indian
Valley Public Library in Telford:

100 E Church Ave.
Telford, PA 18969



Traffic Nets

SEPPTN traffic nets are on Sundays & Wednesdays at 8:00 PM local time at 145.310 MHz (-600). These nets are for anyone who would like to learn how to handle traffic as well as an on the air meeting place for members and future members.

RF Hill A-R-C Ten Meter AM Net: 29.005MHz on Sunday evening immediately following the SEPPTN

Due to various factors related to Covid-19 the board has cancelled all in-person VE Testing for 2020. If other options become available they will be announced.

Net Control Stations

07/26,07/29 W3WTT	09/13,09/16 WA3YLQ
08/02,08/05 KS3Z	09/20,09/23 W3WTT
08/09,08/12 KB3DEN	09/27,09/30 KS3Z
08/16,08/19 WA3YLQ	10/04,10/07 KB3DEN
08/23,08/26 W3WTT	
08/30,09/02 KS3Z	
09/06,09/09 KB3DEN	

Any questions or conflicts, please let me know. If at the last minute, the assigned net control station doesn't show-up, any net control station on frequency should run the net.

Thanks to everyone for your continued support.
Jim – KB3DEN KB3DEN@aol.com

AREA NET LISTINGS

SEPPTN Southeastern PA Practice & Traffic Net	Su/W	8 PM	145.31-
EPAEPTN - EPA Emergency Phone/Traffic Net	Daily	6 PM	3.917 +/-
Pennsylvania Traffic Net (CW)	Daily	7,10 PM	3.585
Third Region Net	Daily	4 PM	7.243 (3.917 -alt)
Eastern Area Net (EAN)	Daily	2:30 PM	7.243
Bucks County ARES	W	9 PM	147.090+
Montgomery County ARES	Th	7 PM	146.835- (pl 88.5)
EPA echo link traffic net (EAETN) Echolink AA3RG-R	Th	8 PM	146.640- (pl 82.5)

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Stump the Experts Coming Soon!

In September we will have a panel discussion featuring three of our most knowledgeable members. They will be available to answer ALL your Ham Radio related questions.

Subject areas may include operating, antennas, computers, the internet and, the moderator might even answer a CW question or two.

This program is dependent upon member participation. If you have a question you would like answered, email it to....

StumpUs@thehamshck.tech

Only the Moderator ,Me, will see the questions before hand. The panelists will have to “think on their feet”. If you have a CW question, just bring it along to the meeting. Do not tip me off! The suggested subjects above are very general. If I only receive one or two questions, it will be a short program! More information on this program to follow.

73, Jim, WA3YLQ

Upcoming Programs via Zoom

Several members have stepped up and offered to do programs at our monthly Zoom meetings. The presentations for the next three months are:

- ◆ Aero Mobile by Dan, WA3NFV
- ◆ Stump the Experts in September
- ◆ Joe, WS2K will offer an updated presentation on indoor antennas in October.

Some other suggestions include a Zoom Flee Market/ mini-Hamfest and a Christmas Shack Tour. Doing a Zoom presentation should not be too difficult. All you must do is put together a slide show and TALK! I know we have some qualified talkers in the group. You could also demonstrate a piece of gear on your shack bench.

Contact any officer if you have an idea or suggestion.

Deed Restricted Undaunted -The NE3I Up and Outer

In an effort to improve my Deed Restricted Antennas for the 20 Meter Band, I constructed an "Up and Outer" (hereinafter, the "U&O") on my deck. (I have been using a Tri-Band dipole in the attic and an A99 outside for 10- 20 Meters.) Photos on the next page.

The U&O idea was prompted by my recent construction of a "Buddy Stick." See, W3FF personal homepage (not, the two web pages that may come up in your search relating to the commercial "Buddy Pole"), for very good detailed instructions on how to make the light and portable multiband Buddy Stick antenna using #18 speaker wire and a few short pieces of PVC. In the process, it occurred to me that I already had a telescoping push up pole lashed to the spiral stairs off of my deck to easily erect the vertical portion of a 20 Meter Up and Outer. The U&O is essentially a Dipole with one Quarter Wave leg vertical and the other leg horizontal. In my case, the horizontal leg ("Radial"/Counterpoise) runs hidden under the deck. The antenna base and deck are only about 10 feet above ground. Photos provided. I erected the 16'7" vertical element and then trimmed the horizontal Radial using an Antenna Analyzer to obtain minimum SWR. Running along the wooded deck beams, the Radial needed to be shortened significantly, (by about 2 feet.)

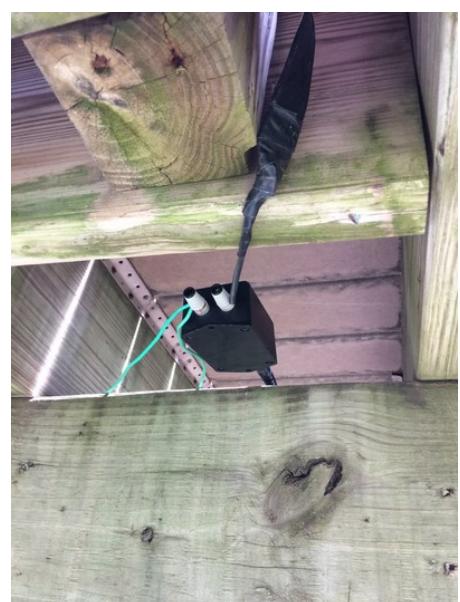
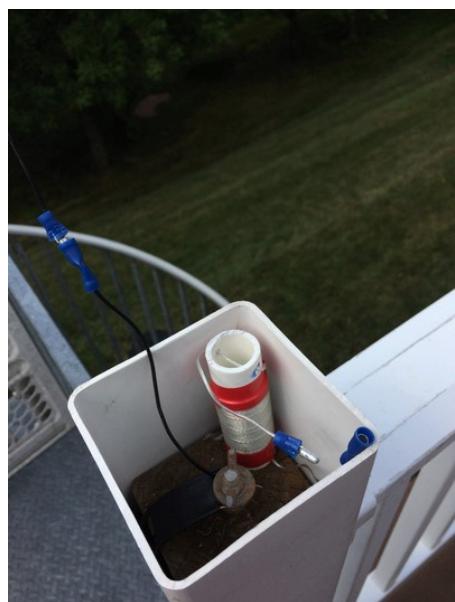
I eventually obtained an SWR of 1.2:. An article in the G-QRP Antenna Book states that trimming the Radial was related to "the very big difference in capacity to ground which existed between the vertical leg and the low horizontal leg."** Success with the 20 M U&O, prompted attempted modification for dual band operation on 20 and 40 Meters. I anticipated that I would need to modify 40 Meter Coil parameters provided for the Buddy Stick (47 turns on 1" ID PVC) and estimated that a new coil would need 36 turns. (My 20M U&O is 16'7" in vertical length while, the Buddy Stick is about 12 Feet in length thus, the anticipated reduction in coil turns). By splicing in the new 36 Turn 40 Meter Coil and adding and trimming a second 30' horizontal Radial element below deck, I was able to obtain an SWR of 1.2:1 at 7.075 Mhz and be under 1.7:1 on the entire 40 Meter Band. (The trimming involved removing approximately 4.5 feet from the 40M Radial.)* The lowest portion of the vertical element already consisted of about a 5 foot length of 450 Ohm twin lead I had previously pushed up between the plastic deck railing surrounding one of the 4X4 wooden posts. I surmised that would give me the opportunity to have two parallel 16 '7" vertical elements (one with a coil inserted) for separate bands.

Unfortunately, the parallel elements apparently interacted with each other and produced a higher and narrower SWR minimum of 1.7: at **8.5 Mhz** and 14.250 Mhz respectively. Rather than go crazy with further trimming and analyzing, I opted to revert to the single vertical element and installed male/female wire connectors to permit insertion of the 40 Meter Coil for interchangeable 40 and 20 Meter U&O operation. I later added a third Coil and Radial Wire for 30 Meters and was able to obtain a 1:1 SWR at 10.125 Mhz. The additional Radial did not affect the good SWR on the 40 and 20 Meter Bands.

When not in use, the U&O Antenna Wire as well as the 40 and 30 Meter Coils store out of sight inside of the post when the railing cap is on. So far, I have had good on the air results on 20 Meters with the U&O outperforming my A99 even though the A99 is 10 feet higher at its base. Performance preference appears to alternate between the U&O and Attic Tri-Band Dipole depending upon conditions and the distant station's location. My Attic 40 Meter Dipole provides much better signal reception presumably, due to its half wave length. It will be interesting to see whether or not the Vertical aspect of the 40 and 30 Meter U&O proves beneficial in evening and DX environments. In any event, it will be fun to make comparisons.

Naturally, given the #18 Speaker Wire and Coils, the U&O is intended only for Low Power operations and Amateur Radio Operators should insure compliance with RF Exposure Limitations. Up and Outer Antenna concepts have appeared on the web and in multiple antenna publications from the ARRL, L.A. Moxon, G6XN, "HF Antennas for All Locations" and in the *G-QRP Club Antenna Book p. 105-107, 1992). I certainly do not claim novelty with the idea. Perhaps my experience with this simple antenna will be of interest to others who are also Deed Restricted or otherwise Antenna Challenged. 73.
Griff NE3I

Up and Outer Antenna Photos



Field Day Solo

By Geoff, Nye , KC3HEQ, Ottsville

As a rookie ham radio operator (General), I have only participated in two Field Day Events at the park in Perkasie. With the RF Hill Field Day event cancelled at the park I decided to try build a station in the middle of no where (Erwinna) on top of a hill at an old grass strip airfield. As you can see there was a ready made tower holding the wind sock, and I thought this would be the ideal place.

First I needed an antenna. Given the single support structure (the wind sock tower) I got out my ARRL Antenna book and read up on Inverted V dipoles. With a little work I constructed a 40 meter Inverted V, cut to the center of the band. After I had the owner of the tower climb up and attach it, I was able to determine with my antenna analyzer that I had a good VSWR. A second dipole, for 20 meters, was attached on one end to the tower and the other end to a nearby tree. Ladder line and a tuner matched the antenna and to transmitter.

The tents were erected. A grounding rod was driven into the ground close to the “shack” and a gas generator was positioned at a reasonable distance to minimize the noise.

A folding camp table and lawn chair were positioned in the tent as the operating table for the transceiver (an ICom 795 Pro with 100 watts). A pair of headphones helped make the sound of the generator tolerable. A small fan on the table blowing at the operator made the temperature of the tent in the sun also tolerable.

A passing heavy thunderstorm storm and associated lightning made remaining in the tent close to the antenna a bad idea, so I took a break and climbed into the truck. Static crashes afterwards slowly decreased as the storm drew farther and farther away.

Forty meter side band was slow at first, with relatively short hops (a ton of Ohio stations were worked), but then it got better and better. On Sunday morning a contract in Los Angeles was made along with a station in New Mexico.



All in all, results were pretty good with 127 contacts made on 40 meters over a total of about 12 hours. My partner working 20 meter CW had few contracts (not in the 127 total mentioned). Eight contacts were made with Canadian stations.

I certainly learned a few lessons: put your tent in the shade, keep the generator as far as you can from the operating table, take a comfortable chair, use a partner to log stations as they are made into a computer logging program (I wrote all contacts down on a legal pad), count on getting some sleep and take food and ice water to the site, and lastly, take 30 minute breaks off the mic.

I have to admit I was a bit of a hog. Once I found a quiet frequency on the band, I started CQing, then once a contact was complete, I immediately fired out a follow on CQ without taking a breath. Other stations soon found me and the race began (to make the connection and exchange info and look for the next station to respond to the CQ).

With other operators, the number of QSOs would have been much higher. Next time I will know the rules for ARRL “extra” points and put them to work.