



ICARC NEWSLETTER

March 31 2024

Officers for 2024:

President – Craig Bigler, AB3XA
Vice President - Dylon Curtis KC3WMN
Treasurer - Chris Edwards, N3VFK
Secretary - Chris Edwards, N3VFK

Additional Board Members for 2024

1. John Kalicki KA2YOS
2. David Steiner W3CDH
3. Phil Kopczyk K3PJ
4. Cass Fitzgerald, N3FLO
5. Elmer Sorisio, KB3WG
6. Larry Freeman N3LT

LOCAL HAPPENINGS:

IMPORTANT ANNOUNCEMENT !!!

There will be a Fundraising Dinner to benefit Ms. Stephanie (Stevie Ann) Neilands as she fights her battle with Cancer.!! Stephanie is the wife Mr. John Neilands, KC3VVD, a fellow ham and member of ICARC . Details: BBQ Chicken Dinner on April 13, 2024, St. Joheph's Polish Society, 762 Adrian Road, Punxsutawney, PA 15767. Noon until sold out. \$15 Includes on half chicken, two sides, dinner roll and dessert, Eat in or takeout available. There will also be a Raffle & Lottery Tree Drawing at 4 pm. The event is open to the public. (See the flyer for the event “#Stevie Strong “ at the end of this document!!)

OTHER IMPORTANT NEWS OF THE MONTH:

Jerry Kiehl has recently had another birthday so Jerry, we bid you HAPPY BIRTHDAY with great hopes to see you for many more.

ICARC membership cards will be available at the next meeting. Hope to see you there so that you can pick one up (For members only).

As you can see, the editor is playing around with a new look for the header page of the ICARC newsletter. Let me know what you think about the changes up top by emailing me at w3bmd@qsl.net or wd4hoz@gmail.com. Nothing is yet carved in stone, I'm just experimenting so suggestions are welcome. The ghost image in the background above is part of the original ICARC logo. The thought here is to keep some of the original history alive.

ICARC Antenna Event Saturday, March 23, 2024

The Antenna/Fox test activity on Saturday, was another refreshing event reminiscent of years past as eleven folks showed up to have some fun with ham radio and eat a hotdog or two. The main goal of the event was to build and test two different types of antennas for Fox hunting planned for the future; one is a small loop, and the other a fairly large parasitically coupled Yagi, both for the 2 m band. Full success was accomplished for the small loop and partial for the Yagi. The small loop has an extremely sharp null perpendicular to the plane of the loop so seems very effective in defining the two possible directions for the source. One of those directions may be attenuated significantly by using the human body to shield the antenna from the unwanted “backside” radiation.

As for the Yagi, it was predicted that the parasitic coupling between the Yagi and the rig was such that, in the near field region, the signal would be so strong that the Yagi as well as the rig antenna were both saturated, resulting in very little directionality for the setup. Had it been a bit warmer and not so late in the afternoon, the transmitter power of the fox could have been attenuated more so as to be barely detected by the Yagi. Also, the third harmonic could have been used as a source since all of the handheld rigs are functional on other higher frequencies as receivers. In any case the Yagi is, clearly, a far field antenna for the fundamental frequency whereas the small loop is much more useful in the near field when detecting the fundamental frequency. We will be testing both for the third harmonic frequency later but my prediction is that the Yagi will do better than the small loop in the far field tests. It will be difficult to beat the performance of the small loop in the near field. Another interesting thing that came out of the tests was the fact that the new metal cladding on the shack is a very strong reflector and can easily be mapped with the small loop. Certainly, that was predictable but had not been thought about much as being a problem or possibly a useful challenge.

Also, as part of the event Saturday, David Varney brought his GMRS repeater which is to eventually be installed in the shack. He tested it with the antenna on his car, which is, maybe four and a half feet above local ground level. Amazingly, he was able use it effectively for contacts all the way to Kittanning. That ladies and gentlemen is what altitude (approx. 1470 ft) will get you. A solid demonstration that altitude is not irrelevant if you want significant coverage, particularly in an emergency situation.

Monday, March 25

Other, unplanned, antenna testing this day with similar results as obtained Saturday. In, addition to the small loop fabricated by Craig Bigler on Saturday, Elmer Sorisio completed fabrication of another small loop and it worked very similar to Craig's. Also, Third harmonic detection was tested with the two small loops and three other antennas, two Yagis and the "H" shaped antenna made of two parallel vertical half wave dipoles for 144 MHz separated by about a half wave. The two signals are combined by a mixing circuit located in the center between the two vertical dipoles. The idea is that there will be a phase difference, as the antenna is rotated, because of the path difference (PD) traveled by the two signals, one from each antenna, to the receiver. Ideally, this can cause a complete null if the PD is exactly a half wavelength or a phase difference of 180 degrees making a low signal to the receiver after they are added together by the mixer. Definitely a good theory! The tested small loops performed well with very low power signals at close range, literally a few feet. The other Yagi's, one for 440 MHz did well if used in the horizontal polarization mode but seemed to get saturated in the vertical polarization mode probably because of all of the trees re-radiating vertically polarized signals. The antenna on the Fox is tilted at about a 45 degree angle relative to horizontal. The other home made Yagi, which has a variable attenuator in-line, worked well even with the variable attenuator circuit being non functional due to a low battery. Similar to the first Yagi, it did not work as well in the vertical polarization orientation. Unfortunately, the H antenna did not work well at all and that was unexpected. It showed no directionality on the fundamental frequency of 145.80 MHz. There is some trouble-shooting to be done on that one. It could not receive any third harmonic signal, likely because of its very low intensity. In any case the H antenna can not be expected to work well with the third harmonic signals because there will be at least two nulls, the antenna is rotated, due to the shorter wavelength on 437.40MHz and so it will be difficult to determine the direction. In fact, any dipole antenna will have a natural radiation pattern at its fundamental frequency that involves at least two nulls and at higher harmonics that number goes up with the harmonic number. Therefore, the H antenna will have many nulls including additive nulls resulting from combining the two signals making it virtually impossible to distinguish the "useful" direction to the signal source. You run into a similar problem with a loop in that on the fundamental frequency you tend to get a null perpendicular to the plane of the circle but on the third harmonic the null will be in a direction parallel to the plane off the edge of the loop and the strong signal direction will be perpendicular to the plane.

Reminder: The ICARC Public Service and Information Net will continue on Monday night starting at 8:30 PM using the W3BMD repeater on 146.91/146.31 Mhz. (ICARC is an ARRL affiliated club)

Reminder: ICARC meeting are scheduled for the FIRST Tuesday of each month: April 2, May 7, June 4, July 2, 2024 at the Indiana Eat n' Park restaurant in the backroom at 6:30 PM Hope to see you there.

Reminder: Several ICARC members and others meet every Saturday morning for breakfast in the back room of the Indiana Eat n' Park restaurant normally starting between 8:30 and 9:00

Other Event Reminders:

TWO RIVERS AMATEUR RADIO CLUB AMATEUR RADIO/COMPUTER SHOW

SUNDAY APRIL 7th, 2023-8am to noon. Elizabeth VFD Bingo Hall – 101 South 1st Ave- Elizabeth, PA (located off PA Rt 51 in the city of Elizabeth) Directions and Mobile Check-in: 147.12 (PL 131.8) Contact information: JohnMoskala K3CRO: 412 951 1332 or Bill Powers KB3WP: 412 260 5699. or EMAIL: hamfestchairman@trarc.net

Delmarva Hamfest in Georgetown, Delaware, APRIL 20, 2024. Tailgating is open for business at 7:30. There will be golf cart transportation from the parking lot to the front door and back to the parking lot. The on-site cafe will be open. To register for free VE testing, email: herbquick55@gmail.com.

For Information Contact Jamie, W3UC (410) 202-7690 or email: hamfestdelaware@gmail.com

HAMFEST LOCATION: Cheer Community Center, 20520 Sand Hill Rd., Georgetown, DE 19947

Talk-in on SARA Repeater: 147.090 Mhz (PL: 156.7)

OTHER INTERESTING HAM RADIO NEWS

From the ARRL via the April issue of QST magazine, p. 67

ARRL Board Meeting Jan 19-20, 2024

Just a few of the things most important to the rank and file membership:

Board approved the reintroduction of Life Membership and a new 70+ Life Membership (for members over the age of 70 years). Remember, the Board had suspended the Life Membership. The catch is that the programs must be revenue neutral.

The Board established a new membership option for full time students age 21 and younger; a no cost Associate Membership.

The Board approved the creation of The ARRL Student Coding Competition which challenges students 21 years and under to design a software application that meets the criteria to be established by the ARRL. Awards of up to \$25,000 will be granted to the winning student(s) by an awards committee. Schedules and other details, for the competition, will be determined by the committee.

The Board also discussed proposed changes to the By-Laws and voted to approve the establishment of an ethics committee appointed by the President of the ARRL. The Board also voted to make the ARRL Director Workbook document available to the public via the ARRL website once all revisions have been made.

The above represent just a few indicators of the work being done by the ARRL Board of Directors. There are more details in the April issue of QST.

From the ARRL via email:

QST de W1AW
ARRL Bulletin 7 ARLB007
From ARRL Headquarters
Newington CT March 22, 2024
To all radio amateurs

SB QST ARRL ARLB007
ARRLB007 FCC to Require Two Factor Authentication for CORES Users

The Federal Communications Commission (FCC) has announced an upcoming change to the Commission Registration System (CORES) that licensees use to pay any application or regulatory fees, manage or reset a password on an existing FRN, or request a new FRN. Beginning March 29, 2024, multifactor authentication will be implemented.

Users will be prompted to request a six-digit secondary verification code, which will be sent to the email address(es) associated with each username. The user will then need to enter the code into CORES before they can continue.

In a public notice, the FCC said this change will make the system more secure. "This additional layer of security will further safeguard against unauthorized access, thereby enhancing the overall integrity of information contained within the CORES system and improving the security of user data," it read.

The Public Notice can be found in PDF format at,
<https://docs.fcc.gov/public/attachments/DA-24-219A1.pdf> .

The FCC recommends that users confirm they have access to their username account email and to add a secondary email address, if need be.

Resources are available for those who need assistance with the system. For inquiries or assistance regarding the implementation of multifactor authentication on CORES, submit a help request at <https://www.fcc.gov/wtbhelp>, or call the FCC at 877-480-3201 (Monday through Friday, 8 AM to 6 PM ET).

NNNN

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Attention: If other ICARC members would like to contribute to this Newsletter, please contact or submit articles to the Newsletter editor, N3LT via email at n3lt@gmail.com by the middle of each month. Preferred document format is **.pdf**. All submissions are subject to approval for publication by the editor.

BBQ Chicken Dinner

to benefit
Stephanie (Stevie Ann) Neilands
as she **kicks Cancer's Butt!**



April 13, 2024
St. Joseph's Polish Society
Noon until sold out

It includes one half chicken,
two sides, dinner roll and dessert.
Eat in or takeout available!

Basket Raffle & Lottery Tree
Drawing At 4pm!

(Raffle tickets available
starting March 16th!)

#StevieStrong



Event is open to the public.
762 Kellen Road
Parsippany NJ 07054