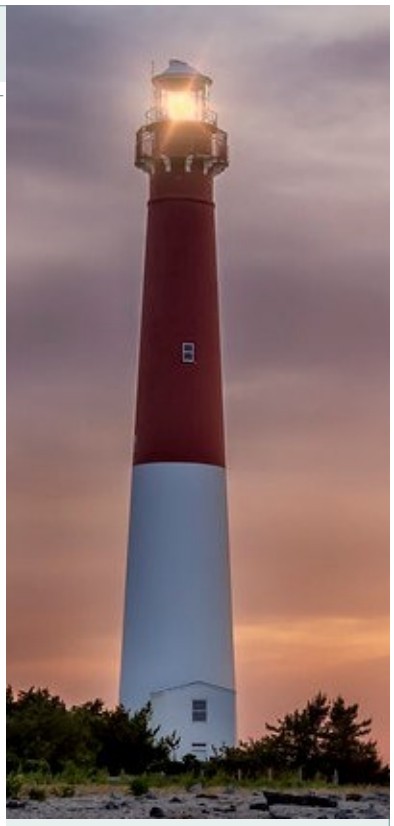
Old Barney Amateur Radio Club April 2022

The Old Barney Beacon



WHY WOULD I HUNT A FOX?

Fox hunting? Why? Who wants to hurt those cute little animals? Well the answer is you're not.

In amateur radio a fox hunt is where you track down a transmitter using direction finding equipment. Why would you want to do this? Well suppose someone is causing interference that you need to have stopped. They may not even be aware that they are doing it or, believe it or not, they are doing it on purpose.

You want to find the cause. How do you go about it? Well a

fox hunt is just that. It's a practice event to learn more about direction finding. It's easy to do and it can be very fun. Let's take a look of what is involved, what equipment we need, and how we go about it.

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INSIDE THIS ISSUE

DUES DEADLINE—April 1st

Dues are $25

Students and Military are free.

Dues can be mailed to:

PO Box 117, Manahawkin, NJ 08050

Or for electronic submission:

https://paypal.me/OBARCDUES

(When submitting use send money to a friend option)

For any questions contact Tom Preiser, N2XW

Our next meeting will be on Wednesday, April 6 2022 at the Ocean Acres Community Center.

VE CORNER

We had a VE session in March. Our member Dan, KD2__ earned his extra license and his girlfriend Allisa earned her Tech license.!

VE sessions are held Wed nights before the meeting at the community center at 6pm.

If you are looking to upgrade your license or you know someone who needs a session please contact Rick at n2rpq@arrl.net.

DO YOU KNOW THE DIFFERENCE?

TAKE THIS TECH CHALLENGE

Can you tell the difference in the connectors in this picture?

For the answer check out “Tech Tips” on page 4.

Fox Hunts—Continued from page 1

SO HOW DO WE DO A FOX HUNT

The way a fox hunt works is like this. Someone hides a transmitter. It can be a portable stand alone transmitter which can be built or they could simply set up a mobile (or base) station to transmit a signal. The signal is transmitted at pre-determined intervals, like maybe 5 minutes apart. Once this is one the air the fox is in play.

Now the hunters all meet at a given starting point. They are given the frequency that the transmitter is on and they set up their direction finding equipment (we will discuss the equipment itself a little later). They can decide if they are working individually, which may be the case if it is a contest, or as a group.

Using the direction finding equipment they listen for the first transmission. They locate the direction from which it seems to be coming from based on the signal strength then off they go. The hunters are active.

Once they leave the starting point they will drive in the direction they believe the transmitter is and stop at a point just short of the next scheduled transmission. They take out their gear and when the transmission starts they again determine the next direction they want to go. Maybe they got closer, maybe not. This continues until they arrive at the location of the hidden transmitter and the fox is caught.

IT SOUNDS HARD AND EXPENSIVE!

It is neither. Yes there is some fancy direction finding equipment on the market but you don't need that. You can make a directional antenna very cheap using a short length of PVC tubing, a cheap metal tape measure, a piece of wire and a set of plans. Once you have the antenna all you need is a radio.

To make things a little easier you may want to add an attenuator to the mix and maybe a compass but honestly you don't need either. The attenuator helps when you get closer in case the signal is strong enough that you can't tell which way it is coming from. The compass is good if you are working with a group, who all head to different points, and want to pass on information from their location.

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"When you've seen beyond yourself, then you may find, peace of mind is waiting there."— **George Harrison**

PRESIDENT'S MESSAGE

Spring!

Yes warmer weather. Time to get outside and check all those antennas!

Of course, if you are like me, maybe actually put one up! LOL.

I'm sure we all have are "to-do" lists for the outside projects but I hope you can pull yourself away to enjoy also.

I'm looking forward to having our events, seeing all of you, and enjoying being outside.

We have a lot of fun events lined up. I hope each of you can put some time in at some, or all, of them.

Bring friends and family. Let's see if we can spark more interest in amateur radio.

Whatever you decide to do with your spring I really hope you enjoy it. We've been stuck inside so much that it's time to get out during the day.

Of course, at night, when you're back inside jump on the radio and make some contacts!

Until next month…

N2RPQ

2022 ARRL CONTESTS

Rookie Roundup	Apr 10
June VHF Contest	Jun 11-13
Kid's Day—June	Jun 18
Field Day	Jun 25-26
IARU HF World Championship	Jul 9-10
222MHz & Up Distance Contest	Aug 6-7
10 GHz & Up—Round 1	Aug 20-21
Rookie Roundup (RTTY)	Aug 21
Sept VHF Contest	Sep 10-12
10 GHz & Up—Round 2	Sep 17-18
EME 2.3GHz & Up—Wknd 1	Sep 17-18
EME 50 to 1296 MHz—Wknd 2	Oct 15-16
School Club Roundup	Oct 17-21
Nov Sweepstakes—CW	Nov 5-7
EME 50 to 1296 MHz—Wknd 3	Nov 12-13
Nov Sweepstakes—Phone	Nov 19-21
160 Meter	Dec 2-4
10 Meter	Dec 10-11
Rookie Roundup—CW	Dec 18

TECH TIPS—WHAT IS THE DIFFERENCE?

I recently was reading an article in one of the tech magazines that I get and it made me think about something that I often forget. I often have to make up a wire for a test set-up or to connect equipment. When it comes to coax I always think do I need 50ohm or 75ohm (or something else).

I tend to keep both values of wire in stock. I use the 75ohm wire for cable TV connections and the 50ohm wire for radio antenna work. Of course they both look the same so you have to read the label to make sure you are using the correct one.

What I did realize is I'm not always as conscious about the connectors, especially if they are BNC connectors. BNC connectors have many uses throughout the electronics industry and I always have some around in my "junk box" and also in new stock. Sometimes I just grab one because that's what I need to connect the wire I'm making to the device. What I forget, sometimes, is to actually look at the connector.

50 ohm BNC connectors and 75 ohm BNC connectors are very common and if you don't look closely enough you may not realize you are using the wrong one. This will cause an impedance mismatch.

Were you able to spot the difference in the picture on page 2? The answer is the one on the left is a 75ohm connector and the one on the right is a 50ohm connector. Note the difference in the insulating dielectric material of the two connectors.

It's easy to see how you can grab the wrong one if you aren't paying attention.

So if find a wire you are using with BNC termination(s) on it doesn't seem to be performing correctly, check the connectors. It could save you a lot of frustration down the road.

If you have a tech tip that you would like to share, please send it to n2rpq@arrl.net for publication in a future newsletter.

FOX HUNTING—Continued from page 1

On the left, is a picture of the inexpensive directional antenna that I just described. I built one in about an hours worth of time. I don't remember the total cost but I would say it can be done for around $10.

So now we have our antenna? How do I use it? Simple...you attach your antenna to a radio, a HT is best, and use the signal strength meter (s-meter) as you turn the antenna in different directions until you find the highest reading. That is the direction that the strongest signal is coming from. Once you have that head in that direction and repeat the process. It is that easy!

SO ARE THERE ANY CATCHES?

The answer is you're working with radio waves, so yes there can be some catches. Sometimes the signal can "bounce" off different objects and seem like it is coming from a different direction. That's why you don't go too far each time you head out. You want to stop often to make sure you are still heading in the correct direction.

You could also have a clever fox! Now during a fox hunt the transmitter normally stays stationary but in theory it could also be moving so you may find the direction is changing. Also the transmitter could change power (again not common in fox hunting) making your readings seem a little off but you still head for the best signal no matter how strong or weak.

Even though we may find these "stumbling blocks" with good patience and determination you will eventually find it.

HOW LONG DOES IT TAKE?

Again, good question. During a fox hunt we normally limit the distance so that the fox can be found in a couple of hours at the most.

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OUR MEMBERS

Welcome to Our New Members:

Alissa Parker, KD2YWJ

March Birthdays:

4/15—Sid Weinstein

JOIN US ON THE AIR

Join us for our club net. The net is held every Thursday night at 7:30pm (except holidays and special occasions) on the WU2E repeater.

Every week we host a random topic of discussion.

Find us at: 146.835 (-600) PL 127.3

We look forward to sharing time with you!

For any comments or questions regarding the weekly net please contact Tom Preiser, N2XW at n2xw@arrl.net .

Old Barney would like to thank the 835 users group for allowing us to use the WU2E repeater to host our club nets.

We don't want to make it too easy and too fast. After all the idea is to practice and learn how to do direction finding so there needs to be some challenge.

If you find yourself ever having to use direction finding to track down real interference it may take longer. Could even have to be done over several days. It someone is intentionally doing it there may not be a constant interval.

MY FIRST FOX HUNT

So my first fox hunt was a couple of years ago when the Ocean County ARES team decided to have a fox hunt. Bob Murdock, WX2NJ, the county coordinator was the fox. And what a clever fox he was. He would change the transmitter power at times. He used his car radio and parked in one location. We all started at Miller Airpark. We had 3 or 4 teams.

We headed out and spent about 45 minutes chasing a bouncing signal through Holiday City. The fox realized we were in a loop of bad information and broke radio silence to tell us we may want to be closer to Jackson Township.

Once we got out that way we started to get better signals. After about another hour we all found ourselves parked around Bob's car in the township's library parking lot.

We had a blast and learned a lot. On our second event we coordinated our teams through a control point who took our compass readings and pointed us in the correct direction. We found the fox a lot faster this time!

SO ARE YOU READY?

We've been talking about it for a while. I think the time has come for Old Barney to have a fox hunt. Will you join us?

The plan is to have a "build session" before the event where we can put together antennas to be used. Of course if you already have direction finding equipment it is fine to use that.

This time around it will be a fun, learning session. Maybe at a future date we will through in a little friendly competition.

I am thinking about having the hunt either in May or early June, which the build session at the end of April or beginning of May.

I'm still looking for a fox hunt chairperson! Now that you know how easy it is don't you think you are the right person for the job? Don't worry if more than one steps up it can be a committee…

LET'S GO HUNTING!

OCEAN COUNTY ARES®
APRIL 2022

The next meeting of Ocean County ARES will be on April 20, 2022 at the Ocean County EOC, Robert J. Miller Airpark, Berkeley Township. The meeting will start at 7:00 PM. All are invited.

A while ago I heard an individual on a club net ask if it was necessary to bond the ground from his garage sub panel (where his shack is) to his antenna ground system. I would like to spend the rest of this newsletter addressing this issue along with a real-life experience.

Bonding is simply a matter of taking all of the electrical and metallic masses in a facility and connecting (bonding) them with conductors, bringing them to the same electrical potential. The primary reason for bonding is personnel safety, so someone touching two pieces of equipment at the same time does not receive a shock by becoming the path of equalization. For the same reason bonding protects people, it protects equipment, reducing unwanted current flow on power and data conductors and controlling arcing between pieces of equipment at different potentials.

It is a difference in potential across your equipment causing current flow through the equipment which causes damage.

Current divides and takes all paths. The amount of the current flowing on any one path is proportional to the surge impedance of that path relative to the total surge impedance of all paths. Even if heavy duty bonding straps are provided between grounds as the primary intended path of equalization, some of the current flow will be through unintended paths; through other conductors and equipment. Therefore, it is critical to bring all services and equipment grounds within a facility to the same potential before they connect to the grounding system, eliminating the possibility of current flow.

In a typical installation, we must be concerned with several different ground potentials. The first set of ground potentials is associated with the services to the site, i.e., AC power, TELCO, data and RF transmission lines from antennas. If a piece of equipment is connected to both a data line and to a power supply, and there is a difference in ground potentials between those two service grounds, that difference in potential can equalize within the equipment, causing damage or accelerated wear.

In a real-life case that I know of, a ham operator had a tower erected in his back yard with ample ground rods, surge protectors, ground cables, etc. Because the electrical service entrance was located in the front yard, a ground cable was not installed between the tower and the electrical service entrance ground rod. During an electrical storm, a lightning strike entered the service entrance ground. Lightning seeks the best path to ground, which in this case was the better grounds of the ham radio tower. Even though a single ground rod was installed at the service entrance, lightning potential went on the hunt for a better one. Over $20,000 of equipment damage occurred. Lightning entered the ham radio station power supply and jumped over to each piece of gear powered by 12 VDC. Numerous components and circuit board traces were literally vaporized as the lightning potential finally found the antenna coax and ground connections to the superior ground.

The real kick in the pants of this whole event was the lightning entered the residence via the Comcast Cable line. Yes, the service that many of us pay a lot of money every month for has no other ground protection in distribution boxes and is grounded by that flimsy little ground link at your service entrance. Needless to say, the consumer electronics (TV's, VCR, etc.) of the residence were also sacrificed by the hit.

Keep in mind, even if the electrical service entrance was connected to the antenna ground with a strong bonding conductor, potentials will increase during a lightning strike, but damage will (hopefully) be kept to a minimum.

Finally, for the last couple of months there has been an individual on the Toms River UHF repeater identifying himself with a strange callsign. We were finally able to capture his voice on audio tape and he is identifying himself with his GMRS callsign. GMRS licenses only permit operation on GMRS frequencies, not amateur radio frequencies. Amateur radio licenses also do not permit operation on GMRS frequencies. The individual has been asked on numerous occasions to identify with his ham callsign and he has not, so one has to assume that he is not a licensed ham.

The FCC has been contacted, given the facts of the violation and they will be contacting the individual. Hopefully, this will be the end of the incident, but if it is not, the individual will be looking at a hefty fine.

Thanks to all that assisted in identifying the perpetrator.

Southern NJ Section News April 2022

Tom Preiser N2XW SNJ Section Manager

n2xw@arrl.org

The weather is beginning to improve. Many clubs are planning their activities and gathering together again. There are also some hamfests in the planning phase. Some other clubs are planning Foxhunts and some have already had one or two. There seems to be no lack of amateur radio activities in the Southern New Jersey Section. Remember Field Day is coming in June. Even though you can work from home many clubs are planning to set up in the field again. I will be making the rounds to many clubs and I hope to see many of you. Don't forget to order your Field Day gear from the ARRL.

The ARRL Website is being redesigned. Check it out to see the new layout. We have been waiting for this for some time. I think many will like the new look. Don't forget to check out the ARRL Learning Center for new and updated courses https://learn.arrl.org/

Annual Armed Forces Day Cross-Band Exercise Set for May 14

The 2022 running of the Armed Forces Day (AFD) Cross-Band exercise will be held on May 14, 1300 – 2200 UTC. A complete list of participating stations, modes, frequencies, times, and other details will be announced on April 1. The event is open to all radio amateurs. Armed Forces Day is May 21, but the AFD Cross-band military-amateur radio event traditionally takes place 1 week earlier, in order to avoid conflicting with Dayton Hamvention®. During the exercise, radio amateurs listen for stations on military operating frequencies and transmit on frequencies in adjacent amateur bands.

Military and amateur stations have taken part in this event for more than 50 years. It's an exercise scenario, designed to include ham radio and government radio operators alike.

Per previous announcements: "The AFD Cross-band Test is a unique opportunity to test two-way communications between military communicators and radio stations in the Amateur Radio Service, as authorized in 47 CFR 97.111. These tests provide opportunities and challenges for radio operators to demonstrate individual technical skills in a tightly controlled exercise scenario that does not impact any public or private communications."

Military stations in various locations will transmit on selected military frequencies and announce the specific ham band frequencies they are monitoring.

An AFD message will be transmitted utilizing the Military Standard (MIL-STD) serial PSK waveform (M110), followed by MIL-STD Wide Shift FSK (850 Hz RTTY), as described in MIL-STD 188-110A/B. The AFD message will also be sent in CW and RTTY. Full details will be released on April 1.

2022 World Amateur Radio Day is April 18

All amateur radio operators worldwide can participate on Monday, April 18, 2022 at 0000 UTC until Tuesday, April 19, 2022 at 0000 UTC. This is a global event covering all regions of the International Amateur Radio Union (IARU).

World Amateur Radio Day, held on April 18 each year, is celebrated worldwide by radio amateurs and their national associations which are organized as member-societies of the International Amateur Radio Union (IARU). It was on this day in 1925 that the IARU was formed in Paris. American Radio Relay League (ARRL) Co-Founder Hiram Percy Maxim was its first president.

On World Amateur Radio Day, all radio amateurs are invited to take to the airwaves to enjoy our global friendship with other amateurs, and to show our skills and capabilities to the public.

World Amateur Radio Day is not a contest but rather an opportunity to "talk" about the value of amateur radio to the public and our fellow amateur colleagues. It is also a great opportunity to talk about your radio club and amateur radio in local media as a lead-up to ARRL Field Day (held each year during the fourth full weekend in June) and another ham radio related activity in your community – such as volunteers who serve in local emergency communication readiness including the ARRL Amateur Radio Emergency Service®.

Here are just a few ways to participate in, and promote, World Amateur Radio Day:

Get a station on the air! Create your own personal "event" to talk about amateur radio to others, including family and friends.

Create and hold a special net or on-air event on World Amateur Radio Day to raise the level of attention for the celebration, and to encourage other hams to talk about our hobby. Consider creating and offering a commemorative certificate for contacting your special activation. It can be an electronic one as these are cost effective.

Promote your personal World Amateur Radio Day activity(ies) on social media platforms like Twitter and Facebook by using the hashtag **#WorldAmateurRadioDay**. Make sure you send it to various clubs, reflectors, and media.

Join us in celebrating World Amateur Radio Day and all the ways amateur radio brings us together!

OLD BARNEY GEAR

You can find Old Barney Gear at all these places:

It appears that Southern Ocean Marine Sportswear has closed down. If anyone know any different please let me know.

Café Press (All types of logoed items available)
New Logo Items: https://www.cafepress.com/oldbarneyarcnewlogo
Old Logo Items: https://www.cafepress.com/obarc

Gold Medal Ideas (Personalized Old Barney Items)
1160 Thompson Blvd, Buffalo Grove, IL 60089
https://stores.goldmedalideas.com/ygs/Old_Barney-Products/10000170

HAVE YOU JOINED THE MEMBER'S AREA?

The member's area of the OBARC website is being developed to provide useful tools to our members. Currently there is:

- Club Documents & Meeting Minutes
- Swap and Shop Postings (You decide if yours is just for members or the public)
- A "Ask for help/Questions" area to post questions to other members for assistance.
- A members directory for those who want to be listed.

Take a look. Suggestions are welcome! You can request access to the area by going to: www.obarc.org/members

WHO IS OLD BARNEY?

The Old Barney Amateur Radio Club (OBARC) was established in 1975 by a diverse group of individuals with a common goal of promoting Amateur Radio.

Today the group continues towards making the amateur radio hobby rewarding through participation in several events throughout the year, training sessions, VE testing and monthly meetings.

Our meetings are held at the Ocean Acres Community Center, 489 Nautilus Blvd, Manahawkin, NJ 08050*, beginning at 7:00pm on the first Wednesday of each month (except holidays). We welcome anyone (licensed or not) to come and meet with us to learn more about amateur radio.

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Old Barney Amateur Radio Club

PO Box 117
Manahawkin, NJ 08050

E-mail: n2ob@arrl.net

SHARE YOUR KNOWLEDGE

The newsletter is open to anyone who would like to submit articles. Please join me in contributing to content and share the knowledge you have about our hobby with all our readers.

Presentations are also welcomed. We try to host a presentation at each monthly meeting covering different topics. We would even welcome "special" sessions via Zoom for presentations that are too long to host at a meeting.

Please contact me at n2rpq@arrl.net with any articles or to arrange a presentation.

THE OLD BARNEY RADIO CLUB IS ARRL AFFILIATED

Visit the ARRL at www.arrl.org