OUR 25TH YEAR!

EPARA BEACON

VOL. 5, NUMBER 7 THE OFFICIAL NEWSLETTER OF THE EASTERN PENNSYLVANIA AMATEUR RADIO ASSOCIATION JULY 2021

NEXT CLUB MEETING: JULY 8TH

Monroe County Public Safety Center, 100 Gypsum Rd Stroudsburg, PA 18360

Welcome to the EPARA Beacon! This newsletter is published monthly and is the official newsletter of the Eastern Pennsylvania Amateur Radio Association. EPARA has served the amateur radio community in the Pocono Mountains for over 25 years. We have been an ARRL affiliated club since 1995. We offer opportunities for learning and the advancement of skills in the radio art for hams and non-hams alike. EPARA supports Monroe County ARES/RACES in their mission of providing emergency communications for served agencies in Monroe County. Feel free to join us at one of our meetings or operating events during the year. The club meets on the second Thursday of every month, at the Monroe County 911 Emergency Control Center. The business meeting starts at 7:30 P.M. Anyone interested is invited to participate in our meetings and activities.

'Ring of Fire' Solar Eclipse of 2021

ZOOM Meeting Info: Meetings begin at 7:30PM!

https://us02web.zoom.us/j/85463346031?pwd=bU1KcVZoaVZiVEUvdjRsUXlNNHZkZz09

Meeting ID: 854 6334 6031 Password: 244632

From The President

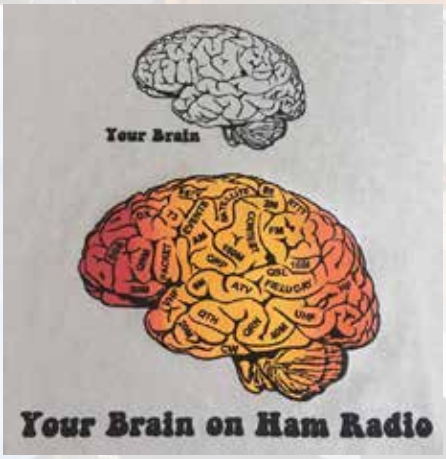
Field Day was a lot of fun! I was pleased with the attendance and participation. We made 385 contacts and that is the most we have done in many years. More important than that we all had a great time! I have received many thanks for planning the weekends activities and I truly do appreciate it. I want to thank all of you who attended, made contacts, mentored newer hams, made food, brought coffee and donuts, and helped setup and tear down. Without all of you and your participation there would be no Field Day at all.

HamFest season continues, there are two hamfests in July that many of us attend, MURGAS is on July 4th and Sussex is on July 18th. I hope to see many of you at these events. September is when we will host our own hamfest after many years. Planning for this continues so stay tuned for details.

July 24th and 25th will be our annual Antenna/Elmer weekend. EPARA will continue to attempt EME and make satellite QSO's. This will be the Elmer part of the weekend, so if you want to learn about EME and Satcom your welcome to join in. The antenna project will be a simple 2 meter 3 element yagi.

I hope to see many of you on July 8th at our next meeting. 73

Chris AJ3C



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What's INSIDE this ISSUE

EPARA Net list

Monroe county ARES-RACES – Sunday's 8:30 PM, 146.865 MHz, PL -100 Hz

The Monday Night Pimple Hill repeater 8:30 PM (Repeater freq = 447.275 with a - 5MHz offset) DMR TECH Net on TG314273* Time Slot 2

SPARK Information/Swap Net – Tuesday's 8:30 PM, 147.045 MHz, PL 131.8 Hz

The Wednesday Night EPARA Hot Spot DMR Rag Chew net at 8:30 PM, TG 3149822* Time Slot 2 (N3IS Talk Group)

EPARA Tech Net – Friday's 8:30 PM, 147.045 MHz, PL +131.8 Hz

*TG = Talk Group

Announcements
AND UPCOMING EVENTS

EPARA Patches: **Club patches are in! For those that ordered them please step forward to collect them. We also have extra just in case …**

EPARA Club Dues
Club dues were due January 1st. For those that missed the chance to stay current, there are two (2) methods available to pay to help make this easy for all. Contact Scott KC3IAO via his email: KC3IAO@hobbyguild.com and you can send him a check or pay via PayPal.

EPARA Club Meeting
The next club meeting WILL BE held once again at the Monroe County 911 call center. We will also be holding a zoom meeting from the center for those that wish to join from their homes. This has worked well so far and we will continue the trend.

Big Pocono State Park
EPARA's application for the Field Day and Antenna/ Elmer weekend site has been approved for the next 10 years. This is good news!

Field Day!
Field Day this year is being held during the last weekend in June - the 26th and 27th. Friday the club will be setting things up (2pm) and getting ready for the Saturday kickoff. Field Day begins at 1800 UTC Saturday and runs through 2059 UTC Sunday. Overnight camping is allowed in the park as well.

2021 SCARC HAMFEST
The tentative date for the 2021 SCARC Hamfest is July 18, 2021. Admission is $8 per HAM. Indoor Tables $25 which includes ONE admission. Tailgate Space $25 which includes ONE Admission. Each Additional person is $8.

13 Colonies Special Event!
July 1st-7th 2021 (Starts July 1st 1300 Ends 0400 July 8th)

Rule #1 of Amateur Radio, it is a hobby, unless you figured out a way to fashion a living out of it.
Rule #2 of Amateur Radio, life is not a hobby and typically carries heavy responsibilities of everything that is not a hobby.
Rule #3 of Amateur Radio, never give up a LIFE event for a Ham event. You may make some great memories at the Ham event, but the guilt you may carry missing a LIFE event can be a terribly heavy millstone.
Rule #4 of Amateur Radio, as technology moves forward, so does Ham Radio - do what makes you happiest, experiment with other elements of Ham Radio as LIFE allows.
Rule #5 of Amateur Radio, it is only Ham Radio, when confused always refer to Rule #1 through #4.

TEST YOUR KNOWLEDGE!

Which of the following test instruments is used to display spurious signals and/or intermodulation distortion products in an SSB transmitter?

A. A wattmeter
B. A spectrum analyzer
C. A logic analyzer
D. A time-domain reflectometer

Last month's answer was C: Because it is the highest ionospheric region, long distances may be reached in one bend or "hop" of the signal (up to about 2,500 miles!). This is why the F2 region is mainly responsible for the longest distance radio wave propagation.

More Digital Mobile Radio news!

The EPARA HOT SPOT Wednesday night DMR rag chew net is coming!

Wednesday evenings at 8:30 PM local, 0:30 UTC!

Tune your DMR radios to Talk Group 3149822 TS2 to join the

N3IS EPARA Hot Spot rag chew DMR net.

Listen to the Tech Net Friday nights on the 147.045 repeater to learn more about joining this net and for upcoming ZOOM meetings announcements to learn more about programing your radios and hot spots!

DMR
DIGITAL MOBILE RADIO

EPARA General Membership Meeting Minutes

June 10th 2021
General Membership Meeting 7:30Pm

Open meeting:

Meeting called to order at 7:34 pm on June 10th 2021 by Chris AJ3C
Introductions with call signs
Declaration of Quorum.
Total members attending, 21 Visitors present: 5

Pledge of Allegiance / Moment of silence:

Membership Meeting - Minutes May 13th, 2021:

Secretary - Kevin W3KCF:

Meeting minutes for May 13th, 2021 were posted on the EPARA website. Chris – AJ3C asked members if they had seen and read the minutes from our previous meeting. He then asked if there were any questions or objections to the minutes as they were presented. With no objections, Chris asked for a motion to accept the minutes as present-ed:

Motion to accept minutes as read: By Kevin-W3KCF 2nd by Charlie-KB3JUF Motion Passed

Treasurers report:

Scott, KC3IAO stated the opening balance for May was $2996.96 We had expenses of $64.00 for the P.O. Box rental, $50.00 for Big Pocono State Park Rental, $27.00 for Zoom Rental, $100.00 rental for the American Legion Pavilion for Ham Fest and a $15.00 dollar check (Dues Refund) that has not cleared yet, but will be in next month's balance statement. We had income for dues collected in the amount of $80.00. $30.00 for club patches sold and $30.00 income for the 50/50. In addition, we earned $0.12 interest from the bank, leaving a closing bal-ance of $2896.08. Our PayPal account had an opening balance of $463.69 We had no activity, leaving a closing balance of $463.69

Motion to accept reports by RuthAnn – W9FBO 2nd by Dan - KC3JCE Motion Passed

Correspondence:

We are still waiting for official word from the West End Fair, but have heard back from a gentleman named Peanut, who coordinates all the vendors activities. It looks like we will be a go, but are waiting for everything to be finalized.

Chris-AJ3C also mentioned, that this year the hours of operation have been reduced. The new times are from 1500 to 2100 hours and will require one shift per day and 2 members per shift.

Reports of officers and committee's:

Bill AB3ME – Program Committee:

Bill stated that we have a presentation (Sat/Com and Antennas) scheduled for after the meeting tonight with KL7H Craig Bledsoe, but nothing for the following month. Bill then asked if anyone was interested in giving a presentation and to please contact him to set things up.

EPARA GENERAL MEMBERSHIP MEETING AGENDA

Alex-KD2FTA said he was willing to do a presentation on "The Introduction to DMR". He is also planning to do some workshops on hotspots and code plugs. Bill then asked Alex when he would be ready for the presentation. Alex said he thought August would work best.

Charlie KB3JUF – ARES/RACES:

Charlie stated there would be "NO" ARES/RACES Meeting or VE Session on Friday the 25th of June, as this is Field Day Weekend.

Charlie then stated that the ARRL/EPA would have a webinar on the 19th of June at 10:00 in the morning.

Winlink Basics
Saturday, June 19th at 10 AM
Mark Wheeler, KZ3MY is the presenter

Visit the link below to complete the signup form. You will be sent a link to Zoom.
https://docs.google.com/forms/d/1mYu4DA7P4117ixSmNfJHfBmR-64iFYjdpo8kj0FGNIU/edit
Charlie then emphasized that all members get involved and start checking into other ARES Nets to gain experience and see what is going on around the area. He also said for everyone to 'Stay-Tuned', as he will have a surprise ac-tivation to further our training.

Chris AJ3C -- Instruction and Training:

There will not be a public VE session in June due to Field Day. A special VE session will be held for the General Class student W9FBO – RuthAnn. Chris said there would be a Technician class in the fall sometime in September and he would coordinate with the 911 Center to arrange for a classroom.

The special session for RuthAnn will be held on the 23rd of June at 1900 to allow her to take her General Exam. He's looking for 2 VE's to help him out. An email will be sent out asking for volunteers.

PIO: Public Information Officer position is still vacant

Chris AJ3C - Website

The newsletter and Hamfest Flyer have been uploaded to the website and they are now available for download. If anyone would like to set up a table at the Hamfest, please contact Walt as he is the coordinator for this event.

AL, KB3OVB: Membership:

Chris stated we are currently at 52 paid members. Chris believes through the Hamfest, field day and other events we will gain additional interest and members. There are 3 folks that have submitted applications to be voted on tonight.

Eric N3SWR – Newsletter and Communications:

Eric said there was nothing new to add and Chris thanked him for a job well done.

Sat-Com Group: Planning for an EME project

Chris asked Bob – W3BMM and Alex – KD2FDA if they had anything new for the club? Bob said he found an interesting article on the construction of a Sat/Com antenna and was wondering if it would be good for the newsletter. It was from the 2006 CQ magazine. Eric told him to send it to him.

Alex said they are getting prepared for our EME (Earth/Moon/Earth) attempt at the end of June and would be getting together with those interested on Saturday the 12th at 1600 to work on the antenna. We will attempt to bounce a signal off the moon on field day utilizing 3200w of power on frequency144mh utilizing JT65.

Old business:

Embroidered Patches:

Chris said there are still about 13 patches available for purchase. For those still interested in purchasing patches, the cost of a patch is $10. PayPal is setup, so if you are interested, contact Scott KC3IAO

Tech Net on DMR:

EPARA Tech Net on the KG3I DMR repeater (T 442.275/R 447.275) The net is hosted on Monday nights at 8:30 PM on Talk Group 314273 and is on Time Slot 2, Color Code 0.

N3IS DMR Talk Group:

EPARA has established a DMR talk group under the club N3IS call sign. The talk group is 3149822 and is accessible via hot-spot only. This group meets Wed nights at 8:30pm for a great time and rag chew.

World Wide Net - DMR

Talk Group 91 - Saturday 11:00am: Alex mentioned there is a World-Wide Net on talk group 91 every Saturday. The net begins at 11:00am and gets around to North American for check-ins around 1400

2021 Hamfest;

The EPARA Hamfest will be held on September 26th 2021. We secured rental of the American legion Hall in East Stroudsburg and the rental fee has been paid. Food preparation will be handled by the American Legion cook and Chris talked about the club setting up a stand to handle all the drinks. Vendors are to contact Walt W3FNZ. Walt said he had passed out about 50 fliers and could use more. Chris gave him another 150 to pass out. Walt said he had 50 mailers ready to go out to clubs within a 50-mile radius, to be give out to their members.

Walt asked if we have tickets and Chris said they are all printed from last year. One of the members volunteered a PA system with speakers that would work inside and out. Chris said it looks like everything was coming together and we had a few more details to work out. A question was asked when we plan to open in the morning. Chris said we plan to have vendors setting up at 0600 and open the doors to buyers at 0800.

Field Day 2021:

FD will be on June 26th and 27th Setup will be on Friday the 25th at 2 PM. We will be running as a class 2A. The club will be providing some food and drink, attendees should bring additional refreshments. Those wishing to transmit will have to use band filters. Brad-KF6AOK volunteered to bring a spectrum analyzer which can be used as a learning aid and also a solar panel to bring in additional points for the club.

New business:

Votes / New members:

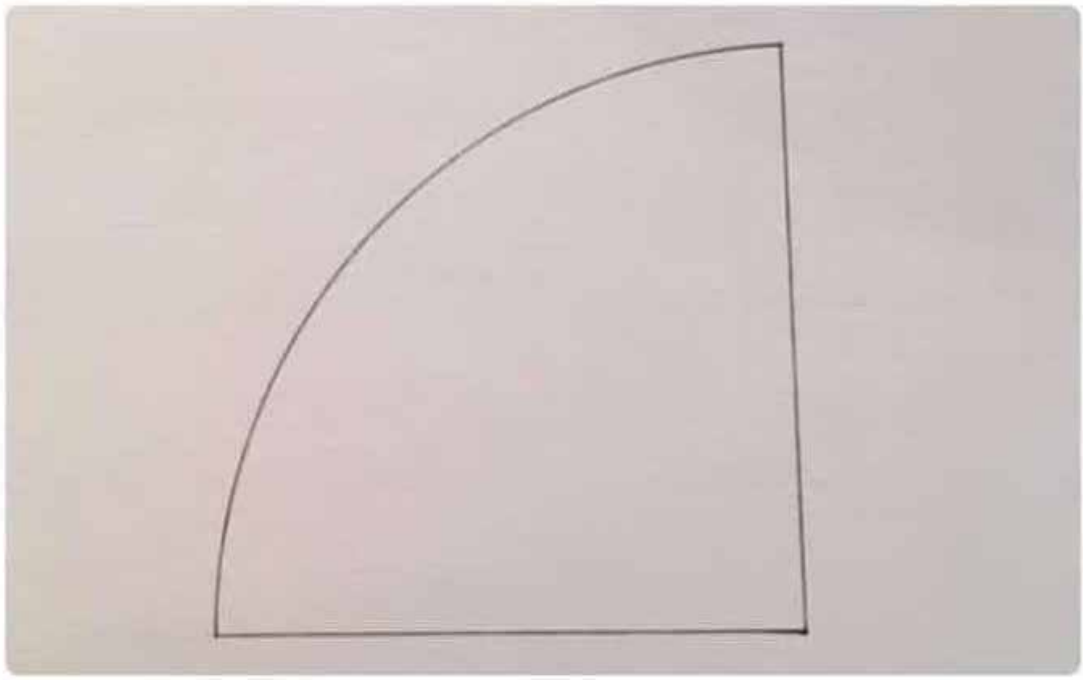
We had three people submit applications to become new members. Brad-KF6AOK, Lee-KB3SBA and Matthew who is working on his license. A vote was taken to admit all 3 as new members. It was unanimous. EPARA welcomes its newest members.

The 50/50 raffle was won by RuthAnn-W9FBO. The pot contained $30.00

Adjournment…

Meeting was adjourned at 8:52 pm Motion to close by Charlie-KB3JUF 2nd by PETE-KC3RES. Motion Passed

Secretary
Kevin Forrest
W3KCF




ZOOM
MEETING


View

To: All EPARA Members and Users of the WA3MDP Repeater System

Re: The 147.045 Repeater Malicious Interference

Over the past few years the 147.045 repeater here in Monroe County has been plagued with an increasing amount of deliberate and malicious interference. While some of this interference has been directed at some specific operators the end results has been a wide area large foot print repeater that get little to no use except for a few regularly scheduled nets.

This is not a problem that is special to just the 147.045 system. Nationwide FM repeaters (and HF bands for the matter) are also being interfered with deliberately and the FCC lacks the manpower and ability to search out the people causing the issues.

The ARRL in conjunction with the FCC reorganized the Volunteer Monitor program a while back to assist in tracking down QRM on all of the amateur bands. While some progress has been made there obviously is a lot more to be done.

A small dedicated group has been tracking the QRM locally by various means for over a year. While some of the sources have been narrowed down it is now time to get the rest of the local ham community involved.

What we are asking people to do is when you listen to the 147.045 repeater also listen to the "input" frequency which is 147.645 (no tone is required). If you should hear any of the malicious and deliberate QRM occurring, do the following:

1) DO NOT INGAGE IN A CONVERSATION WITH THESE INDIVIDUALS.

2) If you hear farting, cat calls, high pitch cartoon voices, music, etc write down the DATE, TIME, YOUR LOCATION and APPROX STRENGTH OF THE QRM STATION. If you have a beam antenna and can provide a heading that would be great too!

3) Send your listening report to the email address LIDSonzero45@gmail.com.

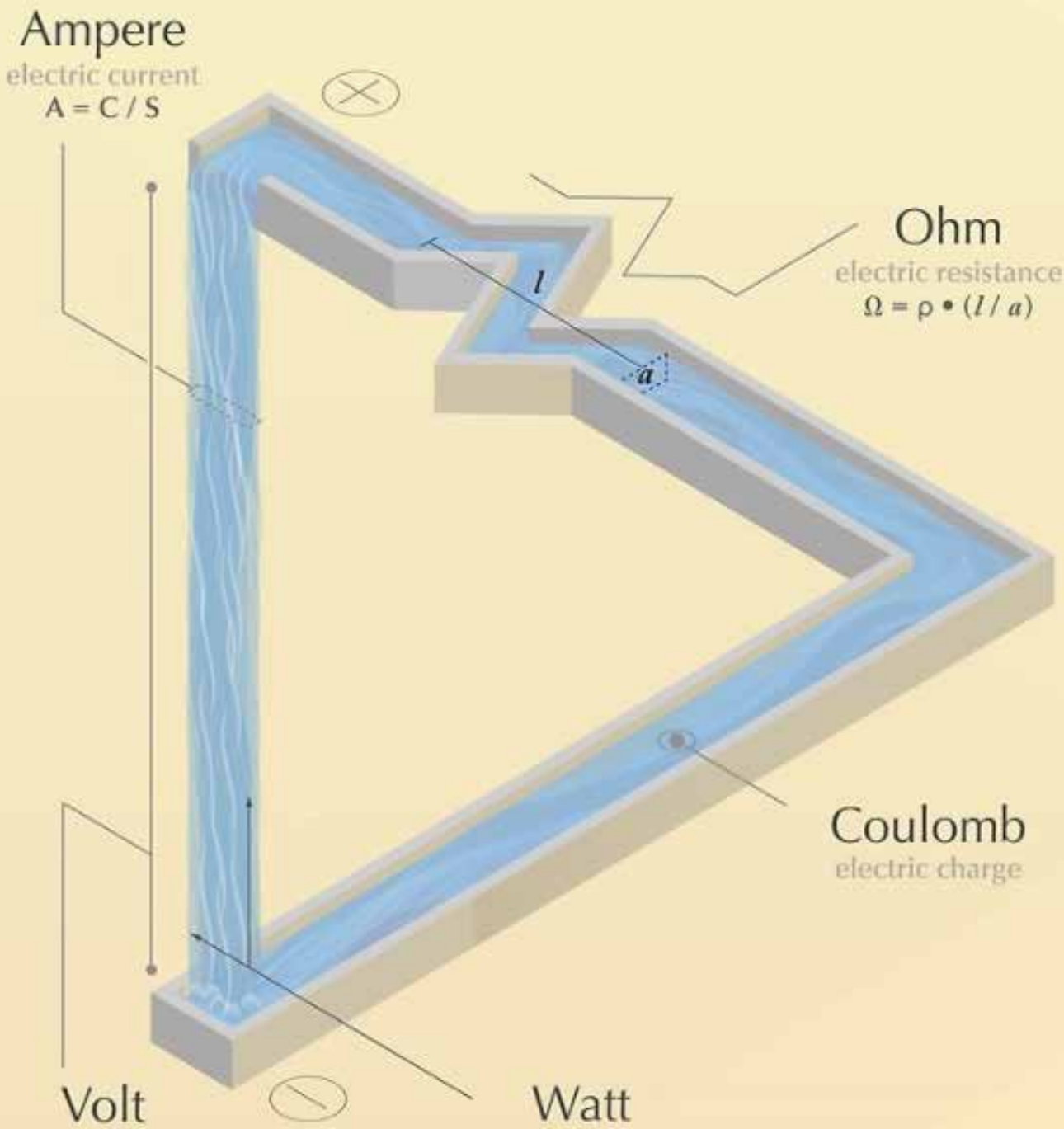
ALL information will be kept confidential and with this added information we hope to narrow down the locations that have already been identified.

In closing let me assure you that the people looking for the sources of the interference are doing so with the blessing of the repeater owners. It is our desire to see the 147.045 repeater system return to the quality repeater that it used to be many years ago.

Thank you in advance for your cooperation.

BASIC ELECTRONICS THEORY

-ELECTRICITY-



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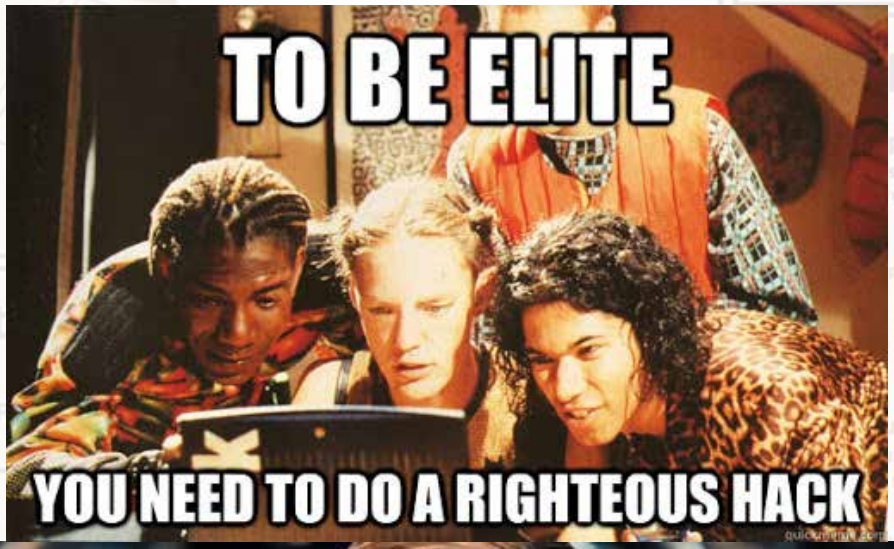
😳I think you appear in this VIDEO watch it, IM REALLY IMPRESSED!!!😀👇
http://ijc6kw0w.club/pLYGliZg

YouTube

YouTube

Enjoy the videos and music you love, upload original content, and share it all with friends, family, and the world on YouTube.

youtube.com



VE Testing & Classes

Anyone looking to take an exam is encouraged to contact Chris AJ3C to preregister at least one (1) week in advance of the test date. If you have any questions or to register, Chris can be reached via email AJ3C@GMX.COM. VE sessions are being held the 4th Friday of each month at 6pm at the Monroe County 911 training center. Seating is limited for the time being so we can follow the health guidelines set forth by the county and state.

VE sessions are back - contact Chris AJ3C for further information!

AMATEUR RADIO CLASSES

NEWLY RESURRECTED!

HAMFEST 2021

Sunday, September 26th, 2021 - Opening 8am

ALL NEW LOCATION!

The American Legion Post 346
126 E 5th St, East Stroudsburg, PA 18301

Take exit 309 off I-80, then left on 447 N. - 2 miles to Business rt 209 S. - then 1st left to E. 5th St.

Featuring:

- ✓ Hot & Cold Food
- ✓ Beverages
- ✓ Hourly Giveaways
- ✓ Free Parking

Rain or Shine

- ✓ Handicap Accessible
- ✓ Convenient Restrooms
- ✓ Door Prizes!
- ✓ 50/50 Raffle

- ✓ Sat/Comm Demonstration and Information
- ✓ VE Session will be held at 10AM
- ✓ Grand Prize Drawing is an Alinco DJ-MD5T Hand held DMR Transceiver

Google Maps

Eastern Pennsylvania Amateur Radio Association

For more information please visit the EPARA website at: www.qsl.net/n3is

Talk-in: 147.045MHz PL+131.8 · Phone 570-350-1185 · email: 3w3fnz@gmail.com

VISITOR INFORMATION

ADMISSION: Buyers: $7 · Sellers: $10
Vendors & Sellers: 6:00AM · Buyers: 8:00AM
Tailgate Outside or Table Space Inside our Pavilion
Club Table for Consignments

EPARA Website

ARES/RACES meetings are now being held on the fourth Friday of each month at 7PM. The meetings are once again being held at the 911 call center. These meetings will serve as training sessions covering several aspects of amateur radio emergency communications. We will start with traffic handling and the use of Radiograms and the ICS 213 general message form. Future sessions will cover the use of several ICS forms and the setup and use of digital communication modes including Winlink, Packet Radio, APRS, and the FLDIGI software program. Meeting are open to all, you do not need to be an ARES/RACES team member to attend.

Don't forget to sign up with with ARES Connect if you haven't done so already and if you plan to attend the meeting or check-in to the weekly net remember to register you attendance on the ares connect page. To sign please use this link: https://arrl.volunteerhub.com/lp/epa

Want to Put Your Ham Radio Skills to Good Use? Get Involved in

EmComm!

One of the missions of the Amateur Radio Service is for amateur radio operators to provide public service and emergency communications (EmComm) when needed. We act as a voluntary noncommercial communication service and pitch in to help our communities and first responders.

So, what organizations are out there for community-minded amateur radio operators and what can we do to help?

Join In

One good entry point into public service and emergency communications is to join SkyWarn, a volunteer program run by the National Weather Service (NWS) with more than 290,000 trained severe weather spotters. These volunteers help keep their local communities safe by providing timely and accurate reports of severe weather to the NWS.

Not all of these weather spotters are amateur radio operators, but many are. Amateur radio communications can report severe weather in real time. When severe weather is imminent, SkyWarn spotters are deployed to the areas where severe weather is expected. A net is activated on a local repeater and SkyWarn spotters who are Hams check into that net. The net control advises the spotters when they might expect to see severe weather, and the spotters report conditions such as horizontal winds, large hail, rotating clouds, and even tornadoes.

To become a SkyWarn spotter, you must attend a class that teaches you the basics of severe weather, how to identify potentially severe weather features, and how to report them. The classes are free and typically last about two hours. Check your local NWS website for class schedules.

ARES/RACES/CERT

Another way Hams can become involved in public service and emergency communication is to join an ARES or RACES group. Technically, these are two separate services—the Amateur Radio Emergency Service (ARES) is run by the ARRL, while the Radio Amateur Civil Emergency Service (RACES) is a function of the Federal Emergency Management Agency (FEMA). Amateur radio operators who typically take part in one also take part in the other.

To participate in RACES, you'll need to take some self-study FEMA courses in emergency preparedness and emergency-response protocols. Classes may or may not be required to participate in ARES. These requirements are set by each individual ARES group. To get involved with either ARES or RACES, ask your local club members when they meet. You can also contact the Section Manager or Emergency Coordinator for your ARRL section. To contact them, click here and find the section that you live in.

Amateur radio operators belonging to ARES (and its predecessor, the Amateur Radio Emergency Corps) have responded to local and regional disasters since the 1930s, including the 9/11 attacks, and Hurricane Katrina and Hurricane Michael, among others.

The Community Emergency Response Team (CERT) program trains volunteers—both Hams and non-hams—how to be prepared for disasters that may impact their area. They provide basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. CERT offers a nationwide approach to volunteer training and organization that first responders can rely on during disaster situations, allowing them to focus on more complex tasks.

What Gear Do You Need?

For most local needs, a 5-watt VHF/UHF handheld transceiver is sufficient for utilizing local repeaters to relay messages and report on conditions as they exist. Replacing the radio's stock antenna with a higher gain antenna or connecting it to a magnetic mount on a vehicle will increase range significantly.

Even better is a VHF/UHF mobile radio installed in your vehicle with 25 or more watts output and a good mobile antenna. In the event the repeater loses power, you can talk over a considerably larger area in simplex mode with the extra power and a good mobile antenna.

If you work with an ARES or RACES group, you may be asked to act as a county control station. In this capacity, you'd need both HF and VHF transceivers in a fixed location, such as your house, with a good antenna system and emergency power capabilities like a generator or batteries. This allows you to make contacts within your state and throughout the U.S.

Helping Hams

Ham radio can play a key role in emergency situations. Here are a few examples:

- Ham radio connected firefighters and police departments, Red Cross workers, and other emergency personnel during the 2003 blackout that affected the northeast United States.
- In 2017, fifty amateur radio operators were dispatched to Puerto Rico to provide communications services in the wake of Hurricane Maria.
- Amateur radio operators provided communications in the aftermath of the Boston Marathon bombing when cellphone systems became overloaded.

- During Hurricane Katrina, more than one thousand ARES volunteers assisted in the aftermath and provided communications for the American Red Cross.
- During the devastating Oklahoma tornado outbreak that began in May 1999, amateur radio operators—giving timely ground-truth reports of severe weather—played a critical role in the warning and decision-making processes at the NWS Weather Forecast Office in Norman, Oklahoma.
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Credit: https://www.onallbands.com/want-to-put-your-ham-radio-skills-to-good-use-get-involved-in-emcomm/

From the Editor

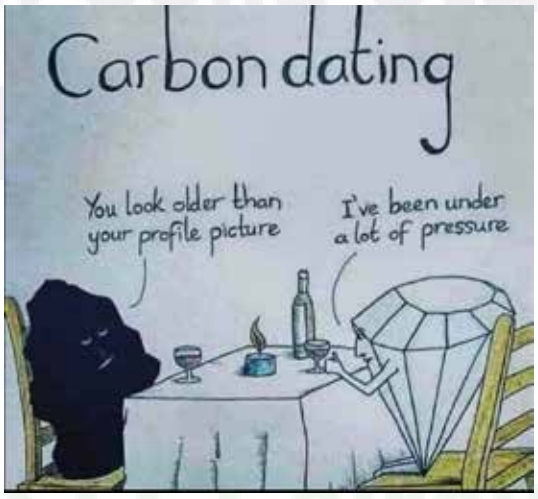
Eric, N3SWR

Wow it almost seems as if WE MADE IT in some sort of fashion :)

Field day 2021 is behind us and have to say i really had a great time! We made the most contacts of any prior Field Day I'm told so we must be doing something right! Saturday evening I went home and made 70 additional contacts which will be added to the clubs final tally. The beer brats were a hit once again and the pulled pork was excellent tasting! Thanks to all the members that pulled together to make this all happen!!

The SatComm group has been making some serious strides towards bouncing a signal off the moon and it is rather exciting to see this coming together! I managed to be present at the gathering we had at the 911 center for antenna integration and that went well. I even managed to get into the group photo for a change - thanks to Chris AJ3C for thinking about that! 73 for now!

Eric N3SWR



"Failure is an option here. If things aren't failing, you aren't innovating enough."
- Elon Musk

Topics of Interest

Have an idea you would like to share with your fellow hams? Interested in one of the new exotic digital modes and would like to get others interested in it too? Found a blog somewhere that you think others would find interesting? Members are encouraged to submit items of interest for publication. Submitted articles (are suggested) to be no more than a page or two in length and may be edited for content and grammar. The EPARA officers and newsletter editor reserve the right to determine which items will be included in The Beacon. The deadline for publication is the 15th of the month. The publication date will be at the end of each month. Copyrights are the property of their respective owners and their use is strictly non-profit/educational and intended to foster the spirit of amateur radio.

If you've taken pictures at an event and would like to submit them for possible inclusion in the newsletter, forward them to the newsletter editor. Please send action shots, if possible. Faces are often preferable over the backs of heads. Many hams may be way too overweight, so please consider using a wide-angled lens.

Disclaimer

The Beacon is not representative of the views or opinions of the whole organization, and such views and opinions expressed herein are of the individual author(s).

Bruce Draper, AA5B, aa5b.corral@gmail.com

Contest Corral

July 2021

Check for updates and a downloadable PDF version online at **www.arrl.org/contest-calendar**.
Refer to the contest websites for full rules, scoring information, operating periods or time limits, and log submission information.

Start - Finish Date-Time		Start - Finish Date-Time		Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	0000	1	2359	1.8-144	RAC Canada Day Contest	CW Ph	RS(T), VE province/territory or serial	www.rac.ca
1	1700	1	2100	28	NRAU 10-Meter Activity Contest	CW Ph Dig	RS(T), 6-char grid square	nrrlcontest.no
1	1900	1	2100	1.8-50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
2	0145	2	0215	1.8-21	NCCC RTTY Sprint	Dig	serial, name, QTH	www.ncccsprint.com
2	0230	2	0300	1.8-21	NCCC Sprint	CW	serial, name, QTH	www.ncccsprint.com
3	1100	4	1059	3.5-28	DL-DX RTTY Contest	Dig	RST, serial	www.drcg.de/dldxrtty
3	1400	4	1400	1.8-28	Marconi Memorial HF Contest	CW	RST, serial	www.arifano.it
3	1500	4	1500	3.5-14	Original QRP Contest	CW	RST, serial, power category	www.qrpcc.de/contestrules
3	2000	4	2000	7	PODXS 070 Club 40-Meter Firecracker Sprint	Dig	RST, SPC	www.podxs070.com
5	0000	5	0100	1.8-14	K1USN Slow Speed Test	CW	Max 20 WPM. Name, SPC	www.k1usn.com/sst.html
5	1900	5	2030	3.5	RSGB 80-Meter Club Championship, CW	CW	RST, serial	www.rsgbcc.org/hf
6	0100	6	0159	1.8-50	Worldwide Sideband Activity Contest	Ph	RS, age group (OM, YL, or youth)	wwsac.com/rules.html
6	0100	6	0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, power	arsqrp.blogspot.com
6	1700	6	1900	3.5-14	RTTYops Weeksprint	Dig	Other's call, your call, serial, name	rttyops.wordpress.com
7	1300	7	1400	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC	cwops.org/cwops-tests
7	1700	7	2000	144	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	t8activity.eu/index.php/en
7	1900	7	2000	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC	cwops.org/cwops-tests
8	0300	8	0400	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC	cwops.org/cwops-tests
8	1700	8	1900	3.5-14	RTTYops Weeksprint	Dig	Other's call, your call, serial, name	rttyops.wordpress.com
9	2000	9	2100	1.8-14	K1USN Slow Speed Test	CW	Max 20 WPM. Name, SPC	www.k1usn.com/sst.html
10	1200	11	1200	1.8-28	IARU HF World Championship	CW Ph	IARU HQ: RS(T) + IARU Society. Non-HQ: RS(T) + ITU Zone.	arrl.org/iaru-hf-world-championship
10	1200	11	2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
11	2000	11	2300	1.8-28	QRP ARCI Summer Homebrew Sprint	CW	RST, SPC, mbr or power	qrparci.org
12	0000	12	0200	1.8-28	4 States QRP Group Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	www.4sqrp.com
14	1700	14	2000	432	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	ft8activity.eu/index.php/en
14	1900	14	2030	3.5	RSGB 80-Meter Club Championship, SSB	Ph	RS, serial	www.rsgbcc.org/hf
15	0030	15	0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	naqcc.info
17	0700	17	1459	7-28	Russian Radio Team Championship	CW Ph	RS(T), RRTC code or ITU zone	srr.ru/chempionat-rossii-po-radiosvyazi-na-kv-rrtc
17	0800	17	1400	1.8-7	Trans-Tasman Low-Bands Challenge	CW Ph Dig	RS(T), serial	wia.org.au/members/contests
17	1000	17	2159	3.5-28	YOTA Contest	CW Ph	Age	ham-yota.com/contest
17	1200	17	1359	1.8-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	sites.google.com/site/feldhellclub
17	1800	18	0559	3.5-28	North American QSO Party, RTTY	Dig	Name, SPC	www.ncjweb.com
17	1800	18	2100	50, 144	CQ Worldwide VHF Contest	CW Ph Dig	4-char grid square	www.cqww-vhf.com
18	0900	18	1600	3.5-14	RSGB Low Power Contest	CW	RST, serial, power	www.rsgbcc.org/hf
18	2000	18	2159	14	CQC Great Colorado Gold Rush	CW	RST, SPC	www.coloradoqrpclub.org
18	2300	19	0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or power	qrpcontest.com/pigrun
22	1900	22	2030	3.5	RSGB 80-Meter Club Championship, Data	Dig	RST, serial	www.rsgbcc.org/hf
24	1200	25	1200	3.5-28	RSGB IOTA Contest	CW Ph	RS(T), serial, IOTA # (if applicable)	www.rsgbcc.org/hf
25	1700	25	2100	7-28	ARS Flight of the Bumblebees	CW	RST, SPC, power or bumblebee number	www.arsqrp.blogspot.com
26	1900	26	2030	3.5-14	RSGB FT4 Contest Series	Dig	4-char grid square	www.rsgbcc.org/hf
28	0000	28	0200	1.8-50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
31	1200	1	1159	1.8-28	Russian WW MultiMode Contest	CW Ph Dig	RST(Q), oblast or serial	www.rdrclub.ru
31	1400	1	2000	1.8-UHF	Missouri QSO Party	CW Ph Dig	RS(T), MO county or SPC	www.w0ma.org

There are a number of weekly contests not included in the table above. For more info, visit: **www.qrpfoxhunt.org**, **www.ncccsprint.com**, and **www.cwops.org**. All dates refer to UTC and may be different from calendar dates in North America. Contests are not conducted on the 60-, 30-, 17-, or 12-meter bands. Mbr = Membership number. Serial = Sequential number of the contact. SPC = State, Province, DXCC Entity. XE = Mexican state. Listings in blue indicate contests sponsored by ARRL or *NCJ*. The latest time to make a valid contest QSO is the minute listed in the "Finish Time" column. *Data for Contest Corral is maintained on the WA7BNM Contest Calendar at* **www.contestcalendar.com** *and is extracted for publication in* QST *2 months prior to the month of the contest. ARRL gratefully acknowledges the support of Bruce Horn, WA7BNM, in providing this service.*

Amateur Radio Special Event Stations!

06/26/2021 | NSS Annual Convention

Jun 26-Jul 2, 1800Z-1800Z, K6V, Weed, CA. National Speleological Society. 14.285 14.050 7.195. Certificate & QSL. Sam Rowe, 2749 Commercial Ave, Madison, WI 53704. Slow CW Saturday only. caves.org

06/26/2021 | SFVARC 75th Anniversary

Jun 26-Jul 10, 0000Z-2359Z, W6S, Northridge, CA. San Fernando Valley Amateur Radio Club. 21.074 14.074 7.074 3.573. Certificate. San Fernando Valley Amateur Radio Club, P.O. Box 280244, Northridge, CA 91328-0244. https://www.W6SD.com

06/27/2021 | Union County Indiana Bicentennial

Jun 27-Jul 11, 1200Z-2359Z, K9U, Liberty, IN. Union County Indiana Bicentennial Board. 14.040 3.540 7.185 7.035. QSL. Howie Huntington ,K9KM, 25350 N. Marilyn Ln., Hawthorn Woods, IL 60047. Operators are N9LJT, K9KM, WB9HGN and others from the county. Visitors welcome to participate. Bicentennial Committee has planned 15 days of events. Regional media will have info. k9km@arrl.net

06/28/2021 | 250th Anniversary of Peru, Ma

Jun 28-Jul 9, 0000Z-2359Z, K1P, Hinsdale, MA. K1TTT. 14025 14074 14085 14250. QSL. David Robbins, 15 Baumann Rd, Hinsdale, MA 01235. QSL via LOTW or SASE. Medallions for most band/mode combinations. wiki.k1ttt.net/Peru250thAnniversary.ashx

06/29/2021 | Boy Scouts of America/Michigan Crossroads Council - Trail To Eagle XXVII

Jun 29-Jul 2, 1200Z-1000Z, K2BSA/8, Metamora, MI. Garden City Amateur Radio Club (GCARC). 14.330 7.270 3.840. QSL. Richard Zarczynski/AC8FJ, 7371 N Farmington Rd, Westland, MI 48185-6900. K2BSA/8 will be operating at the D-bar-A Scout Ranch as time permits. We will also be teaching the Radio Merit Badge to our scouters.Grid: EN82ix. https://scoutingevent.com/272-ttexxvii

07/03/2021 | Colonial Williamsburg Special Event

Jul 3, 1400Z-2000Z, K4RC, Williamsburg, VA. Williamsburg Area Amateur Radio Club. 7.265 14.265. Certificate & QSL. QSL Manager, P.O. Box 1470, Williamsburg, VA 23187. 245th anniversary of the signing of the Declaration of Independence in 1776. www.k4rc.net

07/04/2021 | Independence Day Celebration at Fort Missoula

Jul 4, 1400Z-2200Z, W7PX, Missoula, MT. The Hellgate Amateur Radio Club. 14.260 7.195. QSL. The Hellgate Amateur Radio Club, P.O. Box 3811, Missoula, MT 59806-3811. HARC will again be operating a special event station at Fort Missoula on July 4. This is an opportunity to show off ham radio to the public on a very special day in our country's history. It is a fun time on a fun day with many festivities at Fort Missoula. https://www.w7px.org

07/09/2021 | South Carolina Peach Festival 44th Anniversary

Jul 9-Jul 11, 2000Z-0400Z, W4W, Gaffney, SC. Cherokee County Coroner's Office . 145.250 147.240 145.190 442.500. QSL. Dennis Fowler, P.O. Box 1210, Gaffney, SC 29342. dfowler@cherokeecountycoroner.com

07/10/2021 | 40Th Anniversary O.M.I.S.S Traffic & Awards Net

Jul 10-Jul 11, 1200Z-1200Z, W4O, East Berlin, PA. WO4L. 14.290 7.180 3.825 18.155. Certificate & QSL. Robert Hess, 74 Curtis Dr, East Berlin, PA 17316. Celebrating the 40th Anniversary of the O.M.I.S.S. Traffic and Awards net. Active on 8 bands using Netlogger to run nets. Certificate and or a QSL card available. QSL to WO4L. bigbob7388@gmail.com or https://www.omiss.net/Facelift

07/10/2021 | Charleston Amateur Radio Society (CARS) 50th Anniversary

Jul 10, 1000Z-1600Z, WA4USN, Hanahan, SC. Charleston Amateur Radio Society (CARS). 7.190

Amateur Radio Special Event Stations!

14.265. QSL. Bill Dean, 30 Lombardi Lane, Hanahan, SC 29410. All contacts will be made in General Class Frequencies 20 meters and 40 meters. https://www.wa4usn.org

07/10/2021 | USS Midway Museum Ship Special Event: Independence Day

Jul 10, 1600Z-2300Z, NI6IW, San Diego, CA. USS Midway (CV-41) Museum Ship. 14.320 7.250 PSK31 and CW (various) DSTAR. QSL. USS Midway (CV-41) COMEDTRA, 910 N Harbor Drive, San Diego, CA 92101. Check spotting networks to find us on HF. Consult www.dstarusers.org to find our call sign NI6IW and Reporting Note to see what reflector we're using. We look forward to making a two-way contact with you! www.qrz.com/db/ni6iw

07/11/2021 | 96th Anniversary of the Dedication of the Bladensburg Maryland Peace Cross

Jul 11, 1600Z-2000Z, N3TAL, Lanham, MD. American Legion Post 275 Amateur Radio Team. 7.275 MHz. QSL. American Legion Post 275 Amateur Radio Team, 8201 Martin Luther King Jr. Highway, Lanham, MD 20706. Recognizing the 96th anniversary of the dedication Bladensburg Maryland World War One Memorial. Known also as "Peace Cross." The Snyder-Farmer Post of the American Legion of Hyattsville erected the forty foot cross of cement and marble to recall the forty-nine men of Prince George's County who died in World War I. The cross was dedicated on July 13, 1925, by the American Legion. A bronze tablet at the base of the monument contains the unforgettable words of Woodrow Wilson: "The right is more precious than the peace; we shall fight for the things we have always carried nearest our hearts; to such a task we dedicate ourselves." At the base of the monument are the words, "Valor, Endurance, Courage, Devotion." At its heart, the cross bears a great gold star. N3TAL@outlook.com https://www.qrz.com/db/n3tal

07/11/2021 | Blandenburg World War I Memorial

Jul 11, 1600Z-2000Z, N3TAL, Lanham, MD. American Legion 275 Amateur Radio Team. 7.275 MHz. QSL. American Legion Post 275 ART, 8201 Martin Luther King Jr. Hwy, Lanham, MD 20706. n3tal @outlook.com or www.qrz.com/db/n3tal

07/11/2021 | Red Skelton Museum of Comedy Festival 2021

Jul 11-Jul 18, 0000Z-2300Z, K9R, Vincennes, IN. Red Skelton Museum of American Comedy. TBD. Certificate & QSL. Mark Steven Williams, K9GX, POB 5973, Elizabeth, IN 47117-5973. Red Skelton Parade and Festival, Kids Camp and Airwave Anniversaries event celebrating Red's birthday July 18. Operating schedule, QSL and certificate plans will be announced on our FB page "K9R Red Skelton Museum Special Event", https://www.facebook.com/groups/368704358206875 and K9R QRZ page. Mark Steven Williams, K9GX, POB 5973, Elizabeth, IN, 47117-5973. Email: K9RSpecialEvent@Gmail.com. K9R may operate from the Red Skelton Performing Arts Center theater during museum hours and drawings for items from the museum gift shop from the K9R log are possible! Stay tuned! https://www.facebook.com/groups/368704358206875

07/16/2021 | Memorializing the First Chairman of the FCC

Jul 16, 1400Z-1800Z, K5S, Aberdeen, MS. Shiloh Amateur Radio Club. 14.270 7.170. QSL. Jim Buffington, K5JIM, P.O. Box 52, Aberdeen, MS 39730-0052. 125th birthday of Eugene O. Sykes of Aberdeen, first chairman of the Federal Communications Commission. jim@jimbuffington.com

07/17/2021 | Hardrock 100 Endurance Run

Jul 17-Jul 19, 0600Z-0600Z, KC0LFF, Silverton, CO. Hardrock 100 Endurance Run. KENDAL MT. 147.375 + P.L. 156.7 ENGINEER MT. 147.270 + P.L. 12. QSL. Shauna and Steve Blaylock, 327 Hillcrest Drive, Durango, CO 81301. This is a 48 hour endurance run equipped with 14 aid stations providing runner care and tracking. HAM operators are needed to provide voice communications throughout the duration of the run. Stations are accessed through either a hike-in, 4-wheel drive, or car drive. https://www.hardrock100.com

Amateur Radio Special Event Stations!

07/18/2021 | John Glenn's 100th Birthday Celebration - John Glenn Museum

Jul 18, 1300Z-2100Z, KY8C, New Concord, OH. Cambridge Area Maker Group. 14.290 14.275 7.275 7.240. QSL. Cambridge Area Maker Group, Robert M. Howell, N8WJ, 69081 Mount Hermon Rd., Cambridge, OH 43725-9469. Operating from John Glenn's childhood home (John Glenn Museum) in New Concord, OHIO www.cambridgeareamakers.org

07/19/2021 | Public Safety Cadet National Conference

Jul 19-Jul 22, 1220Z-1220Z, WX4SOC, Gatlinburg, TN. Special Operations Radio Team. 3.975 LSB 7.725 LSB. Certificate. Darrell Collier, 234 Historic Nature Trail, Gatlinburg, TN 37738. We will expose law enforcement cadets to amateur radio operations during the conference. www.sort-team.org

07/19/2021 | Warrick County 4H fair

Jul 19-Jul 24, 2330Z-0130Z, W4H, Boonville, IN. Warrick ARES/RACES. 14.320 SSB. QSL. Steve Connaughton, 7677 Jenner Rd, Chandler, IN 47610. Celebrating the Warrick County Indiana 4H fair. Additional frequencies modes may be used depending on band and weather conditions. Operating times will be mostly late afternoons and evenings. warrickaresraces.org

07/24/2021 | Ohio Salt Fork State Park 61st Anniversary

Jul 24, 1700Z-2100Z, W8VP, Cambridge, OH. Cambridge Amateur Radio Association. 7.235 14.245. Certificate. Cambridge Amateur Radio Association, P. O. Box 1804, Cambridge, OH 43725. Please send $1 and SASE. www.w8vp.org

07/24/2021 | Pirates Parlay

Jul 24, 1200Z-2100Z, W4R, Hampton, VA. Blackbeards Crew. 14.260 14.255 7.198 7.177. Certificate. Jason Gnatowsky, 25 Melita Rd., Arvonia, VA 23004.

07/31/2021 | 66th Season at Penn Can Speedway

Jul 31-Aug 1, 1400Z-1900Z, N3P, Susquehanna, PA. Binghamton Amateur Radio Association. 28.350 14.260 7.260 146.865 repeater (146.2 tone). Certificate. Robert Mess, 2505 Oak Hill Rd., Susquehanna, PA 18847. ws2u.bob@gmail.com or www.w2ow.org

Mankind arrives on Earth

814 TRANSMITTING BEAM POWER AMPLIFIER

Type 814

A three element tube (triode) exceptionally suitable as an oscillator for Therapeutic fever machines and R. F. Amplifiers in transmitters. Having a high transconductance a pair of these tubes with a kilowatt input for phone operation in a push pull Class C amplifier require only 60 watts of power on the grids to drive them to full efficiency. This tube is especially designed to give the most efficient output for the entire range of 10 to 160 meters.

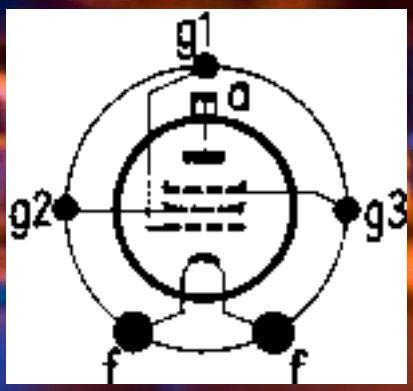
The **Taylor 814 tube** is designed especially for the Amateur. Because of the ever increasing QRM high power is essential if transmission with any degree of consistency is desired. A pair of 814s in push pull Class C will take a Kilowatt input and still leave a safety factor of 25% as far as plate dissipation is concerned.

Because of its high Mutual Conductance less driving power is required to obtain full excitation for phone operation. High voltage is not necessary to run this tube at full inputs. The 814s wih 1500 volts on the plate can be run with inputs up to 1000 watts (2 tubes) with very excellent efficiency.

A condenser with a maximum capacity of 25 mmf having 6000 volt breakdown rating is necessary to neutralize this tube.

For C.W. an 814 as a Class C Amplifier will handle 600 watts input with ease and still maintain its 25% plate dissipation safety factor.

We highly recommend this tube for use on wavelengths from 10 to 160 meters.



SUPER CARBON ANODE

Length .....2⅞ inches
Width .....1⅝ inches

FLOATING ANODE

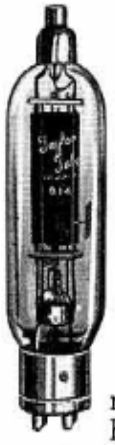
814

200 WATTS PLATE DISSIPATION

CARBON ANODE

$18.50

ESPECIALLY RECOMMENDED
for
GRID MODULATED
or
CLASS B LINEAR
PHONE TRANSMITTERS



GENERAL CHARACTERISTICS

Type 814

Filament Voltage, volts	10
Filament Current, amps	4
Plate Resistance, ohms	2400
Mutual Conductance, uMhos	5000
Amplification Factor	12

OVERALL DIMENSIONS

Maximum Length, inches	9½
Maximum Diameter, inches	2½

INTERELECTRODE CAPACITIES

Plate to Grid, mmf	13
Grid to Filament, mmf	7
Plate to Filament, mmf	5.5

CLASS "C" OSC. AND POWER AMP.

Max. Operating Plate Volts	
Unmodulated, D.C., volts	2500
Modulated, D.C., volts	2000
Max. D.C. Plate Current, mils	300
Max. D.C. Grid Current, mils	75
Max. Plate Dissipation, watts	200
Max. R.F. Grid Current, amps	8
Max. R.F. Output, watts	400

NORMAL OPERATION

Ep = 2000 Eg = —400 Ef = 10

TAYLOR TUBES
ARE RECOMMENDED AND SOLD
by
ALL LEADING
RADIO PARTS DISTRIBUTORS

There is a Taylor Tube Distributor in every important distribution center throughout the world

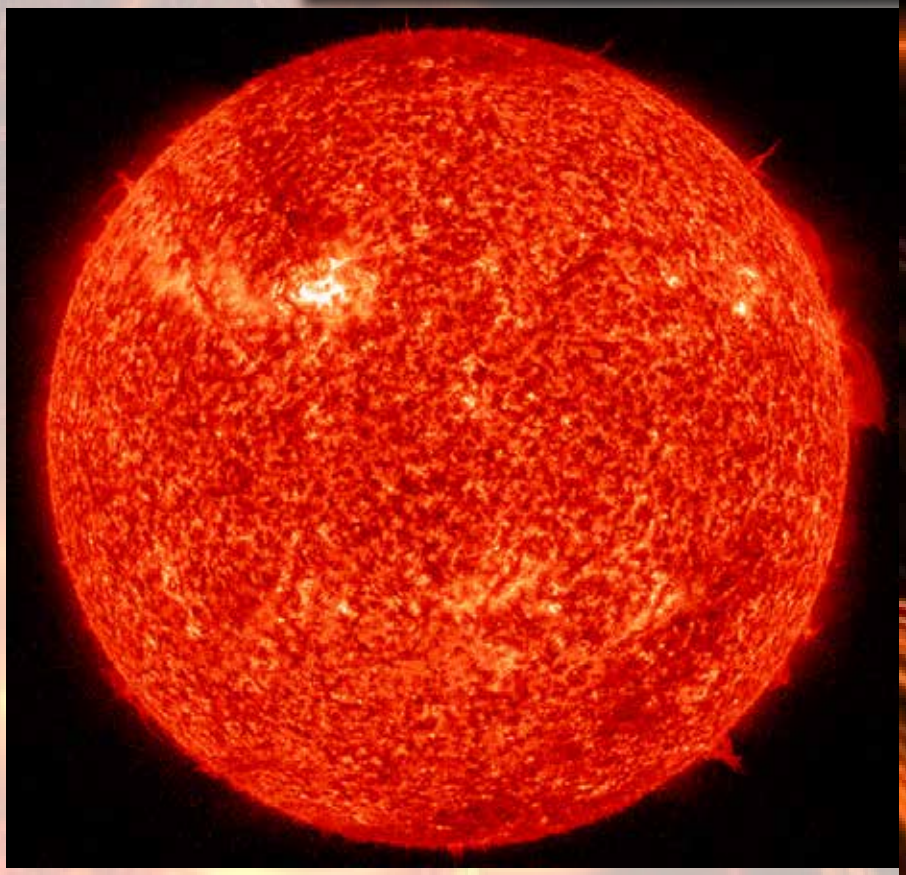
The 814 is identical with the 822 except for the Mu or amplification factor and is intended for those applications where a tube of lower mu is desired. The mu of 12 is about optimum for grid modulated and class B linear R.F. operation. We recommend the 814 for efficiency modulated amplifiers. In addition, some manufacturers of diathermy equipment prefer a low mu tube. Both the 814 and 822 are widely used in diathermy equipment on frequencies as high as 27MC. Their rugged construction and conservative ratings provide the ample safety factor necessary in high frequency self excited oscillators. High frequency diathermy is harder on tubes than any other form of operation and these tubes are built to stand it.

A class B linear or grid modulated amplifier should be biased to approximately cut off. For an 814 operating at 200 volts the correct bias voltage would be approximately $\frac{2000}{12}$ or 165 volts. This bias must be furnished from a source with good regulation such as batteries or a good rectified AC bias eliminator. The coupling to the antenna must be very tight. The excitation should be adjusted until grid current just begins to flow on excitation peaks. While very little RF grid drive is required for an efficiency modulated stage the ratio of driver output to excitation required must be large to provide good driver regulation. This excess excitation should be dissipated in a resistive load such as resistors or lamps. The circuit diagram for an efficiency modulated amplifier is the same as that for a class C amplifier.

Because the plate efficiency of efficiency modulated amplifiers is low, usually about 33%, the input to and output from, such a stage will necessarily be much less than with the same tube operating class C. Assuming an efficiency of 33% the maximum permissible input to an 814 would be 300 watts, 200 of which would be dissipated on the plate and 100 watts delivered to the output circuit. This low plate efficiency is at least partially offset by the inexpensive modulation equipment necessary. The usual class B driver stage may be used to plate modulate the preceding stage for class B linear operation or to grid modulate the final.

An interesting article containing more complete information on grid modulation and describing a Transmitter using an 814 will be found on pages 154-155 in the January 1937 Radio.

For class C operation the optimum value of bias resistor for one 814 would be 8,000 ohms. Half that value, or 4000 ohms, would be correct for 2 tubes parallel or push-pull. For CW or buffer operation the rectified grid current should be 30MA or more and for phone operation should be 55MA per tube. Under no conditions should the rectified grid current exceed the maximum rating of 80MA per tube. Expressed in terms of power approximately 25 watts of grid drive are required for efficient CW operation or 35 watts for phone operation.



Tad Cook, K7RA, Seattle, reports: Solar activity was lower this week, with the average daily sunspot number declining from 34.9 last week to 13.9 this week. This average was affected by the single day with no sunspots, Saturday, June 12.

Average daily solar flux dropped from 77.7 to 75.2. The Penticton observatory in British Columbia (the source for the 10.7-centimeter solar flux) did not report a noon reading on Wednesday, June 16, so we averaged the morning (76.9 at 1700 UTC) and afternoon readings (77.1 at 2300 UTC) to come up with 77 as a reasonable approximation.

Normally, the local noon reading (2000 UTC) is the official number for the day. You can get the three daily readings directly from the Dominion Astrophysical Observatory.

On Thursday, the noon flux reading was 85, higher than it's been since May 26, when it was 88.

Predicted solar flux for the near term is 75 on June 18–20; 80 on June 21–25; 77 on June 26–28; 78 on June 29 – July 7; 79 on July 8–10; 77 on July 11–13; 76 on July 14–16; 78 on July 17; 80 on July 18–20; 78 on July 21, and 77 on July 22–25.

Predicted planetary A index is 12 on June 18; 5 on June 19–25; 7 on June 26; 5 on June 27 – July 4; 15, 10, and 8 on July 5–7; 5 on July 8; 8 on July 9–11; 10, 12, 20, and 12 on July 12–15; 5 on July 16–22, and 7 on July 23.

I am very excited about this forecast for the new Solar Cycle 25, which we are now seeing only its early stages. Forbes Magazine reported this.

Here's the geomagnetic activity forecast for June 18 – July 15, from J.K. Janda, OK1HH:

The geomagnetic field will be:

quiet on June 20, 24, 27 – 28, July 1, 10, 15

quiet to unsettled on June 18 – 19, July 11, 14

quiet to active on June 21, 23, 25 – 26, 29 – 30, July 2, 6 – 9

unsettled to active (June 22, July 3 – 5, 12 – 13)

active to disturbed — nothing!

Solar wind will intensify on June (18 – 19,) 21, (22 – 24, 29,) 30, July (2,) 3, 5, 10 – 11

HAM Radio for Emergency Communication: HAM Radio Go-Kits

Our society is fragile in more ways than one. Our instant gratification society demands the ability to contact instantly anyone at any time.

Further, we have adapted to have the answer to any question at our fingertips. With a few clicks on a phone, we can call anyone. A few more clicks answer any question.

Disasters bring interruptions. No power. No phones. No internet. We are left to our own devices during these information blackouts.

Don't fret though. The solution to any breakdown is the creation of a redundant system. Remember, one is none and two is one. Your emergency communication "two is one" starts with HAM radio. Emergency communications (EMCOMM) are like any other survival preparation. An EMCOMM kit meets your communication needs when all else has failed. Let's look at how to put together and how to use an EMCOMM kit.

What Disasters Can Bring Down Communications?

The advanced technology that keeps our society afloat complicates the associated systems. As a result, they are frighteningly delicate. Likewise, the infrastructure supporting it seems to be held together with baling wire and chewing gum.

These two factors make it easy for our grid to overload and fail. Natural and man-made disasters can easily bring down the entire system.

Any disaster that affects the electrical grid will cause communication to falter. This includes damaged power lines, cable lines, and phone lines. Even the redundancies in the cell phone system can be overcome.

Most cell towers have power backup systems however these only last for a day or two. After that, even they will go silent.

One of the largest natural disasters I experienced was in 2008. A 12-hour ice storm wreaked havoc on the northeast. We lost power for 5 days and some friends were down for 2 weeks.

The result was no phones, no television, and no cell. Had we not prepared; our cell phones would have gone dark on the second day. The only information source in the house was a few old AM/FM radios.

Ice storms aren't the only natural threat. Thunderstorms bring down power, cable, and phone locally with ease. A few down trees or branches is all it takes. Remember, a disaster doesn't have to affect millions of people. A day without power can be a personal crisis for some families.

Regional disasters include hurricanes and snowstorms such as Nore' Easters. Each can affect entire regions of the country. Hurricane Katrina, Sandy, and nameless others have affected millions of lives. There are still sections of Louisiana that are recovering today.

Let's not forget man-made disasters. The Metcalf sniper attack brought down one electrical substation and could have been much, much worse. Our electrical grid is famously infiltrated. While a physical attack can bring it down, a cyber-attack could make repairs impossible.

Finally, we have the big one…and EMP! An electromagnetic pulse, if large enough, can disrupt our lives at our very foundation. By damaging or destroying electronics large and small, we would be left without communication, transportation, and many of the tools we rely upon today.

History of Disasters and Communication

HAM radio operators have an obsession with helping during emergencies. Organizations have even grown out of this passion. Amateur Radio Emergency Service (ARES) and the Radio Amateur Civil Emergency Service (RACES) are two such organizations.

Each has chartered themselves with providing communication assistance during emergencies. We will talk about them in depth in a few minutes.

Regardless of their affiliation, or lack thereof, amateur radio operators have always helped in times of need. During the days and weeks following Hurricane Katrina, they really shined.

In areas devastated by wind, rain, and floods, HAM operators strung antennas, powered up radios, and passed traffic.

Even operators outside of the affected area helped. Operators in Missouri and Ohio relayed traffic between loved ones, assuring that those in the affected areas were fine.

Welfare traffic was one focus of AmRRON's deployment to the Washington State Conconully wildfire. This deployment truly demonstrated the power of communication. The town was shut off from the outside world with all terrestrial communication lines and cell towers down.

The AmRRON team provided the local first responders and firefighters with welfare traffic by sending emails, yes emails over radio, to loved ones throughout the United States.

The AmRRON team also provided weather reports to the local command structure as relayed to them from their support group outside Washington State.

What HAM Equipment Can Be Use for EMCOMM Operations?

EMCOMM equipment does not differ from other HAM radio operations except for portability. EMCOMM operations require the ability to move, set up quickly, and tear down eve quicker.

The entire purpose of an EMCOMM kit or bag is to go where the emergency is or to take it with you when you flee a disaster.

Decide the purpose and size of your kit. Do you want a small kit that is an adjunct to your BOB? Do you want a trunk kit you can roll out and support a crew of 4-6? Do you want a complete mobile base station that covers all the bands and has redundant power support for 3 days of unassisted operation?

These are all within the scope of EMCOMM. Review your skills and resources and set up the applicable kit. They all have a fit in a prepper operation.

Let's focus on a simple kit. The goal of this kit is that its man-portable and covers all bands. Your basic kit will require means for short-range communication, long-range communication, and power.

Short-Range Radios (UHF, VHF, line of sight)

Let's first cover line of sight HAM communications. Not the lies told to you by blister pack radios, but real HAM radio. Your choices here are 2-meters and 75-centimeters. Both transmit line of sight and will be affected by your environment and transmission wattage.

The rule with these radios is height matters. You need to get up high or you have to get your antenna high.

Your EMCOMM kit should have at least a pair of handi-talkies. These will usually provide you with 5-10 watts of power. Depending on the environment, you can get up to 20-30 miles of communication.

Again, this highly depends on the environment. If you are in the city, expect a mile or less. If you are communicating mountain top to the valley floor, then your reach may be at the upper end of that range.

The perennial favorite for beginner prepper HAMs is the BaoFeng family of radios.

They are incredibly inexpensive however they are not as sturdy as a Yeasu, ICOM, or Kenwood. That being said, you can buy a half-dozen for what you will pay for one of the other radios.

Once you have cut your teeth, pick up a pair of quality radios and become familiar with their use, programming, and expansion.

If your EMCOMM kit is larger than a simple bag (e.g. a COMMS box you don't intend on hand carrying) you can afford a larger mobile radio or base station. These can boast 50 watts but will require external power.

Extending Line of Sight – UHF/VHF Repeaters

One of the biggest benefits of 2-meter and 75-centimeter communications is the use of a repeater. Repeaters receive a signal, then re-broadcast it on a slightly different frequency. This allows two radios that normally could not reach each other to communicate.

Some mobile radios act as repeaters. This can be helpful in an emergency. Setup your repeater, post an antenna waaaaayyy up, and you've extended the effective communications range of your team.

UHF/VHF Antennas

One of the controlling factors of your 2-meter and 75-centimeter transmission and reception is your antenna. Most HAM radios allow for the use of an external antenna, or at least the ability to swap antennas.

The stubby antenna that comes with your handi-talkie will do for close-range communications, however, consider investing in a longer antenna.

Many manufactures make 1/8th, 1/4th, and 1/2th wave antennas. You can even purchase antennas connected by a feed line you can string up on a pole or in a tree.

My personal favorite is a ½ wave roll-up J-Pole antenna on a 10-foot feed line. I can hang this in a tree and get the maximum out of my little BaoFeng.

Medium Range

Near Vertical Incident Skywave (NVIS) is an HF technique for communicating in this gap. I'll leave the physics lesson to the reader on how it works. But the short version is NVIS broadcasts HF signals vertically, they then reflect to earth covering this missed region.

The good news is that the only required special equipment is an antenna. NVIS antennas rely on their configuration to radiate most of the signal straight up, maximizing your ability to communicate in your region.

The one thing about HAMs is that they like to experiment and tune until their equipment is perfect. HAMs that are into antenna design are a special breed.

They take this hobby to the extreme. The best part is that they love to share. Hunt around the web for "Expedient NVIS Antennas" and you will find many designs to choose from.

Please note that, unlike short-range options, you will probably need an antenna tuner with these antennas. An antenna tuner matches the impedance of the antenna with the expectations of the radio. Again, hit the web if you want to know the physics behind it all.

Long Range

To truly reach out and touch someone requires HF communications. HF transmissions use the ionosphere to bounce radio signals around the world.

Again, there is a physics lesson here that I will skip, but think of radio waves like light on a hot summer day. At a low enough angle, the light bends with the help of the air above hot asphalt causing a mirage.

With the right antenna and frequencies, HF allows you to talk over the horizon and around the world. With an HF rig, you can talk across the US, to Europe, Asia, and even Australia. Then again, you don't even need to talk, you can just listen.

Mobile, car-mounted, HF radios are widely available and are recommended for your EMCOMM kit. You most likely don't want to expend the space or power requirements on a full base station.

You don't even have to go that big. The Mountain Topper is an exceptionally small HF radio that isn't much larger than an Altoids tin. Best used with Continuous Wave, this low power (QRP) has more than enough juice to talk across the U.S. and is trail portable.

One note about HF communications. Because of the interference caused by a signal traveling several thousand miles, often voice communication is not possible. This is when HAMs use digital modes. Digital modes transmit information via analog channels using audible frequencies.

The simplest digital signal is Continuous Wave (CW), otherwise known as Morse Code. A simple series of dots and dashes presented as simple tones are much easier to hear and understand than a voice.

Other digital modes take this concept much farther by enhancing reception through the use of check information, etc., that increase the assurance that you have received the correct information.

Digital modes are much like texting via HAM frequencies, however, their use is not this limited. Several modes even transmit images. Just consider the intelligence value of that.

Digital modes take a computer, a little extra knowledge, and a lot of practice. That being said there is no better way to get your information across quickly and accurately than HAM digital modes.

Along with your transceiver, you will need the standard accompaniment of accessories including a power supply (battery bank), antenna tuner, and antenna.

COMMS Plans

Radio… Check. Power supply… Check. Antenna… Check. Someone to talk to… Hello? Someone to talk to…

The electromagnetic spectrum is a lot of territory to cover if you don't know where to look. You need a COMMS plan.

If you had unlimited time to search all applicable frequencies, you would still need an enormous amount of power to feed your transmissions and hours of listening time. That is not practical during an emergency.

Having a communications plan narrows the spectrum down to a few known coordinates. A COMMS plan establishes the frequencies, times, and modes of communication to assure you have someone to talk to when you need it.

A simple example. You are hiking, get injured, and need help. You have a 2m radio but no COMMS plan. You broadcast with your call sign every minute. You miss the window for returning home and your family gets worried. You continue to broadcast.

Within a few hours, your family has finally convinced the police and they start a search. Unfortunately, they don't know you are on the air. An hour into their search, your radio goes dead. It's now dark.

Same you, same family, same injury, same radio. Except for this time, you have a COMMS plan. On cue, you fire up your radio to a known frequency at a specific time (top of the hour) and start broadcasting. For 5 minutes. Nothing received you turn your radio off. You continue this.

Your family recognizes that you have missed your window. They reach out to the local police, who contact those in your travel area. They describe your COMMS plan. Everyone starts listening. Within 30 minutes they hear your distress call. Shortly thereafter you are rescued.

Slightly different scenario. You are bugging out. Because of the circumstances of the disaster, you and your family have traveled separately. You are arriving three days after them. The world is no longer the calm and genteel place it was. You approach your bugout location.

According to your COMMS plan, you wait for the assigned time and reach out to your loved ones. You notify them of your current location and ETA. Shortly thereafter you are welcomed home with open arms, not rear sight/front sight alignment, and a well-executed trigger press.

A complete COMMS plan defines how and when to establish communications. First, set up the time windows to communicate. This can be as simple as the top and bottom of the hour for 3 minutes each.

Second, your COMMS plan needs to record the frequencies that you will attempt communication with. Include primary, secondary, and tertiary frequencies across all relevant bands.

Finally, where applicable, define the digital mode and the parameters of that mode. There are too many options to risk not finding the correct one.

Power

This section will be a little short, as it depends on your specific gear. Most HAM radios are powered by 12-volt sources. You can either use a dedicated power supply or plug into a compatible battery.

The nice thing about this standardization is there are a vast amount of batteries and chargers.

Lithium batteries are the current, commercially successful, gold standard of portable power. They are safer than lead acid and can be transported without the risk of acid leakage.

Don't forget alternate charging sources. Solar is nice; however, it is much better suited to car-carry or stationary radio operations. A small panel will not be sufficient to recharge a battery of any size. You will need several hundred watts to charge your system in a reasonable amount of time.

Three EMCOMM Kits

Just as any other survival kit, EMCOMM kits come in all shapes and sizes. Consider the following as a starting point for your own kit. Update as required and make them your own.

BOB (Break Out Bag) COMMS Kit

The BOB EMCOMM kit is an adjunct to your BOB. It supports the communications need of a single person. Each HAM licensed person in your family or mutual assistance group (MAG) should have this in their BOB.

- Dual band (2m 75cm) handi-talkie
- Ear piece and button mic
- Spare battery
- Spare antenna
- Roll up J-Pole Antenna
- Laminated comms plan card
- Write in the rain notepad and pens
- String and weight (to hang antenna)

Dedicated COMMS Bag

This bag supports a small team and is carried by the communications specialist in a group. They will carry other gear, but the bag should make up the bulk of their supplies. This bag allows the team to gear up if the situation requires.

- 2-4 Dual band (2m 75cm) handi-talkies
- Ear piece and button mic for each HT
- Spare batteries for each HT
- Spare antennas
- Roll up J-Pole Antennas
- HF radio (e.g. MountainTopper)
- Spare batteries
- Solar charger
- Long wire antenna
- Tablet computer with FLDigi
- Connection cables
- String and weight (to hang antenna)
- Laminated comms plan cards
- Write in the rain notepad and pens

COMMS Box

This gear will require more than a single box and is not man-portable. It has sufficient gear to set up a complete field communications unit.

- 4-8 Dual band (2m 75cm) handi-talkies
- Ear piece and button mic for each HT
- Spare batteries for each HT
- Radio battery chargers
- Spare antennas
- Roll up J-Pole Antennas
- Mobile HF radio
- 12-volt batteries (eg 50-100 amp hours)
- Solar charger array
- 400 watt inverter
- 1000 watt generator
- 12-volt charger
- Long wire antenna

- HF antennas
- Flags (high vis) for warning about cables
- NVIS antenna
- Laptop computer with FLDigi
- Connection cables
- Table
- Chairs
- Canopy with sides (wind rain proof)
- String and weight (to hang antenna)
- Comms plans
- Laminated comms plan cards
- Write in the rain notepad and pens

Resources and Practice

HAM radio is not something you pick up and run with. It requires learning and practice. The associated knowledge and skills are perishable. You need to practice. The best way to practice is by finding a group or take part in readiness exercises.

Licensing

To transmit on a HAM radio requires a license. In short, there are three licenses. Each represents a progressive level of skill, and the reward is a new section of bands to broadcast in.

The testing process is simple. ARRL publishes a pool of questions for you to read, understand, and study. During a test, they will present you with a small sample of these same questions. When you get an 85% or better, they give you a call sign and license.

There are multiple study guides, methods, and online resources. Look around and find one that best fits your learning style.

Beyond licensing, there is so much to learn. The internet, and especially YouTube, is your friend. Get out there and start exercising your new skills.

Groups

The best way to advance knowledge on any topic is to work with a group of like-minded individuals. The good news is HAMs love to talk and share. Three groups have specific applications to EMCOMM.

ARES

ARES as noted above is a corps of trained radio operators throughout the United States and Canada. Organized at the town or city level, ARES clubs gather and practice emergency radio skills and provide support to local emergency units

during disasters.

RACES

Similar to ARES, RACES organizations are a similar collection of HAM radio operators. The primary difference is that RACES activated by the state.

AmRRON

AmRRON is an organization built by and for preppers. AmRRON is a collection of HAM radio operators preparing for radio usage when the SHTF. AmRRON national networks meet monthly while some regional nets happen more often. The operators at AmRRON are a rich source of prepper-practical information.

The hardest part of any hobby is getting time in practicing. You need to find a regular way to fire up your gear and make contacts and exchange information. If there is one thing HAM radio operators love more than talking, it's talking on the radio. They have established several ways to get on the air regularly.

Contesting is the practice of making the most contacts as possible with other operators in a limited amount of time. Often contestants go for volume.

Other contests add twists, such as contacting as many regions as possible, and others strictly use specific methods (e.g. CW, PSK-31). Contests are going on continuously. They are easy to get into and learn from.

The American Radio Relay League (ARRL) Field Day is HAM radio's open house. Clubs around the world open up and break out all their gear. It's a great opportunity to get on the air and make a few hundred contacts.

The final exercise is AmRRON's T-REX. They base this exercise on a fictional event (rapid spreading pandemic, earthquake, grid-down event) and urge the participants to go to their BOL and get connected.

AmRRON broadcasts a week of announcements that set the stage for the exercise. Over the weekend, they spread traffic over the net in an attempt to have all operators get the "full" picture.

The 2018 T-REX event centered on an earthquake in the Cascadia Subduction Zone. The exercise followed a multi-agency exercise by the US Government. T-REX fed off the related "press releases." This made an already great event even more realistic.

As T-REX encourages participants to make it as real as possible, it provides a grand avenue for preppers to practice their entire craft. From pack up to bugout, to BOL life. It's a one-of-a-kind way to get immersed into the prepper life for a weekend.

EMCOMM Wrap Up

Being prepared takes a lot of energy, effort, and knowledge. There is so much to do and so much to know. Eventually, you have to prioritize your efforts. This has one major effect. Prepping is all about balance.

It would be great to have 90% of your survival dollars in guns, but without ammo or training, you would be useless. Further, without food, you'd be dead. Prioritization forces you to pay attention to the little things.

Prioritize your prepping time to make sure you have an appropriate EMCOMM approach. Without communications, anyone outside of walking distance will become someone you used to know. Likewise, faced with an emergency, you will need to pass and receive information.

Knowing what's going on in the world around you is the only way to live to see another day!

Credit: HAM Radio for Emergency Communication: HAM Radio Go-Kits - Option Gray

Welcome to the ARISS SSTV gallery

Принял SSTV изображения с МКС, по случаю 20-летия радиолюбительства на МКС. Изображения были отправлены через радиолюбительскую систему установленную на Российском сегменте Международной космической станции.

Руководитель Радиолюбительской

Field Day 2021!

Field Day 2021!

Field Day 2021!

Field Day 2021!

Field Day 2021!

Field Day 2021!

Field Day 2021!

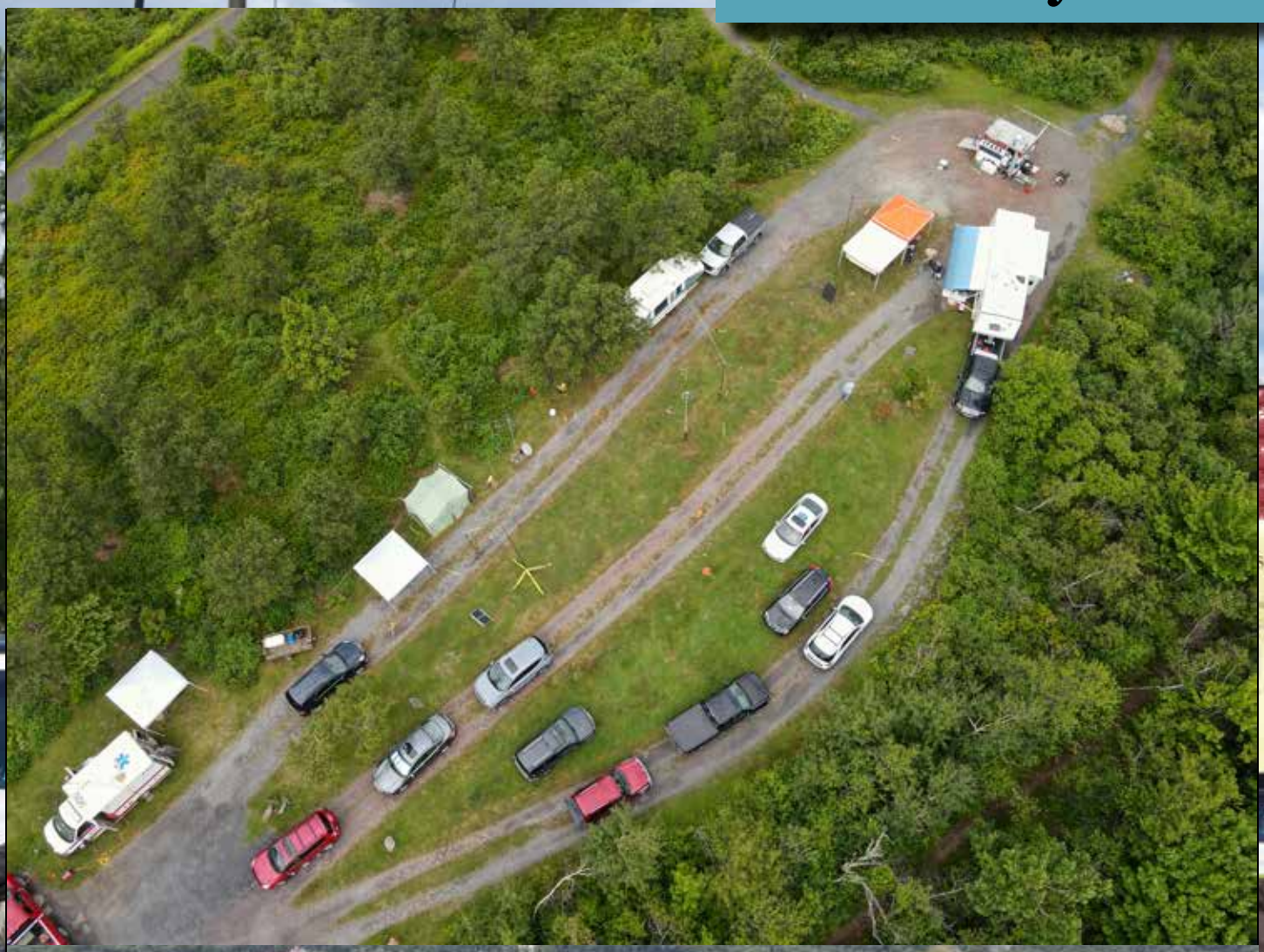
Field Day 2021!

Field Day 2021!


UNBELIEVABLE

Field Day 2021!

Field Day 2021!



Field Day Stats!

N3IS's Contest Summary Report for ARRL-FIELD-DAY
Created by N3FJP's ARRL Field Day Contest Log
Version 6.6 www.n3fjp.com

Total Contacts = 385

Operating Period: 2021/06/26 18:01 - 2021/06/27 17:54

Total op time (breaks > 30 min deducted): 17:45:23
Total op time (breaks > 60 min deducted): 18:25:20

Avg Qs/Hr (breaks > 30 min deducted): 21.7

Total Contacts by Band and Mode:

Band	CW	Phone	Dig	Total	%
80	0	66	32	98	25
40	18	69	75	162	42
20	0	51	10	61	16
15	0	0	7	7	2
6	0	51	0	51	13
2	0	4	0	4	1
1.25	0	1	0	1	0
70	0	1	0	1	0
Total	18	243	124	385	100

Total Contacts by Section:

Section	Total	%
EPA	55	14
OH	27	7
VA	23	6
NC	21	5
NFL	20	5
CT	18	5
NNJ	18	5
WNY	18	5
ENY	14	4
NLI	11	3
IN	10	3
WPA	10	3
MDC	8	2

Field Day Stats!

EMA	7	2
IL	7	2
MI	7	2
ME	6	2
ONE	6	2
SNJ	6	2
TN	6	2
QC	5	1
SFL	5	1
WV	5	1
GA	4	1
NH	4	1
NNY	4	1
SC	4	1
WCF	4	1
WMA	4	1
GTA	3	1
VT	3	1
WI	3	1
AB	2	1
KY	2	1
LA	2	1
MAR	2	1
MN	2	1
MT	2	1
ND	2	1
NTX	2	1
RI	2	1
SCV	2	1
SF	2	1
AL	1	0
AR	1	0
CO	1	0
DE	1	0
DX	1	0
EWA	1	0
KS	1	0
LAX	1	0
MB	1	0
MO	1	0
NE	1	0
ONS	1	0
OR	1	0
PR	1	0
SD	1	0
STX	1	0
VI	1	0

Total = 60

Field Day Stats!

Total Contacts by State \ Prov:

State	Total	%
PA	65	17
NY	47	12
FL	29	8
OH	27	7
NJ	24	6
VA	23	6
NC	21	5
CT	18	5
MA	11	3
IN	10	3
ON	10	3
MD	8	2
IL	7	2
ME	7	2
MI	7	2
TN	6	2
	5	1
CA	5	1
QC	5	1
WV	5	1
GA	4	1
NH	4	1
SC	4	1
TX	3	1
VT	3	1
WI	3	1
AB	2	1
KY	2	1
LA	2	1
MN	2	1
MT	2	1
ND	2	1
AL	1	0
AR	1	0
CO	1	0
DE	1	0
KS	1	0
MB	1	0
MO	1	0
NE	1	0
OR	1	0
RI	1	0
SD	1	0

```
WA                1      0

Total = 43


Total Contacts by Country:

Country                          Total      %
-------                          -----    ---
USA                                362     94
Canada                              20      5
Guadeloupe                           1      0
Puerto Rico                          1      0
US Virgin Is.                        1      0

Total = 5


Total DX Miles (QSOs in USA not counted) = 28,589
Average miles per DX QSO = 1,243


Average bearing to the entities worked in each continent.
QSOs in USA not counted.

NA =  62


Total Contacts by CQ Zone:

CQ Zone    Total      %
-------    -----    ---
05           280     73
04            90     23
03            12      3
08             3      1

Total = 4


Total Contacts by Initials:

Initials     Total      %
--------     -----    ---
                78     20
EPARA           76     19
BM              57     15
BC              49     13
```

Field Day Stats!

DLD	43	11
AV	39	10
RJS	21	5
FAITH	11	3
RA	6	2
ERIC	5	1

Total = 9

Total Contacts by Operator:

Operator	Total	%
N3IS	79	21
AJ3C	77	19
W3BMM	57	15
AB3ME	49	13
W9FBO/AG	45	12
KG3I	41	11
N3GGT	21	5
W3INK	10	3
N3SWR	6	2

Total = 9

Total Contacts by Station:

Station	Total	%
Station 1	131	34
Station 2	78	20
AJ3C	76	20
VHF Station	57	15
Doug KG3I	43	11

Total = 5

Total Contacts by Computer:

Computer	Total	%
EMCOMM-TRAILER	131	34
WX3OES	78	20
AJ3C-Laptop	76	20
DESKTOP-6LBID9L	57	15
DougsThinkPad-X220	43	11

Total = 5

Total Contacts by Trns ID:

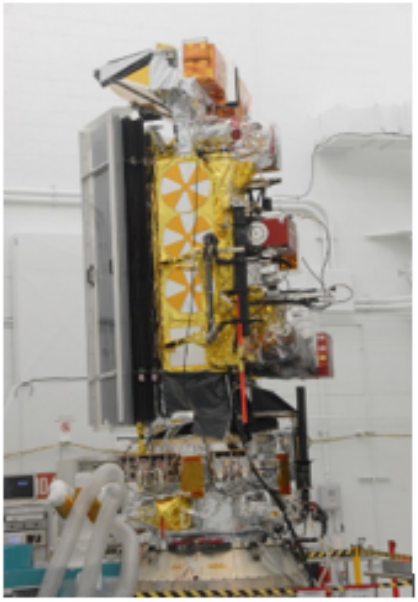
Trns ID	Total	%
0	254	66
	131	34

Total = 1

Using WebSDR to Capture NOAA Satellite Images – de KD2FTA

Awhile back I wrote an article about how to use your 2 meter HT and a piece of software called WXtoImg to capture the NOAA weather images and save them. That software has been the staple of many weather satellite fans for many years but is mostly unsupported now for more than 10 years, and does have some limitations.

The NOAA weather satellites are actually an amazing piece of technology. NOAA 15,18, and 19 have been dutifully providing weather images now for several decades.



NOAA 19

From the NOAA-APT web guide here are some fun facts about NOAA Satellite images.

- NOAA satellites are transmitting images 24/7, and the image you receive is a real-time image of your location. The transmission is free to be received by anyone with an antenna, and there is no official decoder or receiver.
- NOAA **images are black and white**. People on the internet share color images, those images were originally black and white and then were colorized, probably by **WXtoImg.**
- NOAA **images do not have map lines** (divisions between countries, states, or coastlines). When you see images with lines, it means that they used **NOAA-APT** or **WXtoImg** to draw them according to a map and calculations about the position of the satellite when the image was taken.
- The **images are upside down 50% of the time**, that's because the satellites sometimes go from south to north and sometimes from north to south. NOAA-APT and WXtoImg can calculate the orbit of the satellite and rotate the image accordingly.
- Images look **much better in daylight**, the satellites also send infrared images at night but its recommended to be receiving passes when the sun is high in the sky,

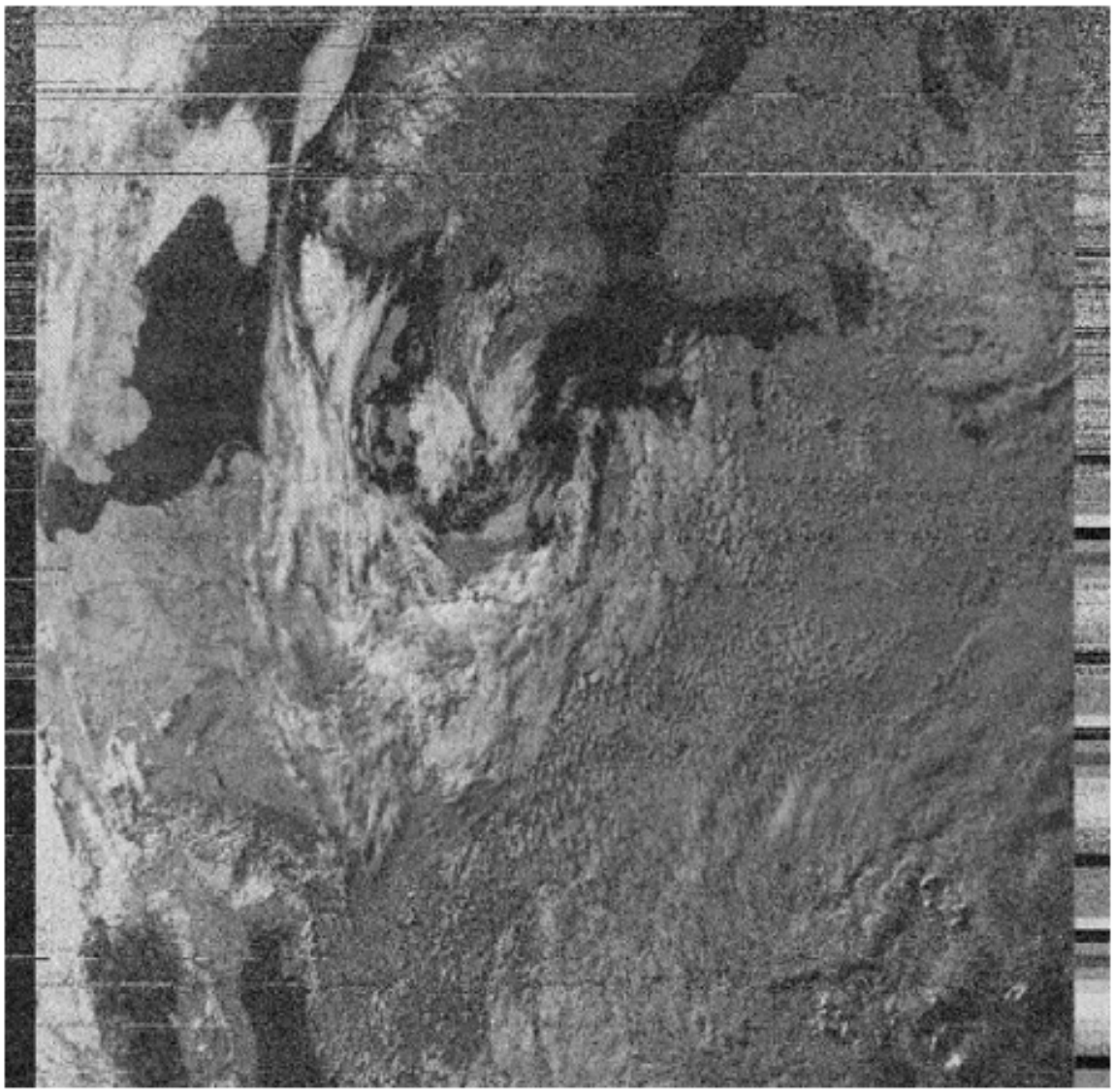
- These satellites send images in realtime, line by line. Something like a 1000x1 resolution video or like a flying image scanner. These satellites fly on a polar orbit (north to south and south to north). The images are not optical, but are taken by devices which are called radiometers.
- Here's more background info on the devices for those who will enjoy reading up on the technology : https://en.wikipedia.org/wiki/NOAA-19
- The satellite sends a FM signal, something like FM broadcast radio transmissions. Instead of music it sends images, but it works exactly the same. You can imagine that if your car stereo could tune to 137.1MHz you should hear the satellite transmissions. That's also why you can save the recordings as .wav files and decode those .wav files with the NOAA-APT program, because it's just a sound that encodes an image.

So if you can decode a wav file (like most of the music files you are already are aware of using Microsoft music or audio software products) , you can record and store these wav files for decoding. Here lies the crux of this article. What if you don't have an 2 meter HT, or SDR radio for use with your laptop but want to see today's weather? Several HAMs around the world have the solution already set up for you!

The solution is called **Web SDR**, where HAMs worldwide have already connected their software defined radios (SDR) and are providing web pages which are available to monitor specific frequencies.

Go to : http://websdr.org/ and you can select almost any station around the world that supports 2 meter operations. HF frequencies are also avalaible, so you can actually listen to nets around the world on HF, or even CW transmissions. Many web sites actually label the satellite frequencies!

The image on the next page was taken from the ESA (European Space Agency) raduo club's Web SDR website. This image was the NOAA 19 pass over Poland , but you can see northern Italy, and the eastern portion of the UK, with clouds in the Baltic Sea. A front has just passed through France and is over Germany in this view. Northern Italy is in the lower left side of the image, and the Neatherlands and Finland can be seen towards the upper middle portion of the image. Russia is under a balnket of clouds in this image.

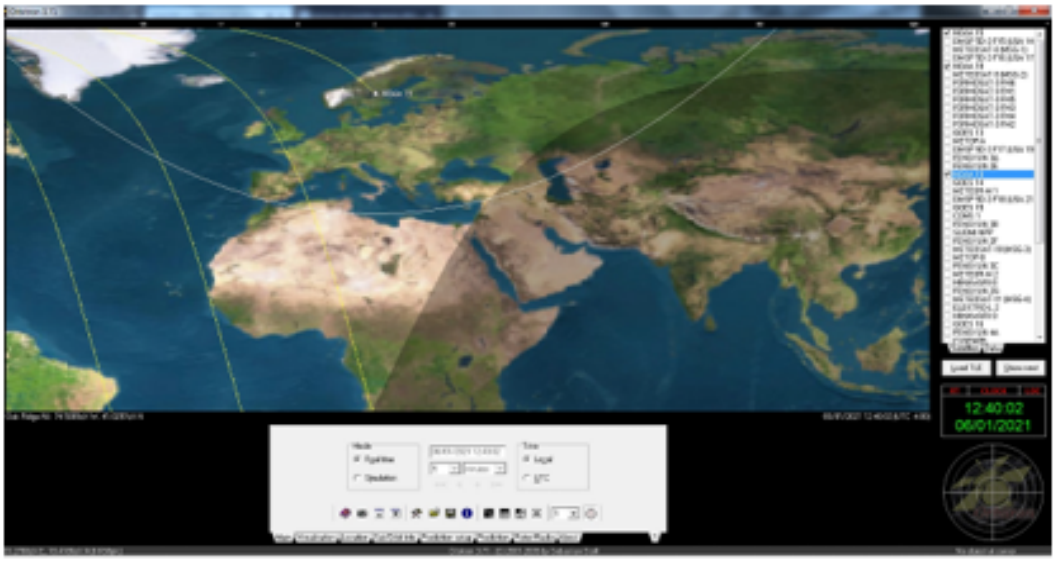


NOAA 19 Pass over Poland and the eastern Slovak countries.

The pass was being tracked on Orbitron, a satellite tracking software you can download for free at :

http://www.stoff.pl/

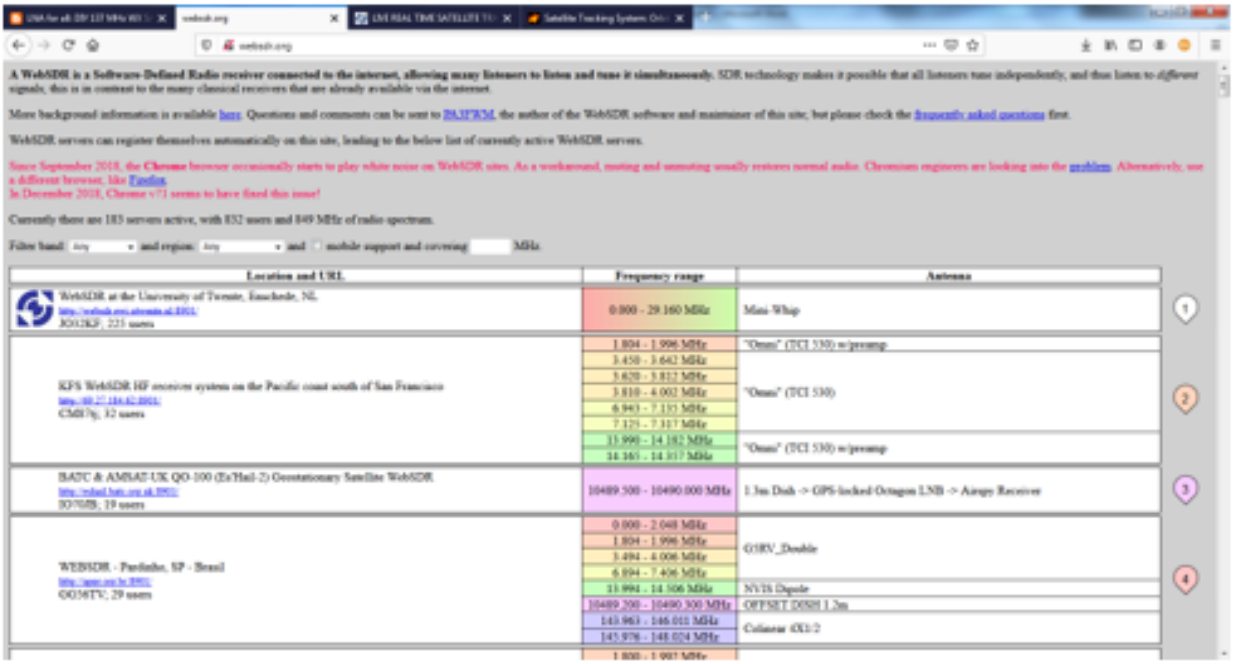
I don't endorse any software products that are free off the internet, but some are useful and being free can facilitate an intorduction into other aspects of the hobby like this one (Weather and HAM satellite tracking). Orbitron has been around for awhile and can be used to track just about anything in orbit. If you don't trust dowmloading it, try https://www.n2yo.com/ as an alternate web site that provides satellite tracking and frequency information.



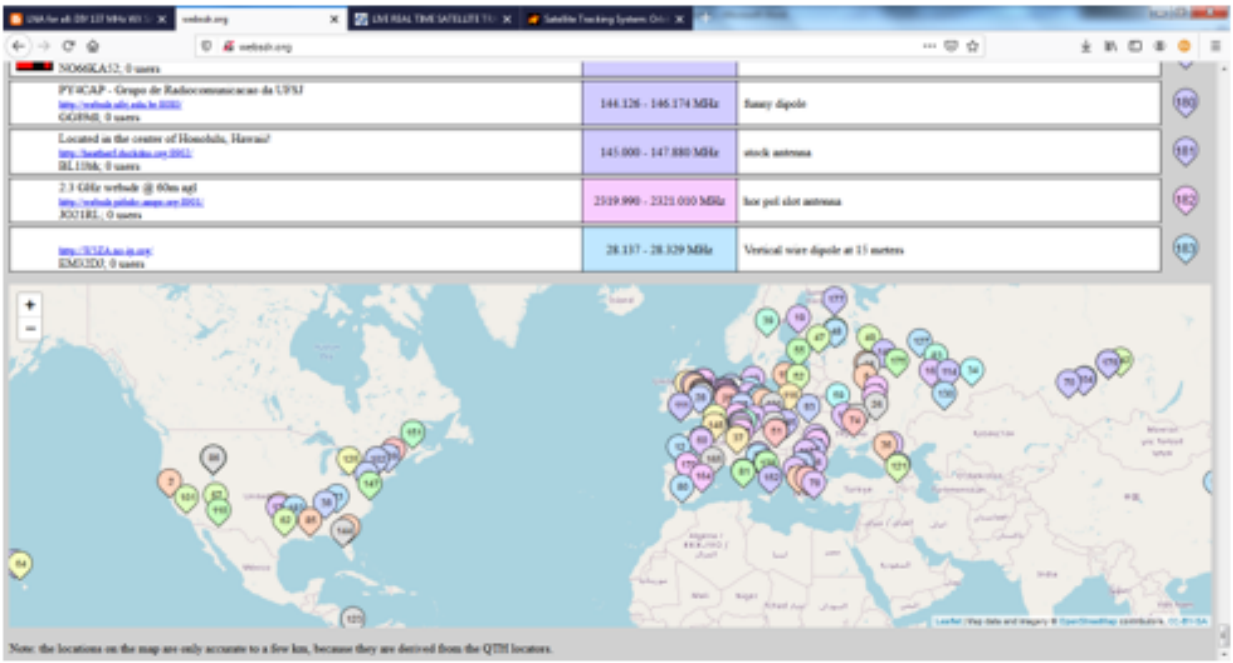
This is a screen shot of the first NOAA 19 pass over Europe using the ESA radio club's Web SDR site.

When going to the WebSDR website, you'll be asked which bands, frequencies, and regions (Europe, NA, SA etc..) you wish to monitor. The site will provide you with several stations which are equiped to monitor the frequency you want to listen in on. The ESA Radio club website is shown below.

When you initially go to Web SDR however you won't see the screen above. Instead, you'll see this screen, which permits you to select the band, the region and frequency.

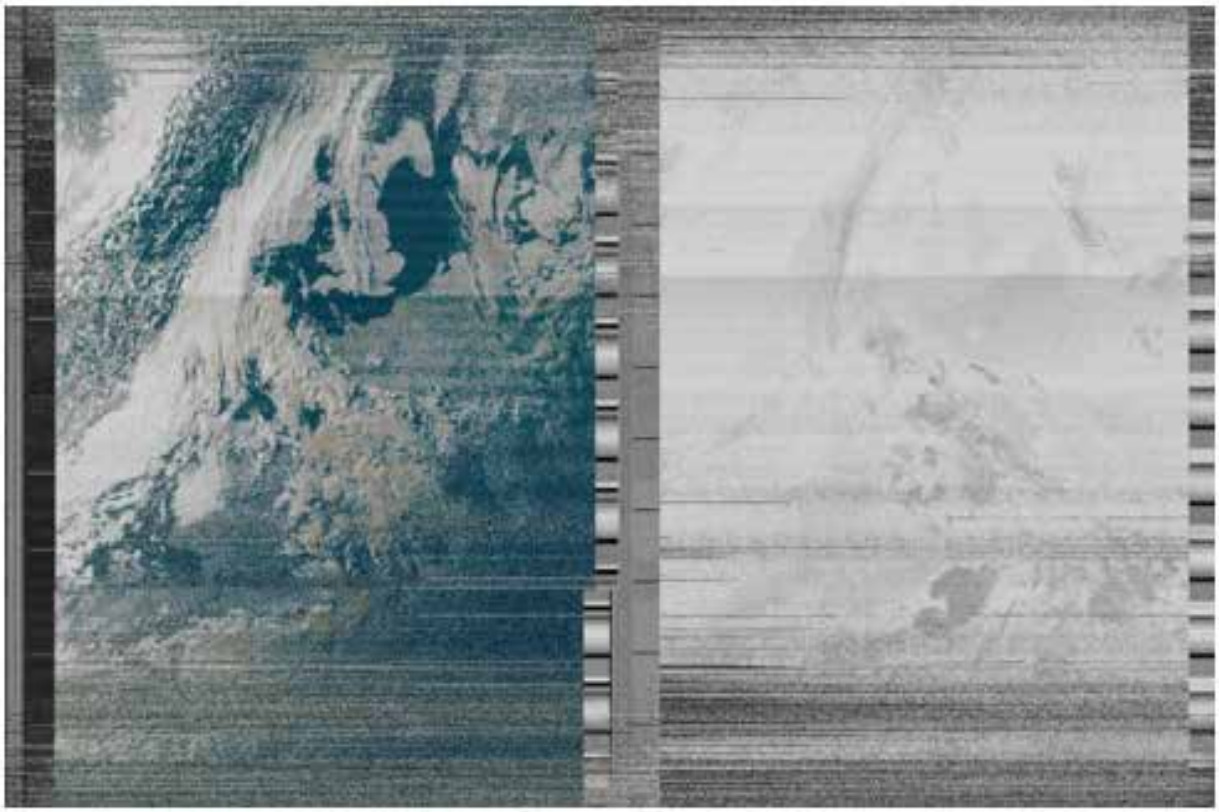


At the very bottom of that web page is a map of where all the participating stations are located. It's shown below. Quite a few locations are available!



You can select one of the numbered sites to see what bands and frequencies they support, but for the weather birds you're going to want to be in the 137 MHz range, just below 2-meter HAM 144 MHz frequencies, and above the aviation bands. For my second image, I used the ESA Radio clubs WebSDR site which uses a Half-Turn QFH 2m Antenna, attached to their SDR radio. The image below was the second pass that morning, only a little more than an hour after the first pass, but the same bird,

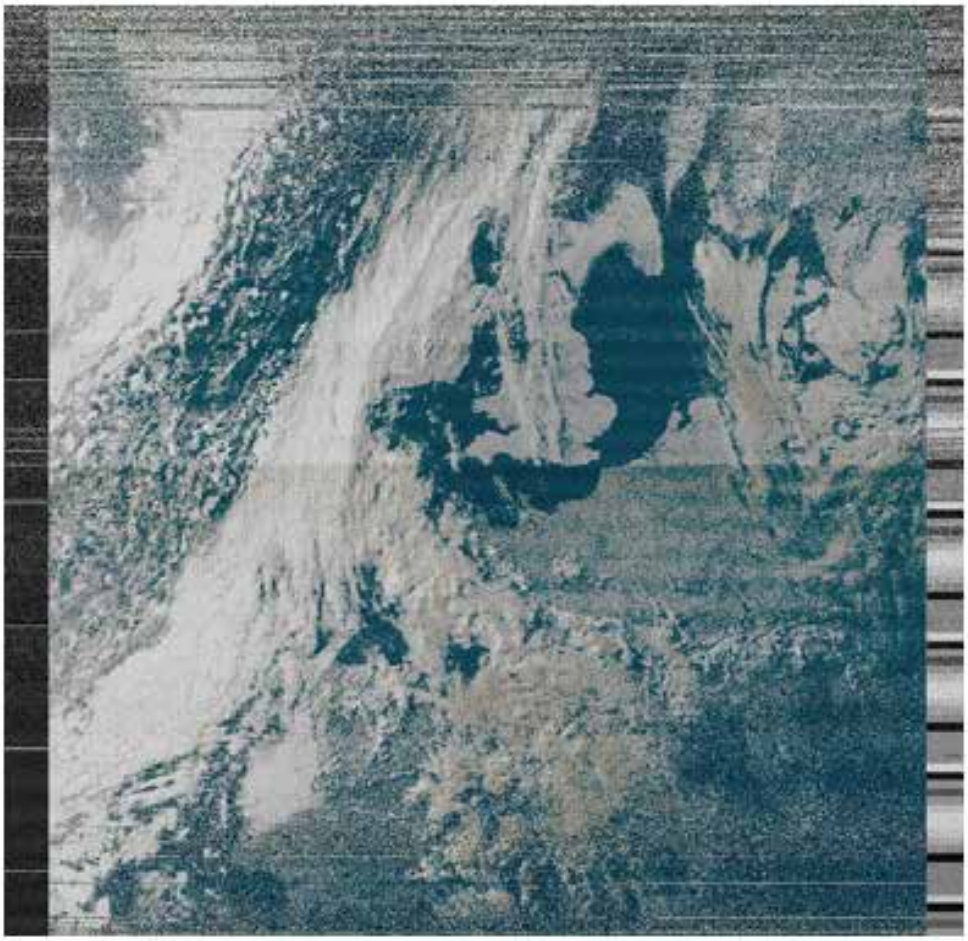
NOAA19. Both passes were taken using the same SDR website. The quality difference is due to the angle of bird relative to the antenna and distance covered. Image 2 was almost directly overhead.



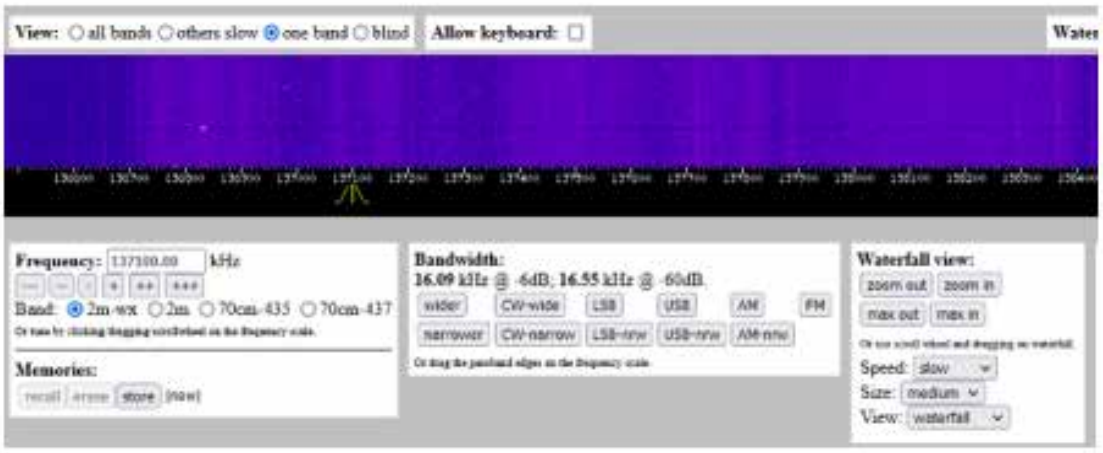
This image was produced using the NOAA-APT software. This software works best for the purposes of using the recorded wav file, then processing it through this imaging software.

Here's the link for the software: https://NOAA-APT.mbernardi.com.ar/

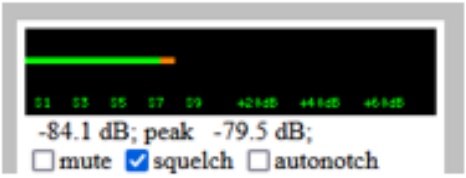
You can use WXtoImg software but need to re-sample the wav file to 11025Hz so the software can process the image. Generally I haven't had much luck using downloaded WebSDR wav files with WXtoImg. You need that additional step of doing the re-sampling effort, and may not get the results you anticipate.

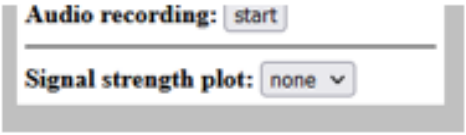


This is the enlarged image of the second NOAA 19 pass over France. Note the weather system over northern Spain and approaching front to the UK. All these images were directly recorded off the internet using the WebSDR website, set up as shown below.



To get these images simply press the record button provided on the WebSDR site under the waterfall display.



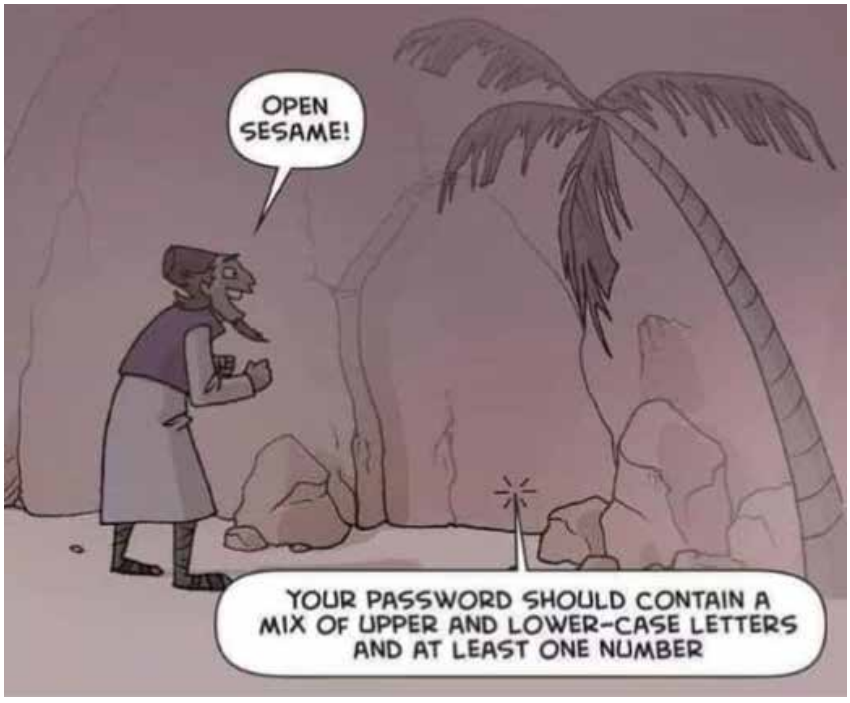


When setting up your session, ensure you have at least 50KHz of bandwidth on each side of the center frequency. Also make sure the squelch box is NOT Checked. The NOAA birds need the expanded bandwidth on either side of the center frequnecy due to the doppler effect. You'll also notice that the three birds are transmitting slightly off their published center frequencies during a pass. So having the added bandwidht on either side of the published number helps. Save the wav file in a folder you can easily access, and open NOAA-APT to process the image.

The NOAA-APT software is new, and is still going through development and updates but will do a fantastic job of offering the abilty to use any WebSDR website to get these images. So long as the site can offer you the ability to get to 137 MHz!

If anyone wishes to learn more about the NOAA-APT application and how to process the images, please drop me an e-mail at KD2FTA@ARRL.net

Enjoy and happy weather satellite image captures! 73 de KD2FTA



EME –Tripod system integration –de KD2FTA

On Saturday June 12 in preparation for our 2021 field day activities members of the EPARA SAT-Comm and EME group met to do an antenna and tripod integration.

The antenna shown is the M2 VHF Yagi we're going to use to attempt EME communications with other EME groups . The antenna is shown attached to a truss created to hold it at or above 7 feet from the ground in elevation. This is to get the maximum benefit of using ground effect to boost the antenna performance close to a 20 dB gain theoretical limit with a shallow Earth-moon angle.

The truss is attached to a re-purposed Orion German equatorial mount tripod which has a servo motor capable of following the moon on its path in the sky to keep the antenna pointed always at the moon.

The next step will be to integrate the antenna and mounting system with a 250 watt amplifier which will operate on USB 2 meters. The amplifier will be integrated with the radio and radio interfaced to a laptop running the JT65 protocol which will permit low signal QSOs to occur. The effective power from the antenna system will be equivalent to 3200 watts of energy to make the approx. 240,000 mile trip (480,000 mile round trip) or 2.56 seconds of bounce communication travel time for our signal.

We'll be making our final preparations the weekend of June 19th, and are already reaching out to the EME super-stations and other EME HAM groups to see if we can set up contact times for QSOs.

Shown here are members of EPARA which are involved with the EME efforts:

KC2JCE Dan, AB3ME Bill, KC3PPB Mike, KD2FTA Alex, W3BMM Bob, KC3JUF Charlie, AJ3C Chris, N3SWR Eric, W3INK Faith, W9FBO Ruth Ann

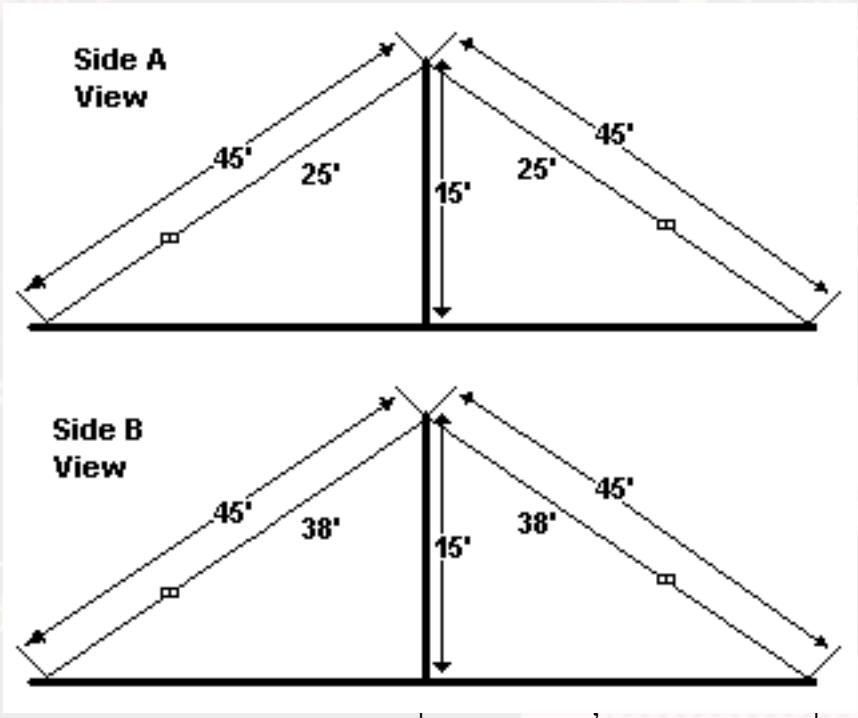
See you on Field Day! 73- de KD2FTA


EPARA

Build Your Own AS-2259 Type NVIS Antenna

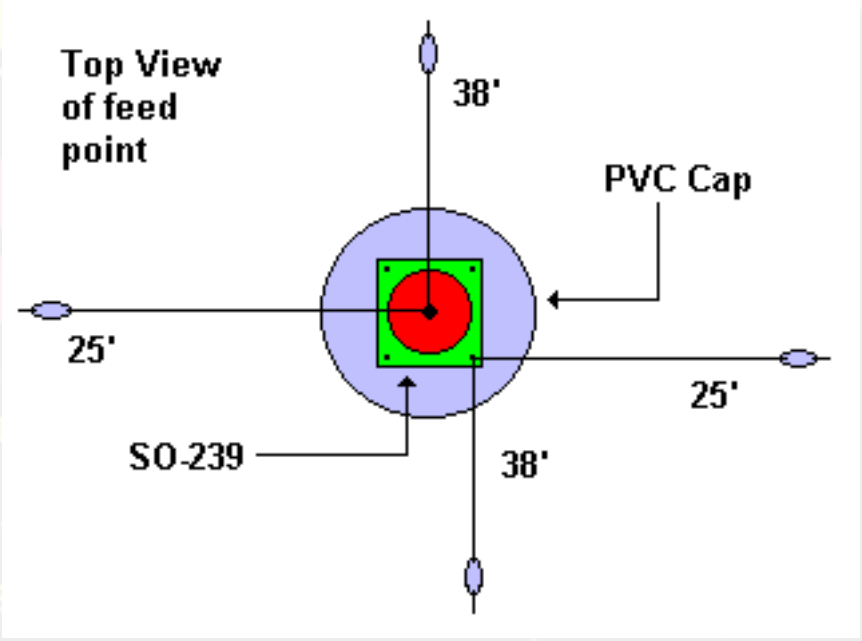
Parts List

3 ea 1.5” PVC pipes 5’ long
2 ea 1.5” PVC coupling
2 ea 1.5” PVC cap
4 ea egg type insulators
3 ea brass round head screws (1/2” 6-32)
2 ea brass round head screw (1” 6-32)
4 ea lock washers for 6-32 screws
6 ea brass hex nuts (6-32)
4 ea flat #6 brass washers
1 ea SO-239 chassis connector with solder pot center pin
1 ea SO-239 coax crimp on type
4 ea stakes
1 ea round metal stake 3/4” by 18”
4 ea heavy solder lugs to fit brass screws (you “could” use crimp on type)
4 ea plexaglass pieces, 1” X 3”, hole drilled through each end
~150’ copper antenna wire (braided/woven type like Davis Flexweave works best)
~60’ nylon rope (Parachute type cord works great and is inexpensive)
~17’ RG-58 (coax for center mast feedline)



|-------- 42.5’ ----------|

ANTENNA ARCHIVES #36



Construction Details

Drill a PVC Cap to accept SO-239 (7/8”) and 4ea #6 screws, lock washers and nuts.
Make sure to center the SO-239 in the hole before drilling the 4 screw holes. Lock washers go under the nuts. 3 screws are 1/2” and the other is 1”.

ANTENNA ARCHIVES #36

Cut off the head of a 1" #6 brass screw and solder it in the center post of SO-239
Cut antenna wires to length plus a little

Fit one end of each wire with solder lugs

Fit the other with the egg insulators and parachute cord or other non conductive rope which serves as guy ropes on the ends of the 4 elements. Two guy ropes should be at least 7.5' long for the 38 foot antenna wires and 20.5' long for the 25 foot antenna wires. Locate the 4 Plexiglass pieces and drill 3/8" holes on each end. Slip the guy rope through one hole and tie it to the other. See picture on last page if you have trouble visualizing this... These pieces allow you to pull the plexiglass piece up the guy to shorten it and adjust the tension of each guy. The total length of each element... wire and guy... is about 45 feet.

Drill hole in center of second end cap (3/4") and run round steel 18" X 3/4" rod through the center. I purchased the rod at Menard's Home Center and it would also be available it Home Depot, Lowes or similar home centers. This is the bottom section and the center stake helps when setting up the antenna.

Drill a 3/4" hole near the bottom of one end of one of the 5' pieces of pvc pipe. After drilling the hole run one end of 17' of RG-58 coax through the pipe and out the hole. Crimp a SO-239 on this end. Crimp a PL-259 on the other end. The long end is run through the pipes before erecting the antenna as a coax feed. Alternately you can just run a long piece of coax to the top but I thought this was quicker and easier. I leave the coax in the bottom section and feed to the connector in the top when I assemble the antenna. You may find it easier to leave the coax in a coil and feed from the top through the bottom.

ANTENNA ARCHIVES #36

Install pipe coupling to one end of the pipe as seen above. Install a coupling to the remaining pipe as well. The couplings need not be glued... in fact I didn't glue any of the caps or couplings and they seem plenty sturdy for the purposes of the support mast.

Put the top cap with SO-239 on top of what will be the top section of PVC pipe. Attach wire elements to the top cap as shown in the drawings, also illustrated below...

Drive the section with the bottom cap and spike into the ground. Assemble the other two sections together and then hoist onto the lower section. This is MUCH easier with two people but with practice tyou can assemble it yourself. Just be careful in case it falls over.... hehehe.

Extend the wires as in the diagrams and attach the guy ropes to the stakes. The stakes should be located 42.5 ft from the center mast of the antenna so the wire elements form crossed dipole-like antenna sections. Thread the Plexiglass pieces onto the guy ropes.Snug up the guy ropes to straighten the antenna mast using the Plexiglass pieces you made earlier... they make it easy to adjust the guys. Check out the phots which follow and you'll get a better idea of how to make the Plexiglass guy tensioners. I bought power cord holders at a home center to wrap the wire and guys on and labeled each (38 or 25)... they were 2 for a dollar so it was really a deal. Using these for guy and antenna wire storage really helps things stay neat when I break down the antenna and store it in it's bag.

The antenna works NVIS mode from about 3.5 to 11 MHz. It's generally necessary to use a tuner with this type of antenna... then it's useful from 2 - 30 MHz.... the high bands are not NVIS however. If you build this antenna let me know how it works for you. I use a LDG Z-11 auto tuner with my Argonaut V and it works great !

Credit: https://www.qsl.net/w9wis/NVIS1.html

ANTENNA ARCHIVES #36

CUSTOM WOOD PLAQUES DONE VIA CNC ROUTER!

Plaques and other projects are made to order. Contact Bill AB3ME for more info.

Prices do vary depending on the style ordered and start at $40 shipped locally to your door for a "basic plaque" Wood available is Butternut, Oak - light and dark, Black Walnut, Cherry and Hemlock Pine. Various fonts are also available. Local shipping via USPS is $8 and $15 for out of area. Construction time is expected to be a minimum of a few days due to the engraving and finishing process.

Keepsake boxes are also being offered using the same materials along with brass hardware and finger joint construction. Engraving for boxes is free up to 10 square inches and can be done on the top and inside of the boxes. Pricing starts at $225 per box. Work time is a minimum two weeks for construction. PayPal is the preferred method of payment, checks accepted however work will not start until your check clears my bank. My PayPal address for payment is... ab3me47@gmail.com

For more information please visit: Carpenterwoodworksusa.com

EQUIPMENT FOR SALE BY AB3ME

These items were purchased by myself for field day 2018 and have not been used since. Have been kept in weatherproof storage cases with desiccant since. I have kept the removed pluck foam for all weatherproof cases.

Additional items for sale:

1. 1 each Dentron Super Tuner, 1000 watt, w/ balun, wire or coax feeds 5 star eham rating..... Price = $175.00 see pic,excellent condition.

2. 1 each Dentron Junior Tuner, 300 watt, w/balun, wire or coax feeds 4.9 star eham rating..... Price = $125.00 see pic, excellent condition.

MEMBERSHIP APPLICATION

E P A R A

Eastern Pennsylvania Amateur Radio Association
Address: PO Box 521, Sciota, PA 18354
Email: N3IS@qsl.net
Website: www.qsl.net/n3is

Date: _____

Name: _____ **Callsign** _____

License: Novice Technician General Advanced Extra

Address: _____

City: _____ **State:** _____ **Zip:** _____

Home Phone: _____

Cell Phone: _____

Email: _____

* **Note:** We do not publicize your phone or email information.

ARRL Member: _____ **Skywarn Spotter:** _____ **ARES/RACES Member:** _____ **VE:** _____

Interests:
DX _____ Contest _____ CW _____ QRP _____ Digital Modes_____ Antique Radio Equipment _____
Building Antennas _____ Electronic Repairs _____ Elmering _____ Kit Building _____ EmComm: ____

Others: _____

How did you get interested in Ham Radio?

_____

Please list any relevant qualifications or assets you have or are willing to share/contribute to the club.

Use reverse side if needed:

_____

_____

_____

Sponsored or Reviewed by: _____ **Callsign:** _____

Membership Rates,

Membership: **$20.00** per year Spouse: **$10.00** per year
Full time Student: **$15.00** per year Senior:(Over 62 years of Age): **$15.00** per year