

OUR 26TH YEAR!

EPARA BEACON



VOL. 6, NUMBER 6

THE OFFICIAL NEWSLETTER OF THE EASTERN PENNSYLVANIA AMATEUR RADIO ASSOCIATION

JUNE 2022

NEXT CLUB MEETING: JUNE 9TH

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.

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



It is with great sadness that I tell you all that we have lost yet another fellow ham and friend. Daryl Frasier, N3AOI, became a silent key on Sunday May 22, 2022. He was one of the first people I made a contact with after getting my ham radio license. In fact, his name is the first entry in my logbook, he was one of my Elmer's and he was a friend. Daryl helped so many Boy Scouts get their amateur radio merit badge and was a big part of the ham shack at camp Trexler. Daryl helped me realize and appreciate the simplicity of window line and wire antennas. Nothing fancy, just stuff that works. Every time I see our Field Day doublet or my 40-meter delta loop, I will think of Daryl. I as so many others will miss him greatly.

Speaking of Field Day, Its June and that means its time for my favorite event, Field Day! We will be finalizing out FD plans at our June Meeting. Mark your calendars for June 25th and 26th, be sure to join us in Big Pocono State Park! Food, fun, and ham radio, it doesn't get any better than that.

June 1st is the day we will be finishing up the antenna installation at the Red Cross chapter house in Stroudsburg. Monroe County ARES will be strongly supporting the Red Cross with communication support. Our ARES group has been making great strides in its revitalization, bringing digital comms into the radio rooms at the 911 center and the Red Cross puts them squarely into the 21st century. EPARA is proud to support them in their efforts. If you haven't considered joining ARES, I encourage you to do so, it's a fun way to learn about amateur radio and support local organizations help our community.

Lastly our technician class has ended, we now have 10 new hams in the area. All the students worked hard and learned a lot, no doubt they will be valuable additions to the hobby! Congrats to them all.

That's it for this month, see you at the next meeting on June 9th.

73, Chris AJ3C

CONTACT INFORMATION

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Ode to Silent Key

*The dials on your radio are unmoved, the speaker silent,
and the ash tray clean for all time to come.*



73

*All those hours you sat in that old
green chair, talking to unseen voices, filling the
ash tray to overflowing. You talked near and far, and
had friends you never met. You traveled the world
over from your chair. You've become a silent key now,
gone on to meet those unseen voices from the past. Yet
in the stillness I can hear your chair squeak, smell your
tobacco, and hear faint voices calling from afar.*

- Foundation for Amateur Radio

Obituary

Darryl A. Frasier, 74, of Brodheadsville, died Sunday morning, May 22, 2022 at St. Luke's Hospice House in Bethlehem. He was the husband of Darlene (Pugh) Frasier with whom he shared 50 years of marriage.

Born on November 22, 1947 in Scranton, he was a son of the late Blake and Helen (Mostosky) Frasier and lived in Monroe County for most of his life.

He was a 1966 graduate of Pocono Mount High School; and served in the U.S. Navy from 1967 to 1971 on the USS America during the Gulf of Tonkin incident in Vietnam.

He worked at Diversity Wyndotte until his retirement..

Darryl was active with Boy Scout Troop 98 in Brodheadsville from 1981 to 2015 and was a amateur radio operator for many years.

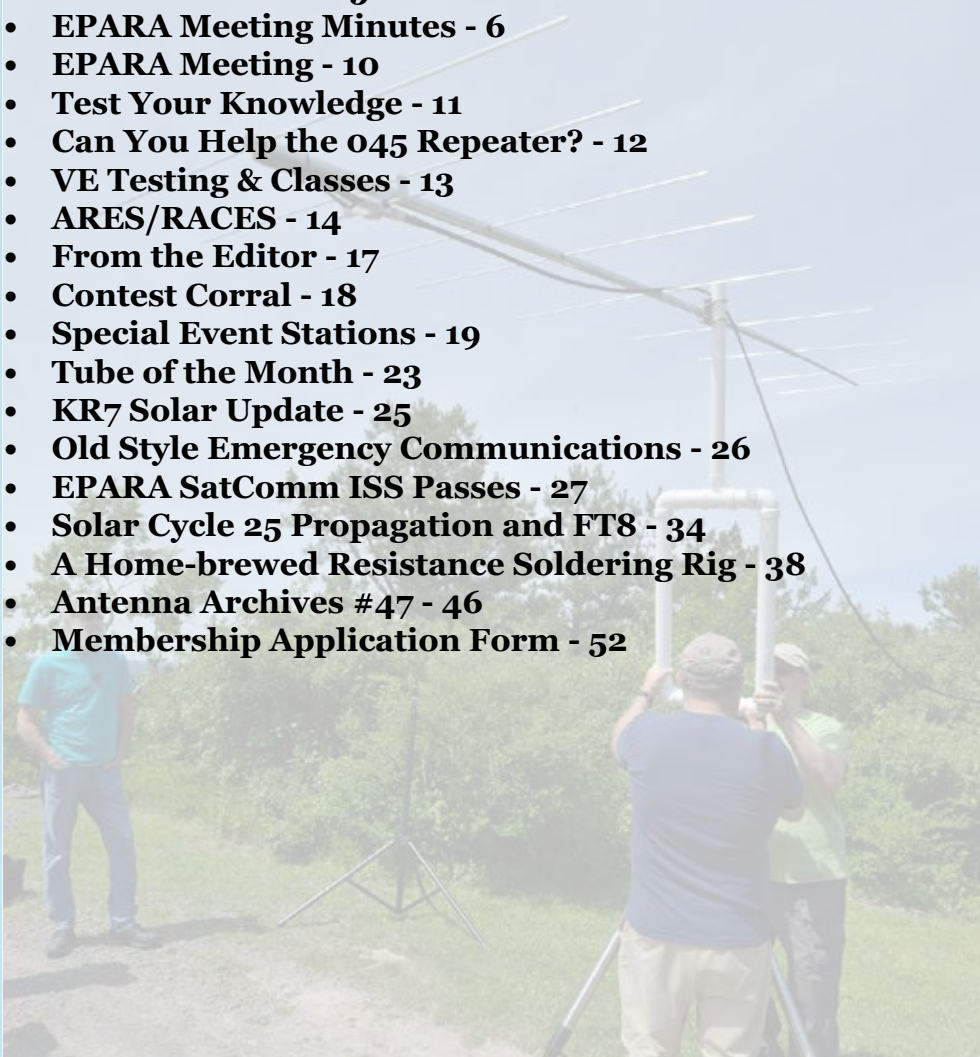
In addition to his wife, surviving are a son, Matthew Frasier and wife Laura of Appling, GA; a granddaughter, Kirsten Frasier; a sister, Gaye "Andi" Sinclair of Mateo, CA; and a nephew, Bryan Sinclair of Austin, TX. He was preceded in death by two siblings, Sharon Frasier and Blake "Skip" Frasier.

A private service and burial will take place at the convenience of the family at Laurelwood Cemetery.

In lieu of flowers memorial remembrances may be made to St. Luke's Hospice.

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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

- President**
Chris Saunders AJ3C
- Vice President**
Bob Matychak W3BMM
- Secretary**
Kevin Forest W3KCF
- Treasurer**
Scott Phelan KC3IAO
- Member at Large**
Eric Weis N3SWR

- ARES EC**
Charles Borger KB3JUF
- Assistant EC**
Chris Saunders AJ3C
Len Lavenda KC3OND
- Field Day Coordinator**
Chris Saunders AJ3
- Quartermaster**
TBD
- Membership Coordinator**
Al Brizzi KB3OVb
- Newsletter Editor**
Eric Weis N3SWR
- Photographer**
Eric Weis N3SWR
- Public Information**
TBD
- Social Media**
Chris Saunders AJ3C
Eric Weis N3SWR
- Hamfest Coordinator**
Bill Connely W3MJ
Walter Koras W3FNZ
- Technical Program Coordinator**
Bill Carpenter AB3ME
- Lead VE**
Chris Saunders AJ3C
- Webmaster**
Chris Saunders AJ3C

Announcements

AND UPCOMING EVENTS



EPARA Club Dues

Club dues were due January 1st and are temporarily extended due to COVID reasons. 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.

VE Sessions

VE sessions have returned. Please contact Chris AJ3C for dates and info should you require a test session.

Hamfest!

EPARA will host its annual hamfest this year on Sunday, September 18th, 2022. There is a new location this year - the Moose Lodge # 1336 at 705 Stokes Mill Rd., East Stroudsburg. An official flyer will come shortly. There is a huge field area and extensive parking available!

Shack Photos for our Facebook page

We are looking for shack photos from members to post on our Facebook group page, so those that are interested please send them to Bob W3BMM and they will get posted!

ARES/RACES

There is an official S.E.T planned for Sunday, October 2nd. Contact Charlie KB3JUF for further info if needed.



FIELD DAY 2022

Field Day!!

Field Day will be held again at Big Pocono State Park on June 24th, 25th and 26th. Plan for some serious fun, contacts, good food and who knows what else can happen!!

Field Day on Social Media!

Click below to join the ARRL Field Day Facebook Group. Share your plans, tips and tricks to a successful Field Day. When posting content from Field Day, use hashtag #ARRLFD on all social media to receive 100 bonus points! Join the ARRL Field Day Facebook group!



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.





EPARA GENERAL MEMBERSHIP MEETING AGENDA

EPARA General Membership Meeting Agenda May 12th 2022 General Membership Meeting 7:30Pm

Open meeting:

Meeting called to order at 7:30 pm on May 12th 2022 by Chris AJ3C

Declaration of Quorum.

Total members attending: 25 Members at 911 Center: 18 - Zoom members present: 7 - Visitors present: 0

Pledge of Allegiance / Moment of silence:

Membership Meeting - Minutes March 10th, 2022

Secretary - Kevin W3KCF:

Meeting minutes for March 10th, 2022 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 presented:

Motion to accept minutes as presented: By Charlie – KB3JUF 2nd by AL – KB3OVV Motion Passed

Treasurers report:

For the May 2022 EPARA Club Meeting.
By Scott Phelan, KC3IAO

Bank Account Statement Opening Balance (4/29/22 statement.): \$3919.76

Expenses: None

Income: \$25.00 Dues; KA2ABV (15) & Stephanie Power (10 Spouse). \$37.00 50/50 \$0.16 Bank Interest.

Closing Balance: \$3981.92

Our PayPal Account:

4/30/22 statement opening balance of \$372.37

Expenses: None

Income: \$15.00 Dues; KG3I.

Fees: \$0.79

Closing balance of \$386.58

Motion to accept reports by Ruth Ann – W9FBO 2nd by ED – KC3OLB Motion Passed

Correspondence: None



EPARA GENERAL MEMBERSHIP MEETING AGENDA

Reports of officers and committee's:

Bill AB3ME – Program Committee:

Bill stated he had nothing new, but he was looking for presentation material available on the net that would be useful to the club. He also asked again for members to step up and provide some sort of presentation. Anyone interested, he asks that you send him an email at bill47@ptd.net.

Bill mentioned John - KK4SHF was doing a presentation after the meeting tonight on logging software for use with our nets. It will make net controller's life much easier and allow users logging in to see other participants and their locations on a popup map. For additional information go to the website at <https://logger.plumtx.com/>

Charlie KB3JUF – ARES/RACES:

Charlie reiterated that all involved in ARES need to be motivated. Make sure you attend our meetings on the 4th Friday of the month and keep your Task Books up to date. Complete any and all training required and stay enthused. Charlie also stated, please check in on the Sunday Night ARES Net. Our next ARES meeting will be held on May 27th at 1930.

Charlie then stated we need to get Win link setup and going on the computer at the Red Cross location. He also said we need a new computer for the radio room. Bill – AB3ME said he would donate two laptops with Windows 10 installed.

Ruth Ann, W9FBO – PIO:

Ruth Ann said she is putting information out for events the club has planned for the year. She also mentioned that she had sent out invitations to our state legislators inviting them to this year's field day in June. Information was sent to the Pocono Record and radio stations 96.7 and 93.5.

Chris AJ3C -- Instruction and Training:

Our Tech class is going very well and will end on May 18th. We will need VE's on that night as we have 10 students taking their exams.

In June, Chris mentioned we would be starting a General Class. Start date has not been finalized yet.

Chris AJ3C – Website:

Nothing to Report. He will be doing updates soon.

Bob W3BMM – Social Media:

Bob said that everything is going well with our social media accounts. He asked for feedback and suggestions on what information to add to the account. He also mentioned for us to visit the site and share it with others. Please leave a like when you visit.

Al KB3OVB: Membership:

Current membership is 69. Our 2022 Dues are due and payment can be made by check or PayPal. Any member who does not pay their dues by March 31st will be removed from the membership rolls.

Eastern Pennsylvania Amateur Radio Association
P.O. Box 521, Sciota, Pa 18354

KC3IAO@hobbyguild.com



EPARA GENERAL MEMBERSHIP MEETING AGENDA

Eric N3SWR – Newsletter:

Eric said there was nothing new and everything is good. He asked if anyone had articles, they'd like to share, please send them to him at eparanewsletter@ptd.net.

Sat-Com / EME Group:

Bob said the antenna mount is coming together and doesn't think there will be any problems. Alex said once the antenna project is complete, he will reach out to those participating and start getting schedules out. He also said he is putting together the information for the SAT Passes and it will be given to Eric to post in the newsletter.

Old business:

2020 / 2021 audit:

The 2020 budget audit will be conducted along with the 2021 audit in January 2022. Audit team will consist of Edward KC3OLB, Eric N3SWR, and Bill AB3ME Scott is in the process of preparing the material and will be available soon.

OCF Dipole Repair

Replacement of the antenna rope for the OCF Dipole was postponed due to inclement weather. We need to reschedule this tonight. Chris hopes this will be completed in June.

Field Day 2022: June 24th, 25th and 26th

The club will supply hamburgers and hot dogs as in the past along with water, coffee and soda. We will have the communications trailer with us. For logging, we will be using N3JFP on a wireless network. We need a band captain and an assistant coordinator.

Flyers will be made by Bob and his wife. He will also be operating a 2m station. In addition, we will be operating digital stations, CW and HF stations. Kevin will bring his 5th wheel.

Hamfest 2022 – Update:

This year's Hamfest will be held on September 18th at the Moose Lodge. Alex -KD2FTA, Kevin – W3KCF and RuthAnn – W9FBO have volunteered to manage the food and beverage booth.

Any other old business:

None

New business:

West End Fair:

Charlie mentioned this year would be the 100th anniversary for the fair and was wondering if we had secured a place to set up a booth. Chris mentioned nothing yet, but the club was looking into it.

Net Controllers Needed:

We are looking for additional net controllers to assist on our Wed night Rag Chew. The net has been moved for 2030 to 1930 on Wed nights and we are trying to expand worldwide. For those interested in joining us, the TG is 3149822.



EPARA GENERAL MEMBERSHIP MEETING AGENDA

Tonight's 50/50 Raffle: \$34.00

Tonight's raffle was won by Chris – AJ3C and he received \$17.00

Any Other New Business

Charlie – KB3JUF had some additional comments regarding ARES. He mentioned the Red Cross was holding a training event showing how a shelter would be set up on June 4th and thought it would be good experience for those that could attend. It will be located in Wilkes Barre at 256 N Sherman Street, from 10am to 1pm. He will have more information soon.

Votes / New members:

None

Announcements: None

Any Additional Announcements

Adjournment...

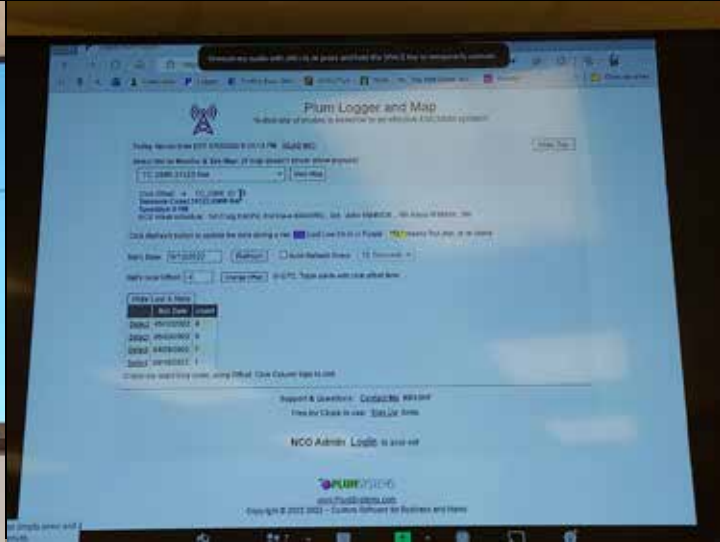
Meeting was adjourned at 2020: Motion to close by Alex – KD2FTA 2nd by RuthAnn – W9FBO Motion Passed.

Secretary
Kevin Forrest
W3KCF





EPARA MEETING



TEST YOUR KNOWLEDGE!

What is the approximate maximum separation measured along the surface of the Earth between two stations communicating by Moon bounce?

- A. 500 miles, if the Moon is at perigee
- B. 2000 miles, if the Moon is at apogee
- C. 5000 miles, if the Moon is at perigee
- D. 12,000 miles, if the Moon is visible by both stations

Last month's answer was, D. 15.210Mhz. An image response signal may be located at the tuned frequency plus or min

What is Digital Mobile Radio (DMR)?

- A European Telecommunications Standards Institute (ETSI) standard first ratified in 2005 and is the standard for "professional mobile radio" (PMR) users. Motorola designed their MotoTrbo line of radios based upon the DMR standards
- Meets 12.5kHz channel spacing and 6.25kHz regulatory equivalency standards
- Two slot Time Division Multiple Access (TDMA)
- 4 level FSK modulation
- Cutting edge Forward Error Correction (FEC)
- Commercial ETSI/TIA specs mean rugged performance and excellent service in RF congested urban environments (no intermod and other RF "hash")
- Equipment interoperability is certified by the DMR Association



The EPARA HOT SPOT Wednesday night DMR rag chew is here!

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!

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.

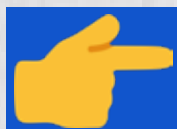
What we are asking people to do is when you listen to the 147.045 repeater also listen to the "input" frequency which is 147.645 (no tone is required). If you should hear any of the malicious and deliberate QRM occurring, do the following:

- 1) DO NOT ENGAGE 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.



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!





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.



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

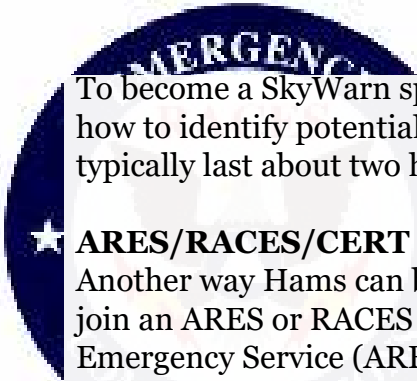
One of the missions of the Amateur Radio Service is for amateur radio operators to provide public service and emergency communications (EmComm) when needed. We act as a voluntary noncommercial communication service and pitch in to help our communities and first responders.

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.

Credit: <https://www.onallbands.com/want-to-put-your-ham-radio-skills-to-good-use-get-involved-in-emcomm/>





June has always brought me thoughts of warm summers from my childhood and the fun I used to have just swimming, riding my bike all over neighborhood, getting into silly trouble, making my own fireworks for the upcoming 4th of July, playing with electronics, chemistry and so much more. I'm still that person today only it may take a few extra minutes to get up to speed and my toys just cost a whole lot more!

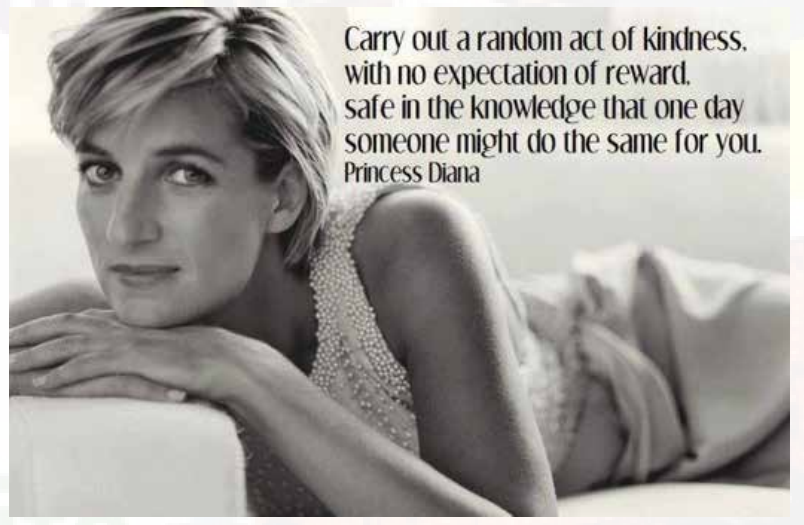
Memorial Day helps me to remember those who have passed like my father and now Darryl too. I didn't know Darryl much but from what others have mentioned he was a good man. I almost lost my mother this weekend and wow, things really do get twisted and priorities change when those lights happen to get turned on.

I hope everyone takes a moment to reflect on those in their past and appreciate their presence in your life. I tend to do that more and more as I grow older. It's a karma thing for me and I think it actually works.

I hope to see many of you this coming Field Day. Yes, I will bring the Beer Brats - it wouldn't be the same without them :)

Cheers for now!

Eric
N3SWR



Carry out a random act of kindness,
with no expectation of reward,
safe in the knowledge that one day
someone might do the same for you.
Princess Diana

“Basic research is what I am doing when I don't know what I am doing.”
- Wernher von Braun.

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

June 2022

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 Date-Time	Finish Date-Time	Bands	Contest Name	Mode	Exchange	Sponsor's Website
1 1700	1 2000	144	VHF-UHF FT8 Activity Contest	FT8	4-char grid square	www.ft8activity.eu/index.php/en
2 1700	2 2100	28	NRAU 10-Meter Activity Contest	CW Ph Dig	RS(T), 6-char grid square	nrricontest.no/index.php/nrrl-contests
2 1900	2 2100	1.8-50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
3 0000	5 2359	1.8-50	PODXS 070 Club Three Day Contest	Dig	Mbr or "0000"	www.podxs070.com
3 1900	3 1959	3.5, 7	HAMS Sprint Memorial Contest	CW	RST, mbr or "NM"	radioamator.honlapetites.hu/?p=1280
4 0000	5 2359	28	10-10 International Open Season PSK Contest	Dig	Name, SPC, mbr	www.ten-ten.org
4 0600	4 0800	7, 14	Wake-Up! QRP Sprint	CW	RST, serial, suffix of previous QSO	qrp.ru/contest/wakeup/333-wakeup-eng
4 0600	5 0600	1.8-UHF	KANHAM Contest	CW Ph	RST, JA prefecture	www.jarl.or.jp/kanhamcontest/en
4 1200	5 1159	1.8-28	Tisza Cup CW Contest	CW	RST, CQ zone	tiszacup.eu/index.php/en/contest-rules
4 1300	5 0100	1.8-144	Kentucky QSO Party	CW Ph Dig	RS(T), KY county or SPC	www.kyqsoparty.org/rules
4 1300	5 1300	50	UKSMG Summer Contest	CW Ph RTTY	RST, serial, 6-char grid square	uksmg.org/summer-contest-rules.php
4 1500	5 1459	1.8-28	IARU Region 1 Field Day, CW	CW	RST, serial	darc.de/der-club/referate/conteste
4 1500	5 1500	1.8-28	RSGB National Field Day	CW	RST, serial	www.rsgbcc.org/hf
4 1800	5 2359	1.8-50	ARRL International Digital Contest	Dig, no RTTY	4-char grid square	arrl.org/arrl-digital-contest
5 1700	5 2200	All	Cookie Crumble QRP Contest	CW Ph Dig	RS(T), SPC, cookie number, name	w3atb.com/cookie-crumble
6 1630	6 1729	3.5, 7	OK1WC Memorial (MWC)	CW	RST, serial	memorial-ok1wc.cz/index.php?page=rules2l
6 1900	6 2030	3.5	RSGB 80-Meter Club Championship, Data	Dig	RST, serial	www.rsgbcc.org/hf
7 0100	7 0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, power	arsgrp.blogspot.com
8 0030	8 0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	naqcc.info
8 1700	8 2000	432	VHF-UHF FT8 Activity Contest	FT8	4-char grid square	www.ft8activity.eu/index.php/en
11 0000	11 2359	1.8-28	VK Shires Contest	CW Ph	RS(T), VK shire or CQ zone	www.wia.org.au/members/contests
11 0000	12 1559	3.5-28	DRCG WW RTTY Contest	Dig	RST, CQ Zone	www.drcg.de/drcgww
11 1100	11 1300	14, 21	Asia-Pacific Sprint, SSB	Ph	RS, serial	jsfc.org/apsprint/aprule.txt
11 1200	12 1200	3.5-28	Portugal Day Contest	CW Ph	RS(T), CT district or serial	portugaldaycontest.rep.pt/rules.php
11 1200	12 2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
11 1400	11 1800	144, 432	AGCW VHF/UHF Contest	CW	RST, serial, power, 6-char grid square	www.agcw.de/contest/vhf-uhf
11 1500	12 1500	3.5-28	GACW WWSA CW DX Contest	CW	RST, CQ zone	contest.com.ar
11 1600	12 1600	50	REF DDFM 6 Meter Contest	CW Ph	RS(T), serial, 4-char grid square	concours.r-e-f.org
11 1800	13 0259	50 and up	ARRL June VHF Contest	CW Ph Dig	4-char grid square	www.arrl.org/june-vhf
13 0000	13 0200	1.8-28	4 States QRP Group 2nd Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	www.4sgrp.com/SSS/sss_rules.pdf
13 1630	13 1729	3.5, 7	OK1WC Memorial (MWC)	CW	RST, serial	memorial-ok1wc.cz/index.php?page=rules2l
15 0030	15 0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	naqcc.info
15 1700	15 2000	1.2G	VHF-UHF FT8 Activity Contest	FT8	4-char grid square	www.ft8activity.eu/index.php/en
15 1900	15 2030	3.5	RSGB 80-Meter Club Championship, CW	CW	RST, serial	www.rsgbcc.org/hf
16 1200	16 1300	7	SARL Youth Sprint	Ph	RS, age	www.sarl.org.za
16 1900	16 2000	3.5-14	NTC QSO Party	CW	Max 25 WPM; RST, mbr or "NM"	qsl.net/ntc/party.html
18 0000	18 2359	3.5-28	Battle of Carabobo International Contest	Ph	RS(T), YV state or serial	www.qrz.com/db/YV4VV
18 0000	19 2359	1.8-28	All Asian DX Contest, CW	CW	RST, 2-digit age	www.jarl.org/English
18 1200	19 1159	3.5-28	Ukrainian DX Classic RTTY Contest	Dig	RST, 2-letter Ukraine oblast or serial	urdx.org/rtty/eng.htm
18 1400	19 1400	50	IARU Region 1 50 MHz Contest	CW Ph	RS(T), serial, 6-char grid square	www.iaru-r1.org
18 1500	19 1500	1.8	Stew Perry Fogband Challenge	CW	4-char grid square	www.kkn.net/stew
18 1600	19 0400	3.5-28	West Virginia QSO Party	CW Ph Dig	RS(T), WV county or SPC	www.qsl.net/wvsarc
18 1800	18 1959	1.8-50	Feld Hell Sprint	Dig	Mbr, SPC, grid square	sites.google.com/site/feldhellclub
18 1800	18 2359	3.5, 7, 14, 18, 21, 24, 28, 144	ARRL Kids Day	Ph	Name, age, QTH, favorite color	www.arrl.org/kids-day
19 0800	19 1400	50	WAB 50 MHz Phone	Ph	RS, serial, WAB square or country	wab.intermip.net
19 2300	20 0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or power	qrpcontest.com/plgrun
20 1630	20 1729	3.5, 7	OK1WC Memorial (MWC)	CW	RST, serial	memorial-ok1wc.cz/index.php?page=rules2l
22 0000	22 0200	1.8-50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
23 1900	23 2030	3.5	RSGB 80-Meter Club Championship, SSB	Ph	RS, serial	www.rsgbcc.org/hf
25 0000	25 2359	3.5-28	Pajajaran Bogor DX Contest	Ph	RS, serial	pbdx-contest.com/rules
25 0600	25 1700	3.5-28	UFT QRP Contest	CW	RST, QRP/QRO, mbr or "NM"	www.uft.net/concours-qrp-uft
25 1200	26 1200	3.5-28	Ukrainian DX DIGI Contest	RTTY, PSK63	RST, 2-letter Ukraine oblast or serial	izmail-dx.irc.net.ua
25 1200	26 1200	1.8-28	His Majesty King of Spain Contest, SSB	Ph	RST, EA province or serial	concursos.ure.es/en
25 1800	26 2059	All	ARRL Field Day	CW Ph Dig	Number of transmitters, operating class, ARRL/RAC section or "DX"	www.arrl.org/field-day
27 1630	27 1729	3.5, 7	OK1WC Memorial (MWC)	CW	RST, serial	memorial-ok1wc.cz/index.php?page=rules2l
27 1900	27 2030	3.5-14	RSGB FT4 Contest	FT4	4-char grid square	www.rsgbcc.org/hf

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 and times 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!

05/29/2022 | Red Skelton Museum Festival 2022

May 29-Jun 11, 0000Z-2359Z, K9R, Vincennes, IN. K9GX. 80, 40, 20 and higher bands as conditions permit. QSL. Mark Steven Williams, POB 5973, Elizabeth, IN 47117-5973. A special event celebrating the Red Skelton Festival, Parade and "Laughing Stalks" exhibit at the Red Skelton Museum of American Comedy, Vincennes, Indiana, June 10-11, 2022. Honoring the legacy and 109th birthday of one of America's most beloved talents. Operating schedule and updates on the K9R QRZ page and K9R Red Skelton Museum Special Event FB group page. QRV on 80, 40, 20 and higher bands as conditions permit. K9Rspecialevent@gmail.com or www.qrz.com/db/k9r

06/01/2022 | Scott Joplin Ragtime Festival

Jun 1-Jun 4, 0905Z-0905Z, W0R, Sedalia, MO. SPARK - Sedalia Pettis Amateur Radio Klub . 14.250 7.180. Certificate & QSL. Bret Kuhns, 1880 Quisenberry Rd, Sedalia, MO 65301. www.scottjoplin.org

06/02/2022 | D-Day Commemoration

Jun 2-Jun 15, 1300Z-2200Z, W2W, Baltimore, MD. Amateur Radio Club of the National Electronics Museum. 7.044 7.244 14.044 14.244. Certificate & QSL. W2W D-Day, PO Box 1693, MS 4015, Baltimore, MD 21203. Amateur Radio Club of the National Electronics Museum (ARCNEM) will operate W2W in commemoration of the anniversary of D-Day and the role of electronics in WWII. Primary operation will be June 4-June 7 with additional operation possible during the June 2-3 and 8-15 periods as operator availability permits. Operation on 80M (3.544, 3.844), additional bands and digital modes possible during event. Frequencies +/- according to QRM. QSL and Certificate available via SASE; details at ww-2.us

06/03/2022 | Museum Ships On The Air

Jun 3-Jun 5, 2200Z-1900Z, NE1PL, Fall River, MA. USNR. 14.259 40 meters. QSL. Rick Emord KB1TEE, 135 Wareham st., Middleboro, MA 02344. we will be

on the air for Museum Ships On The Air on 20 and 40 meters other bands to be determined based on availability of people and equipment. Contact us or come operate. www.NE1PL.org

06/03/2022 | Salvation Army Donut Day

Jun 3, 1500Z-2300Z, K0SAL, Lincoln, NE. Lincoln SATERN. 14.265 14.280 14.312. QSL. Charles Bennett, KD0PTK, P.O. Box 67181, Lincoln, NE 68506. Lincoln, Nebraska Salvation Army annual Donut Day began in 1938 to commemorate the work of the Donut "Lassies" who provided coffee & donuts to the troops in trenches during World War I. June 3 is the 84th anniversary of Donut Day.

06/03/2022 | Titanic - Jack Phillips Memorial

Jun 3-Jun 13, 0000Z-2359Z, N9Q, Indianapolis, IN. Indiana Elmer Network. 14.030 7.030 7.110 14.110. Certificate & QSL. N9Q C/O Wayne Michael, 1255 Weston Drive, Indianapolis, IN 46234. In memory of a hero and fellow wireless operator Jack Phillips who served on the Titanic when sank at sea. This event will be CW only. We have no specific bands to operate on. We will spot ourselves on spotting services. indianaelmernetwork.us

06/04/2022 | 200th Anniversary of the Burning of HMS Gaspee

Jun 4-Jun 20, 1200Z-0300Z, W1G/K1G, various towns, RI. Blackstone Valley Amateur Radio Club. 7.275 14.035 13.074. Certificate & QSL. Robert Beaudet, W1YRC, 30 Rocky Crest Rd., Cumberland, RI 02861. Actual event is June 12; stations will be active June 4-20. Work both stations and receive a certificate. www.w1ddd.org/gaspeedays.html

06/04/2022 | 78th Anniversary of the Badin Bomber

Jun 4, 1500Z-2100Z, NC4MC, Troy, NC. Montgomery ARS. 14.250 MHz. Certificate. Donald Grady KG4ZRH, 120 Woodline Dr., Troy, NC 27371-9714. dgrady1@embarqmail.com

06/04/2022 | Atlanta Hamfest 90th Anniversary

AMATEUR RADIO SPECIAL EVENT STATIONS!

Jun 4-Jun 5, 1200Z-0400Z, W4A, Atlanta, GA.
Atlanta Radio Club. 7.230 MHz 14.330 MHz 28.430
MH. QSL. Atlanta Radio Club QSL, 227 Sandy
Springs Place, Suite D-306, Atlanta, GA 30328.
Celebrating 90 Years! Please SASE for QSL. More
info available at www.atlantahamfest.com
06/04/2022 | Audie Murphy

Jun 4, 1300Z-2100Z, W2A, Christiansburg, VA.
New River Valley Amateur Radio Club. 3.860 7.262
14.262. QSL. Danny Wylam, 710 McDaniel Dr.,
Christiansburg, VA 24073-3848. Honoring Audie
Murphy from Brush Mountain VA near the site of
the plane crash that took his life on May 27,1971.
dannywylam@gmail.com
06/04/2022 | Commemoration of the 80th
Anniversary of the Battle of Midway

Jun 4-Jun 5, 1521Z-0000Z, W0M, Saint Paul,
MN. South East Metro Amateur Radio Club.
7.035 7.250 14.250 18.100. Certificate. Brian F
McInerney, 2523 Cochrane Drive, Saint Paul, MN
55125. Commemorates the 80th anniversary of the
Battle of Midway and Richard Fleming, a Marine
Naval Aviator posthumously awarded the Medal
of Honor for his courage and performance in the
battle. Certificates can be downloaded from www.semarc.org
one month after the event. www.semarc.org
06/04/2022 | Museum Ships on the Air Weekend

Jun 4-Jun 5, 1600Z-2130Z, W5KID, Baton Rouge,
LA. Baton Rouge Amateur Radio Club. 7.040 7.250
14.040 14.250. QSL. USS KIDD Amateur Radio
Club, 305 S. River Road, Baton Rouge, LA 70802.
Operation aboard the USS KIDD (DD-661). WW II
Fletcher class destroyer. www.qrz.com/db/w5kid
06/04/2022 | Museum Ships Weekend

Jun 4-Jun 5, 1421Z-1621Z, K8E, Toledo, OH.
Toledo Mobile Radio Association and National
Museum of the Great Lakes. 7.074 7.260 14.074
14.260; SSB, FT8, and CW . QSL. Col. James M.
Schoonmaker K8E, P. O. Box 9673, Toledo, OH
43697. tmrahamradio.org
06/04/2022 | Museum Ships Weekend Event

Jun 4-Jun 5, 0001Z-2359Z, NJ2BB, Camden, NJ.
Battle Ship New Jersey Amateur Radio Station. 7.262
14.262 7.044 14.044. QSL. Margaret Burgess, 150
Schooner Avenue, Barnegat, NJ 08005. nj2bb.org
06/04/2022 | USS Nautilus SSN 571, First Nuclear
Submarine

Jun 4-Jun 5, 0000Z-2359Z, N1S, Groton, CT.
Generations Amateur Radio Club. 3.850 7.225
14.275 51.500. QSL. Via bureau to K3LBD or direct
to, Harrison Solt, 110 Vinegar Hill Rd., Gales Ferry,
CT 06335. Nautilus information: www.usnautilus.org. www.qrz.com/db/n1s or www.qrz.com/db/k3lbd
06/04/2022 | WWII Submarine USS Cobia on the
air

Jun 4-Jun 5, 1400Z-2100Z, NB9QV, Manitowoc,
WI. USS Cobia Amateur Radio Club. 7.240 +/-
14.240 +/- . QSL. Fred Neuenfeldt, W6BSF, 4932
S. 10th St., Manitowoc, WI 54220-9121. SASE #10
needed for QSL www.qrz.com/db/nb9qv

06/08/2022 | 150th Anniversary of Fergus Falls

Jun 8-Jun 13, 0001Z-2359Z, K0F, Fergus Falls, MN.
Fergus Falls Lake Region Amateur Radio Club.
7.074 12.270 18.100. QSL. Dwight Moore, 1205
Aurdal Ave., Fergus Falls, MN 56537. <https://lrarc.wordpress.com>
06/10/2022 | Texoma Island Expedition

Jun 10-Jun 12, 1000Z-1800Z, K5E, Sherman, TX.
Fannin County Amateur Radio Club, K5FRC.
14.260 usb 7.220 lsb 144.210 usb. QSL. James Hunt,
1026 Valentine Drive, Sherman, TX 75090-8350.
Texoma Island Expedition - will be located within
the islands of Lake Texoma. Will be enjoying "off the
grid" communications and nature. Questions, please
contact James, KI5DQ@yahoo.com.
06/11/2022 | 245th Flag Day

Jun 11-Jun 17, 0000Z-2359Z, W4F K4F N4F , Goose
Creek, SC. Carolina SideWinders of the Lowcountry.

AMATEUR RADIO SPECIAL EVENT STATIONS!

14.316 7.216 14.075777 10.137777. QSL. Carolina SideWinders, 318 Jennie St., Goose Creek, SC 29445. On June 14th, 1777, Second Continental Congress passed a resolution stating that “the flag of the United States be 13 stripes, alternate red and white,” and that “the union be 13 stars, white in a blue field, representing a new constellation.” KM4SW_614@yahoo.com

06/11/2022 | 2nd Annual Hudson River Radio Relay Featuring Bannerman’s Island

Jun 11, 1700Z-2100Z, N2B + 7 More, Beacon, NY. Hudson Valley Digital Network (HVDN). 7.200 14.250 18.128 50.130. Certificate. Via email, see website for details. Standard QSL sent to address will get featured on event website in articles (no SASE); Hudson Valley Digital Network (HVDN), 106 Cedar Ave ,C/O HR3 2022, Poughkeepsie, NY 12603. This event highlights the history of the Hudson Valley through our many clubs, POTA, SOTA, COTA and IOTA locations. Additional details and certificate requested through event website. Also look for us on BM DMR TG 31630 (STEM). N2B N2D N2H N2N N2O N2S N2U N2V hudsonriverradiorelay.com/for-radio-amateurs.html

06/11/2022 | Appleton Flag Day Parade

Jun 11, 1830Z-2030Z, W9ZL, Appleton, WI. Fox Cities Amateur Radio Club. 14.246. QSL. FCARC, P.O. Box 2346, Appleton, WI 54912. The Fox Cities Amateur Radio Club will be operating the special event station live while participating in Appleton’s Flag Day Parade. This is the largest Flag Day parade in the country with over 100 participants. QSL FCARC, P.O. Box 2346, Appleton, WI 54912 www.fcarc.club

06/11/2022 | NSS Annual Convention

Jun 11-Jun 17, 1800Z-1800Z, K0V, Rapid City, SD. National Speleological Society. 14.285 14.050 7.195 7.050. QSL. Sam Rowe, KG9NG, 2749 Commercial Ave, Madison, WI 53704. K0V@NSSCES.ORG

06/18/2022 | Journey back to 1776 - Davidson’s Fort - Old Fort, NC

Jun 18-Jun 19, 1200Z-0900Z, WA4TRS, Fairview,

NC. The Road Show Amateur Radio Club, Inc.. 14.315. Certificate & QSL. The Road Show ARC, 57 Echo Lake Drive, Fairview, NC 28730. The first military establishment in Western North Carolina. Very effective during The American Revolution in Defeating The Red Coats. Troops where sent via The Over The Mountain Trial to The Battle of Kings Mountain! www.roadshowarc.org

06/18/2022 | WHOA Weekend, Scouts BSA

Jun 18, 1400Z-2000Z, W1M, Russell, MA. Western Mass Council, Scouts BSA. 7.190 10.115 14.060 14.290. Certificate. tom barker, 329 faraway road, Whitefield, NH 03598. Monthly seasonal outdoor activities for scouts and the general public including “ham radio in the woods”. Paper logging. Qsl via SASE and eqsl.

06/24/2022 | Field Day 2022

Jun 24-Jun 26, 0000Z-2359Z, N6R, Simi Valley, CA. Ventura County Amateur Radio Society. 21.320 14.255 7.260 3810.0. QSL. Peter S. Heins, N6ZE, 1559 Norwich Ave.E, Thousand Oaks, CA 91360. Commemorating the Lives of President Ronald & Mrs. Nancy Reagan. N6R will operate from the Grounds of the Reagan Presidential Library. Due to Covid-19 history, full inoculations and N-95 masks required for visitors . Please check website for possible updated information. www.qrz.com/db/n6r

06/25/2022 | 150th Anniversary of Home on the Range

Jun 25-Jul 7, 1200Z-2300Z, K0R, Athol, KS. Smith County Amateur Radio Club. 14.336 7.265 3.930. Certificate & QSL. Michael G. Saft, KB0QGT, 220 E Kansas Ave., Smith Center, KS 66967.

06/25/2022 | Amis Mill Historic Site

Jun 25, 1000Z-1800Z, N2A, Rogersville, TN. Hawkins Hancock Amateur Radio Team. 7.017 7.018 7.019 7.020. QSL. Hawkins Hancock Amateur Radio Team, P.O Box 356, Rogersville, TN 37857. Home of the oldest stone dam in Tennessee, this property

DATE	GMT	RS	2WAY	MHZ	QSL	on _____ MHz RST _____	QRM _____	QRN _____
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AMATEUR RADIO SPECIAL EVENT STATIONS!

was constructed by Thomas Amis in 1780. Captain Amis hosted many famous figures; including John Sevier, James Robertson, Andrew Jackson, Daniel Boone, Bishop Francis Asbury, Andre Michaux, and numerous revolutionary heros. <https://www.tnvacation.com/local/rogersville-thomas-amis-historic-site>

06/25/2022 | Daleville Area K2DAL Field Day 2022

Jun 25-Jun 26, 0000Z-2359Z, K4D, Daleville, AL. Daleville Area Amateur Radio Service (K2DAL). 14.295 7.295 3.895. QSL. Kevin Turley, Daleville Area Amateur Radio Service (K2DAL), P.O. Box 724, Daleville, AL 36322. www.daleville.us

06/25/2022 | MDARC Field Day Event

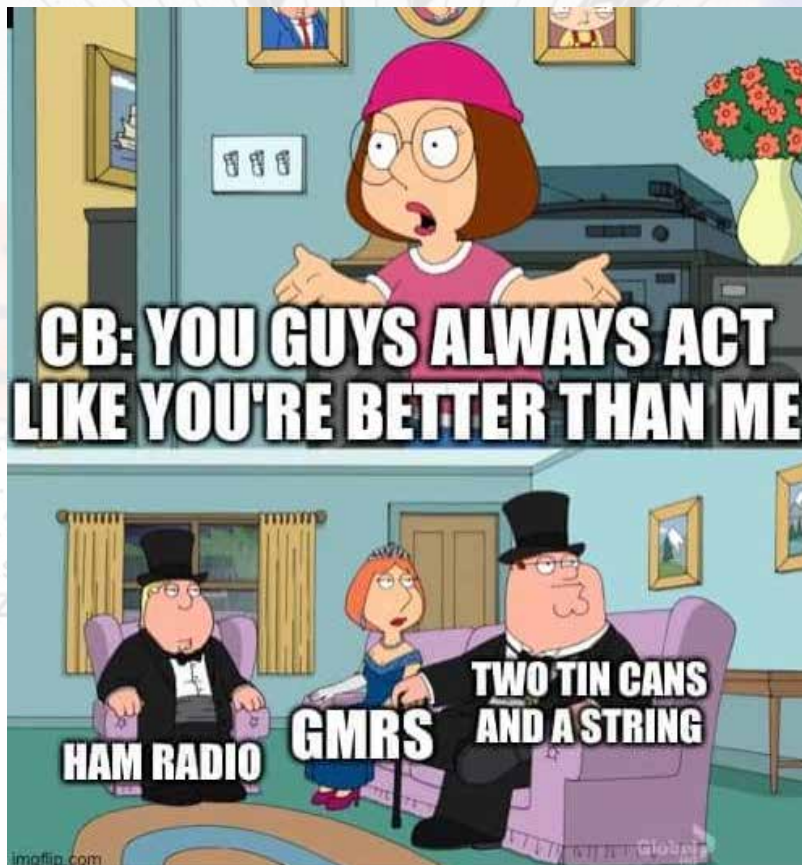
Jun 25-Jun 26, 1800Z-1800Z, W6CX, Concord, CA. Mt. Diablo Amateur Radio Club (MDARC). 147.060 MHz, + offset, PL100.0 Hz. Certificate. None, None, None. No certificates or QSLs will be sent. info@mdarc.org or www.mdarc.org

06/25/2022 | Reopening of Yerkes Observatory

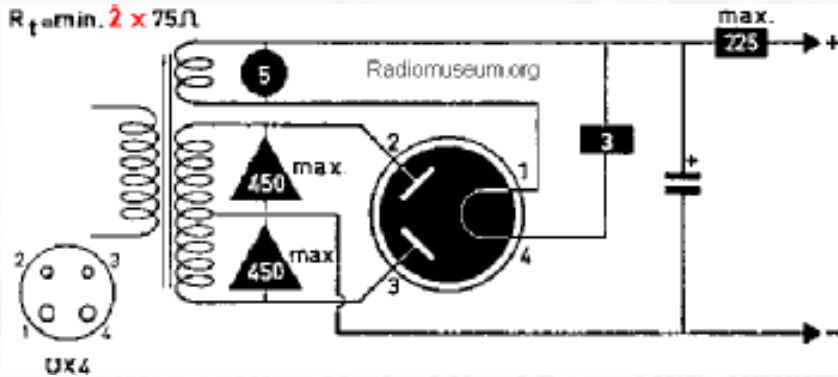
Jun 25-Jun 26, 1500Z-2359Z, W9Y, Williams Bay, WI. Walworth County ARES/RACES. 20, 40, and 80 meters. Certificate. Elijah Larson, K9ILJ, 113 South 3rd St. W., Fort Atkinson, WI 53538.

06/30/2022 | Granite Mountain Hotshots - Wildfire Loss of 19 Granite Mountain Hot Shots June 30, 2013

Jun 30-Jul 1, 1500Z-0100Z, N7GMH, Prescott Valley, AZ. Yavapai Amateur Radio Club. 7.219 14.319 18.119 21.319. Certificate. Donald Bauer, WB7TPH, 7150 E. Acre Way, Prescott Valley, AZ 86315. www.qrz.com/db/n7gmh

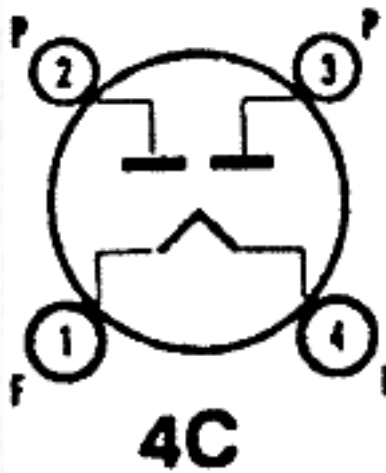


5Z3 - Rectifier Tube, Full Wave

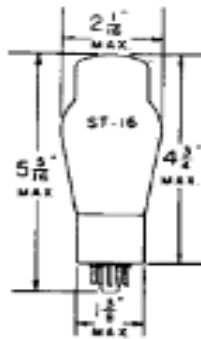


Also known by US military identifier VT-145.

The 5Z3 is designed for service as a power rectifier in AC operated receivers which require high currents. The ratings and electrical characteristics are identical to the 5U4G and the 5X4.



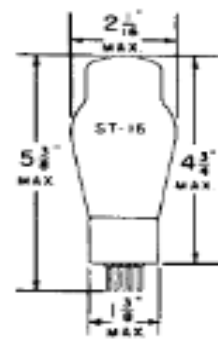
TUNG-SOL



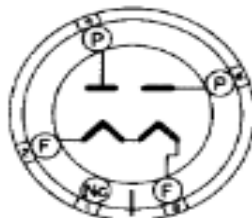
5U4G - MEDIUM 5 PIN OCTAL BASE
5X4G - MEDIUM 8 PIN OCTAL BASE

**FULL WAVE
HIGH VACUUM RECTIFIER**
COATED FILAMENT
5.0 VOLTS 3.0 AMPERES
AC

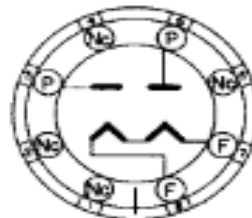
GLASS BULB



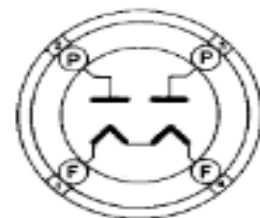
523 - MEDIUM 4 PIN BASE



G-5T_a
BOTTOM VIEW
5U4G



G-5Q
BOTTOM VIEW
5X4G



4C
BOTTOM VIEW
523

THE TUNG-SOL 5U4G, 5X4G AND 523 ARE DESIGNED FOR SERVICE AS POWER RECTIFIERS IN AC OPERATED RECEIVERS WHICH REQUIRE HIGH CURRENTS. THEIR RATINGS AND ELECTRICAL CHARACTERISTICS ARE IDENTICAL.

RATINGS

MAXIMUM PEAK INVERSE VOLTAGE	1550	VOLTS
MAXIMUM STEADY-STATE PEAK PLATE CURRENT PER PLATE	675	MA.

OPERATING CONDITIONS AND CHARACTERISTICS

FULL WAVE RECTIFIER WITH CONDENSER INPUT TO FILTER

AC PLATE VOLTAGE PER PLATE (RMS) ^{MAX.}	450	VOLTS
DC OUTPUT CURRENT ^{MAX.}	225	MA.
TOTAL EFFECTIVE PLATE SUPPLY IMPEDANCE PER PLATE ^{MIN. A}	75	OHMS

FULL WAVE RECTIFIER WITH CHOKE INPUT TO FILTER

AC PLATE VOLTAGE PER PLATE (RMS) ^{MAX.}	550	VOLTS
DC OUTPUT CURRENT ^{MAX.}	225	MA.
VALUE OF INPUT CHOKE ^{MIN. A}	3	HENRYS
TUBE VOLTAGE DROP AT 225 MA. PER PLATE	58	VOLTS

^A WHEN FILTER CONDENSERS LARGER THAN 40 μfd_r ARE USED, IT MAY BE NECESSARY TO ADD ADDITIONAL PLATE SUPPLY IMPEDANCE.

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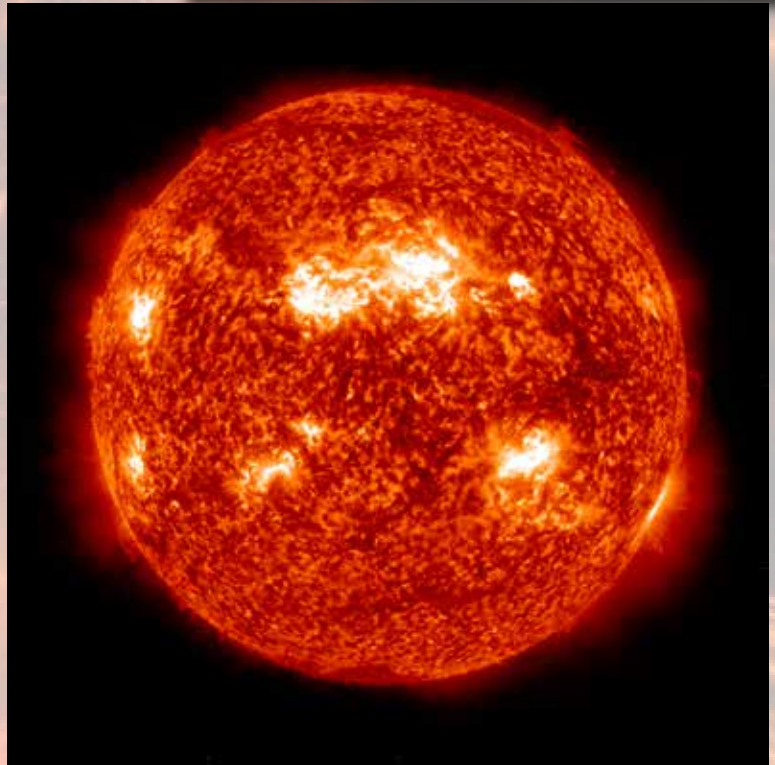
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We saw some evidence of sporadic-e propagation this week on 6 and 10 meters, always surprising and exciting.

Solar activity was about the same as last week, at least going by the numbers.

Average daily sunspot numbers rose slightly from 68.6 to 74.4, while average daily solar flux only budged from 120 to 120.3.

Geomagnetic indicators were quieter, with average daily planetary A index shifting from 10.7 to 5, and average middle latitude numbers from 9.3 to 4.6. We listed the middle latitude A index on May 6 as 2, but that number is my own estimate. At the end of that day the last K index reading was not reported, and since the A index for the day is calculated from all the K index readings, there was no official middle latitude A index reported, so I came up with my own estimate based on available data.



Thursday's outlook for solar flux is more optimistic than last week's prediction, with no values below 100. Expected flux values are 135 on May 13-16, then 132, 128, 126, and 120 on May 17-20, then 118, 120, 124 and 121 on May 21-24, 118 on May 25-27, 116 on May 28-31, 118 on June 1-5, then 116 and 118 on June 6-7, 120 on June 8-9, 122 on June 10-14, 118 on June 15-17, then 120, 124 and 121 on June 18-20.

Planetary A index is predicted at 8 on May 13, 12 on May 14-15, then 14 and 8 on May 16-17, 5 on May 18-19, then 12 and 8 on May 20-21, 5 on May 22-23, 18 on May 24, 15 on May 25-27, 8 on May 28, and 5 on May 29 through June 15, a nice long quiet spell of geomagnetic stability for more than 2 weeks.

Thursday's forecast was prepared by Trost and Housseal of the U.S. Air Force.

OK1HH wrote: "Solar flares continue to occur, and some of them are throwing several overlapping CMEs into space. The amount of CMEs leaving the sun is large enough to make it difficult to unravel their different shapes and trajectories, which reduces the reliability of predictions. Nevertheless, the geomagnetic activity is mostly low, which can be explained by the fact that the magnetic fields above the solar surface are mostly closed.

"An intense solar flare of class X1.5 was observed on May 10 at 1355 UT in the active region 3006 with a complex magnetic structure. Radiation from the flare ionized the Earth's atmosphere and caused a shortwave radio outage around the Atlantic Ocean, more specifically from Central Europe to the east coast of the United States (see Dellinger effect). Radio transmissions at frequencies below 30 MHz were attenuated for more than an hour after the eruption.



EMERGENCY COMMUNICATIONS

IN AN EMERGENCY, COMMUNICATION IS IMPORTANT AND COMMUNICATIONS PREPAREDNESS SHOULD BE A PART OF YOUR "FAMILY ALERT" PLAN.

IF ELECTRIC POWER IS OUT—A CRYSTAL SET MAY BE THE ONLY WAY TO KEEP IN TOUCH WITH LATEST NEWS, DISASTER REPORTS AND EMERGENCY INSTRUCTIONS BECAUSE IT NEEDS NO BATTERIES OR ELECTRICITY.

THE SIMPLEST RADIO—THE CRYSTAL SET IS COMPOSED OF FEW PARTS AND CAN BE WIRED IN MANY WAYS. THE SET SHOWN ON THIS PAGE WAS MADE FROM:



1 A MAILING TUBE (SHELLACKED) 2 1/2" IN DIAMETER BY 7" LONG, WRAPPED WITH #22 ENAMELED WIRE FOR THE TUNING COIL.



2 A STRIP OF COPPER OR BRASS AS THE TUNING SLIDER.



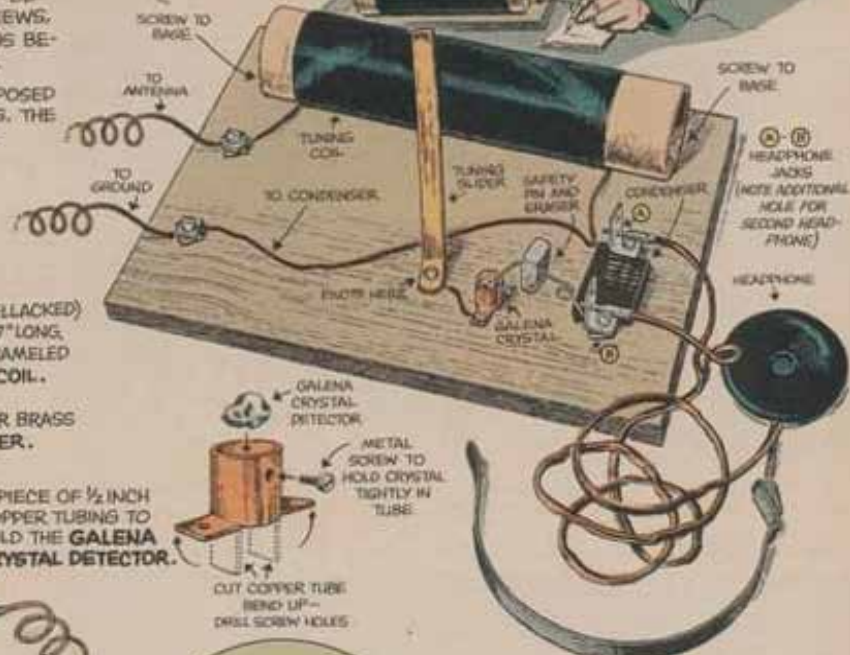
4 A BENT SAFETY PIN AND RUBBER ERASER...OR A PIECE OF COILED WIRE AS A CATWHISKER DETECTOR.



3 A PIECE OF 1/2 INCH COPPER TUBING TO HOLD THE GALENA CRYSTAL DETECTOR.



CUT COPPER TUBE BEND UP—DRILL SCREW HOLES.

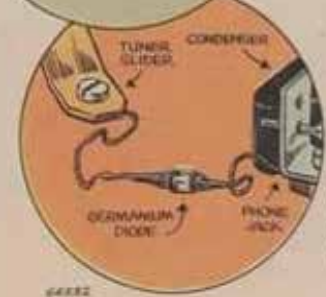


OR IN PLACE OF THE GALENA CRYSTAL...USE A GERMANIUM DIODE AS A DETECTOR. BUT THIS ISN'T AS MUCH FUN BECAUSE ONE OF THE THRILLS OF BUILDING A CRYSTAL SET IS FINDING A SENSITIVE SPOT ON THE CRYSTAL THAT WILL BRING IN A RADIO SIGNAL...



THE ONLY VARIATION IN THIS SET IS IN USING A GERMANIUM DIODE IN PLACE OF THE GALENA CRYSTAL. WHEN SOLDERING WIRES TO A GERMANIUM DIODE DON'T HEAT TOO LONG OR YOU'LL DAMAGE THE DIODE. HOLD WIRES WITH LONG-NOSED PLIERS WHICH WILL DRAW OFF HEAT.

- 5 A .01 MFD. (MICROFARAD) CONDENSER (OR CAPACITOR WHICH MEANS THE SAME).
- 6 8 NUTS AND 9 SCREWS TO HOLD CONNECTING WIRES AND PARTS IN PLACE ON THE 6" BY 8" PINE MOUNTING BOARD.
- 7 BRASS OR COPPER CLIPS TO HOLD EXTRA SETS OF EARPHONES.
- 8 AN EARPHONE (ONE FOR EACH LISTENER)...CAN BE FROM A TRANSISTOR RADIO IN SOME CASES.
- 9 AN ANTENNA—USE A 100-FT. PIECE OF BELL CORD WIRE OR USE YOUR TV ANTENNA. IF YOU USE AN OUTDOOR ANTENNA, BE SURE TO ATTACH INSULATORS AT EACH END AND A LIGHTNING ARRESTOR BETWEEN ANTENNA AND SET. MOUNT ANTENNA AS HIGH AS POSSIBLE AND AVOID CONTACT WITH ANY OTHER WIRES.
- 10 A GROUND—USE A WATER PIPE.



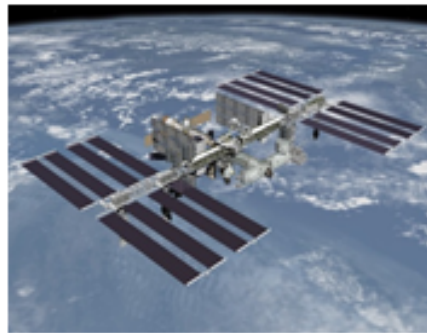
DON'T GIVE UP IF THE SET DOESN'T WORK AT FIRST. CHECK YOUR DIAGRAM, ANTENNA, GROUND AND CONNECTIONS. USUALLY THE SET'S O.K., BUT IT'S EASY TO MAKE A SMALL MISTAKE.

EPARA SATComm ISS Passes.

Here are the next 30 days of ISS passes over the 911 Center.

N1SS Repeater Frequencies.

The new radio system is in FM cross band repeater mode using an uplink frequency of 145.990 MHz with an access tone [CTCSS] of 67 Hz and a downlink frequency of 437.800 MHz. Tune your handy talkies as if you are tuning to use a regular repeater. Enjoy the pileups!



Software used - Satellite passes / Orbitron 3.71 / www.stoff.pl

Location : 911 CNTR Monroe county PA (75.2940 W, 40.9510 N)

Time zone : UTC -4:00 All TIMES LOCAL (13:00 = 1 P.M.)

Search period : 05/28/2022 12:45:45 - 30 days 06/27/2022 12:45:45

Minimum sat elevation = 35 degrees Illumination NOT required

Time	Satellite	Azm	Elv	Mag	Range	S.Azm	S.Elz
05/28/2022 16:12:14	ISS	228.2	35.1	1.2	691	259.7	45.0
05/28/2022 16:13:31	ISS	140.0	84.1	-0.1	423	259.9	44.8
05/28/2022 16:14:47	ISS	57.4	35.3	0.8	689	260.2	44.5
05/28/2022 22:41:41	ISS	285.6	35.3	-0.6	684	326.2	-19.8
05/28/2022 22:42:50	ISS	220.2	61.4	ecl	471	326.5	-20.0
05/28/2022 22:44:00	ISS	153.3	35.1	ecl	684	326.7	-20.1
05/29/2022 15:23:49	ISS	184.0	35.1	1.6	690	249.0	53.9
05/29/2022 15:24:44	ISS	138.2	45.9	1.0	569	249.2	53.8
05/29/2022 15:25:38	ISS	93.3	35.2	1.2	689	249.4	53.6
05/29/2022 21:52:47	ISS	316.4	35.4	0.5	684	316.1	-13.9

05/29/2022 21:54:01 ISS	33.4	75.0	-1.6	432 316.3 -14.1
05/29/2022 21:55:16 ISS	113.8	35.2	-0.6	684 316.6 -14.2
05/30/2022 16:12:00 ISS	303.5	35.0	1.2	693 259.9 45.3
05/30/2022 16:12:36 ISS	331.3	38.6	1.0	645 260.0 45.2
05/30/2022 16:13:11 ISS	358.3	35.1	1.0	692 260.1 45.1
05/30/2022 21:04:16 ISS	347.7	35.2	-0.4	688 307.0 -6.9
05/30/2022 21:05:08 ISS	30.6	44.5	-0.8	580 307.2 -7.0
05/30/2022 21:06:00 ISS	73.4	35.1	-0.5	687 307.4 -7.2

Time	Satellite	Azm	Elv	Mag	Range	S.Azm	S.Elz
05/31/2022 15:22:29 ISS		258.4	35.1	1.8	691 248.9	54.4	
05/31/2022 15:23:40 ISS		325.8	62.8	0.7	470 249.2	54.2	
05/31/2022 15:24:52 ISS		34.4	35.0	1.3	694 249.5	54.0	
05/31/2022 21:52:26 ISS		245.5	35.1	-0.5	686 316.1	-13.6	
05/31/2022 21:52:55 ISS		223.2	37.5	-0.7	653 316.2	-13.6	
05/31/2022 21:53:25 ISS		200.0	35.1	-0.6	686 316.3	-13.7	
06/01/2022 14:33:33 ISS		220.3	35.3	2.5	688 233.8	62.6	
06/01/2022 14:34:48 ISS		141.1	75.1	1.1	435 234.2	62.4	
06/01/2022 14:36:03 ISS		63.5	35.2	1.7	691 234.7	62.2	
06/01/2022 21:02:54 ISS		292.4	35.3	-0.4	685 306.9	-6.5	
06/01/2022 21:04:07 ISS		218.6	69.6	-1.4	444 307.1	-6.6	
06/01/2022 21:05:20 ISS		144.8	35.2	-0.5	684 307.4	-6.8	
06/02/2022 13:45:16 ISS		171.0	35.1	3.0	690 210.9	68.9	
06/02/2022 13:45:58 ISS		137.8	40.6	2.5	621 211.3	68.9	
06/02/2022 13:46:41 ISS		104.0	35.0	2.5	693 211.7	68.8	
06/02/2022 20:14:01 ISS		322.2	35.1	-0.2	689 298.7	1.7	
06/02/2022 20:15:14 ISS		34.2	67.0	-1.2	452 298.9	1.6	
06/02/2022 20:16:26 ISS		106.0	35.3	-0.4	683 299.1	1.4	
06/03/2022 14:32:57 ISS		291.9	35.1	2.3	693 233.8	63.0	

Time	Satellite	Azm	Elv	Mag	Range	S.Azm	S.Elv
06/03/2022 14:33:45	ISS	330.4	42.3	1.8	605	234.1	62.8
06/03/2022 14:34:32	ISS	8.0	35.1	1.8	692	234.4	62.7
06/03/2022 19:25:34	ISS	356.0	35.1	-0.1	690	291.2	9.9
06/03/2022 19:26:16	ISS	29.2	40.6	-0.3	620	291.3	9.8
06/03/2022 19:26:59	ISS	63.2	35.0	-0.2	690	291.4	9.7
06/04/2022 13:43:33	ISS	250.6	35.3	3.1	688	210.0	69.4
06/04/2022 13:44:47	ISS	326.4	70.4	1.7	446	210.7	69.2
06/04/2022 13:46:01	ISS	40.3	35.2	2.2	692	211.4	69.1
06/04/2022 20:13:15	ISS	260.5	35.1	-0.2	687	298.7	2.1
06/04/2022 20:14:03	ISS	221.6	42.6	-0.6	597	298.9	1.9
06/04/2022 20:14:50	ISS	183.5	35.1	-0.3	686	299.0	1.8
06/05/2022 12:54:39	ISS	211.8	35.1	3.4	691	176.3	71.6
06/05/2022 12:55:52	ISS	140.2	66.2	2.2	457	177.2	71.6
06/05/2022 12:57:04	ISS	70.3	35.3	2.7	690	178.0	71.6
06/05/2022 19:23:54	ISS	299.2	35.0	0.0	690	291.1	10.4
06/05/2022 19:25:10	ISS	218.0	78.9	-1.1	426	291.3	10.2
06/05/2022 19:26:25	ISS	136.3	35.3	-0.2	683	291.5	10.0
06/06/2022 18:35:04	ISS	328.6	35.3	0.2	687	283.9	19.2
06/06/2022 18:36:13	ISS	33.3	59.7	-0.7	481	284.0	19.0
06/06/2022 18:37:22	ISS	97.9	35.2	0.0	687	284.2	18.8
06/07/2022 12:53:44	ISS	282.0	35.2	2.8	691	175.3	71.8
06/07/2022 12:54:40	ISS	328.7	46.7	2.2	564	176.0	71.8
06/07/2022 12:55:37	ISS	16.3	35.1	2.5	694	176.7	71.8
06/08/2022 12:04:24	ISS	242.4	35.3	2.5	689	142.7	68.5
06/08/2022 12:05:40	ISS	325.5	79.2	1.5	428	143.4	68.6
06/08/2022 12:06:56	ISS	46.5	35.2	2.5	692	144.1	68.7
06/08/2022 18:33:57	ISS	271.5	35.0	0.3	690	283.8	19.6

Time	Satellite	Azm	Elv	Mag	Range	S.Azm	S.Elz
06/08/2022 18:34:56	ISS	221.3	48.7	-0.3	544	283.9	19.4
06/08/2022 18:35:55	ISS	170.8	35.1	0.1	687	284.1	19.3
06/09/2022 11:15:35	ISS	202.1	35.3	2.0	687	121.2	61.6
06/09/2022 11:16:42	ISS	140.5	57.7	1.4	492	121.6	61.8
06/09/2022 11:17:50	ISS	78.0	35.3	2.3	690	122.0	62.0
06/09/2022 17:44:43	ISS	305.7	35.2	0.5	689	276.5	28.8
06/09/2022 17:46:00	ISS	193.0	88.8	-0.7	419	276.7	28.6
06/09/2022 17:47:16	ISS	127.7	35.1	0.3	687	276.9	28.4
06/10/2022 16:55:54	ISS	335.2	35.2	0.8	689	268.8	38.1
06/10/2022 16:56:58	ISS	31.8	53.2	0.0	516	269.0	37.9
06/10/2022 16:58:02	ISS	89.0	35.3	0.5	686	269.1	37.7
06/11/2022 11:14:19	ISS	272.4	35.1	1.7	692	120.4	61.4
06/11/2022 11:15:23	ISS	328.5	52.1	1.2	525	120.8	61.6
06/11/2022 11:16:26	ISS	23.5	35.2	1.9	691	121.2	61.8
06/12/2022 10:25:03	ISS	233.9	35.2	1.3	690	106.5	52.9
06/12/2022 10:26:20	ISS	342.0	89.1	0.4	421	106.8	53.1
06/12/2022 10:27:37	ISS	53.0	35.0	1.6	694	107.1	53.4
06/12/2022 16:54:30	ISS	280.3	35.3	0.9	687	268.6	38.5
06/12/2022 16:55:36	ISS	220.4	56.1	0.1	498	268.8	38.3
06/12/2022 16:56:42	ISS	160.0	35.3	0.7	684	269.0	38.1
06/13/2022 09:36:19	ISS	191.4	35.1	1.0	690	96.3	43.9
06/13/2022 09:37:20	ISS	138.8	50.1	0.5	537	96.5	44.1
06/13/2022 09:38:21	ISS	86.6	35.0	1.2	693	96.7	44.3
06/13/2022 16:05:19	ISS	312.3	35.1	1.3	691	259.7	47.8
06/13/2022 16:06:35	ISS	33.4	80.9	0.1	425	259.9	47.6
06/13/2022 16:07:51	ISS	119.1	35.3	1.0	686	260.2	47.3
06/14/2022 15:16:32	ISS	342.5	35.0	1.6	693	248.4	56.7

Time	Satellite	Azm	Elv	Mag	Range	S.Azm	S.Elz
06/14/2022 15:17:30	ISS	31.2	47.5	1.0	557	248.7	56.6
06/14/2022 15:18:27	ISS	79.4	35.2	1.4	688	248.9	56.4
06/15/2022 09:34:43	ISS	263.3	35.2	0.8	690	95.8	43.6
06/15/2022 09:35:52	ISS	327.3	58.8	0.2	487	96.0	43.8
06/15/2022 09:37:01	ISS	30.7	35.1	1.1	693	96.2	44.0
06/16/2022 08:45:31	ISS	224.8	35.4	0.5	686	87.5	34.3
06/16/2022 08:46:46	ISS	144.8	80.2	-0.4	426	87.7	34.5
06/16/2022 08:48:03	ISS	59.9	35.0	0.8	693	87.9	34.7
06/16/2022 15:14:51	ISS	288.7	35.3	1.9	688	247.9	57.1
06/16/2022 15:16:03	ISS	218.2	65.0	0.9	460	248.3	56.9
06/16/2022 15:17:14	ISS	149.5	35.2	1.6	686	248.6	56.7
06/17/2022 07:56:55	ISS	178.0	35.2	0.3	688	80.0	25.1
06/17/2022 07:57:44	ISS	138.2	43.3	0.0	593	80.1	25.3
06/17/2022 07:58:34	ISS	97.7	35.0	0.5	692	80.2	25.4
06/17/2022 14:25:43	ISS	319.1	35.1	2.3	691	231.3	65.2
06/17/2022 14:26:58	ISS	36.0	71.1	1.2	443	231.8	65.0
06/17/2022 14:28:12	ISS	110.2	35.0	2.0	690	232.3	64.9
06/18/2022 08:44:36	ISS	297.2	35.0	0.5	693	87.2	34.0
06/18/2022 08:45:18	ISS	330.2	40.4	0.3	624	87.3	34.2
06/18/2022 08:46:01	ISS	4.0	35.0	0.6	694	87.4	34.3
06/18/2022 13:37:00	ISS	351.5	35.1	2.5	692	205.1	71.0
06/18/2022 13:37:48	ISS	30.1	42.5	2.2	602	205.6	71.0
06/18/2022 13:38:36	ISS	68.7	35.0	2.5	692	206.2	70.9
06/19/2022 07:54:55	ISS	254.1	35.2	0.1	688	79.6	24.7
06/19/2022 07:56:08	ISS	326.7	66.9	-0.6	455	79.8	24.9
06/19/2022 07:57:21	ISS	37.8	35.0	0.4	693	80.0	25.2
06/19/2022 14:24:38	ISS	255.4	35.1	2.7	690	230.7	65.5

Time	Satellite	Azm	Elv	Mag	Range	S.Azm	S.Elz
06/19/2022 14:25:20	ISS	222.2	40.4	2.5	621	231.0	65.4
06/19/2022 14:26:01	ISS	189.7	35.2	2.6	687	231.3	65.3
06/20/2022 07:05:47	ISS	215.1	35.4	-0.1	685	72.3	15.7
06/20/2022 07:07:00	ISS	141.1	69.6	-0.9	446	72.5	15.9
06/20/2022 07:08:14	ISS	67.5	35.0	0.2	692	72.7	16.1
06/20/2022 13:35:00	ISS	296.7	35.2	2.8	690	203.5	71.2
06/20/2022 13:36:15	ISS	219.1	75.3	2.0	433	204.3	71.1
06/20/2022 13:37:30	ISS	139.5	35.3	3.0	686	205.2	71.0
06/21/2022 12:45:55	ISS	326.2	35.2	2.5	691	167.1	72.1
06/21/2022 12:47:06	ISS	33.6	62.2	2.0	471	168.0	72.2
06/21/2022 12:48:17	ISS	101.0	35.1	3.2	691	168.8	72.2
06/22/2022 07:04:30	ISS	285.2	35.2	-0.1	689	72.1	15.4
06/22/2022 07:05:23	ISS	328.9	45.2	-0.4	576	72.2	15.6
06/22/2022 07:06:17	ISS	13.6	35.2	0.1	691	72.3	15.7
06/22/2022 11:57:19	ISS	3.4	35.1	2.2	692	136.7	67.7
06/22/2022 11:57:52	ISS	28.8	38.2	2.2	651	137.0	67.8
06/22/2022 11:58:25	ISS	54.2	35.1	2.6	691	137.3	67.8
06/23/2022 06:14:55	ISS	244.7	35.2	-0.3	687	64.6	6.7
06/23/2022 06:16:10	ISS	323.5	76.6	-1.2	431	64.8	6.9
06/23/2022 06:17:26	ISS	44.8	35.1	-0.1	691	65.0	7.2
06/23/2022 12:44:27	ISS	268.6	35.3	2.8	688	165.7	72.0
06/23/2022 12:45:23	ISS	221.5	47.1	2.7	559	166.4	72.1
06/23/2022 12:46:19	ISS	174.1	35.3	3.7	686	167.1	72.1
06/24/2022 05:25:52	ISS	204.3	35.3	-0.4	684	56.7	-1.5
06/24/2022 05:27:00	ISS	140.7	59.5	-1.1	481	56.9	-1.3
06/24/2022 05:28:09	ISS	76.1	35.2	-0.2	688	57.1	-1.2
06/24/2022 11:54:58	ISS	304.2	35.4	2.1	688	135.4	67.3

Time	Satellite	Azm	Elv	Mag	Range	S.Azm	S.Elv
06/24/2022 11:56:14	ISS	221.1	86.7	1.4	421 136.0	67.5	
06/24/2022 11:57:31	ISS	129.6	35.1	3.0	690 136.6	67.6	
06/25/2022 11:05:55	ISS	333.8	35.1	1.6	691 116.4	59.7	
06/25/2022 11:07:01	ISS	32.9	54.4	1.2	510 116.7	59.9	
06/25/2022 11:08:06	ISS	90.9	35.2	2.2	689 117.0	60.1	
06/26/2022 05:24:13	ISS	274.0	35.1	-0.4	689 56.4	-1.9	
06/26/2022 05:25:15	ISS	328.0	51.1	-0.9	529 56.6	-1.7	
06/26/2022 05:26:17	ISS	22.2	35.3	-0.3	688 56.7	-1.6	
06/27/2022 04:34:43	ISS	234.9	35.0	-0.5	689 47.7	-9.3	
06/27/2022 04:36:00	ISS	331.1	87.9	-1.5	419 47.9	-9.1	
06/27/2022 04:37:16	ISS	52.2	35.3	-0.4	687 48.2	-9.0	
06/27/2022 11:04:07	ISS	279.4	35.3	1.5	688 115.8	59.3	
06/27/2022 11:05:13	ISS	219.7	55.3	1.1	503 116.1	59.5	
06/27/2022 11:06:18	ISS	161.1	35.3	2.1	686 116.5	59.7	



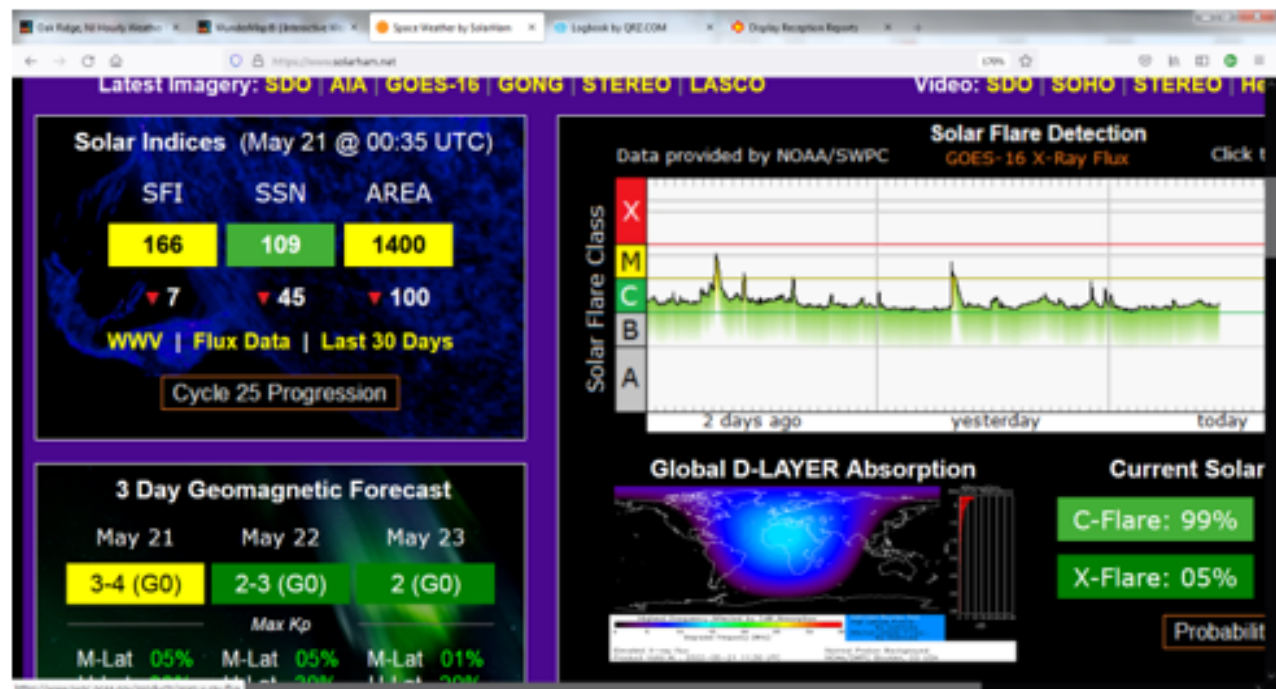
Solar Cycle 25 Propagation and FT8 de KD2FTA

If you're on HF lately the bands have been as a famous EPARA HAM has been known to say "unbelievable"! Mostly due to the uptick on our solar sunspot activity DX has been very good lately as the sun has produced some really neat CMEs, sunspots and has generally energized the ionosphere sufficiently to produce great propagation.

I have a modest HF setup in the KD2FTA Ham Shack. A Yaesu 450D, and LDG tuner (which I really don't need but use to tune in 75 meters), powered by AB3ME's old Astron RS-20M power supply providing all the amperage I need. I run on 100 watts through an EFHW8010 end feed wire. That's it! As they say "100 watts and a wire".

Generally the antenna acts like a NVIS antenna early in the morning or early evenings on 80 and 40 Meters. During the day, I can do some modest DX on 20, 17, and 15 meters. With the uptick in solar activity, I'm finally using the 12 and 10 meter settings on my Yaesu.

The sun provides us with a 27 day rotation period, giving us the opportunity to prepare for the higher sunspot numbers half way through the rotation period. The ARRL provides predictions which can be found in this newsletter so I won't get into a deep description here but will say you can plan your DX days by looking for the SFI predictions. Half way through May we hit a peak approaching 180 SFI! I fortunately found an opening one Saturday morning, two weeks ago and for the first time the end fed antenna behaved like a vertical on FT8.



Solar HAM GOES 16 DATA on May 21st 00:35 UTC.

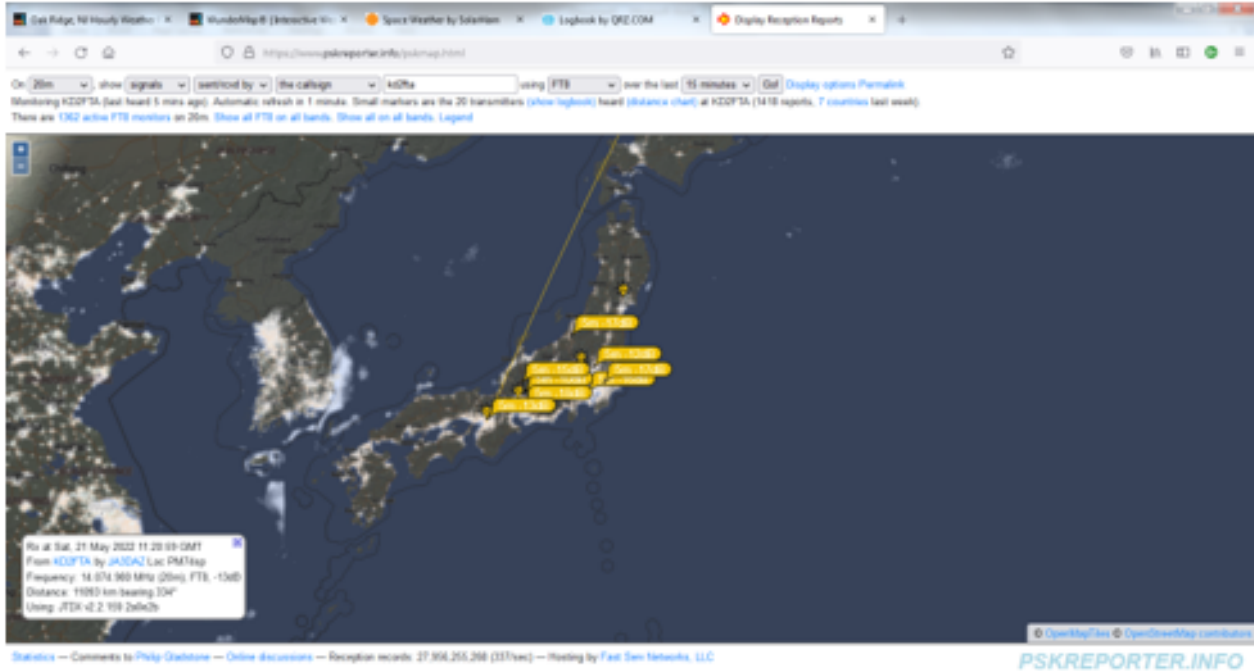
My very first contact on FT8 20 meters using 30 watts that morning was JA0FOX Nagano Japan.



My second contact was JR1HUJ Takashi in Kiryu-city, Gunma Japan.

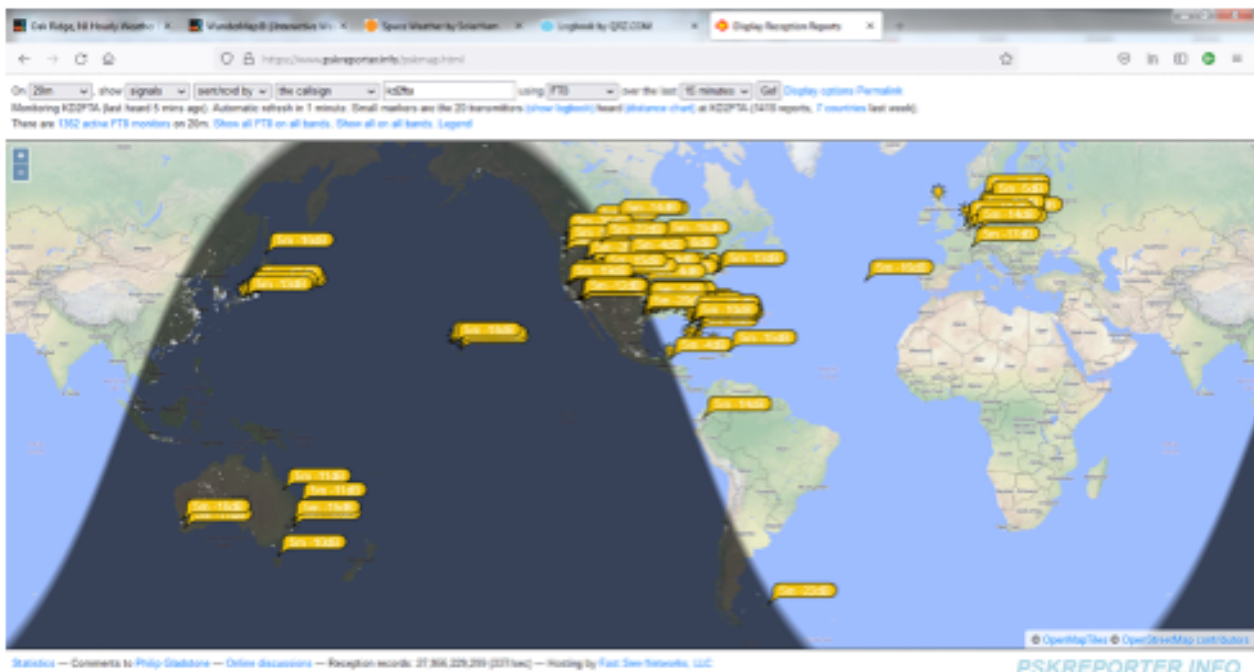


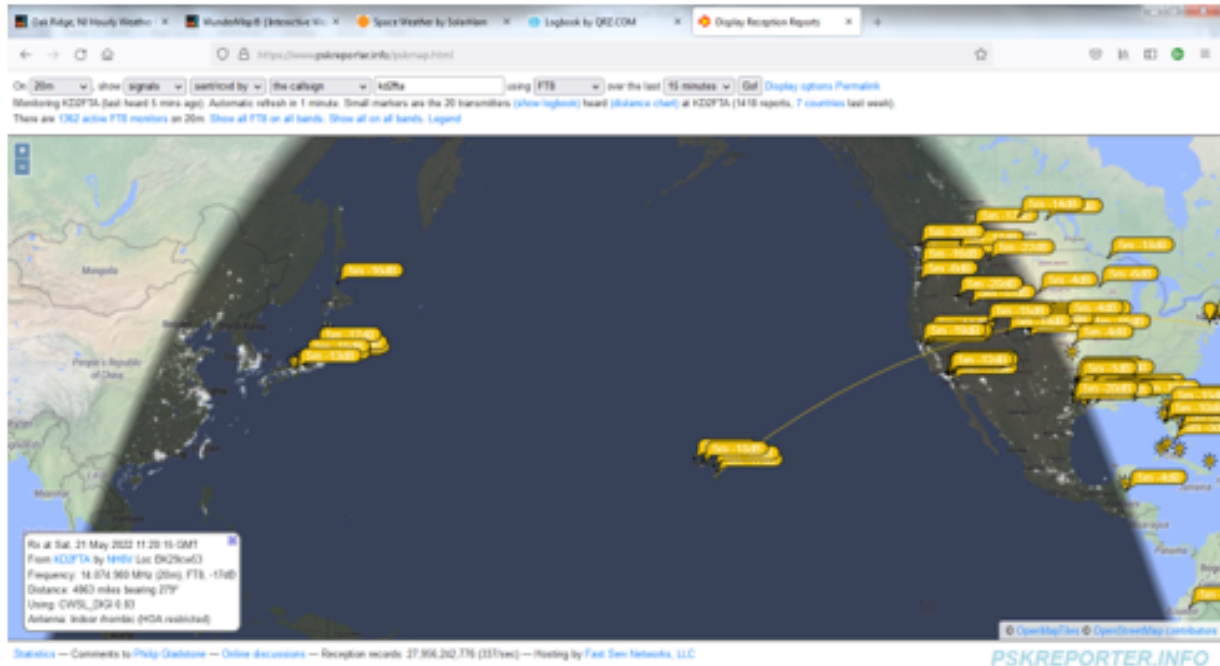
At this point I was surfing around to see what other stations I could DX with since band conditions were unbelievably good! The sun had just set on the Asian stations and 20 was still wide open as I looked through PSK Reporter to get an idea of where to look next.



Several Japanese HAMs were working FT8 May 21st

As you can see most of the world was open on 20 meters. Now I realize that my antenna is supposed to act like an NVIS antenna, but this was almost too good to be true. Next contacts quickly came in succession from Australia, Norway, Sweden, Belize, Italy, Dominican Republic, etc.. Of course several US contacts as well.





I'm still trying to get that one elusive station on Fiji however, but given the continuance of great solar sunspot activity, I'm sure to reach it one morning. The Antarctic FT8 station monitored by the Norwegian science team has heard me, but alas they aren't sending contact info.

Several EPAR HAMs use FT8, FT4, and a few JS8 call which is a cousin of the FT8 software but capable of supporting a QSO via your computer keyboard. If you're a newly minted Technician and are working on your General ticket, this is only one aspect of the hobby which will enable you to get into the digital modes quickly. Making these contacts during the upswing in the solar cycle is fun, and exciting! Our digital oriented club members are happy to show you how it's done!

73 for now, KD2FTA



A Home-brewed Resistance Soldering Rig

Every once in a while, most of us come across a task that requires that we learn a new skill or buy a new piece of equipment or both. Such was the case when I decided that I had to learn how to install SMA connectors in order to modify a new speaker mic that I purchased at the Orlando Hamcation.

My first attempts were very poor. I got too much solder on the center pin which made it impossible to insert said pin into the housing. Eventually I got the job done properly but it was very obvious that a different approach was needed. Several years ago, I wrote a evaluation of several battery powered soldering tools (QST June 2007) One of the tools tested was a battery powered resistance soldering tool called "Cold Solder", I think I could be wrong. It has been over 10 years and I am getting on. In any case that prompted an Internet search on the subject of resistance soldering. The resulting hits were astonishing. Proper commercially available resistance soldering tools cost anywhere from \$400 to \$1200. WOW! The saving grace was that there were a number of articles on building a DIY version for MUCH less cost and achieving the same result. The two articles that I referred to most were both from the model railroad hobby where the construction of very detailed model steam locomotives requires much soldering and also requires that almost all of the solder be out of sight. No blobs or swoopy fillets here. Some of the builders have thus embraced resistance soldering. The two authors that I referred to most were Paul James from Blenheim, Ontario, Canada and Vance Bass from Albuquerque, New Mexico. Both are from the model railroad community. I combined Paul's power unit design with the tweezers that Vance designed.

A bit of background may be useful here. The concept of resistance soldering is fairly simple. One places two electrodes in contact with the work piece you wish to apply solder to. Current flows between the two electrodes and because the resistance of the work piece is higher than elsewhere in the circuit the area of the work piece between the electrodes heats up and the solder flows. Depending on the size of the work piece this can happen quite quickly so most units use a foot pedal or switch to turn the electric current on and off. This leaves both hands free to manage the application of the electrodes. One advantage is that nothing outside the space between the electrodes heats up at all. Sensitive components stay cool and fine wires do not suddenly dissolve.

As usual, my first order of business was to download both articles from the Internet and then begin to search my copious parts containers for materials that could be used. I did have to do a bit of shopping after the search. Purchased were a transformer similar in size and output voltage to the one Paul James used. I got a very good deal from my local electronics shop as the transformer was used and the proprietor was not aware he even had it so I got it for less than \$6. A computer style power cord was found at the same shop for about \$2. An enclosure was fashioned from a 4" x 4" x 4" NEMA box from Home Depot. The bamboo tweezers were obtained from Bed Bath and Beyond for less than \$2. Almost everything else came from my overly stocked parts stock. The only item I had to order through the Internet was a pair of brass fittings that are called 90335-KNGI ACE Connector, 2/BG, 8-18awg - They were obtained from Galco Industrial Electric

Once I had most of the parts in hand, construction commenced. I had already done some testing to determine what voltage the transformer put out of the secondary taps and based on my research decided that the two taps that resulted in approximately 8 volts would be used. I had also determined which two of the three primary wire inputs would be connected to the mains power. I was very careful when testing these aspects because the 110 volt power was out in the open and not insulated from a careless hand. I got through that part of testing without difficulty but extreme caution is advised.

I planned out the holes that needed to be drilled for power in, power out, the dimmer switch and the LED power indicator. Once they were drilled, assembly began. First the transformer was placed at the bottom of the NEMA box where it was a neat fit. I thought about adding some wood shims to wedge it in place but I found that the weight of the transformer was enough to keep it in place. The box is unlikely to move off my workbench very often, but "your mileage may vary" as they say.

Next the dimmer switch was wired in between the transformer primaries and the mains power cord. The ground lead from the dimmer was connected to the ground line of the power cord as well. About three to four feet of 12 gauge zip cord was installed through a pre-drilled hole in the front of the unit and secured to the secondary wires from the transformer by first crimping with bare metal but splices and then flooding the connections with solder to keep resistance to a minimum. Remember the resistance at the work must be the highest resistance in the circuit or it is some other connection that will get red hot and fail.

A simple bridge rectifier and resistor circuit was built to supply a red LED with appropriate current and voltage and it was installed across the hot and neutral from the power cord. It is intended and indeed the control method has been built to control the mains power going to the unit via a pedal operated switch which will be on the floor. Thus, when the foot switch is pressed, the LED will light up. When the foot switch is not depressed there is no mains power anywhere in the system. Safety First.

At the other end of the 12-gauge zip cord, a bamboo toaster tongs or tweezers were attached to the wires as is shown in the photo. Installed on the ends of the wires were the ACE connectors. The other end of each connector holds the soldering tips which I made from 3/32" copper clad steel welding rod. It was relatively simple to chuck a 2" piece of the welding rod into my drill press and then use a metal file to create a tapered tip on the rod. After that was done, I bent each tip in my vise to an appropriate angle for use. I secured the 12 gauge wires to each leg of the bamboo tongs using a combination of heat shrink tubing at the pivot end and wire ties on each leg. The ACE connectors are insulated with heat shrink as well and I also added a cover of ABS plastic to each leg as well. These were also secured with heat shrink tubing. The voltage across the tips may only be less than 9 volts but the current available is quite high, certainly enough to give the victim a nasty burn if not worse. Again, Safety First.

Using the tool is actually quite easy. Using the assembly of an SMA connector as an example, I tin the center conductor of the RG-316 coax using a standard soldering iron of about 40 watts. I then insert the center conductor into the pin of the connector and touch the pin with the resistance soldering tool. This melts the solder and connects the pin to the center conductor. It also leaves no solder on the outside of the pin meaning it can be readily inserted into the SMA housing. The crimp tube is then brought up over the back end of the housing to capture the shield between the outside of the housing and the crimp tube. A standard crimp is then applied to the crimp tube locking the shield to the housing. Job done. It is advisable to add a short length of heat shrink over the crimped tube for aesthetic purposes.

If one is going to use this tool for regular soldering of components, a certain amount of practice is advised. It is necessary to have both of the tips in contact with the work and to apply solder only to the area between the tips. It is also vital to not apply power until both tips are in contact with the work. Otherwise a fairly large spark or arc can emerge and your work will have a major divot in it. The heavier the material, the longer it will take to heat up. Having said that, I note that Paul James noted that his design was able to heat up fairly heavy gauge materials easily. I have not attempted anything heavy yet.

This is the front face of the power module. You can see the LED power indicator and the exit point of the 12-gauge zip cord. Ordinarily I would use a strain relief grommet here and at the back where the mains power cord exits, but the wall thickness of the NEMA box makes that impossible so I used wire ties on both sides of the wall to restrain the cords from shifting. I added an ON/OFF switch which cuts off all power to the rig for safety's sake. The hex wrench on top of the box is for replacing the metal tips of the hand piece when required and is now stored on the hand piece holder pictured below.

BASIC ELECTRONICS THEORY

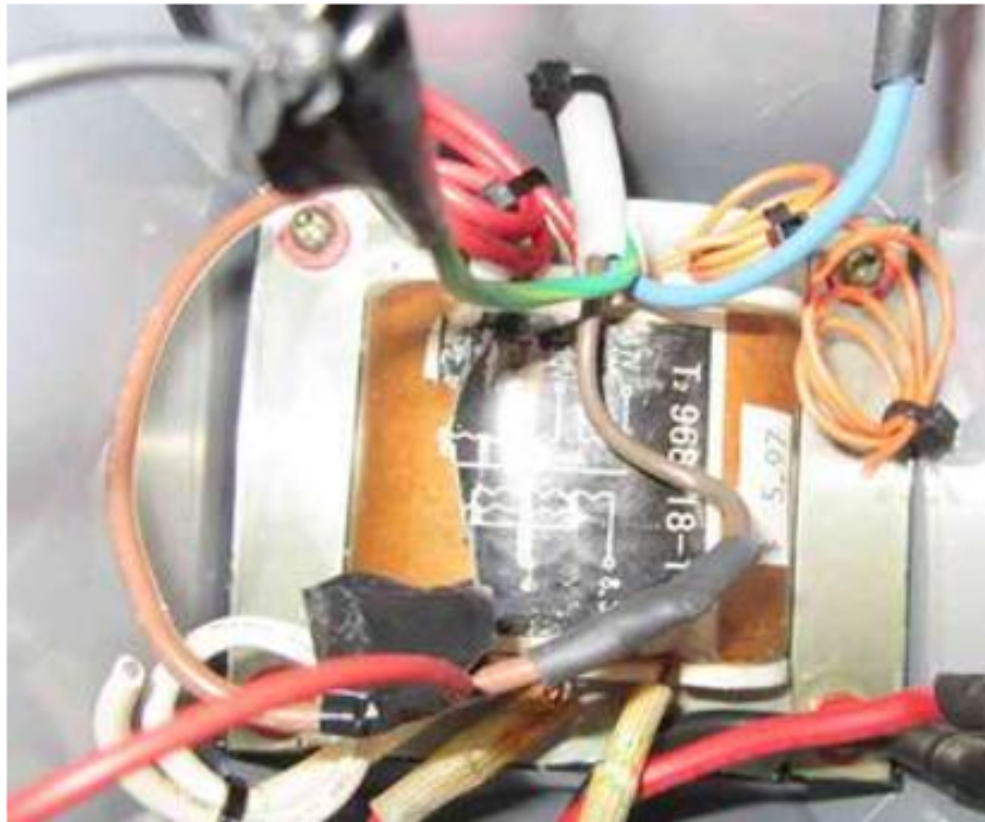


This is the top of the power module. The dimmer switch allows adjustment from 0 to about 8.4 volts AC. The dimmer switch also had an on/off function which is not used at present since the unit already has an ON/OFF switch. The dimmer had to be replaced since the first one was somewhat elderly and went belly up very quickly. The new one required some re-positioning of the voltage levels but appears to be working fine so far.



BASIC ELECTRONICS THEORY

Here is the transformer as it sits in the bottom of the NEMA box. The mains power cord exits at the top of the picture and the 12-gauge zip cord exits at the bottom (not clearly visible in this picture). The coiled-up orange, red and white wires are not used at all. Out of the picture are the dimmer switch and the bridge rectifier circuit for the LED. The transformer was marked as having a 120 or 130 volt primary, I used the 120 V leads. The secondary had a max of about 17 volts AC, using the center tap I got 8.4 volts which was suitable for my purpose. Not shown here is the ON/OFF switch that was added later.



Here is the underside of the dimmer switch mounted on the lid of the box. The black wires connect from the hot wire from the power cord and to one of the leads from the primary side of the transformer. The green wire is secured to the green ground wire of the power cord.

The dimmer shown unfortunately died before I even got to use the rig. I replaced it with a similar one that did not need the defeating of the push on push off switch as it had a much simpler on/off switch at the end of its rotation. Naturally the indicated voltage positions had to be altered as well. You will note that the corners of the mounting plate were clipped at a 45-degree angle to allow the dimmer to fit snugly into the lid.



The foot switch that I used comes from MPJA.COM here in Florida and cost less than \$6. It is rated at 10 amps. With rewiring it also makes an excellent foot PTT as well.



Here is a photo of the bamboo tweezers with the zip cord wires temporarily attached.



BASIC ELECTRONICS THEORY

This picture shows the connectors that will join the wires to the operating tips on the tweezers. The tips (not shown) are made from 3/32" copper clad steel welding rod with the ends filed to a conical tip. They are visible in the picture below. I have also changed the electrodes that I use for the SMA pins to ones that have flat surfaces facing each other so that the pin can be held by the hand piece for soldering.

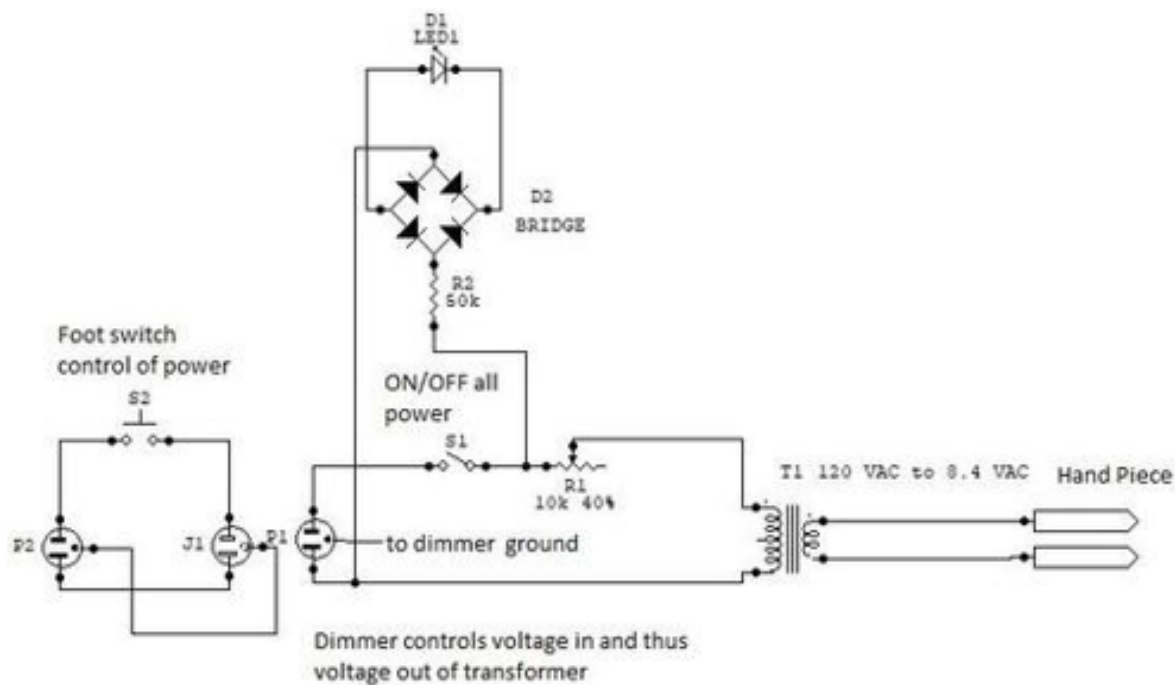


The hand piece is now complete. I installed the wires shown in the picture of the bamboo tweezers into the brass fittings and then placed the supplied heat-shrink tubing around them leaving the front set screw area uncovered so I can replace the copper clad steel tips when needed. I also placed two strips of 1/8" ABS plastic on top of each side of the tongs to minimize the possibility of electric shock or burns. A brief test of the rig shows that it may need to be turned down from 8.4 volts to around 5. It certainly heats up the test work very quickly to soldering temperatures. At the 8.4 volt setting it is almost too fast, creating a control factor. 5 volts may be a better setting, testing will continue. The copper clad steel electrodes that I made from 3/32" welding rod are holding up well but I am going to continue testing with smoother conical electrodes to see if there is an improvement in control and positioning. Other styles of electrode will also be tested.



BASIC ELECTRONICS THEORY

Here is a very rough and ready diagram of the circuit. The LED power indicator is fed through a bridge rectifier via a 50K resistor and lights very nicely. The Dimmer switch controls the output voltage between 0- and 8.4-volts AC The transformer takes 110 Volts AC and puts out 8.4 volts AC into the tweezer handle. The whole unit is fed via a foot pedal on/off switch that is operated by the user so as to keep both hands free.

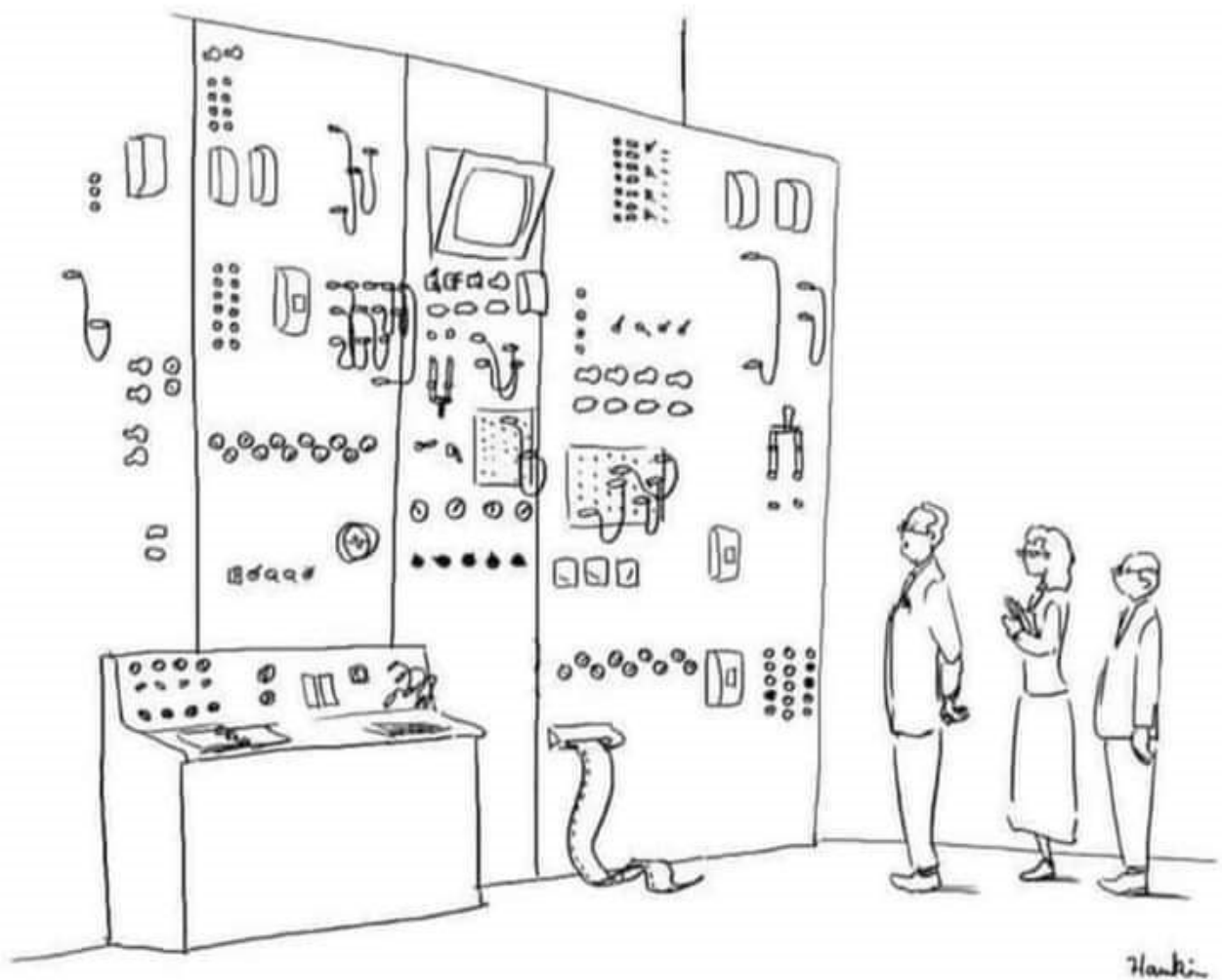


This holder, rough and ready as it is, was made from a powdered drink mix container and mounted on a small slab of plywood. Holes were drilled in the plywood not quite through to hold the hex wrench and the spare electrodes. One set of electrodes has conical tips on the operating end and the other set has flat angled ends to perhaps give a better contact area with the work.



BASIC ELECTRONICS THEORY

Since I completed construction of my resistance soldering system. I spent part of the day testing it out. At the setting of 4.8 volts (approximately) I was relatively quickly able to build two RG-316 cables, one with SMA male connectors on both ends and one with an SMA male connector on one end and an SMA female connector on the other. I had no problems with either and both were tested and found free of short circuits. I plan to place SO-239 to SMA female adapters on one of the male SMA connectors on each cable thus creating two "rig savers", one for HT's that have an SMA female connector on the radio like Yaesu and some Wouxons and the other for the Baofang style where the connector on the radio itself is a Male SMA. I have already ordered the SO-239 adapters and they should be here by mid-week. The new electrodes and the resistance soldering rig were also put to the test by soldering two pieces of 3/32" copper clad steel welding rod (actually the same stuff that the electrodes are made of). The job took an extra few second to heat the welding rod up but the solder flowed nicely and made a secure solder joint length wise between the two pieces. Tomorrow, I am going to look for some brass material at my local hardware store to test solder larger and heavier materials. I will also see if raising the voltage setting will speed up the soldering of the heavier materials. I must admit that I am quite pleased with how this project has worked out so far. Better than I expected and very usable for the tasks I have tested it on so far.



"Someday, you'll be able to hold one of these in the palm of your hand while you poop."

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Weekend Antennas No. 2

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Weekend Antennas No. 2 The Versatile Vee Beam

Our second "weekend antenna" project is an aerial that you can use on all eight High Frequency amateur bands (80, 40, 30, 20, 17, 15, 12 and 10m) with an antenna tuner, and which gives significant gain on the five bands from 20m to 10m. It is easy to construct, requiring only wire, spacers and suitable supports, has no trap coils to wind, metalwork, or critical dimensions, and has a low visual profile so many neighbours won't even notice it!

The Long Wire

A good way to understand the Vee Beam is to start with the humble long-wire antenna, a length of wire at least one wavelength long fed against ground. The far-field pattern of a long wire antenna consists of a number of lobes at different angles to the wire. The number of lobes depends on the length of the wire, in wavelengths, while the strongest lobe is always the one closest to (i.e. making the smallest angle with) the wire. Figure 1 shows the far-field pattern of a wire 2 wavelengths long that runs horizontally along the page and is fed at the left-hand side.

* Total Field
Horizontal Pol
Vertical Pol

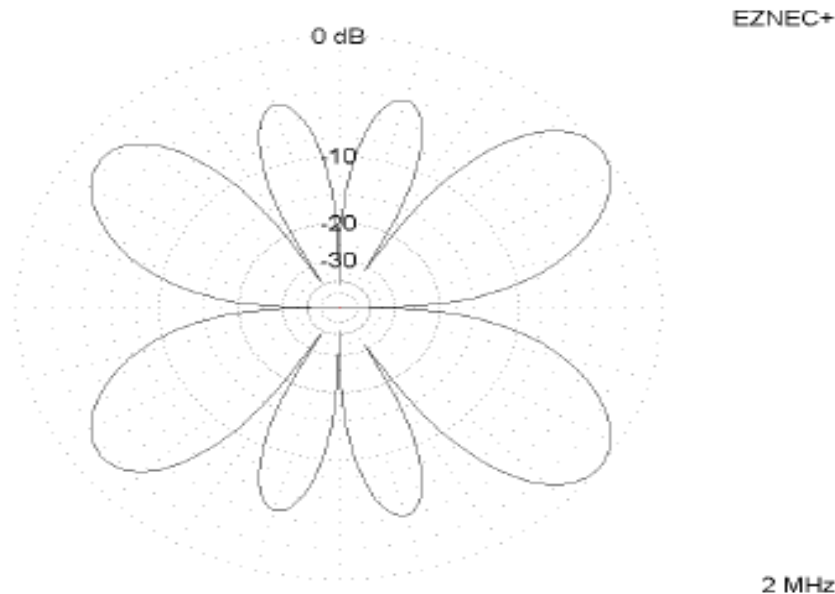


Fig. 1: The far-field pattern of a 2-wavelength long wire

In this case the main lobe is at an angle of about 40 degrees from the wire. As the wire gets longer, the number of lobes increases and the main lobe gets stronger and closer to the axis of the wire. Note that the lobes in the direction from the source to the end of the wire (in our case, from left to right across the page) are slightly stronger (by about 1.5 dB) than the lobes in the other direction.

Long wires have always been popular because of their simplicity and because with the help of an antenna tuner they can be made to work on all bands. However they do have a couple of disadvantages:

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1. The antenna starts right where the tuner is, which is typically in the shack, so a significant amount of radiation ends up in the shack, where it can cause havoc with equipment, and does not contribute to your signal.
2. Like all antennas that are fed against ground, a significant percentage of the power applied to the antenna may be lost due to ground losses. Although the losses can be reduced by installing a ground radial system, this defeats the object of a simple antenna system.
3. The pattern has multiple lobes, and the angle of the lobes to the wire depends on frequency, so it is difficult to aim the antenna at a particular geographical area.

Vee Beam Basics

Fortunately all these problems can be solved by the simple expedient of putting two long wires at an angle to each other to form a vee, and feeding the wires against each other using a balanced feed at the apex of the vee. The resulting antenna is called a "Vee Beam". Figure 2 shows the layout of Vee Beam seen from above.

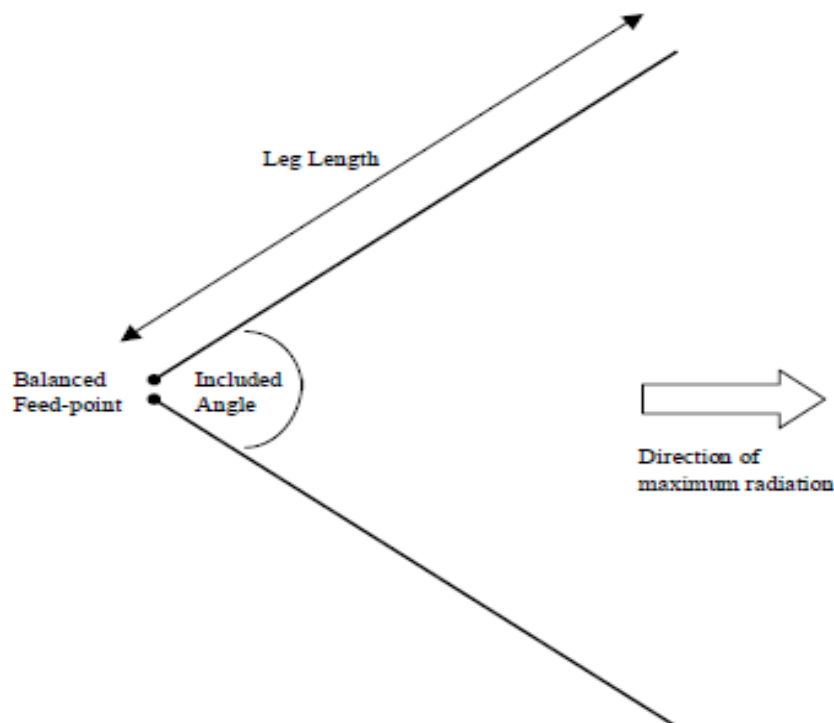


Fig. 2: Layout of the Vee Beam

The two key parameters of a Vee Beam are the *leg length* – the length of each wire, measured from the feed-point – and the *included angle* – that is, the angle that the two wires (legs) make to each other. A Vee Beam will perform well as a directional antenna with a leg length of between 1 and 5 wavelengths. The longer the “legs”, the greater the gain and the narrower the

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beamwidth. If the leg length is below about one wavelength, the antenna no longer gives gain in the direction indicated, although it is still possible to match the antenna with a leg length as short as $\frac{1}{4}$ wavelength, where it is effectively a "bent dipole".

The angle between the legs is chosen so the main lobes of the long-wire patterns from the two wires reinforce each other, giving an additional 3dB gain advantage over a long wire antenna of the same length as one of the legs of the vee. The optimum included angle depends on the leg length, in wavelengths. The table below shows the optimum included angle and the resulting free-space gain (in dBi) and -3 dB beamwidth for various leg lengths.

Leg length (wavelengths)	Optimum included angle (degrees)	Free-space gain (dBi)	-3 dB beamwidth (degrees)
1.0	90	5.3	31
1.5	82	6.8	22
2.0	68	7.8	20
3.0	56	9.0	16
4.0	48	9.9	13
5.0	42	10.5	12

It might appear from the table that the Vee Beam is not a good choice for a multi-band antenna since the optimum included angle will be different for each band. Fortunately, however, the performance of the Vee Beam is not very sensitive to changes in the included angle, so it is possible to find a compromise that will give good results on several bands. One such compromise is to make the leg length about one wavelength at 14 MHz (21.4m), with an included angle of 80°. This gives the following gain and -3dB beamwidth figures for various amateur bands:

Frequency (MHz)	Gain (dBi)	-3dB Beamwidth (°)
14.000	5.3	34
18.068	6.5	26
21.000	7.0	23
24.890	7.5	19
28.000	7.6	18

There is nothing special about a leg length of 21.4m – it was chosen simply to allow comparison with the previous table. As you can see, the gain at 14 MHz (where the leg length is 1 wavelength), at 21 MHz (leg length $1\frac{1}{2}$ wavelengths) and at 28 MHz (leg length 2 wavelengths) are at most a couple of tenths of a decibel off the optimum.

Figure 3 shows the free-space azimuth pattern of a Vee Beam with legs that are one wavelength long at 14 MHz. As with the long wire, the gain in the forward direction (towards the open end of the vee) is about 1.5 dB greater than the gain in the reverse direction. Although the leg length is not critical (in general, the longer the better, up to a maximum of about 5 wavelengths at the highest frequency of operation), it is important that the two legs be the same length to preserve the balance and symmetrical radiation pattern of the antenna.

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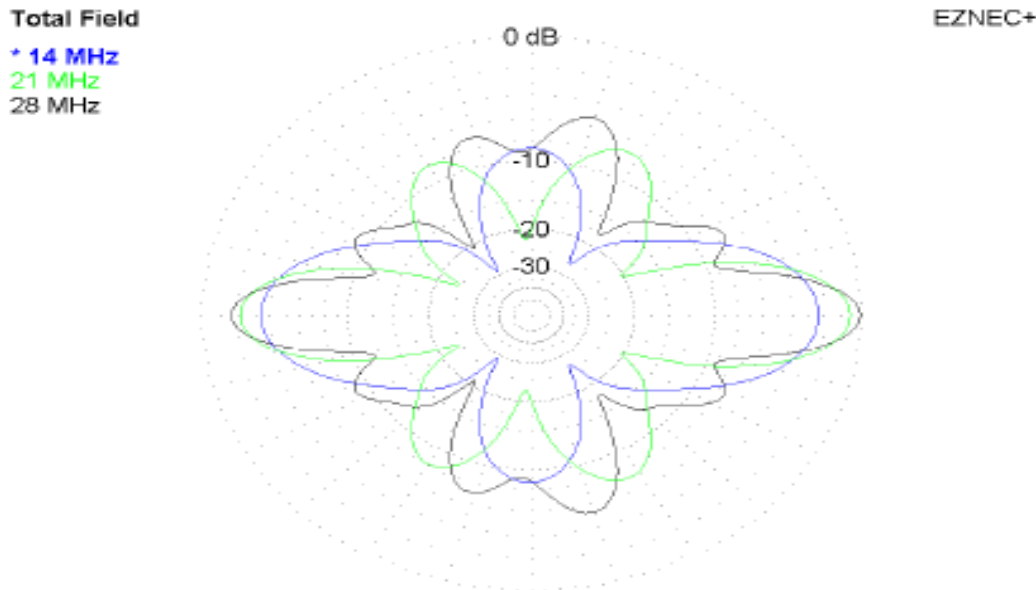


Fig. 3: Free-space pattern of a Vee Beam with 21.4m legs and an included angle of 80°

Feeding the Vee Beam

The Vee Beam needs a balanced feed for best results. This can be obtained either from a remote balanced tuner at the feed-point (if you are lucky enough to own one), or by feeding it with balanced feed-line such as window line or open-wire line to either a balanced tuner or a single-ended tuner with a balun in the shack.

If you use a remote tuner located at the feed-point, then it may be advisable to choose a leg length that is not an integer number of half wavelengths long on any of the frequencies to be used, to avoid presenting the tuner with a very high feed-point impedance. If you feed it with balanced line, then there is no need to avoid these leg lengths, as the feed-line will in any case transform the impedance seen by the tuner. However if your tuner struggles to match the antenna on any bands, then you should increase or decrease the length of the balanced feeder until a length is found that allows the tuner to match the antenna on all bands.

To Terminate or not to Terminate

If both legs of the Vee Beam are terminated by resistors of the correct value (usually about 500 or 600Ω) connected to ground then it becomes a traveling wave antenna. The input impedance becomes fairly constant (about 600Ω) across a wide range of frequencies, and the rearward radiation pattern is suppressed making the terminated Vee Beam unidirectional. However this does *not* increase the forward gain of the vee, since the power that would have been radiated in the reverse direction is simply dissipated in the resistors. In fact, the forward gain of a terminated Vee Beam is actually slightly less than for the same Vee Beam without terminating resistors. The termination resistors must be non-inductive and should each be capable of dissipating about a third of the power applied to the antenna. I decided not to terminate my vee, for the following reasons:

1. The forward lobe is aimed along the short path to North America, so the reverse lobe allows me to work the long path.

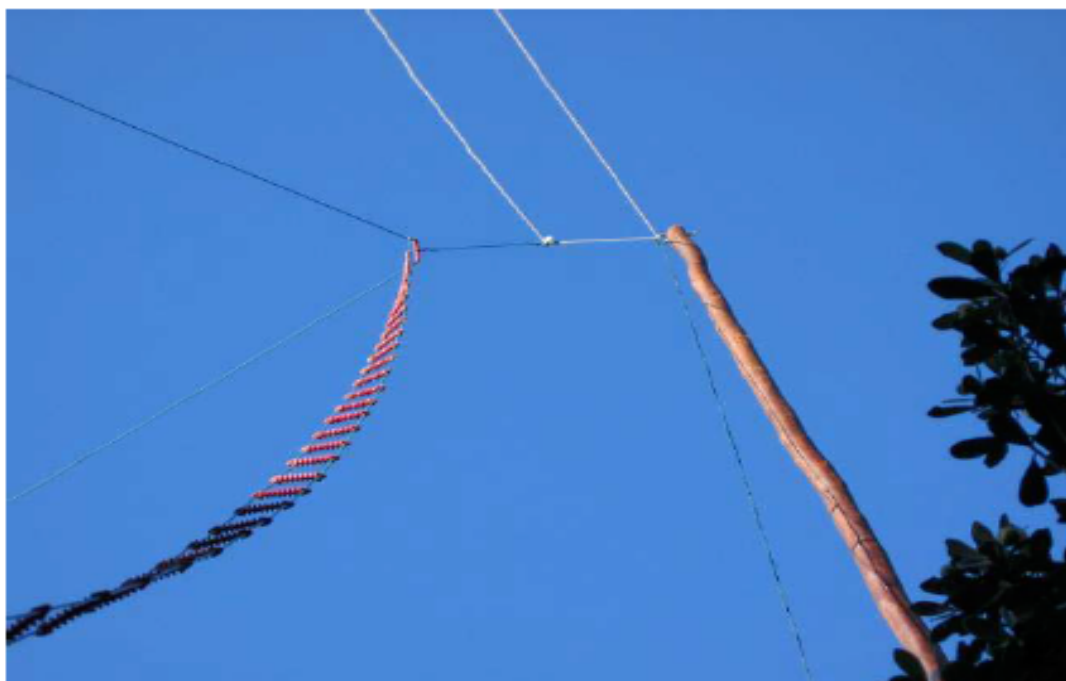
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2. I didn't want any reduction in the forward gain.
3. It simplified the construction of the antenna, as terminating resistors were not required.

Construction

Construction is simple, the only problem being to find three suitable supports (for the apex and the ends of each leg). In my case, I was fortunate to have a couple a suitably positioned trees in the garden to support the ends of each leg; and I erected a 10m wooden mast made from two poles near my shack to support the apex of the vee. I made the antenna and feed-line using two equal lengths of 1mm² panel wire. Each length serves both as one side of the antenna and as one side of the feed-line, so there are no joints to corrode or fatigue. I chose panel wire with green insulation, which blends in with the foliage of the trees, making the antenna quite hard to spot. The two sides of the feed-line are spaced apart using surplus plastic insulators about 5 cm long, which I was fortunate enough to obtain when our club sold off some surplus "junk". The panel wire is secured to the insulators using a drop of quickset epoxy. If you don't have suitable insulators, then you can easily make them from a sheet of Bakelite, Perspex or printed circuit board material (with the copper removed, of course). I fed the feed-line into the shack through a plastic "ventilation brick" in the shack wall, remembering to space it away from conductive objects, and connected it to a W2DU-type balun (a number of ferrite beads slipped over a 30cm length of coax) fed by a very short (50 cm) length of RG213 coax from my transceiver, a Kenwood TS-850S with an internal ATU.



The feed-point of my Vee Beam

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So how does it play?

Being an avid (if inexperienced) contester, I decided to put the Vee Beam to the test in the harshest possible environment, the 48 hours of fun and madness called the CQWW International DX contest. I used the vee as my sole antenna for the 2004 CW contest, where I operated on the 40, 20, 15 and 10 metre bands. My overall impressions were good. On the higher bands (10, 15 and 10 metres) it seemed to give my low-power (100W) station some added punch into North America compared to the dipoles I had been using, and I certainly didn't feel under-equipped compared to stations with triband beams. Of course, since the beam is not rotatable and was aimed at North America, I was at a considerable disadvantage when working other parts of the world. Nevertheless, I still managed to put a reasonable signal into Europe, at least when the bands were open, showing that side-lobes do have their uses! On 40m the performance was similar to any low dipole (weak and omni-directional) but I still managed to work 35 DXCC entities, including 9N7BCC in Nepal.

I found that the TS850's internal ATU did not match the vee on all frequencies in the bands, so perhaps a more capable external ATU (preferably balanced) is called for. I also noticed an RFI problem with the shack computer on 10m, which seemed to be caused by the open-wire feeder coupling to the computer keyboard cable. A snap-on ferrite core solved the problem. Other than that, the antenna performed flawlessly, and I made 895 QSOs over the weekend, a couple of hundred more than last year. Now all I need are a couple more Vees pointing at Europe and Japan. Darling, we need a house with a bigger garden...



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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