

# THE eQRM

MAY 2021



**Jim puts together the 9:1 Unun Transformer kits.**

## The BVARA in Beaver County Pennsylvania

Beaver Valley Amateur Radio Association

W3SGJ

Repeater 145.310

PL 131.8

**On the Cover:** You are invited to come join us in building this 9:1 Unun Transformer. This is a BVARA Club kit build. Details are on page 15.

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### Check into our nets

**Wednesday 2 Meter**

**8:30PM on 145.310 MHz PL 131.8**

**Wednesday 10 Meter**

**9:00PM on 28.470 MHz**

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# Who We Are

## 2021 BVARA OFFICERS

President: Jack Spencer, KZ3Z

Vice President: Dan Grazulis, KB3VSP

2nd Vice Pres.: Open

Treasurer: Pam Spencer, W3PMS

Secretary: Norm Trunick, K3NJT

Director: Tony Pavilonis, K3AHP

Director: Jim Allen, KC3IXE

Trustee: Doug Hanna, N4YKQ

## MONTHLY MEETINGS

E-Board meetings are now held the Saturday before the monthly club meeting.

VE testing begins at 5:00 PM.

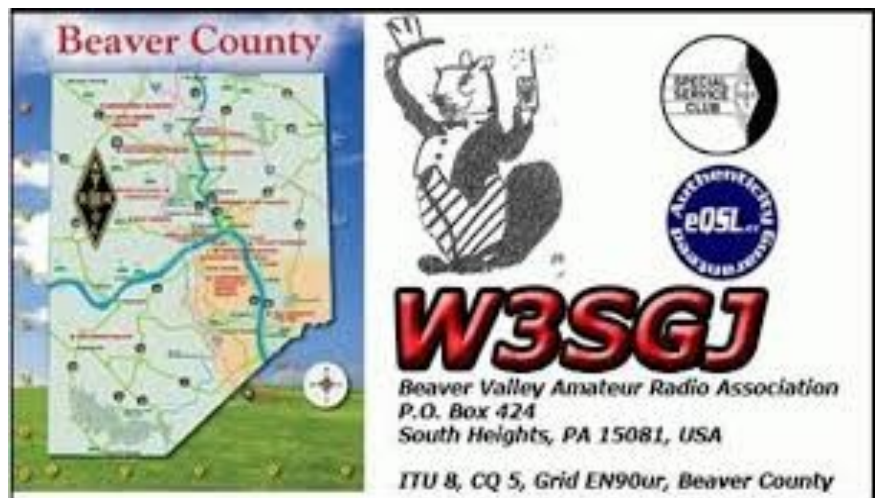
Regular meetings are at 6:30 PM

All meetings are held at the  
Beaver County  
Emergency Services Center  
351 14th Street  
Ambridge, PA 15003  
on the second Thursday of every month  
(unless otherwise stated).

*All meetings subject to Covid  
restrictions and cancellations.*

## Club Meetings 2021

May 13  
Jun 10  
Jun 26-27 Field Day Economy Park  
Jul 08  
Aug 21 Corn Roast  
Sep 09  
Oct 14  
Nov 11  
Dec 08 Christmas Party





# This Month

## *Speakers:*

**Multiple Members with QRP Interests**

## *Topic:*

**QRP-The Electronic Equipment, Antennas, and Power Sources We Use**

## *Including:*

Continuing with our BVARA Presentation Series, our topic this month will focus on QRP operation. In amateur radio, QRP operation refers to transmitting at reduced power while attempting to maximize one's effective range. QRP operation is a specialized pursuit within the hobby that was first popularized in the early 1920s. QRP operators generally limit their transmitted RF output power to 5 watts or less for CW or digital operation and 10 watts or less for SSB operation.

Reliable two-way communication at such low power levels can be challenging due to changing radio propagation and the difficulty of receiving the relatively weak transmitted signals. QRP enthusiasts frequently employ optimized antenna systems, enhanced operating skills, and a variety of special modes, in order to maximize their ability to make and maintain radio contact.

Since the late 1960s, commercial transceivers specially designed for QRP operation have evolved from vacuum tube to solid state technology. Newer battery technology has significantly increased battery energy density while significantly lowering the weight per milliamp-hour. A number of organizations dedicated to QRP operation exist, and aficionados participate in various contests designed to test their skill in making long-distance contacts at low power levels.

Our club members who enjoy QRP operation will provide a **‘Show-and-Tell’** presentation of what they have been using, their adjustments that they have made to improve or simplify their portable stations, and so much more. Most of us are very early into this unique part of ham radio. As a result, we are continually looking for ways to improve our setup and takedown activities, improve our signals, and reduce the weight that we sometimes need to carry for us to reach those special hill-top locations that we know will significantly improve our QRP signals.

Come join us, because this is one exciting presentation you won't want to miss!

## *Rich's Background:*

Extra Class Ham, Licensed since 1962, VE,  
B.S. Electrical Engineering

# More this Month

## Weekly

The Freedom Square Diner in Monaca has a great wait staff. Come let them take your order.

### Thursday Morning Breakfast (or you can have lunch)

As the Governor permits restaurants to function we will be there if the Diner is open.



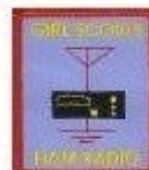
The BVARA meets every Thursday at the Freedom Square Diner in Center Township, just to the right of the Cinemark Center Township Marketplace at 09:30 AM. All radio amateurs and those interested in amateur radio are encouraged to come join us at our Thursday morning breakfast.

## See you Thursday at



### RACES / ARES

The eQRM Urges All County Hams to Participate.



# Get your License or Upgrade

If you are interested in getting your first FCC license or upgrading your current amateur radio license, the Beaver Valley Amateur Radio Association holds VE Test sessions (Volunteer Examinations) the second Thursday of each month at the Beaver County Emergency Services Center in Ambridge Pennsylvania prior to our BVARA Club meeting. If there is no meeting there is no test session. Please come take your test with us!

For more information, contact :  
Rich Soltesz, K3SOM  
(724) 847-0610  
k3som@arrl.net



## VE TEST SESSIONS

Beaver County Emergency Services Center 351 14th Street Ambridge, PA 15003.  
Tests begin promptly at 5 pm on the same day as BVARA Club Meetings  
(the second Thursday of the month).  
All classes of amateur radio license tests are administered.



ALL candidates MUST bring ALL of the following:

1. 2 forms of I.D. - one MUST be a photo I.D.
2. A pencil AND a pen with blue or black ink.
3. The original AND a photocopy of any valid ham license.
4. The original AND a photocopy of any C.S.C.E.
5. The test fee of \$15 - cash only.
6. Your FRN Number. (free from the FCC, call for details)

# New License and Upgrades

BVARA VE Testing

## Testing this month :



Our April VE Test Session had one candidate. Fred achieved his goal of passing both the Technician and General exam.

Our testing was conducted at our normal location at the Beaver County Emergency Services Center in Ambridge, PA. We are anticipating the continued use of the facility for our VE testing.

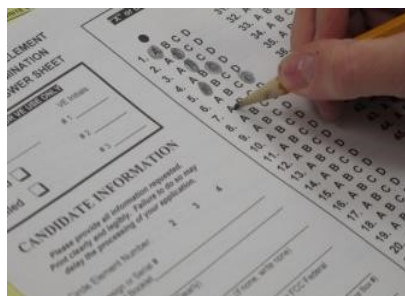
Congratulations to:

Fred Vaeth – KC3RYN, McKnight, PA, General

All of this testing would not have been possible without the help of the following Extra-Class VE Team members:

Reg Genola – W3REG,  
Tony Pavilonis - K3AHP,  
Mick Pyziha – N3OJP,  
Bart Stack - KB3NFM, and  
Bob Winkle - N3AZZ

73 from Rich Soltesz - K3SOM, VE Liaison



# Membership Information

By becoming a BVARA member you help secure the future of Amateur Radio in Beaver County. Additionally, the BVARA receives a portion of each ARRL membership you purchase!

## Join the BVARA and ARRL

Sign up for:	Price	
<input type="radio"/> BVARA full membership	25.00	_____
<input type="radio"/> BVARA student membership	15.00	_____
<input type="radio"/> BVARA associate membership	10.00	_____
<input type="radio"/> BVARA Child under 21 at home membership	5.00	_____
One year ARRL membership	49.00	_____
A Club Donation		_____
ARRL Member?      Yes      No	Total      Enclosed	_____

Your License Class (If you have one.)

<input type="radio"/> Technician	Name _____
<input type="radio"/> General	Address _____
<input type="radio"/> Advanced	_____
<input type="radio"/> Extra Class	Email _____
	Phone _____
	Your Call sign _____
	Your Signature _____

Make check or money order payable to:

The Beaver Valley Amateur Radio Association, P.O. Box 424  
South Heights, Pa 15081



# Hamfests & General Announcements

I didn't see any Western Pennsylvania Hamfests this month.  
There are a couple scheduled for August of 2021.



Keep your fingers crossed...

# Bits and Pieces

Hello all,

I have been wanting to get on the HF air waves. I have had so many other more important things demanding my time. I wanted to just set aside some time and put up a simple HF antenna. It always seems some other priority takes my time. As I have been out and about, I have occasionally listened on my mobile to the Club weekly nets and other 2-meter activity. I have simply listened. I did engage in some 2-meter rag chewing a few times. It was great to visit. The HF airwaves elude me for now. I am content for now in the fact that when I do get on the HF air waves, I will be more appreciative. I will savor the experience.



Did anyone get to the Hamfests the last few months? I wasn't able to. I mixed up the date for the last fest I was planning to attend. I had it on my calendar, I had written it for a week after it was held. I was all set to go. I double checked the location. I was getting so excited only to find I was a week late! Oh that was annoying! I have only myself to blame for the mistake.

I did some research on Sun Spot Cycle 25. I really didn't know much about how the sun and space weather affect our radio hobby. I knew it affected propagation. I just didn't know a lot about it. Since my research, I learned so much about the subject. I am always glad to learn new things about our hobby. This Cycle promises to be a very good one for amateur radio propagation. We are currently at the low part of the Cycle. Things will be improving as Cycle 25 continues. There are so many sources of information about Cycle 25. The ARRL site is the most informative as it pertains to the radio hobby. Other sources covered radio but not as its primary focus. There was so much more than what pertained to the radio hobby.

For several eQRM issues I have alluded to my next hobby step. I am looking forward to a very special vertical mount/base. I have been pretty busy getting my vertical antenna base mount delivered. The shipping has been an exercise in patience. The price and shipping logistics have been a huge challenge to say the least. The mount is really heavy! It will be really solid for any vertical antenna I decide to mount on it. I think the mount will arrive this month. Maybe next month I can include a picture of it. I may not have an antenna connected to it but maybe, I will be able to show a picture of just the mount. This is all contingent on if it gets delivered. I am guardedly excited. I thought I had the delivery worked out once before, it didn't work out. I was pretty disappointed. I am impatiently waiting to see if it all works out this time.

Till next month be safe, KC3BXC clear... I'll be listening.

# It's Your Dime

## It's Your Dime.

Remember back when you could communicate by “Pay Phone” for ten cents? This page is for anyone who wants to communicate with the BVARA community and beyond. Please send me your article that you would like posted on this page. Please, only topics and language in good taste. As the editor I reserve the option to post it or ignore it. Send your dime to me at: [kc3bxc.73@gmail.com](mailto:kc3bxc.73@gmail.com)



# Of Interest to All

## Silent Key Announcement:

### Rich Springer, KA3JRS

Rich Springer, KA3JRS from Van Buren Homes in Vanport Township, PA died on April 10th, 2021 in his home. Rich was 78 years old and a long-time club member of the Beaver Valley Amateur Radio Association (BVARA). With the beginnings of CB radio, Rich began his early radio experience within that venue. Seeking higher levels of achievement and enjoyment, Rich, and his close friend, Tim Tress, KA3JRT both passed their Amateur Radio exams at the same test session in 1982. Rich later rose to the level of Extra Class within the hobby.



Rich was born and raised in Rochester and, as life situations occurred, moved to other homes, but always within Beaver County. He had several skills that kept him employed. One of his favorite avocations was as a projectionist at many local theaters. Among them were the *Majestic Theatre* in Ellwood City, the old *Cinema Theatre* in Beaver Falls located across the street from the Carnegie Library, the *Movie World Theatre* in Monaca, and the *Family and Oriental Theatres* in Rochester. Rich spoke highly of his work at the Westinghouse Circuit Breaker Division, located in Beaver, PA

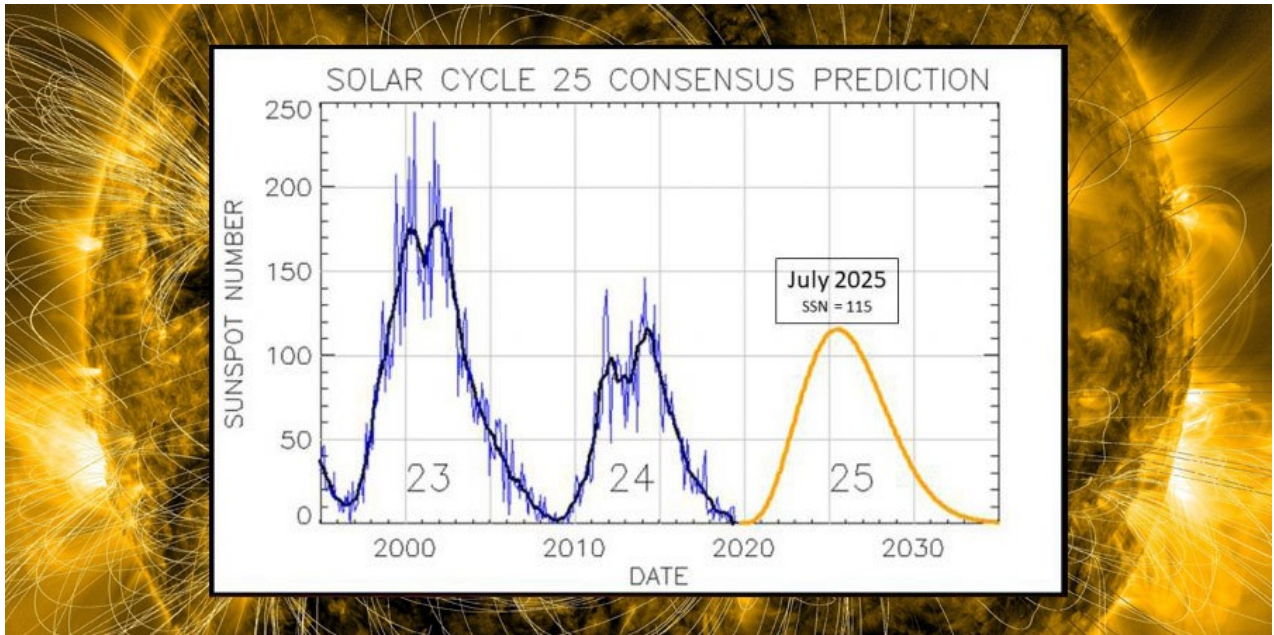
Rich never married, but is survived by brothers and one sister. Both of his parents have passed away.

His many friends over the years, still in Beaver County and beyond, have only one wish: May he rest in peace.

73, OM.  
Dit-Dit-Dit Da-Dit-Da.



# Of Interest to All



**I did some research about Solar Cycle 25.**

**I learned a lot. I will share some of what I found out.**

Solar cycle 25 is expected to last until 2034. Solar cycles occur on an eleven-year cycle. The beginning of a solar cycle is the solar minimum. As the solar activity and sunspots increase, it reaches solar maximum which is the middle of the cycle. Solar maximum is when there are the most sunspots. As the sunspots and activity begin to slow the cycle reaches solar minimum and a new cycle begins. Sun spots are cold dark blemishes visible on the Sun's surface. With different cycles there are different levels/amounts of activity. Cycle 25 is predicted to peak July 2025.

A solar cycle is when the magnetic poles of the sun switch. Every eleven years the north becomes the south and the south becomes the north. Then after another eleven years it goes back. You could refer to a complete cycle as every twenty-two years.

Sun spots, solar flares and coronal mass ejections increase space weather activity. Increased space weather can affect satellite communications, Global Positioning Systems (GPS), flight operations, radio, power grids and space exploration programs.

# Of Interest to All

The sun emits electromagnetic ionizing radiation in the form of Ultraviolet and soft X-rays. The more sun spots the more ionization that occurs on earth. Solar flux is one measurement of this ionization. Solar flux has been measured as low as 65 (in 2008) and 274 (in 2001).

The D, E and F layers of our atmosphere play an important role in radio wave propagation. When radio waves bounce off these layers this is called skip. The higher the layer bounced off of, the further the skip travels enhancing radio propagation.

Solar flares can cause the D layer of our atmosphere to increase its radio wave absorption rate thereby negatively impacting radio communication. The F layer is the highest layer from the earth. Solar flares can cause this level to increase and have a positive effect on radio communication by causing a higher maximum usable frequency. Reflections from the f layer can frequently occur on the 10-meter band during periods of high solar activity. In fact, at times, the Maximum Usable Frequency can go over 50 MHz thereby positively impacting even 6-meter propagation. The band is referred to as being “open”. There are other bands that open as a result of the increased solar activity. These high levels of ionization can cause the maximum usable frequency to increase.

As Solar Cycle 25 continues to increase in solar activity, it can have a positive radio propagation effect or it can have a negative impact on radio propagation. Some frequencies are enhanced, while others are compromised, some frequencies are not affected much at all. During some solar activity there are radio blackouts. Radio propagation plus or minus effects depend on the intensity, the particular solar activity, the direction the solar flux/activity travels as it relates to the position of the earth and other factors.

One thing is sure, there will be times that radio propagation will be very good for all forms of radio. It doesn't matter if you are listening or transmitting. There will be times when low power signals will travel great distances during Solar Cycle 25. Make sure you are on the air or listening when these conditions occur. Have a great time. Stand by for some of the best radio conditions in many years. Enjoy your radio hobby.

*I encourage you to do some research of your own to learn how Solar Cycle 25 can help you have more fun with your radio hobby in the coming years.*

# Of Interest to All



## Build a 9 to 1 Unun Transformer

Easy-to-Build ARRL Club Kit  
Courtesy of ARRL  
March 2019 QST Magazine

At long last, the arrangements for the assembly of the BVARA's 9-1 Unun kits have been finalized. Two 'Betas' have been assembled and tested. Both tested well, below 1.16 to 1 or lower on all bands into a 450-ohm load. The performance looks very promising for field use.

The assembly and testing will be at K3SOM's residence over two Saturdays and at two time slots. The participants will be limited to two or three persons per assembly period. Please contact me (Jim Allen, KC3IXE) at (724 630-7433) to reserve your time slot for May 8th at 1200 or 1500, or May 15th at 1200 or 1500.

*Jim is shown 'stuffing' each project case with the required components.*



A HUGE thank you goes out to Jim Allen KC3IXE, Tony Pavilonis K3AHP and Rich Soltesz K3SOM.



# Radio Sport

## Contest Corral

May 2021

Check for updates and a downloadable PDF version online at [www.arrl.org/contest-calendar](http://www.arrl.org/contest-calendar).

Refer to the contest websites for full rules, scoring information, operating periods or time limits, and log submission information.

Start - Finish	Date-Time	Date-Time	Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	0000	2 1600	50, 144	Araucaria World Wide VHF Contest	CW Ph	RS(T), 6-char grid square	<a href="http://avhfc.com/rules/en.pdf">avhfc.com/rules/en.pdf</a>
1	0001	2 2359	28	10-10 International Spring Contest, CW	CW	Name, mbr or "0", SPC	<a href="http://www.ten-ten.org">www.ten-ten.org</a>
1	0300	1 0859	3.5-28	RCC Cup	CW Ph	RS(T), mbr or ITU zone	<a href="http://rccup.ru">rccup.ru</a>
1	0800	1 1400	Above 902	Microwave Spring Sprint	CW Ph Dig	6-char grid square	<a href="http://sites.google.com/site/springvhfupprints">sites.google.com/site/springvhfupprints</a>
1	1200	2 1159	3.5-28	ARI International DX Contest	CW Ph Dig	RS(T), Italian province or serial	<a href="http://ari.it/en/contest-hf">ari.it/en/contest-hf</a>
1	1200	2 1200	3.5-144	F9AA Cup, Dig	Dig	RST, serial	<a href="http://www.site.urc.asso.fr">www.site.urc.asso.fr</a>
1	1300	1 1900	3.5-28	AGCW QRP/QRP Party	CW	RST, serial, Class (A/B)	<a href="http://alt.agcw.de/index.php/en">alt.agcw.de/index.php/en</a>
1	1300	2 0700	1.8-28	7th Call Area QSO Party	CW Ph	RS(T), 5-letter state/county code or SPC	<a href="http://7qp.org">7qp.org</a>
1	1500	2 0300	1.8-28	Indiana QSO Party	CW Ph	RS(T), county or SPC	<a href="http://hdxcc.org/inqp/rules.html">hdxcc.org/inqp/rules.html</a>
1	1600	1 1800	3.5-28	FISTS Saturday Sprint	CW	RST, SPC, name, mbr or "0"	<a href="http://fistsna.org/operating.html#sprints">fistsna.org/operating.html#sprints</a>
1	1700	2 2359	1.8-VHF	Delaware QSO Party	CW Ph	RS(T), county or SPC	<a href="http://www.fisarc.org/gso-party">www.fisarc.org/gso-party</a>
1	2000	2 2359	3.5-28	New England QSO Party	CW Ph Dig	RS(T), W1 county/state or SPC	<a href="http://www.neqp.org/rules.html">www.neqp.org/rules.html</a>
3	0000	3 0100	1.8-14	K1USN Slow Speed Test	CW	Name, SPC at 20 WPM max	<a href="http://www.k1usn.com/sst.html">www.k1usn.com/sst.html</a>
3	1630	3 1729	3.5, 7	OK1WC Memorial (MWC)	CW	RST, serial	<a href="http://www.ok1wc.cz">www.ok1wc.cz</a>
4	0100	4 0159	1.8-50	Worldwide Sideband Activity Contest	Ph	RS, age group (OM, YL, or Youth)	<a href="http://wwsac.com/rules.html">wwsac.com/rules.html</a>
4	0100	4 0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, power	<a href="http://arsqrq.blogspot.com">arsqrq.blogspot.com</a>
4	1700	4 1900	3.5-14	RTTYops Weekspint	Dig	Other's call, your call, serial, name	<a href="http://rtyops.wordpress.com">rtyops.wordpress.com</a>
4	2300	5 0300	All	MIE 33 Contest	CW Ph	RS(T), age	<a href="http://www.ztv.ne.jp/soda/33">www.ztv.ne.jp/soda/33</a>
5	1300	5 1400	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC	<a href="http://cwops.org">cwops.org</a>
5	1700	5 2000	144	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	<a href="http://ft8activity.eu/index.php/en">ft8activity.eu/index.php/en</a>
5	1900	5 2000	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC	<a href="http://cwops.org">cwops.org</a>
5	1900	5 2030	3.5-14	RSGB FT4 Contest Series	Dig	4-char grid square	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
6	0300	6 0400	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC	<a href="http://cwops.org">cwops.org</a>
6	1700	6 1900	3.5-14	RTTYops Weekspint	Dig	Other's call, your call, serial, name	<a href="http://rtyops.wordpress.com">rtyops.wordpress.com</a>
6	1700	6 2100	28	NRAU 10-Meter Activity Contest	CW Ph Dig	RS(T), 6-char grid square	<a href="http://nrrlcontest.no">nrrlcontest.no</a>
6	1900	6 2100	1.8-50	SKCC Sprint Europe	CW	RST, SPC, Name, mbr or "none"	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
7	0145	7 0215	1.8-21	NCCC RTTY Sprint	Dig	Serial, name, QTH	<a href="http://www.ncccsprint.com">www.ncccsprint.com</a>
7	0230	7 0300	1.8-21	NCCC Sprint	CW	Serial, name, QTH	<a href="http://www.ncccsprint.com">www.ncccsprint.com</a>
7	2000	7 2100	1.8-14	K1USN Slow Speed Test	CW	Name, SPC, 20 WPM max	<a href="http://www.k1usn.com/sst.html">www.k1usn.com/sst.html</a>
8	0001	9 2359	3.5-144	Day of the YLs Contest	CW Ph	RS(T), YL/OM	<a href="http://ka1uln.blogspot.com">ka1uln.blogspot.com</a>
8	0500	9 1100	50-1296	SARL VHF/UHF Digital Contest	Dig	RST, 6-char grid locator	<a href="http://www.sarl.org.za">www.sarl.org.za</a>
8	1200	9 1159	1.8-28	CQ-M International DX Contest	CW Ph	RS(T), serial	<a href="http://cqmq.srr.ru/en-rules">cqmq.srr.ru/en-rules</a>
8	1200	9 1200	3.5-28	VOLTA WW RTTY Contest	Dig	RST, serial, CQ zone	<a href="http://www.contestvolta.com">www.contestvolta.com</a>
8	1200	9 2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
8	1400	9 0200	3.5-144	Arkansas QSO Party	CW Ph	RS(T), AR county or SPC	<a href="http://www.arkqp.com">www.arkqp.com</a>
8	2300	9 0300	50	50 MHz Spring Sprint	CW Ph Dig	4-char grid square	<a href="http://sites.google.com/site/springvhfupprints">sites.google.com/site/springvhfupprints</a>
9	1000	9 1400	7	WAB 7 MHz Phone/CW	CW Ph	RS, serial, WAB square or country	<a href="http://wab.intermip.net/Contests.php">wab.intermip.net/Contests.php</a>
10	0000	10 0200	1.8-28	4 States QRP Gp Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	<a href="http://www.4sqrp.com">www.4sqrp.com</a>
10	1900	10 2030	3.5	RSGB 80-Meter Club Championship, SSB	Ph	RS, serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
12	1700	12 2000	432	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	<a href="http://ft8activity.eu/index.php/en">ft8activity.eu/index.php/en</a>
13	1600	13 2200	3.5, 7	QRP Minimal Art Session	CW	RST, class, number of components	<a href="http://qrpc.de/contestrules">qrpc.de/contestrules</a>
15	0800	16 1100	3.5	NZART Sangster Shield Contest	CW	RST, serial, branch (if any)	<a href="http://nzart.org.nz/activities/contests">nzart.org.nz/activities/contests</a>
15	1200	16 1200	1.8-28	His Majesty King of Spain Contest, CW	CW	RST, EA province or serial	<a href="http://concursos.ure.es/en">concursos.ure.es/en</a>
15	1600	15 2159	1.8-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	<a href="http://sites.google.com/site/feldhellclub">sites.google.com/site/feldhellclub</a>
16	2100	16 2300	3.5-28	FISTS Sunday Sprint	CW	RST, SPC, name, mbr or "0"	<a href="http://fistsna.org">fistsna.org</a>
16	2300	17 0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or power	<a href="http://qrptest.com/pigrun">qrptest.com/pigrun</a>
19	1900	19 2030	3.5	RSGB 80-Meter Club Championship, Data	Dig	RST, serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
20	0030	20 0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	<a href="http://naqcc.info">naqcc.info</a>
21	1200	21 2359	3.5-28	Hamvention QSO Party	CW Ph	RS(T), first year attended Hamvention	<a href="http://www.rof.org">www.rof.org</a>
22	1200	23 1200	3.5-28	EU PSK DX Contest	Dig	RST, EU area code or serial	<a href="http://eupsk.club">eupsk.club</a>
22	2100	23 0200	3.5	Baltic Contest	CW Ph	RS(T), serial	<a href="http://lrsf.it/en/balticcontestrules">lrsf.it/en/balticcontestrules</a>
24	0000	24 0100	1.8-28	QRP ARCI Hootowl Sprint	CW	RST, SPC, mbr or power	<a href="http://qrpaci.org/contest">qrpaci.org/contest</a>
26	0000	26 0200	1.8-50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
27	1900	27 2030	3.5	RSGB 80-Meter Club Championship, CW	CW	RST, serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
29	0000	29 2359	1.8-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	<a href="http://sites.google.com/site/feldhellclub">sites.google.com/site/feldhellclub</a>
29	0000	30 2359	1.8-28	CQ WW WPX Contest, CW	CW	RST, serial	<a href="http://www.cqwpw.com">www.cqwpw.com</a>