Ham Radio Rocks!

The Mt. Vernon Amateur Radio Club

July, 2011 Newsletter

Meetings are held the 2nd Monday of each Month at 7:00 P.M. at the Knox County Chapter of the American Red Cross, 300 N. Mulberry Street, Mt. Vernon, Ohio

Local Ham Community

K8EEN Repeater: 146.790 Mhz (-600 Khz With PL of 71.9 Hz)
KD8EVR Repeater: 442.100 Mhz (+5Mhz With PL of 71.9 Hz)

Sunday Night ARES Net at 9:00 P.M. on The K8EEN Repeater
Wednesday Night Social Net at 9:00 P.M. on the KD8EVR Repeater

There is Still More To Do for ARRL Field Day

From the ARRL Letter, June 29, 2011

The radios, antennas and the food might be put away after ARRL Field Day 2011, but there is still plenty of work to do to close the books on this annual operating extravaganza. According to ARRL Field Day Manager Dan Henderson, N1ND, the fun may be over, but many details need to be completed. "Thousands of Field Day entries will be received at ARRL headquarters over the next 30 days," he explained. "The focus now is doing what is necessary to make sure the individual and group Field Day summaries and submissions are handled accurately and efficiently."

Participants are encouraged to submit their required summary sheet using the online submission application found at www.b4h.net/cabforms. Provided for several years by Bruce Horn, WA7BNM, this simple web form allows you to submit the summary sheet directly to the ARRL. The form walks you through all of the required information for accurately reporting your submission, accurately scores it for you, sends a copy to the ARRL (as well as saving it in a master Field Day database) and provides the sender with a copy for their records.

"There is no 'contest robot' for processing Field Day entries, so if you choose to not use the web form, but rather simply e-mail your submission, you will not receive an automated receipt or feedback," Henderson said. "This is one strong reason for using the web applet -- it lets you accurately and easily submit the basic information, ensuring your information is correctly

The next meeting of the Mt. Vernon Amateur Radio Club will be Monday, July 11, 2011 at 7:00 P.M. in the Red Cross Annex Building, 300 North Mulberry Street, Mt. Vernon, Ohio. **Zachary Beougher, KD8KSN, will be presenting a PowerPoint presentation on satellite contacts during the July 11 meeting. See Mike McCardel's article on page 8 for more information.**

Please remember to check into the long running Sunday Night ARES net at 9:00 P.M. on the K8EEN 2-meter Repeater.

Also check out the UHF net on the KD8EVR Repeater. This net runs each Wednesday at 9:00 P.M. and is a social net. Please join us for the fun of it.

Every Wednesday at 5:00 PM, MVARC club members meet at Wendy's, 522 South Main Street, Mt. Vernon, Ohio. Dinner Coordinator Dick Huggins, N8RDH, reports good turnouts for this event. Come share dinner with friends, or make new friends, by attending one or all of these events.

Join MVARC club members every second Saturday of the month for breakfast. Breakfast Coordinator Arlin Bradford, KD8EVR, reports good turnouts for this event.

******The next Breakfast will be Saturday, July 9, 2011 at 9:00 AM at Allison's Finer Diner, 11587 Upper Gilchrist Road,*** **Mt. Vernon, Ohio*****

reported." Participants using the website still must send their supporting documentation to ARRL, either by e-mail or regular US Mail.

Because there is no contest robot, compiling the list of "Logs Received" is a manual process. "The list is generated only once daily, and it initially only includes those submissions received via the web applet" Henderson continued. "Approximately 75 percent of the more than 2600 Field Day reports are received via the web application. ARRL Contest Branch staff must process the others manually. This involves printing out a hard copy of a non-applet e-mail submission, then manually doing the data entry when logs received via regular mail are also processed. Due to other duties of the staff, this may take up to four weeks after the log submission deadline passes. It is frustrating when someone calls and asks if the submission they mailed was received and we cannot give them an answer. There is no way to easily search the numerous bins of paper entries to find a specific entry."

Henderson noted that once all paper and non-web applet summaries are processed, a combined list of all "Logs Received" is posted to the ARRL website. Any problems with missing or inaccurate data are handled once that list is posted. If your group submitted its report via the web applet, you can look to see if it was received by checking the list found here. Look for the section tagged "Other Reports." Keep in mind that since it is a manual process, the list may not be updated daily.

"Once your summary sheet and supporting material is submitted, do not forget to share your Field Day story with others by posting your pictures and details to the ARRL Online Soapbox," Henderson said. "The soapbox is an excellent way for you to tell your story. We frequently use the material in the soapbox to find quality photos for the Field Day articles that appear in QST and on the web."

The report submission deadline for 2011 ARRL Field Day is 11:59 PM (EDT) on Tuesday, July 26.

Editors note: For our part, the Field Day submission for K8EEN and the Mt. Vernon ARC will be completed during the July 4th weekend.

I have already spent several hours on writing up proof material to be used for our bonus points. The only thing left to do is the actual online submittal and checking and rechecking the proof document before emailing it to the ARRL. I am also hoping to submit some photo's and a report to the Field Day Soapbox. We had some great photos. Maybe one will make into QST. You never know.

The Mt. Vernon Amateur Radio Club

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Members are encouraged to send articles pertaining to Amateur Radio, with an emphasis on local activity, equipment reviews, and personal experiences to the Newsletter Editor. Articles are due on the Sunday before the first Monday of the month.

Newsletter Editor: **Don Russell, W8PEN**
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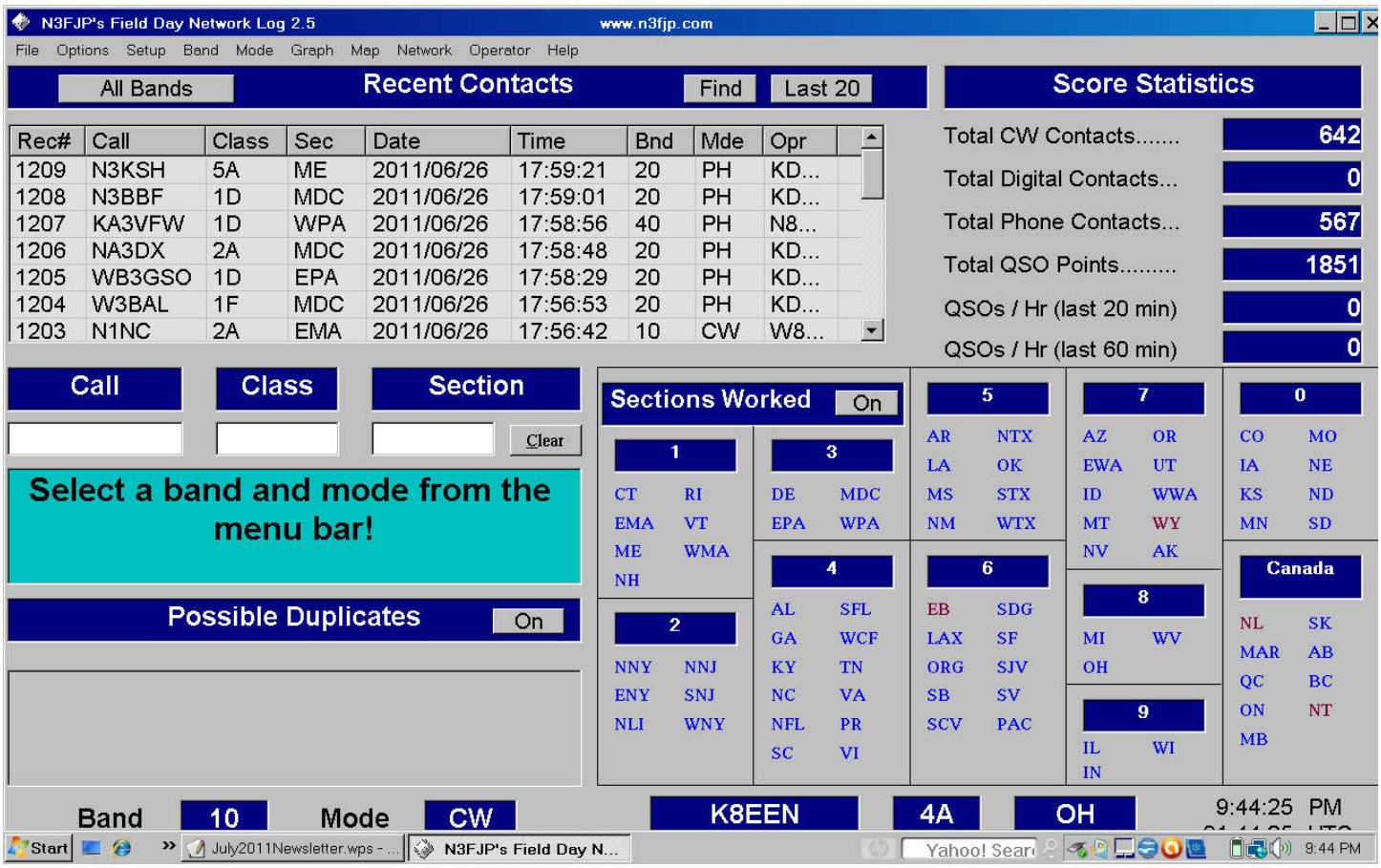


Mt. Vernon ARC Field Day 2011

The Mt. Vernon Amateur Radio Club had another outstanding Field Day in 2011 with over 1200 total contacts being made in the 24 hour Field Day Period. Great friends, fantastic food, good antennas. What more can one ask for during this annual event.

The CW (Morse Code) station built up a huge 165 contact lead over the SSB voice guys only to have the SSB stations put on a push late Sunday morning to make it respectable. The CW group won the prize by 75 contacts.

We had a good turnout Friday afternoon to put up antennas. The antennas were up very high this year. Everyone was pleased.

Although we had some rain while setting up antennas, the weekend turned out to be excellent with mild temperatures and enough clouds to keep the sun from beating down, but very little if any rain.

The club operated the event as 4A, which means that we had up to four transmitters operating simultaneously at a time. This provided enough stations so that anyone wishing to operate did not have to wait too long for an opportunity.

Here is the contest results, as reported to the ARRL:

1. Field Day Call Used: K8EEN GOTA Station Call: not used
2. Club or Group Name: Mt. Vernon Amateur Radio Club
3. Number of Participants: 22
4. Number of transmitters in simultaneous operation: 4
5. Entry Class: Check only one.

X A. Club or non-club portable
B. 1 or 2 person non-club group portable
List calls of operators:
C. Mobile
D. Home station commercial power
E. Home station emergency power

6. Check All power sources used.

X Generator
Commercial mains
X Battery
Other (list)

7. ARRL / RAC Section: OH

8.	Total CW QSO's:	642 X 2 =	Total CW QSO points: 1284
9.	Total Digital QSO's:	0 X 2 =	Total Digital QSO points: 0
10.	Total Phone QSO's:	567 X 1 =	Total Phone QSO points: 567

11. Total QSO points: 1851

12. Power Multiplier (select only one)

5 Watts or less and Battery powered = 5
X 150 Watts or less = 2
Over 150 Watts = 1

13. Power Multiplier: 2

14. Claimed Score: 3702

15. Bonus points claimed: Please check each block as appropriate and include required proof of points with your submission. All bonus points will be verified at ARRL HQ and added to your score.

X 100% Emergency power =100
X Media Publicity =100
X Set-up in Public Place =100
X Information Booth =100
X NTS message to ARRL SM/SEC = 100
X W1AW Field Day Message =100
Formal NTS messages handled (#)
Satellite QSO completed
X Natural Power QSO's Completed =100
Site Visited by invited officials
GOTA maximum QSO's achieved
Non-Traditional mode:
X Youth Participation (# 2) =40
X Educational Activity = 100
X Web Submission = 50

Total Bonus Points Claimed: 1190

Total Score: 4892

16. I/We have observed all competition rules as well as all regulations for amateur radio in my/our country. My/our report is correct and true to the best of my/our knowledge. I/We agree to be bound by the decisions of the ARRL Awards Committee.

Date: 06/30/2011

Call: K8EEN

Signature: Donald J. Russell, W8PEN
Address: 815 Brookwood Rd.
Address: Mt. Vernon, Ohio 43050

E-Mail Address: w8pen@arrl.net

	CW		Digital		Phone	
	QSO	Power	QSO	Power	QSO	Power
160	0	150	0	150	0	150
80	90	150	0	150	46	150
40	255	150	0	150	189	150
20	145	150	0	150	281	150
15	122	150	0	150	28	150
10	30	150	0	150	4	150
6	0	150	0	150	19	150
2	0	150	0	150	0	150
1.25	0	150	0	150	0	150
70	0	150	0	150	0	150
33	0	150	0	150	0	150
23	0	150	0	150	0	150
GOTA	0	150	0	150	0	150
Totals	642	CW	0	Dig	567	Phone

18. List all callsigns of all operators and number of QSO's completed of the GOTA Station: None

Radio-Activity

By Don Russell, W8PEN

To tell the truth, I was not really looking forward to Field Day this year. This year has been so busy for me, I could not fathom yet another thing to do on a weekend. Yes, I put on a good face writing the June newsletter, but my heart was not into it…….. Until Friday afternoon!

For some reason, setting up the antennas got me really motivated. Three of the stations had antennas up about 40 feet. The other station was still high at 30 feet. My favorite station, the CW station (Morse Code) antenna was not only up 40 feet, it was huge! This antenna was 160 meter windom antenna. 265 feet of wire! Okay, we were not going to operate on 160 meters. We found that out last year. However, this antenna has some gain on 80 meters, a bit more gain on 40 meters, and quite a bit of gain on the remaining bands.

I was finally excited about Field Day! Actually, I think this happens to me every year.

What about the results? Well, I know the club made over 1200 contacts during the 24 hour period. I know that the Morse Code fanatics (all two of us) beat the SSB men and won a bottle of wine for their troubles. I know that the SSB guys made 281 contacts on 20 meters with a wire antenna (20 meter extended zep). Can't believe Arlin (KD8EVR) doubted me when we put this antenna up instead of the beam. But he showed some trust in this old timer, and I think Arlin was very happy with the results. Arlin stated Friday night that he wanted to make 350 contacts on 20 meter SSB this year. I am convinced that this was possible, however, rig problems slowed down the 20 meter SSB station for a while. Smoke is not

a good think except on the grill. Changing the rig out got them back in business, but I believe several hours were lost before the problem became apparent.

An interesting statistic to point out is that the SSB stations made 281 contacts on 20 meters and 189 contacts on 40 meters. Almost 100 contact difference. The CW station made 255 contacts on 40 meters and 145 contacts on 20 meters. A bit over 100 contact difference. Opposite results on different modes.

In the past four years, the CW station and the SSB station has split the honors of winning contact totals. At Doc's place (AA8WP) in 2008, the CW station got the win with about 5 more contacts than the SSB stations. Then in 2009 and 2010, the SSB stations dominated the action by a fairly large margin. Then, this year, the CW station took the honor. Rubber match in 2012?

This year, Doc offered a bottle of wine to the winner of the competition. Looks like this may become a new tradition. A bottle of win each year to the winner.

I believe the main reason why the CW station was so dominate this year was band conditions. I have always said that CW gets through when voice modes will not. The QRN (static) was very bad on 80 meters and to a lesser extent on 40 meters. One can copy Morse Code through a lot of static while if is very difficult to do so on SSB unless the signals are very strong. As it was, while I was on 80 meter CW, only fairly strong signals could be copied with ease.

Now for some fun:

- CW Station: One transmitter
- SSB Stations: Three transmitters

- CW Station: Two operators
- SSB Stations: Ten or more operators

- CW Station: One antenna
- SSB Stations: Counting Barry's (N8PPF) antennas, at least five.

- CW Station: One bottle of wine.
- SSB Stations: Zip!

You guys can rub it in next year……. Maybe……

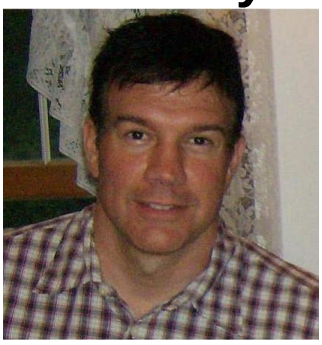
Did I mention the food? Doc (AA8WP) cooked up a feast. I don't think I have been so full since Thanksgiving! Arlin (KD8EVR) cooked up a breakfast for kings! Life was good!

So, all thoughts turn to next year. What can we do different? I for one have plans to rebuild some of our Field Day antennas. Most of the antennas I have built up for Field Day are light weight ones forcing us to put up towers or antenna masts to support the antennas center. I would like to use heavier antenna wire on the antennas. Then we may be able to string them up between trees and use less antenna supports. That being said, we only used three antenna masts this year. I can see a possibility of reducing this figure to two. Any thing we can do to make it easier to tear down after 24 hours is a benefit. It also would make Fridays antenna set up go easier.

I am also going to buy a new keyer for the CW station. The logging program is capable of sending CW instead of using a keyer, however, the CW generation is sloppy. The keyer I have in mind will work with the logging program to send very good CW but can also be used stand alone for those wishing to use the key paddles. During Field Day, I like using the paddles, but it would be nice to have an option when one get tired. I will get this keyer and try it out on a few upcoming contests.

See you at the meeting.

Perfect Field Day Weather



By Mark Bisenius, AC8FV

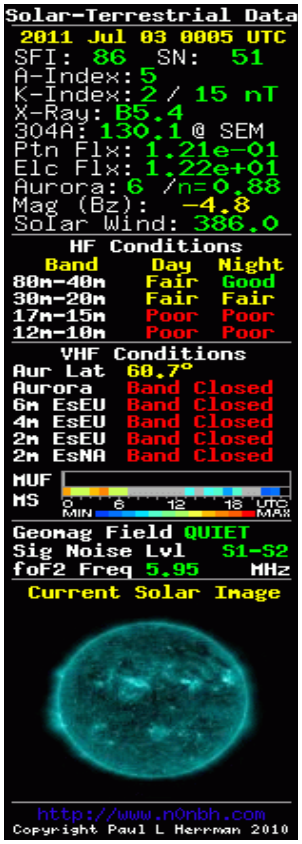
"Space Weather," that is.

Let's take a look at N0NBH's Solar-Terrestrial Data widget, and see what it tells us at a glance.

"SFI" (Solar Flux Index) measures the sun's radio noise at its spectrum peak of 10.7 cm (2800MHz). This "10.7 cm flux" is an excellent gauge of overall solar activity and radiation, correlating with the number of observed sunspots and sunspot groups. The SFI is closely related to the degree of solar ionization taking place in the F2-layer of the Earth's ionosphere, so a higher SFI usually means better HF propagation. It ranges from about 67 when sunspot numbers are near zero, to over 300, typically exceeding 200 during a solar cycle peak.

"SN" is NOAA's "Boulder Sunspot Number," calculated from observed sunspots and sunspot groups, which are transient magnetic vortices containing cooler, darker plasma in the sun's photosphere (surface layer). The SN ranges from 0 to 250, indicating the amount of solar radiation reaching the ionosphere from sunspot

disturbances, so a higher SN usually means improved HF propagation. Band conditions track the SFI much more closely than they do the SN.



"A-Index" is a 24-hour "average" of logarithmic K-Index readings, ranging from 0 to over 100, with values of 30 and above indicating a geomagnetic storm, and values below 15 being desirable for the HF bands.

"K-Index" is a logarithmic scale indicating the disturbance of the Earth's magnetic field measured with a magnetometer at Boulder, Colorado (mid-latitude), every three hours. It ranges from 0 (Quiet) to 9 (Extreme), with values below 3 being desirable for the HF bands. A reading of 5 or above corresponds to a geomagnetic storm ranging from G1 to G5 on the NOAA scale. As the K-Index rises above 3, auroral ionization expands to lower latitudes.

"K-nT" is the maximum magnetometer fluctuation in nanoTeslas at Boulder every three hours, and ranges from 0, to over 500 during an extreme geomagnetic storm. It's related to the strength of the Interplanetary Magnetic Field (IMF) that spirals out into the solar system from the sun as it rotates.

"X-Ray" is a logarithmic scale of the X-rays released from solar flares measured directly by NOAA's GOES weather satellites. Solar flares are divided into five Classes: A, B, C, M, and X, with one order of magnitude (10x) separating each Class. X-rays account for about a quarter of F2-layer ionization, but solar flares also ionize the D-Region of the ionosphere, causing absorption of the lower HF frequencies during the day. M-Class and X-Class flares increasingly affect HF propagation on the sunlit side of the Earth.

"304A" is a direct measurement of solar ultraviolet radiation at a wavelength of 304 Angstroms by the Solar Extreme Ultraviolet Monitor (SEM) sensor aboard the Solar & Heliospheric (SOHO) geosynchronous satellite. Since 304A UV radiation emitted by ionized helium in the sun's photosphere accounts for half of F2-layer ionization, band conditions track 304A more closely than they do the SFI, especially when the SFI rises above 110. 304A trending leads band conditions by 3-4 days, ranging from 93 at solar minimum, to around 185 at solar maximum. A high-tech band prediction weapon.

"Proton Flux" is the density of protons (hydrogen ions) in the solar wind affecting HF propagation in the polar regions. A Coronal Mass Ejection (CME) is a shockwave of plasma and magnetic fields from the sun's corona (outer atmosphere), which can release a cloud of protons that reaches the Earth in a few hours. Proton Flux less than 1.0e+00 is normal, 1.0e+06, is extreme.

"Electron Flux" is the density of electrons in the solar wind affecting HF propagation in the polar regions. An Electron Flux less than 1.0e+01 is normal, greater than 1.0e+03 is extreme.

"Aurora" is the auroral activity (ionization level) measured by NOAA's POES polar satellite, and ranges from 1 to 10, with a Normalization Factor n. (n<2 = high confidence, n>2 = low confidence.)

"Mag (Bz)" is the strength and direction of the Interplanetary Magnetic Field (IMF), from 0 to 50. When Mag Bz is negative (opposite Earth's), it cancels Earth's magnetic field, allowing the solar wind to bombard the ionosphere, disrupting HF propagation. A positive Mag Bz reinforces Earth's magnetic field, enhancing HF propagation.

"Solar Wind" is the hypersonic speed of the solar wind shockwave, consisting of charged particles streaming from the sun's corona at 400 km/sec (1 million mph), which buffets the Earth's magnetosphere as the sun rotates. Coronal holes create open magnetic field lines allowing high-speed streams (CH HSS) of solar wind traveling up to 800 km/sec to temporarily collapse the ionosphere, interrupting HF propagation. They take about 2 to 4 days to arrive. CH 459 missed the Earth the morning of Field Day, with the Solar Wind topping out at 580.2, and the K-Index hovering between 2 and 3 all weekend. CH 462, which formed on Field Day Sunday, appears to be elevating the "Aurora" to 6 on the July 3rd widget used for this article, but the Solar Wind and K-Index are not yet affected. You can see CH462 as a dark patch just above dead center in the Current Solar Image.

"Aur Lat" is the lowest latitude affected by the current POES "Aurora" activity measurement. Red = low activity, Yellow = high-latitude, and Green = mid-latitude.

"MUF" is the current Maximum Usable Frequency for any VHF Sporadic E openings that may be occurring. Gray = no activity, Blue = 6m reported, Green = 4m reported, Yellow = 2m supported, Red = 2m reported.

"MS" shows any meteor scatter that may be present. The color bar below the graph shows relative activity during the current 24-hours.

"Geomag Field" indicates the level of geomagnetic

disturbance, with an increasing likelihood of fading and blackouts from “Active” to “Major Storm.”

“Sig Noise Lvl” is the radio noise in S-units, created by the solar wind shockwave impacting the ionosphere.

“F0F2 Freq” is the maximum frequency capable of being vertically reflected from the F2-layer, which is used to determine the MUF for NVIS (Near Vertical Incidence Skywave) propagation.

“Current Solar Image.” A chart describing the current solar image, and a chart relating HF and VHF propagation conditions to the latest Solar-Terrestrial Data (updated every three hours), is on N0NBH’s website: http://www.hamqsl.com/solar2.html

V7Ri’s in depth analysis of how the Solar-Terrestrial Data is used to predict current HF and VHF band conditions, MUFs, and openings can be found here: http://www.bidstrup.com/w7ri-hf-radio-propagation.htm

But who wants to do that on Field Day when all you have to do is take one glance to see what space weather is doing to the bands!

Treasurer’s Report

July 1, 2011
for June 1 to June 30, 2011

Balance on 6-1-11:	$	2669.66
Income:		
Dues:	$	10.00
Field Day Donations:	$	130.00
Mansfield Hamfest commission:	$	63.00
Yard Sale:	$	114.00
50-50:	$	13.00
Interest:	$	2.12
Expenses:		
Postage:	$	88.00
Balance on 6-30-11:	$	2913.78
Designated Funds:		
Year 2005 Repeater Fund:	$	397.94
Field Day Fund:	$	196.25
Communication Vehicle Fund:	$	540.18

Barry Butz N8PPF

Field Day Satellite a Successful Experiment

By Mike McCardel, KC8YLD

My satellite station was a success at Field Day. "Success, you say? You didn't even make one contact!"

Yes success. Yes I did fall short of the objective of making one contact and the extra 100 points we could have gotten for it. However, I did meet every other objective I had. I successfully configured my PCSat software, in the field, to interface with my both my Yaesu 5400 rotator for tracking the birds and with my Kenwood TS-2000 to auto-adjust for dopler shift. Note that I had done this before at home on another computer. But I didn't use the netbook I had at field day until field day. Both of these worked flawlessly.

Satellite Setup during Field Day

I was able to demonstrate my set up and introduce people to satellite operations. I was able to adjust my setup to compensate for a deaf UHF unit in my Kenwood. This really spoiled the opportunity to work linear transponder birds on SSB. I was able to hear through my handhelds and switched from the tracking unit to hendheld. I was able to successfully pass an APRS packet through the ISS.

So why no contacts? Mostly my inexperience and QRM. When working the FM satellites only one conversation at a time gets through. Imagine if everyone in the club decides to work the K8EEN repeater at the same time for a seven minute period (the time a typical satellite is in good view during a pass). The strongest signal gets through so others have to wait their turn. So it is with the satellites. Using 5 watts with a small directional antenna puts us at a disadvantage. We may have faired better on the SSB satellites because more conversations can take place at the same time and fewer stations are set up to use them.

Hind sight is 20-20. Here's what I should have done when I discovered the problem was with my radio and not my other set up. I should have commandeered the clubs Yaesu FT-857d and paired it with mine and reconfigured my software to interface with two radios.

This way I could have used SSB and upped my output to 10 watts or so. With this setup I could have used my Arrow antenna along with the Elk periodic and used one for uplink and the other for downlink. This would have taken the duplexer out of play, which we thought may be the problem earlier on but doesn't seem to have been the problem, but still may have reduced so e loss which it detrimental when working with weak signals. Often success is better measured in what you learn vs. what you accomplish. So I'll get the Kenwood repaired and play with it some more and I'll be more prepared for later contacts.

Zachary Beougher, KD8KSN, will be presenting a PowerPoint presentation on satellite contacts during the July 11 meeting.

Zack Beougher, KD8KSN

Zack, is just 18 but is an FM satellite veteran. He received his Tech license in 2009 and one year later, to the day, upgraded to General. He enjoys working the FM birds and APRS and has collected over 400 grid contacts via the LEO satellites. We were hoping for a satellite contact demo, but no FM birds are making a pass during the meeting. There is an SSB transponder satellite, AO-07, which does make a pass. He isn't as experienced with these birds but is willing to try. So I need a couple FT-857 or FT 817s to set up for him if anyone has some. (I have one so does the club). I also hope to configure the tracking station for his use. Live demos are risky but worth a try.

Field Day Pictures compliments of Ann Bradford, KD8LFH, and Mark Bisenius, AC8FV


SPECIAL SERVICE CLUB
Mount Vernon Amateur Radio Club
SPECIAL SERVICE CLUB
ARRL
March 1, 2011

Our Mascots