

# THE BLACK HOLE



**ARRL SS Unlimited Team Champs 2000, 2001, 2002**

**Official Journal of The Society of Midwest Contesters**

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## Scientists Try to Predict Next Solar Cycle

*By Randolph E. Schmid*

THE ASSOCIATED PRESS

WASHINGTON -- The peak of the next sunspot cycle is expected in late 2011 or mid-2012 -- potentially affecting airline flights, communications satellites and electrical transmissions. But forecasters can't agree on how intense it will be.

A 12-member panel charged with forecasting the solar cycle said Wednesday that it is evenly split over whether the peak will be 90 sunspots or 140 sunspots.

The government's Space Environment Center in Boulder, Colo., tracks space weather and forecasts its changes, which can affect millions of dollars worth of activities such as oil drilling, car navigation systems and astronauts.

Half of the specialists predicted a moderately strong cycle of 140 sunspots expected to peak in October 2011, while the rest called for a moderately weak cycle of 90 sunspots peaking in August 2012.

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## Upcoming Contests

Indiana QSO Party 1600Z, May 5 to 0400Z, May 6  
NCCC Sprint Ladder 0230Z-0300Z, May 11  
CQ-M DX Contest 1200Z, May 12 to 1200Z, May 13  
Mid-Atlantic QSO Party 1600Z, May 12 to 0400Z, May 13  
50 MHz Spring Sprint 2300Z, May 12 to 0300Z, May 13  
NCCC Sprint Ladder 0230Z-0300Z, May 18  
CQ WW WPX Contest, CW 0000Z, May 26 to 2359Z, May 27  
NCCC Sprint Ladder 0230Z-0300Z, Jun 1  
NCCC Sprint Ladder 0230Z-0300Z, Jun 8  
ARRL June VHF QSO Party 1800Z, Jun 9 to 0300Z, Jun 11  
NCCC Sprint Ladder 0230Z-0300Z, Jun 15  
All Asian DX Contest, CW 0000Z, Jun 16 to 2400Z, Jun 17  
NCCC Sprint Ladder 0230Z-0300Z, Jun 22  
ARRL Field Day 1800Z, Jun 23 to 2100Z, Jun 24

## 15th Annual Dayton Contest Dinner

**May 19, 2007**

**Cash bar starting 5:30pm, Dinner at  
6:30 PM**

**Crowne Plaza  
Van Cleve Ballroom**

**Tickets available only via the web at:**

**<http://www.contestdinner.com>**

# The Black Hole



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Brian Maves, K9QQ

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Membership in **The Society of Midwest Contesters** is open to all persons with a bona-fied interest in amateur radio contesting. The club doesn't collect annual dues, but instead funds everything through member donations. For more information contact one of the following officers:

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# SMC Needs Your Financial Support

As one of the top contest clubs in the nation, we continue to sponsor plaques for a number of major contests including Sweepstakes, ARRL DX, CQWW, and CQWPX, as well as make monetary donations in the interest of promoting radio sporting.

A few years ago we decided to eliminate the formal dues of \$10 per year, and instead maintain funds through member donations. We encourage all members to consider making an annual donation to the club. Your generous donations allow us to continue to expand our support of radio sporting.

You can make your donation two ways:

1. Send a check, money order, or cash to:

Zig Markowski - KM9M  
50 E. Eureka Drive  
Lemont, IL 60439-3970

2. Use Paypal and email your donation to [dues@w9smc.com](mailto:dues@w9smc.com).

# W9SMC

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of  
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SMC Web Page: <http://w9smc.com>

## SMC Stuff

To get your SMC stuff, see the last page of the newsletter or visit the SMC website, <http://w9smc.com/merchandise.htm>



Badges

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Shirts

# The VHF Column

By Kevin Kaufhold, W9GKA

## Getting Ready for the Summer Festivities

With the mild weather we are experiencing, now would be an ideal time to work on antennas and towers. I know that several stations have been upgrading their antenna systems: K9XD has put up a 6 meter beam at 90 foot, for instance, with the help of K9PG. I am still working on antennas, as well. It is amazing how much hard work is involved in raising a single tower only 30 feet! Will I never finish it? Our efforts should pay off beginning in June of this year, with us being more competitive in the upcoming club events.

**Spring Sprints.** John, K9JK, volunteered to oversee the VHF Spring Sprints when the prior sponsors announced at the last minute that they were no longer interested. Quick planning by John has probably saved the Sprints from extinction. He even managed to find a commercial sponsor on very short notice. Great job, John.

Activity was OK for the 2 meter sprint held earlier in April. We had at least 11 ops from the SMC participate. The 222 sprints had less activity, by all accounts. The 432 sprint has just been run, as this is being written, so I do not know activity levels there. Upcoming sprints include the microwave on May 5, and then 50 Mhz on May 12. Please everyone try to get on for these events, as they can be a lot of fun at times. In particular, the 6 meter run will be a wonderful opportunity for everyone to prepare for the June and July VHF contests.

**January Contest.** The VHF Sweepstakes had low activity to moderate activity levels this year. Bob, K2DRH should be given the Biggest Effort Award for climbing his tower any number of times to deal with a malfunctioning gear box. His climbing endeavors were no small feat either, in light of the 80 + foot climb in very cold weather. I doubt if I would have even tried it once in bad weather! Bob still managed to post 50K or so in points. This may still be enough to make a top 10 score. In the club competition, it looks as though Mt. Airy continues to dominate the January contest. Results should be out in a month or two.

**VUAC Survey.** The VHF UHF Advisory Committee recently conducted a survey among VHF contesters. Several SMC members participated. Several of the questions revolved around the rover rules, although there were many other wide-ranging inquiries. At this point, it is anybody's guess as to what rules changes, if any, will be ultimately proposed. I have a copy of the survey results, in case anyone wants to see it in more depth.

**Aurora Report.** We had some spectacular Au on the night Dec. 15, 2006 following a major solar flare. The mass ejection

from the corona hit the Earth beginning on the 14th, and geomagnetic conditions continued to be disturbed well in the 17th of December. Jim Miller reported a complete radio blackout on 40 and 80 on the 15th. He heard nothing but noise on the HF bands, and initially thought it was his equipment. So, Jim cleaned out the T/R relays and house-cleaned a few other suspect items, to no avail. He then thought of solar conditions as being the possible cause for the high levels of noise on HF.

Meanwhile, several SMC members were listening on 6 and 2. Gene, N9TF, came home, turned on the rig, and immediately found himself in the thick of things. He described 6 meters as being "lit up like a Christmas Tree", but initially only heard weak Au on 2. Gene worked 14 Au contacts on 6 between 0029 GMT to 0101 GMT on the 15th. He checked 80 meters, and found that band to be dead, similar to the above HF report. By the next day on the 16th, HF conditions had returned to some semblance of normalcy, with Gene working T32Z at 1717 and then EA8/OH9MM at 1743, both on 20 CW.

Craig, K9CT, worked numerous 6 meter AU contacts between 0300 to 0600 on 12-15-06. In fact, his first contact was with a KL7 in BP54 at 0300, thereby completing his 6 meter WAS in one year flat - Craig had never worked 6 meters prior to 2006 (amazing feat!). Craig thought the QSO was a combination of Au and E-skip. The next morning, Craig worked FK8 on 20 SSB, and on the evening of the 16th between 2300Z to 0630, he had a great opening to EU on 160 meters. Interesting that Craig had a great low band run under disturbed magnetic conditions. He did not hear much AU after the 15th, however.

Bob, K2DRH, experienced "awesome" Au on the 15th. Stations were all over both 6 and 2, and most of the stations could be worked on both Au and tropo out to 500 miles or so. Bob worked 14 stations between 0025 to 0358, including Auroral Es, and several DO grids and 1 CN grid. Bob also worked into Alaska, making contact with KL7NO in BP54 at 0303 (at almost the same time as K9CT's KL7 contact). There were many more that Bob could have worked, but he mostly listened since he had previously worked most of the stations. Bob also thinks that KA9CFD worked a KL7. Bob even attempted 222 and 432 Au, but didn't realize how large a Doppler shift there was on those bands. He estimated 5 Khz or more, and does not know if there is a protocol to deal with the shift on 222 and above (that would make a good question for the VHF reflectors, Bob).

By the 16th and 17th, Dave, AA9D, John, W9SE, and Jon, WO9S, were updating the SMC reflector with geomagnetic reports from the NOAA web-site. A peak occurred on 12-17-07 around 1016 to 1045, at which time, W9SE could

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## SMC Profile—K9QQ

By Jerry Rosalius, WB9Z and Howard Dybedock, AK9F

**Brian, you have done a wonderful job being the editor for the Black Hole, first Howard AK9F and myself, want to thank you for all the hard work and time you have put into the newsletter.**

**I'm sure all the membership wants to thank you also.**

**I personally have no idea how much time you put into each issue, could you just give us a ruff estimate? I know it has to be a LOT!**

*Boy, it just depends. Actually, the layout takes a moderate amount of time, maybe 2-3 hours, once I have all the material. What really adds time to the process is having to find material to fill up an issue. I typically have a few things I've gathered from the ARRL "Rate Sheet" or other things I read that I think would be good to share. But if I don't get any input from the club, those don't go very far. So sometimes I just have to go looking for items and time quickly adds up to another 4-6 hours.*

**Brian, your editing and computer skills are way above mine. I am curious of your back ground in such? You must have edited newsletters before?**

*I am a self-proclaimed hack. I've had no formal training on anything computer related. I just find the right tool for what I want to do and then learn by doing. Computer stuff has always been easy for me. I guess my brain is wired for it.*

**Brian, how about a little background information on yourself? I know you were in Hawaii for a while.**

**Where were you born and how did you end up in the Midwest? How did you end up in Southern Illinois?**

*I was born and raised in Dixon, Il, about 2 hours west of Chicago. I went to college at NIU in DeKalb and earned a degree in Meteorology in 1985 – but more importantly, met and married my wife, Gina. From there I joined the Air Force and we have moved around ever since. We were back in Illinois for a while, from 1991-1994, while stationed at Scott AFB close to where we live now. We left Illinois, and the mainland, in 1994 and didn't come back until last year when I retired. We spent 4 years in Japan and almost 8 years in Hawaii. As crazy as it sounds, when I decided to retire we knew it was time to leave Hawaii. We wanted to come back to the Midwest, and had liked the Metro-East area of St Louis, so we came back here.*

**How long have you had an interest in radio and how long have you been licensed?**

*My early interest in radio was in Boy Scouts when we built crystal sets and toured a ham radio station while earning the Radio merit badge. I didn't get serious though until I*

*got sucked into the CB craze. That quickly led me to the ham radio club at my high school. I immediately learned code and earned my Novice in 1979. I finally upgraded to Extra in 1983 or 84. I think it was the last testing session the FCC ever ran in the Chicago area. It was at a Holiday Inn in the western suburbs because they had already stopped giving tests downtown.*

**Tell us about your "early radio days".**

*My first station was a Galaxy GT 550 and a HyGain 4 band vertical mounted on my parents' garage. I quickly replaced the GT 550 with a Kenwood TS-520S. I used that rig for a number of years, but sold it when I got married and entered the Air Force. I didn't own another one until I bought my IC 765 when I moved to Hawaii in 98. I had big plans. I picked up a KT-34A from Dave, NN1N, an HF-2V of Ebay, and had lined up a crank up tower through KH7R and KH7U. I spent almost 2 years trying every angle to get permission to put up everything on the Air Force base, but finally gave up. Boy, if you think homeowner associations can be difficult and illogical, then DoD is a homeowners association on steroids. I ended up using dipoles strung between the palm trees.*

**Do you want to mention anyone in particular that was instrumental in getting you on the air?**

*I have to credit a couple of friends with getting me really excited. I met Lonnie, WD9AWN, in the high school radio club and he spent hours with me at our high school station helping me get confident on the air. He also gave me my first taste of contesting back in 79. His shtick was to let me call a station a few times in a contest. Once I was frustrated he would make one call and work the guy. He had the gift of timing. We lost Lonnie in 87 in a car accident.*

*The other guy who really got me going in contesting was Kevin, then KS9O and now N4KM. Kevin and I did a lot of multi-op stuff together throughout the 80's until I graduated from college and moved on. We built a small, but competitive station with monobanders on 10-40 and a full size 80 mtr vertical. We loved the old 73 Magazine 40 and 80 mtr contests, and managed to place in US top ten one year in WPX SSB. He's pretty active in the FCG now*

**You have moved around a lot, tell us about some of your stations and how you have managed to get on the air?**

*Unlike a lot of people, I haven't put together stations everywhere I've been. What I have done is made sure I was active with local clubs and networked with the contesters wherever I was.*

*In Texas I did some multi-ops with some of the TDXS guys in Houston, including a TDXS field day, which was an amazing experience. I had invites to operate at WM5R and*

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only hear one station on 20 and none on 17.

I thank everyone for their reflector postings on this event. I especially thank N9TF, K9CT, and K2DRH for the very detailed info sent to me. They included exact times, dates, calls, grids, and other pertinent info. Gene even included power levels, while K2DRH provided a running commentary on QRM from a VE6! Now, that makes for excellent activity reports!

1 M Club, 5 Yr Standings		
Call	SMC tests	SMC Pts
K2DRH	13	2,792,888
K9NS	3	2,181,273
WB9Z	11	1,831,868
N2BJ	14	1,244,332

100 K Club, 5 Yr Standings		
Call	SMC tests	SMC Pts
W9RVG	10	440,175
K9RN	5	418,383
N9UM	4	362,295
WO9S	10	307,482
WA1MKE	11	286,498
K9ILT	4	221,173
K0PG	4	219,946
KF9US	3	211,830
K9JK	6	169,770
NG9R	5	146,388
K9ZO	6	128,288
N9TF	7	122,598
W9GKA	10	119,984

SMC VHF Activity List, 2002-2006. In the last five years, there have been 14 VHF club competition events. SMC members have participated some 312 times (including activity counts for all ops at rovers and multits), and have produced 12,500,000 + points in those events. Four stations have been the big guns for the club in that time period, with each going over 1 Million in club aggregate points. This is shown in the first table, in light blue, below.

The second table, in green above, shows the solid depth of the club. 13 ops contributed at least 100,000 points in the last five years. Our depth continues from there, with 78 separate call signs submitting points for the SMC in the various VHF club competitions. These contributions have put us regular in the 2nd spot among all clubs in the June VHF QSO Party, and from 4th to 9th in the January and September contests. If we continue to cultivate the depth as well as encouraging even bigger "big guns", we may yet get to the top in June.

Great going, everyone.



## NCCC Thursday Sprint

By Mike Wetzel, W9RE

The Northern California Contest Club (NCCC) has been running a highly successful sprint contest, now in it's 3rd year. Some have requested a slow speed version to get familiar with the sprint concepts, etc.

This is to announce the SNS or slow speed NS.

This practice event will precede the regular NS every Thursday evening (Friday UTC) at 0200z. It will run for 15 minutes. There will be a 15 minute break (0215z to 0230z) and then the regular NS (currently in NS Ladder format) will start at the normal time of 0230z. Remember to reset your program so that the number starts at #1 if you operate both practices.

The suggested upper limit for the SNS is 23 WPM. This maximum speed should limit one of the frustration factors some operators face. There are still other factors involved that make the sprints unique and difficult for many operators. Hopefully reduced cw speed will lessen the frustration of some of the other factors.

All of the same rules apply to the SNS as the regular one (dupe allowed after 1 intervening Q) so you are allowed to work the same station as long as you have worked another

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*NR5M a couple times, but couldn't make it work with my schedule. I was doing shift work at the time as the low man on the totem pole, so free weekends were sometimes rare.*

*When I lived here in the early 90's I did some multi-ops at K4VX, Lew's great station in Hannibal, MO. I also did a couple of efforts at K9FD.*

*Japan was kind of tough, because my license only allowed me to have and operate my own station, which was tough on the fourth floor of a high rise, in the middle of an Air Force Base. Luckily, I had a friend who lived off of the base and his land lord let him put up a 40 foot tower and a tribander. I did few contests from there, which was a "no no" but we just didn't tell anybody. The year before I left, Japan changed the rules to allow people to guest operate a Japanese station. That year I was able to operate from JH7AFR. You can see pictures on the SMC website on the "Stations and Ops" page.*

*When I found out I was moving to Hawaii I shot an email off to Ken, KH7R, and became part of his regular multi-op crew. He was a great host and I was able to do a lot of single op efforts from there also. I still hold the 40 and 80 Oceania records in WPX SSB. As I said earlier, I had a small dipole station at my house, but when I really wanted to operate I went to Ken's place.*

*Even during my 6 month tour in D.C. in 2004, I networked. When I got there, I immediately hooked up with Frank, W3LPL, and was lucky enough to do both modes of CQWW as part of his multi-op crew.*

#### **How's your station coming together in Southern Illinois?**

*So, now I'm back in Illinois and still no station. I'm finding all kinds of reasons not to make time to put together a station, not the least of which is the age old excuse of living in a restricted neighborhood. At some point it will become important to me and I'll get to work.*

#### **I know you operated V73AZ from the Marshall Islands, tell us how you pulled that off, if you can? Are you ex-military?**

*Yes, I was still in the Air Force when I got the chance to go to V73. It has a side story.*

*As you know, the Department of Defense finally closed up and left Johnston Atoll a few years ago. A friend of mine had been to Johnston as part of the DXpedition right after 9/11 and he said the station still had equipment, and they had seen all kinds of logs and cards stored in the building used for the station. So I started working Air Force contacts on the island to see how I could recover the equipment and cards so they wouldn't be lost. One day I got an email that said somebody had visited the island and taken all the equipment and logs. It turned out to be Bert Godlewski, V73GOD. He was an Army civilian on Kwaj, who was re-*

*sponsible for logistics for all the Pacific islands used by the Army Missile Command, including Johnston. So Bert and I ended up working together, and that turned into an open invitation to visit Kwaj.*

*Unless you have business on the island, you have to be sponsored to visit. So I coordinated with Bert to visit for 6 days surrounding CQWW SSB 03 and Bert pushed the sponsor paper work through.*

#### **Tell us what it was like operating from V73? I am personally very envious.**

*It was the best ham radio and contesting experience I've had to date. The guys there hadn't been able to keep up with the maintenance on the station, so I was able to help them out by doing a lot of antenna work. When I arrived they had a G5RV and a low A3 working. When I left they had those, plus a TH7 at 70 feet, an 80 meter inverted-V at 65 feet, and an inverted-L.*

*The contest was amazing. It was my first opportunity to be semi-rare DX and the pileups were fantastic. You can hear everything when you're out in the middle of the Pacific on a little island. I had a ball. I finished 11th in the world single-op, high power. I was pretty happy for my first time doing a WW weekend single-op.*

#### **Have you done any other DXpeditions?**

*No, I've never done any other trips. I was always looking for opportunities. I had tried to get permission for Johnston, Midway, and Wake. I had a verbal from a contact at Johnston, and my paperwork was in, but it was the same time the AH3D crew showed up on the island. After their operation, they didn't want anymore hams on the island. Dan, W0CN, and I got permission for Wake in 2006, but I had to drop out and let him go by himself.*

#### **What are your favorite contest? What are your favorite mode/modes. Are you a DXer?**

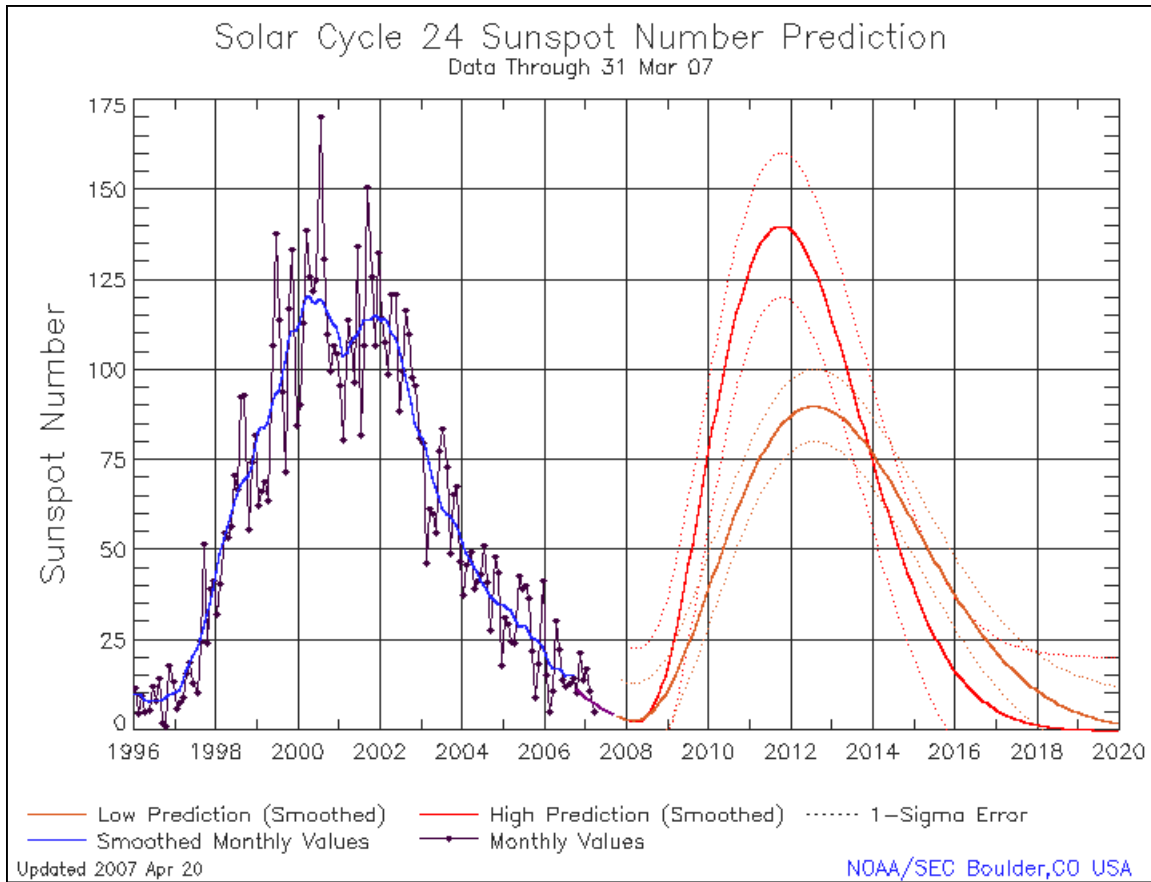
*I guess CQWW is my favorite. Although, any time I can do serious effort in any contest is a good time. My favorite mode is SSB, probably only because I don't stay active enough to stay respectable on CW.*

*My ham radio activity is almost exclusively contesting. If that station every comes together, I'll start collecting countries.*

#### **What other major contest clubs have you belonged too? What can you tell us about them that can help the SMC?**

*I'm currently also a member of PVRC, a holdover from my stint in D.C.. I'm a past member of the Mississippi Valley DX and Contest Club (MVDXCC) and should get active again, but haven't.*

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"We're hoping to achieve a consensus sometime in the next six to 12 months," said Douglas Biesecker, a space environment center scientist who is chairman of the forecast panel.

An average solar cycle ranges from 75 to 155 sunspots.

During an active solar period, violent eruptions occur more often on the sun, the agency said. Solar flares and vast explosions, known as coronal mass ejections, shoot highly charged matter toward Earth.

Making these predictions is important for many businesses, which have been asking for a forecast for nearly a year, Biesecker said.

Just as coastal residents want a hurricane forecast as early as possible, so do those affected by solar activity, said Joseph Kunches, chief of forecast and analysis at the center, which is part of the National Oceanic and Atmospheric Administration.

Daniel Baker, director of the Laboratory for Atmospheric and Space Physics at the University of Colorado-Boulder, noted that more than \$200 billion' worth

of satellites in space can be affected by changes in solar radiation as the cycle rises and falls.

In addition, Baker said, other problems include:

- Airlines flying over the pole face loss of communications that could force them to use a different, longer route at an added cost of as much as \$100,000 per flight.
- The Global Positioning System is immensely important to commerce and can be disrupted by solar activity.
- Operating floating oil rigs in the ocean requires keeping them positioned within a few inches to prevent damaging drilling gear. "They have to know when GPS is going to be accurate."
- There is an increased radiation risk to humans in space.
- Currents can be induced in long electrical transmission lines, causing blackouts.

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In the past, such problems have been caused by solar superstorms, he said.

"Storms don't have to be so super any more" to cause problems, Baker said, as more and more systems become susceptible to solar effects.

The forecasters said the current solar cycle will probably end next March, when Solar Cycle 24 will begin.

That will mean Cycle 23 lasted 12 years, slightly longer than the usual 11-year cycle.



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station in between (only exception is that you can work a station on 40 and then can work him/her immediately on another band (say 20 meters).

Bands will be 20 and 40 meters (around 14040 and 7040).

NS Home: <http://www.ncccsprint.com/default.htm>

Sites to help everyone for sprint contests.

<http://www.contesting.com/articles/198>

<http://n6tr.jzap.com/sprint.html>

If you are completely new to the sprint you might want to use a combination of paper/pencil and the computer. Things are so fast and furious and if you are having trouble entering data and getting the computer to send things you really get frustrated fast.

You might get your s/w to send the exchange in the proper format (there are 2 formats depending if you are answering another station or another station is answering you) and the only thing you want to enter is the callsign on the computer and you hand log the other info. This is just a suggestion do some dummy QSO's to see if you s/w will work for you (you might choose CQWW contest in your s/w then you don't have to enter all the info on the computer but it might send all the info including a #).

See <http://www.ncccsprint.com/software.htm> for additional logging hints

Questions to [w9re\(@\)arrl\(dot\)net](mailto:w9re(@)arrl(dot)net)



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**What do you think about the SMC? How can us active members encourage more contest activity within the club?**

*I still believe in the SMC. That's the reason I've stayed active even though I've moved all over the place. I think continuing the sense of community and identity a club provides is important. We need to take every opportunity to put in club scores and encourage everyone to contribute. That's how Paul, K9PG, pulled together that string of SS Unlimited a few years ago.*

**Where do you see the club going?**

*I see SMC continuing to be one of the top clubs in the nation. We do need to pull in some new blood to the leadership. I look at clubs like the PVRC. They have their standard bearers like K3ZO and W3LPL, but a bunch of the new blood has moved in and taken some of the leadership in the club. You need new ideas and new energy periodically or you get stale. I'm sure that has something to do with our average performance in SS over the last couple years.*

**I know you need more written articles from the members, what else can we do to help?**

*I'll take anything members think others would be interested in. As I've always said, it's your newsletter.*

**Where do you see ham radio in general going now that the FCC has lifted the code requirement?**

*Wow, there's something to ponder. I'm probably not the right guy to ask because I just don't stay close enough to the pulse of ham radio. My impression is that the motivation for becoming a ham is changing. It's becoming less about public service and technical innovation, and more about being an enjoyable hobby. I think that's going to draw a different kind of person to the hobby, and less of them. I don't share the opinion that getting rid of the code requirement will turn the bands into the wild wild west.*

**Again I want to personally thank you for all your hard work.**





# Busted Packet Spot Analysis

Scott, K7ZO (From CQ Contest)

For those of you who have operated in a multi-op you know that chasing spots is an important way to add to your mult and QSO totals. You also know how frustrating it can be to chase down busted and erroneous spots.

During this year's ARRL SSB at NK7U contest I decided I was going to see what I could learn about bad spots that might help us in the future. Here are the results of my findings. (I know ARRL SSB was a while ago. This analysis takes some time. It is quite tedious.)

As a forward it is worth describing how I identified busted spots. I started with a full list of spots made in the contest that K1TTT captured. I then reduced this down to just US/VE spots of DX stations as that is what is of interest. Then I started examining the file in several ways to identify spots that might be broken. I looked for spotted callsigns that showed up only 1 or 2 times. The idea being that a busted callsign is not going to appear as often as a good callsign. I am sure I missed some by limiting the examination to only 1 or 2, but I have probably gotten most of them. If I found a callsign this way I then would look at it to see if it was busted.

Sometimes it was obvious based on known good callsigns being actively spotted in the contest. If not I would then look at it three ways to see if it might be busted: 1.) Was the callsign in our NK7U log, 2.) Was it in the supercheck partial master file, 3.) I would look it up on-line to see if it was a good callsign. Another method I used was to look for comments in spots that identified prior spots as being busted. There were several operators who played the role of "spot police" during the contest noting busted spots for others to see.

With this background here are my findings:

## Overall Totals

The spot database I received from K1TTT had a total of 29,485 spots in it. Of those, 20,202 or 68% were of US/VE stations spotting DX. A total of 1,139 different callsigns made spots for an average of about 18 spots per callsign. The ranges were pretty broad with AA3B making 992 spots, W3LPL 362, and K3LR 314 then down to 373 stations that only made one spot in the whole contest. The top 1% of spotters made 3,527 spots or 17% of the overall total. And, true to the old rule of thumb, the top 20% of spotters in fact did make exactly 80.2% of the total number of spots.

## Busted Spot Numbers

Within the 20,202 spots I was able to identify 467 busted spots, or 2.3% of the total. So, something like 1 in 44 spots made is busted. Of the 1,139 operators who made spots, 896 or 79% of the total had "golden logs" so to speak and made no busted spots. These operators made 7,695 spots or 38% of the total. Notable operators in this space are K3CT who made 310 spots, KA4RRU who made 155, and K0RC who made 137.

The 467 busted spots were spread across 243 operators for an average of 1.9 busted spots per operator. For these operators their busted spot rate was 3.7% or 1 in 27 spots.

One thing I then looked at was if there were specific spotters who posted a substantially high number of busted spots. If so, it might be possible to filter their spots out of the spot stream being fed to the computers. The idea being you could reduce the number of bad spots while not missing good spots. What I found was a clear pattern, but it might not be that useful in a contest.

To make this work you need to identify spotters who are both making a high number of spots and who have a high busted spot %. There were 49 operators who made 3 or more busted spots. Of these 21 had a busted spot rate of 5% or higher and they represented a total of 118 busted spots or 25% of the total.

They had an average busted spot rate of 8.9% -- which is getting up pretty high. Almost 4X the overall average busted spot rate. So, in theory, if you filtered out spots from these 21 operators you could reduce the total number of busted spots by 25% while reducing the overall spot count by just 6.5%.

This may or may not be that useful. It does not seem to make that big a dent in the overall busted spot count.

What we have is one of the "long tail" situations. For example, if we wanted to reduce the overall busted spot count by 50% we would have to filter out spots from 51 operators who represented 31% of the total spots. Which is now probably overkill -- throwing out too many good spots to limit the bad ones.

And of course these operators may or may not be the same ones making busted spots in the next contest.

## Patterns of Busted Spots

Another goal in this investigation is to see if I could identify causes of busted spots, or at least if there were certain patterns of spots that were busted.

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It was interesting looking through the spots for unique call-signs. I found a few operators who were posting the call-signs of stations they worked while running. This generated a high number of uniques which of course were good call-signs.

But, the spot is more or less useless for others than except maybe to say the band is open to some part of the world. However, most operators know that already. And, if there are operators out there who grab spots, QSY, and dump their call into the airwaves, these operators posting their running QSO's are just generating QRM for themselves. And, they could also be guilty of self-spotting.

Examining the log file found 539 unique call-signs spotted of which my estimation was 337 were busted or 62%. So there is a pretty good chance that a unique call-sign was a busted one. Of the 38% that were good call-signs, 17% of them appear to be generated by operators posting their own run QSO's.

Looking at call-signs that were in the log file twice, there were 140 of them and my estimate is that 47 of them were busted or 33%. So, the chance that a call-sign that was spotted only twice is busted is still pretty high, but it is much less than those that were unique. I did not do an in depth study beyond this point. But it appears the trend continues. There were 89 calls spotted three times, 60 four times, and 45 five times. My incomplete examination showed 8 busted call-signs in the spotted three times group for a 9% rate. And, I only ran across 1 example in the spotted four and spotted five times group -- a HZ1KEF spot for actual OZ1KEF that took a long time to die out.

These patterns while interesting are not that useful in preparing for and during a contest. If a new unique call-sign gets spotted, it may have a nearly 2/3 chance of being busted, but you probably can't afford to not check it out. What is needed is a way of examining the spotted call-sign in real time to see if it has a high likelihood of being busted. I will leave this idea for others to think about for now.

### Causes of Busted Spots

I did finally spend some time looking at the busted spots themselves to investigate what causes the spot to be busted. The major buckets seem to be:

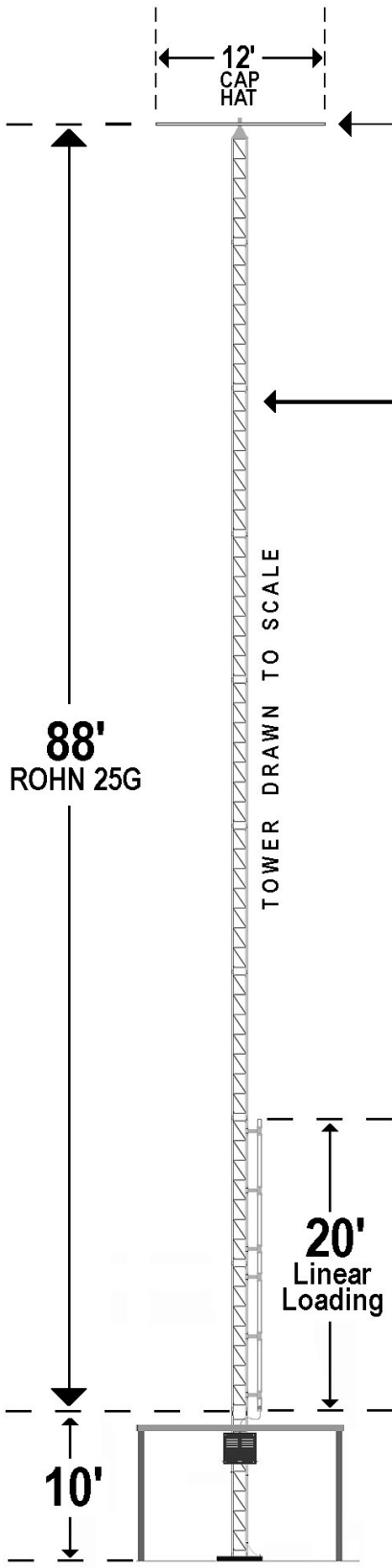
Typos -- about 25% seem to be what I would call a typo. The spotted call-sign was only 1 character off the correct call and the mistyped character was right next to the right one on the keyboard. In absolute terms number errors and letter errors are about the same. Though since there are far more letters than numbers in calls, the error rate on typing numbers is much greater than letters.

Transpositions -- about 5% of the time all the correct characters are in the spot, but the operator transposed a couple of letters.

Busts & Miscopies -- about 65% seem to be total busts. The operator heard and/or typed something different than the correct call-sign.

Dropped last character -- about 5% of the busted spots are because the last character of the call was missing. This was the cause of all the busted spots from NK7U. This is a known problem with Writelog. Sometimes in doing a "CTRL-T Enter" sequence to spot a call the program drops the last letter.





### CAPACITIVE TOP HAT

The top hat uses (2) cast aluminum quad spreaders mounted horizontally on the neck of the top tower section. The (8) spokes are 1" x 6' aluminum tubing painted black to help prevent ice buildup.

Tower guyed with 4 sets (levels) of Phillystran™ at 25', 50', 75', + 95' for RF isolation.

### RF PATH

Capacitive Top Hat

88' tower (Rohn 25G)

**Linear Loading**  
(2) 2" diameter aluminum tubes, 14" apart, parallel to each other, spaced 18" from the tower face.

**Elevated Ground Screen**  
14' x 14' aluminum flashing attached to an elevated wood frame 10' above ground. 4-16 elevated radials are attached to the frame.

1" wide copper

ELEVATED GROUND SCREEN

ATU is isolated from bottom tower section

ATU

$Z_0 \approx 27 - j120$

## WX9U 160m Vertical



xii.2004

# SMC Stuff

## SMC Clip-on Badge

by NV5A

The SMC logo appears at the top-center of the badge in black and white. Your call sign, first name and city & state appear in dark blue. The SMC name badge as shown with the slot & strap with swivel alligator clip, but there are other choices.

Price: \$14.50 (includes s&h).

Order now from **The SignMan**

Visit his full color web page to see other items you can get with the SMC Logo:

[www.thesignman.com/color/](http://www.thesignman.com/color/)



## KC9FD

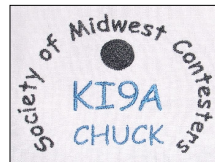
**SOCIETY OF MIDWEST**

Club badges can be obtained by sending a check for \$5.50 to:

**Midwest Engraving**  
6657 N. Sidney Place  
Glendale, WI 53209

**Ph: 414-228-8654**  
**Fax: 414-228-8655**

Be sure to note that it is for a "Black Hole" badge and please allow a couple weeks for delivery.



## SMC Shirts

SMC short-sleeve Polo shirts are available in two styles: white shirt with "SMC" in black and "name and call" in blue lettering as shown below, or red shirt with black lettering. The cost is \$20, including shipping. You can email your orders to AD9P@swbell.net (Al) or NOUXQ@swbell.net (Sandy)



# State QSO Parties

## Illinois

October 22-23, 2006

<http://www.w9awe.org/ILQP.html>

## Wisconsin

March 11, 2007

<http://www.warac.org/wqp/wqp.htm>

## Indiana

May 5-6, 2007

<http://www.hdxcc.org/inqp/index.html>

## Missouri

April 7-8, 2007

[http://www.qsl.net/w0ma/mo\\_qso\\_party.htm](http://www.qsl.net/w0ma/mo_qso_party.htm)

## Member/New Member Information/ Update Form

Name: \_\_\_\_\_

Call: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Please send updates to:

**JON OGDEN, NA9D**  
**905 SURREY LN**  
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## The Society of Midwest Contesters

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