

THE BLACK HOLE



ARRL SS Unlimited Team Champs 2000, 2001, 2002

Official Journal of The Society of Midwest Contesters

Volume XV Issue V

September 2007

Thoughts From the President

By Mike Kasrich, AJ9C

Just a few words about recent happenings.

Congrats to Kevin, W9GKA on an outstanding effort in promoting the VHF/UHF contests this summer. I believe our final log tally was around 55 for the June VHF QSO party. This will put us in the unlimited category. A job well done to all those that got on made a few contacts and submitted a log too.

Speaking of getting on and submitting a log.....SS is on the way. Yes this is the annual get out the vote campaign. In the past couple of years we have been less than overwhelming in the unlimited category.

Well folks were getting the band back together. Yes that's right myself and Elwood are going to get the band back together so we can save the orphanage that is the SMC. The Sweeps Brothers!

(Continued on page 7)

Upcoming Contests

ARRL Sep VHF QP	Sep 8—10
North American Sprint, CW	Sep 9
ARRL 10 GHz and Up	Sep 15—16
North American Sprint, SSB	Sep 16
ARRL EME Contest	Sep 29—30
CQ Worldwide DX Contest	Sep 29—30
North American Sprint, RTTY	Oct 14
Illinois QSO Party	Oct 21—22
CQ Worldwide DX Contest, SSB	Oct 27—28
ARRL EME Contest 0000Z	Oct 27—28
ARRL Sweepstakes Contest, CW	Nov 3—5
ARRL Sweepstakes Contest, SSB	Nov 17—19

KX9X New ARRL Contest Manager



The SMC's own KX9X, Sean Kutzko, accepted the position of ARRL Contest Manager and will be moving to the Newington, CT area. As our Central Division Director, Dick Isely (W9GIG) said, "We will be losing a very good SMC tester (he's way out of the circle), but we will have a contest manager who has in-depth experience with contesting here in the Black Hole! Congratulations Sean!"

The Black Hole



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EDITOR

Brian Maves, K9QQ

Material for **The Black Hole** should be forwarded to:

k9qq@arrl.net

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:

BOARD

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Mike Wetzel, W9RE
Scott Neader, KA9FOX
Ron Feutz, KK9K
Sig Markowski, KM9M
Chad Kurszewski, WE9V
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CONTEST ACTIVITIES COORDINATOR
Vacant

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Chuck Schneebeil, KI9A

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.

W9SMC

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of
The Society of Midwest Contesters

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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

Order Today!



Shirts

VHF Column

By Kevin Kaufhold, W9GKA

I want to first acknowledge the big point producers in our great endeavor some 30 days ago. The big guns came out in force this year, with K9NS once again joining us in the M-L with over 400K in points (and at or near the top of the class); Bob, K2DRH, running 256K (and at or near the top of SOLP); Jerry, WB9Z at 141K; and Barry, N2BJ, at over 74K. Many other solid and regular VHF stations, such as N9TF, K9CT, NG9R, N9JF, N9AKR, W9SZ, KX9X and so many others, were on as well.

The real applause this year must go to the vast number of small logs that entered. Our members got on in horrible band conditions to make our club's effort a highpoint at the national level. To name a few: AK9F, Howard had previously made a 6 meter loop out of 1/2"

conduit, put it up 15 feet in a tree, and then worked K8GP on it as high as 432! W9VA used a small log periodic at rooftop; AA9DY borrowed a classic (i.e. old) Saturn halo to get on 6 meters; K9ZA put together some PVC and wood for el cheapo, hit the road into 6 grids and across 4 bands); K9BGL put together a 2 element 6 meter beam out of old aluminum laying about his place; Curt, K9AKS ran QRP from Indiana to possibly win the section award with all of 1,600 points; W9IIX got on despite the aftermath of a fire in his shack and house earlier in the year; and K9XD / K9PG quickly developed a big presence on 6 meters, with 400 watts into 5 elements at 90 feet.

This year was all about our log count. Next year, we can work on improving the scores. While many other clubs experienced reduced log counts from prior years, we increased our logs by over 50%. Our impromptu rallying cry "NOW IS THE TIME!" aptly described our efforts. Regardless of whether we take the unlimited, this truly has become "Our Time" on the VHF contesting scene.

This may have been the worst possible year, in terms of propagation, in which to jump to the unlimited using essentially a 6-meter strategy. And yet, we should have enough logs to enter the unlimited club competition, at 55 entries. The actual count is 56 total logs, with 54 electronic logs, 1 regular mail log (that we know of), and 1 other log that may have been messed up in the last day robot cut-off. One log is out of the circle on a portable run to Taum Sauk (es tx AB0RX for the rare grid!), bringing the count back down to 55. If anyone else submitted on paper or **had** problems with the robot between 0000 UTC and 2359 UTC on 7-11-07, please let me know.

In addition to the amazing turnout we generated for this contest, I wish to thank all the unsung heroes that assisted so greatly behind the scenes. Mike, AJ9C; Zig, KM9M; Howard, AK9F; and Paul, K9PG all supplied VHF contest logs (!) but most importantly, provided organizational **help**

on any number of issues that we faced. Several ops changed plans on very short notice to help out. Danny, NG9R and Gene, N9TF split their multi-op of past years into separate SO operations at their QTH's. John, K9JK, not only came charging onto the scene a few weeks before the contest, he assisted in organizational efforts and even secured additional logs for us.

Lastly, as others are suggesting, let's take all this energy from June and focus it on the HF Sweeps in November. "Now is the time" to start working on HF antenna projects and equipment upgrades. Imagine what we can do if everyone submits a log in one or both of the Sweeps contests.



Tower and Antenna Tips

By George Zurbuchen, K9CC

I know there are many others in the club who have more tower and antenna experience than I do but perhaps my tips can be helpful.

Antenna Height – Wave Length Matters

On HF frequencies remember that antenna height measured in wave lengths is a very important consideration for working DX, not just the absolute height. Therefore if you are installing antennas on a mast extending above your tower, you will probably be better off installing the lowest frequency antenna at the top if you are working in the 50 to 100 foot height range. This is because the angle of radiation goes down dramatically with increasing height up to one wave length of height. After one wave length the difference is less pronounced. Since a wave length is 132 feet on 40 meters and 33 feet on 10 meters, you can see that the conventional "Christmas Tree" array should probably be turned upside down with the 40 meter antenna on the top and the 10 meter antenna on the bottom. At my station I have a 75 foot tower with a 3" mast (actually 2 1/2" water pipe which is 2 7/8" OD) extending to 91 feet. At the top I have a Cushcraft D40 dipole for 40 meters which is 42 feet long. I have a Cushcraft WARC band dipole at 83 feet, and a TH6 tribander at 76 feet. My best band for breaking pile-ups on DX stations is 40 meters, my second best is 20 meters, and my worst band is 10 meters. My reasoning for why this happens is as follows: 40meters; I do well on 40 even though I only have a shortened dipole, because I am mostly competing against dipoles at less than a half wave high, and I am at 3/4 wave length high (big difference), 20 meters; I do reasonably well on 20 because I am a little above a wavelength high with full size elements in the clear, and I am competing against many who are a little less

(Continued on page 8)

What WB9Z did on his summer vacation.



Jerry, WB9Z, put up a new full size, 4-element 40 mtr yagi at 140 feet. The new one is a n OWA design, on a 48' boom. Jerry says it's very broad-banded, 1.2 at the bottom., 1.1 across most of the band, and then 1.3 at the top. It replaced his old 3 element, full size W2PV design yagi.

The photo at the top shows the new 40 mtr yagi near the ground and gives you a perspective of the element lengths. They're as long as his barn AND ham-shack/shop combined.

The photo on the left shows the yagi at 140 feet, with the 3 element M2 80 mtr yagi in the background on a 140 feet of self-supporting tower.

What K9CT did on his summer vacation.



Tower delivery in front of Craig's house, with his MonstrIR in the background.

Craig, K9CT, tackled a new tower for VHF and UHF this summer. It was a year in planning. He took down his 2 and 70cm antennas above his MonstrIR on his present tower and put up a 6M9KHW at 105 feet. The finished array is pictured at the left. You can see the entire installation, from tower delivery to operation at <http://www.k9ct.us/Photos/New%20Tower/index.htm>

Craig reports that the equipment and antennas seem to work rather well. He's already working stations off the moon and via meteor scatter on 2m. He's also been working stations on 222 up to 1296 and is

looking forward to the ARRL VHF contests, as well as the Fall Sprints. He may have been the busiest SMCer this summer. In addition to the new VHF/UHF array, he reworked his 80/160 vertical, adding a remote controlled, motorized inductor mounted about 50 feet up. This allows him to quickly move anywhere on either band with a reasonable SWR. On the inside, he added a microKeyer MK2R+ for SO2R operation of his IC7800 and Pro III.

What W9RE did on his summer vacation.

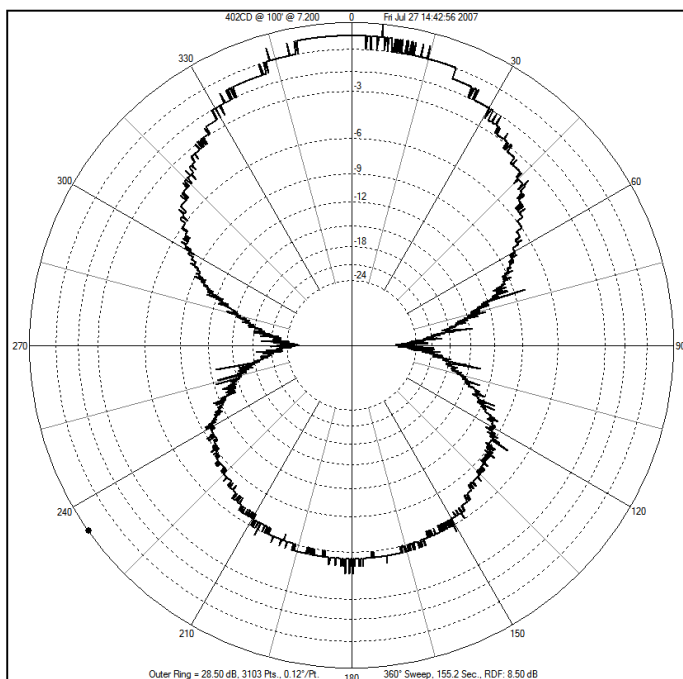
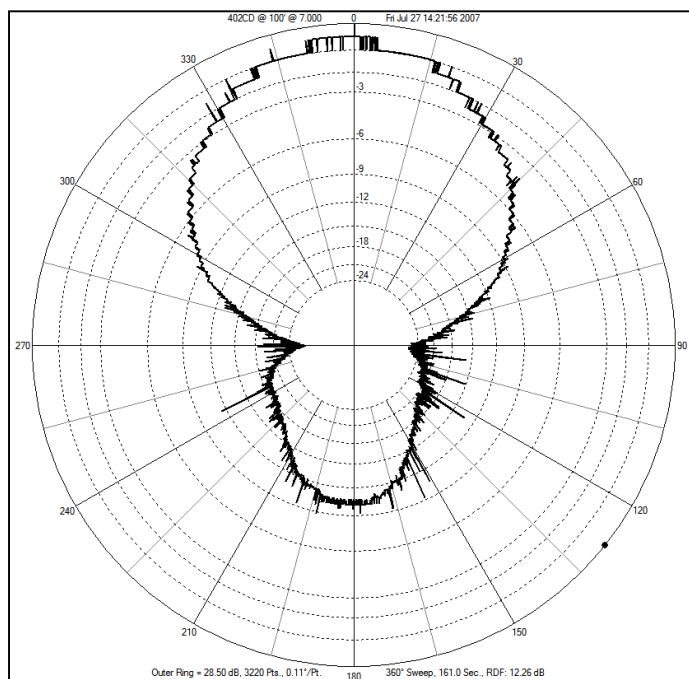
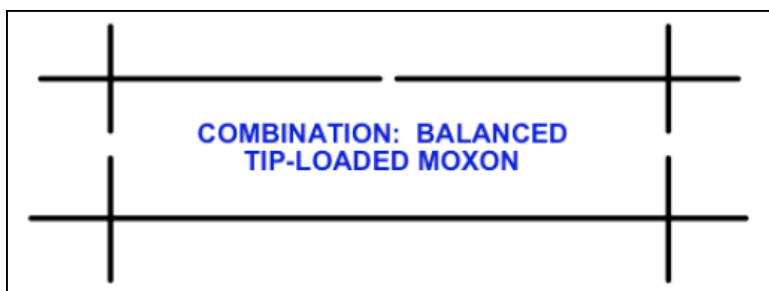


Mike, W9RE, started working with K9XV on changing a 402CD to a W6NL Moxon antenna. The absolute gain of a standard 402CD is 3.25db +/- .25db as compared to a dipole. Using standard lab calibrated equipment, Mike produced the plots below for a standard 402CD. The plot on the left is for 7.0 MHz; the plot on the right is for 7.2 MHz.

The Moxon design results in a higher forward gain, higher F/B ratio, and a wider useable bandwidth. In general it boasts a free space gain of 6 dB, F/B of 20dB, and a SWR <1.5:1 of 300+ kHz.

The design replaces the standard element loading coils with transverse tip elements. The two images to the left show the W6NL yagi and the redesigned element configuration.

Mike will have the antenna in the air in the next couple weeks.



(Continued from page 1)

If not already, very soon you will get an email from W9GKA if you submitted a log for the 2002 effort but were missing in 2006. No there is no pledging required but we as your board would like to know if you will be on or can be cajoled into operating this SS.

I know radio is a leisure activity and it can't cease to be fun but we do need everyone to step up to the plate a bit more than we have if possible. To get competitive again we need commitment to get on a single op and submit the score. Our strength is in our ANTZ! Ron KK9K has volunteered to contact those members outside the circle to see if they might be interested in operating from inside the circle. If you have a station that will be unused or a second position that you wouldn't mind being filled let Kevin know. He and Ron will try and coordinate placements.

You say you just can't devote more time to SS than you have? Well I have another way you can help the cause without undue radio time. Get out to your local club and get me one new member to work SS. If we averaged a 1/2 a new member for each county in our circle I suspect we would have close to 100 new members. If the locals don't like "CONTESTERS" promote our group as performance operators.

In short we need either more people or more score. Preferably both. If you operated 6 hours we need 10-12. One mode we need two modes. You get my drift.

For those of you that just don't want to bother with setting up computers for a few hours of operating just write it down on paper.

Jerry KE9I is going to be our log "whip" along the lines of what Chad had done during the golden era. Send your scrap papers to Jerry and copies of the logs and we will make sure Society of Midwest Contesters is spelled correctly and submitted to the correct folks.

If that's not enough.....I'll issue a Presidential Challenge. In keeping with the Blues Brothers theme and the fact that I live close to Kokomo.....If the SMC wins the gavel I (and maybe K9PG too) will sing karaoke style the favorite tune of the horn section "Stand By Your Man"

at the gavel presentation in Dayton should it occur there (provided they don't threaten to call the cops too) or in the alternative at the Thursday Hooters gathering. What more incentive do you need to get on and storm the hill?

I haven't heard to much about local meetings being held. In the past I know folks have gathered in and around St Louis and in the Chicago suburbs.

You still out the KI9A? How about you Eric? Can we get a

couple of meetings/gatherings organized for Sept and Oct? It will be a great forum to swap stories and talk about SS. How about Rockford? Quad Cities? Central IL? The PVRC and NCCC I believe have a local "chapter"

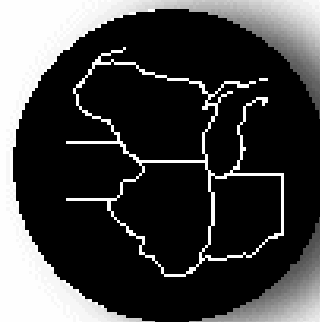
organization and it helps keep their group "tight" along with getting opinions and ideas flowing. W9DXCC is coming up and is usually a good SMC get together. Make your plans and let's start talking and getting to know one another.

Another issue of the Black Hole is scheduled for September. These meetings would be a good source of news to print. Take notes and send them to Brian. If you have articles written or just something you want to say to all of us submit it to our editor.

Last but not least, the SMC has been asked to co-sponsor the Central States VHF conference in 2009. The FRRL will be taking the lead for the conference and we will co-sponsor along with the Badger Group from WI.

This conference will be held in or around Chicago sometime during the last two weeks of July 2009. Mark your calendars now and make your plans to be there. This is an excellent opportunity to show the diversity of our group's interest and expertise. We will be responsible for manning a hospitality suite for one of the two nights of the conference. Other help maybe requested as the conference comes together.

That's all for now I believe. Renew your commitment to having fun the first and third weekend of November for SS. Let's make some noise and show the coasts that our bloom hasn't faded here in the Midwest when it comes to organized club contesting.



(Continued from page 3)

then a wavelength high and may have shortened elements (moderate difference), 10 meters; I do the worst on 10 meters because I am almost 2 1/2 wavelengths high with 4 elements, and I am competing against people who for the most part have 3 elements at 1 wavelength or more (very little difference). Remember that the improvement in angle of radiation drops off after one wavelength of height.

Consider Using Non Conducting Guys

If you are short on space for antennas on 80 and 160, consider installing a tower using non conducting guys such as Phillystran. If you use non conducting guys you will be able to run inverted vees for the low bands using the tower as the center support and the guy anchor points as the end supports. I have a 1/2 acre lot, and this is how I managed to get on 80 and 160. It worked well enough to earn 5BDXCC and 160 meter WAC.

Bend it Like Beckham

If you don't have enough room for a straight run on your wire antenna, don't be afraid to bend the wire to fit it in your lot. I had operated with an inverted vee that was usable on 80 and 160. There were traps on 160 that allowed the antenna to be used on both bands, and to shorten the overall length to fit it in my lot. After the second time I burned out the traps (after using the antenna for about 10 years), I decided to make it into a fan dipole and bend the 160 wires to fit the lot. The last 30 feet of the bent ends are at about 15 foot elevation. The antenna seems to work about as well as the trapped antenna did. A fan dipole is two dipoles for different bands with a single center feed point, and the ends fanned out, for those of you who may not know.

Towers Ain't No Place for No Wire Ties!

It seems that those flexible wire ties with the convenient "ratcheting" closure feature are being used for just about every kind of fastening task these days. One place they should not be used is on a tower. I have found that they do not last long when exposed to the ultraviolet rays of sunlight. Perhaps there are special types that are resistant to UV rays, but the types I have used certainly were not, not even the black ones which normally have the most UV resistance. What I have found will last reliably for many years to attach cables to tower legs is electrical tape followed by a single turn of #12 vinyl insulated electrical wire twisted shut with a pliers. I am referring to the standard solid wire that is used in power wiring.

Towers Aint No Place for No Sneakers!

If you are going to spend any time standing on tower rungs you will end up with very painful arches unless you wear shoes with a steel insert in the arch area. I believe most

work shoes are so equipped.

Consider a Larger Tower and a Flat Top Section

The advantage of a larger tower such as Rohn 45 besides the obvious strength issue is that there is more room for a rotator and the ability to easily install and remove the rotator. On a smaller tower you may even have to cut out a cross brace to remove the rotator. You should assume that you are going to have to remove your rotator during the life of your installation! The extra space on the tower also comes in handy if more than one person at a time is on the tower. The advantage of the flat top section is that it is a great place to set tools! Naturally, as always take precautions for falling objects.

Use a High Wattage Soldering Iron

I suspect that one of the reasons that many people have trouble soldering PL259 coax fittings to coaxial cable is that they do not use a high wattage soldering iron. I have always used an instant on soldering gun rated at 200 or 250 watts. My impression is that you would not want to have less heat than that. The small pencil guns that are designed for printed circuit board work will not be adequate in my opinion.

Use Stainless Steel

Unless you like to spend time and energy climbing towers, it is a worthwhile expense to use stainless steel hardware where ever possible. I would even throw away the carbon steel hardware that may have come with the equipment, if corrosion will cause a major problem later.

Use Anti Seize Compound

This is a very important tip! Use anti seize compound on threaded components to prevent problems later. I didn't do this with the clamping bolts on my Rohn thrust bearing. Years later I needed to drill out and cut threads for oversize bolts on two of the three original Rohn bolts because they could not be removed and broke off in the bearing casting. Imagine drilling out broken bolts and cutting threads with a tap while 75 feet in the air. I was successful with one of the two. I now have one original bolt that works, one oversize bolt that works, and a broken tap in the third! Fortunately the mast can be clamped with two out of three bolts. Replacing the thrust bearing would require removing the mast from the tower! That is not going to happen!

Install a Mast Clamp

When you are doing your installation install a collar which is fixed to your tower, (for example to the bottom of the top plate, or to the accessory shelf), through which the mast passes. Install three bolts radially through the collar which

(Continued on page 9)

(Continued from page 8)

you can use to clamp the mast, to stop it from turning when you remove your rotator. And remember that you will need to remove your rotator if you use it long enough! I made my collar by welding nuts to the proper sized pipe fitting.

Toilet Plunger to the Rescue

When I first installed my tower I would occasionally have a problem with the thrust bearing filling with ice in freezing weather which would make it impossible for me to rotate the antenna until the weather would warm enough to melt the ice. This would be very annoying when the beam was stuck east and the new country I needed was in South East Asia. I knew the solution to the problem was to keep freezing rain and melting snow from getting in the bearing. The answer to the problem was to fashion a shield out of a toilet plunger. I found what worked best was not the bell shaped type with the single curve, but the type that curves outward from the handle and then back inward. Remove the handle and trim the top end of the plunger at the appropriate diameter for your mast. Then trim the bottom of the plunger at the appropriate diameter to cover the thrust bearing. To install the shield, cut the trimmed plunger from top to bottom, wrap it around your mast and tape it to the mast and wrap tape around the plunger to keep it in place. I have never had a freezing problem since installing the shield.

— Warning! Controversial Content! —

Mast Material – GO BIG, GO CHEAP

OK, I know I am all by myself on this one, but I believe that there is no need to buy those expensive “exotic alloy” or heavy walled tubes for a mast. I have always used ordinary galvanized water pipe. It is strong, cheap, and it will last for very many years without rusting. If you need the kind of strength you would get with a 2 inch tube of the expensive mast material, you can easily exceed it by simply using 2 1/2 inch galvanized water pipe. This pipe is 2 7/8 inches outer diameter so it works well in the 3 inch thrust bearing that Rohn sells. The advantage of the larger diameter is so dramatic that it will exceed the strength of the thicker wall or higher strength alloy in a two inch diameter. Since most rotators and antennas are designed for a 2 inch mast, you will have to put a reducer on the rotor end of the mast and modify the antenna attachment plates. Modifying the antenna attachment plates usually consists of simply buying a couple of 3 inch U bolts and drilling new holes in the mounting plates.

Please see my article, “Strength Calculations for Self Supporting Antenna Masts”, for a detailed description of how to calculate mast requirements.

SMC Stuff

SMC Clip-on Badge

by NV3A

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/



KC9FD

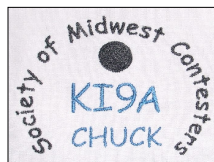
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Club badges can be obtained by sending a check for \$5.50 to:

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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 N0UXQ@swbell.net (Sandy)



SMC Friday Night Gathering

September 14th at 7:15pm

Weber Grill, Schaumburg, IL

<http://www.webergrillrestaurant.com/locations/schaumburgmap.html>

If you plan to join everyone for dinner, please email Eric, K9GY, by 7 Sep at k9gy@sbcglobal.net

55th W9DXCC DX CONVENTION & BANQUET

SEPTEMBER 15, 2007

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ZL8R, Raoul Island, Kermadec Islands, by Ralph Bellas, K9ZO

Search for Amelia Earhart's Plane, by Tom Vinson, NY0V

Elecraft K3, by Eric Swartz, WA6HHQ

Cycle 24 Predictions and More by Carl Luetzelschwab, K9LA

V63J - Micronesia IOTA Tour by Mike McGirr K9AJ

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