



ORANGE COUNTY RADIO AMATEURS
(an ARRL Special Services Club)
Orange County, North Carolina



Orange County Radio Amateurs (OCRA) Newsletter
June 2009

From the Editor

Well,

Happy June everyone, by the time you receive this newsletter OCRA FD 2009 will be in full swing at the Blackwood farm site.

As a continuing effort to save your printer ink (for those of you who print the newsletter) I have put a lot of effort into pulling all article close together, but still maintain readability and hopefully not at the expense of style. Let me know what your impressions are (yes both good and bad).

I too have this month joined the "haven't done much for amateur radio" club. Busy with non hobby matter I haven't had opportunity to do much with my hobby.....there is always next month.

73, Adriano

June Board Meeting Notes

The June OCRA Board Meeting on Monday, June 8th at Casa Ibarra Restaurant in Hillsborough was called to order at 1830L (6:30PM) as published on the OCRA website. Officers and Board Members in attendance were: K3VSA (OCRA President), KR4FM (OCRA Vice President), KR4UB (OCRA Treasurer), W4SAR (Board Member) and KD4YJZ (Board Member). Not present were: KI4OTN (OCRA Secretary), N2JFP (Board Member), KD4YJV (Board Member) and KI4YSZ (Board Member). Others present included WA4AHR, N1LN and N1YXU.

K3VSA reported that he received a letter from KD4YJV indicating Gerry's resignation from the OCRA Board, and that Woody had updated the OCRA website to remove Gerry's name from the listing of Board Members in accordance with his wishes.

KR4UB did not have the exact treasury balance at hand at the Board Meeting, but said that it was in excess of \$6,000. Dan (as Repeater Manager) reported that the problem with the 443.475MHz repeater had been traced to a blown fuse on the power distribution panel (thanks to KJ4EWX). Dan also mentioned the difficulties being encountered with getting the 145.230MHz repeater operating through the IRLP linking system. It was decided to proceed with the conversion of that repeater to new hardware. K3VSA mentioned that he had heard that Person County recently lost its 2 Meter machine, and perhaps our old repeater could be donated to them, assuming some organization within Person County could be found to administer it. Nothing was resolved at this meeting concerning this suggestion.

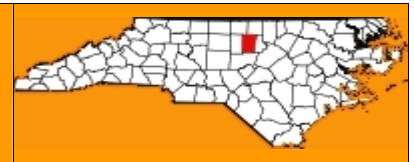
The agenda for the Membership Meeting was discussed, with items for presentation including W4SAR's update on Field Day preparations, announcements about personnel changes (including KD4YJV, N6LUZ, and N1LN) and updates on the ARES training meetings. The Board resolved to recognize N6LUZ for his excellent work as Orange County ARES EC.

K3VSA mentioned that he had arranged for a guest speaker from Piedmont EMC to give a presentation at the July Membership Meeting. It was resolved to attempt to get KI4KKX (Jeff Orrock) to give a future presentation about severe weather, as he is in charge of the NWS Raleigh office.

There being no further business for the Board Meeting, it was adjourned at approximately 1850L (6:50PM).



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-de K3VSA for KI4OT

June Meeting Notes

The June OCRA Membership Meeting featured Dave Snyder (W4SAR) giving an overview on Field Day 2009. Notebooks with operating guidelines were given to the Band Captains, and Dave went over the rules for using the county park facility. We're pleased that DFMA will be combining their Field Day effort with ours this year, and we hope to rack up an all-time high score.

Personnel changes were an active item this month: Dee (KU4GC) announced that Wilson (W4BOH) is this year's President of DFMA. Steve (KZ1X) spoke on behalf of Skip (N6LUZ), who was out of town on business, to announce that Laurie (N1YXU) is now the Orange County ARES EC. Steve said that Skip was pleased that somebody who had the time needed to devote to the position was taking over. Steve also mentioned that Skip would continue his hospital liaison work in Orange County ARES. Woody (K3VSA) announced that he had received what he characterized as a cordial letter from Gerry (KD4YJV), who was resigning his position as an OCRA Board Member.

It was resolved that action be started as soon as possible to replace the 145.230MHz repeater, which is having receive sensitivity and IRLP interconnection issues. It was also resolved that OCRA begin funding its website out of its own treasury rather than continuing to rely on anonymous donor support.

de K3VSA for KI4OTN

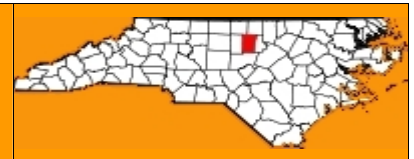
News letter Format (going forward)

News letter format will start with:

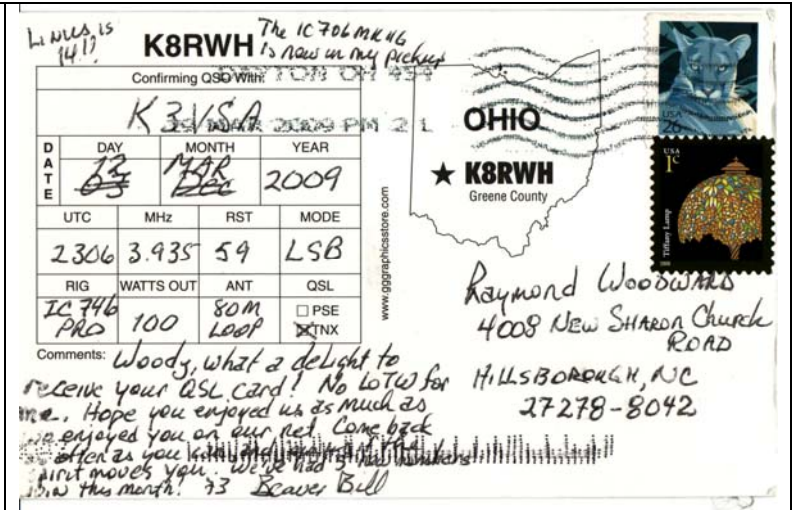
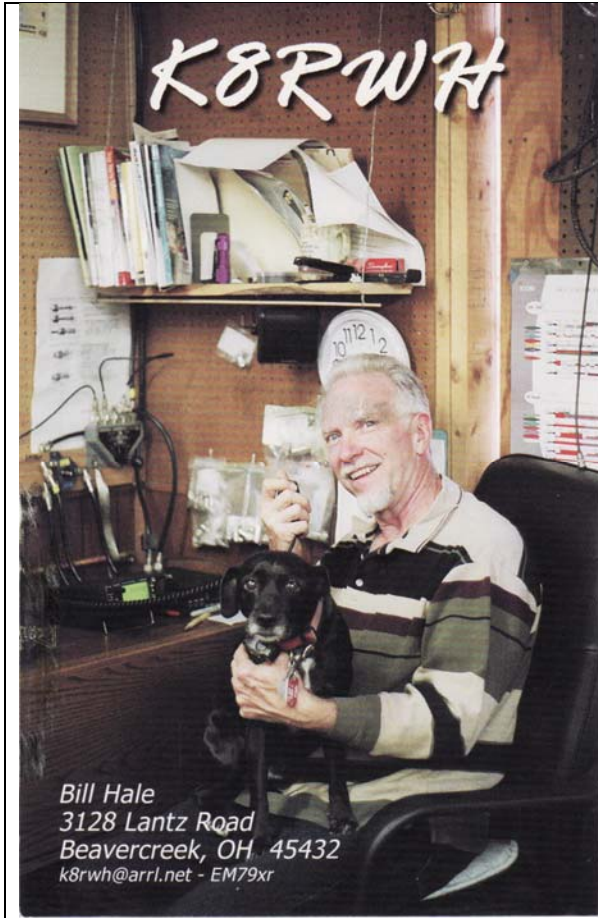
- 1) Secretary's opening remarks
- 2) Board meeting report
- 3) General meeting report
- 4) QSL Card(s) of the month
- 5) Editorial write ups
- 6) Community involvement by our club
- 7) Miscellaneous information

Until next month.....

Adriano – KI4OTN
KI4OTN@ncocra.org



QSL Card of the month



This month QSL card brought to you by our very own K3VSA. It is great to see people who have been in this hobby for much longer than I have still enjoying receiving written communication from fellow ham around the globe.

My Quest for ATV (A Continuing Saga...)

By Raymond Woodward (Woody), K3VSA

I confess that I've always been fascinated by Amateur Television. It's something that I've always wanted to try but has always been out of reach. It's been a luxury and an indulgence--until now. At this year's RARSFest, I found a used 70cm transmitter and a downconverter at a reasonable cost, and ATV suddenly seemed to be cost-effective for me. Once I determined that the ATV repeater run by the Triangle ATV Association was still on the air, I ponied up the cash and went home with my new toys.

Several challenges came up at once. First, the downconverter: We'd sold off all of our analog TV sets in anticipation of the changeover to DTV, so I needed to find a TV set that would connect to the downconverter. Second, the transmitter: What channel did it transmit on? Was it the same as the input frequency for the Tri-ATV repeater? If not, what crystal would I need to put it on channel? And the issue of antennas had to be addressed.

A plan began to emerge. First, get the downconverter up and running. Find a TV set, preferably an older one without the blue screen video squelch, and cheap, too. Build some kind of antenna and see what quality of video I might obtain from the repeater at my QTH. The signal I would get would determine where to go from there.

While looking for a TV set, I opened up the transmitter case and determined that the transmitter board used an



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overtone crystal in a frequency multiplying quadrupler circuit. To get output on the 434.0MHz input of the repeater, I'd need a 108.5MHz overtone crystal. Of course, the crystal already installed in the transmitter was different from that, but I determined that a new crystal could be had from International Crystal for about \$30 and a four week wait, so that was ready to be taken care of whenever I was ready to place the order.

Back in "the day," there were rows upon rows of stores selling surplus electronics, and you could obtain anything your heart desired for a song. Nowadays, those stores are mostly a fond memory, but we do have thrift stores, and you can find anything your heart desires there (assuming you're prepared to wait however long it takes for it to end up there). I figured that I wouldn't have to wait that long for a 9 to 12 inch portable TV set to show up now that people were dumping their old analog stuff, and I didn't. Less than a week after the search began, I found a small Magnavox in good working and cosmetic condition. So not it was on to the antenna.

Steve (W3AHL) assisted greatly in computer simulations of a five element Quagi (quad reflector and driven elements and Yagi directors). The expeditious way to get one of these built was with a wooden boom and spreaders and #6 bare copper wire, so that was what was done. Some one-by-twos nailed together made a makeshift twenty foot mast. I had some 9913 coax with a preinstalled PL-259 on one end, so I cut the other end to length and soldered it to the driven element. An adaptor to go from the PL-259 to the BNC fitting on the downconverter was borrowed from Chris (KG4CFX). A phone call from Charlie (NC4CD) with the secret codes that would put the ATV repeater into test transmission mode (I could tell you, but then I'd have to kill you...), and we're ready.

After some trial and error, combined with no documentation, I determined that the downconverter output was on Channel 4. Lo and behold, there was a faint signal from the ATV repeater, a picture of the Space Shuttle superimposed with the NC4TV callsign. The first thought that came to my mind was a repeat of the telegram that the investment banker George Everson sent to one of his partners after witnessing the successful test of Philo Farnsworth's television system way back in 1927: "The damn thing works."

Well, sort of. This was not a great video quality. Attempting to reorient the antenna showed that the antenna had a beamwidth of about thirty degrees, and we were already about in the middle of it. I had already been aware that the wall wart power supply provided with the downconverter was 7.5 Volts, while the downconverter itself wanted 12 Volts. A trip to Wall Wart World (the plastic box in the back of my car with the hamfest surplus) provided me with a 12 Volt wall wart, and of course, it had a different plug than the socket on the downconverter. Can we say, "Let's go to Radio Shack and buy a plug?"

With the plug taken care of, I was ready to try again, and with great expectations, the equipment was powered up once again. Surprisingly, the video quality was hardly any better. Interestingly, wiggling the video connectors going into the downconverter showed some intermittent tendencies. Hmm. Could it be a poor connection inside the downconverter? Surely it couldn't be the professional grade PL-259 at the end of the 9913. Open the box and reflow the solder at both ends of the wire between the connector and the PC board. Hmm, the intermittent is still there. Maybe something wrong with the antenna system itself, but how to tell? Let's think: the cable has an adapter that ends in a BNC fitting. My HT has a BNC fitting. Let's connect the antenna to the HT and see how well it gets into the OCRA 440 repeaters. It doesn't get into the repeaters at all. Isn't that interesting! And I can stick a straight piece of bell wire into the BNC fitting on the back of the downconverter and receive the ATV repeater slightly. Well!

But the Quagi shows directionality, so maybe it's OK. Maybe the adapter is defective, but Chris said it was OK. That leaves the professionally installed PL-259 plug. Get out the cutters and lop that puppy off and install a PL-259 of my own and try again. Now, not only can I ping the 442.150MHz repeater with my HT, but I can also ping the 443.475MHz machine, which I could never reach with just the rubber duck. (Next



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project coming up: a five element Quagi, vertically polarized, for working 440MHz FM repeaters from home. Piece of cake! Look for an article in an upcoming newsletter near you.)

So now we know the antenna and feedline are working correctly up through the adapter. Ready for maximum video! But this (see photo) is about the best it does. Very discouraging, because if that's the best signal I can get from the ATV repeater's transmitter, running about 150 Watts, there's no way its receiver is going to see my 10 Watt transmitter. I think I'd see it just fine if its Yagi antennas weren't pointed at Raleigh/Cary. I might have been able to get in if they were still using the Alford slots, but I didn't know they'd been changed when I got the gear.



(to be continued, hopefully...)

de K3VSA

ARRL VEC Turns 25!

By Dave Snyder, W4SAR

It is 1982 here in the North Carolina Piedmont, you are going for your first amateur radio license. Well, first you have a choice to make, you either have to drive to Norfolk, Virginia or to Atlanta, Georgia. Those are your nearest choices of FCC field office to take your test. After taking that long drive, you are ushered into a room with the other candidates to take the Morse Code test, which is administered by an FCC employee. First he'll conduct a copy test in which he sends Morse Code, at his discretion, he may make you send Morse Code to him. If you don't pass muster by his judgment, your day is over as you won't be allowed to take the written exam, and you take that long drive back home. Then you have to wait for the next scheduled exam opportunity to test again.

Aren't you glad that it is a whole lot easier to get your license these days? In 1983, the FCC ceased administering exams for amateur radio licenses and allowed the licensed amateurs themselves to administer the testing program. The ARRL formed the ARRL Volunteer Exam Coordinator in 1984, and it is to this day the largest of the 14 existing VEC's, responsible for 65% of the testing for amateur radio licenses.

According to their fact sheet, the ARRL VEC has more than 25,000 accredited volunteer examiners, holding more than 5,000 sessions annually, serving over 30,000 examinees. With the improvements in the licensing system, new licensees are getting their callsigns in less than a week. It sure beats the 17 week wait I had when I was first licensed back in 1991. In the future, it is possible that with an internet connection, VE's will be able to issue a license with a callsign on the spot for successful candidates!

OCRA has had an active Volunteer exam team in place here since 1992, originally only a couple of sessions were offered a year, coinciding with the end of licensing exam classes. Then for many years, we offered a session every other month. Now we are one of the busiest exam teams, providing a monthly opportunity for prospective hams to join the hobby, or for current hams to get that upgrade. I can't give you a precise number, but between these regularly scheduled sessions and the assistance we render at local hamfests, our team has participated in about 110-120 sessions.

We seem to be one of the few remaining local opportunities as well, some of our more recent sessions have had candidates coming from as far as Wilmington, NC - Denver, NC - Roanoke, VA and Conway, SC. It



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is truly rewarding to see the joy of someone finally passing a test on material they've struggled with. It's also saddening to see a young child disappointed on their first try, but you're there to encourage them not to give up, keep studying the material, and by all means try again.

We have a friendly, dedicated and very well experienced VE team here, and OCRA should be proud of both the accomplishments of the team itself, and of its sponsorship of this most important service offered to our fellow amateurs. Congratulations to the ARRL VEC on turning 25, and congratulations to the OCRA Volunteer Examiner team for passing the century mark in sessions held. I'm looking forward to going past 200.

73, Dave (W4SAR)

The President's QRM
(June 2009)

Why Join an Amateur Radio Club

By Geoff Haines, N1GY
n1gy@arrl.net <<mailto:n1gy@arrl.net>>
June 02, 2009

When anyone first gets into a hobby, they have questions, lots of questions. Some of the answers can be found in books or online, but like any hobby, ham radio has a lingo all its own. For the newcomer, the lingo can be very intimidating. Being in a club allows one to absorb some of the language just by hearing it in context. Most hams are only too happy to explain it to someone else as well.

Where the question of equipment is concerned, the choices are overwhelming. Club members can make sense of the choices and direct the tyro to solutions that make sense for his or her unique situation. People live in different kinds of communities and have different restrictions on what they can put up for antennas. Within the home, the space available for Amateur Radio might be a whole room, or it might be just a little space on a desk somewhere. Spouses also have different ideas on what and where they will be happy with radios in the house or the car. Since family always must come first, the advice of more experienced operators can be invaluable in getting Amateur Radio and your own personal zoning board to happily coexist.

Inevitably, at some point the new ham operator is going to come up against a problem. It could be equipment related or antenna related or any of dozens of other problems. Trying to work it out alone can be difficult to say the least. If you belong to a club, it is a simple task to ask another member with more experience for help or advice. Down the road, someone will be asking you similar questions and suddenly you realize that you have become the expert that newcomers look to for help.

More Than Just Radio

Most ham operators have more interests than just Amateur Radio. They may be expert gardeners, woodworkers or collectors. By joining a club and participating actively in it, you can avail yourself of the friendships and social contacts that the club provides. Who knows, you likely bring a skill or an experience level to the club that others will see as valuable too.

Another area where belonging to a club brings benefits is in the area of what I call "the big project." If there is a need for a tower to be erected, or some other large job, club members can be counted on to band together to get it done, whether for the club as a group, or for the benefit of an individual member. Just remember to reciprocate on the next "big project" for someone else.

At the ARRL Web site you can find affiliated clubs in your area
<<http://www.arrl.org/FandES/field/club/clubsearch.phtml>> searching by ZIP code, section or state. Visit several of



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them to find one that suits your interests. Then join one or more of them. Also /join the ARRL <<https://www.arrl.org/forms/membership/>>/. The services provided to the members and the publications they put out are a cornerstone of the hobby. You will find the /The ARRL Handbook <<http://www.arrl.org/catalog/index.php3?category=Technical%2C+Electronics%2C+and+Communications+Reference>>/ (as just one example) on the bookshelf of almost every professional electronics engineer in the world.

The ARRL is Amateur Radio's most important representative to the FCC and to the world. They protect our spectrum from encroachment by vested interests and speak for us to the government. They also do much more, but that would take a whole book to describe. Just a few of the benefits <<http://www.arrl.org/benefits.html>>are affordable insurance on your radio equipment, awards, e-mail forwarding, license renewal, technical information and regulatory information. The cost is only \$39 per year and no better bargain is to be had anywhere.

Until next time,
vy 73 de Woody K3VSA

Efland-Cheeks acknowledges OCRA for contributions



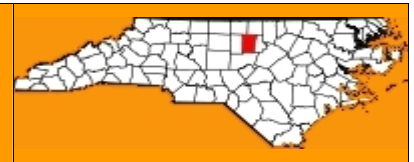
Orange County ARES update

By Laurie Meier, N1YXU

As I write this update, I am listening to the Tarheel Emergency Net (THEN) during a statewide hurricane drill. The intention of the drill is to test the interoperability of several organizations to communicate and respond during a true emergency situation in North Carolina. One of the organizations that is involved in the drill is amateur radio. I have been impressed by the professionalism of the amateur radio operators and the



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dedication they have shown to participate for extended hours in the drill. It is good to hear Orange County ARES members checking into the net.

Many of you know that I was recently appointed the ARES Emergency Coordinator for Orange County. I am truly honored to represent the Orange County ARES members and am looking forward to working with you to build upon the work already completed. I am confident that I can speak for all Orange County ARES members in thanking Skip, N6LUZ, for his work as the Orange County EC.

When Skip asked me if I was interested in becoming the Orange County EC, I took some time to understand the role and responsibilities before I gave him an answer. Emergency communications has always been a passion of mine. The factor that swayed my answer to yes was the OCRA/Orange County ARES membership. We have a very diverse group of people with different areas of expertise and interests. But, through the diversity is a common thread of camaraderie, persistence, and a desire to help our community. These are effective characteristics for an ARES organization.

To continue the Orange County ARES work, an emergency communications team of volunteers has been formed. The team has been meeting regularly for the last few months. Our meetings are open to all OCRA and Orange County ARES members. You are invited and encouraged to attend the meetings and to bring your ideas and feedback to the discussion. Our next meeting will be held on Sunday, July 12, at 6:00 pm at the Orange County EOC (location of the monthly OCRA membership meeting). At that meeting, we will continue to focus on communications training and on served agency relationships. We will also provide a brief update at the next OCRA membership meeting on July 13. If you are not able to attend the meetings but would like to share your ideas and feedback, please send me an email [lbmeier@bellsouth.net] or call me [919.942.4641].

I look forward to working with all Orange County ARES members.

Best regards,
Laurie – N1YXU

10 Meter SSB Net – Alive and well

By Bruce Meier (N1LN)

Since the last Newsletter we have had (3) 10 meter net nights. Thanks to all that are checking in. Without you there would be no net. Please continue to email me your very interesting discussion topics. I always find Monday night, at 20:00 local time, very interesting. The band is starting to open up more each week. We have had stations check-in from Texas, Missouri, Tennessee and Ontario Canada.

June 1:14 check-ins

June 8:No check-ins due to OCRA meeting

June 15:10 Check-ins

June 22:11 Check-ins (Woody was net control as we just returned from a few day's at the beach).

June 29: You too can join in. 28.380 / USB / 20:00 Local (00:00 UTC)

Come join us and share your comments, thoughts, ideas, and fellowship.

73,
Bruce N1LN



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REMINDER:

Location for the Monthly OCRA Meeting is: Orange Co EOC, 510 Meadowland Dr. in Hillsborough.

Direction to meeting site:

From Chapel Hill:

1. Take Martin Luther King ("Historic Airport Road") north toward Hillsborough.
2. MLK becomes Highway 86 (north towards Hillsborough)
3. Turn right onto Highway 70 Business at Hillsborough at the "T" intersection
4. Pass Meadowland Drive at the Triangle Sportsplex entrance to Meadowland office park
5. Turn right onto the second Meadowland Drive (Meadowland Drive is a loop), approximately six tenths of a mile from the intersection of Highway 86 and Highway 70 Business
6. Turn left into second driveway at 510 Meadowland (see radio tower), which is the location of Orange EOC

From Durham:

1. Take Interstate 85 South toward Hillsborough.
2. Exit Interstate 85 at Highway 70.
3. Bear to the left and take Highway 70 Business at Wayside Baptist Church
4. Turn left onto Meadowland Drive
5. Turn left into second driveway at 510