



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



Orange County Radio Amateurs (OCRA) Newsletter
March 2009

From the Editor

Well,

Here we are, two months away from field day 2009. The excitement is building, so; **make your plans ... participate.**

I created a monster ☺

A little over a month ago, I helped my dear friend and OCRA president Woody install an HF multiband dipole and get him on the air. Well, it appears he now is unstoppable. Three weeks ago, he started a 10m SSB net, which is quickly drawing in many ham from Orange and Durham County. Several of the participants (your editor included) did not partake of many 'HF Emergency net' until this came about. It has accomplished much more than starting another 'net' it has been an OCRA family gathering forum. Skillfully net controlled by the incomparable super duo 'Bruce and Laurie Meier', the net is knitting the OCRA group into more of a family than a club. At the end of the April monthly meeting, a couple of folks approached me asking for assistance in getting their HF station set up to partake of this net. I count it an honor to share the small amount of ham knowledge acquired over the past 4 years with others but at the same time immensely enjoying the opportunity to help others. **Thanks, Woody**, for your skillful leadership and "OCRA ham" family building efforts.

Net meets at 28.380MHz @ 8pm on Monday nights **except** for club meeting night.

"I did not do much with ham radio this month"

This is by far the most popular sentence at the monthly meeting. Well, there may not have been any radio "contacts" you made since the previous meeting, but that is not the only thing that should be considered appropriate. As an example, you may have helped another ham get his/her antenna up (I helped KD4YJV get on 10m antenna up in April), you may have experimented with antenna designs/building (W4KIL). You may have bought additions for your shack. At the outer limits, you can structure a whole paragraph on what you did not do for ham radio ☺.

Spring is here and so are thunderstorms and lightning

Though this statement may seem as the catalyst to spark much unneeded discussion, it is a subject we all need to consider. Over the past few years, since I became a ham I have heard much discussion over this subject by both experts in the field as well as others simply sharing their misconceptions.

One thing one **MUST** take away from any discussion on this subject is the following phrase uttered by two very well known and esteemed engineers in our club: the phrase is "once the lightning energy has entered your home is **too late**". Lightning energy as well as strike probabilities has befuddled man for centuries, the one thing a good ham must do is "BLEED off" this energy at or near the impact zone before it travels to the radio. Having said that, there are as many grounding approaches as there are facial looks, what may seem good to you may be disagreed upon by someone else.

So you may say what should I do?

Well, here is my humble input:

- 1) Seek advice from someone who has the **REAL** knowledge and esteem of others in the club when it comes to this (strongly suggest KZ1X, WA4AHR, KR4UB).
- 2) Study **YOUR** particular setting and installation; all locations have different soil (yes soil plays a very



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important role in converting a positive charge to neutral) and antenna set-up.

- 3) Budget according to what YOU want to accomplish with said grounding as well as how much re-work (after the hit) that you willing to accept.
- 4) Never seek/accept advice based on unsound electrical engineering principles.
- 5) If you fail to heed points 1, 2, 3, 4 and manage to survive the hit tell us your story, we will learn with you.

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



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Board meeting report:

March board meeting was held, as customary at the Casa Ibarra restaurant in Hillsborough.. (OCRA's board meetings are open to everyone and begin at about 1830L (6:30PM) on the second Monday evening of each month.

Board members in attendance:

- Raymond (Woody) Woodward (K3VSA) OCRA President.
- Ken Kauffmann (KR4FM) OCRA Vice President
- Dan Eddleman (KR4UB) OCRA Treasurer
- Adriano Marcuz (KI4OTN) OCRA Secretary
- Dave Snyder (W4SAR), Karen Snyder ((KD4YJZ), Robert Little (N4ZAK), Gerry Cassara (KD4YJV), Chris Ferrer (N2JFP) OCRA Board

Also attending were Dewey Thompson (W4AHR), Justin Heinecke (KD4CPM), Bruce (N1LN) and Laurie (N1YXU) Meier, Chris Lawless (KG4HNC), Dee Ramm (KU4GC), Lisa Woodward (KG4PFB), Jacqueline Little (KD4OFG), Wilson Lamb (W4BOH), David (W4DAP) and Kelly (W4KSP) Pegram.

As things sometimes workout and ninety-nine percent of the board is present nothing amateur or OCRA related was discussed. I did hear several comments on the good quality of the food though☺.

General meeting report:

A hilarious series of member and visitor introductions were given, the most memorable one was from Ken (KR4FM) on why he didn't do much with ham radio this month. I overheard several people planning to write several down to use later.

Dan Eddleman (Treasurer) reported that our club coffer is now around \$6,209.92.

Dee reported that at the Raleigh hamvention between battery sales, equipment donated by Ken Bentz (K4MNB), and other items, a total of \$560 was raised for the club.

Chris Pope (KG4CFX) shared information about ARRL guided Field Day form changes. Besides being fun and contest like, Field Day purpose's is simulate an **ACTUAL** communication emergency situation. Therefore, starting this year, FD participants will enter information on an actual FEMA tracking roster. These procedures and forms will be required during an actual ARES deployment.

Dave Snyder did an **excellent** job on the historical military re-enactments he and Karen participate in (see Woody's article below) and had us all riveted to the Power Point slides as well as his oration. Thanks, Dave.



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QSL card of the Month



Confirming Our QSO with KI4OTN QSL VIA

Day	Month	Year	UTC	RST	2Way	MHz
2	22	2009	2306	55	SSB	14

Tnx FB QSO Pse QSL Tnx ADRIANO

JE1LET
 OP. MASAHIKO OTOKOZAWA
 QSL to JA BUREAU
 Direct QSL to 985-7 KUNO ODAWARA 250-0055 JAPAN
 E-mail JE1LET@jarl.com
 MOUNTAIN TOP DX SHACK
 Photo: A full moon and aurora illuminate the snow covered plateau - 5May 2004
 by VK0MT Dave Macquarie Island

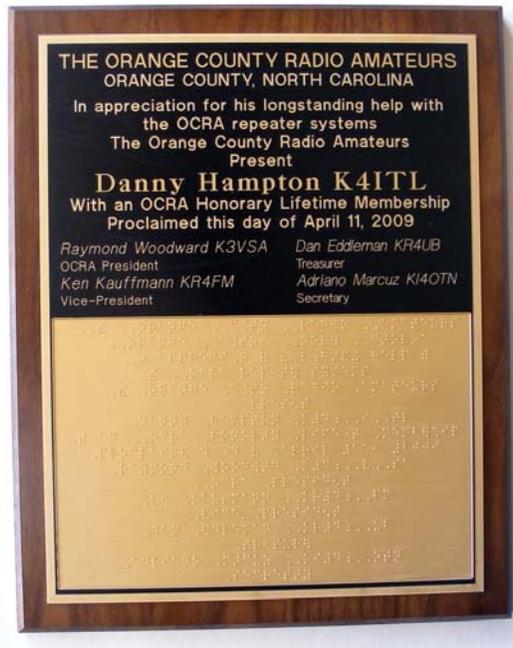
This series of photos provided by our very own Adriano Marcuz (KI4OTN) of a QSL card recently received from Japan.

Danny Hampton (K4ITL) presentation





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Dan Eddleman (KR4UB) presents the OCRA appreciation plaque to Wade Hampton (“Danny”) K4ITL.

OCRA members commissioned the plaque as a token of our appreciation for Danny’s continued commitment to help us maintain the OCRA’s VHF and UHF repeaters.

Danny commented that this is the first of many plaques, which he can actually read. Danny is blind.

Field Day 2009

By Dave Snyder, W4SAR
 Field Day Coordinator

The plans for the joint Field Day operation for OCRA and the Durham FM Association are moving along nicely! Orange County Parks and Recreation once again has approved our application to use the Blackwood Farm site, so we will again return to the same site as last year.

Some great developments are coming out of our joint enterprise with the DFMA, for one the Mobile Command Unit (MCU) will be on site and will house two of the CW stations. The MCU will also have a generator to provide power for auxiliary equipment. We will also have Wilson, W4BOH and Mac WQ8U captaining these station for us. DFMA will also have more hands to add as operators and support personnel for the camp. Lastly, DFMA volunteered to pay for the Port-o-San rental, thanks for the help!

Based on the returns so far, here is the list of band captains and the modes/bands they are covering. Rob, N4ZAK is unable to captain 10M phone this year, but he will operate around the camp as best he can. Therefore 10 M Phone is open for a captaincy.

<u>Band/Mode</u>	<u>Captain</u>	<u>Antenna(s)</u>
80M CW	Mac, WQ8U	dipole
40M CW	Steve, KZ1X	phased verticals, dipole
20/15/10M CW	Wilson, W4BOH	tri-band yagi
40/15 Digital	Dave, W4SAR	G5RV
20M Digital	Ken, KR4FM	dipole
80M Phone	Dave, W4SAR	vertical
40/15M Phone	Gerry, KD4YJV	loaded yagi, dipole
20M Phone	Ted, KE4NBB	vertical, dipole
10M Phone	open	



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VHF/UHF
Satellite

Chris, KG4CFX yagi
open

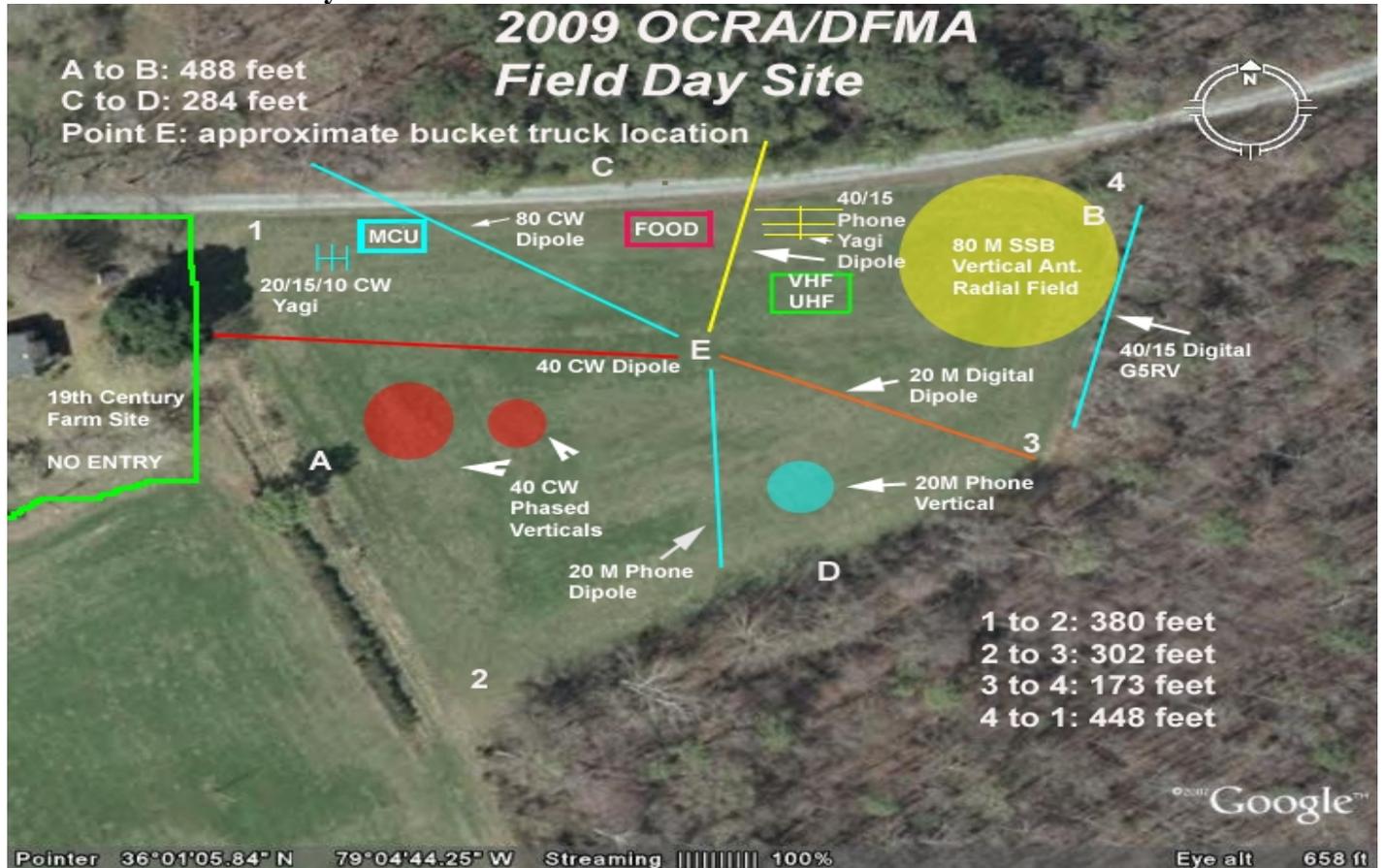
As a group we decided not to host a GOTA station this year, feeling that the current less-than-optimal propagation conditions would not make it very rewarding for new or prospective hams. Instead, we will welcome these people into the camp and introduce them to working stations on the site where they may have an opportunity to get involved.

A folder for Field Day 2009 is in the files section of the NCO CRA Yahoo Group, I will be placing files within it for this year's Field Day including JPEG's of the camp layout, a copy of the WR9R freeware Field Day Logging Program, and items of use including copies of the Field Day rules. At next month's OCRA meeting, Bruce, N1LN *contester extraordinaire*, will be giving a presentation on working contest QSO's. This will be excellent information for anyone planning to operate at Field Day.

I am really looking forward to this year's Field Day, see you there!

73, Dave

Blackwood farm field layout as of 4/13/09





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The President's QRM

Well, first off, welcome to our newest OCRA member, Lowell Tieszen (KK4PH). Lowell has been a more-than-occasional attendee at the Saturday morning breakfasts at Bojangles, and now that he's begun checking in to the OCRA 10 Meter Net, (with a booming signal, I might add) I suppose he decided to make his relationship with us legal. Great to have you, Lowell!

And now that the topic of the OCRA 10 Meter Net has come up, let's talk about that. Our inaugural net had one check-in with myself as Net Control. The second one had about ten check-ins with Bruce (N1LN) as Net Control. The third go-round had about a dozen check-ins, also with N1LN running the show. Do you see a pattern here between Number 1 and Numbers 2 & 3? It was easy for me to see where all this was going, so I asked Bruce if he'd be willing to be the (mostly) permanent Net Control, and he graciously agreed. Bruce does a fantastic job of calling a net, and he has all of the aplomb of a late night talk show host. He is blessed to have his own Ed McMahon--a.k.a. Laurie (N1YXU)--to keep him "on task." At least a couple of OCRA members are in the process of getting 10 Meter antennas up so they can participate. You should give this net a try. Bruce's 600 Watt signal is easy for everybody to copy, and his antenna has good receive ears, too, so you probably won't have any trouble getting in. Last week, we even had a Virginia station to check in! It all begins on Mondays at 2000L (8:00PM), except for the second Monday of the month when the membership meeting takes place.

Field Day 2009 is off to a terrific beginning. The DFMA is on board with several of their crack ops already adjusting their keys and paddles. DFMA has even resolved to underwrite the cost of the Porta-John, probably our largest non-reimbursable expense. (I don't suppose they'd want naming rights to it, along the lines of the "Alltel Pavilion." Somehow, the "DFMA Porta-John" doesn't have quite the right "ring" to it. Hey, wait a minute: Doesn't DFMA sponsor some sort of "lid" award? Hmmm...)

Attendance at our monthly membership meetings seems to be on the upswing, too. For the past several of them, we've tried a novel idea for us: actual programs, with people speaking about stuff. Some have actually done Power Point! Yes, yes, it's radical, but, you know, I think it's working. So, for at least the next three months, we have programs lined up for those three meetings, and you might find them interesting, so please do attend.

Our club table at the RARSFest was both well staffed and well patronized. I guess the two go hand-in-hand. At the April membership meeting, I wanted to--but forgot to--mention the dedication that Steve (W3AHL), one of OCRA's newer members, showed in keeping the tables manned, being the visible and friendly face of the Orange County Radio Amateurs, and doing the money changing. FB, OM! Steve, if you keep this up, you might just obtain your membership card as an Honorary Southerner.

And a very, very special thanks to Ken (K4MNB) and Eleanor (KE4QBU) for thinking about OCRA when they did some closet cleaning last month. We had so much stuff to sell that we couldn't get it all out onto the tables!

To date, one of the finest and most meaningful moments of my OCRA presidency occurred at RARSFest when I was able to assist Dan (KR4UB) in the presentation of the OCRA Honorary Lifetime Membership plaque to Danny Hampton (K4ITL). It was a thrill later that day to learn that Danny was chosen to be "Ham of the Year" at the 2009 Dayton Hamvention. Couldn't happen to a better guy!

And then, only two days later, I was honored to be on the receiving end, accepting a plaque of appreciation from Efland-Cheeks Elementary School for the work that OCRA members did in getting the school's weather station up and running. On that happy note, I'll close this month's diatribe by once again thanking you for the privilege of being your president and telling you how proud it is for me to get to hang out with the bunch of high achieving winners that y'all are!

Until next time,
vy 73 de Woody K3VSA



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Efland-Cheeks Elementary School Weather station

By Raymond (Woody) Woodward (K3VSA)

Efland NC (April 13) -- The Orange County Radio Amateurs ("OCRA"), an organization of "ham" radio operators from North Carolina's Orange County and its surroundings, was recognized today by the staff of the Efland-Cheeks Elementary School in Efland NC for the technical support they provided to the school concerning the installation of weather station equipment the school recently obtained.

Kristin Bedell (KI4LLO), a ham operator and a teacher at the school, obtained a grant from Piedmont Electric Membership Corporation and purchased a weather fax receiver and a weather station, along with the rooftop tower to mount the weather station's sensor array and the weather fax receiver's antenna. About a dozen members of OCRA made several field trips to the school over a period of a month to assist with installation.

On April 13th, the station, located in the school media center, was dedicated with a special assembly of the students, along with invited guests representing OCRA, Piedmont EMC and the Orange County School system's maintenance department.

During the special assembly, everyone present was able to experience the acquisition by the weather fax receiver of a passing weather satellite and reception of its weather pictures. All the equipment worked as intended, and the school is looking forward to using the station as a teaching tool. Special computer software, also purchased with the grant, permits the weather data to be seen on the school's website.



Top left: Kristin Bedell (KI4LLO) AIG Teacher demonstrates weather station data

Top right: (left to right) Efland-Cheeks Elementary School Principal Dr. Lisa Napp, AIG Teacher Kristin Bedell (KI4LLO) and OCRA President Woody Woodward (K3VSA)



Bottom left: The weather station at Efland-Cheeks Elementary School



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At His/Her Majesty secret service (well maybe not so secret)

Here is Dave Snyder (W4SAR) as his alter ego, Captain Dave Snyder of one of His Majesty's "regiments afoot," meaning an infantry regiment, during the American Revolution. Dave has been a Revolutionary War reenactor for many years now and has the whole kit and caboodle of uniforms, firearms, tent, etc., including a wife, Karen (KD4YJZ), who also reenacts. Dave gave a detailed presentation at the April OCRA meeting, including an almost first-person account of what it was like soldiering for the King.

Dave did a riveting presentation at the April OCRA club meeting. Attendee were taking in each and every part of his excellent presentation, especially when he told the group that soldiers during that era fired at each other bullets weighting an ounce or so (ouch!). The opposing battalions arrayed themselves in an open field or valley, squarely faced each other, positioned in layered lines and then fired at each other. The bullets, fired from the opposing army traveled at most 100 yards before finding their target. I do not know about you, but having been a police officer for the post 24 years and having had the scary opportunity to face an ARMED opponent a couple of times, that was at over 150-200 yards apart, with **cover between me an them**, was a sobering experience. One can only imagine what those soldiers went through during battle in those days.



Dave is describes the different color schemes used by the British army to distinguish the troops and their leaders.

Improving my shack for the wrong reason

By Adriano Marcuz (KI4OTN)

I like using myself as a learning example, for one it puts people at ease and two it shows that we are all human and should not be embarrassed by learned lessons.

My story is somewhat embarrassing for me; being an EE, I should have had my answer before starting but for some reason it did not register, what I mean is this: Transmission losses are not as important as receive losses. January 2009 I set of on a path to design a proper installation for the multiband yagi purchased in 2008 from KZ1X. My design concentrated **solely** on transmission losses. From the radio connection point to my antenna site it will be over 240' underground and then ??? up the tower to the radiating element. Hearing many ham talks at various venues, I presumed to



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be on the right road. February 09 traveled to Concord NC with the goal in mind to buy low loss cabling, spending a lot of time pondering the purchase of 110' 7/8" against two pieces of 53' 1/2" Heliac. Well the two section of 1/2" won only because of "installation ease" even though it was more expensive then the 7/8". Fast forward to last week (4/19/09) when my lovely XYL (still not sure why she puts up with my craziness ☺) helped me with snaking the two coax pieces from my shack area to the point where I will eventually build my remote switcher. I am now well on my way I though. Monday night before the 10m net I put one of my two newly installed sections of Heliac to work by connecting it to my home built offset fed 66' Carolina Windom. The results from this experience were more impressive than I expected. So walk with me on this journey: I went from slightly over 60' of 9913 to 52' of 1/2" Heliac. Cable losses at 28MHz are expressed as follows:

Set Parameters as Desired		Results		Set Parameters as Desired		Results	
Line Type:	Belden 9913 (RG-8)	Matched Loss:	0.656 dB	Line Type:	Andrew Heliac LDF4-50A	Matched Loss:	0.346 dB
Line Length:	100 Feet <input checked="" type="radio"/> Meters	SWR Loss:	0.047 dB	Line Length:	100 Feet <input checked="" type="radio"/> Meters	SWR Loss:	0.027 dB
Frequency:	28 MHz	Total Loss:	0.703 dB	Frequency:	28 MHz	Total Loss:	0.372 dB
Load SWR:	1.5 : 1	Power Out:	42.527 W	Load SWR:	1.5 : 1	Power Out:	45.893 W
Power In:	50 W			Power In:	50 W		
<input type="button" value="Calculate"/>				<input type="button" value="Calculate"/>			
Belden 9913				Heliac LDF4-50A			

As you can see by the calculation charts the Xmission losses are (in my opinion) negligible, but what was much more remarkable was the reception. At 19:45L (7:45pm Monday eve 4/19/09) I was getting between S0.5 and S1 at 28.380MHz with the Heliac, and an astonishing S2.5 to S3 with the 9913. Because of the lower floor noise, it greatly improved my readability of weak signals, even the stations which had a reading of S2 were clearly readable and some quite loud. So you say what is your "Lesson learned"? Well, this will really drive it home for you, too: Woody (K3VSA) could clearly copy Gerry (KD4YJV) but due to noise from: appliances, adjacent apartments, street lights, etc. KD4YJV could not copy K3VSA at all. Going back 36+ years of life back to the college days, I was reminded of something we today very seldom hear/talk about "parasitic harmonic frequencies" which translated in English mean "noise". USB and LSB are carrier suppressed amplitude modulation forms of transmission. When the voice signals at the receiver are extracted by the detector circuitry, some of these bad boys follow the path to the audio amplifier. True, additional DSP and audio filtering can remove a lot of these but, how about doing some preventive designing to enhance the filtering?

73 Adriano (KI4OTN)

OCRA 10 Meter SSB net going and growing!!

By the time you read this article, you would have had 5 or 6 opportunities to participate in the weekly OCRA 10 meter SSB net. What started out with only two check-ins has expanded each week to the most recent count of 16 on Monday, April 20th.

Day: Every Monday (except OCRA club meeting nights)

Time: 8:00 pm local time (00:00 UTC)

Frequency: 28.380 mhz.

This is a directed net, meaning that a net control operator manages the check-ins as well as the logistics of



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rotating the baton (what person gets to talk and when), but typically in a very informal style. Topics so far have been; ability to copy each other, favorite ARRL Field Day memories and experiences, and on Monday, April 27th the topic will be (was) upcoming station and/or antenna work.

The current opinion is the net is and will be a great success.

COME JOIN US!

73,

Bruce – N1LN

(Net Control)

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