

**Nixa Amateur
Radio Club,
Inc.**

Open Mic

Volume 4; Issue 4

April 2011

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March Meeting Wrap-Up

The March meeting was called to order by James Adkins, KB0NHX, at 6:03 p.m. and 24 people present. We had one person at the VE testing session, Jim Dye, and he passed his technician license.

Jeff Morrissey, KB0WVT, gave the treasurer's report, seen later in the newsletter, then Kent Doucey, N0IRM, updated us on the progress of the club's HF station. We hope to have it finished by the end of the month. On April 23rd, the club will be assisting the local Boy Scouts with obtaining their radio merit badge. It will be at the Nixa Fire Station HQ and the club HF station will be used for part of the session. We are looking for volunteers to help out.

Kent also gave us a report on him, Terry Zemsch, KC0SQE, and Al Gallo, W0ERE, and their trip to the Nixa Community Foundation banquet. He was impressed with the cere-

mony and told us how fortunate we are to have their support as there are many worthy organizations that get funding requests denied while ours get funded.



John Rayfield, Jr., W0PM, discusses MotoTRBO technology

James then gave a brief history of the 53.270 project, and our direction. We are currently up to \$1,750 for the project, and need \$2825 so we can pay for the installation. Anyone wanting to donate to the project can do so by contacting

the club officers at officials@nixahams.net. If 10 club members would give \$100 for the project, we would call the tower installers and have the system installed.

Lastly, James discussed the 29.680 repeater project. He is going before the Nixa City Council to ask permission for us to be able to install the transmitter site on one water tower, and the receive site on another.

Then, John Rayfield, Jr., W0PM, gave a great presentation on the technology Digital Mobile Radio (DMR) marketed by Motorola as MotoTRBO. The presentation covered the history of DMR as well as how it's applied in amateur radio, and he gave a detailed list of differences between DMR and Icom's D-Star.

Next month's meeting is Saturday, April 9. See you then!

The Nixa ARC's 29.680 Repeater Closer to Reality

On Monday, March 14, 2011, James Adkins, KB0NHX, appeared before the Nixa City Council to make a request on behalf of the Nixa ARC to install a 10-meter repeater which will utilize two of the city's water towers. In January,

James had made a request to the City Planner for tower space on the water tower on Hwy 14 at the East city limits for a receive site on 29.580, and a transmit site on the water tower by the Nixa High School on Route M, just south of

where we hold our club meetings. The two sites will be linked together via an RF link, and it will also be linked into the Nixa ARC linking system. This will allow you to check into the NARC net via the 10-meter repeater as well!

Area Nets of Interest

Daily Nets:

- 146.835 - 7:00 a.m. Little Switzerland ARC Net
- 3.963 LSB 5:45 p.m. Missouri Phone Traffic Net
- 146.625 - 7:00 p.m. Douglas County Check-in Net (110.9 Hz)
- 3.585 CW 6:30 p.m. Missouri Section CW Net
- 3.585 CW 9:45 p.m. Missouri Section CW Net
- 3.803 LSB 10:00 p.m. Roundtable SSB Net

Mondays:

- 146.970 - 7:30 p.m. Lawrence County ARES Net
- 145.270- 8:00 p.m. Missouri VoIP Net (162.2 Hz)
- 147.195 + 9:00 p.m. Taney County ARES Net

Tuesdays:

- 145.490 - 7:00 p.m. Sky Warn Check-in Net (136.5 Hz)
- 145.230 - 7:30 p.m. Christian County ARES Net (162.2 Hz)
- 146.805 - 7:30 p.m. Newton County ARES Net (127.3 Hz)
- 145.270 - 8:00 p.m. Bible Belt Christian Fellowship Net (162.2 Hz) *

Wednesdays:

- 146.820 - 7:30 p.m. EARS Club Check-In Net
- 145.210 - 8:00 p.m. Barry County ARES Net (162.2 Hz)
- 147.150 + 9:00 p.m. Combined KARC - TLARC Net

Thursdays:

- 3.963 LSB 7:00 p.m. Region D ARES HF Net (SW MO area)
- 145.270 - 7:30 p.m. Nixa ARC Check-in Net (162.2 Hz)*
- 147.225 + 8:00 p.m. Greene County ARES Net
- 145.350 - 8:00 p.m. Four-State ARC Net (103.5 Hz)
- 52.525 9:00 p.m. Joplin 6-Meter FM Simplex Net

Fridays:

- 146.910 - 8:00 p.m. SMARC Friday Night Net (100.0 Hz)

Sundays:

- 146.775 - 8:00 p.m. SWMO D-Star Net (w/ wide area links)
- 147.345 + 9:00 p.m. Stone County ARES Net (162.2 Hz)

The Nixa ARC's 29.680 Repeater Closer to Reality (continued)

The repeater, which started out as a joke, is now getting close to a reality. Obtaining permission to mount our antennas on the water tower was perhaps the largest hurdle left to overcome.

Andrew / Commscope was very accommodating to us on this project. We approached them and asked for a donation of the two 10-meter, commercial DB-201L antennas for the project, 500' of LDF5-50 7/8" heliax coax, and all the connectors for the project. Thankfully, they honored our request and saw our need. This donation equates to a donation in over \$5,000 worth of equipment! The club purchased two Motorola CDM radios that we modified to the 10-meter ham band for approximately \$300. The club has the Polyphaser lightening arrestors in stock covering that aspect of the install. And, when we upgraded the power supplies at Cox

South Hospital to allow for the high power amplifiers, that made available the two Duracomm 40a power supplies for this project. And, most recently, the Nixa Community Foundation awarded the club a grant that included funding to purchase an SCOM 7330 repeater



controller, identical to the ones we are using on the 145.270, 224.280 and 442.275 repeaters.

With equipment on hand, we've now begin the process of getting the permission from Verizon to

allow us to co-locate our equipment in their buildings, which have backup power available. When all the proper permissions are obtained, we'll begin checking out our options for installation. We hope to have the repeater up and operational so that we can enjoy the sun-spot cycle with the awesome 10-meter propagation.

Anyone wishing to help out with this project, please contact us at technical@nixahams.net.

73,

A Lesson in RF Station Grounds

By: Kent Doucey, NOIRM

I think that part of being a good contester is to evaluate your station and know your strengths and weakness'. Not that I'm a "Big Gun" but evaluating the Radio Ranch I have felt one of my weak points has been 40 meters, only having a mono bond vertical on a radial field for this band. Don't get me wrong it has served its purpose well but I just wanted to improve here. Of course I want a 6 over 6, or at least 2 element yagi on 40 but that is a long range project. I have had several conversations about this topic with my friend KD0AA and the same antenna system always come up, phased verticals.



Picture of NOIRM Phased 40m Vertical Array

I decided to do some research on a phased array and I found some very good information and some people who claimed very good results from the systems. I decided to go with the ComTek products from DX Engineering. After looking I could find no one who had anything bad to say about these products. In reading about the arrays they claimed up to 3 db forward gain over a single vertical and 15 to 20db front to back signal rejection. I did consider the 4 square array but I really liked the idea on being able to fire the phased array broadside. Another thing to consider was if I cross fired a 4 square at Europe (45 degrees) and ZL/VK (245 degrees) the 3rd corner would be close to JA but the 4th corner would end up between SA and Africa. I didn't like the idea of the waste of that last corner. I decided to go with the phased array.

Everything was ordered from DX Engineering, I have ordered from them in the past and as always I was very happy with their service and support. They are very helpful in answering any questions and are very knowledgeable. After calling I even ended up in a long conversation about DXing with one person, these guys are for real! I decided to

go with the ComTek vertical antennas because after researching everything I that I needed everything to be exact as possible with both antennas for best results. These antennas are great, very well built! I also went with the DX Engineering radial plates because I already had one so I would need only one more.

After some research I found you can spend as much time as you want studying radial fields. I think these are critical in the performance of any HF vertical antenna. I enjoy the information from hams who have also worked in the broadcast industry as they speak about radials. Searching the web will give you

plenty of reading material and opinions. I'm just going to touch on the high points of what I found. First off, ground radials don't need to be resonant. I decided to make mine 33 feet long. This creates a problem because the antennas are spaced at 35 feet so the radials from each antenna will cross. The solution is a radial bus. I used #8 gauge non-insulated solid copper wire and "cut" the radial fields in half. The individual radials are then terminated where they cross the bus and soldered to the bus. Another thing is I used #14 gauge insulated wire for the radials. Something else I picked up from my research is to use a few non-insulated wires in this field. Since they do not need to be resonant this doesn't hurt anything but it does help with discharging static charges. DX Engineering has an abundance of great information on installing ground radials also, I use their method of fastening the radials to the ground with "radial staples" and letting the grass take it from there.

Next month we will finish up the construction of the "twins". If



you're wondering my kids gave them this name because like most of my projects they are my primary helpers. They listened to my preaching

about the antennas being exactly alike so much they deemed them the "twins"

This Month Below 50 MHz

By: Kent Doucey, N0IRM

Wow, what a month for DXing! If you have been on the air any in the month of March I'm sure you have noticed the great conditions. The Solar weather provided us with some great opportunities, it reminded me of conditions when I was first licensed back in the late 80's. March gave us two great contests to take advantage of these conditions, 10 and 15 meters were great. In both contest I found great openings to Europe and Africa on 10 meters! Some milestones were also recorded in March, on the 9th the solar flux reached index reached 166.7 and the sunspot number reached 137. These were record highs so far for cycle 24. For the weekend of March 5th and 6th the 10 meter band radio wave propagation were listed as the best in seven years! Conditions did slip slightly toward the end of March but then again began to rise and at the time of this writing are back in great shape with the solar flux recorded at 113, and the sunspot number at 76. If you have not had time yet, make time to get on the air and enjoy these conditions in cycle 24.

It seemed the number of spots on the club reflector were down a bit this month, that may have been somewhat due to the contest activity. Don't forget if you like to enter your logs into the "unassisted" category you can not use any spotting assistance. This is why during contest weekends you won't see any spots from me unless I decide to enter in the assisted class. Any other time be sure to spot your

good DX finds on the club reflector. I can't tell you how many positive comments I have had about our spots. I think it sparks people's interest in HF activity and shows we have a strong HF operators group in the club. Many thanks to Rich KB9YZE, KD0AA Peter, Gary N0IRN, K0ABC Mark, Art K0RO, and Dave W0DR all for their spots this month.



DX Station David Smith, A92GE, in Bahrain

Here some great DX stations to watch out for in the coming month of April. 3Y8XSA is working from the Troll Station on Antarctica IOTA AN-016. A92GE is active from Bahrain on 12 meters. XV4Y is working from the Mekong Delta in Vietnam on 40, 20, 17, and 15 meters. A group of operators are active from Sierra Leone as 9L5MS until April 18th on 160 through 6 meters using CW, SSB, and RTTY. D2AM will be working from Angola until April 14th. 5M2TT is active from Liberia until April 13th on 80 through 6 meters using CW, SSB, and RTTY. Last, ZA/F4DTO will be QRV from Albania from April 2nd until April 16 on 40 through 10 meters using SSB. Have fun chasing those down!

Hopefully everyone enjoyed the great contest for the month of March, things began to wind down a bit down as far as contest go. Of course this first weekend of April is the Missouri QSO party. Here are some other contests to mark your calendars for this month. the SP DX SSB contest is also the first weekend of month. Also that weekend is the EA RTTY contest. The weekend of April 9th and 10th is the JA International DX CW contest and also the Yuri Gagarin DX contest. April 16th is the YU DX contest and the 17th is the ARRL Rookie Roundup. Last watch out on the weekend of April 23 for the SP DX RTTY test.

That looks like that wraps it up for me this month. It looks like if the forecast is right its time to start mowing grass around the radio ranch, and better yet time to start working more antenna projects. One thing that is at the top of my list is some general maintenance. Don't forget the simple stuff, for example I'm going to put new mechanical clamps on my grounds runs from my tower to their ground rods and make sure these have good connections. Take advantage of nice weather for these things like checking and re-making connections and checking quality control of feedlines. These things can make big differences in your station operation and might make the difference in working that "new one" when you find them on the air! The main thing is just enjoy our hobby whether being on the air or working on your equipment. Until next time "73 and GD DX!".

Schedule of Events

- **April 8 & 9, 2011:** Ozarkcon—4:00 p.m. to 12:00 a.m. & 6:00 a.m. to 6:00 p.m.—Stonecastle Inn, Branson, MO
- **April 9, 2011:** VE Testing session—4:30 p.m.—Nixa Fire Department—301 S. Nicholas Rd, Nixa, MO
- **April 9, 2011:** Nixa ARC Club Meeting—6:00 p.m.—Nixa Fire Department— 301 S. Nicholas Rd, Nixa, MO—Presentation TBA
- **April 9, 2011:** OARS Hamfest—8:00 to 4:30—731 Landrum St., Mt. Vernon, MO—Talk in on 146.970 -
- **April 23, 2011:** Boy Scouts Radio Merit Badge Course—9:00 a.m. to 3:30 p.m.—Nixa Fire Department—301 S. Nicholas Rd, Nixa, MO
- **April 23, 2011:** Shriners Hambash—8:00 a.m. to 2:00 p.m.—5100 Ararat Dr, Kansas City, MO—Talk in on 145.130—(No PL)
- **April 30, 2011:** OMAR Picnic & Antenna Party—10:00 a.m. to 3:00 p.m.—4405 S. Nature Center Way, Springfield, MO

April 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

H.R. 607 Meeting with Rep Billy Long by Area Amateurs By: Rod Kittleman, KOADI

We Had a meeting Tuesday March 22, 2011 with MO Congressman Billy Long (R) co-sponsor of HR 607. Reps from NWS..Nixa Fire.. Greene County Emergency Management...ARES..NARC..SMARC... were all there.

On the phone in Washington was Homeland Security Committee staffer Ed Parkinson who helped write the bill for Chairman Pete King as well as Billy Long's legislative director Scott Shiller.

Congressman Long was very aware of ham radio and what we do...but did not realize that the bill he co-sponsored affected ham radio in the ham band. He tried to assure us that he was going to do what he could to protect that ham spectrum.

What's interesting is "Ed" said the committee had been in talks with ARRL and knew there was a prob-

lem with the bill in its present form. He said that "they" had made provisions in the bill to resolve the conflicts that ARRL had and was working it all out.

He "guaranteed" that they would keep us involved in all of their discussions as the bill was marked up and put together before its final draft this summer.

After the meeting... I shared my notes with the ARRL. This is the response I received:

"Ed Parkinson is, indeed, well aware of our concerns. However, to put his comments in perspective, the bill is not in his committee. It's in the House Committee on Energy and Commerce. So his committee doesn't do the markup. Energy and Commerce does, and they have their own ideas of how to handle the D Block issue that do not involve

420-440 MHz.

We have heard that the Homeland Security Committee is trying to have the bill referred to them. I have let Scott Shiller know that this gives us concern because, frankly, the Homeland Security Committee has no expertise in spectrum allocations matters (as illustrated by the fact that Section 207 of HR 607 contains numerous flaws and internal inconsistencies).

So, thanks for holding Rep. Long's feet to the fire. I'm confident of two things: that we are going to prevail on this particular issue, and that Rep. Long is going to pay attention to Amateur Radio in the future.

73,

Dave Sumner, K1ZZ
Chief Executive Officer, ARRL"

Technical Committee Update

In March, the Technical Committee was busy with several projects. James Adkins, KB0NHX, went to the 6-meter site and reset the router to bring the experimental NXU-2 IP link back on line. If the problem continues, we may have to replace the used router we are using. While there, he tightened all coax cable connections and removed the UHF remote control link radio which is no longer needed at the site. This radio, along with the one that Jeff Kerr, KC0VGC, used for the IRLP node when it was at his house, will be used for the 10-meter repeater.

Jeff Kerr, KC0VGC, and James went to the 145.270 site to see

why EchoLink had stopped working. We found the "blue screen of death" on the server used for EchoLink and it would not reboot after power up. The server was removed and Jeff tested it at his home workbench. Jeff suspected there was a memory problem. The unit was using 4 1gb sticks of ram. One of the 1gb sticks is bad. So, since they must be installed and removed in pairs, Jeff removed 2gb of ram. He then did a stabilization test for 10 days with no problems. We plan to get it back out to the site and operational again as soon as we can.

James Adkins, KB0NHX, has also been working on the remote receivers for the Springfield East TRS

local receiver, the Granby (Southwest) receiver and the Milo (Northwest) receivers. In addition, the receive radios that will be used at Republic are racked up and will be wired into the voter so that audio levels can be set before being sent into the field. A "mock rack" has been set up in the basement so the equipment can be checked out and adjusted easily.

In addition, he is also setting up the radios for the 29.680 TX / 29.580 RX repeater as we await the final paperwork from the City of Nixa. Meanwhile, we are working with Verizon to obtain space in their buildings at both 10-meter repeater sites. Watch here for more updates! 73,

Nixa ARC Repeaters

6-Meters: (Republic)

53.270 / 51.570 PL 162.2 Hz

2-Meters: (Nixa)

145.270 / 144.670 PL 162.2 Hz

1.25-Meters: (Springfield)

224.280 / 222.680 PL 162.2 Hz

70-Centimeters (Springfield)

442.275 / 447.275 PL 162.2 Hz

33-Centimeters (Springfield)

927.5375 / 902.5375 PL 162.2 Hz

March 2011 Treasury Report

Beginning Balance: \$2,055.81

<u>Debits</u>	<u>Credits</u>
	\$ 15.00 Nixa CF Dinner—Al Gallo
	\$ 125.00 Donation from Eric Harrison
	\$ 3.00 Donation from Jim Young
	\$ 0.03 Dividend from Savings Account
	\$ 200.00 Sale of Compaq computer cabinets to South Side ARC in Raymore, MO
	\$ 96.00 Club Membership Dues collected
<hr/>	<hr/>
\$ 0.00 Total Debits	\$ 439.03 Total Credits

Ending Balance: \$2,494.84

Spring is Here! Get out and enjoy ham radio events . . .

The April calendar is full of events for you to get out and enjoy! Starting with Ozarkcon on April 8 & 9, the same weekend hosts the OARS hamfest in Mt. Vernon and the Nixa ARC club meeting! Sounds like there is something for everyone to do that weekend!

Then, a couple of weekends later, we have another good weekend. First,

the club will be helping the Nixa Boy Scouts troop earn their Radio Merit Badge. If you are interested in helping out with this, we need you! It's a fun way to share your experiences in ham radio and help pass your passion along to the next generation. This takes place at the Nixa Fire Department General HQ from 9:00 a.m. to 3:30 p.m. And, if you want to drive

all the way to K.C., the annual Shriner's Hambash is also an all day event for Saturday April 23.

Lastly, we have the OMAR antenna party & picnic rounding up the month on April 30. This is a great annual event. We encourage you all to get out and enjoy ham radio in April with your fellow hams.



Nixa Amateur Radio Club, Inc.
P.O. Box 467
Nixa, MO 65714-0467

Website: <http://www.nixahams.net>
E-mail: kc0lun@nixahams.net
VE Team Contact: testing@nixahams.net
Website contact: webmaster@nixahams.net

NIXA AMATEUR RADIO CLUB, INC.

*Those saying it can't be done
should get out of our way!*

We're on the Web!
www.nixahams.net

The Nixa Amateur Radio Club, Inc., call KC0LUN, was founded in April 2002.

The club assists in providing communications for many different public service events. We work with Greene and Christian County ARES and the National Weather Service by providing communications for Sky Warn spotting. We also work with Greene County ARES and other organizations in providing communications for the MS-150, and American Diabetes Association fundraiser bike rides. We hold special event stations for local hams to participate in, such as the annual Sucker Days celebration and the annual ARRL Field Day drill for emergency preparedness. We encourage our members to not only participate in our club events, but to also be members of their local ARES and RACE's groups, and the Christian County CERT team.

The club provides 5 repeaters that are open for all hams to use. These repeaters are part of a sophisticated linked system which allows all repeaters and VoIP nodes to be linked together simultaneously for nets or emergency events and announcements. We also provide VoIP modes, such as EchoLink and IRLP for our members to explore. We also have a club HF station installed at the Nixa Fire Department General HQ Emergency Operations Center, which consists of a Yaesu FT-950 with LDG AT-100PRO tuner, Begali CW keyer, logging PC with digital mode software, and 6-meter SSB capabilities.

The club holds a weekly check-in net on the 145.270 repeater on Thursdays at 7:30 p.m. The net is simulcast on all 5 Nixa ARC repeaters, IRLP and EchoLink. Feel free to check in on any band! The 145.270 repeater also hosts the "Bible Belt Christian Fellowship Net" held on Tuesdays at 8:00 p.m.

Visit www.nixahams.net for more exciting information!

Nixa Amateur Radio Club Elected Officers

President: James Adkins, KB0NHX

- James started serving the club as Secretary when the club was founded, and then moved into the Vice-President position. James and his wife, Kim, KCØGKP, have two children, Sierra and Kolton. James works as a technical field engineer and repairs two-way radio and repeater equipment daily. In the past, James delivered pizza while attending college. James' primary interests in ham radio include maintaining the club repeaters and promoting amateur radio. He enjoys operating HF through 1200 MHz from his home station.
- E-mail: kb0nhx@nixahams.net

Vice-President: Kent Doucey, NØIRM

- Kent was appointed to Vice-President by the board after the resignation of Chris Cochran, KB0WZC, as President in October 2010. Kent and his wife Wendy have 3 children: Richard, KDØHGY, Britney, and Katie. Kent has been a law enforcement dispatcher and deputy sheriff in the past and currently serves on the Stone County 911 board. Kent enjoys HF SSB and digital operations and building HF antennas. He writes the "Below 50 MHz" article for the newsletter and volunteers on the club's technical committee.
- E-mail: n0irm@nixahams.net

Treasurer: Jeff Morrissey, KBØWVT

- Jeff is a charter member of the Nixa Amateur Radio Club and took over the treasury job almost 2 years ago. Jeff has a daughter, Brooke, KCØYVF, and son, Garrett. Jeff works in management and has a background in computer networking. Before ham radio, Jeff was an Internet guru and ran a BBS from his house. Jeff's primary interests are SkyWarn spotting, being active with Christian County CERT, and other emergency communications support.
- E-mail: kb0wvt@nixahams.net

Secretary: Jeff Kerr, KCØVGC

- Jeff obtained his license in 2005 and began to immediately make an impact with the club and was elected as secretary shortly thereafter. Jeff and his wife Dee have two daughters, Emily, KCØYOO, Stephanie, and a son Brandon. Jeff works in PC Networking and considered computers his hobby before amateur radio. Jeff's primary interests include 6-meters and HF SSB as well as 900 MHz FM.
- E-mail: kc0vgc@nixahams.net