# County Hunter News

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Welcome to the On-Line County Hunter News, a monthly publication for those interested in county hunting, with an orientation toward CW operation.

Contributions of articles, stories, letters, and pictures to the editor are welcomed, and may be included in future issues at the editor's discretion.

The County Hunter News will provide you with interesting, thought provoking articles, articles of county hunting history, or about county hunters or events, ham radio or electronics history, general ham radio interest, and provide news of upcoming operating events.

We hope you will enjoy the County Hunter News. Feel free to forward, or provide links. Permission is given for copying or quoting in part or all provided credit is given to the CHNews and to the author of article.

CW County Hunter Nets run on 14.0565, 10.122.5, and 7056.5, with activity occasionally on 3556.5 KHz. Also, with low sunspot activity, most of the SSB activity now is on 'friendly net' 7188/7185 KHz. The cw folks are now pioneering 17M operation on 18.0915. (21.0565, 24.9155, and 28.0565 when sunspots better). Look around 18135 or 18.132.5 for occasional 17M SSB runs.

You can see live spots of county hunter activity at ch.W6RK.com

For information on county hunting, check out the following resources:

The USACA award is sponsored by CQ Magazine. Rules and information are here: http://countyhunter.com/cq.htm

For general information FAQ on County Hunting, check out: http://countyhunter.com/whatis.htm

MARAC sponsors an award program for many other county hunting awards. You can find information on these awards and the rules at:
http://countyhunter.com/marac_information_package.htm

The CW net procedure is written up at:
http://www.wd3p.net/ch/netproc/netproc.htm

There is a lot more information at www.countyhunter.com . Back issues of the County Hunter News are available at www.CHNewsonline.com

De N4CD (email: telegraphy@verizon.net )

# Notes from the Editor

N4CD Bob USACA #883

## 1) N4CD Rumblings

We are now into late March. Spring is here – and it was met with 7 inches of snow the first day of spring in north Texas. Band conditions should be improving with the flux over 80 for much of the month. I'm actually hearing a few mobiles on 20M now, but skip is still long for most of the day, and it's not like the 'good times' at sunspot peak yet.

There has been a lot of QSO Party activity, interspersed with DX contests, RTTY contests, WPX contests and other things to muck up the bands,

although the DX contests can get you 3 of the 4 AK counties (districts) and 2 or 3 of the HI counties typically if you need them.

Several mobiles made nice long trips and many others were out for a few days in March. Gas remains about a buck higher than a year ago, between $2.50 to $3.00 for much of the country. Of course, CA is always higher than most. If you have a newer car that gets 25+ mph, it's not too bad on trips. Who knows where it will be in a few years? It really all depends upon how the economy does.

Not much news this month on "Global Climate Change'. Things seem derailed as they should be. Same for "Peak Oil Production". We're just sitting at about the same supply/demand situation – and that won't change until there is a shift in the economic output.

So this month we focus on the QSO Parties that occurred along with some other news tidbits mixed in.

**2) John K1ER writes**:

"I'm pleased to report that KH6BB, the Battleship Missouri ARC, has received the USACA certificate for 1077 Counties. With the Sun waking up, you'll hear KH6BB more often. The club operates SSB and CW usually hanging near 14263 (BB63) for SSB and wherever the band seems open on CW.

We WANT THOSE COUNTIES!
73 John K1ER (trustee for KH6BB)

**3) Report from WV2B,** Duane

"I decided it would be good to get this county running out of my blood for a while, by making a trip to get a few of the counties I still need for transmitting all NY counties, which also corresponded quite well with 2 of the last 3 WBOW for Bingo needed by K4YT.

So, it was I headed off in the wee hours of the morning, in the snow {yes, it is always snowing at my QTH}, in the general direction of Philadelphia, PA.

My first surprise was being able to work Alan, VK4AAR in a few counties. I had alerted him to my trip, and he could have gotten more if I had left earlier. It was still a surprise to work Australia so easily from the mobile. Now if Alan can just convince more folks to get out there running counties at 5 AM he'll have it made!

After a sloppy trip down the PA turnpike towards the city of brotherly love, I hit my first snafu. I followed my computer generated directions, but somehow ended up on Market St. I proceeded in what seemed to surely be the right direction, until suddenly there was a sign- Road Closed Ahead! Thankfully, a nice young man in the CVS corrected my path, despite the distressed look on his face when he learned I had never been in Phila before, and had no particular destination other than across the Ben Franklin Bridge to New Jersey.

Soon I was in the 3rd from last for Karl, and of course, signals were very weak, but we made in on CW. As one could easily guess, once I was out of the county Karl needed he popped up to S9.

Then came the fun little trip across Richmond County {Staten Island} at a blistering 30 MPH maximum. But soon I was happily bridge hoping into Kings County. That was when the running started to get interesting. I kept going through underpasses blocking out all signals. And throughout the NYC area if it wasn't underpasses it was 30 foot concrete walls on each side. It was interesting at one point shortly into Kings to see a tower with a tribander almost hanging over the expressway. Seems like I could almost reach up and touch it.

Soon enough all the excitement was over, and I was again back on the more "mainland" counties, where one didn't have to watch 3 lanes of traffic, suddenly coming to screeching halts, while trying to send CW with your malfunctioning keyer paddle {What is that truck doing? Does he see me!}.

It was quite a fun and fulfilling trip, even though I had to leave 3 counties on the other side of the Hudson for another time {I have transmitted from them many years ago, but lost the records in a house fire}. But, weighing the options of arriving home at 5 PM, or after 9 PM, I decided for the former.

So, Monday it will be back to the old grind, with not so much time on my hands to chase mobiles or take off on wild county running adventures. I have learned that I despise tolls. I spent over $25 in tolls, and one bridge alone was eight dollars just to cross. After all the taxes we pay in NY it just seems like highway robbery to expect us to throw money in the basket or take a ticket just for the privilege of driving down the road."

**4) Mobile Activity in March** – this has been a good month with many out on trips. It was also busy with QSO Parties and they are covered separately.

Jimmy, **K4YFH** ran around in Texas for two weeks, then over into AR headed eventually back home for a while, the will be off again to the west coast. Ran on 20/40 cw, and on SSB as well. He is nominated for the most active mobile, on nearly every day during the month.

**N7IV** spotted out on trips in ND to WI

Jim, **N9JF**, was on various trips to KS, IA, and others.

Mike**, K8OOK/** Nancy**, N8IPG** team ran on SSB in IN putting out counties.

Duane, **WV2B**, ran counties in NY state several times.

Stan, **AC8W**, was off in NY and down to NC.

Larry, **W7FEN**, was out in ID, then took nice trip over to WA and down to Portland area and then back home. Gave out lots of those 'rare' ones. Then starting running all over ID putting them out, headed to MT.

Karl, **K4YT**, gave out a bunch in the rarer VA counties in early March.

Bob**, N2OO** was spotted in NJ and PA on cw.

Jim, **W4HSA**, was out in some VA counties on cw.

Bob**, N5KUC** was up in MI running counties.

Tim, **W8JJ**, got on once or twice in MI on cw.

Scottie, **N4AAT**, was out and about in SC and GA – mostly on SSB, but occasionally would switch to CW. He tried on 30M, but few takers – almost no one listens there these days it seems and the only activity occurs when someone QSYs there from 40cw.

In the ARRL SSB DX contest, AK and HI counties were spotted for those interested in catching some of the districts. Sorry, no 2nd AK noted.

Rufus, **KD4HXM** was noted out and about in GA on SSB.

Barry, **N0KV**, and Pat, **N0DXE**, made a nice trip to KS then over to IN, to WV, running them as a team on SSB, and Barry on CW.

Bill, **WG9A**, was spotted in FL running counties on SSB. Then over to AL and home to IL.

Bob, **W0BH,** was spotted down in TX. He headed to South TX putting them out. He got snowed in for the OK QSO Party weekend and missed running mobile there. You'll hear him in the next QSO party coming up.

Steve, **AK8A**, was down in KY running some of the rare ones.

**KB0BA**, Lowell, and Sandra **N0XYL** were running counties in IA and NE

Matt, **W0NAC**, and Sharon, **N0LXJ**, were out in COLO running some. Sharon now occasionally works mobiles on CW.

Rick, **AI5P**, wound his way through TX over to AR.

Ron, **KB6UF**, headed over to FL.

Gene, **WB4KZW**, made a trip to FL running counties along the way.

Fred, **K0FG,** was out running counties in AR.

Ed, **K8ZZ**, was noted in MI headed down from his QTH.

Scottie, **N4AAT**, took a nice trip to GA to get a few LC for the folks and give Jack, N7ID some Platinum counties.

Cheryl, **KJ5PQ** and Mike, **KG5UZ**, were out mobiling in TX. It's been a while since we've heard from that team.

Paul, **WD9EJK** was running counties in IA.

**NK0I** was all over the Midwest running a bunch of counties, and Rob, K0RU put out a few on CW. AA0TT was spotted in quite a few on SSB.

Dave, **KE3VV**, headed down to the Roanoke, VA area and back.

Jim, **K0ARS**, was running in KS.

Guff, **KS5A**, headed to MS after the OK QSO Party.

# 3D Television

In the past month, major theatre chain owners have announced that they will convert 1000 movie theatres, consisting of some 14,000 total screens to 3D capable theatres. The recent blockbuster movie Avatar is setting the trend for an entire generation of 3D movies. All of these theatres are also going 'fully digital' with no more film involved. Movies can be downloaded by high speed fiber cable interconnect – even though they may be hundreds of gigabytes or longer.

Well, what's next? 3D home TV sets naturally. Walt, K1DFO, our resident HDTV and high tech TV expert, says 3D 'capable' TVs will be shipping this year! The manufacturers and broadcasters and satellite/cable providers are trying to figure out how to do it.

From recent CNN article (Sept 18, 2009)

"Sony and Panasonic say they will release home 3-D television systems in 2010; Mitsubishi and JVC are reported to be working on similar products.

"TV finally becomes real" in three dimensions, said Robert Perry, an executive vice president at Panasonic. "You're in it. It's the next frontier."

Perry compared the 3-D transition to the switch from black-and-white to color television and the shift from standard- to high-definition images.

And, although television makers haven't released specifics, the price of 3-D TV -- which requires a new television, broadcasting content and 3-D glasses -- is not expected to be substantially higher than some high-definition televisions on the market now.

All 3-D technology relies on the idea that if separate images are presented to the left and right eyes, the human brain will combine them and create the illusion of a third dimension.

TV makers go about this in different ways, though.

Panasonic and Sony, which demonstrated their products for CNN at a recent tech expo in Atlanta, Georgia, use "active glasses" and TVs with high refresh rates to achieve the effect.

Two images, one for the right eye and one for the left eye, alternate quickly on the TV. Shutters on the 3-D glasses swap the viewer's vision from right eye to left eye at the same rate: 120 hertz, or 240 hertz for the images together. The TV connects with the glasses through a sensor that's placed between the lenses on the glasses.

"It's like a little Venetian blind: open, close, open, close, open, close," John Wyckoff, a Sony content manager, said of the glasses.

The effect moves so quickly that it tricks the brain into merging the images and creates the perspective needed to see images in 3-D, he said.

Sturgeon, of HDTV Magazine, said JVC is working on a type of 3-D technology that's different form the strobing glasses used by Panasonic and Sony.

JVC's version uses polarized glasses to separate the right-eye image from the left-eye image and is more pleasing to the eye, he said.

Panasonic and Sony said they're still working out some kinks in their 3-D entertainment systems. The TV makers hope to ride the wave of popularity

of improved stereoscopic 3-D movies, such as recent hit "Up," that are being shown in theaters.

Perry, of Panasonic, said he expects 3-D TV to be common in homes within five to 10 years. Technology that will make 3-D TV possible without glasses should be ready in 10 to 15 years, he said."

Of course, sending all that extra information will be a challenge. For cable, fiber, and satellite providers they could use a second full channel to carry the information for both eyes. For Blue Ray type DVD players, they could be changed to replay 3D content on disks. However, over the air for 'normal broadcast' is now the latest challenge to figure out how to do it.

Just a few years ago, you were asking 'Is this TV set HD capable?". Now, the next time you go shopping, the question may be "Is this TV set 3D capable?"

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Note: The first run of 3D television sets were sold out instantly. Look for major ad campaigns later on this year.

The gaming market will likely see some new 3D games come out. Next holiday season, the kids may be screaming for 3D XBOXes and other game machines, plus having 3D capable computer monitors and even faster graphics cards for their PCs to run them.

At the N4CD QTH, I just recycled a 1969 black and white portable TV set. These are useless these days with digital television, and cable. It would run off 12v so I kept it just in case of a power failure so I could run it off car battery. Of course, I hadn't done that in 40 years after I sold the big van that went to hamfests a day early and I slept overnight in way back when when I was in my 20s. It didn't even have a way to connect a cable to the set, just rabbit ears that pulled out!

## Newsflash –

" Yesterday Nintendo announced their development of a new 3D-enabled system, tentatively titled the "3DS", whose nomenclature follows Nintendo's current DS handheld line. More information is expected to be

revealed at this year's E3 entertainment expo, to be held June 15-17 in Los Angeles.

Given its inclusion of the DS naming convention, one would reasonably assume the new system to be a handheld device. Can 3D really shine on something so small it fits in your palm? It's clear that "Avatar" really opened the way for the new 3D boom, and I believe the Avatar video game is in 3D as well, but the third dimension is something that really needs to be seen on a big screen to be fully appreciated.

The other issue I see cropping up is that while the new system will be backward-compatible with existing DS titles, the experience wouldn't be complete without a 3D-style interface. "

Source: http://www.manolith.com/2010/03/24/nintendo-to-release-3d-game-system/

Unlike the recent flurry of three dimensional films and TV technologies, the new machine, tentatively called the Nintendo 3DS, will not require users to wear special glasses to view images in 3-D, the company said.

Now, manufacturers like Samsung, Panasonic and Sony are racing to bring 3-D technology into the living room. The 3-D LCD televisions come with more advanced "active shutter" glasses, which darken and lighten in sync with the TV to help create the illusion of three dimensions. Sony has also said that games for its PlayStation 3 consoles will be available in 3-D.

Samsung of South Korea started selling 3-D-enabled televisions last month, with prices starting at about $1700. The Japanese electronics makers Panasonic and Sony have promised their own versions this year.

Nintendo would not say what kind of technology its new 3-D handheld employs or how much it would cost. The new console will be compatible with games for Nintendo's older DS and DSi handheld models, the company said. "

Source: NY Times

# State QSO Party I

The month started off great with a weekend of the MS and NC QSO Parties. There were ample opportunities to snag 'no star' mobiles and counties for Nth time, and a few mobiles out there good for other MARAC awards such as Bingo.

Kyle, WA4PGM, operated mobile special event station N4C in the QSO party. . He has a star, so that should not be good for the No Star award. With club calls or special calls, you might never know. The regular calls are easy to check for stars – Logger does it automatically or you can check the MARAC database on line to see whether a mobile has received USACA or not – thus earning a star.

Maybe next time, N4C will be used by someone else? Could be interesting to track all of these.

K7I special call showed up in the ID QSO Party.

## Mississippi

From TX, it was 40 meters only into MS. Never heard a peep on 20M. However, that didn't stop the fun as the mobiles were zipping around. I snagged 2 of last 3 needed, and didn't hear the missing one. Several loud fixed stations to keep things busy, and saw spots on 80,40, 20 and 15 meters for those with propagation.

**KS5A (AZ)** 38cw 7 ssb 30 mults: "In and out operation, but had a great time following the mobiles (NO5W, N5CW, W3DYA, K4ZGB) around. They did a fantastic job and generate a lot of interest in QSO Party activities.

**W4UCZ** (NC) 53cw 40 mults: "Had a wonderful time tagging along with the mobiles :

NO5W (15), W3DYA (11), K4ZGB (8) and N5CW (8)

**N6MU** (CA) 87 cw 27 ssb 43 mults: Had almost as many Qs on 15 as 20 for a change. Top mobile for me was K4ZGB (28) followed by W3DYA (22) and NO5W (17).

**K4ZGB/m** 457 cw 21 ssb: "Have not computed the score from each county at this time. Operated in 10 counties (no driver). Contacts from each: Itawambia-76, Tishomingo-57, Alcorn-41, Prentiss-32, Tippah-42, Lee-57, Pontotoc-40, Union-41, Monroe-29, and Chicasaw-58.
Thanks for all the contacts, and following me around through the day.
I had N6MU with the most contacts (27), and several others close behind. "

**NO5W/M** "Driving over to our Southeast Louisiana jumping off point from Houston in the pouring rain Friday before the MSQP the thought occurred to me that this was typical weather for the MSQP. Watching the weather channel on Friday night my driver suggested that we might avoid the worst of the weather Saturday by driving the route backwards since it looked like the weather was moving southinto the Gulf.

So I even went so far as to create county line crossing files for the reversed route. Fortunately, however, Saturday morning brought an overcast, but rain-free, sky so we set out on the original route covering the Gulf coast counties first. In fact by mid-afternoon, when we reached Franklin, Jefferson, Adams, and Wilkinson the weather conditions were cold but otherwise very good.

Radio conditions were poor Saturday morning with signals just above the noise level and in Jackson County, which easily took the prize for worst power line noise, it was possible to hear only the very strongest stations over the QRN.

Apologies to all that called during the morning and were not able to get in the log. Fortunately by noon conditions had improved and we were able to get some decent rates going.

The following counties were activated with indicated number of QSOs: Franklin(72), Amite(56), Pike(42), Lincoln(34), Jefferson(31), Adams(29), Marion(27), Jackson(25), Wilkinson(24), Harrison(23), Walthall(21), George(19), Lamar(18), Forrest(17), Hancock(11), Perry(11), Stone(10), and Pearl River(5)

Thanks to the following stations for contributing more than half the QSOs N6MU(20), AD5WI(16), W4UCZ(16), N5NA(14), DL5AWI(14), WA2VYA(14), AB7RW(13), K0PC(12), K4YT(12), W5ESE(11), KC3X(11), WA7JHQ(11), K4AMC(11), K9EN(10), NT5O(9), W0QE(8), W7GKF/6(8), VA3XOV(7), W6RLL(7), N2JJ(7), KS5A(6), KO1U(6).

The money bands were equally divided between 20m and 40m as usual. It was good to be able to log 18 Qs on 15m which we went to regularly and spent a good bit of time calling CQ especially in several long counties. Several times we received reports that we were loud on the west coast. Unfortunately not many stations were listening. Hopefully that will change as 15m continues to open up.

In summary we had a fun time although our totals were down considerably from the last time we ran the MSQP in 2008. Thanks to all who followed us around."

## North Carolina

The DX was in…..DL3GA, G4RRU, OK1KT and more working the stations on 20M. 20M worked well for most of the day from TX to NC. Later in the evening, I could work the fixed stations and a few mobiles on 40M. OK1KT and others were working mobiles on 40M! I managed to find most of what I needed, but could not hear AA4XX on 40 in the two I needed, and never heard him on 20M. It was a busy day with lots of counties. There were lots of mobiles to chase, too.

**KC3X/m** "I was filling in the gaps that were not covered by other stations. I checked the QSOP web page and found several counties not covered. I too would like to thank everyone that worked me and kept it fun. This was a last minute plan as I only installed the antenna system on the truck late Saturday. I did not have any success on SSB."

From the 3830 reflector:

**N4C/m (WA4PGM op)** : To describe the North Carolina QSO Party in one word that would be "WOW". This was the first year I was able to participate after having to cancel last year due to snow. A huge THANKS goes to my girl friend "Pam" for doing all of the driving. She's a real sweetie and supports all of my hobbies and I'm truly blessed to have someone so special. We decided we would spend a day at the beach before the QSO Party. I booked a room on the ocean front and we arrived early Saturday morning and decided to go for a walk on the beach. The weather was cool but the sunshine felt wonderful and the views beautiful. What else could you ask for the beach, sand, sun, seafood, ocean front room, and the NCQP.

After a day on beach Sunday morning we ate breakfast and then drove to Bodie Island to tour the lighthouse which was under construction so we didn't get to see much. Oh well always next year right? From there we stopped at the visitors center on Roanoke Island and decided that would be a good place for me to setup the laptop, microham keyer, antenna, etc... Everything went well except for the antenna had a 2:1 SWR on 80/40, not sure of the problem but maybe it's time to replace the feed line. Anyway I reduced the power so hopefully I won't due damage to my rig. At 1700Z we're sitting in Dare Co. close to the bridge in Tyrrell Co.

CQ N4C/m..... The pileup begins and we're off on our 300+ mile journey. Very soon I discovered that keying would hesitate and become erratic due to CPU overload. But why? The only software running was N1MM and Microsoft Streets and Trips w/GPS, turning off navigation didn't help. Once the keying became a problem I stopped for 15 seconds or so and everything went back to normal. This laptop has a lot of software and once in awhile a dial up connection would pop up so I'm thinking maybe something in the background was causing the problem.

The trip was going well except when we missed a turn near Northampton county so we missed running 3 counties on the list. Nash, Edgecombe, and Franklin but hey 16 out of 19 isn't bad. Let me describe mobile operating for those who haven't had the opportunity. Think about driving on unfamiliar bumpy roads, laptop well on your lap, ear pounding line noise, street lights and who know what kind of noise in towns, and then the sun goes down and you're doing all of this in the dark. As I said Pam was a trooper to the very end and did a outstanding job putting up with me. :)

We arrived back at the Virginia line 3 hours early with both being exhausted. I decided to end the trip there even though Pam insisted it was up to me. We both had to work Monday morning and neither had a lot of sleep since Thursday so the safe thing to do was to go home.

799 contacts with dupes, only 1 SSB contact with no luck calling but I didn'tstay long due to the CW pileups. The first hour netted 92 contacts so I was off to a good start. Hour #2 was smoking with 145 and 115 to follow in the third. 5 out of the 7 hours netted 100+ per hour. Some of the pileups were incredible and a reminder of being DX again.

73,

Kyle - WA4PGM - N4C"

**W4UCZ**(GA) 112 cw 83 mults: "What an immensely enjoyable Sunday afternoon! The state was crawling with mobiles with very little overlap in their routes. The mobiles
accounted for 80 of my 112 QSO's. My special thanks to :

NY4N (21), AC4XX (19), N4C (15), N5WR (10), W4HIA (7), KC3X (5) and N4MIO (3).

As a result of the sensational coverage I was able to log a mind-boggling 83 counties - my best-ever showing in a state party other than Texas. As

always, there were some strange MIA's : Cumberland and Durham counties – their 5th and 6th largest in population.

**WB2ABD** (NY) 115 cw 20 ssb 77 mults: "Not too much going 20M and higher, and nothing heard on 80m during daylight, but there was enough activity to keep one busy. Many thanks to the mobiles who kept us on our toes. Had to skip a few hours, sadly.

NY4N (23) AA4XX (21) N4C (15) N5WR (11) KC3X) (7) W4HSA (6) N3MIO (5)"

**W4APP** (Ashe fixed) – station WK4P - ops: KD4SM, KD4UKT, WK4P,

"Multiple snowstorms hitting the NC mountains this winter forced the cancellation of our tri-countyline effort.

Activity in the new SSB Only categories seemed very low. Only one New England contact. No IL. No in-state SSB mobiles. 20 seemed to be our band of choice and TX and CA dominate our log. It was nice to work 39 states and 4 provinces.

The club category only allows for one transmitted signal at a time with unlimited band changes, thus allowing a band change with every call. This proved tough as we tried to call on 2 bands, one op calling while one listened. Since the listening times were a bit longer than normal oftentimes a station would move onto our frequency. Not once did I hear anyone ask if the frequency was in use. But then we all know that contesting is a contact sport.

Thanks to all who worked us. We had fun and finished tired. Hopefully the weather will cooperate next year and we can run our portable or mobile operation as we have planned for the past two years."

**N5WR/M** "When I checked the weather the night before the contest, the forecast had changed with a prediction of up to four inches of snow and

freezing rain possible in some of the mountain counties. So I decided at the last minute to change my planned route to avoid the highest passes. I-40 and US-64 have been closed for months between TN and NC due to rockslides, leaving fewer alternatives. In the end I made it to 14 of my planned 18 counties. There were some snow flurries early in the day, but road conditions were good and I did not have any problems traveling.

I tried operating CW while driving for the first time, using my Bencher and a memory keyer. Generally it worked pretty well and I think it is just as safe as driving while operating SSB. Doing CW while moving enabled me to me to go to more counties than I would have been able to otherwise. But it is certainly harder to have a 'good fist' while driving around a hairpin turn on a narrow mountain highway in the snow while trying to eat a cheeseburger and shift gears all at the same time.

I enjoyed the 600 mile drive, my first trip to the Smoky Mountains. Thanks to all for the QSOs.

# Radar Leaves 10 MHz

From World Radio Magazine On Line

"The IARU R1 website reports that an ionosphere radar in Australia has left the amateur radio spectrum in the 10 MHz band. The report says that following complaints filed by VK4DU and DJ9KR to the La Trobe University that the Tiger Radar in Bruny, Tasmania agreed to change the frequency data bases. Also, guarantees were made that in the future no ham radio band will be interfered by this ionospheric radar system."

If you heard some pulse type interference around the CHN freq, this might have been the cause.  If so, it should be gone now.

# Super Computers

Torre Girona is no ordinary chapel. Situated on the campus of the Technical University of Catalonia, in Barcelona, Spain, this chapel has been converted into the world's most beautiful server room. It houses MareNostrum, the third most powerful supercomputer in Europe. The place is still inspiring, but these days visitors like Ortigosa come here for enlightenment not on spiritual matters but rather on the leading edge of high-performance computing.

Ortigosa is the director of geophysics at Repsol YPF, the Spanish oil giant. He heads an ambitious—and potentially stunningly lucrative—geophysical supercomputing initiative dubbed the Kaleidoscope Project. The goal of the project is to develop an entirely new class of seismic-imaging codes—the computer algorithms that transform raw seismic data into useful, detail-rich images of the Earth, kilometers below its surface. Ortigosa hopes those images will reveal oil and gas reservoirs that current codes can't uncover. Kaleidoscope will more fully unleash the power of supercomputers like MareNostrum, which was built by IBM and has 2560 computing nodes and a peak performance of 94.21 trillion floating-point operations per second (teraflops).

Today's most advanced seismic codes create color-coded three-dimensional maps of the subsurface realm by solving a mathematical construct known as the one-way wave equation, which describes seismic waves traveling in just one direction. But Kaleidoscope codes will solve the two-way wave equation, greatly improving the level of detail by taking into account waves propagating in multiple directions.

Repsol, based in Madrid, plans to use the new technology to locate hydrocarbons buried kilometers below the seafloor in the Gulf of Mexico—and below more than 2500 meters of ocean. That's what oil companies call ultradeep water, and it's the new frontier in petroleum exploration. Codes based on the one-way wave equation can't accurately image the thick bodies of salt that typically trap hydrocarbons so far down. Repsol's geophysicists are confident that two-way wave equation codes will overcome this

limitation, allowing them to search for oil under 10 kilometers of sediment and hard rock where the salt bodies and underlying oil hide.

To carry out its plan, Repsol recruited two partners: 3DGeo, a seismic software firm headquartered in Santa Clara, Calif., and the Barcelona Supercomputing Center (BSC), which operates MareNostrum. The American geophysicists are developing the codes to solve the two-way wave equation, and the Spanish computer scientists are figuring out how to run the codes efficiently on supercomputers—MareNostrum in the immediate future and later on a BSC system based on the Cell processor, the powerful number-crunching chip developed jointly by IBM, Sony, and Toshiba. Geophysicists have been chasing the holy grail of the two-way wave equation for years. The problem is that to even think about solving it required more than 10 times the computing power and around 100 times the data storage capacity than was typical of available supercomputers. But more recently, rising processing power and oil prices have conspired to at last put the solution within reach.

And it's happening not a moment too soon. In the Gulf of Mexico, for example, most of the hydrocarbon reserves in the relatively shallow shelf waters have been drained. The easy oil is gone. But in deep waters there's plenty left: at least 56 billion barrels of oil equivalent—a measure that includes oil and natural gas—which at US $90 a barrel would fetch about $5 trillion and meet the entire U.S. demand for oil and gas for five years. The catch is that finding oil at such depths is extremely challenging and hugely expensive.

Oil exploration is a hit-or-miss business. Just drilling one well in the deep waters of the Gulf of Mexico to find out if it contains oil can cost $100 million. So oil companies do all they can to avoid hitting dry wells. That's where seismic imaging comes in. Better images mean less risk. So Repsol is not alone in its quest to solve the two-way wave equation.

"Every major oil company and seismic contractor is going after this," says William W. Symes, a computational seismology specialist at Rice University, in Houston, who is not involved with the Kaleidoscope Project. Access to MareNostrum may give the American-Spanish team "a bit of a leg up," he says, adding, "The main thing they've got is some very smart people with a great deal of theoretical background—and they are crackerjack programmers."

One of those hotshot coders is Dimitri Bevc (ho is president and a cofounder of 3DGeo.  He taps his keyboard and opens two large images on the screen. Each shows a cross section of a cube of earth below the seafloor, 14 km on its sides, that contains a mushroom-shaped salt body. To the untrained eye, the two grayscale images are very similar. But there's a key difference. "Look at these vertical lines," Bevc says, pointing to the stem of the salt mushroom, where its edges merge with the surrounding sediments. In one image, created using the one-way wave equation, the stem is blurry; in the other image, based on the two-way wave equation, it's sharp. "This has huge implications in the drilling planning," he says. "Here you can't see very clearly where the target is. Here you can."

Bevc explains that oil is less dense than the sediments, so it tends to flow up through the Earth's layers. But it can't flow through impermeable salt - bodies. As a result, oil accumulates in pockets resting against the salt structures. When you drill, you want to reach the top of the reservoir so that the oil flows up into your pipe. And when planning where to make a $100 million hole, you don't want a blurry image.

To appreciate how 3DGeo solves the two-way wave equation, it helps to understand how seismic imaging works. It begins with a marine seismic survey. A specially built ship cruises over an area of interest and fires an air gun that sends a powerful sound wave into the ocean. This wave propagates through the water and down through subseafloor layers of sandstone, shale, salt, and other materials, producing echoes that return to the surface. The ship tows a dozen or so cables, each up to 10 km long, carrying thousands of hydrophones that measure the minute pressure waves of the echoes. In a typical survey, the ship covers 3000 square kilometers, about three times the area of Hong Kong, and fires the air gun tens of thousands of times. Hard-disk drives on the ship record many terabytes of echo data.

Then comes the real challenge: transforming that data into images of the Earth's interior. Today's most advanced seismic-imaging codes rely on an ingenious technique devised by Stanford University geophysicist Jon Claerbout in the 1970s. Basically, Claerbout's method takes the recorded echoes, runs them through the wave equation as a mathematical extrapolation tool, and tells you the depths at which the echoes originated. With enough echoes, you can get a detailed image of the subsurface realm.

The wave equation consists of a single expression—a second-order linear partial differential equation—that describes the propagation of a wave as a function of space and time. It is commonly used not only in geophysics but also in acoustics, fluid dynamics, and electromagnetism. It can describe the behavior of a vibrating string, sound in air, waves in water, and light waves. In geophysics, the equation gives you the pressure produced by a sound wave at a specific point and time.

To solve the wave equation in three dimensions for a large volume, you need a very powerful computer. You start by creating a large 3-D grid of numbers that represent the surveyed volume of ocean and subseafloor earth. Each point in the grid stores the pressure of one or more sound waves present at that spot. Seismic-imaging codes use the wave equation to extrapolate, or ”push,” the echoes from the top of the grid, where they were recorded, to intermediary positions, where they originated. To keep things simple, this extrapolation assumes that the echoes traveled in only one direction: from the intermediary positions within the Earth straight to the surface—hence the name one-way wave equation.

The method worked beautifully for years in such areas as shelf waters, but geophysicists recently discovered that it can’t accurately image sites with more complex geological structures, such as salt bodies buried deep below the seafloor. The reason is that the one-way wave equation doesn’t account for the specific echoes ricocheting in multiple directions around those structures.

Now solutions for the two-way wave equation, which emerged in the 1980s, promise to overcome those limitations. The two-way wave equation method is different from its one-way counterpart because it accounts for cases in which a wave bounces a few times under, say, a salt dome before emerging as an echo. The two-way wave equation can retrace that propagation and thus image the area under the salt body.

The idea is to get rid of the extrapolations and instead use the complete wave equation to simulate the *actual path* of the echoes through the subsurface sediments. But how do you retrace those paths when all you have is information about the echo as it entered the hydrophones on the ship? Such a simulation would require going backward in time! The good news is, you can—in a computer, at least.

Here's how the Kaleidoscope team solves the two-way wave equation. The first step consists of getting a kind of rough model of the subsurface layers; this model is obtained from some initial preprocessing of the echo data that reveals where the waves travel faster, where they are refracted, and so on. To get a good image, you need a good initial model, so Repsol geophysicists spend weeks and even months crafting it.

Next, the 3DGeo codes use that initial model—a 3-D grid of numbers, just as in the one-way method—to propagate the echoes, each step of the wave front calculated using the wave equation running backward in time. It may sound esoteric, but all this means is that time values plugged into the equation have a minus sign. (The method is also known as reverse time migration.)

The two-way wave equation codes also need to simulate the propagation of the air gun wave through the grid. That's because you generate your image by comparing this grid of air gun data with the grid of echo data; wherever the two waves intersect, an echo originated at that point. These intersections reveal the contours and interfaces of the surveyed volume.

The Kaleidoscope codes created by 3DGeo consist of several components, written in C and Fortran, that basically solve the wave equation for each point in a spherical wave propagating within the 3-D grid. Computing each point's next step in the simulation requires about 100 floating-point calculations. For a large seismic survey consisting of 10 000 subsurface cubes, each a 3-D grid with billions of points, and requiring tens of thousands of time steps, your simulation quickly shoots up close to 10 quintillion ($10^{19}$) floating-point calculations. If you tried to run it on your desktop PC, it would go on for a century before you got an image like those Bevc was looking at.

Meanwhile, at the Barcelona Supercomputing Center, other Kaleidoscope researchers are using their expertise in fluid dynamics and computational mechanics to fine-tune the 3DGeo codes to run on MareNostrum. The machine, which comes in at No. 13 in the Top500 ranking of the world's fastest computers, has 5120 dual-core PowerPC processors, 20 TB of central memory, and 400 TB of disk storage. Built in 2005 by the Spanish government, MareNostrum resides inside a glass box at the center of Torre Girona's nave. (Latin for "our sea," *Mare Nostrum* was the ancient Romans' name for the Mediterranean.)

Other big oil companies and seismic-imaging firms probably have computers as powerful as MareNostrum—or even more powerful. They guard that kind of information as carefully as the National Security Agency would. ”But those systems are busy with exploration projects, with not much time for R&D,” says Michael P. Perrone, a supercomputing expert at IBM, which collaborates with the Kaleidoscope efforts. ”MareNostrum lets the Kaleidoscope partners test their big algorithms.”

What makes seismic imaging particularly challenging for supercomputers is the amount of data involved. The data for one subsurface cube 10 km on a side can reach several gigabytes, and a typical survey consists of *thousands* of such cubes. ”We’re working with terabytes of data, and this means that in the supercomputer we must manage the input and output of data very carefully,” says José María Cela, a computer engineering professor at the Technical University of Catalonia and a BSC researcher.
To overcome this problem, the Kaleidoscope researchers adopted a divide-and-conquer approach. They divided the cubes into smaller chunks, each going to one of MareNostrum’s computing nodes. In one test, 3DGeo divided a 10-km cube into 512 chunks. MareNostrum took about a minute to process all of them. If the supercomputer were to process the cube as a whole using one node, it would require almost 6 hours.

To speed up the codes even more, the BSC experts came up with several other strategies. They improved the codes by manually verifying the source code for tasks that could run in parallel. They minimized the exchange of data between different tasks and hand-optimized all the calculation routines. Cela says that these changes have improved the processing speed of the original Kaleidoscope code by a factor of five and at the same time reduced memory usage by a factor of two.

But MareNostrum is just a test bed for the Kaleidoscope algorithms. The goal is to develop codes for the next generation of supercomputers. Oil prospectors replace their computers as fast as you replace your PC, and maybe even more frequently—about every two years. ”It’s really a race,” says Ortigosa, Kaleidoscope’s project leader. ”Before you finish coding your algorithm there’s already a new hardware, and you have to start coding again.”

Kaleidoscope's goal is to develop the algorithm with *tomorrow's* hardware —the Cell processor—in mind. But programming the Cell is an entirely new world for most coders. The processor's architecture—one main general-purpose PowerPC core and eight number-crunching units—is so extraordinary that it requires programmers to rethink their strategies. That's why Repsol partnered with BSC, which has lots of experience with the Cell. In one initiative, the Spanish researchers are developing a programming environment dubbed SuperScalar, which hides the parallelization task from programmers. It allows them to develop highly parallelized code without worrying about the data flows among processors. This past November, BSC and IBM formalized a partnership to develop a new supercomputer based on the Cell. Francesc Subirada, associate director of BSC, says that nobody knows at the moment what this computer will look like. "But we do have a name for it," he says. "We call it MareIncognito."

The Kaleidoscope Project had its largest software run late last year. From 3DGeo's office in California, Bevc and his team loaded their wave equation codes into MareNostrum, more than 9000 km away, and turned them loose on some echo data. Then they waited.

Twenty days later, the supercomputer completed the task. The area surveyed was huge: 38 km by 30 km by 15 km, representing a geological setting much like the Gulf of Mexico, with complex salt bodies. The simulation generated 32 TB of data—one of the largest synthetic data sets in the industry, according to 3DGeo. "I remember folks at BSC said, 'You cannot produce that much data,' and we said, 'Yes we can,' " Bevc says. 3DGeo considered bringing a copy to its own servers, but that much data would take two suitcases full of magnetic tapes.

Next 3DGeo used the data to test its codes. It ran both one-way and two-way wave equation codes. "We know exactly what the answer should be, so we can see if our code is right," Bevc says. The result? "It's pretty much dead on," he says. "We're able to image things [using the two-way wave equation] that we weren't seeing before, steep salt flanks and such."

Kaleidoscope Project began its first production run. It involved real seismic data for a 500-$km^2$ area in the deep waters of the Gulf of Mexico. Repsol transported 15 TB stored in hard drives to Barcelona and loaded it into MareNostrum. How long did it take to image the area? Repsol won't say.

The company is a bit cagey about the details because it doesn't want to tip its hand to its competitors. Ortigosa says they're still analyzing the results and that sometime this year, based on those images and other inputs, the company will decide whether to drill or not. "This is real, not synthetic data, so this time we don't know the answer," he says. "But I'm confident we'll get it right."

Source: IEEE Spectrum Magazine

# State QSO Party II

## Wisconsin QP

This was another of the best QSO Parties in the country, with over 60 of the 72 counties on the air. It looks like some snow up north caused a mobile trip cancellation, so some of the counties did not get run. I needed 1 – Florence, but didn't see it spotted and the mobile who was scheduled to run likely cancelled due to weather - not heard. Otherwise, it was a bonanza of 'no star' mobiles, prefixes, and needed counties for the QSO Party chasers. The weather for most of the state was 'ideal'.

From K3IMC forum:

**N5XG**: "An outstanding event with lots of /m participation. I was able to work 60 of the 72 WI counties on CW leaving me with 5 for another day. I missed several that later I see were spotted. It was too hectic to check the spots during the first 5 or so hours. I know if Norm W3DYA had made it I would have had them all. He was probably changing over to his OKQP tires. There were some serious mobiles who went hard all day starting with our own W9MSE. And W0AA, W9HB, N9NE, K0PC, W0AA, NG9T N9JF, and maybe a few more. I appreciate all the miles they drove."

**W0GXQ**: I worked K0PC, NG9T, WI9WI, N9JF, W9HB, W9MSE, W0ZQ, N9NE, W0AA, KE0G, AF9T, and WB9YSD. Sixteen contacts with

Pat (K0PC) and Jeff (W9MSE) take honors here, followed closely by W9HB and NG9T. Went in needing three counties, but missed W0AA in Lincoln by a few minutes. Managed 62 of the 72 counties. The Wisconsin group continues the tradition of putting on a well organized party.

From the 3830 reflector:

**N0BUI (MN)** 115 CW, 49 Mults: "I'm right across the Mississippi River from Wisconsin. I could not work much of 80 meters until later in the contest. Last year I couldn't work anyone on 40 meters they were too weak. This year it was about half and half between 40 and 80."

**NO5W (TX)** 70cw 38 Mults: Lots of good activity by the mobiles: W9MSE(10), K0PC(7), W9HB(5), NG9T(4), N9NE(4), KE0G(2) who gave me the indicated number of counties. Had fun tracking K0PC via his APRS map which, during the early part of the party, was updating every two minutes or so like clockwork. However, later in the day the APRS coverage was spotty with sometimes 15-20 minutes between updates. Nevertheless being able to watch his travels tended to keep me in the chair.

**N4PN GA)** 149 CW 120 SSB 63 Mults "hanks to the fixed and mobiles...lots of both.... Nice see many old friends, like KA9FOX, N9JF, WI9WI and all-time B0Z0, W9OP....

Mobiles led by W9MSE & W9HB (11), W0AA, N9NE & NG9T (10), WI9WI & K0PC (6), W0ZQ (5), K9WM, N9JF & KE0G (3)...
Quite a few with 2 contacts..

**WB2ABD (NY):** 127 CW 7 SSB 58 Mults "Whittled my 5th time CH needs to 5. K0PC, NG9T,W9MSE all tied at the top with 11 Qs: imprssive 80m mobile signal by N9JF."

**K0PC/M** 800 contacts – 15 counties run "A beautiful day for a drive through Wisconsin. The thermometer in the car said 60F and I thought the RF was getting into it. But no, it was a glorious early spring day.

My trusty driver John, W9DND, and I set out on a 15 county route and kept very close to schedule all day. Lots of activity right from the start and I

thought the bands were in very good shape. 40M seemed open to most of the country for most of the day. Even close in contacts to WI and back home to MN worked on 40.

No equipment problems this outing. Of course I fumble fingered the computer a few times and I'm blaming the bumps.

Great participation again this year led to a new high for us."

(Note de N4CD – his pic was in the last CH News for the MN QSO Party)

**KO1U(MA)** 149 cw 21 ssb 59 mults

**W0ZQ/M** 629 CWQSO "With temperatures into the mid-60's and the sun shining I operated wearing a light sweater and with the windows down - a mighty fine day to be out & about and enjoying mobile radiosport. Band conditions were good, not great, but good.

As a single-op single-op, I can't make it to more than seven or eight cty's so I really depend on having all three bands produce from each spot to be competitive. No equipment problems, no police problems, and no weather problems, just a fun day all around. Rig is an FT-897 with a manual tune screw driver & 12' whip mounted on top of a Subaru Forest."

**NG9T/M 832 CW QSO** - "I never thought we'd have a nicer day for the WIQP than last year, but I think this year did it. Sunshine and temps in the 60's a lot of the way made for a great drive. A flock of sandhill crane flew low overhead as we were setting up in Door County, an American Eagle was seen, as well as way too many deer.

The conditions were again as great as the weather. 40 was open for plenty of in-state QSO's, and 15 was open to California. There was huge activity from start to finish. We had over 10 contacts with 20 different stations, led by W8TM 19, NA0N 18, KV8Q 17, and KO1U 16. Thanks to those who followed us all afternoon and to everyone who called in at some point.

Thanks to my driver, Eric, KG9GH who again kept his truck on route and always knew how many minutes to the next county when I needed to know."

## Idaho QSO Party

It looks like activity was limited in this one. K7I/m was out and about with the 1x1 call in a few counties. Others found a few stations on cw, and a few more on SSB. Overall, disappointing. Most fixed stations seem to turn out for the 7-land regional QSO Party later in the year. There were at least 10 counties on the air on SSB and 2 on cw. The highest number of QSOs was 21 and that was likely using multiple bands.

K7I was operated by the father/son team - the son's call is KE7NVG and the dad is KE7POV

VA3GKD: 15 SSB contacts

KS4X: 10 SSB contacts

# MARAC Awards

## NO STAR Award

Many county hunters pursue the different awards offered by MARAC for their enjoyment and sense of achievement. This year there are some new challenges as well as some new ones from last year. Likely a new award or two is 'on the way' for this year, too

Starting January 1, 2010, county hunters can pursue the no-star award which requires you work a mobile or portable station in each of the 3077 counties that has not completed the CQ Magazine sponsored USA-CA award for working all current counties – now at 3077. That is one of the toughest out there as only a bit over a thousand have ever finished it.

The No Star award was designed to stimulate interest in 'new mobiles' and encourage mobiles to go out in state QSO parties and similar events, and give the regular county hunters to work 'new people' who often do not qualify for the higher level MARAC awards such as Five Star, Bingo, Masters Gold and similar. Now, newcomers are 'good for something' where many experienced county hunters may not be needed in that county.

So far it looks like a few new mobiles are active and running through counties. However, the best place to catch no star mobiles has been the state QSO Parties where several hundred counties have been activated by no star mobiles. In some cases, like OKLA, W3DYA ran many, but he has a star, so he is not good for the no-star award. Other mobiles ran through many of the same counties as he did, and if you worked K5UV, NO5W, W5TM, K5CM, W5LE(K5YAA op), or others, you likely filled in at least half the state with no star contacts. Same for the WI QP.

## Natural Bingo

This is another tough one, but contacts going back to 1900 count for this award. The goal is to work someone who has the first letter of the county in the suffix of their call, or in the case of a multiple word county, any of the first letters, such as D and S for Deaf Smith, TX. So N4CD would be good for Natural Bingo in Deaf Smith, TX. The state QSO Parties give you another chance at Natural Bingo, and you'll find that mobiles are good in about 5% or so of the counties with their own calls - such as N4AAT in Atkinson, GA or Telfair or Taylor GA with the "T" in the suffix.

You'll see some of the spots with "N4AAT Telfair GA (NB)" on W6RK occasionally spotted to alert you to the Natural Bingo possibilities – you might not need it otherwise for anything else. In the OK QSO Party, W3DYA hit Atoka for a NB county, and NO5W hit Washita, and K5CM and W5TM hit Marshall, etc. There were maybe 20 Natural Bingo possibilities in OKLA in just one weekend.

## YL Mobile Award

Last month, Gene sent along a picture of the new MARAC YL Award Plaque. Unlike in the past where most awards were the same wood car on the same wood plaque – with a small award engraved plaque, the new ones for Master Platinum and other awards have been revised and are now different for each award. Here's K5GE's Worked All YL Mobile one.


YL MOBILE AWARD
No. 5
Gene Barnes
K5GE
Having worked a YL Mobile in 3077 Counties
Presented By
THE MOBILE AMATEUR RADIO AWARDS CLUB
November 15, 2009

# Nanotech News

IBM just announced the first-ever application of a breakthrough self-assembling nanotechnology to conventional chip manufacturing, borrowing a process from nature to build the next generation computer chips.

The natural pattern-creating process that forms seashells, snowflakes, and enamel on teeth has been harnessed by IBM to form trillions of holes to create insulating vacuums around the miles of nano-scale wires packed next to each other inside each computer chip.

In chips running in IBM labs using the technique, the researchers have proven that the electrical signals on the chips can flow 35 percent faster, or the chips can consume 15 percent less energy compared to the most advanced chips using conventional techniques. The IBM patented self-assembly process moves a nanotechnology manufacturing method that had shown promise in laboratories into a commercial manufacturing environment for the first time, providing the equivalent of two generations of Moore's Law wiring performance improvements in a single step, using conventional manufacturing techniques.

This new form of insulation, commonly referred to as "airgaps" by scientists, is a misnomer, as the gaps are actually a vacuum, absent of air. The technique deployed by IBM causes a vacuum to form between the copper wires on a computer chip, allowing electrical signals to flow faster, while consuming less electrical power. The self-assembly process enables the nano-scale patterning required to form the gaps; this patterning is considerably smaller than current lithographic techniques can achieve.
A vacuum is believed to be the ultimate insulator for what is known as wiring capacitance, which occurs when two conductors, in this case adjacent wires on a chip, sap or siphon electrical energy from one another, generating undesirable heat and slowing the speed at which data can move through a chip.

Until now, chip designers often were forced to fight capacitance issues by pushing ever more power through chips creating, in the process, a range of other problems. They have also used insulators with better insulating

capability, but these insulators have become tenuously fragile as chip features get smaller and smaller, and their insulating properties do not compare to those of a vacuum.

The self-assembly process already has been integrated with IBM's state-of-the-art manufacturing line in East Fishkill, New York and is expected to be fully incorporated in IBM's manufacturing lines and used in chips in 2009. The chips will be used in IBM's server product lines and thereafter for chips IBM builds for other companies.

Edelstein led the IBM team that invented the technique to use copper wiring in computer chips instead of aluminum, now a standard method for producing chips, ushering in a decade of chip innovations from the IBM labs that transformed how chips were built and used across many industries and application

From IBM Press Release

# State QSO Parties III

## OLKAHOMA QSO PARTY

From K3IMC site:

N5XG: " It was an exciting activity because of the mobiles that were out and the commitment they gave us. Part of the day Saturday and almost all of Sunday I did not have access to the W6RK spots as my computer was in use by visitors. But I did manage 70 of the 77 counties."

From the 3830 Reflector Website:

**K5UV/M** 353 cw Q - "EQUPMENT TEN TEC DELTA, NISSAN MINI VAN 40M HUSTLER, 20 METER HAMSTICK, CQ/X(THANKS CHUCK GREAT PROGRAM)

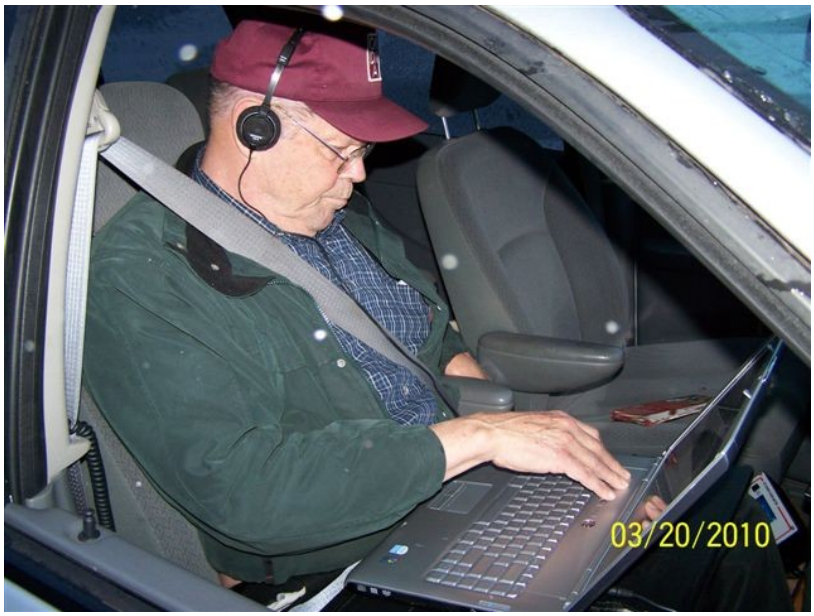
This was my first time to go mobile. Rover-Assisted just does seem to cover sitting in the rear seat while the XYL is Driving, Throw in a Blizzard, Power Line Noise, and Pot Hole, What a blast can't wait until next time,

Had quite a few dupes Saturday, as we backtracked when the roads became snow packed, and with the Threat of a Blizzard tried to stay close to home. Sunday the road condition were much better.

Thanks for all the Q's and a special thanks to the following stations:
N5XG(16) N4CD(13) WB2ABD(12) K5OT(11)
W7GVE(10) W0BH(9) W0GXQ(9) NW6S(8) K9EN(8)
N4RS(7)K0HNC(6) K4AMC(6) N6MU(6) N9QS(5)"

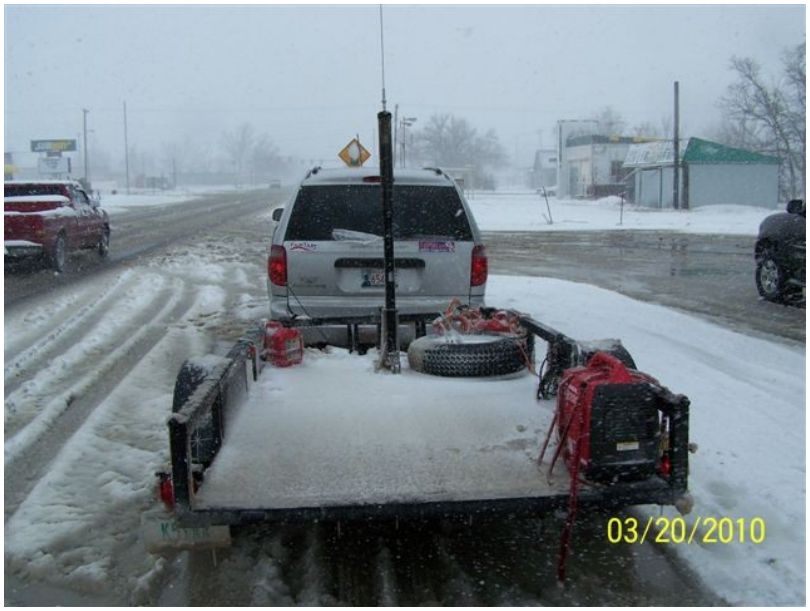
**W5LE/m (K5YAA and W5LE)**

Our enthusiasm was only slightly dimmed by The WX forecast. Thse guys aren't really that good at knowing what is going to happen anyway. They were this time though. We were up and at it at 6AM Saturday morning ready to meet my objective of 2,500 QSOs. Running High Power and having everything tested fully and ready to go 2,500 seemed possible. We expected 15 meters would be a great place to add qsos to the log. The Tarheel antenna was 1.1:1 on 80 meters and only a tad higher on every band we planned to work - 40, 20 and 15. On Friday around noon during some of our final testing, a CQ by Gene on 17 meters yielded a small pile of europeans. This thing really talks. It was going to be a fun jaunt across Oklahoma doin' some land grabbin.



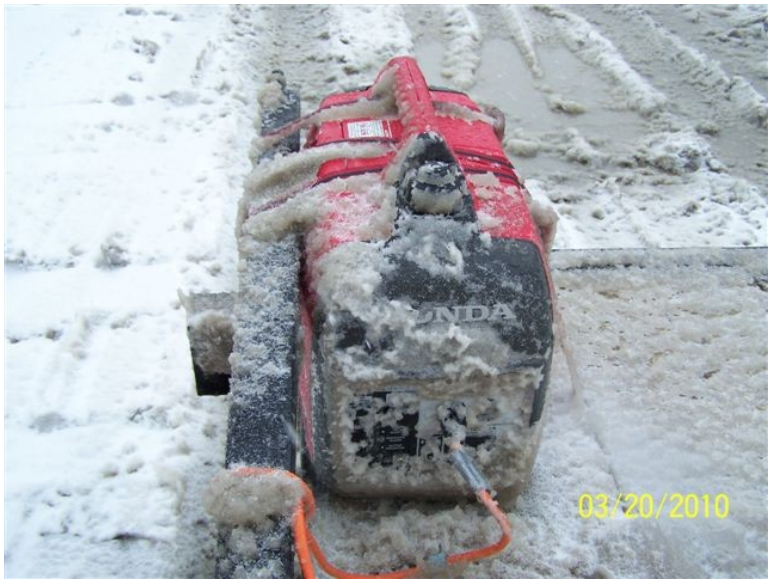
K5YAA running the station

Spares were available and loaded for most equipment including two Honda 2000 generators, two TS480s and even a spare tire for the trailer. Fuses for the amp, three headsets, three marine batteries, 2 battery chargers - we even considered carrying the kitchen sink. Even with all those trappings the operating position, up front, was clutter free and very comfortable. Yes, indeed, it was going to be a fun jaunt across the state.



W5LE mobile and trailer

On our way to the CHErokee ADAir Line the first generator shut down. Would not restart. We figured rain/sleet had found it's way into the carburetor. Whatever the reason it would not fire back up so we smiled and said - "That's why we had a second one. Brand new it would surely be up to the task. We lit it off and were underway again running High Power! Made a few Delaware county Qs and got set up on the CHE/ADA Line on a nice rise in the real estate. Gene ran the rate meter to 250+ with nice pileups on 20 and 40 - mainly 40. We're cooking now. Onward to Ottawa county with me at the keyboard. Great reports but20 still a bit puny. Early I suppose but listen to those east coast guys working the Russians. A handful of very large European signals made it in our log. We are still cooking! Uhhh, the AC just gave out. Hmmm, #2 generator stopped in it's tracks. The new one... Same kind of WX related problem as it became caked with snow and ice. Gee, will 100 watts really let us play. It did but QRO would surely have made it easier for others to hear us. Oh well, press on.



The Frozen Generators

Large flakes were falling on us in Ottawa, Craig, Nowata - well in all the northern route counties. Years ago Oklahoma had only two snow plows, 1 in the west and 1 in the east. So it seemed anyway. There are quite a few more now as the roads were getting cleaned - we know they were as we followed a number of SLOW snow plows across two or three counties -

25 - 30 MPH max at times until they pulled over and let the crowd by. The schedule was being altered but little we could do about it. Turns out later that day we did indeed not make it to some of our planned western - southwestern counties due to the time lost. Some of it was due to the fact we didn't feel we needed to install our own snow plow on the front of my Dodge Caravan. One would have been handy in a couple of counties.

We did make our scheduled hotel rooms Saturday evening after a very good meal and a "few" drinks to wash it down with. Sunday had to be better? It turns out it was and the "Rest of the story" will be completed with our actual score write up. Suffice it to say - it was a great idea to carry a full set of hamstiks and mounts as backup antennas. The ice and snow eventually caused havoc with the quite reliable Tarheel and the auto tune feature we had installed. The trailer needs a new paint job BUT we didn't have to use that spare tire!!

We counted at least three dozen vehicles off the road and had to turn around for two jack knifed semi-trucks – fortunately we never became one of the off road vehicles..

Sunday turned out to be less of a "hassle" than Saturday had been. Roads were clearer and the operators had accepted the idea that the WX simply had control of the 2010 Oklahoma QSO Party. All the spares and wanna operate attitude wasn't going to overcome the snow, ice, wind and generally gloomy looking skies.

The generators may well have fired back up but - hey - it's quite cold and the wind made for a 12 degree wind chill factor. I haven't owned a parka since the early sixties - without such we didn't feel the need to see if we could get HP back on the air. The van had been warming up and it was much more comfortable in the driving and operating seats.

So, onward at 8:10AM Central from the hotel in Payne County toward Lincoln county which was the actual planned route! As we went through Lincoln it appeared as though the conditions may well let us stay with our plans for the Sunday run. South thru Pottawattamie, east thru Seminole and Okfuskee. Now a short stop for a coffee and "break" then south to Hughes.

Snow beginning to come down in large flakes and the roads had considerable slush building on them. Check that schedule of counties again.

Maybe a faster turn north would be in order. In Hughes we started encountering SWR difficulties with our Tarheel. Ice and snow still covered the mount and base of the antenna – heck most of the trailer too - so we could not see the loose connector that had developed due to road bo

Hmmm, those hamstiks and mag mounts tied on the side of the trailer were put there for a reason. Not expecting difficulty with the Tarheel ( a great antenna ) but just in case the stiks and mounts had gotten strapped on. OK, let's put them in service and get on with this thing. The 40 and 20 meter stiks went on the roof. A quick analyzer look and we were off again. Turns out to be a good decision and the hamstiks played as reliably as they had for the past 8 years.

Snow had decided to stay around in the eastern part of the state on Sunday. We heard some folks could use Creek county so we decided to turn north at Hwy 75 to run OKF and then on into CRE and TUL. Another sane change to the route as we actually worked one more county than planned for Sunday without seeing how much snow we could pile on our vehicle / trailer by going further east out of Hughes county. A brief stop for another coffee and "break" at a McDs on the Indian Nation Turnpike and onward north to work the CRE / TUL line where we once again got to see the rate meter top 200+. I was at the keyboard and that was fun.

Now homeward around Tulsa town on the Creek Turnpike - working WAGgoner county and in the last 2 minutes of the party logging 3 more ROGers county QSOs. This one is now over - one for the history books for sure. Never in the 8 years since we began again the QSO party from Oklahoma in 2002 has there been such WX to hamper the operations. Rain a time or two and once a bit of left over snow on the ground but never this kind of snow, ice, sleet and in general near impossible driving conditions - especially out west.

I have not heard of any accidents by any of the rovers - only equipment difficulties. Hopefully everyone made it back home safely.

So, to wrap up this one. Those that came to be on the roads with us - A Very Big Thanks for your participation. Those out of state that stayed with us during much of the 18 hours - your answering our CQs let us know we were still on the air and made the WX warmer. To all the other out of state stations that made it into our logs a thanks too. The biggest reason to go out

mobile in these things is for the "Operating" fun they provide. We did have fun in spite of the WX. There were many highlights on the air - there will be many more hopefully in future events.

K5YAA - Jerry and W5LE - Gene
Running as W5LE/M in the "Oklahoma Land Rush Mobile"

**KS5A/M 633 CW QSO given out**

"As a former military and commercial pilot, it's easy .... build a well thought-out plan, try not to deviate too far from the plan, take care of small contingencies/glitches, and things normally work out for the best. After the event, swap lies over a brewski ... or two, and the world is great.

Well, whoever taught me those traits and techniques, never ran mobile in an OK QSO Party, during the first weekend of spring - at least that goes for 2010. What do "glitches" and "snow-balling" have in common? A lot in OK.

Linda and I delayed a family visit/business trip to MS for a week, so we could fill in a few county holes for the OKQP. After a couple of emails with Jerry, K5YAA, and Gene, W5LE, I committed for the OK panhandle, basically staying along the KS/OK border the entire length of the state ... west to east. I distinctly remember those guys promising great scenery, fabulous roads, exquisite cuisine and most importantly, a great time.

My checklist had a few additions:

Snow? - check. Wind? - check. Icy roads? - check. Below freezing temps? -
check. Blizzard conditions? - check (not all the time thankfully). Detours? - check. Cars/semi's in the ditches? - check. F-350 snow plowing with the bumper? - check.

For the QSO Party on Saturday, 40m was our money band. 20m was loaded with the Russian contest guys, and making a hole with a puny LP mobile signal was tough. I had expected 15m to be somewhat better than it was - A few east coast stations and a couple of EU's - nothing to the west, and we

tried often. 80m was good at the end of the first day. Unfortunately, that was when we had the worse weather and driving conditions.

After a road closure and detour (thanks for the heads-up, Gene), we were pretty much shot for the day .... ready for the hotel. Oh, and a big thank-you to the OK Cowboy, his dog and his truck that led us around the snow covered, muddy roads to avoid the overturned semi blocking our route.

At day's end we hooked up with K5YAA and W5LE for a pleasant visit and meal.

Sunday was to be a better day .... we were changing our routing to a more southerly direction to avoid the conditions we experienced on Saturday. However, it really did not matter as Murphy struck during the second county we were running. An hour of trouble shooting did not alleviate the problem. We were kaput! That's the reason you did not hear me on Sunday.

Did we have fun as promised? - check. Would we do it again? – check"

**K5CM/m 521 CW QSO**

"Even thought it was cold, Saturday was great, with almost 700 Q's. Sunday was a different matter. Dave (W5CW) was driving over to our station to operate as "fixed" while Pam and I went back out in the mobile. I told Pam better check on Dave it's almost time to start. She called on the cell phone and he was about two miles form the house walking up the hill. His car was in the ditch. There was about 10 inches of snow, with drifts up to 2 feet. We spent most of the morning getting Dave out of the ditch. Anyway we missed out on Sundays operations.
Thanks to all the stations that followed us around the southern part of the state. (Five or more Q's with the stations listed below)
W3DYA/m(5), KS5A/m(6), W5LE/m(6), K4AMC(7), N4RS(7), K7ZYV(8), WB2ABD(8), K0HNC(9), NW6S(9), K5OT(10), W0GXQ(11), W5ESE(11), N4CD(12), N6MU(12) K9EN(13), W7GVE(14), N2CU(15), W0BH(15), N5XG(16),

**N2CU (NY)** - 182 cw 64 mults 'Lousy conditions this time. Weak signals on 40m during the day and nothing on 15m. Strange to hear Europe and

West Coast stations moving guys to 15m when all I could hear was silence. Good signals from all the mobiles. QSO leaders NO5W(34), W5LE(31), W3DYA and W5TM(30), K5CM(15) and KS5A(13). Sorry for duping a certain station on three bands, but fixed stations shouldn't send CALL/COUNTY. Methinks they are mobile.

Ran a very casual contest this time. Only CQ'd a couple of times and did a lot of other things around the house in between operating. I suppose I wouldn't have been so laid back if W0BH and K5YAA were both out there mobiling. Used the amplifier on 40m exclusively; 100w on 80 and 20m just because.

Note de N4CD (K5YAA was part of the mult-op W5LE operation!)

**N6MU (CA)** 149 CW 13 SSB 62 Mults: "What a time for Mother Nature to drop a big winter storm on OK. Kudos to the brave mobiles who did venture out. There was virtually no fixed station activity so the mobiles were key. Top mobile for me was NO5W with 30 Qs followed closely by W5LE with 27 and W3DYA with 26. Others included KS5A, W5TM, K5CM and K5UV

**W0BH (KS)** 149 cw 9 ssb 64 mults : "Friday started out perfect .. blue sky, almost 60 degrees and it finally feltlike spring. The forecasts were simply hard to believe, but they didn't get better and my van isn't good in snow (neither were my antennas as I found out in Nebraska), so Friday afternoon, Lorna and I decided to stay home on Saturday and attend a going-away party for another local ham instead. The roads were dry heading 20 miles south to the party, but several hours later, the sleet started and the winds were 35 gusting to 45+. The sleet turned to snow about half way home, and I knew OK was going to get it worse. About 10 minutes after we got
home and while we were stoking up the wood stove, the power went off. It came on about 10 minutes later, so I quickly brought in a fully-charged battery from the van in case the power went off again. It did.

The power was back on in the morning, so I decided to see if any mobiles were moving. My shack was empty of radios since my ProIII was in the shop, so took the IC7000 out of the van and put it back in the shack and there they were! As I worked counties, I highlighted them on a map. For most of the first day, the northern and central parts of the state were empty

except for a few fixed stations in the big cities. That was my route and also where the worst snow was forecast. But slowly the counties filled in. Knowing the conditions out there, that is simply amazing.

For me, this was basically a 40m event. 80m was open for me most of Sunday and I took advantage of that with W3DYA. Others I asked had 80m antenna issues. I didn't hear mobiles on 20m on Saturday, but on Sunday if I turned on the pre-amp and really turned up the volume, I could hear them and once in awhile they could hear me. Norm even moved me to 15m for my only 15m Q.

Many, many thanks to the mobiles. I'm really looking forward to reading your writeups. I know you all have stories to tell.

30 W3DYA/m - 4 bands
29 NO5W/m - great streaming video!
26 W5TM/m - almost always loud
23 W5LE/m - really interested to hear how the new mobile setup played
13 K5CM/m - good ears
11 KS5A/m - a nice run across the top of the state, but lost you on Sunday
9 K5UV/m - what a way to start your mobile "career" !

.. and to the two fixed stations who were on often

3 N5OK
2 W5CW

Overall, I worked only 18 unique calls, so almost all my Qs were with mobiles. Counties missed were CIM, DEW, GRA, HAR, JEF, KIN, LOG, MCU, MAJ, NOB, PAW, RGM, WAS, WAT. I know many of those were on, so just missed them. Congrats to N2CU for an excellent HP score given the conditions, and a very FB mult count by N4CD. It will be interesting to see how many counties were actually active.

Thanks to the OKDXA and especially to Jerry/K5YAA and Gene/W5LE for coordinating and keeping the web site current.

**W5TM/m (1200+ Qs)**

“Day 1 we skirted ahead of the weather pattern, day 2 we drove headlong into it. Thanks to ED for buying that Ram 2500 Diesel with 4WD - passed the snow plows and continued eastward into Sequoya and damn the blizzard! Had a blast again this year.

Special thanks to the innovative contesters that have started sending reports of 559 and 589 - there is a special place in hell for you all..”

**NO5W/m Multi OP**

“Colin-KU5B and I drove up Friday from Houston to Ardmore to meet Gary-W5ZL who was in Ardmore on business. We were greeted to a beautiful sunny afternoon with temps in the 70s. It was good shirt sleeve weather for making final preparations on the NO5W OkieMobile and a reminder that the next day would be the first day of Spring. Ah Spring, we hardly got to know ya.

On Friday evening we watched the Weather Channel and unfortunately the reports confirmed the rumors we'd heard before leaving Houston, that something was brewing out west and that we had better bring our jackets and gloves. It was hard to believe the weather men were right on this one but coming out of the apartment at 6:45am Saturday morning to head to the local McD for a quick breakfast made us believers. It was "OMG -- did we sign up for the OKQP or the MNQP?". Mother nature hadn't received the first day of Spring memo. It wasn't a beautiful morning and, as we would find out later, everything was not going our way.

Sitting out in the McD parking lot after breakfast with the sleet coming down ever harder we polled the crew and found one (W5ZL) who had lived in Colorado, and another (NO5W) who had spent a few winters in Wisconsin and Minnesota. With two out of three comfortable with winter driving we figured the odds were good we'd be able to stay out of the arroyo and make it through OK although it was looking like our original planned route, which would have been ambitious under good driving conditions, would have to be modified. It was decided we'd start out on the original route and that by the time we reached Oklahoma City late in the afternoon we would decide whether to turn north to Stillwater, our planned

Saturday stopover, or return back south down I-35 to Ardmore for the night and to work out a new Sunday route east of town.

So away we went into southwestern Oklahoma with Colin running stations on 40m from the front seat and Gary stirring up some business on 20m in the rear seat using the IC-7000. Although the winds were ferocious the roads were clear and by the time we reached Stephens county we were close to being on schedule. I was driving and giving my XYL a status update on the cell when, as we entered the city of Marlow, Gary became excited:

“Smoke, smoke, somethings burning - pull over, pull over, off the road, off the road. Glancing in the rear view mirror I saw a small mushroom coming from the vicinity of the IC-7000 body, dropped the cell, pulled off the road, and ran to open the rear hatch. Relieved that nothing was on fire, the smoke was gone, but unfortunately so was the transmit power from the IC-7000.

We were down to being a multi-single and puzzled about what had happened to the radio as we weren't transmitting at the time, the SWR was good, and the temperature gauge on the radio had been indicating normal temperature. Needless to say a quick assurance call was made to inform my XYL that, while we had lost a radio, everything else was under control. Actually the IC-7000 was cooked but not completely done as we were able to make several contacts to Europe on 15m with power output that must have been in the 1-2 watt range - at least it was low enough that it wouldn't move the power meter. That was a good reminder of what can be done on 15m when it's open.

The rest of the morning was uneventful with Colin continuing to run stations on 40m with good success and although the roads were getting progressively worse we were making good time. One advantage, if you can call it that, of losing the IC-7000, was it freed up Gary to conjure up some entertainment, intentioned or otherwise. Somewhere east of Frederick we passed through Hamm Ville, a burg so small it is not even on my Streets and Trips map nor on Google so I'm not sure exactly where it is. But of course being hams we had to have a picture of the OkieMobile parked by the road sign. Gary drew the assignment for the photo-op and kept Colin and me entertained. As he leaned against the wind to get the pictures he could have easily been one of those CNN or Weather Channel reporters that you see out in the hurricanes.

We headed on toward Altus and lunch.

By a little after noon we had reached Altus, our planned lunch/gas stop. From Altus it wouldn't make sense to backtrack to Ardmore along the route just traveled so we were committed to continuing and, even though the snow was falling faster, we took some comfort in the fact that I-40 was not far ahead and surely that highway would provide clear sailing from Beckham county back to Oklahoma City. After lunch and gas we headed north out of Altus with Gary behind the wheel and Colin taking an operating break to attempt to get the streaming video working. North of Altus were some of the worse roads on the trip and when we reached Highway 9 that would take us over to Harmon county we decided that it hadn't been plowed and didn't look passable so we continued on up Highway 6 into Beckham county.

It was here that we got an indication that APRS was working and was actually being viewed when someone called in on 40m CW with “YOU MISSED YOUR TURN” to which I replied, "YEP BAD ROAD SRI".

Harmon was the first county we had to omit from our planned route. Then when we finally reached I-40 the traffic was backed up on I-40 going west so we decided to bypass Roger Mills as well. Our apologies if you needed either of those two and were counting on us to provide them.

For the most part I-40 was clear going east and we made good time most of the way but others had not been so fortunate as there were many cars and some 18-wheelers in the ditches. Our slowest stretch was around the Calumet exit where, according to the track on aprs.fi, our speed was reduced to 4 mph for about half an hour. Finally Canadian county ended and we were back in the Oklahoma City area. Disappointed that we would miss out on a planned dinner with Jerry-K5YAA and Gene-W5LE in Stillwater we headed south on I-35 back toward Ardmore having missed only two of the planned Saturday counties (Harmon and Roger Mills) and adding several counties that were on the original Sunday list (Murray, Garvin, and Love).

After dinner and back at the apartment we reconvened discussions of what to do on Sunday. Our only real option was to cover some of the counties east and south of I-40 so Colin went to work, developed a new Sunday route, built and posted the KML file for Google Maps, and built the county line crossings and waypoints files. Sunday morning it was up and out into the cold again, breakfast at the McD's and off we headed east.

To our dismay, and some disbelief, our first QSO came back with a report of 599C. Chirp from the K3 that had been running like a top all Saturday - how can that be? We worked a few more with the same report and answers to the question of how bad came back  pretty bad but easy to find your signal - hi.
Not exactly what we wanted to hear. The first theory was that the battery powering the K3 was low and the vehicle power hadn't been able to recharge it fast enough as we continued to suck power from it. So we switched over to vehicle power for the K3 but the problem remained. Then it was decided to go to 20m to see if the chirp was present on that band. The first signal report on 20m was 599 and, when asked, the station replied  - clean signal

We continued to run some Qs on 20m and then went back to 40m and the first station came back with â??599 no chirp.  And then every station we worked chimed in  with no chirp. Well we're not sure what the problem was but it may have been related to operating a very cold radio that, even though solid state, just needed a little warm up time.

Up until around 11:00am CDT the Sunday roads in the east were not much better than the worst ones we had seen in the west on Saturday but after that they were clear and we were able to cover Colin's route without a problem and arrived back in Ardmore, and ready for lunch, just as the closing bell rang.

Band conditions, especially 40m, were good and although road conditions caused us to fall shy of the original thirty-six.

The OKQP is a well-attended party with many operators outside of OK devoting a good part of their weekend to the event. Thanks to the following frequent callers for contributing more than half of our QSOs, we certainly enjoyed putting you in our log: W7GVE(33), W0BH(31), K5OT(31), N6MU(31), W5ESE(30), N5XG(30), N4CD(28), WB2ABD(24), AF9T(23), W0GXQ(23), K0HNC(22), WA0L(21), N4RS(20), KI0Y(20), W0VX(20), K9EN(20), NW6S(17), KO1U(17). Note that dupes have not been removed from these numbers.

So for the third year in a row we had a great time in the OKQP. This year we successfully tried APRS and streaming video, two technologies new to us, and made it through the weather without any major problems. Thanks to the OKDXA and especially Jerry-K5YAA for all the work that goes into making the OKQP a success. We'll certainly be back in 2011 and hopefully this time we'll be back either before or after the snow flies but not during and with a route that will allow us to make that dinner date.

73

Chuck-NO5W
Colin-KU5B
Gary-W5ZL

## North Dakota QSO Party

The North Dakota QSO Party was held the same weekend as the OKQP. There were a few fixed stations on the air, but no mobiles heard this year. You could catch a few of the counties from fixed stations on multiple bands.

## Virginia QSO Party

The VA QSO Party was good if you were within daytime range on 40M for SSB during the day, and within range on 80M for the evening. Most of the activity/spots were on 40M SSB and 80M, with very little heard here on 20M. K4UK was out mobile, but not a peep on 20M in TX.

I saw very few spots despite dozens of county hunters living in/around the VA area!

VA3GKO made over 160 SSB contacts with VA with 62 multipliers. Others within the state made near 100Q on 40 and 80M SSB. It seems the emphasis is on working other VA multipliers, not working stations outside the state.

The Russian contest going on – on 20M – made a real mess of the band and in the evening when there was hope of propagation to further away – the European RTTY moved in and the VA activity moved down to 80M.

This is not a county hunter friendly QSO Party unless you happen to be within daytime range on 40M and nighttime range on 80M with a fairly loud signal and liked SSB. It seems more like a Virginia In state contest only for much of the country.

# 15/17M and Up

The last few months have seen somewhat better conditions on 17M. You hear DX being worked. Larry, W7FEN, Ed, KN4Y, Jim,N4JT, Bob N4CD and Jerry, W0XQ have been spotted in the past few months on 17M, and recently during the day, W7FEN was pounding in on 17M from ID – but the shorter skip faded early in the afternoons, but still open for longer distances.

In the QSO Parties, the stations far away and in Europe were making a decent number of contacts on 15M.

Keep the upper bands in mind as conditions improve. They all count toward counties and other MARAC awards including the County Band Challenge.

Those with screwdriver antennas will find they easily go to 17M and above. Those with separate resonators will need to add another to the stack.

Come join the fun on 17M. It helps when mobiles run 17M after 20M rather than in other rotations – if you hear them on 20M, there's a good chance you'll hear them on 17M. Otherwise, if you do things in other order, such as 20/40/30/17 then you might miss half the stations who either aren't listening on 30m for the mobile to finish and QSY, or not watching spots instantly. Like 30M, if you don't get spotted, you usually won't have much of a run! So maybe think run 17M after 20M, then down to 30 and 40M.

So far there hasn't been too much SSB activity, but some have run on 18.127 to .135 area. With conditions improving the band may be full of

stations tying up the SSB part of the band at times – ragchewing or chasing DX.

# Awards

| | | |
|---|---|---|
| Sixth Time #35 | Tom, K7REL | March 3, 2010 |
| Third Time #222 | Dan, KM9X | March 13, 2010 |
| Bingo II #67 | Chuck, AD8W | March 14, 2010 |
| USA-PA-K #17 | Dave, KE3VV | March 16, 2010 |
| Bingo #315 | Karl, K4YT | March 15, 2010 |

# Operating Events for County Hunters

Courtesy of the ARRL Contest Corral, ARRL, Newington CT

**MO QSO Party** RS(T), serial, MO county or S/P/C www.w0ma.org
Apr 3, 1800Z - Apr 5 2359Z
CW 1.820 and 40 kHz from band edge;
Phone--1.880,3.825,7.220,14.250,21.380,28.350.

**Montana QSO Party** RS(T), S/P/C or MT county www.fvarc.org
Apr 9, 0000Z - Apr 11, 0000Z
CW-1.81, 3.54, 7.035, 14,04, 21.05, 28.05
SSB – 1.845, 3.810, 7.244, 14.262, 21.365, 28.325

**GA QSO Party** RS(T), S/P/C or GA county gqp.contesting.com
Apr 10, 1800Z - Apr 11 2359Z

CW 1.815,3.545,7.045,14.045,21.045,28.045,50.095;
Phone 1.865,3.810,7.225,14.250,21.300,28.450,50.13

**Michigan QSO Party** Serial and MI county or S/P/C www.miqp.org
Apr 17, 1600Z - Apr 18, 0400Z www.miqp.org
CW 45 kHz from band edge,
Phone 3.825,7.200,14.250,21.300,28.450

**Florida QSO Party** RS(T), FL county or S/P/C www.floridaqsoparty.org
Apr 24, 1600Z - Apr 25 2159Z
CW 7.025-7.035,14.040-14.050,21.040-21.050,28.040-28.050;
Phone 7.18-7.19,14.265-14.275,21.340-21.350,28.480-28.490

**Nebraska QSO Party** RS(T), NE county or S/P/C www.hdxa.net
Apr 24, 1700Z - Apr 25, 1700Z
CW: 1.805 and 35 kHz above band edge,Nov/Tech--10 kHz above band edge;
Phone--1.915,3.865,7.265,14.265,21.365,28.465,146.460.

**Ten-Ten Spring CW Contest** Call, name, county & S/P/C, 10-10 number
www.ten-ten.org
Apr 24, 0001Z - Apr 25, 2359Z

In MAY 2010

MARAC CW and SSB Counties Contest
May 1 – MARAC CW and SSB Contests – Full details next month. Get set for some mobile operation and hopefully lots of activated counties!

Dayton Hamvention in May – County Hunter Forum Friday afternoon and dinner afterwards.