County Hunter News

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Volume 6, Issue 10

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.

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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**

Summer continues in TX with temps back up in the 90s. We had 3 days of cooler temps, followed by 10 inches of rain in one day, then back to sizzling 95 degree days. The summer feast of mobiles running all over the country is slowing down. However, the state QSO party activity has picked up with something happening almost every weekend. Propagation is decent many days, but often flakey at any given time. It's officially fall now.

The solar flux has been rising and is usually in the 80s with predictions of near 90 shortly. Hopefully the upper bands (15 and maybe 10) will show

increased activity and propagation. Along with the higher SFI, it seems that solar disturbances also are increasing (expected) with A indexes in the 5-15 range not unusual. Some contacts are being made on 17 and 15m.

2) Mobile Activity

Jimmy, K4YFH, continues his marathon trip all over the country, running counties on most days. He ran out of MT into ND and SD helping to finish off many with needed counties.

Mobiles were out in force in the KS QSO Party, TN, CO, AR and others, and we report on all the state QSO Party activity separately. I find it interesting to read their tales from the non-county hunter perspective. Maybe it helps us look at things differently.

Rick, AI5P, was up in the Northwest putting out the counties day after day.

Bill, K2HVN was in North Carolina then headed up into PA and NY then into MI and more.

Dick, W3ZUH, headed cross country from CA to the east coast running them on CW.

N0KV, Barry, and Pat, N0DXE spotted in MO.

Dave, KE3VV, was down in central VA putting them out.

Ron, KBUF, headed to GA to finish off his MP needs. Then off to CA.

Jim, N9JF, was out in KS. Next trip he headed east to PA. He wound up in TX for the TQP.

W8GEJ, W4FNW, W8FNW spotted in KY, TN, VA with W8GEJ on CW, the other two on SSB.

Jim, N4JT, was running around in NC. Jim, W4HSA also putting out NC counties on many days.

Bob, N5KUC, was over in WV and other states running them on SSB.

W0GXQ, Jerry, ran a few in MN.

Kent, KL1V, ran some in ID and WA.

WC5D was noted mobile on cw in KS.

Larry, W7FEN, was seen in CO and WY.

Mike, W0MU, spotted out in MT.

Ray, AB4YZ, was spotted on cw in a few in VA, PA, and others. His invisible, security blanket imaginary friend W4CA appeared on SSB runs.

Joe, N5UZW was running around in OK and KS on SSB.

Karl, K4YT, made a trip up to NJ running them along the way.

Lloyd, NX4W, was running counties on PSK-31 in GA.

Eddie, G4KHG,was on vacation in UT, CO and surrounding area, running them on 20M CW and occasionally on 20M SSB when net conditions were 'favorable'. He ran /m66 to give out counties for the Route 66 Special Event. When he got to Catron, NM, he gave OK1APV the LC WBOW!

Jason, KG4VZBK, and Gary, K4EXT, headed over to Johnston, TN and ran some in NC.

Gene, WB4KZW made a trip to AL. He noted good cw contacts but scarce SSB contacts.

Joyce, KD8HB, headed over to IN to run some for the folks.

Don, N5XG, ran around in west TX and western NM filling in many needs.

Jay, AA9KH, was out in IL.

Jeff, W9MSE, headed west on his 'around the border of the USA trip'. Now out on the west coast headed south.

NX4C, Wesley was out and about in TN running on CW. .

KG4VBK/K4EXT mobile – near Avery, NC/ Johnston, TN line

Art, N4PJ, and Marsha, N4BU, took a nice trip to run the entire state of NE. They stopped by at N9STL's QTH in St. Clair, IL, and visited with her, K9HUH, Ted, and N9QS and Bonnie.

Art, N4PJ, Marsha N4BU Bonnie, N9QS Silver

3) Don, N5XG, took a trip out in West TX and NM. He writes:

"I had a really enjoyable trip although there were several issues with Murphy along on this trip. The trip around West Texas was challenging to say the least As I was trying to get over to Menard (LC TX for Pete-N4AKP) from Mason I took a country road and when pulling off the road the car dropped off the edge of the road. There was no shoulder to speak of and the grass and weeds were right up against the pavement. I had feared I may have damaged a tire but did not see such as I got out. I had no noticeable problems as we continued on through Schleicher into Tom Green for the night.

That morning we left out pre daylight for Irion, Upton, and beyond. I was hearing a slight noise but could not identify it. After a while I had to stop and get out to investigate and found a rear tire rubbing on the fender.

I could see the abrasions on the tire. Although the tire was not flat my tire pressure indicator now indicated it was low. I had not changed a tire in 20 years. I called AAA who quickly arrived and they confirmed that it was more than just a flat. We were towed back into San Angelo where the bearings were replaced and I had to get a new tire.

In all of this I had to remove the antenna which was a real pain with the car loaded. It was almost 3 hours that we lost but I am very fortunate it did not happen out in Crockett, Reeves, Pecos, or Ward counties. I had to be in Terry county by 4:00 that afternoon so it was necessary to modify our route and I had to eliminate 3 or 4 counties in the extreme West portion of the itinerary. I also had bad feelings about getting stranded if more problems came up with sparse cell phone coverage in this area. We did make it into Terry county at almost 4:00. Dawson county which was just before Terry was by far the largest amount of contacts of any on the trip. It went on and on and on, with lots of Europe late in the afternoon. I had added that to the itinerary to give VA3XOV his LC-TX for Bingo.

We stayed near Lubbock and then started out to NM Friday morning. As I got into NM I was driving on county roads up the E side of NM through Clovis. The roads then got even more rough. After a while in Quay County I was about 20 miles from Logan NM just S of the Harding CL. I remember I told folks it would be about 30 minutes. It took and hour and half to get to the CL.

The roads were so bad it was rattling the car like you were driving on cobblestone pavement. I feared my horizontal resonators would snap and break off the mast and we drove very slow to get through Logan. After the issues in Irion the day before, my wife and I both were concerned about the car. I was more concerned about the antenna. But we made it, made the contact and happy to give you the NM LC for your Bingo. We made our way out and wanted to get to the interstate as quickly as I could and headed E for Tucumcari. While there I noticed San Miguel was just North of the city limits so I drove up there to put it out.

On the way back Bob-N4CD said he missed Harding and ask if I might could repeat it. I knew with the current circumstances it might not be wise to

try the same route again nor had much of a chance to convince my wife to go back and I sadly declined.

In trying to get on the interstate (my wife was driving while I was operating in the back seat), she made a wrong turn and we were heading back to Logan NM. I did not notice until the roads started to get rough. Once I realized I was near Logan I decided to get Harding for Bob. I called bob for about 10 minutes on 40 and 30 and I guess he had turned the radio off as I never got him.

So I did not take the turn N into Harding and went S to pick up I-40 into Amarillo. We stopped to get gas and then I noticed the 20M resonator was missing. The lug nut was broken at the mast. I went on into Amarillo but did not run Deaf Smith or Oldham as my wife and myself were committed to silence for the final part. Sorry that I missed N4PJ in Deaf Smith due to our shut down. It was not on my list or I would have held out on and hope for 40 or 30M.

There are reasons why some counties are rare, and some not. I need to get the car in the shop and now my concern is if I will be ready
for the TXQP this weekend, it is not looking good.

73, Don N5XG"

4) Mobile Diamond Award

The BOD of MARAC passed the Mobile Diamond Award at the September meeting.

5) 9A2WJ, Daki

9A2WJ, Daki, is now back active county hunting. Give a listen for him in the afternoons and evenings when he chases mobiles on cw.

KM9X/KB9MGI Trip Report

Our 17 day summer vacation, basically a countyhunter vacation, is over and I finally finished logging all those audio digital files. Some totals: 8166 miles in the new GMC Terrain. Radios were surprisingly quiet, much better than the Fords I had. Never had to pull over once but when stopped it was dead quiet with the road noise gone, although it is a quiet car.

In Oregon, NOTHING is quiet. They resurfaced the entire interstates from north to south and east all the way with what looked to me like a pugmill mixed number 5 course stone- and asphalt. We used to call it "base". It was so rough, we couldn't hear ourselves let alone the radio. horrible! (15 years in the assfelt business!)

We ran every one of the 238 counties on 20m and 40m. Many counties had no contacts on 40. But we had many counties in the west with at least one contact and sometimes 2-4 contacts. Much different that the 10-20 per county on 40,in the east half of the US. We spotted our selves the fist few days playing with a new Verizon MIFI. but that got old. As always, after the run on 20, we go to 40 and that worked. If we had to run off net freq we spotted.

We ran CW for about 6 counties that were requested before we left.. but like a dummy, I did run one while driving on cw for somebody that never requested it prior, so I was at 80 mph. One is enough of that. Can't pull over when in the middle of 3-5 lanes.

Judy finished her Bingo and got to count the last two days for Master Gold. I finished about 6 states for Master Platinum. Got about 200 new for 4th time. Of the 238 counties, 98 were unique to us, putting the total ran at 1561. I have no idea how many QSOs. Don't count them but had a few 10 min shut off runs. As usual, every day from noon to about 4pm eastern, whereever we were, the bands went to hell, but man, at about 430 eastern, it got good and better as the night went. We had some very late net runs, about 1030 pm east coast time. Thanks to those, especially the MP contacts for hanging around.

We had two train trips, a trip to the Tehachapi Loop in CA, one lighthouse, one meteorite crater, two bears, two canyons- one a surprise that cost us an hour of driving 2000 feet down and up again.. 109 degrees in the desert and 46 degrees the next day at Lake Tahoe!

Only about died once, when a cop came shooting out of a hiding place right in front of me at 70 mph.. about hit him and the two middle lanes about piled it up..hell of a trip. ready to do it again tomorrow! Plans next year are for tornado chasing , not CHing as the priority.

VA3XOV Gives LC WBOW

Jim sent along the follow picture from his recent trip to NC and VA.

Gates NC....last WBOW for W4SIG, Kerry

State QSO Parties I

Ohio

Wow…this was a good one. Probably all of the counties were on the air at one time or another. Several had over 77 of the 88 counties in their scoring. The spots page kept flowing with spot after spot. I needed just one in OH, and after almost giving up hope on Morrow, OH, finally W9MSE was there at 9pm local time in OH….and we connected. Whew! Otherwise, put lots of 1x1 calls, a few Natural Bingos and all sorts of prefix combos into the log. Lots of activity!

K8SV/m (with K3TN)

Counties activated: FRAN, PICK, FAIR, ROSS, HOCK, PERR, LICK, DELA

Setup: K3 to Hi Sierra HS-1500 screwdriver antenna in Dodge Caravan minivan

This was Rick K8SV and John K3TN's first try at this and it was quite a learning experience. For example, we learned:

1. When you put a 83" tall screwdriver antenna on top of a 67" high mini-van, you end with a very tall antenna. I looked at the antenna, we looked at the power lines in Rick's neighborhood in Clintonville, OH, we said "uh oh." I ran in and Googled "Interstate bridge clearance" and found out that 16.5 feet high was the standard BUT 14' was possible near cities AND more Googling found that OH had many lower clearance bridges.

So, we rigged up a line to the top of the whip and tied it down a bit but it turns out that many trees are lower than that and before long WHAP - a tree knocked over the antenna as we were cruising along in FAIR while I was on CW. Since our planned route was on a lot of back road routes, it kept

happening so we ended up only being able to operate while stationary. Thus, most of our time was driving vs. making QSOs.

2. Stopping by the side of the road in small towns in a minivan with a 15' high antenna on it and a guy in the back with headphones on sitting at a card table with a laptop and a K3, and a guy in front with a laptop, 2m radio and cellphone going tends to attract attention.

3. When you run that screwdriver antenna down to 80m, it is more like 17 feet high - when we got on I-70 we figured I could operate while Rick drove. However, we kept hearing "ding ding" until WHAP - the antenna got knocked over, giving the final blow to the plexiglas covering the screwdriver coil.

4. The combination of my work laptop, N1MM, a serial to USB converter to the K3 and the USB connection to the WinKey did not like it when the laptop went into sleep mode. After a dinner stop in Logan, OH (HOCK) the laptop had gone to sleep and upon awakening N1MM hung. When I killed it, a phantom N1MM process was running and no amount of closing or process killing could drive a stake in its heart. Continual rebooting for about 30 minutes was needed to fix it, using up the entire trip across PERR county except for 1 QSO by hand.

5. SE Ohio is really West Virginia, not OH. Beautiful hilly scenery but a depressing amount of closed industrial plants and businesses.

We ended up with a shortened route, way lower QSO total and a seriously abused screwdriver antenna. We heard almost nothing on 20 meters, but 80 was a fantastic band - should have spent more daylight time there and less time trying 20 and 40 SSB.

However, we had a blast. Driving around in what looks like a giant bumper car making QSOs while knocking leaves off of trees can't be beat."

AE8M/m (240 CW 70 SSB Q) – 9 Counties Transmitted

My mobile setup consists of a K3 with one antenna mount on the roof and another antenna mount on the trunk lid of a Honda Accord. Lakeview Hamsticks for 20, 40, 80 and 75 were frequently rotated between the mounts. I drove 200 miles during the contest and another 120 miles prior to the start to get to the first county. I park to operate.

The EU stations added some extra excitement with Qs as follows: DL3DXX 5, HA8IB 5, DL2HBX 4, DL3GA 4, HA1AG 3, OK2EC 3, and one each for LY2FN, PA3ARM AND SP5SA. Whenever I entered a new county and started CQing on 20M, they were there immediately. After dark, I abandoned 20M but they found me on 40M.

The first half hour of the contest was a disaster. I had replaced my usual mobile laptop with a new little Samsung netbook. I was unaware that the touch pad on the netbook has a feature called virtual scrolling which duplicates the operation of a wheel on a standard mouse. Moving a finger across the touch pad would cause the rig frequency to change. I unwittingly did this in the middle of two Qs (K1ZZI & W4DAN, sorry guys) and probably numerous times while CQing. Of course, the QSO rate was very bad the first half hour and I was quite discouraged.

About 20 minutes into the contest I noticed that the rig frequency at the end of a CQ was not the same as when I started calling. I did not know the source of the frequency shift, but I did figure out that engaging the frequency lock button on the K3 would prevent it. The frequency lock button kept me in the contest and about two counties later I figured out that the touch pad was the source of the problem. I now know that this virtual scrolling "feature" can be disabled in the touch pad settings.

K8MR Mobile (with AC0E)

A beautiful day to be driving around Ohio. I do wonder if it was too beautiful in other nearby places, keeping people away from the radios until later in the day. Things plugged away during the daytime, but with rarely any good bursts of activity. For a while I thought it may have been the Tennessee QSO Party from all the TN guys in there, but their party is this coming weekend.

This year we had an excellent turnout of mobiles in Ohio, so I decided to do a shorter route and stop in a few rare counties to put up a dipole to be loud enough to pass out some rare counties on SSB to the deserving. Our first stop was in Carroll county, where we found a closed business with a nice tree by the parking area in the back. I had difficulty getting the EZ-Hang to get off a good shot to get the string in the tree, but eventually did and got the antenna up. I did do an A/B comparison with the Hustler on 40 meters, which the dipole won by about four S-units. Had some decent luck working other Ohio counties on 40, which is something I had not run into in recent years.

We had next planned to stop in Belmont county, but we were by then running behind my time estimates, so decided to not stop there. Good thing, as the rest area on I-70 where we had planned to stop was closed due to reconstruction of the westbound lanes of I-70.

The second stop was at a small church near Miltonsburg in Monroe county. It was a beautiful site, on top of a small but steep hill with a beautiful view, especially to the west. Setup here went better. We did mostly 80/75 from this
stop. Tried 40 which sounded open, but not much success.

we were out of there as the sun was setting. From there it was back to the interstates, through Columbus and back toward Cleveland. Decent but not spectacular rates most of the way, until things finally got very good in the last hour, mostly on 80 CW.

No major problems, a few missed turns but none that had major impact. Thanks to all who participated, thanks to driver John, AC8E, and thanks to the great PR job by Kenny, K2KW, for bringing out the tremendous activity among Ohio stations, for many of whom I suspect may have been one of the first contests they have operated."

WB8JUI/ Rover

The trials and tribulations of a first time OQP Rover...

Plans were to hit the 4 counties of Bellevue, Ohio - Erie, Sandusky, Huron, and Seneca, spending an hour or so in each county. I had an appointment at my doctor's office in Fremont Saturday morning. My wife suggested I take the rig, head north after the appointment and hit Ottawa also. I think she just wanted me out of the house... Kind of surprised she didn't tell me to just head south and catch Lawrence too ;-)

I scoped out a great scenic spot on the old bay bridge (Sandusky Bay) in Ottawa, set up the antennas and off to the races. Not quite... After a few contacts on 40 and 20, I QSYed to 80 CW. RF getting into the craptop – locking up. Only made 15 contacts in Ottawa. Starting to question my decision to go Rover. Also discovered I left the cooler with drinks and munchies sitting on the garage floor at home.

Across Sandusky Bay and on to Erie! Set-up the antenna further away from the Pacifica this time. 80 meter RF issue gone. Starting to feel a bit more comfortable.

Head on over to Sandusky next. Set-up went quickly. Another 50 contacts in the log and an evil eye from the Sandusky County Sheriff as he passed by.

I had Huron next on the route, but having already worked a couple of Huron stations, I felt Seneca (home county) would be a better choice. After an hour and a half in Seneca, I decided to uproot again and wander over to Huron.

Huron was good for another 50 contacts. I had quite a few people tell me they still needed Erie. Being that Erie was just down the road, I figured why not. Back to Erie for a few more contacts. I'm getting pretty quick at assembling and disassembling the wire verticals, but it's still a rate killer.

Now, back to Seneca for the epilogue. Found a quiet spot on 40 amongst the RTTY contesters and had a decent run. 80/75 was hopping the final hour.

The bulk of my operation was CW, but on the rare occasions when I went to phone, I was invariably asked if I did CW. Does a one legged duck swim in circles??? I was more than happy to put the mic down and go back to CW.

Thanks to all for the QSOs. Your participation was greatly appreciated! Hope to work you all again in the various state QSO parties and contests throughout the year.

73 - Rick WB8JUI

DL2HBX (DX)

It was a short-term decision to participate in the 2010 Ohio QSO party. I had toyed with the idea last year already but couldn't make it then because we had just relocated from MI to DL. This year, QRL obligations almost stopped me again. So I asked, DF9LJ, on Friday afternoon if I could operate from his fine station and he invited me to come over. It was a bitter-sweet event, as hehad learned the day before that he will have to dismantle the antenna soon due to his neighbors who sued him.

I arrived 30 minutes before the contest and we struggled to set up WinTest. The closest we found was the Texas QSO Party which allows to enter counties but no serial numbers. I ended up entering QSOs into the computer and keeping a paper log in parallel in order to keep track of the serial numbers. Also, we did not set up the keyer interface, so that all keying was done manually.

The money band was 20m which stayed open until after 00z (2am local time). I did listen twice on 15m but never heard anyone. 40m was difficult early on due to tons of RTTY and digital stations above 7.035

The mobile stations made for an interesting contest. 95 out of the 186 QSOs were with stations that operated from more than one county.

W9MSE 19
W8O 15
K8MR 12
W1NN 9
K8DD -9

W8TK -7
NX2PX -6
K8RYU -5
WB8JUI -5
AE8M -4
N8SS -3
N9FN -1

Out of the 88 counties, I contacted 76, two of them on Phone only."

W4UCZ (GA fixed) – 136 CW QSO, 70 multipliers

N6MU (CA) 92 CW 149 SSB - "Top mobile for me was W0BH with 74 Qs followed by K0HNC(28), K0AP(26), NA0V(20) and K0WJ(17). Lots of fixed action as well. Don't normally have more SSB than CW." - Almost all contacts on 20M.

KN4Y (FL) - 106 cw 52 Mults

I spent my first 20 years in Ohio and consider this an air-wave reunion. I operated only CW and the fixed stations and the many mobiles made it fun. The bands were in and out but overall good. Got some new counties on 80-meters.

W1NN Mobile

This was the fifth or sixth mobile run I've made in the OHQP but it turned out to be a very frustrating one. Although everything was working fine in the car Friday night, once the contest started I couldn't get the 80 meter antenna to work properly and I spent a huge amount of time trying to fix this problem. I use the large Hustler resonators for 80 and 75 and when they are working properly, the SWR is very low for around 25-30 khz and you can change this range by simply shortening or lengthening the tip rod. And most people can hear you, although it can be difficult to get through phone pileups or hold a frequentcy on phone. When something is amiss, you can't find a resonant frequency and the antenna won't tune up even with an antenna

tuner. The main causes of such problems are either a poor ground or a poor coax connection, but it's not always easy to figure out what's wrong in a specific case. I finally got the antenna working properly but I lost a lot of operating time and fell way behind in my route. So instead of going through 13 counties, I only made it to 9.

My overall rate was also hurt by spending a lot of time trying to get something going on SSB. But this was deliberate, because to make a good score you really need a good mult total on both modes. I spent a lot of time on 20 and 40 SSB early in the contest but never did get much of a run going. I normally don't care for SSB and almost never work SSB-only contests but I enjoy the challenge of SSB as a mobile and on those few occasions where I have a good run, it is very rewarding (and good for the score when mults are counted by mode as in the Ohio QSO Party). This time my persistence was finally rewarded by a run of about 55 contacts on 75 meters, allowing me to pick up a lot more phone mults than I have ever done before, both counties and states. It looks like I worked 55 counties in total including CW and SSB.

Overall, conditions were pretty good and activity also seemed great, with at least one out of state station (N4PN) going well over 400 contacts. 75 was wall to wall stations. “

HI QSO Party

This was a lot better than past years, with activity from 4 or the 5 counties (no Kalawao, sorry). Kauai was spotted on 40M, and there were multiple Honolulu, Maui and Hawaii stations on. The Battleship Missouri station, KH6BB on Ford Island (Ford Island – counts for Honolulu) was active for many hours on 20M SSB with massive pileups. Some of the big HI stations were over S9 at times and easy to work, both on SSB and CW.

The way the contest multipliers work, you could get 9 multipliers – Ford Island was a separate multiplier from Honolulu, and Naui was separate, too. I think only 4 multipliers were on 40M. 4 on 20M.

KH7Y (HI fixed)

Wow…he made 904 CS and 3,862 SSB contacts! That's one busy contester!

KS5A (NM) - 3 cw 15 SSB (3 mults on 40, 4 on 20M)

N5XG (TX) 17 SSB 5 CW – He got up at 0700Z to catch HI on 40M – they were coming in 59/599 then.

Kansas QSO Party

K0AP with K0RU - Navigator/Driver:

Considering all the obstacles we had to deal with, Dragan and I sure had allot of fun.

Let me explain, first off that previous Monday I had traded-in my Lincoln Town car and purchased a brand new 2010 Ford F150 4x4 truck. Of course now I have less than a week to transfer everything that was in the car into the new truck. On Friday afternoon (day before the contest) the antenna was mounted and that was it, no radios, no coax, no power, nothing else was completed. Dragan calls and says we can do this, we started Friday evening around 6pm to begin installing all of the equipment.

Rig: Yaesu FT857D, Amplifier ALS500, APRS Rig, APRS ant,
Extra Battery, Large DC Cables, CAT5 cables, Metering, 2 laptops, keyer and whatever misc junk we needed. By 3 AM (6 hours before the contest was to start) we had been up all night installing everything we were finally ready to fire everything up to see what worked and what didn't. OMG, we have power, but we also have RFI/EMI everywhere. Computers tripping/locking up, radio keyer locking up, RFI tearing up everything you could imagine in the truck.

Quickly grabbed my box of RFI Clamp on chokes and started choking every cable you could imagine. We were finally able to get things settled down where we had full output 400 watts on 20 meters, with no RFI and we could run 100 watts on 40 meters (amp just wouldn't stay online, kept tripping) . We finally said it was good enough; we have to get on the road. By this time it's now 5:00 am and the contest is starting in about 4 hours.

Dragan headed home to get his bags packed and get a shower, I jumped into the shower and grabbed my bags and off I went, picked up Dragan and let him drive west on I-70 until we got to Topeka where we planned to stop and grab some breakfast and then I would take over driving. This would give me about 1-1/2 hours of sleep. While driving to Topeka, Dragan had never driven a vehicle with such a large antenna on it, didn't realize that every over pass he was driving under, the Antenna was striking. I'm sleeping, I'm not hearing anything, by the time we get to Topeka, KS the entire top portion of the antenna (Tar heel HP200) corona ball was gone and the top of the antenna was bent over like a fish hook.

We both shook our heads and said oh well, let's go. I take over driving from Topeka, KS heading NW toward Dickinson and Washington County lines. Dragan by this time was firing everything up Rig, Laptops and Amplifier etc. getting ready to start a run. When we realized the RFI problem still was haunting us, by interfering with the keying circuit on the logging laptop. At this time, 8:30-8:45 the countdown clock is ticking, we are not at our targeted county line to begin the run were still a good 1 hour from there and we are still having all kinds of troubles getting the logging laptop to stay online while keying without locking up. Finally we get things under control with the laptop, not realizing we had even consider getting the GPS laptop up and running we had no idea where we were or what direction we needed to travel to get to where we needed to be.

We knew the county we were in and just began the contest at that point. While Dragan is running the county, I'm driving like a mad man trying to get to a county road with a sign to tell us where we were. I'm following and gravel road that eventually turns into a 2-lane trail, that eventually winds and twist through some trees towards this lake which I could see off in the distance. As we're travel down this 2-lane path, all of a sudden the radio

goes dead (no receive) and there was a loud THUMP. I knew immediately what had happen I just struck a large tree branch with the screw driver antenna.

K0AP mobile

Sure enough, climbed out of the 4x4 truck and there sets the antenna bent over, busted off at the base mounting bracket completely snapped off. 2 hours or so into the contest and we are dead in the water, no antenna. Tear open my toolbox in the truck, and in the box are some fittings from some old antennas I've used in the past for hustler mounts. Quickly I scrambled and was able to come up with a completely new base thread mount that I knew I could make work. Tore of the antenna from the main mount, bent everything back into place with a pipe wrench and installed the new base thread assembly onto the Tarheel HP 200 and away go.

We are up and running and on the air once again. (That

Tarheel is tough), we hit the tree branch hard, and it did not damage anything on the antenna itself, it simply snapped off the base mount assembly.

Dragan, K0AP

After the tree branch incident with the antenna we both agreed we needed to get the GPS laptop up and running with our map so we could stay on schedule, but also on the right roads.

We are so far behind on our planned schedule we decided it was time to just hit the major road heading East (hwy 36 ‘ The Pony Express Highway) and start knocking down some of these counties and try to catch up or we weren’t going to be very successful. Off we go, both of us are so tired we just can’t seem to grasp what is going on, we are constantly be plagued by RFI into the logging laptop, Dragan would start a county CQ call, the pileup would begin and he would get the 1st or 2nd station logged and the stupid computer would lock up on us. Nuts, this kept going on and on, we would put chokes on this, on that, everything we could get to.

Finally we decided it had to be that specific laptop, so quickly we pushed the logging software off from that laptop onto the other and swapped the GPS software over with the maps and changed laptops. Wow, it’s working. Bang, we are up and running. Off we go, county after county running the pileups as we moved along. On the fly, Dragan’s running a Q rate of about 40 to 50 per hour. We finally reached our evening destination Topeka, KS once again where we planned on holding up for the night. The

brand new truck with less than 700 miles on it, was covered with dirt from end to end, what a day.

The next morning, we decide to push on, heading SW towards Osage, Lyon, Wabaunsee counties and westward. The pileup is holding mild, nothing to bra gabout, but the stations are still calling. We finally reached the county of Wabaunsee, KS. I spotted a gravel road leading up from Lyon to Wabaunsee which put us in the parking area of an old school house landmark. We parked and at that point I started posting spots for Wabaunsee, KS on DX Summit and County Hunters net.

Wow, station after station was calling, the pileup was intense. First we were on Phone 20 meters running 500 watts and working DX stations left and right and it seemed every station calling us was saying Wow, what a strong mobile signal your 20+ over S9 etc. Dragan is pumped, this is his first time on the run like this, he has never run any counties for county hunters, let alone a QSO Party.

Finally we switched over to 20 Meter CW on Wabaunsee, KS and again the pileup just kept coming, wave after wave. I saying to Dragan, we have to go, we are going to run out of time and not get all the counties we want to run. We have already been setting here for 1 hour and the pileup is still strong. Finally we both decided it was time to move on, sorry to all those we didn't get, but time was ticking and we had to move on.

County after county were running on the fly SSB and CW Dragan is bouncing all over the place trying to keep the laptops down and key from flying as I'm driving back roads up and down, up and down hills. When we come to Marion County, KS we need to take a 2 track that cuts across a farm land towards another county (can't remember right now where we were) but the two tracks was nothing but two tracks in tall grass. Slowly were driving across this farm land 2 track when again, all of a sudden the receiver goes dead. Nothing!

Stopped the truck, climbed out and sure enough the entire top whip of the antenna is completely gone. Poof! It had come un-threaded from the screw driver coil (someone forgot to put a lock washer on it) and the whip portion of the antenna was gone. Since we were on this 2 track and had not been

driving very fast I knew we should be able to find it, so we slowly begin backing up, after about a ¼ mile there it was laying on the tracks. We put it on (with a lock washer this time) and off we went, up and running again.

It was a wonderful adventure, and it seems to never amaze me how much fun we can have running as a rover in a QSO Party. I'm looking forward to running in the TX QSO Party because last year I had a wonderful time there and hopefully I will be a little more prepared this time than we were for the KS QSO Party.

Dragan did excellent, considering all the obstacles I was putting him up against as the driver/navigator he did a fantastic job of operating.

Photos are available at: www.k0ru.net/ksqp

K0AP - Dragan - Operator: "Despite all the issues we had along the way it was so much fun activating KS counties, some literally in the middle of nowhere. When I lived in Z3 Macedonia I loved chasing counties. Now, the hunter became hunted. Who was going to bet that this will happen to me 10 years after, hi! Anyway, Rob K0RU has invited me to join him in this adventure which I gladly accepted without much hesitation. He generously offered my call sign to be used for this operation and I thank him for that very much. We did not activate all counties we planned to but still managed to activate 22 of them. Notable was working DL3DXX from 14 counties, N6MU 19, W7GVE 18, NT2A 15, KO1U 14 etc... CU next year."

KD0MJT (Marion, KS) – 200 SSB/ 147 Digital

I worked NAQP for about 3 hours last weekend as a practice of sorts for this one. I am still new to ham radio in general.

I probably worked this one about 2/3 of the time on Saturday and 2 hours on Sunday. My primary bands were 20m and 40m. Both were acting goofy for much of the time. Things were nice Saturday evening, but alas I was only able to work one hour of that.

I think I enjoyed NAQP a bit more actually, perhaps due to the band conditions; it seemed things were more active with NAQP and with KSQP I'd sometimes go awhile between calls.

I worked fldigi for the PSK31 part of it all. This was my first attempt to work digital for a contest. The results were somewhat mixed. On the one hand, I sometimes was able to make digital QSOs when phone ones just weren't really happening. (I don't know Morse.) On the other hand, it seemed very few people operating digital knew what would be helpful to a contester. I of course announced KSQP in my CQ, but still sometimes got back paragraphs of text from people's macros describing their rig, age, websites, etc. I also found that my concise reporting of the contest info seemed to confuse some, so by the end I had worked up macros for fldigi like so:

F1-F3: the "concise" macros

F1: CQ CQ KSQP de KD0MJT KD0MJT K
F2: <CALL> CALL> 599 599 MRN MRN K
F3: TNX de KD0MJT QRZ?

F4-F6: the slightly expanded macros

F4: CQ CQ ANYONE for Kansas QSO Party de KD0MJT KD0MJT pse K
F5: <CALL> <CALL> de KD0MJT ur 599 599 in MRN MRN KS pse KN
F6: TNX <CALL> de KD0MJT and 7e. KSQP QRZ?

And then F8 for an extended CQ, 2 lines:

F8: CQ CQ CQ ANYONE for Kansas QSO PartynCQ CQ contest de KD0MJT KD0MJT pse K

I thought that the word "contest" might help some people know how to respond. I think it did, a little. There were, of course, some people that knew about KSQP, others that sent a simple "what do u need?"

I'm not familiar very much with how people operate digital software. I use

fldigi's PSK browser, which decodes all PSK text coming into the computer simultaneously and, by default, highlights CQs.

I used my SignaLink USB to play CQ announcements on SSB, which was handy as it would sometimes be many minutes between an answer. I recorded my CQ call, but in testing discovered that the SignaLink kept dropping the TX line to the radio due to apparently dips in volume from my voice. I added a 20kHz tone to the 44.1kHz audio file atop my voice whenever I wanted the transmitter keyed, which did the trick perfectly and didn't interfere with the transmitted sound at all. A simple shell script (Linux) would call aplay to play it, which I could interrupt with Ctrl-C the instant someone called. Really saved my voice.

I used JL to log. I am not terribly happy with the state of contest logging software on Linux and may have to write me own. JL didn't have support for KSQP, so I wrote it and sent my patches to Mike. I believe I got it right, but am not sure. JL claims my score is 14196, and above I calculated it at 14574. I suspect JL is more accurate, but I didn't want to spend all evening combing through logs by hand. So please don't be annoyed if that calculated score above turns out to be wrong.

fldigi has a built-in logger, which I used for the digital contacts. It was too good not to use. Just click on a call and it gets loaded into the log and used for macros. Very nice. So I didn't really know my score until the end, when I exported it into cabrillo, adjusted spacing a bit, and combined it with JL's log file.

fldigi supports logging to other local programs, which I may have to do if/when I write my own logger."

W0AVE (KS) 132 SSB 357 Digital

"PSK is my friend. When things died down on the waterfall, I switched to phone. The bands were very accommodating over the weekend and the hams on the air were eager to respond to a little-o'le Kansas station's CQ.

Thanks to the coordinators who did a bang-up job of promoting and organizing the event.

NA0V/m - 463 SSB contacts

N5UZW Master Platinum #9

Joe, N5UZW, has earned Master Platinum #9. To achieve that, he had to run 500 separate US counties (no repeats) while working a Master Gold holder from each, plus work someone with MG in every US county, or from a county to get credit.

Joe is very active as NC on the 40M SSB net.

N7ID Master Platinum #10

Jack, N7ID, has earned Master Platinum #10. Jack has run all 3077 counties. He headed to Kauai, HI, to run his last WBOW and give out the rare 1x2 call there as well.

On the Road with N4CD

The car had sat for a while without any long trips. I did head down to Austin, TX for a hamfest, but it was down the interstate and didn't take the radio along. Not that far, and lots of traffic, and I wouldn't want to be accused of 'having too much fun'! (giggle giggle) or putting out counties for an award that doesn't exist. I also headed up to Gainesville, TX in the next county but didn't take the radio along.

It was time for another trip. There is a hamfest each year in Mena, AR in Polk County along the AR/OK border. It's been going on for 50 years. I'd never been to it, so it was time to check it out. That's about a 4.5 hour road trip. This hamfest starts on Friday and runs till the dinner hour on Saturday. Many folks bring their RVs and stay right at the hamfest in the campground for a few days and socialize. It's held at Queen Wilhelmina State Park which sits at an elevation of 2500 ft on Rich Mt. There's also a nice lodge up there you can stay at.

I left on Thursday and headed up to Mena, AR. The shortest route goes through Choctaw, OK to McCurtain then up into ARK. I took a small detour and added in Pushmataha. I stayed at the Sun Country motel, and had dinner at the nearby New China Buffet.

At 5:30 am I dragged myself out of bed, and headed off to breakfast at Grumpy's Cafe when it opened at 6am. After a quick helping of food, it was on the road by 6:30. It was nice and clear in Mena. Right after leaving town, heading the 13 miles west on Route 88 to the hamfest site, I ran into the clouds. You go up in elevation, and in this case, right into the low hanging clouds. You could only see about 30 feet in front of the car. It took a while to get up to where the hamfest was supposed to be. I found the turn off, and made it to the lodge. The parking lot was full of cars with antennas, so I knew I had to be close.

After going inside and asking some of the local hams, easily identified by their name badgers, where the hamfest was, they said it was just down the road by the 'big tent'. Hmm. Well, I went down the road, but it's hard to see much of anything with 30 foot visibility. I found it and a parking spot. I was a bit early, but 200 or 300 were already there. It was about 80 degrees and 100% humidity. That weather, I learned, is not that uncommon up on 'the mountain'.

The hamfest folks put up three large tents – each 50 x 100 feet or larger, so there is covered space for the dealers and those who want to buy the 'covered" spaces. According to the local folks, it tends to rain a bit up there at the higher elevations. (that's relative. 2500 feet of elevation is probably

sea level for the CO folks – hi hi). It did sprinkle on and off a bit, but the outdoor flea market started up as some of the folks had their own canopies.

I wandered around and bought a few goodies, including a nice find of a 1936 ARRL Handbook for $5. It had a nice chapter on receivers – state of the art in 1936. One of the 'big deals' that year was metal tubes, which helped with unwanted interstate coupling. Around 11am the clouds finally broke and the sun came out. It was then 88 deg and 100% humidity. There were about 30 tailgaters and maybe 40 people selling things under the tents, plus one dealer with lots of new ham goodies like transceivers and accessories new in the box. The admission was right. Zero dollars.

I headed back into town for dinner and the motel and crashed early. It had been a long day, but enjoyable as I found lots of people to yak with about various technical topics and ham radio in general. There were lots of old style wooden picnic tables and folks sat around and talked.

I mentioned that I was a county hunter, and at least a dozen people asked 'is that guy still around on 14.336? I went on the frequency once and he chewed me out for using phonetics and I never went back'. Sad. We've lost so many new county hunters.

Saturday I headed back up the mountain getting there at 7am. No clouds on Saturday, but drizzles on and off that lasted till 9am. A few new folks arrived in the flea market and were instantly descended upon the the bargain hunters. I bought a few little items, but nothing major.

The Arkansas QSO Party started at 8am, so about that time I went to the car and ran Polk, AR. Then back to the flea market till about 10 when I had seen it all a few times over so decided to leave. Norm, W3DYA was in NW ARK and I could hear and work him. Same for N5NA – he was far enough away. That didn't last long. They were headed my way, and I was going east 70 miles. Soon, I heard nothing but people calling them. Dang! I need about 10 in ARK, too!

One of the counties not claimed on the ARK QSO Party Routes page was Yell. I was going to head that way, but my second contact of the day was with a mobile in Yell, AR, so it had been put out. I shortened the route a bit,

and ran Scott, Montgomery, Pike and a few others as I circled around and headed home. I left ARK about 2pm. No joy in not hearing the others run the counties I needed, either.

I made it home about 5:30, unpacked the car, and turned on the radio in the house, and caught AD5WI, W3DYA, and N5NA in a few more before skip got too long. I did get 2 of the ones I need from home.

So it was a pretty good weekend if you didn't mind the humidity. Nice scenery up on Rich Mountain – when you had the visibility. Cooler up there by about 10 degrees most of the time. I heard lots of the CH regulars chasing the mobiles (including me) – KA4RRU, VK4AAR, DL3DXX, OH3JF, G3WPF, WB2ABD. KS5A, WA7JHQ, N6MU, N9QS, KI7WO, K8QWY, K4XI, KN4Y, N3HOO, WD4OIN, N9STL, N5XG, NO5W, OH3JF, K9EN, W9ZJX, K4EXT, K7ZYV, W0GXQ, W9MSE, KD8HB, plus some of the state QSO folks like N6MU, W1END, WA2VYA, K4BAI, W5ESE, plus more. More coverage in the state QSO Party section.

I got back home – it's still hot in Dallas, and going up to 95 degrees with humidity, thunderstorms, and who knows what else. Summer is not over in Texas! Maybe time for more trips?

Regens

I. Introduction

Well N4CD is off on another history investigation of early receiver technologies. From previous issues, we covered the development of AM broadcasting, and how it permitted and forced manufactures to keep up. Between 1922, when the first tube consumer sets hit the market in mass quantities, over 150 MILLION broadcast receivers were produced by 1940. That's going from no market to one where almost everyone owned a radio (or two or three since the early ones had become 'obsolete').

This month we take a look at the famous regenerative receiver, which made Armstrong and RCA rich along the way. He not only held the patent on the regenerative receiver, but on the 'superhet', plus dozens of other patents that would make fortunes for many. Thanks to Ebay and other web sites, we can go back in history and show you what things looked like.

If you recall, the 'audion' had been invented in the early 1910s, but it was extremely expensive and unreliable. The first audions were hand made in a light bulb factory by special order! No two came out the same nor worked the same. The first use of the tube was really as a detector. Many sets had both a 'tube detector' and a crystal detector which you could switch between in the 1910 era for mainly military use and ship to shore communications. You had to be wealthy to afford one for ham use as they cost 3 months pay.

Audion Detector circa 1915

Most of the tubes didn't last long. That was due to several factors including not getting enough air out of the tubes when made, having the internal elements 'outgas' as they worked, and inconsistent physical structure of the filaments and plate assembly. Light bulbs were not very reliable, either at this time!

The first deployed transmitting and receiving set ups used spark transmitters of one form or another, and everything from the original 'coherer' (iron filings in a tube, requiring a 'tapper' after each dit received), to various crystal detectors (galena being very popular', to the carborundum detector.) All were very 'deaf'. The audion provided another 10-20 dB when you could get them adjusted right (each one was different). Too much plate voltage and you caused 'blue glow' inside and shortened the already short life of the tube. Too much filament voltage and poof! Yet, hams were playing with them. It might increase your range from 5 miles to 20 miles for a moderate spark station.

DeForest and Armstrong came up with the 'feedback' amplifier about the same time in the 1910-1914 timeframe. Here is the circuit that DeForest patented, and which was favored by the navy.

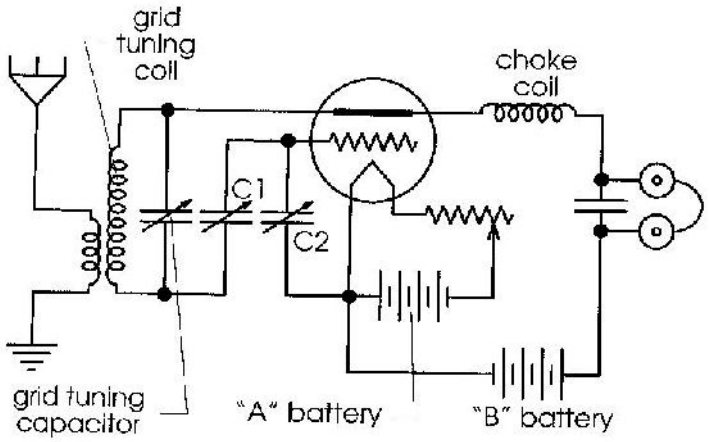


Figure 1.8 – Lee deForest's "Ultra-Audion" circuit

You'll note this is not the normal circuit that most hams would come up with for a regen receiver. This circuit works, but is rather difficult to implement with better tubes. This was just one of the configurations that various inventors came up with, and naturally, there were extensive patent battles that took years to resolve.

You'll recall that the Titanic in 1912 was using a 'state of the art' magnetic detector – not a tube on the ship in a radio.

Here are some sensitivity figures for various types of receivers circa 1915

Detector Type	Minimum Signal Strength(watts)
Filings Coherer – Marconi	$4x10^{-08}$
Carbon Steel Coherer	$2x10^{-9}$
Magnetic Detector	10^{-9}
Electrolytic Detector	$7x10^{-11}$
Carborundum Crystal	$9x10^{-10}$
Non Regenerative Audion	$3x10^{-12}$
Regenerative Audion	10^{-12}
Modern Regenerative	10^{-15}

In terms we might appreciate today.....for a 1 microvolt signal from your antenna into your 50 ohm receiver – that would be $1x10^{-06}$ squared, divided by 50, or $1x10^{-12}$ divided by 50, or 20 picowatts or 20 x 10^{-15} watts. Your modern regen could be capable of well under a microvolt sensitivity. The old detectors took hundreds, or thousands, or tens of thousands of microvolts to work! Or in the case of coherer, almost volts of RF!

With the need for communication in WW1, the first viable triode tubes were developed for receiving and transmitting – the VT-1 and VT-2. You still needed a fortune to buy one. Ham radio was shut down during WW1.

However, after WW2, tubes went into 'mass production' in 1920, KDKA came on the air as the first broadcast station that year. The UV-200, an

argon filled detector tube, and the UV-201 'hard vacuum' amplifier tube could be bought for $5 each.

After the war, the hams brought out the spark gear once again. Some were experimenting with tubes, but it was uncertain whether it was legal or not to even use tubes by the FCC rules!

Broadcasting started after WW2. Before that, you could build yourself a galena detector crystal set and listen in to ship to ship communications – almost always 'spark' or similar- which would have enough 'modulation' on it that an AM detector would copy it fine. There wasn't anything else to listen to, other than perhaps your local hams (real local). Range for a 'good' ham station was 25 miles on a good day. Simple stations got maybe 5 miles.

After WW1, the first commercial tubes appeared – the UV-200 and UV-201. They had 5v filaments and took an amp. The were quickly replaced with the new improved thoriated filament versions that took only 0.25 amps of filament current by 1923. They only worked up to a bit over a MHz, but that covered the existing two frequencies assigned for a 'broadcast band'. You'll recall that Marconi and everyone else operated way down below the BC band – several hundred kilohertz – long, long wavelengths. Frequencies above 1.5 MHz (200meters) were thought to be totally useless! Without the vacuum tube, they essentially were.

Just about every kid back then probably built a crystal set – and you'll still see many of the originals appearing on Ebay from the 1920 era. Most broadcast stations ran low power – anything from 10W to a few hundred watts. There weren't high power tubes yet, so range could be quite low. You needed a good long antenna, a good ground, some very sensitive earphones, and a lot of patience. With a single tuned circuit, most crystal sets were not very good.

With the advent of tubes that consumers could afford (not cheap yet), the industry standardized on a few designs. Keep in mind that 50% of all US households didn't have electricity in 1920. Also recall that this first tubes all had direct heated filaments – meaning the filament was the cathode of the tube, so the filament had to be run on DC power. In addition, there weren't

affordable components to build a/c power supplies to supply the high voltage, so radio design had to take this into account. (It's not that much different today – you buy your transceiver, and then you spend even more money buying an A/C power supply for it!).

The most frequent design in the early 1920s was the 'regen'. There were two things that made long distance communications possible – the 'tube' and the 'regen' circuit.

While the regen circuit faded from the broadcast consumer market within less than 10 years, hams quickly picked it up, and even up till the 1950s, the starting receiver for many radio enthusiasts was often a regen radio. Even today, you'll find articles in QST about solid state designs that provide an inexpensive receiver.

So off on some history, a lot of nostalgia, and probably some memories for the 'senior' county hunters. I'd venture for most hams getting their ham license after about 1980, the might not even own a piece of ham gear with a tube, other than perhaps a power amplifier, or oscilloscope or computer monitor with a 'Cathode Ray Tube' – CRT, or a 'boat anchor' radio sitting around. For theses folks, think of a tube as a 'low gain power FET' with a built in indicator that it might be working, or not. Then again, tubes can do things that FETs cannot (not individually) so there is good ground to be covered here.

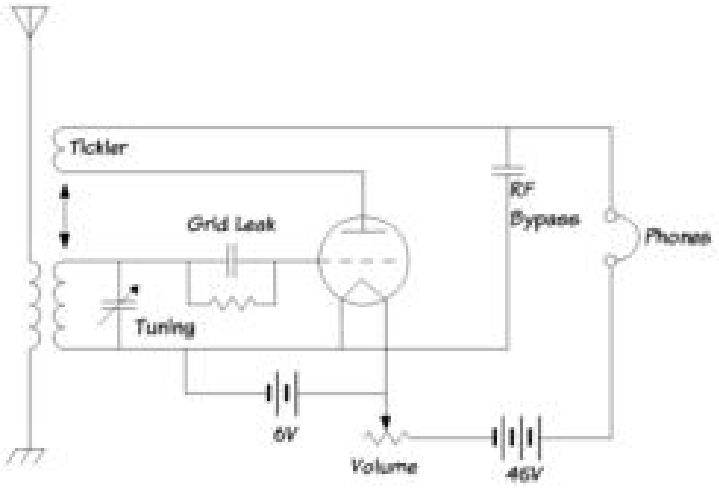
We'll finish this coverage of the regens with the solid state era. First, back in the " way back machine" to 1920.

II - Theory

Armstrong invented the regenerative circuit while in college, and filed his patent in 1914. It doesn't take a whole lot of parts to make a basic one tube regen – either one variable inductor (variometer) or or a variable condenser,

two batteries, two small capacitors usually made with mica, one resistor and one wire wound rheostat, a tube and tube socket, and some interconnecting wire and terminals, a few knobs. That was about it.

Figure II



There were several things going on in a single one tube regen circuit.

The RF, coming from the antenna, was either shunted to ground via the tuned circuit if not on frequency, or was fed to the grid of the tube if at the resonant frequency of the tuned circuit. It was amplified by the tube. Part of the output from the tube was fed back to the input circuit, overcoming losses. This cycle was repeated for AM until just before the tube became an oscillator. You could get the gain up to several thousand this way, taking a weak signal and amplifying it from microvolts to millivolts.

In the early radios, gain adjustment was done through several methods, including controlling the voltage to the filament(s) which controlled the gain of the tube. That helped save battery power. In the Crosley set and others, they actually moved the 'tickler coil' physically to vary the feedback as well.

All the early sets were triodes – the screen grid and pentode tube was 'yet to be invented'.

You could also short the RF at the plate out by putting a variable resistor across the tickler coil, or put a variable capacitor to shunt some of the RF to ground, or other schemes. You needed some way to limit how much feedback you got, otherwise you had a great oscillator but terrible receiver.

Now, a big deal was made about the 'grid leak' capacitor. This was a major problem. Folks back then knew how to make low resistance rheostats, but were not good at making stable, humidity resistant high value resistors. In all the early sets, the 'grid leak' resistor was like a large fuse that you could plug in (or replace). Also, different sets worked differently on different values of resistors, so your dealer/repairman could play around with the values – typically 2.5 to 15 megohms for your particular set. No two worked exactly alike and any tube might like different values for optimum performance (or any at all!).

Grid leaks would frequently go bad, so you had them in a replaceable holder! They were neither cheap nor good.

The Germans finally perfected a process, but the product was expensive.

Now, why a 'grid leak'? There is some 'magic' going on in the circuit.

If you look a the circuit, you'll see that you need to couple RF energy into the grid with minimal loss so you get the most gain. You do that with a small value capacitor that conducts RF well, but not audio frequencies. Now, with a capacitor connected between the grid and ground through the coil, the capacitor will built up a negative charge – those electrons being thrown off the filament and heading to the plate will sometimes collide with the grid. You would build up a negative charge on the grid, and turn the tube off. You need to 'leak' that charge off the grid, but only enough to keep the tube just near the point where RF swings would make it go positive. . On each cycle of RF, you want to charge the capacitor, then discharge it before the next cycle begins. You want to drive the grid positive on peaks, then discharge quickly before the next rf cycle.

The grid is also doing a second function. It is providing the demodulation. The filament to grid acts like a 'diode detector'. The tube then amplifies the audio signal (along with the RF). The time constant of the grid leak and grid coupling capacitor must be such that the grid voltage changes with in the incoming RF signal, but not such that it affects the audio frequencies which you don't want bypassed to ground. Typically it would be about 50pF and 2.5 to 10 megohms.

After the tickler winding, you'll have an RF bypass to ground to complete the RF circuit and keep the RF out of the headphones or the next stage.

In nearly every case, if you had a second stage it would be transformer coupled with a 3 to 1 up 9 to 1 audio interstate transformer. One extra tube and tube socket and nothing else would be added. Not a resistor, capacitor, or other component.

It required a long antenna (60-100 feet up high) to make these radios work well, plus a solid ground.

If you allowed the circuit to go into oscillation, you could no longer clearly receive audio. However, to the hams delight, putting the circuit into oscillation meant you had a 'beat frequency oscillator' could copy that new fangled 'Continuous Wave' (CW) nicely. More on that later.

III – Early Broadcast (BC) sets

Here is a demo and all you will ever need to know about the Crosley Model 51 radio, made about 1924-1926. The Model 50 had one tube, the Model 51 had two tubes and could drive an old fashioned 'horn speaker'. Back then, it costs $18.50, which was a lot of money!

http://www.youtube.com/watch?v=Jix7iDivF2M

Part II of video

http://www.youtube.com/watch?v=5ta5mcRfy8k&feature=related

For most people, the A battery was a 6v storage battery like a car or farm tractor battery. The B and C batteries were dry cells and would last a year for the B battery and several years for the C bias battery. You'd take your storage battery to your local radio dealer once a week or two depending upon how much you used the radio – to get it charged back up. If you were a farmer, you'd put the battery back in the tractor each day and it would charge up as you plowed the fields.

Three things made regens ideal for hams – they used a minimum of parts – and they could receive on those 'short wavelengths above 200 meters – above 1.5 MHz. In order to eliminate interference with commercial service, hams were banished to 'above 200 meter wavelengths'. Crystal detectors pooped out quickly, plus they would not receive 'cw'. All you hear on a AM detector is thunkity thunk trying to copy CW, and of course, now SSB would be just 'gibberish'.

There was commercial equipment available for long distance communications, but it was bought by the military and commercial people with very large budgets. It was out of the budget of all but the richest hams. Folks had to do on their own – both receivers and transmitters.

There were two other types of BC radios – the TRF (tuned radio frequency) set using multiple stages of RF amplification followed by a simple detector, and the superhet. The TRF had all the RF stages tuned to the same frequency, and many were troublesome with all that gain at the same frequency. Even worse if you tried to get the TRF to work at ham frequencies! Shielding became a big issue and stability was often a major hassle. Your repairman had to tinker to stop the sets from oscillation and some designs (layouts) never worked right from day one!

Hazeltine invented a radio design with 'neutralized' RF stages – called appropriate the Neutrodyne – that was popular. When screen grid tubes with a second grid arrived, that vastly helped reduce the tendency of TRF radios to simply turn into unwanted oscillators with all the stages of amplification at the same frequency.

The superhet was invented in 1924 or so, with first commercial units after 1926. It took two factors to make them run away with the market: A/C

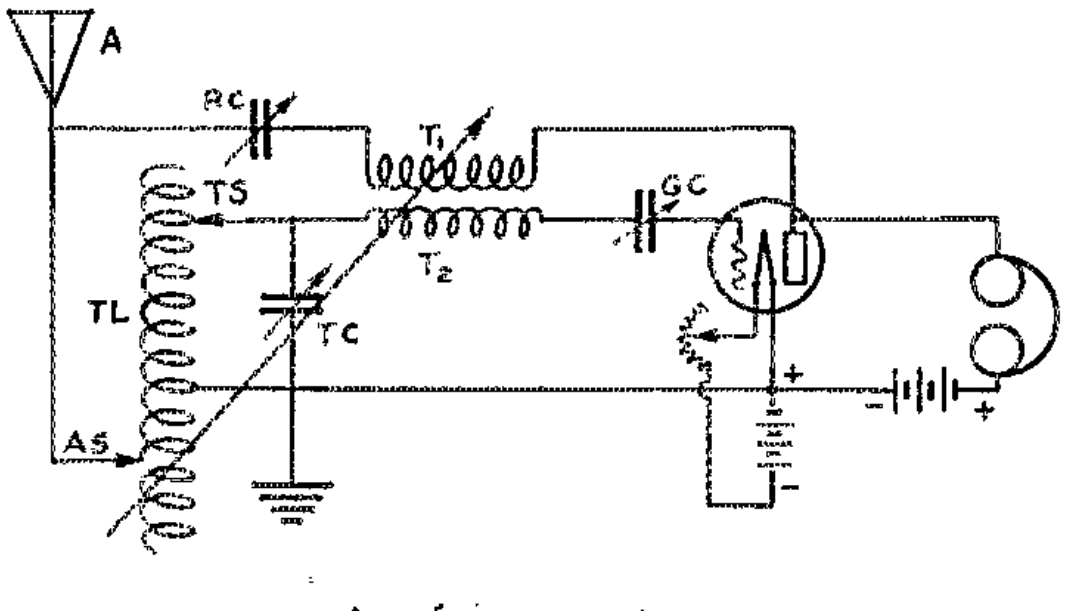
powered tubes (a separate cathode), and power supplies run off the A/C line. Additionally, tubes now had 2 or 3 or more grids, and many of the problems of only triode tube circuits could be solved.

Tuning in stations on a regen took a lot of practice and patience, and was not easy. You had to fiddle with lots of interacting controls. It would squeal if you weren't careful. The 'one dial' neutralized TRFs with ganged tuned stages, made life easier, but easiest of all was the superhet which quickly took over the entire BC market by the early 1930s.

Regens also caused a whole raft of problems. Typically the B+ plate supply on a UV-201A tube was about 22.5v. If you had a 'single circuit' radio, with the antenna connected directly to the tuned circuit, you could radiate a signal for a mile when you put the detector into oscillation. Crank up the voltage to 60 or 80 volts, and you could radiate a signal for miles. Now, many people getting these sets tried to 'soup them up' to receive 'far away' stations with higher voltage, long antennas, and not to much smarts in running them into oscillation while receiving AM. In crowded neighborhoods, the AM band could be filled with the howls of the oscillating regen receivers across the band as folks tried to tune in distant stations. In many cases, neighbors interfered with each other. Most of the AM sets were as simple as folks could make them.

Later, the design moved to the 'triple tuned circuit' which had a separate feedback winding, a separate antenna coupling winding, and the main grid tuning circuit as seen in Fig 2 above. Back then, they were called 'Tuners for CW' or 'Regenators' or Autodyne receivers, where your heterodyne was automatically generated by your tuning control as a 'self heterodyning set'.

Reinarz wrote several articles about the early regen in 1921 and 1922. The most copied circuit was the Reinartz Tuner.



June Issue of QST 1921

Note to readers: If you are an ARRL member, you can go to the QST Archives and read any back article! This circuit above was copied by the thousands! It was improved in 1922 and 23 with follow on articles.

By the 1930s, many hams were migrating to simple superhet circuits, or to ones where they had converters in front of their regens, using them only as a fixed frequency IF or tunable IF over a small range.

Probably the pinnacle of simple regen circuitry were in the Pilot Super Wasp of 1929 and the National SW-3 Thrill Box receiver which came out in the 1930s. Both had an RF stage followed by the regen detector. They were built like a battle ship, and had plug in coils. It took careful shielding, with separate compartments for the RF Amp Stage and Regen detector to have a stable receiver.

By ingenious design, the SW-3 allowed either broad general coverage, or ham band specific plug in coil sets. You still see them around today, but at

premium prices as they are collectors items. ($300 and up in working condition with coil sets).

Here's an article about how to assemble your Pilot Super Wasp Kit!

http://www.eht.com/oldradio/arrl/2000-01/Pilot-S-W-7.pdf

Hallicrafters made the regenerative S-1 Skyrider, he but moved to superhets as soon as he secured a license for them. Here's a very rare S-1 Skyrider – only 100 or so were ever made.

http://www.eht.com/oldradio/arrl/2000-11/index.html

Sargent made a regen aimed primarily at the marine market. One version tuned down to 14 KHz! The folks on Easter Island used one of these for decades.

State of the art in 1936, according to my ARRL Handbook, was a two or three tube regen, with a shielded RF stage with plug in coils, a regen detector (shielded), with a common shaft tuning mechanism, and an audio stage or two. One particular design was the Rationalized Autodyne which probably was the peak of ham regen receivers(QST June 1933 issue) . The other option was a 4 or more tube superhet design, or a combination of converter down to an IF, with a regenerative IF (often called a regenerode design).

QST had another great article on the **Age of the Autodyne** in QST January 2002, which also appeared in the ARRL Vintage Radio Book recently published. If you are an ARRL member, check out the article in the QST Archives. From the article:

The year 1932, however, had seen the introduction of the quartz-crystal IF filter. This circuit allowed superheterodyne receivers to deliver "single-signal" selectivity for CW signals. This development made superhets, another Edwin Armstrong invention dating back to 1918, sufficiently better than the autodynes to break into mainstream amateur usage. By the mid 1930s, many of the leading ham operators had abandoned their homemade TRF-Autodynes in favor of commercially made receivers from the likes of National, RME, Hammarlund, and, of course, Hallicrafters.

However, development proceeded a bit more with articles in QST about improved regen circuits and different ideas. Tetrodes and Pentodes became available. This allowed the regeneration to be controlled by the screen voltage, which often provided smoother control. Naturally, the superhet with a crystal filter ran circles around a regen, but at much higher circuit complexity.

IV Pros and Cons of Regens

The regen is an ideal simple radio for AM. That leaves you with a radio for BC band, some international broadcasting still remaining, and a few hundred hams still using AM if you can catch them on the air. Fidelity is not usually very good. It's also a simple CW receiver and will tune SSB.

You'll find that all the controls tend to interact, especially on triode based circuits – with tuning, the level of the regen control, the length of the

antenna vs frequency, voltage to the set, the antenna waving in the breeze, the antenna coupling capacitor, hand capacity effects, etc. It takes two hands at least to tune in a station on most units.

An RF stage allowed some isolation from the antenna – and prevented the regen 'oscillator' from radiating back out on the air. It allowed a lower impedance input (say 50 ohms) rather than the high impedance (1K plus) a simple regen detector wants to see by itself.

The regen is not a 'single frequency' CW or SSB receiver, either. You copy other stations on either side of the 'oscillator' frequency. .

Regens also tend to overload easily and a strong station many KHz away will pull the frequency. You don't have much dynamic range.

It works OK for CW, but the way it works, you have two frequencies on which you receive. If you want a beat note of 1 KHz audio tone, and you are listening to 7056.5, you are also listening either up 2 or down 2 depending upon which side you tuned your radio. To receive a signal on 7056.5, you have made your radio oscillate at 7055.5 or 7057.5. It will receive the 'image' as well. It is the same problem you see in a Direct Conversion receiver often used in QRP gear. (it also receives everything in the bandpass, too – maybe a few KHz wide.)

For AM, you can get a 5 KHz wide 3dB bandwidth at 10 MHz by careful design. That works great for AM. For CW, you'd like narrower bandwidth, but – the narrower you make the bandwidth, the more you increase the Q off frequency by 1 KHz! The gain on frequency desired is not increasing. The bandwidth is being narrowed around a frequency 1 KHz away from the desired one!

In the 1930s, folks were exploring the use of a separate oscillator, which would be fed into a detector circuit. You would start with an RF amp, then a regenerative RF amp, then a cathode follower isolation stage, to be fed into a mixer/detector stage. To tune in a signal, you would put the set into regen and disable the second oscillator. After you found a signal you wanted to listen to, you would back off the regen control, taking the set to where it just amplified the signal. You could not copy the cw. You would enable the

second oscillator and would adjust the second oscillator and tune it to beat against the incoming signal. Bingo!

You could then narrow down the RF stage to as narrow as you could get it – perhaps 50 Hz at the 3dB points. Of course, this added even more controls, and the set had more controls including an injection level control. It was getting as complex as a simple superhet. When moderate cost crystal filters came along, development work on these designs came to an end.

V – The Era of the Regen Kits

During the 1930s, there were a few kits that hams could buy, but for most money was tight. Those who had money bought superhet receivers. Ham radio ceased during WW2 – nothing was going on, and the government bought up many of the commercial ham transmitters and receivers for use in WW2.

Tens of thousands of servicemen were trained in electronics during WW2. After the war, broadcast TV started up, and more tens of thousands went into servicing those sets. The 'space age' was starting, the transistor was about to debut, and there was incredible interest in 'science' and 'electronics' in the country. New ham licenses were created (novice and tech).

Around 1950 saw a great rise in interest in both ham radio and shortwave listening. This spawned a series of kits of regen parts. Some were part of home school electronics courses. Here are just some of the most common ones, but there were likely another dozen or two of smaller outfits selling kits.

Many electronics oriented magazines had articles about making your own 'short wave' receiver. Popular Electronics in 1950 sold plans for 40c to build your own. You needed to buy your own parts (including chassis and headphones), and work from a Blue Print.

Here's just one of the 1950s vintage Pop Mechanics articles

http://www.vintageprojects.com/radio/flashlight-radio.pdf

a) ARRL Novice Special

Throughout the 1950s, the ARRL Handbook featured a 6SN7 or 6U8 dual triode regenerative receiver as the entry level receiver. If you built them solidly, they worked quite well. Thousands of hams built them. They usually had a triode regen stage followed by a single audio stage driving headphones. It took a decent wire antenna to receive much. No one offered a 'kit' but you could buy the components to build one at any TV repair parts places that were everywhere around the country.

http://www.io.com/~nielw/1951NoviceStation/1951station.htm

http://www.antiqueradio.com/Apr01_restoration.html

b) Heath K1 and K2

Heathkit offered the K1 then K2 kits. They were four tube sets and ran directly off the line. The tubes were 'war surplus' as were many of the parts in the set. They are extremely rare today – not all that many likely produced. They covered the BC band up to 6000 KHz with plug in coils. What was different was that this was the first 'low cost' radio kit to have a power transformer. Heath became famous for having a power transformer to avoid a hot chassis. It was really only a “SWL” (short wave listener type radio).

Most consumer products in the late 30s and 40s used the All American Five design with no line transformer. The A/C went in and was rectified for HV directly and the filaments totaled up to near 120V. It was a shock hazard once you went inside to work on it. Back then, A/C line voltage was 117v, while today you see 121VAC the standard, and often line voltages run 125v or more. Those sets tend to run hot now.

Many of the simple receivers for ham/SWL use such as the Hallicrafters S-38 series (which started right after WW2) and the National NC-60 had 'hot chassis', or a floating ground isolated only by a capacitor and large value

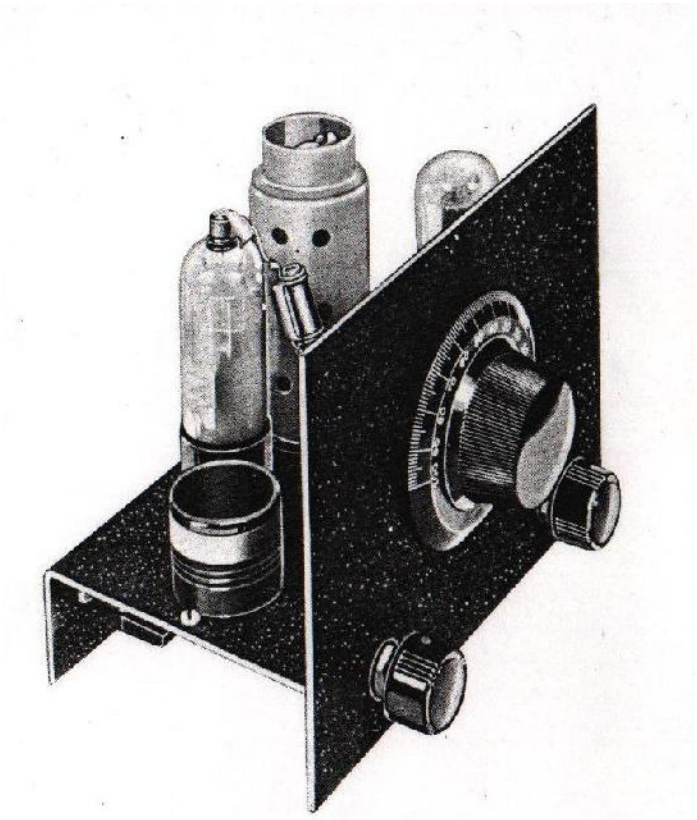
resistor. Definite shock hazard and potentially fatal. They were merely the All American Five Design, with an extra tube for the BFO if they had one. Even in the $8.75 entry level low cost units, Heath put in power transformers.

This K1/K2 kit was offered for a few years before 1950, and very few survive today it seems. It could be that not all that many were sold. It was mainly for SWL use.

Heath came out with the AR-1 super het(Ultra rare) – no BFO, then quickly the AR-2 and AR-3 general coverage superhet basic receivers.

Heath K1/K2 SWL receiver

If you ever run across one for sale, let N4CD know!



59. 1-3 Tube Meissner Midget Receiver

c) Meissner Midget Receiver -

This was a kit that could be built with one, two, or three tubes. It was a single stage regen – with two optional audio amp stages. It covered the BC band up through about 17.5 MHz with plug in coils. The first ones had octal tubes – a later model had glass miniature tubes.

d) Knight Kits

Knight (Allied Radio) offered 3 distinct kits for the SWL/entry level ham. Starting right after WW2, Knight offered the 'Ocean Hopper'

http://www.kg8yn.com/KG8YN/Rigs/Allied/Ocean%20Hopper%20&%20Space%20Spanner.htm

Originally using octal tubes, the early Ocean Hoppers are very rare. As time moved on into the 1950s, they moved to 7 and 9 pin miniature tubes, but the design stayed the same.

Very early, very rare Knight OH

Later, the moved to the more familiar panel unit with the miniature tubes. The circuit used at 12AT6 single triode regenerative detector, followed by a 50C5 power amp tube, and a 35W4 rectifier tube. It ran directly off the A/C line (shock hazard). It didn't even have a volume control. In the early 1950s, it sold for $11.95 in kit form.

Knight Kit Second Generation Ocean Hopper

The case was not even an option early on. Later you could buy an optional case. It used plug in coils, and you got 3 with the radio, but had to purchase the 'long wave' and top range coils separately. There was no speaker and most likely you'd use headphones with this radio. No volume control either!

Hams actually used these but they were the bare minimum to get by.

Here's a great site devoted to the Ocean Hopper:

http://members.cox.net/daveishmael/OH.htm

Here's a you tube video of a working Ocean Hopper

http://www.youtube.com/watch?v=YeFtQhNOxwM

Knight had two other kits. The Space Spanner, which was a step up in that it had two bands (BC and one SW band) with wired in coils, and it had a dual triode tube 12AT7 or equivalent, where half was used as the first audio stage to give significantly more audio output from the 50C5 power amp. . The radio had a built in speaker. It was still a 'hot chassis' design. It sold for about $19.95 in the 1960 era.

Here are pics and schematic of the Space Spanner.

http://www.kg8yn.com/KG8YN/Rigs/Allied/inside_view_of_the_space_spanner.htm

The top level kit from Knight Kit was the Span Master. It used a pentode regenerative detector, followed by two audio stages. It covered 4 bands from BC to 30 MHz although like most it was deaf beyond 15 MHz.

Unlike the other two models, this one had a power transformer. It sold for $24.95 in the 1958-60 era. Plus shipping.

Knight Span Master Receiver – circa 1958

With the introduction of many already built receivers at budget prices, competition from superhet receivers – vastly superior in performance – the era of the Knight Kit regens simply ended. Allied Radio went on to produce several high quality receiver kits, but that lasted only into the mid 60s, then Allied/Knight dropped out of the market. However, many hams

started out with a Knight Kit receiver or transmitter before moving to SSB gear later on (and quite often from Heath).

Note: You can find the schematics and manuals on line for many of the Knight Kits. Here's a great site for boatanchor manuals:

http://bama.edebris.com/manuals/

Here's the Span Master Schematic

http://bama.edebris.com/download/knight/spn-mstr/spanmaster.pdf

e) Heath GR-81

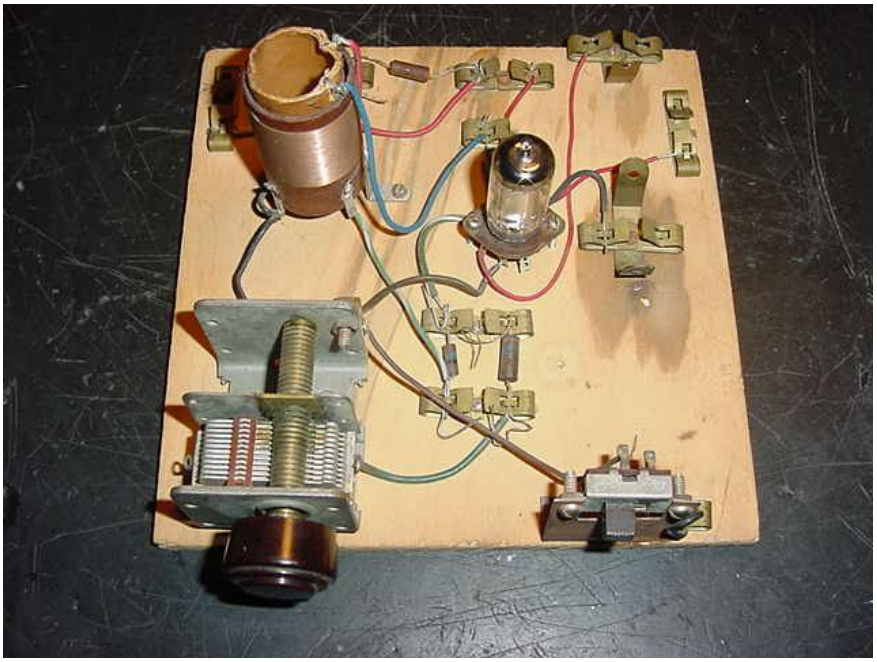
The GR-81 appeared in the early 1960s and continued to about 1978. It was competitive with the S-38 receiver for performance. It used a 12AT7 dual triode and 50C5 power amp tube and 35W4 rectifier. (similar to the Space Spanner). Unlike the 2 bands on the Space Spanner, it covered Long Wave, BC, and two short wave bands. Like other Heathkits it had a power transformer. Heath sold this at the same time as the AR-2 and AR-3 and later version receivers. It is relatively rare.

Manual and schematic for GR-81

http://www.qsl.net/wy3a/Heath_GR-81_Schematic.htm

f) Air Champ AC-100

"One-Tube Radio Kit"- the AC-100 made by Air Champ, The manual also contained a carefully cut out board component layout, complete with punch pricks to locate the screw holes on the 7" by 7" plywood base. This was also the radio kit Sears and Roebuck sold in the Cub Scout / Boy Scout department of their store.



Air Champ AC-100 Kit

g) Lafayette Explor-Air

Lafayette produced a kit similar to the Knight Space Spanner. It covered 4 bands with a similar circuit. It was less known and probably did not sell as well as the better known Knight Kits. Lafayette later sourced (from Kenwood) a line of superhet receivers, many with calibrated ham bands, that were popular for a few years before exiting the ham market in the mid 1970s when the Japanese rigs became popular.

A picture of this rig appeared in May 2008 issue of the CHNews.

h) Unknown Explorer (WRL or Meissner).

This item appeared on Ebay. It 'might' be a WRL kit or a Meissner kit – it used a IT4 and 3V4, and you supplied the batteries – 4.5v for filaments and about 45v for the plate. It used a plug in coil and socket similar to a Meissner. Sold for $100! .

Unknown 'Explorer Two Tube Set

I) GrayMark Receivers -

Graymark made some kit radios – here's a model 511 which had plug in coils like the Ocean Hopper, and a circuit similar to a Knight Space Spanner with a 12AT7 dual triode (regen stage and audio amp) followed by a 50C5 audio output tube, with the common 35W4 rectifier. It ran directly off the A/C line.

GrayMark 511 Receiver (seen on Ebay – sold $100)

j) Radio Shack Science Fair

Here's a one tube radio kit that was available from Radio Shack. It used a single 1T4 tube in a AM receiving set. You still see them for sale on Ebay occasionally. It used a ferrite loop antenna.

k) Follow on radios model names

Allied would later use the name Span Master II on an entry level superhet as did Lafayette who used the name Explor-Air Mark V on their simple superhet receiver for the SWL market. Both faded quickly and I doubt you'll see too many of them.

The Olsen RA-48 used a regenerative IF as a BFO (saved a tube section) in an All American Five superhet design, but it wasn't a true 'regen' detector circuit.

For some nostalgia of what radios looked like in the 1920s, the following link is worth a few minutes of your time:

http://www.radioblvd.com/20sRadio.html

Conclusion

That pretty much covers the world of commercially available tube regen kits. There might be a few I've missed but it should give you the general idea of what was out there. Back in the 1950s and 60s, nearly every country around the world had an International Broadcasting Service – from the BBC in England, to Radio Switzerland, Netherlands, the Deutsche Welle (Germany), Italy, and on and on. All the cold war communist countries spend untold millions on propaganda broadcasts and you had international religious broadcasters such as HCJB out of Quito, Ecuador. Kids built these kits to listen in to 'shortwaves'. Later, many moved into ham radio from there. These were great kits for SWLing. They were not all that great for ham use as they had neither any calibration for ham bands, nor really were designed for fine enough tuning.

The ARRL handbook designs did a better job of covering the ham bands.

There were some smaller companies offering products, and back in the 1930s, you had outfits like Meissner offering parts kits or whole kits, but they are extremely, extremely rare. Naturally, during WW2, ham radio ceased. Many radios were sold to the military during this period, too, never to be seen again. After WW2, military surplus flooded the market, and it didn't take much to put a WW2 surplus radio on the ham bands.

If you find one of these today (or dig it out of the basement or get it from an estate sale), you'll likely need to replace most of the electrolytics and most of the paper or 'black beauty' and other larger caps in them to get them to play well.

One of the problems of regens is that they generally have limited ability to determine frequency. It's hard to get them on frequency without a good modern receiver to figure out where they are. In the era of crystal control, when hams called CQ, then tuned up and down the band for someone replying, usually on another frequency, you could get away with that. Now, if you aren't calling on the CQ ers exact frequency, you probably won't be heard. If you can't stay on 14.0565 or find it...you'll be lonely waiting for a county to show up.

They still can work for casual work or casual listening.

The regen gave a lot of 'bang for the buck', and you can STILL buy tube regen kits to assemble.

Next month(probably) we'll go into some solid state units – Regens are still alive and kicking!

Got the urge to build a tube regen kit? You can still find them at multiple sources including:

http://www.xtalman.com/kits.html

http://www.makershed.com/ProductDetails.asp?ProductCode=MKGK7

2 tube battery powered regen kit here

http://www.tubesandmore.com/

http://www.peeblesoriginals.com/catalog/45.php

http://www.vcomp.co.uk/radiokits/radiokit.htm

Naturally, there are also a good half dozen solid state regen kits on the market, including one from QRPKits and MFJ and Ten-Tec. We'll cover the solid state era in a future issue!

Here's a one tube TRANSCEIVER!

http://www.glowbugkits.com/

Before we leave, do you think you could make a radio for a dollar? Times were tough in the 1930s (middle of the depression). Here's an article on how to make your own – as much as you can. You think hams are this industrious these days?

http://www.vcomp.co.uk/one_tube_1935/one_tube_1935.htm

“we begin on a sawed-off board measuring anywhere from 5 x 14 ins. (the size used for the set on the cover) to 8 x 20 ins “

“The fixed condensers needn't scare you. They are of the "postage-stamp" variety, and are made from waxed paper and tinfoil. Strip the foil from a pack of cigarettes or a tea package and smooth it out on a flat surface with your thumbnail. Cut six pieces, each l x 2-1/2 ins. overall, with one end cut to form a tab as indicated in Fig. 2A. Cut eight pieces of waxed paper, l-1/2 x 2 ins. For the grid condenser, place a piece of paper on the set base in the front center, then a piece of tinfoil on top of that, with the 1-in. tab projecting from one end. Then another piece of paper, and the second tinfoil "plate" with the 1-in. tap projecting from the opposite side. That's the condenser! Make sure the two peices of foil don't short together. A piece of

cigar-box wood a trifle larger than the paper is tacked by the corners (don't get the tacks near the foil) over the pile. Leave that for a while and build up the phone bypass condenser the same way, using two right- and two left-hand "plates" alternating. “

“Now we tackle the grid-leak, which is simply a high resistance path past the condenser. A piece of cigar-box wood 1-1/2 ins. long by 1/2 in. wide is blackened on top with a soft pencil and then fastened lightly to the base with two brass headed tacks or screws 1 in. apart. Don't tighten or drive down until connections are made--later. “

See the article for the rest of how to make your variable capacitor and other components. You need to buy a tube and tube socket.

Did you use a regen in the days gone bye? The Knight Kit Span Master was N4CD's first SWL receiver (after building a one tube AM radio kit for Boy Scouts). My neighbor had a Space Spanner. How about you? Drop N4CD an email and tell me about it.

State QSO Parties II

Colorado

This was a good contest with a few mobiles to chase around the state, some on CW, some on SSB. Quite a few fixed stations were on to make things

interesting, and propagation seemed to cooperate for most folks. I heard many of the county hunter regulars chasing the CO stations – including KS5A, WB2ABD, KN4Y, SP5SA, a few DLs, plus the many regular state QSO party fans. There was a Russian RTTY contest that messed up 40M cw in the evening, but it went away eventually and stations were on till the wee hours of the morning if you wanted to be on late on Saturday night.

I'm not sure what happened with the regular county hunters in CO. I didn't hear a peep out of KY0E, W0NAC, N0ZA, W0QE, N0KV, N0DXE, and the other regulars for even an hour in their home state QSO Party. Mike, W0MU, was busy chasing counties from his WY QTH.

I needed six in CO, but only caught up with one of the six. Several of the others were run on SSB, but I'm chasing them only on CW these days. There were opportunities for some natural bingo counties as well, and a bit of activity on 80 and 160M late Saturday night.

From the 3830 contest reflector:

KO7X/M Weld County

"Surprised to have SP5SA call in so early. Amazing that he could even hear me - he must have a large antenna. Interesting conditions, as always. Lots of big signals and lots of weak ones. The location - 1/2 mile south of the Colorado/Wyoming border west of Hereford was very quiet and I could hear stations that could not hear me. The weather was perfect and the wind had not started blowing yet. IC706 and hustler antennas. I tried 15, 6 and 2 meters - no takers. I tried SSB on 20 - no takers. Apparently I was buried in the QRM around 14250."

W0ANT/m (W0ANT, N0AH) 15cw 23 ssb QSOs

"Maybe not a lot of QSO's in 10 hours, but we explored a lot of old mines in Gilpin County above Central City, and had an amazing view from the top of Mt. Evans at 14,300 feet (highest paved road in North America!)in Clear Creek County and made mobile QSO's from Denver, Jefferson, Arapahoe, and Douglas Counties on the way into the hills and on the way down. Used

the Icom Pro 3 and a Screw Driver and Outbacker Perth in the F-150 pick up. –

Conditions were poor most of the time in the mountains due to terrain, power line noise along roads, etc.....best part of whole adventure was seeing the herd of Mountain Goats at the top of Mt. Evans- Worse part, W0ANT took a tumble down the Mt. Evans summit path...but she is ok! Thanks to Ken, W0ETT who convinced a lot of us to get involved this year- was nice to have him in the log book too! Next year, we'll do a lot better now we know a bit more of what to expect- W0ANT operated most of the contest and I did a couple of CW QSO's.....she often was busy collecting rocks around the old mines- she is a real rock hound!"

Anna, W0ANT

AC0DS (fixed CO)

"My first CO QSO party. Kind of slow mid-day, but interesting overall. Conditions seemed good except for 15 and 10. This was a part time 12 hour effort interspersed with household puttering. Single K3 at 100 W, N1MM logger and temporary 102 ft doublet at 30 ft.

For some yet unknown reason, I woke up at 2 AM this morning and couldn't get back to sleep. I hope that is the only reason for all the bumbling I did until noon when trying to operate. Actually more activity than I expected. But lots of RTTY and people tuning up for some reason.

A BIG thank you for the intrepid mobiles who made things happen."

KS5A (AZ) 50 CW 14 SSB 20 Mults

"Only early morning and late afternoon ops from AZ as during the mid-day, skip on 40 was too short and 20 was too long. Good times however ... many thanks to the sponsors and the CO stations ... especially the mobiles and the rovers. Great job guys and gals."

N6MU (CA) 115 CW 43 Mults

"Thanks to the three mobiles for keeping it interesting. Top mobile for me was W0ZA with 20 Qs followed closely by W0ETT and W0UA both with 19 Qs. Thanks also to the five guys who went to 15 for a Q when asked."

W0BH (KS)

I can't remember another time when I've had 20m propagation to Colorado all day long (not to mention 40). Since I wasn't planning a full effort, my first contact was at 1605Z. I found Ken, W0ETT/m, a few minutes later, already in his third county. As I came back to the shack from time to time during the day, more and more stations kept popping up, and 20m just didn't

go away. I finally couldn't resist calling CQ and had a nice run in the late afternoon.

I worked a combined 41 counties.

Five intrepid mobile stations made it into the log:

W0ETT/m (11), W0ZA/m (6), NA0L/m (4), KD0MBL/m (1), W0UA/m (1)"

KN4Y (FL) 33 mults

"Operated CW and not many CO fixed and mobile stations heard. The signal were good on both 20 and 40-meters, just wish there were more CO stations that operated CW"

Tennessee

This was a great QSO Party for most parts of the country. Probably all the counties were on the air at one time or another – some only on SSB. The DX was 'in' for much of the contest, and in the evening there were many spots on 80M as well. Much of the action was on 40M, but folks further away were kept busy with the mobiles who did run on 20M as well as 40M, then later 80M.

Some of the very rare TN counties showed up. Hancock, TN, run about once or twice a year, had a group at KA4R with a big signal. Later, Abe, W7GQK showed up there spotted by HA7UG. Counties like Overton, Jackson, Johnson, were also on the air. W0BH worked 82 counties.

I needed 16 going in, and got 8 of them. One need spotted on CW when I was off at dinner (Sunday night Pizza), one I missed as the mobile ran out of the county before I could get through the big pileup, and two others spotted on SSB only. Never could find Johnson County with propagation. Saw

them spotted on 40M, but no way in the middle of day to make it that far, and the 20M spots always were buried under loud other TN station. Oh well, it will be there another day. Maybe the others were run, but never spotted or heard at my QTH. That is why it is 'county **hunting**'. You don't always get through or hear it. Overall, great to knock off half of needs in one day!

Many of the regular CH were on – including N9JF, N8CIJ, NU0Q, WA4UNS, K0LG, KN4Y, N9QS, W9MSE, K9AAA, KS5A, NM2L, K9JF, OK2EC, and other DXers. The pileups were horrendous at times.

There were loads of opportunities for no-star mobiles and portable operations – maybe 60-70 counties?

From K3IMC site:

W4SIG/M

"Thanks to everyone who worked me in the TNQP while mobile. It was the best QP I've ever participated in, bar none! Pileups were insane!! When I entered a new county I would have a continual pileup for over 20 minutes. You would have thought I was in the Galapagos Islands instead of "Hick TN". (something bothered me about saying "Hick TN" but can't quite put my finger on it!) Many times I had to leave a pileup hanging cause I just had to move on to the next county. I could have operated from Stewart TN for 45 minutes and never run out of QSOs. Thought about using my RIT and doing split frequency operation but that might have caused even more chaos on the band."

N5XG (TX)

"The activity was solid although during the afternoon I was in never-never land; too far for 40M and too close for 20M, signals were really soft. But after about 4pm 40 came alive and was solid until the end. Six or 8 new ones for me but still need about 5 or 6. I had a full list of TN counties and ticked them off as I heard them. I heard 60 TN counties on CW."

K9AAA, Dave

"The mobiles were sure great. I got 9 of the last 10 I needed on CW for TN. Never heard Hardeman County at all."

WA4UNS

A bit rough getting through those pile ups. Worked 54 of the counties (43 new ones for USACW). The SE counties were not well heard here in the High Country on 40M. Was able to work a few of the NE counties on 20m ground wave.

KC3X, Hollis

"I worked a ton of no star counties and all but one (Bradley) for my USACW II award. They got a bit bunched up on top of each other a few time but was able to pull some of them out. Really enjoyed the fun."

From the 3830 contest results site:

N4ZZ/M (with AD4EB, KI4HVY driver) 1309 QSOs

"The N4ZZ/m team had a blast. Conditions were great, especially on 40m, and the turnout was remarkable Thanks for all the QSOs, and hanging around thru the pileups as each new county was crossed.

Don had the top hour at 175/hr, my best hour was 172 (all time best for me).

Thanks to our excellent driver, Melody KI4HVY, we stayed right on time thru all 25 counties."

N4Q (N2WN opr) – QRP mobile – 4 counties

“Well, the weather was absolutely GORGEOUS in Eastern TN this year. After the summer we have been having this was wonderful. Actually wished I was on one of the boats *sigh*

Picked a new spot to start from, slightly further away and waaaaay up on a high point in CLAI, not sure if it was the improvement or the propagation, either way I'll take it. Worked a few more people and with ease.

Changed spots in UNIO as well, there are a LOT of power lines along and crossing my route, not to mention serious hairpin turns. There is one small patch that is kinda out in the open, but much road noise to contend with, plus my computer charger decided to kick in some RFI. But once again, went easier and more calls were logged.

Knox an Grainger are "easy", nice spots on either side of the line to sit in the open for a few. MUCH better score Rig was an Elecraft K3 to a Hustler triband fold over mast with HB matching xfmr and balun, with vintage coils.”

W4AN/m (KU8E and K4BAI) – 12 Counties

Mult total includes 9 bonus mults for operating in 9 counties in which we did not work another station in the county. IC756Pro, 100W, Hustler whips (with DX Engineering top hat on 20M).

One of the mobile mounts failed just before the contest, so we had to stop to change bands. Also, the radio control failed just before the contest and we don't know why. Jeff says that I failed the N1MM test. I had a lot of trouble with the N1MM program the way it was set up and hit the wrong key or the right key at the wrong time over and over. So, apologies to all for the QLF moments. They were all mine! Thanks for all QSOs.

We found conditions on all three bands pretty good. “

W4NZ/m (with K4VIG, N5WR) -1203 QSOs

“WOW! Where do I start? For me, I believe this was the most FUN TQP yet. One of the MANY highlights was the visit by K4BAI and KU8E. John and Jeff came up Saturday evening and spent the night in the Chattanooga area. I met them for dinner, then Erik N5WR joined us for brunch on Sunday morning. Jeff had planned a route very similar to ours but after looking at the counties involved he decided to run their route in reverse order to ours.

From our mobile viewpoint this year's TQP was simply outstanding. We had absolutely perfect weather, no thunderstorms not even a cloud to be seen which meant the bands were very quiet. Even 20m was more productive than in the past. It's too bad too because we would have liked to put in more time there in each county but 40m was just too good to ignore. The pileups were incredible, keeping the rates high for the entire event. Rates for the last 4 hours: 157-147-145-189.

We appreciate all the stations who chased us around the state and thank you for our patience as we tried to sort out the pileups. A special thanks to our DX friends OK2EC(15), HA1AG(7), OK1KT(5) and OK2PAY(4).

Kudos to the TCG gang, especially N2WN, K4KO and W9WI who work tirelessly behind the scenes to make this event a success.

Ted W4NZ for Erik N5WR and Gary K4VIG

NO5W (TX)

“In the afternoon I almost threw in the towel as I was struggling unsuccessfully to be heard by the mobiles, especially on 40m. But then the evening came and things really picked up on 40 and 80 both of which were relatively quiet for a change.

The mobiles W4NZ, N4ZZ, K4LTA, W9WI, W4AN, NY4N, W4OQG kept the counties coming and put on a great show dealing with some big pileups, some of which tended toward the unruly side. Thanks to all of the mobiles and fixed station for the Qs and to the TCG for putting on a great party.”

KN4Y - FL– 63 mults

"The Volunteer State inspired the CW Fixed stations and mobiles to get with the program. The mobiles were everywhere, hope none collided with each other. This event was a CW county hunters delight. My proximity to Tennessee made it a 40-meter afternoon and later some 80-meter activity. I lost the first hour getting Writelog to log and the last hour I fell asleep, exhausted from all the fun. Let's do it again next year."

W0BH (KS)

"Radio conditions from KS to TN were good all day long with both 20 and 40 open at the start. 20 went long as usual, but this time it didn't fade quite all the way out to TN, so I was able to eke out a few 20m contacts until the band came back in later in the afternoon. 40 was good the entire time, and the noise was bearable on 80 and 160.

The TNQP certainly attracts a critical mass of mobiles, and they did their usual terrific job .. never a dull moment for sure. Some huge pileups later in the day. You could almost tell the time by the CW sending speed! I sometimes just listened in and and wished I could trade places, but it's also really fun to track mobiles. An accurate list of counties in run order and frequent ID by the mobile station really helps us out.

Overall, I worked 67 unique stations and 82 of the 95 counties

Since the TNQP rules didn't address the use of spotting networks for Single-Op entries (allowed in a number of other state QSO parties), I played it safe and left the computer off. Before this year, I deliberately didn't have internet at home so it wasn't an issue. It would be nice to know for next year.

Here's the mobile list from my log .. thanks for being out there. Some amazing ops.

24 W4NZ/m
22 K4LTA/m

20 NY4N/m
17 N4ZZ/m
17 W4AN/m
11 W9WI/m
10 W4SIG/m
7 K4ZGB/m
4 K4OQG/m
3 KG4VBK/m
2 N4Q/m

State QSO Parties III

Arkansas

from the 3830 contest reflector:

N5XG (TX)

“The AR QSO Party was all about the few mobiles who took their time and money to make it happen. I sure appreciate them being there and making it a fun day. The Prairie contact from W5END at 0058 was the cherry on top. Thanks W3DYA (23) N5NA (18) AD5WI (7) W5END (7) N4CD (3) and 2 fixed stations. “

K5END/m

Was a lot of fun. It's the 3rd Mobile QSOP I've done and by this time most of the equipment bugs have been worked out. It is a breeze using CQ/X and a GPS receiver for automatic county status, plus it now uses the K2 internal keyer. We got a late start from Houston for unavoidable circumstances, so my time in ArQP was less than 6 hours.

The power line (or other RFI) noise was very bad on many parts of our route. The hard part about that is I'd send my CQ in a quiet area, and a few seconds later we'd pass a bad noise source and I just couldn't pull you guys

out of the noise. Sometimes it was easier to just find a clean spot to pull over and work.

XYL did an awesome job of piloting/navigating/meals/drinks/creature comforts plus reminded me at 20:03 that the contest was over at 20:00. She also did a fine job of avoiding a collision on I-30 when the car in the lane to our left blew out its right front tire and lost control. When XYL hit the brakes and pulled hard to the left at 70 MPH I looked up from the laptop in time to see a car out of control passing in front of us with lots of smoke and leaning over hard on its right front. I looked up just long enough to know we were OK and then went right back into the exchange. XYL had never seen any contesting before and much to her surprise was pretty keen on the activity (we may have a new ham in the works.)

I was planning to try other bands and SSB, but 40 m CW kept me busy most of the time. I tried 20 CW for a few minutes but that band was loaded up with little room to operate. Sorry, Scott. I shoulda tried 80 meters.

The HiQ 4/80 seemed to work pretty well too. I had the K2/100/AT running about 60 or 70 watts at most. My K2 is a brand new rig, recently finished and, like me, is new to contesting."

NO5W (TX)

Thanks to the following mobiles for making the trip: N5NA(12), N4CD(6), W3DYA(6), K5END(4), WA5BDU(2), KM5PS(1), and AD5WI(1). In Houston I could only hear AR stations on 40m due to skip, but, from what I heard, it sounded like there was a good bit of interest outside of AR in the ARQP. Question is, how to create similar level of interest inside?

N5NA/m

There was a whole lotta HOG callin' going on Saturday! I believe there was at least a 5 fold increase in mobile activity this year over last year with N4CD making a return appearance plus K5END, AD5WI, W3DYA, and myself plus possibly others. I tuned across W3DYA and K5END a couple of times working down a new county pileup. Great fun!

Conditions didn't seem too good although I did manage to work DL3DXX(15), HA8IB(7), SP5SA(6), G3WPF(4), OK2PAY(3), OK2EC(3), and 9A2WJ(2). I'm always amazed at the DX stations that can hear my mobile signal let alone me hear them with all the mobile noise.

My route took me through 460 miles of south Arkansas covering 18 counties. Of course, that doesn't include the 600 miles to get to my starting point in Union county. Luckily I had a good excuse to visit AR since I have relatives in El Dorado.

The following counties were activated with the indicated number of QSO's: Ashley(55), Union(55), Ouachita(52), Desha(50), Jefferson(49), Calhoun(48), Chicot(45), Bradley(40), Columbia(40), Nevada(40), Grant(40), Cleveland(34), Dallas(34), Arkansas(33), Drew(32), Hempstead(31), Lincoln(31), and Lafayette(30).

Thanks to the following stations for contributing more than half of my total QSO's: K4YT(26), K8QWY(22), NT2A(22), WB2ABD(21), N3RJ(21), W0GXQ(19), N5XG(18), ND3R(17), KO1U(17), W1END(15), WA2VYA(15), DL3DXX(15), K4BAI(15), KN4Y(15), KC3X(14), K4XI(13), WE7G(13), K4AMC(13), NO5W(12), W4UCZ(11), K9JF(11), K8NYG(11), WA4UNS(11), and KE8M(10).

Equipment included an Elecraft K3/100, HS-1500 antenna, Inspiron laptop running CQ/X logging software, and a Chevy C2500 antenna mount.

Thanks to everyone who called and a big thanks to my wife and driver, K5AKS!"

KN4Y (FL)

The first state QSO party I only worked CW mobiles, did not hear or work an Arkansas CW fixed station. This was a mostly 40-meter operation, too close for 20-meters and heard no stations on 80-meters. Wonder where the fixed stations were?"

W3DYA/m (via email)

“It was a good contest; but I could work 95% (or more) of the active stations in about ten minutes... after that it was pretty quiet until the next county, with only 20 and 40M to use.

Since rain was predicted all day by the WXman, I didn't take the FS setup. Used standard Hustler with 10/15/20/40/80 mounted at the top of the mast at about 90". It rained until nearly noon, and the FS resonator is useless when wet. If unsealed, you can't even find resonance except up around 28 MHZ. Even with the coil sealed, water detunes it enough to be useless until it dries again. Barry is still experimenting with sealant and it might get good enough to work with an autotuner.”

Getting Newcomers into Ham Radio

---ARRL Education and Technology Program asks for Support

ARRL President Emeritus Jim Haynie, W5JBP, began an initiative ten years ago that targeted the youth in schools. He called it “The Big Project”. That project has grown into a major ARRL effort. It is now called the ARRL Education and Technology Program. Contributions of over $1.62 million have been used to fund equipment for classrooms and school radio clubs and to provide for teacher development at the ARRL Teachers Institutes in Wireless Technology and software for schools.

Since 2001 over 400 schools have received grants to provide Amateur Radio equipment to school radio clubs and classrooms.

Since 2004 more than 402 teachers have participated in the Teachers Institutes each summer, learning how to integrate electronics, ham radio, space, weather and robotics into their schools and school districts.

Through voluntary contributions, the ARRL has funded 34 four day Teachers Institute seminars totaling 544 hours of professional development in electronics, Amateur Radio, weather, space and robotics to teachers from over 30 states.

In nine years more than 80,000 young students in elementary, middle and high schools will have been touched by the ARRL Educations and Technology Program.

With the support of the Board of Directors, the ARRL has expanded its commitment to education and the next generation of hams by creating the Educations Services department to reach out to schools, teacher and instructors with curricula and other resources.

If you want to make a contribution to the future of Amateur Radio and if you want to be certain that our youth are exposed to wireless technology, make a contribution today.

Contact Mary Hobart, K1MMH,
Chief Development Officer at ARRL HQ by E-Mail or by calling 860-594-0397.

We are truly in an electronic age and together we can
reach more youngsters (and teachers) to offer them an understanding of wireless technology and the unique experience of Amateur Radio.

---Mary Hobart, K1MMH---

State QSO Parties IV

The weekend was full of CQ TEST. Unfortunately, everywhere you tuned on 20M, it was for the DX contest, not for the state QSO parties for much of the day!

South Carolina

The 'mobile' was NX4W who ran the state on SSB. He zipped around the state. I didn't see a single spot for a SC station on 20 CW, only 2 on 40, and one on 80M CW. I didn't hear or work a single SC station. No mobile ventured out on CW as far as I can tell.

Connecticut

It looks like KO1U was 'the mobile' in this new QSO Party. Propagation didn't cooperate here and despite seeing the spots, I didn't hear the mobile! Dang.

There were about a half dozen fixed stations spotted in various counties. Ted, K1BV was active for a few hours giving out Tolland.

KO1U/m – 233 CW QSOs

First CTQP so expected this mobile run to be low on activity. Wanted to give my new IC7000 a try out. Appreciate the folks that worked me in all 8 counties. SAC is to much of a contest to go head-to-head with in the North East while mobile. And WA SR folks might not have heard of the CT QSO Party yet. Tnx K1BV for my only CT QSOs... And DX for the much needed mults. WX was beautiful. Traffic was rather easy to navigate through and only one cop flashed lights while I was trying to run a county on an emergency parking shoulder. Thanks to all the CTQP folks for hosting their first. Already looking forward to next year. I might even bring along a mic. Great results: IC7000 has a noise blanker that really works

Salmon Run (WA)

This was a decent QSO Party this year. I heard loads of CW stations, some in the rarer counties such as Pend Oreille, Ferry, Wahkiakum, Grays Harbor, Chelan, Pacific, and San Juan. W7DX was motorhome mobile and good for the no-star award and bonus points. County Hunter AB7RW, was on giving out his home county of Clark, WA. K7EM/m was worked by some.

K7WA Portable Pend Oreille, WA (good for NS)

Well, it was a mixed bag this year!

After an eight-hour drive (Snoqualmie Pass is under construction) I arrived at the Lake Leo Campground (Colville National Forest) to find it CLOSED! (no notice on the website) Don't know if it was a budget issue or due to logging activity across Hwy 20 from the campground. So I found a cozy spot up a rutted forest road a little further east before the Hwy drops down the hill to Tiger in +the Pend Orielle valley. Friday evening I got the 80 meter dipole up (wish I had room for one at home) and made dinner. This weekend I proved that it is +possible to sleep in the back of a Honda CR-V, although I wouldn't recommend it!

Saturday morning I got the 20 meter folded dipole up and had breakfast – then hit the ground (bands) running at 1600Z. Started out S&P the louder SACC stations on 20 CW and then tried to get some SR activity going. Checking 20 SSB, I found my 100 watts and low antenna didn't make much of an impression. It was a day of jumping between 20, 40, and 75, CW and SSB, and then 80 CW in the evening. The batteries kept things going with only about 30 minutes of sun for the solar panel.

Saturday night I lay there like a pretzel and listened to the rain beating on the roof. Sunday morning I took down the antennas (still raining) and drove home - no activity on Sunday. I was beat and was pouring all the way to Moses Lake (100 miles west."

KK7S - King, WA - 381 CW QSO

The bands were tough from my QTH but there were lots of familiar Washington stations on the air. I didn't hear any rovers though. For several hours of this contest I was on baby duty. SO2R while rocking a baby. That's a new form of crazy. I lost track of time so KD7H had to stop by and tell me the contest was over. Also, at some point NG7Z tried to tell me something, but the baby started crying so I missed it. Sorry for the QLF and thanks for the QSOs."

KN4Y (FL)

Lot of fixed stations on CW, heard only 2 mobiles. 15-meters opened and had a blast. Good signals on all three bands. Recommend the use of assigned mobile frequencies.

Asteroid ARRL

It's a Bird, It's a Plane! No, It's an Asteroid -- Asteroid (31531) ARRL, To Be Exact!

John, Paul, George and Ringo are on the list. Mozart, Bach, Beethoven and Brahms -- even Frank Zappa and Elvis (but not Madonna). Of course Asimov and Sagan made the cut, Mr Spock, too, but not Captain Kirk. And now ARRL -- more precisely, (31531) ARRL -- joins this prestigious company as one of more than 16,000 named minor planets in our solar system. A minor planet -- such as an asteroid --is an astronomical object in direct orbit around the Sun that is neither a dominant planet -- such as Mercury, Saturn and Neptune -- nor a comet. The first minor planet -- named Ceres -- was discovered in 1801. Since then, more than 200,000 minor planets have been discovered, most of them lying in the asteroid belt. But as of July 27, 2010, only 16,005 had been named.

Approximately 2.5-4 miles (3-7 km) long -- (31531) ARRL orbits the Sun at a distance of 2.7 Astronomical Units (AU) (1 AU is the distance from the Earth to the Sun, about 93 million miles, or almost 150 million km). It is currently located near the boundary of the constellations Scorpio and Libra and is about 2.1 AU distant from the Earth. It takes (31531) ARRL almost five years to orbit the Sun.

At a magnitude of brightness of 19.5, (31531) ARRL is extremely faint. This is almost 15 magnitudes fainter than the human eye can see from most cities and towns; 5 magnitudes is a factor of 100 in brightness, so this object (at its time of discovery) was about 100 × 100 × 100, or 1 million times fainter than the naked eye can see. The asteroid remains about 19th magnitude most of the time and does not brighten considerably, so (31531) ARRL will never be seen with the naked eye (unless via spacecraft). Even though it is faint, it is probably within the range of a moderate to large amateur telescope equipped with a CCD.

Joe Montani, W7DXW -- senior research specialist with the Spacewatch Near-Earth Asteroid Project Lunar and Planetary Lab at the University of Arizona -- told the ARRL that he had discovered (31531) ARRL in his work discovering and observing Near-Earth Asteroids (NEAs). He said he had received confirmation that the asteroid had been officially named as of July 27; it can take 10 years or more for the smaller objects -- such as asteroids, dwarf planets and comets -- to receive names. (31531) ARRL was discovered in 1999.

The citation for (31531) ARRL reads: “Since 1914, the American Radio Relay League has been the largest membership organization of radio amateurs in the US. ARRL promotes interest in ‘ham’ radio and experimentation, maintains high standards of conduct and fraternalism among hams and represents their interests in matters legislative.”

Montani discovered (31531) ARRL using the .9 meter (36 inch) Steward Observatory Spacewatch telescope, located on Kitt Peak outside of Tucson, Arizona. “

Courtesy ARRL News, ARRL, Newington CT 06111

Running Alll 3077 Counties by KL1V

Here is a brief history of my adventures:

I started running counties during my senior year in high school in 1979 right after I stumbled across the county hunters net one afternoon. It sounded like a bunch of fun to try to put out a county mobile. I got my car set up and borrowed the high school's radio (a Kenwood TS-520 as I remember) and set out to go to Camas county Idaho which was 19 miles north of my folk's house. There were a few hams asking if I could put out that county for them.

First Transmitted County – Camas ID

Shortly after that I joined the Air Force and was off to basic training. My first assignment was at Malmstrom Air Force Base in Great Falls Montana. I was assigned to a GATR (Ground to Air Radio Transmitter/Receiver site) which was located on a butte just north of Great Falls. I placed an order for a spiffy new mobile radio (Kenwood TS-120S) and on the weekends instead of sitting in the barracks, I would take my car and park it on the top of the butte and would work mobiles on 20 meters. The reason I parked on the hill was so that I could easily "roll start" the engine after I ran the battery ran down on the old Chevette with the mobile rig. This quickly bored me so I

decided to start going mobile to different Montana counties during the summer and fall of 1980. I was surprised at how many people needed counties in Montana. Just as I was getting the hang of things I received orders and was transferred to England for a 3 year tour. I packed up all 3 suitcases full of my belongings and drove to my next departure point which was New Jersey. I shipped my car over to England. I remember putting out a few counties along the way but didn't have time to zig zag the county hunter way.

While I was in England I got the call sign G5EDN and operated mobile but the only stations I could hear and work were other EU stations - so no new counties were worked while I was stationed there. In 1984 along came my next assignment, I received orders to go to Alaska. SCORE!!!!!! But it was to a strange sounding place called Shemya AFB. I could not find it on the main part of Alaska near the fishing rivers where I had hoped to get assigned, after a closer search I found a place at the end of the Aleutian Islands called Shemya Island. Oh my, this was not the place I was hoping for!

I was told that there was a woman behind every tree on the island so that did not sound too bad until I got there and discovered that there were no trees on the island and thus very few women - 1,200 men and 25 women. I did find the site where I would be working was a HF/VHF/UHF site and had a pair of Collins KWM 2 A's in a side room for the MARS station. I was told I could go ahead and operate to my heart's content when it was not needed for military use. To my dismay when I powered them up there was only about 120 watts out of both radios with the amplifiers connected. Well since I was a radio tech and assigned to maintain all the radios on the island repairing these radios became my top priority. After about 3 days of hunting down parts and rebuilding and tuning both radios and amps I got one of them to put out 1,175 watts and the other to put out the full rated 1,200 watts - I was in business.

After a few days of listening on 20 meters and not hearing the county hunting nets I decided to try a little CQing but about all I was able to work on any band were thousands of JA's - day or night. Shemya is 1,800 miles west of Anchorage and only about 800 miles from Japan. I concluded that I would have to wait for my next assignment if I was going to be working any

county hunters. In 1985 I got orders for Elmendorf AFB in Anchorage and knew I was in business and would be able to work the nets again. Yes conditions were much better from the mainland of Alaska.

It was Feb 2001, after a trip to the First District and another trip to the Second District, that I decided to start putting out counties from rental cars. I had no plans of ever going to all of the counties but just wanted to have some fun sight-seeing and putting out counties as I traveled along. I would spend my winters when propagation is dead (which happens all too often in Alaska) planning and drawing up my routes for the next big adventure. I wanted to get as many counties under my belt in the limited time I had in the lower 48. As the county totals added up I saw it was indeed possible to transmit from all the counties, but it would take several years and lots of trips to be able to go to them all.

The last county I transmitted from was number 3077, Murray, OK.

Murray County is right in the middle of tornado alley, which I had avoided on all my other trips. I decided on a trip in July when the likelihood of tornadoes was minimal. I made it without seeing even one tornado--whew!

Over the past 9 years of traveling to all the counties I have met the nicest people in the small towns where I would end up for the night and I would see some of the coolest places that are not in the travel brochures. The best county that I ran was Kalawao, Hawaii. It is located in a park and it is very quiet and the eucalyptus trees put off a scent that totally fills the air; it is

very relaxing there. The worst county to run was Arlington Virginia. I hit that county at 5 pm and learned about grid lock is the hard way.

I want to thank all the county hunters who rode along with me on the radio over the past several years for your company and encouragement. This was a dream achievement for me."

Sunspot News

"Scientists studying sunspots for the past 2 decades have concluded that the magnetic field that triggers their formation has been steadily declining. If the current trend continues, by 2016 the sun's face may become spotless and remain that way for decades—a phenomenon that in the 17th century coincided with a prolonged period of cooling on Earth.

The last solar minimum should have ended last year, but something peculiar has been happening. Although solar minimums normally last about 16 months, the current one has stretched over 26 months—the longest in a century. One reason, according to a paper submitted to the International Astronomical Union Symposium No. 273, an online colloquium, is that the magnetic field strength of sunspots appears to be waning.

Since 1990, solar astronomers Matthew Penn and William Livingston of the National Solar Observatory in Tucson, Arizona, have been studying the magnetic strength of sunspots using a measurement called Zeeman splitting. Named after the Dutch physicist who discovered it, the splitting is the distance that appears between a pair of lines in a spectrograph of the light given off by iron atoms in the sun's atmosphere. The wider the splitting, the greater the intensity of the magnetic field that created it. After examining the Zeeman splitting of 1500 sunspots, Penn and Livingston conclude that the average magnetic field strength of sunspots has declined from about 2700 gauss—the average strength of Earth's field is less than 1 gauss—to about 2000 gauss. The reasons for the decrease are not clearly understood, but if the trend continues, sunspot field strength will drop to 1500 gauss by as early as 2016. Because 1500 gauss is the minimum required to produce sunspots, Livingston says, at that level they would no longer be possible.

The phenomenon has happened before. Sunspots disappeared almost entirely between 1645 and 1715 during a period called the Maunder Minimum, which coincided with decades of lower-than-normal temperatures in Europe nicknamed the Little Ice Age. But Livingston cautions that the zero-sunspot prediction could be premature. "It may not happen," he says. "Only the passage of time will tell whether the solar cycle will pick up." Still, he adds, there's no doubt that sunspots "are not very healthy right now." Instead of the robust spots surrounded by halolike zones called penumbrae, as seen during the last solar maximum (photo), most of the current crop looks "rather peaked," with few or no penumbrae.

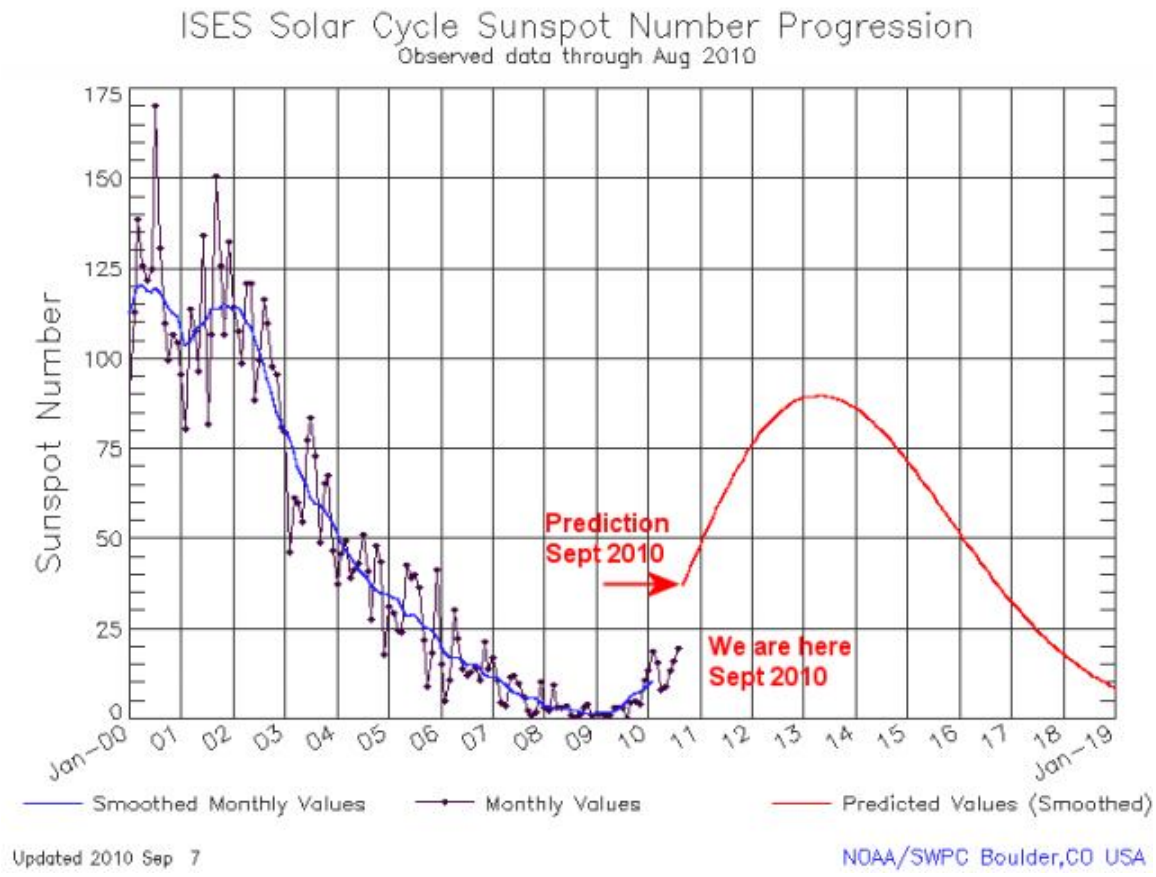
"It is a very interesting sequence of observations," says solar physicist Scott McIntosh of the National Center for Atmospheric Research in Boulder, Colorado. The researchers "have carefully analyzed their data and the trend appears to be real," he says. “

Source: http://news.sciencemag.org/sciencenow/2010/09/say-goodbye-to-sunspots.html

de N4CD – Scientists are debating whether a collection of smaller sunspots has the same effect of larger ones. Stay tuned. Who knows where the sunspot count is going?

Excellent article and graphs here

http://wattsupwiththat.com/2010/09/18/suns-magnetics-remain-in-a-funk-sunspots-may-be-on-their-way-out/



Awards

Awards issued by CQ Magazine

USACA #1202	Ken, K9EN	8//7/2010
USACA #1203	Tim, W8JJ	9/20/2010

Awards issued by MARAC

USA-CW #114	Dave, KE3VV	8/26/2010
Third Time #227	Doug, WA4UNS	9/7/2010
USA-CW-IV #7	Jerry, W0GXQ	9/12/2010
Master Platinum #9	Joe, N5UZW	9/13/2010
Five Star #48	Gene, K5GE	8/29/2010
Sixth Time #37	Gene, K5GE	8/27/2010
Master Platinum #10	Jack, N7ID	9/18/2010

Upcoming Events for County Hunters

Courtesy of the ARRL Contest Corral, ARRL, Newington CT 06111

There are some good ones coming up. CQP is very competitive with hundreds of people involved. IL AZ and PA should be good. IA and NY are unknowns at this point.

Oct 2, 1600Z - Oct 2, 1959Z

California QSO Party
Serial and state/prov/"DX" or CA county
www.cqp.org

Oct 9, 1600Z - Oct 10 2359Z

Arizona QSO Party
RS(T) and AZ county or S/P/C

www.azqsoparty.org

Oct 16, 1400Z - Oct 16, 2300Z

Iowa QSO Party
RS(T) and IA county, state/prov, or "DX"
www.wa0dx.org

Oct 16, 1400Z - Oct 17, 0200Z

New York QSO Party
RS(T), NY county, state/prov, or "DX"
www.nyqp.org

Oct 17, 1700Z - Oct 18, 0100Z

Illinois QSO Party
RS(T) and IL county or S/P/C
www.w9awe.org

Check also WA7BNM for weekly contests at:

http://www.hornucopia.com/contestcal/weeklycont.php