

County Hunter News

December 1, 2011

Volume 7, Issue 12

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

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

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

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

CW County Hunter Nets run on 14.0565, 10.122.5, and 7056.5, with activity occasionally on 3556.5 KHz. Also, there is 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 18136 or for occasional 17M SSB runs usually after the run on 20M SSB. (21.336 and 28.336)

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 . Please check it out. Back issues of the County Hunter News are available at www.CHNewsonline.com

De N4CD, Editor (email: telegraphy@verizon.net)

Notes from the Editor

1) Late October and November proved to be excellent months for county hunting. Band conditions on 17 were great most of the time, and mobiles were operating up to 10M. Only one state QSO Party happened – KY – but mobiles were out running all over the country.

Quite a few finished up during the month. The winter weather has started up north with freezing temps, snow flying, and winter travel advisories in the higher elevations in the Rockies and other mountain ranges.

Down south, it was still wild weather with tornadoes and hail in the Southeast. However, the mobiles were out running.

2) Sunspots – Yes , we have sunspots. Lots of them. There was a nice peak in September and it's still up a bit, then down some, then up a bit more.

Another sunspot number record for Cycle 24 was shattered on Wednesday, November 9 when the daily sunspot number reached 220. This is the highest the daily sunspot number has been in over eight years. The last time the sunspot number was higher than 220 was November 1, 2003 when the number was 277. The next day (November 10) the daily sunspot number dropped back to 164.

Two days prior to the sunspot number reaching 277 in 2003, the sunspot number was 330, a much harder record to beat.

Average daily sunspot numbers this week rose over 53 points compared to last week, to 153.4. Average daily solar flux rose nearly 39 points to 173.7.

3) Mobile Activity

Mini Trip Reports

On **Larry's, W7FEN's** October trip, he sent in a note:

“We traveled to Mesa Verde National Park and participated in a Road Scholars program. Learned a lot about the early South West Indians. Enjoyed visiting the Cliff Dwellings, museums, and other sites there. Was in our first snow on Thursday the 6th when we went to lunch. Arrived at Mesa Verde Sunday evening Oct 2nd, on Wednesday the 5th we were bused to Durango and took the steamer narrow gauge train to Silverton, CO. Then via bus back to Durango where we enjoyed learning about the Navajo rugs. That was followed by a nice dinner in Durango before the bus ride back to Mesa Verde. Finished the program there on Friday morning.

After departing Mesa Verde we drove over to the Natural Bridges in Utah and returned to Cortez, CO. Saturday Oct 8th we drove down to Monument Valley in AZ. They wanted \$145.00 for a guided 17 mile tour, so we opted to drive it ourselves. Took our time and enjoyed the trip. At one place a young Navajo man noticed the antenna on the car and came over and talked for awhile. He was interested in the radio and I turned it up and worked one of the mobiles on 20M CW. I ask him if we were still in Arizona or Utah, he tried to be cute with me, but I reminded him yes I knew we were on the Navajo Reservation. Then he agreed we in fact were still in Apache County, AZ. On our return back to our motel we visited the Hovenweep National Monument on the Colorado/Utah state line.

Oct 9th it was off to the Four Corners which was a big disappointment to me. After seeing how the counties and state lines were on the GPS and talking with some of the locals. One of the Navajo's there told me where the actual four corners is, but the US Government put the marker where it was convenient. From there it was on down to Chinle, AZ to take in Canyon de Chelly. We drove the south rim of the canyon and got some wonderful pictures and lots of history. We spent the night in Chinle, AZ., rising early the next morning and heading back home. We were able to make San Juan County, CO and run it on SSB and CW for everybody and then back to Durango for lunch. We continued on east on Hwy 160 up over Wolf Creek Pass which had received three feet of snow a few day before that. It was a pretty drive and dry road. Stopped in Alamosa for the night and then on home the next day.

Transmitted 24 counties and 800 plus contacts. I now have my mobile antenna set up with 40, 30, 20, 17, 15, 12, & 10 meters.

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Ed, K8ZZ notes:

Had pouring rain for 5 full days of the trip so driving and running CW was difficult. I finished transmitting from all counties in VA - NC & SC this trip.

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K2HVN, Bill notes on his cross country and back trip:

Stats from trip to Alaska. Never actually drove to Alaska but took cruise from Seattle. My total mileage was 11,038. Total counties run 278 with 188 new. I will be going to Bristol county, MA to visit my younger children as soon as I get things back to normal.

KM1C, Bill, was in NY and needed to get over to CT – he got caught in the blizzard at the end of October on I-84 for four hours with jackknifed tractor trailers and worse.

Ed, K8ZZ,headed on down to SC and GA. He had 4 days of rain that soaked his Hustler resonators. He dried to dry them out at night to make them work better. Trip report later.;

Starting last week of October:

Jim, **N9JF** was up in MN and ND putting them out. Then in MO and IL and lots of other places as well! In Nov, down in FL and AL and GA. He gets around!

Pete, **NN9K** was in KS. Then headed back through IA to IL.

Art, **N4PJ**, was running around in GA.

Dan, **AA0TT**, Big Rig, was in NV – later all over KS and IA and IL and WI. In TX, OK and all over the west half of the country.

W8FNW/W4FNW were running many in south Florida.

AB4YZ was in KS then headed back to VA.

Silver, **N9QS** was in VA. He ran around the east part of the state putting out dozens of those rare counties.

W8RCW ran some in GA.

Bob, **N8KIE**, headed across in MI then back the next day.

Scottie, **N4AAT**, headed to FL and ran just about the entire state putting them out. Then came up through the west edge of GA and ran a bunch there.

Bill, **K2HVN** put out a few in MD.

Now into November, 2011

Jack, **WD4OIN**, took a trip to eastern VA – and ran counties around there for a few days.

Bill, **WG9A**, was up in MI running – then headed back home to IL in the middle of the month.

Dan, **KM9X**, went out two days to run counties in IN

Joe, **N5UZW**, headed over to MS, and then into AL to finish up running what he needed for Mobile Diamond putting out dozens and dozens of counties. Then he ran around in AR.

We had the CQ WW DX contests – easy pickings to get AK and HI counties – same for the CW Sweepstakes – with 10 meters wide open. **KL8DX** loud and others after a few hours were looking for new contacts. There was lots of fun on 10M and 15M for the folks.

K4EXT with **KG4VBK** ran a few in eastern TN and SW VA.

Bob, **KC6AWX**, was out running in CA putting out a dozen counties.

Larry, **N2OCW**, ran a few in WV. Also seen up in PA a few times.

Terry, **WQ7A**, took a multi day trip headed east in WA over to ID, then back into WA and more in OR on the way home. He had lots of takers on 17M, too.

Gene, **K5GE**, headed up through west TX over to NM, running a dozen new ones there, then back through west TX to home. Lots of takers on cw.

Scottie, **N4AAT**, fired up the diesel truck and headed north on a mission to get the last few for N9QPQ. He hit NC, then into VA and MD, over into DE, then circled back through VA to NC and home. 17M worked well for him the whole trip.

KA9JAC/KB9YVT were out and about in WI.

Randy, **AA8R**, was putting them out in MI.

Ed, **N3HOO**, was trekking cross county from PA.

Dan, **KM9X**, and Judy, **KB9MGI** were out on Sunday again putting them out for the folks . Dan made two or three other trips in mid IN and over into OH.

Ron, **KA3DRO**, left FL and headed up to TN and points beyond, running them on SSB and cw. Had 3 good days on the road – 20M SSB and 40M SSB. He tried to spot himself with mixed success.

Mike, **KA4RRU**, was out in VA counties, and Dan, **AA0TT**, was busy many days putting them out from the Big Rig.

The team of **K0GEN** and **KI4WHK** was spotted on the road in KY.

Matt, **W0NAC**, and Sharon, **N0LXJ** were out in CO. Matt was running SSB, CW, RTTY, PSK63, THROB4, MFSK16 and likely trying other data modes for the Five Mode Award.

Kerry, **W4SIG**, headed over to Lafayette, AR to get the WBOW CW for KM6HB.

Bob, **WA3QNT**, out and about in PA.

Ron, **KB6UF**, headed out on a big trip from LA, up through MO to IL, then across IA to NE, WY, ID, NV, into CA.

Bill, **K2HVN**, headed up into CT and MA.

Bill, **KM1C**, was out in eastern NC.

On the Road with N4CD I

Another weekend - another swap meet. This time it was a joint meeting of the Houston and Dallas Vintage Radio Societies half way in between both metropolitan areas - in Welches, TX way out in the boonies at the home of Cecil. Now, Cecil is a 'picker' – or should we say collector of LOTS OF STUFF. He's got a collection of vintage cars including 1930s cars in great shape, some 50s cars, some 60s cars, and a large storage building full of all sorts of 'collectibles'. How big is his stash of stuff?

Are you familiar with American Pickers on the History Channel? It's a TV series about these two pickers (people who go looking for things to buy so they can resell them – all over the country at small and medium places – to specific collectors or collectors in general. Mike and Frank, the two 'stars' on the show, along with Danielle, who mans the phones back home digging up leads, stop by 2 or 3 places on each show, hunting for advertising signs, old old motorcycle parts and pieces, vintage bikes, and all sorts of other things they can make a buck reselling.

<http://www.history.com/shows/american-pickers>

Anyway, about a year ago the Pickers dropped by Cecil's place and bought four or five things. They spend a few hours there. So it was going to be interesting to see what kind of stuff was actually there. One thing they wanted was a 1950s Chevy 150 – a rare model. They found a 'carcas' at Cecil's place and hauled it out to Las Vegas to Rick's Restoration (another Discovery Channel program) where they rebuilt it, and gave it as a present to the “Old Man” on Pawn Stars (yet another TV program). Maybe you watched some of it?

The meet was going to start at 9am – and my MapQuest program said it was 3 hours driving time to get down there from Collin County TX. Wow....that would mean I'd need to leave early in total darkness – before 6am – to get down there when things started. OK....it was up at 5am – made a quick breakfast – and was putting the antennas on the car at 5:30 in the morning in the dark. I needed to take along the 20M SSB antenna, too, since Joe, N5UZW was going to be running some I need in GA, and maybe I'd catch him in a few in between activities down there, and on the way back home. Needless to say, no one was around at 6am on any band as I headed out I-20 going east. Called as I went through Kaufman, Van Zandt – and the first contacts were over in Smith County an hour and a half later. Then it was south through Cherokee down to Alto, TX, where I grabbed a quick second breakfast at the Subway, and then down on 21 southwest to just over the county line to get to the swap meet in Houston County TX (no where near the city of Houston).

Things were going on with 20 cars having 'stuff' for sale, but I didn't buy much. About the only thing I bought was a small interstage transformer for antique battery type radios. They either had an audio choke of 100 Henries or more in the detector circuit, or used a 3:1 or 5:1 transformer to match a 10K or 15K or so plate load to 100K grid input impedance of the audio amp. When you only run things off 22.5, 30 or 45 v, your plate resistance load point is 10-15K, and the usual resistive/capacitive coupling drops the gain quite a bit. In the battery sets you need all the gain you can get. When A/C power came along, with pentodes, your detector could run at higher voltages/currents and you could use a resistor for a plate load with capacitive coupling into the audio stage.

Needless to say, the interstate transformers and audio chokes are tough to come by. They often were wound with #42 type wire- very fragile and after 60-70 years- they are more often 'open' – either from stress of the windings internally, or flaws in the wire to start with that took decades to break, or poor connections internally (bad content in solder corroding things). (if anyone has a stash of 3:1 or 5:1 audio interstage transformers, or the old 100-150 H audio chokes, let N4CD know!). Well, one was for sale so I bought it. There's only one source for replacement transformers – and they are \$17 each! Some radios had 2 or 3 of them back in the 1920s. Tubes didn't have much gain.

That was it as far as goodies for sale. I looked around for 2 hours at all the stuff that Cecil had collected in his giant building. He restores things for a hobby, fixes up his cars, and continues to buy stuff. Also, people 'donate' stuff to him if they are moving, or estate sales or moving sales. He's still collecting! You name it, he's probably got some of it. Coke memorabilia - from signs, advertising, newspapers, coffee mugs, cups, glasses, radios, - if it has 'Coke' on it, he probably has it. Same for Pepsi stuff. Old gas pumps, washing machines, some rare TV sets, probably 200 radios (broadcast type), but no ham gear other than a few Hallicrafters receivers.

In his shop, he had some 'junque' that he said 'if you want it, take it'. One was an old Heakthkit SB-102. It was totally coated in mud – it came from someone who had been flooded out in the recent floods a year ago down by Houston – it probably weighed an extra 5 lbs, everything had a coat of mud on it, all the circuit boards were coated with mud, the cabinet holes were all filled in with mud, the knobs didn't turn – it was truly a basket case. Oh, but he said it was a 'fresh water flood'. Probably better than a 'salt water flood', but I'm sure it ruined just about everything in the set. About the only thing it might be good for is some mechanical parts and knobs. Even some of the metal was a bit corroded. Well, it followed me home. Maybe all I'll get off of it is the knobs, some hardware, shafts, the RF cage, tubes, and maybe the xtal filter if it sealed. I'll take the hose to it to see what can be salvaged. I'm not sure you could spend enough time getting it to work, and it's only worth \$50 bucks or so in working shape, \$100 with a power supply.

From everything I've read, even if you get it working, the rest of it is a ticking timebomb waiting to fail as parts fail from corrosion or contamination. Don't ever pay real money for a flooded radio (or car!).

The meet went well. About 40 members got together. We yakked for hours, I did manage to catch Joe, N5UZW in one or two, and put out Houston county once. Jerry called me and said he needed Cherokee. OK, I could get that 1 mile back up the road at the river and told him after the meet I'd go back.

At noon, out came the food – some great BBQ brisket and sausage, potato salad, delicious gravy, beans, onions, jalapenos, cupcakes, cookies, soft drinks.....so we yakked another half hour as we dined on the 'free' club provided food. [You know you are in 'the boonies, when you go through a small town, and the main eating place is called 'Bubba's Place'.]

It was time to be on the road headed home – to get home before dark, and to avoid the CW ARRL Sweepstakes that start at 4PM Texas time – no sense being out mobile when that is going on . First, I headed back to Cherokee, 1 mile, crossing the bridge and sitting on the side of the road for 20 minutes running it. Then back through Houston up to Anderson and Henderson(route 19 to 175 into Dallas) to Kaufman, Dallas and home. Things went well. There was lots of activity with the DX in during the afternoon (DL3DXX, DL3IAC, YV5OIE) plus 20-25 other regulars. 17M was doing gangbusters. Nothing to report other than lots of traffic on the Dallas area 'beltway' with 8 lanes of traffic – moving 60 mph, but still lots and lots of cars going somewhere. I took the antennas off the car, pulled it in the garage, and it will probably be about two weeks before the big trip back east just before Thanksgiving.

Joe, N5UZW, was busy putting out the counties on 20 and 40M SSB. Bill, WG9A, was up in MI, and Pat and Barry, N0KV ran a few in CO. W9COP was in IL, and Jack, WD4OIN, left VA and headed back home in NC. Other than that, it was a quiet day for mobiles. It was a good trip. 360 miles – 7 counties put out (ran through 2 others but no one around at 6 am), over 150 contacts, 32.5 mpg.

Open Range Broadband – Bust

Despite tapping the US government for cash and promising to connect six million people, Open Range has called it a day, laying off most of the staff and filing for Chapter 11 bankruptcy.

The plan was to provide broadband to rural communities, using WiMAX and satellite

frequencies leased from Globalstar. But Globalstar didn't fulfil the requirements of variant use, leaving Open Range without spectrum. Now, despite signing a last-minute deal with LightSquared, the company is out of cash and out of options.

Chapter 11 will keep Open Range together while it tries to split out its assets. The company reckons those assets are worth about \$114m, compared to \$110m in debts, and suggests the operation could be sold as a business or broken up for parts. Given that Open Range lost \$50.4m last year, on sales of \$1.7m, it is going to be a hard sell as a going concern.

Much like LightSquared's insanely optimistic plan, Open Range offered connectivity in frequencies which were supposed to only be used for satellite communications. Also like LightSquared, the company successfully lobbied the FCC to relax those rules. Unlike LightSquared it didn't own the bands. So when, at the end of last year, Globalstar failed to live up to the spectrum requirements, the FCC's latitude was rescinded – leaving Open Range with nowhere to go.

Satellite frequencies can be used for an "Ancillary Ground Component", in-fill broadcasts which can push into buildings and other areas lacking line of sight to the bird in the air – but the bird still has to be there. In 2006, Globalstar received an 18-month opportunity to sort that out, and promptly sublet the frequencies to Open Range.

Sadly Globalstar has had trouble getting satellites launched, blaming the financial crisis and the Italian earthquake for the delays when requesting an extension to that 18-month period last year, an appeal which fell on deaf ears. The company's first generation of satellites started failing in 2007, according to Space News, which also reports that the second-generation birds are now having problems with flywheels, none of which is good news for Open Range.

Not that Open Range was ever interested in providing satellite connectivity. But the company took a government loan of \$267m, and raised \$100m from JPMorgan Chase, on the promise of providing broadband to six million people across America using WiMAX technology in satellite frequencies which would only be available if Globalstar kept using them for satellites.

In March, Open Range was one of the first companies to sign up with LightSquared, intending to lease some of that spectrum for its WiMAX operation as well as mutual roaming. But with LightSquared still squaring off against the GPS crowd, the time just ran out for Open Range.

Open Range has now been reduced to serving fewer than 20,000 customers, and has laid off 122 staff, leaving a skeleton crew of 48 to keep things ticking over while it tries to find a buyer for the company's assets.

KA3DRO Trip Report

The clock woke us at 5:30 AM on the morning of the 9th of Nov..... and we pulled out of the driveway headed north at 6:17 AM. The first county run was Madison, Fl. on 40 Meters just to see if we were actually getting out a signal and could hear others. IT WORKED! Sounds were welcome inasmuch as the Tarheel I struggled with for almost a year had been removed and an old Hustler mast had been re-installed in the trailer hitch. Resonators for 10-15-17-20-30-40 had been mounted on a “hub” device and had been carefully tuned with my MFJ 259B.... all showed SWR under 1.7:1 .

Having a long day of driving ahead, and wanting to get up the road, the next county given out was Mitchell & Thomas, GA also on 40 M. SSB was productive but CW only gave me 2 QSO's. By now it was already 1600Z and I knew I was running later than I had planned. Baker & Early was the next County Line and with a very pleasant surprise, it was run on 20 M because the usual NC was AWOL. Then came Calhoun, Ga..... also on 20 SB with just 2 takers on CW ! The County Line of Clay & Calhoun was even more productive as the rest of the west opened up and the spots continued to create activity and 5 more CW contacts were logged.

I was “breaking in” a new logger this trip. Having lost my wife just after Christmas of 2008, I am now recently engaged to a lovely redhead from the West Coast and this was her first exposure to our hobby. She was a fast learner and did a great job on the SSB logging but refused to participate in the CW end! The CL of Clay & Calhoun produced a full page of QSO's and Randolph, Ga was also productive. Next was Quitman that delivered 29 contacts on SB even tho recently run just a week or so ago, along with 15 CW qso's . Stewart, Ga gave me another page full of SB and Chattahoochee filled another page.

All these contacts had been on 20 M, a very pleasant surprise with reminders of how the net ran before K2Just Garbage and his sycophant, KA1Just Plain Rotten assumed “ownership” of the frequency . Even my Fiancee, Janice, a complete novice at this activity remarked how nice everyone seemed and how they appeared to go out of their way to assist each other and insure others had an opportunity with relays, etc to get a contact credit from the county. Sunday morning Jim & Percy were back on the frequency and she changed her mind about the hobby and them in particular... wondering out loud a few times about “ why did the people who were so helpful while we were running Wednesday, Thursday, and Friday... allow these two idiots to intimidate them? “... A good question Janice!

Anyway, we headed for the motel in La Grange and got into our rooms about 5:45 PM... already dark! We met with K3IMC and his lovely wife and had a great meal at a local steak house..... then crashed and burned for the night. A full schedule of counties awaited us the next

morning and we started with the County Line of Chambers and Randolph, Alabama . Running Randolph, Al. on 40 M gave me my last county in the State to have run all Alabama. Unfortunately, it was just too early for the west coast people who wanted it as well as some DX. 20 M SB added a few more and CW was also productive and we logged 13 CW QSO's there on 20 M. Again, the Net Controls and assistants were reminiscent of the old days and we hoped without Jim to interfere, another FB radio day loomed ahead.

We did a few back roads back into Georgia and soon connected with US 27 North again and the ran the County Line of Carroll & Heard. 20 M was short and long delivering pretty good spread of contacts for a Thursday morning. Then Paulding and Haralson CL. Haralson was an add-on to my schedule as two favorite CH'ers had asked for it..... W4UB (Uncle Bob) and Ralph, WB4FFV, who is finally closing in on USA-CA after providing thousands of contacts to so many needy people these last many years.....Thanks to some helpful relays, both qso's were successfully logged. There were nearly 50 contacts here on 40 & 20 M.

Time for a Subway lunch and there was a convenient store at the intersection of US27 & rt 120. Perfect timing as we were both getting hungry! Then on to Polk & Floyd where 20 M delivered another page full of contacts. About 2000 Z we landed at the Chattooga/ Floyd line and ran another 26 SB and just 10 CW contacts. I had announced it as just Chattooga and forgot that I was on the side of the road and the sign was out the drivers side window! Thanks for posting the "addition" for me Jerry.... W0GXQ.

We then headed across country into Alabama on twisty mountain roads to get to the Interstate to save some time and avoid Chattanooga. I stopped to run Dade, GA as despite driving thru there about 20-25 times over the years as I went too & from MMM conventions, I had never run the county..... and apparently no one else had for awhile as we filled another page there + 8 CW qso's. That about finished our radio activity for the day and we hit the Interstate north and headed for Manchester.

We checked into the motel, Country Suites, and called Bill, KM4W who is a local there and a County Hunter legend, and I am proud to say, a friend of mine. We met Bill and his wife at O'Charlies for a delicious dinner and a good Rag-Chew. The conversation was enjoyable and a decision was made that we will reveal at a later date. Bill is now 90 years old, has had a cancerous kidney removed about a year ago, and had a broken shoulder set and repaired a few months ago, but is as sharp and spry as ever . He walks 2 miles a day.... that puts me to shame! We broke up the meeting and headed back to a warm bed and slept deeply.... waking up to 28 degrees and a heavy dose of frost on the windshield. As a Florida boy, I am unused to this type of treatment from Mother Nature! A nice warm breakfast at Cracker Barrel and we headed out Rt 55 for Crossville.

The ride to Crossville was beautiful as the countryside was, like rural Georgia, a picture of perfect fall leaves, golden reds, bronzes, yellows, and all shades in between just glistening from the reflection of ample sunshine. Even the temperatures cooperated by climbing into the mid

40's ! We arrived in Crossville and gassed up again. It was pleasant to see prices at about \$3.18 as we were used to \$3.45-50 here in Homosassa. We bought another Subway for lunch and put it away in the cooler for later, then headed east 1 exit to the Stonehaus Winery, one of our favorites. We ended up with another case of favorite wines from there, then back to Rt 127 and north back into the hinterlands up near the Kentucky line. We ran Warren, then into 5 counties i have never put out before. The first was Fentress and as our luck held out, 20 meters was still in the hands of the "friendlies" and we ran almost 2 pages of CW & SB contacts there about 1:00-1:30 Friday afternoon. (1805-1828 Z) It was almost an hour later when we ran Pickett as we stopped along a river rest area to devour our Subs and have a cold drink from the cooler. Another half hour brought us to the Kentucky line at Static and I ran the County-State line of Clinton, Ky./Pickett, Tn. another full page of SB & CW contacts.

Now headed south and seeing the sun rapidly heading west, we were able to run Overton and fill another full page of SB only. Then Jackson County and Clay and I had filled the space that showed counties I have never run before had been eliminated. It was getting dark fast and I still needed to run 2 more counties to fill requests for 2 people who i had made promises to and they had tracked me all day waiting for them. We arrived almost at dark at Macon County and I ran the line of Macon & Clay including a very special CW qso for W3DYA . Now we needed to find route 10 and head south for Trousdale for 1 more request. It was flat out dark and we could barely see to log in the truck when we ran Trousdale at the side of the road at what seemed to be a 20 degree angle!

We did most of a page on 20 SSB then headed for CW at 14.229 for K7REL . Success

By now it was dead dark and the full moon was trying to make an appearance from behind the clouds. we were able to back into a driveway and head back to the road and head to Clarksville, Tn. our destination for the trip.

It has been many years (probably too many years) since I was out running counties and I nearly forgot how much fun it can be. The camaraderie has been missed, but the actions of the "regular" 20 M net control are still unforgivable. I will never understand why some of the members of this group refuse to stand up to him as he insists on undermining the morals and ethics of operation of what is an enjoyable hobby. I also underestimated that I would be able to use my cell phone to arrange qso's and alert people when i would be in counties they needed. We had no service most of the way! The joys of rural travel. Additionally, I had just upgraded to a new Android phone and was able to post my own spots..... NOT! no WiFi service was available! I am sorry for those that I missed because of this. My ears are not as sharp at 72 as they used to be 10-15 years ago..... and it is harder to separate the CW sounds that I used to be able to discern when there is a pile-up...no matter how small. Note also, I tried 17 M many times and while I heard many mobiles running with FB signals, I was never able to get a response. There was also no returns any time I sent a CHN on 30 M or asked on 10 or 15 M and most times 40 M was also a blank as it appeared that almost everyone was enjoying the freedom of a "Jimless" frequency. Again, my fault guys (and gals). Saving the day were the

Net Control volunteers and the people who jumped in to assist all thru the 3 days we ran. A sincere THANK YOU to you all.

The trip ended up 1048 Miles from home to Clarksville. It was just about 650 miles straight home via I-75. I logged 650 QSO's and 91 were CW. The trailer I was towing on the southbound leg of the trip precluded me from operating much as it dampened signals quite a bit.... and also you-know-who was running folks off 20M SSB.

My status as #3 Black Sheep is intact, and Jim again made an ass of himself on the radio along with his "me-too" parasite, Percy. Naturally, I had taken pics of the County Line signs along with my vehicle - "Percy Pics", to have to send out for LC's, etc.

73/ Ron
KA3DRO

Most Wanted County List

Compiled by K7REL, Tom, from the K3IMC needs lists

Most Wanted County by State as of 11/9

State	County	Needs
AK	2nd District	11
AL	Fayette	17
AL	Lamar	16
AL	Lawrence	12
AL	Marshall	12
AL	Cherokee	11
AL	Jackson	11
AL	Lauderdale	10
AL	Winston	10

AR	Dallas	13
AR	Drew	10
AZ	Yuma	10
CA	Butte	13
CA	Madera	10
CO	San Juan	11
GA	Macon	11
IA	Adams	10
IA	Dickinson	10
ID	Washington	12
ID	Clearwater	10
ID	Lewis	10
ID	Teton	10
IN	Brown	14
KS	Jefferson	11
KY	McLean	13
KY	Union	10
LA	Iberia	10
LA	St. Mary	10
MA	Dukes	12
MA	Hampden	11
MA	Hampshire	11

MA	Franklin	10
MD	Dorchester	14
MD	Kent	11
MD	Caroline	10
MO	Dent	11
MS	Humphreys	15
MS	Issaquena	15
MS	Sharkey	13
MS	Neshoba	12
MS	Quitman	11
MS	Calhoun	10
MT	Fallon	14
MT	Carter	11
NE	Frontier	13
NE	Saline	12
NE	Adams	10
NE	Cuming	10
NE	Hayes	10
NE	Nuckolls	10
NH	Sullivan	12
NJ	Salem	10
NM	Catron	11
NV	Mineral	28
NV	Pershing	13

NV	Eureka	12
NV	Churchill	10
NV	Douglas	10
NV	Storey	10
NV	White Pine	10
OK	Harmon	10
OK	Major	10
OR	Grant	13
OR	Columbia	12
OR	Clatsop	11
OR	Coos	10
OR	Curry	10
OR	Josephine	10
OR	Wallowa	10
PA	Juniata	14
PA	Forest	12
PA	Cameron	11
PA	Cambria	10
SC	Allendale	11
UT	Beaver	15
UT	Piute	13
UT	Garfield	10
VA	Lunenburg	11
VA	Craig	10
VA	Patrick	10

WA	Chelan	13
WA	San Juan	10

Most Wanted Counties – by need as of 11/9

State	County	Needs
NV	Mineral	28
AL	Fayette	17
AL	Lamar	16
MS	Humphreys	15
MS	Issaquena	15
UT	Beaver	15
IN	Brown	14
MD	Dorchester	14
MT	Fallon	14
PA	Juniata	14
AR	Dallas	13
CA	Butte	13
KY	McLean	13
MS	Sharkey	13
NE	Frontier	13
NV	Pershing	13
OR	Grant	13
UT	Piute	13
WA	Chelan	13
AL	Lawrence	12
AL	Marshall	12
ID	Washington	12
MA	Dukes	12
MS	Neshoba	12
NE	Saline	12
NH	Sullivan	12
NV	Eureka	12
OR	Columbia	12
PA	Forest	12
AK	2nd District	11
AL	Cherokee	11

AL	Jackson	11
CO	San Juan	11
GA	Macon	11
KS	Jefferson	11
MA	Hampden	11
MA	Hampshire	11
MD	Kent	11
MO	Dent	11
MS	Quitman	11
MT	Carter	11
NM	Catron	11
OR	Clatsop	11
PA	Cameron	11
SC	Allendale	11
VA	Lunenburg	11
AL	Lauderdale	10
AL	Winston	10
AR	Drew	10
AZ	Yuma	10
CA	Madera	10
IA	Adams	10
IA	Dickinson	10
ID	Clearwater	10
ID	Lewis	10
ID	Teton	10
KY	Union	10
LA	Iberia	10
LA	St. Mary	10
MA	Franklin	10
MD	Caroline	10
MS	Calhoun	10
NE	Adams	10
NE	Cuming	10
NE	Hayes	10
NE	Nuckolls	10
NJ	Salem	10
NV	Churchill	10
NV	Douglas	10
NV	Storey	10
NV	White Pine	10
OK	Harmon	10
OK	Major	10
OR	Coos	10

OR	Curry	10
OR	Josephine	10
OR	Wallowa	10
PA	Cambria	10
UT	Garfield	10
VA	Craig	10
VA	Patrick	10

Note de N4CD – in the last week, many of those counties above have been run. Hopefully you caught what you needed.

BPL Update

On October 24, 2011, the FCC released the Second Report and Order in its proceeding -- now in its 9th year -- to adopt rules for Access Broadband over Power Line (BPL) systems. The Second Report and Order is the final step in the Commission's effort to comply with the directives of the United States Court of Appeals for the District of Columbia Circuit, which in April 2008 ordered the FCC to correct errors it had committed in the course of adopting rules in 2004. The Court acted in response to a Petition for Review filed by the ARRL.

In July 2009, the FCC issued a Request for Further Comment and Further Notice of Proposed Rule Making in which it proposed slight modification of measurement standards for determining whether a BPL system is in compliance with the maximum allowable levels of radiated emissions. In response, the ARRL argued that coupled with a scientifically valid extrapolation factor for determining those levels, mandatory notching of the amateur bands to a level 35 dB below the general emission limit would reduce the likelihood of harmful interference to amateur stations to a level that would permit any remaining harmful interference to be remedied on a case-by-case basis (see below). The ARRL noted that its request for mandatory notching simply reflected the best practices of the BPL industry.

In the Second Report and Order, the Commission decided not to adopt its own proposal and also declined to adopt the ARRL's request for mandatory notching. Instead, the Commission has increased the requirement for BPL systems to be able to notch frequency bands to at least 25 dB, an increase of 5 dB from the existing requirement of 20 dB. The Commission also made technical adjustments to its rules for determining the distance between a power line and a measurement antenna and for determining site-specific extrapolation factors.

"We were prepared to be disappointed, and we were," commented ARRL Chief Executive Officer David Sumner, K1ZZ, after reviewing the 76 page Second Report and Order. "The

increase in notch depth is a step in the right direction, but the value of the change is greatly diminished by the notches not being mandatory. The FCC acknowledges that a compliant BPL system will increase the noise floor below 30 MHz at distances of up to 400 meters from a power line, but characterizes that as ‘a relatively short distance.’ How many amateur stations are located more than a quarter-mile from the nearest power line?”

More than 17 pages of the Second Report and Order are devoted to defending the Commission’s choice of a 40 dB/decade extrapolation factor for measuring emissions at distances other than 30 meters from the power line. “It was particularly disappointing to read that ‘...ARRL asserts that there is only one scientifically correct and valid answer of an extrapolation factor of 20 dB...,’ Sumner said. “That is a gross mischaracterization of our position. Our argument was that the 40 dB/decade value chosen by the Commission was demonstrably inappropriate for BPL, which the FCC acknowledges does not behave as a point-source emitter. Lacking an unambiguous scientific basis for a single value that would be equally valid across the entire frequency range from 1.7 to 30 MHz, the Commission fell back on the single value that defies physics -- while at the same time acknowledging that ‘...ARRL is correct with regard to the physics of this issue.’”

One FCC statement with which the ARRL is in strong agreement occurs toward the end of the extrapolation factor discussion: “Whether the extrapolation factor is 20 dB or 40 dB or somewhere in between is far less important than the fact that harmful interference must be corrected under any circumstances.” Unfortunately, Sumner observed, the FCC’s deeds do not back up these words: “The Commission notes that there are not many interference complaints about BPL systems that are currently in operation, but inaccurately attributes that to the adequacy of its rules. In fact, it is the marketplace failure of Access BPL -- coupled with voluntary steps taken by the few system providers -- that are still in business that is responsible for this fortunate result.” The one interference complaint that the FCC acknowledges receiving was filed by the ARRL on December 29, 2010, and which the Commission says was “... submitted recently [emphasis added] and is under investigation at this time.” “A well documented interference complaint languishing for months is a perfect illustration of why mandatory notching is needed,” Sumner said.

The Second Report and Order states that “...the BPL system database shows that BPL systems are currently operating in 125 ZIP codes across the United States.” In fact, once non-existent ZIP codes are eliminated, there are 200 ZIP codes listed in the BPL system database. The FCC offers no explanation for why it has discounted this figure to 125, but neither figure reflects reality. “The BPL system database is filled with listings for ‘paper’ systems that were never deployed, systems that have been taken out of service and systems that are at some planning stage or are only offering service to customers within a small pilot area,” Sumner said. “The FCC’s own report on the status of Internet access services as of December 31, 2010 shows no more than 6000 customers nationwide receiving service via ‘power line and other’ connections, and about half of those appear to be ‘other.’ There is no reasonable explanation for why the Commission cites a flawed industry source for data when it possesses better data itself.

“One of the most puzzling sections of the Second Report and Order is that devoted to a discussion of the noise floor,” Sumner concluded. “The thrust of the Commission’s argument is that while natural and manmade radio noise is extremely variable, there is no point in regulating BPL emissions down to a reasonable level because in some locations and at certain times, it will be obscured by other noise sources. Imagine if that sort of logic were applied to air and water pollution -- and make no mistake, BPL emissions pollute an irreplaceable natural resource, the radio spectrum.”

While a thorough technical analysis of the FCC’s latest BPL document will take some time, Sumner predicted that the ARRL will file a Petition for Reconsideration. “While BPL has failed in the marketplace as a medium for delivering broadband connectivity to consumers, the technology is perceived to have some ‘smart grid’ applications,” he said. “Now is the time to fix the rules, principally by mandatory notching, so that any new entrants will be competing on a level playing field with the existing BPL firms that have recognized the need for notching of the amateur bands.”

Source: ARRL Newsletter, October 27, 2011

K8ZZ Trip Report

Trip October 26th to November 6th 2011
by K8ZZ

Thursday: Left early morning my usual thing on these trips, from my son’s, W8JJ, in Genesee county Michigan. It was pouring rain and the Hustler resonators were wet before I got to Ohio. It rained hard the whole day. Made my first contact in Erie county Ohio on CW with K1TKL, who had a nice signal. Was running the Turnpike and the counties were coming up quick, and as the “folks” woke up, I was busy on CW. DX on 20 meters was alive early. I went to 40 SSB a few times but no takers. Later in the day 20 SSB and 17 meter CW was good with Preston and Randolph, WV being the highest takers. Thanks to W0GXQ and N4CD and others for lurking on the sidelines and helping me at the end on CW with all the 339’s that I could not dig out with the rain pounding on the SUV. Spent the night in Elkin’s, WV.

Friday: Rain was the order of the day again with snow in the upper elevations of WV. First run was C/L of Pocahontas and Randolph, WV. The county line was on top of a mountain and

the cloud ceiling was low with the rims of the mountain caps showing through the clouds. It was one of the most beautiful lines I have ever run. K4AMC was my first contact on CW with his booming signal on 40 meters – Jim is a great CW op and is always ready to help with a relay if needed. The trip in Virginia from Highland county to Roanoke was also very pretty. The mountains still had color and the cattle grazing on the farms were keeping me entertained.

I had to remind myself to run that next county as I shut the radio off after every run to enjoy this beautiful land we live in. The county line of Campbell and Appomattox, VA is on a four lane highway, but I was able to get off and run it from tire repair place right on the line. I was courteous and went and asked the business if I could park for 20 minutes or so in their lot. They were very nice and of course wanted to know what all that “stuff” was on the roof of my SUV.

The C/L of Roanoke and Franklin, VA are on the mountain and there is barely enough room to get off and run the line safely. I had a county deputy sheriff remind me that was not in his best interest, but I had just finished the run so we were good. I had a orange LED light bar in my back window flashing, and I think that saved my bacon. Good run in Craig, VA with 17 CW really busy. N9JF/m, jumped in and did some relays on 20 CW while mobile – what a great CW op Jim is and always ready to help - I appreciate it. Spent the night in Salem, VA.

Saturday: Woke up to no rain but the antennas were white with frost - did have rain mixed with snow later in the day. K4AMC was there early for my only contact in Montgomery, VA and thanks for the spot to let the folks know I was on the road.

Band conditions on 17 meters were great early - W0GXQ booming in 10 over 9 at 1320z in Smyth, VA. No luck on SSB due to the contest. It was a very long slow drive up the mountain from the freeway to the C/L of Russell and Washington, VA.

The C/L was right on top of a mountain with everything white with snow. Very clean looking and beautiful with the wet snow clinging to nature. It was sleet and hail for a short period on my way down the mountain to Buchanan and Dickenson county in VA. In Buchanan county there were times I saw half the mountain with snow on the higher elevations and the beautiful fall colors on the trees on the lower half. The bands were okay today, but with mountain driving all day I am sure I missed some of you. It is always nice to work N9QS/m on the road. Last county of the day was Carroll, VA and heard W8JJ/m on 40 & 30 meters – always get a warm fuzzy working my son on CW. (Tim is a better CW op than Dad) Spent the night in Woodlawn, VA.

Sunday: Woke up to sunshine – WOW! W7GVE was up early out west for my first contact on 40 CW at 1150z on C/L of Carroll & Floyd, VA. Band conditions were good all day with great signals on 17 meter CW at 1326z from W0QE and AD1C. It was beautiful driving on “normal” roads after the slow going for three days in the mountains. Virginia is one of my favorite states for scenery and good roads. I was surprised by the long run on the C/L of

Caswell & Person, NC as N4JT does a great job in that area. The longest run of the day was on C/L of Charlotte & Mecklenburg, VA – should have packed a lunch!! KM1C was booming into Warren county NC from Fairfield, CT in the afternoon on 30 meters. I finished transmitting from all 95 counties in Virginia today with Charlotte being my last. Spent the night in Wilson, NC.

Monday: Sunshine again today and it was gorgeous seeing the fall colors on the mountains. C/L of Greene and Wayne, NC started my day with K4XI up early at the key waiting for me on 40 meter CW. 17 meters CW was open early and worked W7FEN at 1232z. The longest run of the day was on the C/L of Wake & Johnston, NC with 20 meters being the best band. Big signals coming in from up north with WA9DLB, N8KIE and my MI Mini co-sponsor Joe, W8TVT leading the pack on SSB. Tried 40 SSB again today many times but no contacts. The cotton fields were spectacular and in full bloom. The large equipment used to pick the cotton is an amazing site and I stopped to watch and take a break. 17 meters CW was still open into Gaston, NC at 2228z with a good signal from AB7RW. I finished transmitting from all 100 counties in North Carolina today with Davie county being my last. Spent the night in Gastonia, NC.

Tuesday: Another beautiful day for driving in SC. W7GVE was up early again and gave me my only contact in Gaston, NC at 1138z on 40 meter CW. Band conditions were not the best today but W0QE was loud all day on 17 meter CW.

Was nice to work NN9K/m on 30 meters when he was traveling across NE and IA. Pete always has a great signal on 30 meters and is a smooth CW mobile op.

Large counties in SC and was nice to turn the radio off after the runs and enjoy the scenery. Traffic thru Augusta, GA was horrible before I headed north.

I finished transmitting from all 46 counties in South Carolina today with Calhoun being my last. Spent the night in Lincolnton, GA.

Wednesday: Very pleasant fall day with temps in the low 70's and perfect conditions for site seeing and running counties. W0GXQ and W0EAR were up early with their coffee waiting at the key for RF from Lincoln county GA. At 1155z the bands came alive on 40 meter CW. Had a long run on 80 CW with everyone booming in like contest season. VK4AAR was 559 on 20 meter CW at 1333. N4AAT/m had a nice signal on 40 meter SSB from Florida and I needed those counties. WD4OIN/m was doing a great job in VA with a nice signal on 40 SSB. N9JF/m had a booming signal on 30 meters from WI and IL late in the day. Sightseeing highlight of the day was going over the mountain in White county GA. Wow! Was very busy in all the TN counties which surprised me, as TN was run quite a bit with the Mini in SC last month. Spent the night in Dayton, TN.

Thursday: Woke up to cloudy skies but it all changed for the worse very quickly. N8KIE was

my weatherman and he did a better job than the TV folks. His forecast was correct when he said I was heading into some very turbulent weather. It rained very hard all day – and I should have stopped to run the counties. I sent a bunch of AS's (standby) because there were times I could not see the shoulder of the mountain roads. At 1148z K4XI was waiting for me on 40 CW for my first contact. Before the rain started, driving the mountains in Bledsoe county was beautiful. Signals were good on all bands considering the weather conditions. WD4OIN/m and WG9A/m had nice signals on SSB. Towards the end of the day it was raining too hard for me to run all bands – it just was not safe for the public for me to be on the CW key. I was also getting very tired and worked N0KV at 2322z, with a big signal in Grant county KY on 17 meter CW for my last contact of the day. Spent the night in Richwood, KY.

Friday: Just a drizzle of rain this morning – cleared up as I headed back to Michigan for a few days of rest at my son's, W8JJ. This morning Boone county KY was my first and a contact at 1124z with W7GVE. It was strange driving on flat roads again in OH & MI after a week in the mountains. Propagation was very good today on all bands.

I was very busy in all the counties of Ohio and into Michigan with 30 meters working good across the whole US all day.

My set up in the truck for the trip was a Elecraft K3 radio with Hustler resonators. The resonators were mounted in a horizontal custom fabricated hub, on a 60 inch 5/8 inch aluminum mast. The mast is mounted in the center of the roof on my SUV with a bracket across the luggage rack. I use a Apple MacBook Air 11 inch computer with Street Atlas - GPS and the WQ7A county overlay. I use a TomTom GPS to help make navigating painless while running on the fly. A Coteck inverter, which eliminates any hash from the computer etc., into the radio is a must have.

Many thanks again to all the SPOTTER's for your efforts, and making my runs exciting – I made thousands of contacts - drove 3200 hundred miles in 11 days and transmitted from almost 200 counties. Cost of the trip – PRICELESS for all the fun I had. Look forward to working all of you on my next trip. (where?)

73 Ed K8ZZ

The USACA Plaque

There was some discussion on the K3IMC forum about the current USA-CA “Wooden Plaque”. Dave, W4YDY, posted a picture of his issued in 2003:



Sub miniature Tubes

If you've been a ham for 30-40-50 years you know about 'tubes'. 4 pin tubes. 5 pin tubes. Octal tubes. Loctal tubes. 7 & 9 pin 'miniature' tubes. Big tubes like 3-500Z in your linear amplifier. If you've been a war surplus fan, maybe even 'acorn' tubes – not much bigger than a real acorn. But there was also another tube – the sub miniature tube or 'pencil' tube that saw many special applications. It wasn't used in ham gear other than a few exotic things (and rare), but it was common in other devices. Some history

History of the Hearing Aid

Electronic Hearing Aids - Carbon (1899-1940s)

These are based on the telephone principle but Alexander Graham Bell had nothing to do directly with their development. These appeared first in limited quantities in a table model about 1899, but in wearable and practical instruments began to be available only in 1902. Carbon aids were popular through the 1940's. Most of these used a rather large 3-volt or 6-volt battery but did not have enough power to assist those with more than a moderate hearing loss.

Electronic Hearing Aids - Vacuum Tube (1920s-1930s)

Unlike the carbon instruments, these had adequate power for severe hearing losses but were also usable by persons with a lesser loss. The first one appeared in 1921, but this type did not become practical until the early 1930's, and did not appear in a wearable version until 1936. Vacuum tube aids required two batteries, so costs were rather high.

1920-23

Earl C. Hansen invents and patents the first vacuum tube hearing aid. Called the “Vactuphone,” the instrument was battery-powered and employed a single triode. The Vactuphone was produced by the Western Electric Company and distributed by the Globe Ear-Phone Company beginning in October 1921. The instrument was larger than a box camera and was priced at \$135. 1923 ~ First electric bone conduction vibrator is constructed by Augustus G. Pohlmann and Frederick W. Kranz for use in some audiometers and a few table model hearing aids. 1923

~ The Marconi Company of England and Western-Electric of the United States introduce vacuum tube hearing aids. 1924 ~ Edward A. Myers (1868-1963) establishes E. A. Myers & Sons; the name is soon changed to Radioear. Myers develops and sells Radioear's vacuum tube hearing aid, a table-sized model that used a moving coil microphone, which was superior to a carbon microphone because of its amplitude linearity and freedom from external noise. However, like the Marconi and Western Electric vacuum tube hearing devices, the Radioear model is large and cumbersome, and poses little competitive threat to the small, portable carbon instruments of the time.

1938

The Raytheon Company releases its first series of sub-miniature pentode vacuum tubes and becomes the predominant supplier of hearing aid tubes.

Although Lee DeForest invented the triode vacuum in 1906, it was not employed in hearing aids until 1921.

The first hearing aid using a vacuum tube was purported to have been made by Earl C. Hanson. He called his hearing aid the Vactuphone. It used one small peanut tube (below right) to amplify the output of a carbon hearing aid.

The Globe Hearing Aid Company and Western Electric collaborated to manufacture the Vactuphone.

Here is a picture of the 215-A vacuum tube commonly called the "peanut" tube. IT had a 1.4v filament at 0.25 amps. Designed in 1919. Filament was 'very fragile'. A good tube like this sells for over \$100 on Ebay!



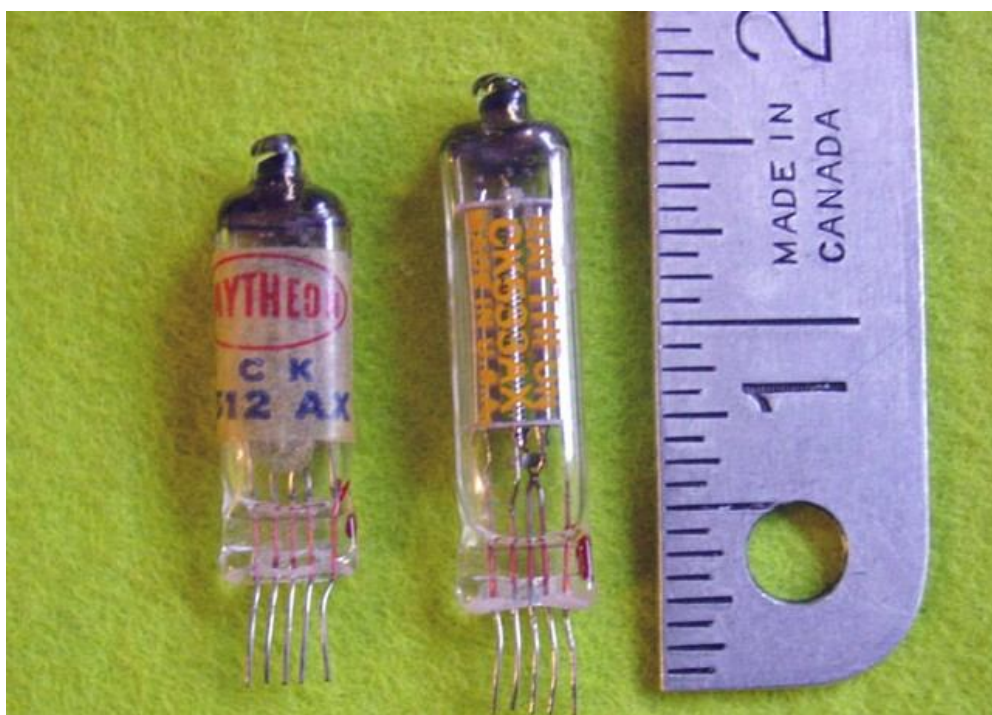
2.36 inch long and 0.63 inches in diameter

By the early 1940s, Raytheon had developed miniature vacuum tubes. It was these miniature vacuum tubes that made body-worn hearing aids a reality.

These miniature vacuum tubes were only about $1\frac{1}{4}$ " in length and about $\frac{3}{8}$ " in diameter. Although the component sizes of the day were still quite large, this made it possible to manufacture a hearing aid small enough to fit inside a shirt pocket.

The same two tubes (showing just how small they really were—only $1\frac{1}{2}$ " to $1\frac{3}{4}$ " including their pins.

The one on the right is the Raytheon CK533AX and the one on the left is the Raytheon CK512AX



Unfortunately, the power requirements of these aids made it necessary to use two relatively large batteries—an "A" battery to power the filaments of the vacuum tubes and a "B" battery to supply the high-voltage for the plate current.

The batteries were worn external to the hearing aid itself and the name "Two-piece" hearing aid was used to describe them.

Until about 1945 "Two-piece" hearing aids were the norm. However, improved vacuum tube design reduced current requirements. As a result, battery manufacturers were able to reduce the size of the batteries used in hearing aids.

At the same time, electronic components were also being miniaturized. This allowed the hearing aid manufacturers to design hearing aids with internal batteries. After 1945, these "One-piece" hearing aids quickly replaced the more cumbersome "Two-piece" hearing aids.

Source:

http://www.hearingaidmuseum.com/gallery/General_Info/GenInfoVacuumTube/info/generalinfo-vacuumtube.htm

May 6, 1949

Four types of subminiature tubes, comprising a portable battery radio receiver complement, have been announced by the Radio Division of Sylvania Electric Products Inc., 500 Fifth Avenue, New York 18, N.Y.

The new subminiature tube group includes a 1AD5 sharp cut-off r-f pentode; 1E8 pentagrid converter; 1T6 diode pentode; and 1AC5 output pentode. Filaments are rated at 1.25 volts and 40 milliamperes d-c. All four tubes are designed for plate voltages ranging from 30 volts and 67.5 volts and plate currents ranging from 0.30 ma to 2.0 ma.

The tubes are supplied with 8-pin subminiature leads suitable for use in subminiature sockets or printed circuits, and have a maximum diameter of 0.400" and a maximum seated height of 1 ½ [inches]. They may be mounted in any position.

Interesting video...skip first five minutes

<http://techtv.mit.edu/tags/760-raytheon/videos/229-the-subminiature-vacuum-tube-the-cycle-of-technology>

Did you know there is a Tube Collectors Association?

<http://www.tubecollectors.org/tubecoll.htm>

Now, maybe one thing you didn't know –

*Raytheon Scientist Adapted
Hearing Aid for Son's Machine*

Model Airplane Tube Led to Proximity Fuse

On the morning of January 6 twenty-one years ago a specially marked shell was loaded into the chamber of an anti-aircraft gun on board the cruiser Helena under attack at Guadal canal. Within the shell's nose was a new and top secret fuse containing a tiny radio that, bat-like, sent out a signal, listened for its echo bouncing off a target and then exploded the shell when it reached its point of closest approach. Inside it was a tube developed in Newton.

This debut of the proximity fuse was an unchallenged success and kept one man busy most of the time stenciling trophy silhouettes on the ship's smokestack.

Using the proximity fuse converted "near misses" to direct hits as the shells exploded before they whooshed past their targets.

Although it was still necessary to "lead" the target, just as a hunter leads a flying duck, the proximity fuse converted the Japanese planes into sitting ducks.

A year earlier, many scientists and ordnance experts working on the secret proximity fuse project were stumped by the lack of a special electron tube that could do the job.

Unaware of the fuse program, Dr. Percy L. Spencer of Raytheon Co. had adapted a hearing aid tube to control his young son's flying model airplane. The tube was filled with argon gas. The model airplane turned, climbed and dived on signal and the Spencer boys were the envy of their friends in Newton.

Word of the interesting tube reached the fuse makers and Raytheon was asked to develop a tube that could run the fist-sized, radio transmitter-receiver they were perfecting. It had to survive spins of 15,000 G and be rugged enough literally to be shot from guns.

Early experiments produced artistically bent and spent tubes. Eventually, a successful design was achieved by a group of Raytheon engineers working with Dr.

Paul Weeks at Raytheon's Chapel St. plant in Newton. Later the tubes were produced at the rate of tens of thousands every day.

At D-Day in Normandy the proximity fuses were fired only by the Navy and only towards seaward to lessen the risk of the enemy capturing a dud.

Released to the Army at the Battle of the Bulge, the fuses helped turn the tide as they increased firepower by restraining attacking aircraft and ground forces. Against land targets the proximity fuse detonated at the most effective height above the ground rather than bursting upon impact.

Although improved since World War II, the fuse that changed tactics during World War II is still found throughout our Armed Forces and the tube at its heart is still in production here to meet a new contract from the Army. Deliveries are under way now on an order for a substantial quantity of the tubes.

As for the model airplane, Dr. Spencer's tube is the basis for all remote control systems in model airplanes today.

Source: Google Science Books, Pop Science 1948

During the war, over 130 million of the sub miniature tubes were made for artillery shells.

Another Article

http://books.google.com/books?id=fyYDAAAAMBAJ&lpg=PA133&ots=kgTiXL_bri&dq=proximity%20fuse%20tube%20history&pg=PA132#v=onepage&q&f=false

There were radios made with sub miniature tubes. The Motorola 'Packset' type radios for two way commercial use after the war had miniature tubes. The PRC-6 "Handie Talkie", the Korean and Vietnam successor of the WW2 era Handie Talkie often seen in battlefield movies, uses mostly sub miniature tubes plus an acorn tube to operate at 40-60 Mhz with FM.



The WW2 types had standard miniature tubes. Over 10 of them, and batteries lasted less than 20 hours.

Later - There were designs for tube based AM broadcast radios with subminiature tubes – but few were sold and they are few and far between these days. You still needed the heavy batteries in your portable set. It cost many dollars for the batteries and they didn't last all that long, especially if you wanted 'speaker volume'. There were no 'tube boom boxes' that ran on batteries that sold in large numbers! Hi hi

Transistor Hearing Aids (1952, 53)

These can also be properly called electronic hearing aids. They appeared in a few models in late 1952 and virtually replaced vacuum tube hearing aids by the end of 1953. Transistors need only one battery and the reduced size permitted development of a number of types of hearing aids.

The first transistors were made specially for the hearing aid market and for military applications. It didn't take long for transistors to replace tubes everywhere – first in low power circuits, then in high power circuits. First in audio applications, then in rf stages and rf power amplifiers. Now about the only place you find tubes is in high power amplifier service – and even there, you can buy a solid state KW amplifier if you want.

A few new tube types, such as the very small Nuvistor(1959) , and the multi-section tube called the Compactron, made a short lived appearance. The Nuvistor provided low noise gain and UHF frequencies – and made it into RFpre-amps, cable TV amps, and similar. The Compactron was a last ditch effort to cram 3 or more 'tube sections' into one tube to reduce cost, but it too quickly faded from the scene.



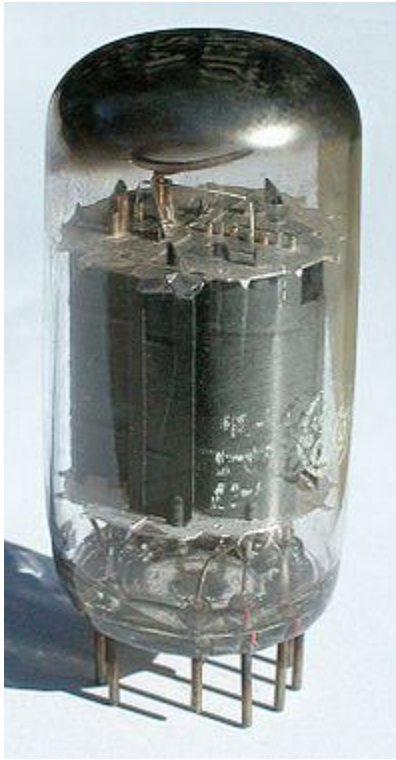
RCA Nuvistor Tube

The Nuvistor was about half an inch high. If you wanted the 'best' r.f. Pre-amp, you got one with a Nuvistor front end.

The Compactron was designed for the color TV market in 1959. Color TV sets were full of tubes – they had to handle higher power and higher frequencies than transistors could handle initially. By combining three tube sections in one larger envelope, GE hoped that they could keep the use of tubes alive. Millions of compactrons were produced – and most wound up in TV sets. They had large glass envelopes and required a socket with lots of pins! Getting all the components (think 1 and 2 W resistors and larger size 200-400 volt capacitors) being routed to all the pins was a problem, especially if you didn't have a PC board. TV sets were all built with PC boards, but if you wanted to use to this for ham use – you had lots of leads in a very small space with narrowly spaced pins.!

Here's a great site on Compactrons

<http://www.junkbox.com/electronics/CompactronTubesIndex.shtml>



12 pin Compactron

Summary

It took 3 decades for solid state devices to be invented and sent to the mass market after the first mass produced tubes in 1920s– and to slowly penetrate the consumer/military market. However, within less than ten years – transistors replaced the tube in all but ultra high frequency and high power applications. Tubes lasted in TV sets into the 80s for the high voltage flyback operations – but only a few tubes per set. The ham market went mostly all solid state in the late 60s, with a few radios with a driver tube and finals produced into the 80s.

Then it started all over again with Integrated Circuits – but that's another story for another day.

Some things from Ebay

This is a One Tube Ekeradio Electronics Development shirt pocket size radio probably from the early 1950's. This radio was an attempt to put a lot of performance into a very small space. It is built in a case similar to a covered soap dish. The case has a hinged lid. The radio uses a single sub mini style tube (Raytheon style) with pigtail leads, plugged into a transistor type socket. It has space for a single AA filament battery and a 30 volt (#413) B+ battery.



The volume control is centered inside the antenna tuning coil. Pin jacks on the end provide connections to the phone or phones. Printing inside says that "removal of this shield will destroy this set". It is neither a shield, nor did it destroy the set when removed. It is just a cardboard cover to hide the workings of the radio.

Size is approx 3 1/2" x 2 1/2" x 1 1/4" " not including controls.



Notice the Sub mini tube along the left side of the radio. It used a little earphone. A slide switch on the corner changed it from BC band to SW.

Ekeradio of Pasedena, CA, sold these through Popular Mechanics in the ad section. At one time, they also offered a crystal radio kit. This ad from 1954 Pop Mechanics.

THE EKERADIO 2 BAND SUBMINIATURE SET. \$24.95
TUNES BROADCAST BANDS AND SHORT WAVE
160 TO 75 METERS. COMPLETE WITH BATTERIES, EARBUTTON AND PICK-UP WIRE. READY TO PLAY. Allow 10 days delivery—20% on C.O.D. orders.
EKERADIO 646 N. Fair Oaks Avenue
 PASADENA 3, CALIF.

In 1955, they advertised a shirt pocket FM radio. They are rather rare. I can't even find a schematic for any of them.

In the late 60s, they were advertising plans for a 'transistorized tube radio' for Boy Scouts.

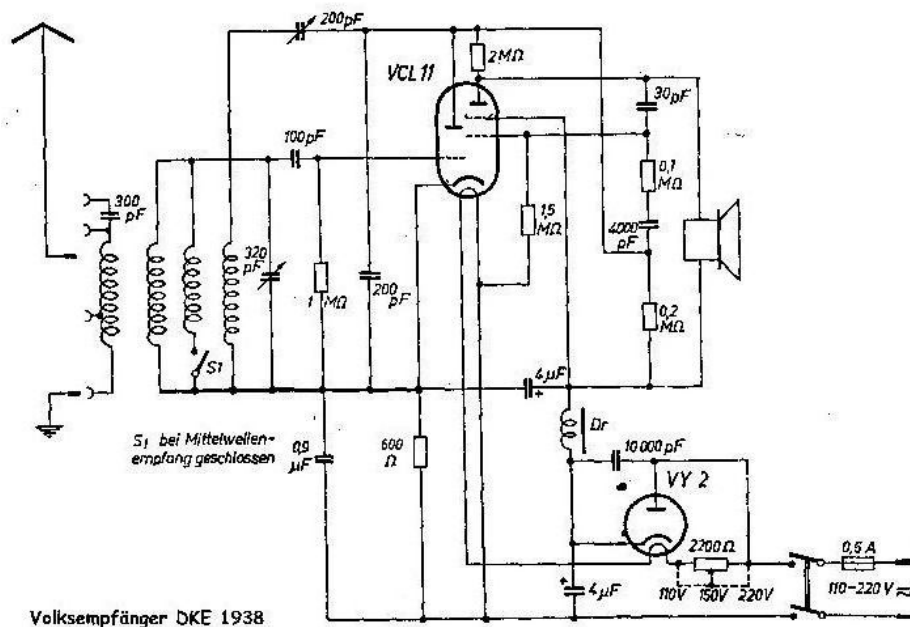
BOY Scouts build Two Band Transistorized Radio, tube, plan \$1.50. Ekeradio, Box 131, Temple City, Calif. 91780.

I've never seen or heard of one of these. If you find one, buy it and send it down to N4CD HQ.

Here's an usual radio – a German “Propaganda Radio” from 1938. It is a two tube (rectifier and one tube) set made very inexpensively – a 'Volkswagen' type radio for 'the people'. This was right before Germany starting taking over bits and pieces of nearby countries (the Saar, the “Rheinland”, the Sudenland).



It had an 8 inch diameter high impedance speaker, several thousand ohms. Here's the circuit diagram:



It runs right off the AC line (either 220 or 110v). The tubes were specially made by Telefunken for this radio— probably did not fit any existing base configuration. You will see it had no output transformer - it uses a 'reed speaker'. It was a triode regen stage followed by a single pentode audio stage – which was enough to drive a speaker. It covered the broadcast band and the 'long wave band' used in Europe (to this day) for broadcast as well. There was no separate band switch. The tuning knob would rotate 360 degrees. After 180 degrees a cam kicked in and closed the 'S1' switch changing the tuning range.

Here's a lot more pictures and article describing how it was made, why, and how it works including how a 'reed speaker' works

<http://antiqueradio.org/KleinempfaengerDKE38.htm>

Here's another unusual radio. It was made by Abbott Instruments – and was sold prior to WW2 as a mobile transceiver for 2 1/2 or 5 meters. (Model DK-3 with 2 tubes or MRT-3 with 3 tubes). It sold for \$19.95 in their 1941 catalog, less tubes and vibrator power supply. At some point, they started to make the TR-4.

During the war, they made a lot of this type radio for the War Emergency Radio Service – which was the only band licensed to civilians – at 2 and 1/2 meters. The RT-4 used three tubes – a modulator tube on tx and audio amp on rx, a self excited HY75 oscillator, and a super regen receive tube. During the war there were emergency nets with formal procedures. No yakking allowed.

After the war, they made a model for two meters as seen below



Abbott Instruments TR-4 Two Meter Transceiver
Ultra Short Wave

It wasn't long after WW2 that 'modulated oscillators' were banned first to 220 MHz, then above 420 MHz, and finally 1215 and up. You needed a receiver as wide as a barn door to follow them around.

On the radio, you had a 'regen' control, volume control, transmit receive switch, and transmitter and receiver frequency dials. It used open wire line output. I believe it was rated about 20 watts input.



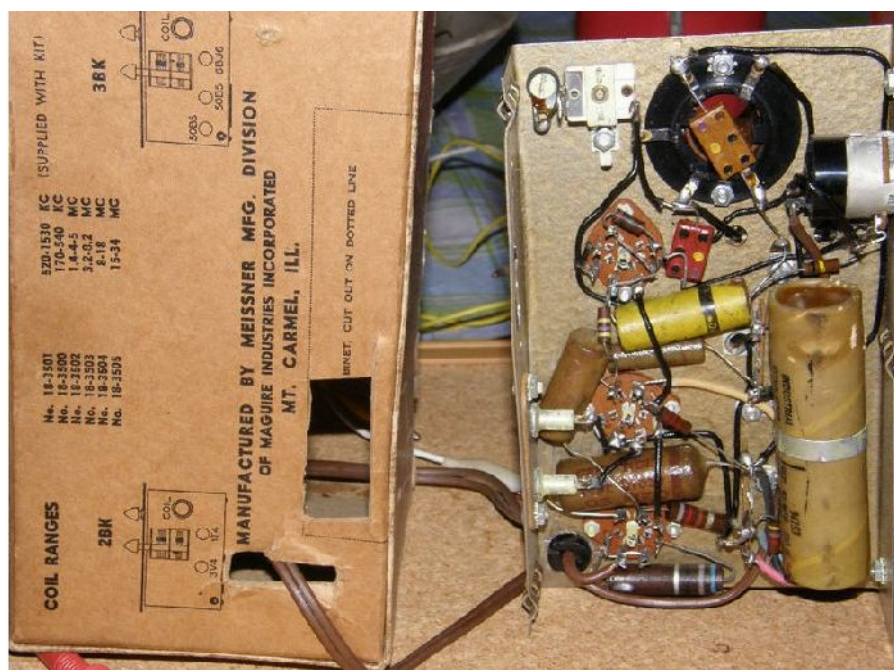
Abbott Instruments TR-4 rear view

I'd bet this inspired the famous Heathkit 'Lunchboxes' of the early 1950s for six and two meters – the Twoer and the Sixer! They were crystal control transmitters, but still super regen receivers. (they did make a model for CB and one for 10M- the Tener, too)

Whoa – one of N4CD's favorite 'collectibles' showed up on Ebay – a Meissner 3BK three tube **regenerative** receiver from the early 1950s. It uses plug in coils that are basically 'unobtainium'. Maybe Meissner figured it would have the market of selling additional coils (at great profit margins) to those buying it's radios. It's an unusual design in that the contacts for the coil form are on the outside of the coil, and it requires a special socket. The Ebay gods smiled at it wound up headed for N4CD's QTH. With one coil out of the six coil set.



Meissner 3BK receiver



Bottom side of Meissner 3BK receiver

There's not much to it as you can see. It uses two 50B5 tubes and a 6BJ6 regen detector. Two controls – a regeneration control, and the tuning knob.. You'll see there is an internal trimmer for the antenna at the top of the picture you can adjust with a screw driver with the case off – it's next to the black plastic coil socket Meissner used. You can bet that old electrolytic is 'toast' and the paper capacitor are probably shot, too. Not even a volume control! This might have been their 'competitor' to the Knight Kit Ocean Hopper receiver - although it had a

bandsread capacitor as well. It's, of course, an AC/DC design with a floating ground and 'hot' chassis, something you couldn't build today. Not only that, it had a cardboard 'cabinet'!

The Knight Ocean hopper did not have a vernier tuning dial and used a separate 'bandsreading' cap. It had no volume control either, but they placed the antenna 'trimmer' on the front panel.

Through the late 1930s, Meissner made a whole line of kits – with different tube layouts, many of them battery powered. I've seen a battery version of this (model 2BK) go by on Ebay 2 years ago – someone was willing to pay a lot of money for it – it used the 3v battery type tubes but looked the same from the front panel. They don't seem to have the following that the Knight Kits do, and that might be because Meissner (Maguire Industries) faded away in the 1950s or was bought out. For over 20 years, they had been a giant supplier of after market replacement parts such as RF and IF transformers for the radio and TV industry. Meissner made all sorts of test equipment for the radio and TV servicing business.

Meissner made TV sets from 1948 to 1950, too.

Meet Million Mile Joe

http://www.facebook.com/Honda?sk=app_227510203942577

A million miles in the 1990 Honda Accord!

The Train of Life

Some folks rid the train of life
Looking out the rear,
Watching the miles of life roll by,

and marking every year.
They sit in sad remembrance,
Of wasted days gone by,
And curse their life for what it was,
And hang their head and cry.
But I don't concern myself with that,
I took a different vent,
I look forward to what life holds,
And not what has been spent.
The enjoyment of living,
is not where we have been,
It's looking ever forward
To where we've yet to be.

Peak Oil Update

The ASPO (Association for Peak Oil) Conference was held in Washington DC in November. I didn't make it this year but have many times in the past.

Here's some feedback from some of the participants on the presentations.

The scenarios are not too rosy.

You probably remember \$10/bbl oil in the 1990s, back when gas was a buck something a gallon. Now, oil is over \$100 around the world. What are the factors contributing to current high prices?

It comes down to resource scarcity. The easy 'conventional' oil has 'peaked'. Oil exporting countries are using more of their production, having less to export. When gasoline is 25c to 75c a gallon, folks consume in record amounts. China and India are growing in energy usage by leaps and bounds (plus their populations continue to rise).

We are now into more expensive oil - offshore in deep water (thousands of feet) with expensive equipment and technology – in the Arctic regions, in Siberia with its lovely weather, and in the 'shales'.

You've got two scenarios usually discussed - both not too great. Look at it this way. With many folks paying \$50 to \$150 bucks to fill up their vehicle every week to get to and from work and run errands, that is money they don't have for other things in their life. It is money sucked out of the economy and sent overseas to mostly unfriendly governments (Arab Kingdoms, Sheikdoms, Venezuela, Russia) and unstable regimes like Nigeria and others with corrupt governments and leaders.

- a) We muddle through – high oil prices – triggering recessions and slow downs – which temporarily drop or plateau oil prices – with an immediate rise as growth tries to increase again. It's a cycle that goes from bad to not good and back and forth.
- b) We don't muddle through – things continue to stagnate, inflation increases through higher oil and other fuels prices, and the standard of living continues to decline for much of the world. You get instability as governments, not growing, cannot contend with the levels of debt they have incurred, expecting ever increasing growth to allow them to pay back the borrowed money. You enter a phase where everything declines, governments fail, countries splinter.

This is where we might be headed:

Here's the key results:

- *Peak oil is proceeding right on schedule with growing oil supply/demand tightness leading up to the Peak around 2015.*
- *Expect the USA to have to get along with between 20% and 50% less oil by 2020.*
- *Expect the price of oil to continue to limit economic activity, especially in the OECD (including USA) resulting in much slower or no economic growth in the OECD.*
- *Expect ordinary investment vehicles (stocks and bonds) to produce negligible to negative real returns with great volatility.*
- *The entire financial system requires exponential growth (to pay the interest on debt). As Peak Oil blocks the possibility of continued exponential growth at prior rates expect either a complete financial system collapse or significant money printing injected straight into big finance to simulate exponential growth."*

Here are some notes on the presentations:

1) Robert Hirsch

Dept of defense says peak 2012 and down 10 mbpd by 2015. Lots of other organizations are on-board.

Hirsch believe is that we stay in the plateau for 1 to 4 years and then the long decline.

Administration Mitigation:

- Rationing, Forced Carpooling, Forced Telecommuting, Misc.
- Physical Mitigation – energy efficiency (light duty vehicles), EOR, oil sands, Venezuela heavy oil, gas-to-liquids, coal-to-liquids. There's 100T\$ of capital that runs on liquid fuels.
- Best case on mitigation is 36 mbpd in 20 years.
- But world coal production is also peaking. Canadian oil sands limit is 6 mbpd.
- What about shale gas (not shale oil)? GTL and direct powering of fleet is neither quick nor inexpensive.
- Best case mitigation overcomes decline only after a decade. We are late starting.
- Extrapolates a 16% drop of world GDP in the decade after the decline starts.

Likely mass psychology (based on the previous two crisis, 73, 79):

- Panic
- Fuel shortages-
- Large price increases
- Stock market declines.
- Deepening recession
- Inflation
- Increasing unemployment.

Wind and solar won't help – this is a liquid fuels problem and they are intermittent.

Hirsch claims Peak Oil will trump climate change as soon as it kicks in.

Again, this could kick in 1 to 4 years. But the mass psychology could change at any moment.

2) Jeff Reuben – What does the post-peak world look like.

Jeff's definition of Peak is different from most in this room. His definition depends on what the cost of the energy is. What matters is how much oil we can afford to burn. Today oil prices are over \$100/bbl. At \$100/bbl oil sands are on route to 3 mbpd. At \$200 maybe 6 mbpd. When he thinks of Peak Oil he thinks of it as an economics situation: Price. We are at Jeff's kind of Peak. The impact prices are having on our ability to consume. The Peak is on what we can afford.

High prices trigger recession. The debt crisis is a response to an oil induced recession (all that stimulus). His take on the debt is a little bit different than the mainstream. It might as well be

denominated in barrels of oil, because you need oil to get the economic growth oil provides to grow our way out of the deficits.

The US hasn't even begun the draconian measures needed to unwind those deficits. The current oil shock is not transient. This is now a permanent state of triple digit oil prices. Static economies make people unhappy. Folks don't have jobs. Immediate solution will be closing borders. That's a major change. Suspects government will look very different in the future. Further stimulus is out of the question. There won't be another round of coordinated stimulus. The kind services governments can provide will be quite different. Government services will be delivered thru minimum wage subcontractor not the high-paid government sector. Trade will be increasingly regionalized. Distance costs money. US deficit is equivalent to Greece's. Greece depends on Germany, but the US depends on its arch-enemy, China. In the new world, China will not be financing the US treasury. China's inflation is 6%. The cause is food and fool. Moving the Yuan against the US dollar would help. A 40% increase in the Yuan would ramp up oil prices in the US. In a world of zero-sum growth. The more China grows, the less the OECD grows.

As far economics go, we've already crossed the Peak and we are already in a world of triple-digit oil. We are now in a zero-sum world.

Where are we going with price? Hard to say, the economy can't grow with triple-digit oil prices. Oil prices will fall with the next oil price induced recession.

3) Chris Martenson: Two Key Fact

This is a summary of his "Crash Course".

The three E's: Economy, Energy, Environment. Today just economy and energy.

Fact 1: The money-system is based on growth. Its all loaned into existence. We have an exponential money system. Money growth (M3) has an R^2 fit between an exponential functional. Up until 2008 when the largest deviation (flat M3) ever started.

If the world is going to stay "the same" we need to get back on track. Tomorrow's growth is the collateral for today's debt (Colin Campbell).

Fact 2: Energy is the master resource. Because of 1, we need energy consumption to continue growing exponentially.

But, oil discovery peaked in 1964.

EIA 2008 – Peak conventional (cheap easy oil) is in the past.

So, what will fund tomorrow's growth?

Intermediate Conclusion: Something that must grow (money system) is meeting something that can't grow (liquid fuels).

The economy is a complex system. Complex systems are inherently unpredictable.

So, Peak Oil will starve the economy. Complex systems when starved for energy simplify. That's going to happen to our economy.

Also, with no growth, what is a stock or bond worth? For 13 years the S&P 500 has had zero nominal growth.

Intermediate Conclusion: Energy will consume a growing proportion of disposable income.

Intermediate Conclusion: Food prices will mirror energy. Unrest will follow. E.g. Egypt became a net energy importer in 2010.

We've got to believe that the future will be very different from the past.

4) Jeffrey Brown:

Available Net Exports = Exports minus China and India.

Texas fell post-peak 3.7%/year. North sea 4.8%/year. Price increases did not help production.

There's been a gap of 12mbpd between 2005 actual production and the prior trend. We should be at 94 mbpd not current 84.

Net Export depends on both production and export. Exports go to hell if production peaks but internal consumption continues to grow (e.g. Mexico). Net export decline rates accelerate with time and are front loaded.

Exports have fallen 3 mbpd since 2005. 21 of 33 exporters had their export rate decline 2005-2010. Net exports are tracking the model from 2006 and are falling. The model predicted this decline as the trend was up before 2006.

Saudi Arabia the same thing for exports.

Now China and India imports are growing so available exports have gone to hell even faster. This can be expected to accelerate. Available net exports fell 2.8%/year from 2005 to 2010.

Now let's extrapolate. China consumption grew 70% from 2002 to 2010. India 40%. Top 33 exporters consumption grew 28%. Extrapolating this data sequence (flat production) but rising consumption net available exports drop 5.1% per year!!! That's a big deal. From 32mbpd to 21 mbpd in 2020.

With a 1% post-peak production rate it's worse (of course) with a 60% reduction in oil available to importers.

Brown's personal recommendations: Try to live on 50% less of current income. Localize –

minimize travel.

5) Dr. Minqi Li, University Of Utah.

We are entering another major structural crisis like in the 30s.

China is growing in GDP, energy consumption (more) 20% and CO2 emissions (more) 25%. Energy and CO2 bigger than use. China consumes 50% of world coal. Coal growth is accelerating and this will continue and overtake oil to become the world's largest source of energy.

It takes 11\$ of oil price increase to produce 1 mbpd increase in supply 2004-2011.

To get coal to liquids 1 mbpd its 200 million tonnes of coal or 2.7% of world coal production. 1.7% of world natural gas production.

If China keeps growth 8%/year and ROW 2.5% per year, 98 mbpd is needed, 8% of world GDP needed for oil 2020. 198\$/bbl. Oil This can't happen.

If China grows 5%, ROW 1%, oil stays under 90mbpd, oil spending 5% of GDP. Expect long term slow/no growth.

Coal and China – 260 billion tons ultimately recoverable (estimate). Could be higher with Mongolia. China is not nearing peak coal production. Mongolia this year is producing more coal than all of the USA. China Peak is more like 2030. China has very large hydro potential, but coal will dominate China's energy future until 2030 at least.

Predicts 5degC warming!!! That's like end of world scenario.

6) Richard Heinburg, author “The End Of Growth”

Inspired all his life by 1972 “Limits To Growth”

Discussing “Depletion, Disaster, Debt”.

The idea of economic growth came about via the industrial revolution (coal) and petroleum.

Debt came from economic growth with advertising to pull forward demand producing consumer credit. Automobile industry led this. The mortgages, credit cards, etc. “Tomorrow's growth is collateral”. All money is debt. The interest comes from economic growth.

1980s was a turning point: Globalization begins (labor is outsourced to Asia), wages stagnate, financialization of the economy. Debt has been growing faster than the economy since the 1980s. To a bank, debt is an asset. Total US debt stopped growing with the global financial crisis (2008).

High oil prices is a cap on economic growth for developed countries. The growth crisis drives the financial crisis and the political crisis.

Planetary limits are no longer theoretical.

Our economic future:

- persistent high unemployment
- declining household income and net worth.
- financial system instability.

Claims we are at a fundamental change of trend for economic situation.

Main advice. Build local resilience. The national political system can't get good things done. There's more possibility at the local level.

Resilience is usually at odds with economic efficiency (not energy efficiency).

Rapid economic growth is an artifact of fossil fuel use. Its end is a return to normal.

Politicians promising a return to the old normal will not be able to deliver.

More reading at: <http://aspo-usa.com/>

Likely in a few weeks they'll be some of the presentations put on line.

KB0BA Saves the Day

My radio club and I have been working on restoring radio gear aboard the retired Battleship USS North Carolina for the last 10 years. The ship has 2 transmitters that uses an 861 output tube. We have a tube in each transmitter but we have no spares. We have looked the world over for an 861 tube, without any luck.

Recently a gentleman in Peoria, IL notified the battleship that he has a 861 tube that he will donate to the ship. This tube is about 4 inches in diameter and 15 inches high and was produced in the late 30's and early 40's for the military. The problem was how to get the tube to the battleship. We didn't want to ship it for fear of it getting broken. We were not interested in the shipping company making it good, we wanted the tube.

I was going to the mini at Charleston, SC and started looking at routes that someone might take to Charleston that went close to Peoria. I contacted Bob, KA9JAC, and Ann to see if they were coming that way and they responded they had planned on going another way but to check with Lowell, KB0BA, and Sandra, N0XYL. I contacted Lowell and Sandra and they were coming through Peoria and would be happy to pick up the tube. The spirit of cooperation between county hunters extends to more than county hunting ! They brought the tube to the Charleston Mini and delivered it to me.

Jack WD4OIN

from the web site <http://ac4rc.org/battleship/battleship.html>

The Battleship USS North Carolina now has a new call NI4BK (vanity call with WD4OIN as trustee). The new call will only be used during special event operations from the battleship. The original call of the Battleship during her war years was NIBK.

Much of the original radio equipment on the ship is under renovations by members of the Azalea Coast Amateur Radio Club. Click on the links to find out more.

The club started a partnership with the battleship in 2000. We started restoring the TBM-4 Transmitter followed by the TDE Transmitter, Receivers, 1MC Intercom System and Telephone system. We are currently working on another TBM-4 Transmitter.

We also assist the battleship in their functions, hidden battleship tours ,and school tours focusing on radio education.

The ship provides us with a great operating location, allows us to use the ships equipment(transmitters and receivers) and provides us the opportunity to learn about early radio equipment.

In 2009 the club and the ship initiated a guest operator station aboard the battleship for use by out of town hams. Guest operators can contact either the ship or the club for more information.

Here's the poop on a 861 tube

861 Tetrode (Military VT-19)

Fil 11V @ 10A

max V 3500

max plate current 350 ma

max screen V 500

max grid current 75 ma

max plate dissipation 400 w

typical:

class c telegraph plate 3500v grid -250v screen 500v plate current 300ma

class c telephone plate 3000v grid -200v screen 200v plate current 200ma



The cap on the side is for the connection for the screen grid. This was an 'update' to the 831 triode of the same size. They didn't have extra pins, so they added a bump in the side of the tube for the screen grid! This is a BIG tube. Just the filament takes 110 watts! It can run a KW input, although the military usually ran it at lower power levels.

—

The TBM is capable of tuning over a frequency band from 2,000 to 18,100 kilocycles. The full power output is about 500 watts at low frequencies, gradually decreasing to 300 watts at 18,100 kilocycles. It can be run without the final amp at lower power levels.

Here's a YouTube video of similar setup on USS Massachusetts in operation!

62 Years Ago -

Published in the Congressional Record

Ode to the Welfare State

Father, must I go to work?
No, my lucky son.
We're living now on Easy Street.
On dough from Washington.

We've left it up to Uncle Sam
So don't get exercised.
Nobody has to give a damn
We've all been subsidized.

But if Sam treats us so well
And feeds us milk and honey,
Please, daddy, tell me what the hell
He's going to use for money!

Don't worry, bub, there's not a hitch
In this here noble plan –
He simple soaks the filthy rich
And helps the common man.

But father, won't there come a time
When they run out of cash
And we have left them not a dime
When things go to smash?

My faith in you is shrinking
My nosy little brat;

You do too much thinking
To be a democrat.

The entitlement mentality - Free food, free housing, free daycare, free cash, free education, free healthcare!

<http://www.youtube.com/watch?v=6O6oYenUSC0>

Ham Radio in the 21st Century

Doug Grant, K1DG -- EDN, November 3, 2011

Many of today's experienced engineers got their start in electronics through amateur, or "ham," radio. With the rise of personal communications and Internet connectivity in homes, many young engineers never needed ham radio as a way to explore electronics. They've missed the opportunity that this fascinating hobby presents.

The first wireless communicators were by definition all amateurs. Guglielmo Marconi himself, generally regarded as the inventor of radio, once famously remarked that he considered himself an amateur. In the early days of radio, commercial, government, and amateur stations shared the same spectrum, sending broadband spark-generated transmissions modulated by on/off keying using Morse code to convey messages. This practice resulted in a horrendous amount of interference among services until the government stepped in and assigned various services to specific bands.

Government and commercial stations were assigned the supposedly more useful, less-than-1500-kHz, long- and medium-wave spectrum, and the amateurs were banished to the less-than-200m wavelengths with frequencies higher than 1500 kHz. The experts of the day regarded these bands as worthless for long-distance communications.

The amateurs soon discovered that long-distance communications were actually easier at these frequencies. New allocations were then created to give government and commercial stations some of the "good" spectrum. However, a handful of slices of the spectrum were reserved for

the amateurs. In the late 1960s, amateurs laid claim to all of the apparently useless frequencies higher than 30 GHz. Since then, as technology has marched on, other services have discovered that these frequencies are useful; amateurs currently enjoy exclusive rights to the frequencies greater than 300 GHz.

The US amateur-licensing process no longer requires knowledge of Morse code for any class of license. This requirement has historically been a major impediment for many technically skilled individuals who were interested in ham radio but who could not or would not conquer Morse code. Ironically, the portions of the bands reserved for CW (continuous-wave) operation are busier than ever, as new licensees discover that narrow-band modes are more effective for weak-signal work than are wider-bandwidth modes, such as SSB (single-sideband) voice.

Many amateurs make contacts using voice modes, primarily SSB mode on HF and FM on VHF and UHF. The signal-processing capabilities of a soundcard-equipped PC that connects to an HF SSB or a VHF FM transceiver have driven the emergence of new modes. Even a modestly equipped PC has sufficient speed to generate and decode the FSK signals for conventional radio teletype. Experimenters have created modulation schemes and accompanying protocols, complete with forward-error correction, which enable direct keyboard-to-keyboard contacts even with low power and small antennas. The variety of FSK and PSK signals being used create unusual buzzing and chirping sounds when traveling to a speaker, and computers easily demodulate them and turn them into legible text. Some ingenious hams even use the PC's signal-processing capabilities to emulate the signals that World War II-vintage mechanical text-to-radio systems, such as Hellschreiber, generated.

Some hams also engage in transmission of full-motion video signals—usually on VHF or UHF bands, on which sufficient bandwidth is available. Others transmit still pictures on HF, using voice-bandwidth signals and a PC. Data networks have also evolved using various systems, including TCP/IP.

Most amateurs buy their equipment from stores. Years ago, the best-known brands were mostly US companies, such as EF Johnson and Heathkit and the now-defunct Collins, Hallicrafters, and Hammarlund. Today, the most popular brands are mostly Japanese companies, including Icom, Kenwood, Yaesu, and Alinco. A few US manufacturers, such as Elecraft and FlexRadio, have entered the market in the past decade and the first Chinese-made transceivers are beginning to appear, from manufacturers such as Wouxun.

The technology used in ham equipment has evolved significantly. Most high-performance HF/VHF transceivers now use digital-signal-processing technology for at least some of the modulation, demodulation, and filtering functions. A careful partitioning of both analog- and digital-signal processing achieves the best performance, and today's radios offer excellent sensitivity and 100-dB dynamic range, with digital-signal-processing-enabled selectivity. Although most radios still maintain the traditional format of a front panel with a large knob to control the frequency and lots of other buttons and knobs, some newer SDRs (software-defined

radios), such as those from FlexRadio, abandon this tradition in favor of keyboard and mouse operation; they have no front-panel controls

However, not all hams buy their equipment off the shelf. Some prefer to build their own equipment. Ham operators have always been enthusiastic tinkerers, often building their equipment from discarded pieces of consumer electronics they find in their neighborhoods. Many hams understand concepts such as intermodulation distortion and phase noise, for example, because they have heard the effects of these signal imperfections, and they understand what happens when a nominally linear power amplifier enters hard compression.

Home-brewed radios can range from extremely simple transmitters and receivers to true state-of-the-art SDR systems. At the low end, one creative ham disassembled a compact fluorescent light bulb and discovered a high-speed, high-voltage switching transistor and assorted capacitors and inductors. By adding a 3.579-MHz TV colorburst quartz crystal, which sits conveniently in the middle of the 80m amateur band, he was able to construct a 1.5W CW transmitter from the parts

Simple receivers are also easy to construct. Ham operator Charles Kitchen has developed a series of regenerative receivers that are easy to build and that work surprisingly well

The work of the High-Performance Software-Defined Radio Organization is at the cutting edge of radio design. This group has collaboratively developed a series of modules that use the latest high-performance components, including the RF amplifiers, mixers, ADCs, DACs, processors, and memory. For example, the Mercury receiver module enables direct sampling of the 0- to 65-MHz spectrum, using a 130M-sample/sec, 16-bit ADC and an FPGA to undertake digital downconversion. Open-source software performs all of the signal-processing and control functions, and the hardware also supports third-party software

An engineer interested in developing his own SDR radio can build or buy an RF front-end/quadrature downconverter and connect it to the audio input of a PC and buy or write appropriate software for the demodulation and detection functions. Connecting the baseband in-phase and quadrature outputs of the radio to the left and the right inputs of the PC completes all of the hardware work. Some hams have constructed SDR front ends in the form factors of USB memory sticks and draw their power from those sockets.

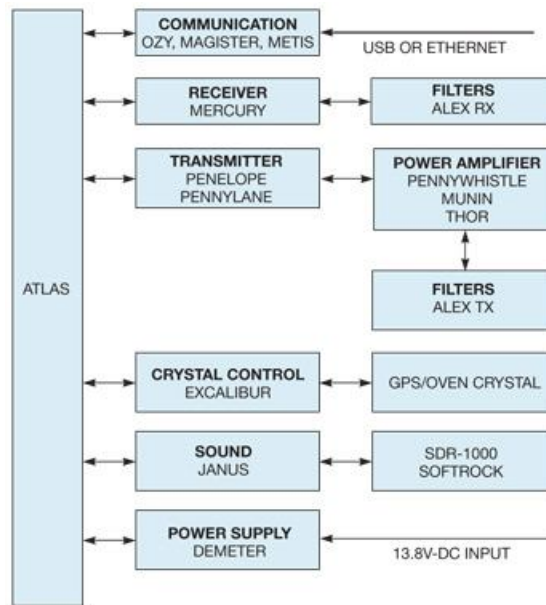


Figure 5 The OpenHPSDR provides a modular design for its open-source, collaborative software-defined radio.

Some segments of the ham-radio hobby allow you to impress your engineering friends, and maybe even your non-engineering friends. When you tell people you are into ham radio, they often ask, “How far can you reach with that?” The answer is complicated, and you may be able to give them some impressive answers. For nontechnical types, one answer I like to give is that, from my home in New England, my longest-distance contact for many years was Texas—the long way around. One morning about 20 years ago, I was operating on the 15m, 21-MHz band and had aimed my directional-beam antenna at Europe. A friend in Texas called in and said that he could hear me only when he pointed his antenna toward the Pacific. We tried various things and concluded that we were indeed talking to each other the long way around. HF propagation exhibits interesting behaviors at different times of day and season, and long-path contacts are relatively common.

Hams also experiment with other interesting and unusual terrestrial-propagation modes in the microwave region. In 2010, a group of French and Swiss amateurs took advantage of the evaporative duct—a horizontal layer in the lower atmosphere about 10 to 20m above the ocean’s surface in which radio signals are guided, or ducted, and in which they experience less attenuation than they otherwise would. The amateurs used this duct to establish two-way SSB voice contacts between Cape Verde and Portugal at frequencies of 5.7 and 10 GHz—a distance of 2700 km, or nearly 1700 miles. Transmitter power was 15 to 25W, and the antennas were small—approximately 1m-diameter dishes.

A few years ago, Nobel Prize-winning astrophysicist Joe Taylor, call sign K1JT, developed the WSJT (weak-signal Joe Taylor) suite of protocols and modulation schemes for various types of VHF/UHF communications. Under normal circumstances, VHF and UHF signals can have path

lengths of only a few tens or hundreds of miles long, depending on terrain, antenna gain, and power. WSJT changes that scenario.

One version of the protocol targets use in the RF-reflecting paths of ionized meteor trails, which last only a fraction of a second. It transmits a 30-sec-long sequence of four-tone FSK at a speed roughly equivalent to 100 words per minute, or 441 baud, in an effort to get enough bits over the short-lived path to enable an exchange of call signs and signal reports. Stations take turns transmitting and receiving, exchanging certain details to verify that each end of the path has successfully detected and decoded signals. Although the US military has for many years used meteor scatter, the mode generally requires huge antennas and high power to succeed. Taylor's system brings meteor-scatter communications to owners of relatively small stations.

Another WSJT mode is for earth-to-moon-to-earth, or “moon-bounce,” communications, which uses the moon as a passive, and not very efficient, reflector. Signals at 144 MHz bouncing off the moon return to Earth about 2.5 sec later and approximately 250 dB weaker than when they left (**Figure 7**). That figure is not an error; the path loss is 250 dB.

Hams have for decades been bouncing signals off the moon, but only those with full-power transmitters, very sensitive receivers, and huge antennas could accomplish it using the traditional CW or SSB voice modes. Assuming a transmitter power of 1000W, or 60 dBm, and antenna gain of 20 dBi at both the transmitter and the receiver, the received signal is -150 dBm. A high-performance receiver can detect this weak signal in a narrow bandwidth. Amateurs have occasionally used the well-known 1000-foot radio-astronomy-dish antenna at Arecibo, Puerto Rico, for moon-bounce experiments. In the amateur band at 432 MHz, the dish has approximately 60 dB of gain and enables two-way contacts with simple stations on both SSB and CW modes.

Taylor's WSJT moon-bounce system uses a nearly one-minute-long sequence of 65-tone FSK modulation, with a considerable amount of built-in coding and error correction. Fortunately, the coding and decoding are well within the processing capabilities of a modern PC, which can decode signals 24 to 28 dB below the noise in a 2.4-kHz bandwidth. Stations with simple 100W transmitters and antennas no bigger than TV antennas now routinely make contact with stations many thousands of miles away, as long as both are able to “see” the moon.

Radio amateurs have also used other satellites besides the moon for communication. Over the years, amateurs have designed, constructed, and launched more than 100 satellites, which usually carry one or more beacons; telemetry channels for various housekeeping functions and student-experiment payloads; and one or more transponders, which use one amateur band for the uplink and another for the downlink. ARISSat (Amateur Radio on the International Space Station Satellite)-1 was launched during a spacewalk by two cosmonauts. Many astronauts and cosmonauts have held amateur-radio licenses. The ARRL (American Radio Relay League) ARISS program frequently arranges demonstration contacts between astronauts aboard the ISS and school groups. The ARRL has been the national association for hams for almost 100 years.

It publishes a range of books on virtually every facet of the hobby, along with study guides and manuals.

Ham radio can add a new dimension to a hobby you may already pursue. Some hams combine orienteering with radio-direction finding in "fox hunts." The organizers hide a series of small radio transmitters in a designated area covering a few square miles, and the competitors must use a portable radio and directional antenna to locate each of the "foxes." The combination of technical skill and running ability makes for a competitive sport. Another activity combines mountain hiking with the ham-radio hobby. Hikers carry lightweight, battery-powered radios and portable antennas to take advantage of the excellent signal propagation possible from high elevations. Both operators who get on the air from many summits and those who contact them can win awards in this sport. In addition, many sailors get their ham licenses and install amateur equipment on their boats for recreation and as emergency backups if all other onboard radio systems fail.

For those who are active in their communities, amateur-radio groups often coordinate with local and regional public-safety agencies to provide emergency communications when all else fails. Although most wired- and wireless-communications systems rely on infrastructure that may not survive natural or manmade disasters, a ham operator needs only a radio, a battery, and a piece of wire to get on the air.

Source: http://www.edn.com/article/519742-Ham_radio_in_the_21st_century.php

The Hunt for Kay November

By Dan, KM9X

This is of course, the movie remake of the Hunt for Red October.

It was a dark and stormy night. (All good stories should start off right.) Frank, AA9JJ had just received his Master Platinum (AKA Master Plutonium). A murmer spread across the County Hunter land... " how far away from MP is Marilyn Kay???"

Well someone got a list, it was just 16!. Not the song " She was only sixteen, only sixteen..." but, really, just 16 measly counties away. Soon to be found it was actually 17, but... no song to

go with that anyway!

Word spread fast, 10 in Florida! And some others across the east. Turned out to be really seven others, seventeen total.

"And what to my bloodshot eyes did appear? Why it's a dirty old sled and three mangy deer!" NAHHH.. It was a shiny pickup and N4AAT! Yep, showed up in Florida and ran ALL 10 of N9QPQ's needs...

The remaining list of seven finally spread to some trouble makers that started figuring out who could go get what.

N2OCW was contacted for Jefferson, WV on 40m and he was going to be there that day. Phone call to FRANK,, sure, it was too early on the west coast, but.... Contact was made, down to 6

AR: Garland / IN: Knox, Ohio // MD: Calvert, Worcester // Va: Accomack

The crack needs-buster team of KM9X and KB9MGI found their way through brilliant sunshine and mid-harvested cornfields to a side of a hill on Fisse Hill RD, and OHIO county Indiana was on the air! Luckily, no FISSY HITS were heard and the propagation gods shined on the contact.. 5 to go.

Not to stop there, N5UZW was on a week long Mobile Diamond trip into Georgia and Alabama and said he would get Garland AR after he got home. KM9X and son, KB9GYF the spotter, went across the state to get KNOX, IN the same day, on Friday 11-11-11, and two more were picked off like a CH'er marksman shooting turkeys for Thanksgiving.

Three more to go..

Some figured the roaming nomad might fire up the diesel pick up and head north, and north he went, as CH'ers found out early Saturday morning Nov 12, Scottie was already in Virginia from his SC home at net time start up, 8am. Skirting around the dreaded Obama DC, he cut across to CALVERT, MD, thinking a good drink of the whiskey by that name would clear his head... BAM, down to 2!

Continuing on the trek to clean out the list , to a STATE/COUNTY line that would be next. Always a nightmare for net controllers to get straight the 10 times it must be said: Worcester MD / Accomack, VA was the WBOW!!!

OH YEAH, we can not even pronounce those two, we can spell'em for the WBOW award!!!

(can you get all that on the space provided on the car?)

So, the quest to finish N9QPQ for Master Platinum is history. Putting a cherry on top of a group effort to finalize the WBOW for someone that has done a lot for the county hunting world. (OK Frank has too!)

Thanks to all that made it happen...

The Hunt for Kay November has ended!

KY QSO Party

The mobiles were out running, and several dozen counties were up for grabs. I noted W4CDA and KY4CW out mobile on cw, and KY4DXA on SSB. Several folks had 25 cw and 30 SSB QSOs from out of state.

From the 3830 reflector:

K4Y multi op - Bracken KY

“This was the first time for us to operate from KY during the QSO Party from W8DDR's farm in Bracken county. Enjoyed the contest and look forward to next year”

W5MX fixed – KY

Unfortunately not as much in-state participation this year compared to the last few. Worked only a handful of KY stations. Spent a lot of time on 10 working dx for Q's. Thought I would be able to pick up more KY counties for mults but that just never materialized. Thanks to all for the Q's and see you all next year!
Best 73's Bryan W5MX

W3DYA (TX) - “I needed six counties before the contest... still do!”

Those Green Loans

When President-elect Obama came to Washington in late 2008, he was outspoken about the need for an economic stimulus to revive a struggling economy... After he was sworn in as president, he proclaimed that taxpayer money would assuredly not be doled out to political friends...

...But an examination of grants and guaranteed loans offered by just one stimulus program run by the Department of Energy, for alternative-energy projects, is stunning. The so-called 1705 Loan Guarantee Program and the 1603 Grant Program channeled billions of dollars to all sorts of energy companies...

...In the 1705 government-backed-loan program [alone], for example, **\$16.4 billion of the \$20.5 billion in loans granted as of Sept. 15 went to companies either run by or primarily owned by Obama financial backers—individuals who were bundlers, members of Obama’s National Finance Committee, or large donors to the Democratic Party.** The grant and guaranteed-loan recipients were early backers of Obama before he ran for president, people who continued to give to his campaigns and exclusively to the Democratic Party in the years leading up to 2008. Their political largesse is probably the best investment they ever made in alternative energy. It brought them returns many times over.

...The Government Accountability Office has been highly critical of the way guaranteed loans and grants were doled out by the Department of Energy, complaining that the process appears “arbitrary” and lacks transparency. In March 2011, for example, the GAO examined the first 18 loans that were approved and found that none were properly documented. It also noted that officials “did not always record the results of analysis” of these applications. A loan program for electric cars, for example, “lacks performance measures.” **No notes were kept during the review process, so it is difficult to determine how loan decisions were made.** The GAO further declared that the Department of Energy “had treated applicants inconsistently in the application review process, favoring some applicants and disadvantaging others.” The Department of Energy’s inspector general, Gregory Friedman, ... has **testified that contracts have been steered to “friends and family.”**

...**These programs might be the greatest—and most expensive—example of crony capitalism in American history.** Tens of billions of dollars went to firms controlled or owned by fundraisers, bundlers, and political allies, many of whom—surprise!—are now raising money for Obama again...

Aftershock, Revisited

Aftershock – by Wiedemer, Wiedemer and Spitzer

This is a great book. It's out in a second updated version. The three authors predicted the housing bubble years before it happened, and predicted the aftermath of that. Now, in an updated version of what you should be doing - the situation is a lot more dire. The government has no political will to spend less. The budget super committee is failing, and the result of that, rather than the draconian cuts it would trigger, will be for congress to simply change the rules, cut no spending, and continue the spending binge. The US borrows 4 out of every 10 dollars it spends. It will simply increase borrowing every year.

Remember, Greece went to heck with 140% of debt to GDP ratio. We, in the US, will be there at 140% of debt to GDP within five years at the current borrowing binge! There won't be anyone to bail us out! You can't keep borrowing 2 trillion a year without it piling up, but Obama seems to have no limits as to what he can borrow. Congress just rubber stamps it.

How long would your personal situation go on if you borrowed 40% of what you spent each year? Not long.

Each year, Uncle Sam prints trillions of dollars and the libs keep yelling for yet more trillions to be spent. (porkulus). Bernanke is running the printing presses 24 hours a day spitting out money, devaluing the dollar by 10-15% a year by doing so. He think she needs to keep interest rates low to prevent an even worse housing market. Instead, you are paying a 'hidden tax' of inflation – everything you buy keeps going up. The dollar is 'worth less'> You have noticed your food and gas prices are 'skyrocketing' right? Just wait. After 3 years of 100% inflation, you'll be paying \$30 a gallon for gas, and your food bill will be \$1000 a month. No kidding. Country after country, from Venezuela to Argentina have seen rampant inflation when they borrow and borrow and spend and spend. We're there. Congress never met a program it didn't want to fund with borrowed money.

The authors estimate the wheels will come off the car in 2013 or so. Their new book is 10 chapters, with a hidden chapter 11. You can read CH 11 in entirety totally on line here – and it does not paint a pretty picture. Can you say housing dropping by at least another 30%? Inflation of at least 15% per year and maybe five times that? Up to 50% unemployment? And entire gutting of the national budget as no one will loan us any more money, and the interest on the national debt takes up 30-40% of all federal spending? We're not that far away from it!

Here's an introductory video (which talks about the missing chapter 11)....

<http://www.moneynews.com/StreetTalk/aftershock-financial-wiedemer-economy/2011/08/17/id/407695>

and here is the missing chapter 11

The Missing Chapter 11

The Most Striking Change in a Post-Dollar-Bubble World: The U.S. Government Cannot Borrow More Money

When the dollar bubble collapses, the huge government debt bubble will fall, too. That means the falling value of the dollar will have caused enough foreign investors to become concerned enough about the value of their dollar-denominated investments that they will no longer be willing to buy U.S. government bonds at a reasonable price. This means the government will not be able to refinance its debt (just like a company that loses the faith of its creditors) and instead the government will have to resort to inflation, tax increases, and budget cuts to deal with the situation (see Chapter 3).

Like a family without their credit cards, the U.S. government will be forced to live within the constraints of its actual income, which at this point will be a rapidly declining tax base, much like what California is now facing, but far worse because the U.S. government became very comfortable receiving so much income from deficit financing. Inflation would normally be an additional tool for the government to raise money, but inflation can only be raised so far without destroying a modern industrial economy, such as that in the United States.

The amount of inflation the government can feasibly run was discussed in Chapter 3 (about 50 to 100 percent). That means the government will not be able to create any big stimulus packages or tax cuts or anything of the sort. It will have to cut, cut, cut spending so it can live on its income. Some may see this as a refreshing change = a government that lives within its means. But it will not feel very refreshing. Many things we take for granted, like large pensions, will have to be curtailed. We have gotten very comfortable with a government that always has money and never has to worry about running out; a government that never has to raise taxes to fund wars or stimulus packages; a government with unlimited credit. That's over.

Now, imagine a world of half of colleges going bankrupt. States unable to afford many basic services, and no 'frills' like college. All federal subsidies gone. Tax rates up to 50% on middle class incomes. It's not pretty. A stock market down 90%. Entire life savings wiped out, and bonds and life insurance – bust.

chapter 11 here:

Obama Protects a Job – His

If Americans needed any further proof that the Obama Administration is one of the most political on record, or that, for all the recent demagoguing, it really cares only about re-election, not about job creation, then you need look no further than its cynical Keystone XL oil pipeline decision last week.

Over the last several months, radical environmentalists along with Hollywood celebrity activists descended on the White House in protest, urging President Barack Obama to block the construction of the \$7 billion pipeline that would bring in more than 700,000 barrels of oil per day from Alberta, Canada, to the Texas Gulf coast. Last week, they got their wish.

The Obama Administration on Thursday announced that it would delay a decision on the pipeline until after the 2012 election. In siding with his leftist environmentalist, big Hollywood base, President Obama's ambition is nakedly apparent, as is his total disregard for the 14 million unemployed Americans sitting on the sidelines, waiting for Washington to get out of the way so they can get back to work. And it also shows that for him, politics is more important than achieving true energy independence for the United States.

And here's why: The Keystone pipeline would have done what the President's hundreds of billions of dollars in stimulus spending failed to do. It would have created thousands of jobs (tens of thousands, by some predictions), while generating \$5.2 billion in property tax revenue for Montana, South Dakota, Kansas, Oklahoma, Nebraska, and Texas. And it would have done it all with private dollars--not taxpayer dollars.

The kicker is that despite all the hoopla from the enviro-celebrity protests, this pipeline should have been anything but controversial, even by the Obama Administration's own findings. Heritage's Nicolas Loris explains:

Radical environmentalists act as if this is the first oil pipeline being built in the United States. We have 50,000 miles of oil pipeline in this country that have provided massive economic benefits with minimal environmental harm.

In short, building the Keystone XL pipeline is nothing new, and it's one of the most

environmentally sensible ways to transport oil. Even the Obama Administration determined it to be safe when the State Department's recent Environmental Impact Statement found that the pipeline would pose few environmental risks.

Another important point is that even if the Keystone pipeline isn't constructed in the United States, the resource will still be tapped, and it's going to head elsewhere. Heritage's David Kreutzer explains that the development of Canada's oil sands will be slowed (thereby increasing its cost), and it will be diverted to non-U.S. consumers, meaning that the Canadian oil will be shipped across thousands of miles of ocean to Chinese refineries. Kreutzer's admonition to the Obama Administration?

So, block the XL pipeline if you think the environment will be better served by shipping Canadian oil an extra 6,000 miles across the Pacific in oil-consuming super tankers and then refining it in less-regulated Chinese refineries. In addition, be aware that replacing the Canadian oil means the U.S. also must import more oil by tankers, which are less efficient than pipelines.

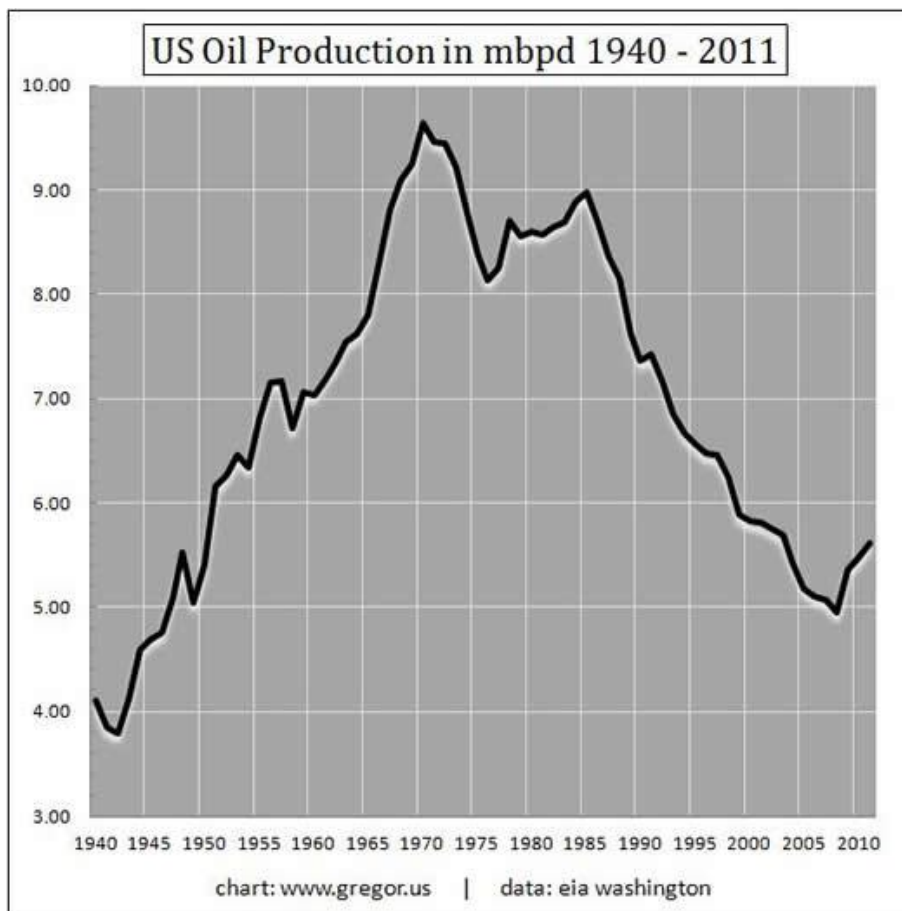
The facts, though, don't matter to environmentalist activists. They don't matter to certain celebrities, and now they apparently don't matter to the Obama Administration, either. Evidently, neither do jobs or energy independence. Following the President's decision, actor Robert Redford applauded Obama and said, "This is American democracy at its best: a president who listens to the voice of the people and shows the courage to do what's right for the country." No, Mr. Redford, you're wrong. When the President puts his job over those of tens of thousands Americans, that is politics and a presidency at its worst.

Source: <http://investorvillage.com/smbd.asp?mb=4288&mn=82218&pt=msg&mid=11156052>

The Oil Illusion – American Style

US production of crude oil peaked in 1970 at 9.637 mbpd (million barrels per day) and has been in a downtrend for 40 years. Recently, however, there's been a tremendous amount of excitement at the prospect of a "new era" in domestic oil production. The narratives currently being offered come in the following three forms: 1) the US has more oil than Saudi Arabia; 2) the US need only to remove regulatory barriers to significantly increase production; and 3) the US can once again become self-sufficient in oil production, dropping all imported oil to zero.

Let's first take a look at over 70 years of US oil production.



The US is currently enjoying its second stabilization phase since the peak in 1970. (Daily oil production has rebounded from a deep hole in 2008, from below 5 mbpd to above 5.5 mbpd). The first stabilization period lasted for more than 7 years, from 1977 to 1985. While it did not reverse the overall decline trend, which had resumed by 1990, this was certainly good news, just as our current production increases are good news. But the production history laid out graphically here is instructive and gives a clear warning: It would be unwise to herald the recent uptick in domestic production with a "new era" headline. Deepwater drilling, Gulf of Mexico, and Alaska were all "new era" events in their day as well. Or so they seemed.

Now, three respectable publications have recently cast the advent of new oil extraction in America as a kind of miracle. And indeed, technologically, the refinement of hydraulic fracturing techniques -- first used to extract natural gas, and now used to extract oil -- is miraculous. But a technique such as this, although replicable and repeatable, will not change the fact that newer, unconventional resources are developed and produce oil at a much slower rate. One year after the Black Giant of East Texas was discovered in the early 1930s, it was producing just 1 mbpd. The US no longer has resources such as this to exploit. The history of US oil production over the past 40 years should make this clear.

However, this did not stop the *Telegraph* of London from making triumphant assertions in their October 23 piece:

World power swings back to America

The American phoenix is slowly rising again. Within five years or so, the US will be well on its way to self-sufficiency in fuel and energy.

The US was the single largest contributor to global oil supply growth last year, with a net 395,000 barrels per day (b/d)," said Francisco Blanch from Bank of America, comparing the Dakota fields to a new North Sea. Total US shale output is "set to expand dramatically" as fresh sources come on stream, possibly reaching 5.5m b/d by mid-decade. This is a tenfold rise since 2009. The US already meets 72pc of its own oil needs, up from around 50pc a decade ago. "The implications of this shift are very large for geopolitics, energy security, historical military alliances and economic activity.

The claims made here (or should I say the conjectures here), are completely over-reaching -- but worse, the data is *completely wrong*. This matters because the article was widely distributed and sustained a very popular position for several days on Twitter and in other media outlets. I have written extensively on the problematic nature of energy data that's produced by the Energy Information Administration (EIA) in Washington and International Energy Agency (IEA) in Paris. So it's not really surprising that the public, the average reader, cannot fact-check these numbers easily.

In [Secrecy by Complexity: Obfuscation in Energy Data and the Primacy of Crude Oil](#), I explained how difficult it can be -- even for journalists -- to obtain a time series of commodity production and flows that is continuous, let alone understandable. For example, if one includes biofuels (which, of course, are not oil in any sense and do not contain the dense btu content of oil), perhaps one could claim that 2010 oil production in the US outpaced the rest of the world. But according to the EIA in Washington, 2010 saw *China* make the largest new contribution to world oil supplies at 277 kbpd (thousand barrels per day), followed by Russia at 199 kbpd, and then Canada at 153 kbpd. The United States? US oil production grew by an average 114 kbpd.

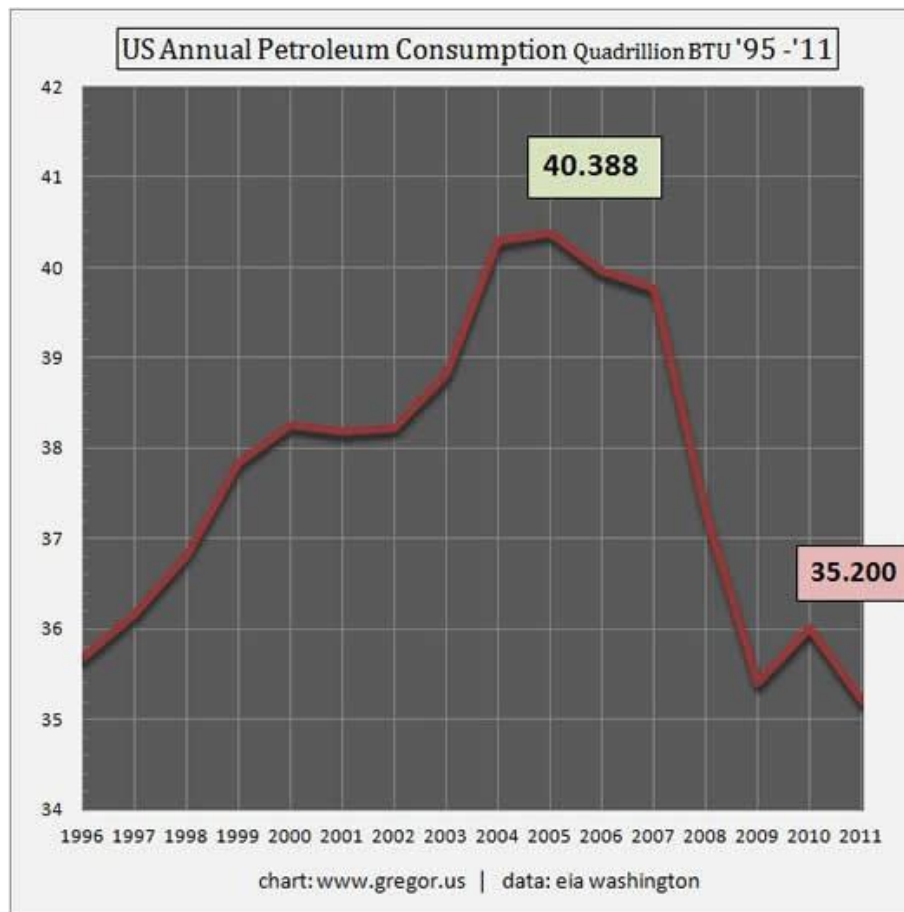
So in a world of global crude oil production currently running around 74 mbpd, we are asked to believe a new era has dawned for the United States on the back of an additional 114 kbpd? That would be funny, if it were not so ridiculous. Let's also include the 2011 additions to US oil production, at 141 kbpd. Are you feeling excited yet? These are the volumes that will allow the US to re-conquer the world with new oil production, and wean itself off global oil imports? The *New York Times* is quite enthused about these "major developments," as evidenced by this October piece:

New Technologies Redraw the World's Energy Picture

This striking shift in energy started in the 1990s with the first deepwater wells in the Gulf of Mexico and Brazil, but it has taken off in the last decade as a result of declining conventional fields, climbing energy prices and swift technological change. The United States may now have the means to reduce its half century of dependence on the Middle East.

Sigh. The *New York Times* has been selling that dream for several years now. Indeed, if you are old enough to have followed the presidential election cycle since the 1970's, you'll know that "energy independence" has been a standard, vague promise trotted out since the Carter Administration.

But let's say the US did indeed want to become less dependent on foreign oil. How would the country achieve such a shift, if not through a huge increase in production? After all, the recent "rise" or stability in US crude oil production is made partially on the back of a steeper four-year production decline that carried into 2008, when the rate fell to below 5 mbpd. So far in 2011, US production of crude oil just about matches the rate last seen in 2003-2004, around 5.5 mbpd. Despite the hype, the supply side of this equation has not changed enough. Could we do something about the demand side?



So, now you know. The longest and deepest recession (actually a financial crisis and a depression) in the post-war period reduced oil consumption by 12.8%. The “miracle,” if you can call it that, of US oil independence lies not in the illusion that 5.5 mbpd of oil production can be lifted to wipe out 11.5 mbpd of oil imports. Instead, it lies in a further de-industrialization of the US economy, a huge reduction in miles driven on the nation’s roads and highways, and no doubt some energy efficiency.

Perhaps some of these are good things. Even very good things. But they are not *unequivocally* good things. To the extent that portions of the US economy that can shift to the power grid have done so in the past three years, for example, much of that new grid demand has been met by coal. But more broadly, it is not so much that the US is wisely and strategically conducting energy transition as a matter of policy. No, a whole tranche of the US economy has been literally kicked off oil, mainly due to the financial crisis and high unemployment, but also partly due to the inelasticity of demand in emerging markets. I would remind readers that 100% of the new demand for global oil since 2005, mostly coming from the non-OECD, has not been met by new supply. Instead, in a world of flat oil production, the resources for the developing world have come solely from a reduction of demand in the developed nations. Global oil supply is now a zero-sum game. Let’s stop litigating this fact.

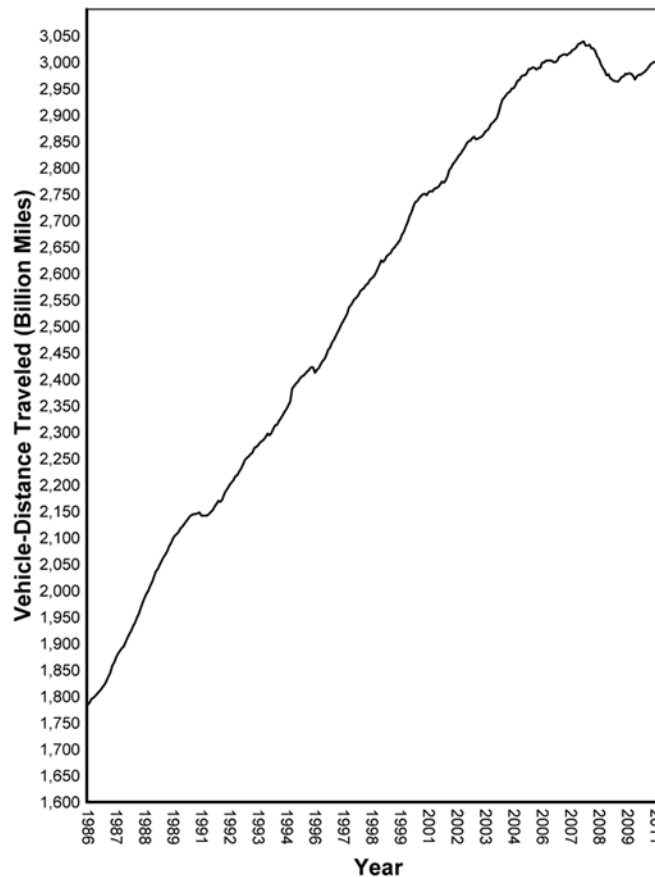
Of course, no tour through the world of badly mangled energy data or energy optimism would be complete without noting the opinion of Dan Yergin. Interestingly, Yergin's research group CERA has produced one of the best indexes of rampant [cost inflation in the global oil and gas industry](#) over the past decade. This is a key point that often eludes even the educated reader not familiar with the complexities of resource economics, and which was a ghosted irony in the *New York Times* article cited previously: The unconventional resources on which we now depend are complex and costly. Most important of all, they are slow. The tar sands are slow. Ultra-deepwater off the coast of Brazil is slow. However, this does not stop Mr. Yergin, who has been given free range once again to make vague, grand forecasts about future supply. In an October 31 piece in the *Financial Times*, he is quoted:

Pendulum swings on American oil independence

“Over the past couple of years, there has been a great U-turn in US oil supply,” says Daniel Yergin of IHS Cera, the research group. “Until recently, the question was whether oil imports would flatten out. Now we are seeing a major rebalancing of supplies.”

It no longer amazes me to hear Yergin make such claims. U-Turn in US oil supply? A major rebalancing? Yeah, sure; whatever. This pabulum is, of course, not taken seriously by energy investors as a whole, and certainly not by some of the more notable hedge fund managers, who took it upon themselves to get out in front of oil depletion early last decade. Mr. Yergin is useful to a political complex that wishes to avoid the career risk of actually having to do something about our increasingly uneconomic transportation systems and the developed world's dependence on oil. This is as true here in the States as it is in Europe. Indeed, why take the political risk of telling Americans they should choose to transition away from automobiles, when price will start to do some of that work regardless?

Department of Transportation: VMT - Vehicle Miles Travelled, 12 Month Moving Average on All Highways, (in Billion Miles):



Continuing with our theme, the *Telegraph* of London was completely wrong when it claimed that the US now meets 72% of its own oil needs, up from 50% a decade ago. Worrying to the cause of mathematical accuracy in journalism, that 72% figure nearly describes the amount of crude oil the US must **import** -- which is currently running at 68% of US consumption. Moreover, given the peak and decline in VMT (vehicle miles driven), we once again confront the myth that the US economy is recovering and has new oil supply to do so. This is a nasty combination of normalcy bias, which plugs in to the wish for resurrection and the plain old fallacy of composition. A very small amount of new oil production has been blown up beyond all scale and proportion. To the Arthur Miller quote in the header of this essay, the question is:

Why has the media presented this illusion now, to the American audience?

We need to examine even more closely, however, the actual prospects for lifting US oil production, were we to imagine a kind of War on Oil Depletion in the United States. (No, we're never going to extract the kerogen deposits of the Green River Formation, despite the investment-opportunity (!!)) spam in your email). Environmentalists probably believe for example, especially in the wake of their victory this week on the XL Pipeline, that the US is unlikely to ever adopt a full-on, *drill, drill, drill* policy for oil. I think that's a mistake, and I would point to a country like Australia, which, despite a new tax on carbon, has increasingly become a single, vast territory of resource extraction.

Unfortunately, our oil transition effort has only just begun. It's still taking place only in very minor fashion, at the margin. The balance of this decade must be tackled first, and it will be felt as an ongoing battle between oil prices bumping up against a ceiling as economies repeatedly fail to recover.

Source: <http://investorvillage.com/smbd.asp?mb=4288&mn=82246&pt=msg&mid=11157767>

Another Greenie Government backed Failure

Five years ago, metro Detroit's Energy Conversion Devices and its big bet on solar looked like a sure thing: Its product was revolutionary and it was cheaper than that of competitors. After years of losses, the company showed it could post a fat profit.

Politicians took notice: Then-Gov. Jennifer Granholm got the company's United Solar Ovonic subsidiary to open in Greenville. She promised \$37 million in incentives to create more than 500 jobs in a west Michigan town devastated when appliance maker Electrolux took its jobs to Mexico.

Government investments, commitments and congressional earmarks totaled more than \$170 million for the company. The hope, if not the promise, was that ECD would create more than 1,000 new jobs in Michigan as green technology took hold.

But ECD and United Solar are dying. Stock worth nearly \$80 a share three years ago was trading for less than 40 cents a share this week. A Battle Creek plant -- never opened -- is for sale. Hundreds of employees already have been laid off, and this week the company said it will let go 500 more and furlough 400 as it suspends its operations.

Unlike rival Solyndra, which closed this year, there have been no claims of wrongdoing, but it's clear a very public bet placed on ECD hasn't paid off.

"It sounded like a wonderful opportunity and then they turned around and, 'Whoops, we're sorry,' " said Julie Blundy, 49, of Greenville

Solar feeds off incentives. Government programs worldwide help offset the cost of emerging -- and expensive -- technology by setting rates that let building and plant owners sell back the power their roof panels generate. Tax breaks and subsidies help fund research, development and manufacturing.

ECD and United Solar got a share of that government help -- standing to receive or outright getting more than \$170 million in federal, state and local aid.

No one has kept track of how much the company has received:

Source: <http://www.freep.com/apps/pbcs.dll/article?AID=2011111110406>

Awards

Second Time #409	Mark, KM6HB	November 14, 2011
Second Time #410	Bob, N4XML	November 14, 2011
USA-CW II #27	KW4V, Les	November 2, 2011
Fifth Time #104	N9QPQ, Kay	October 17, 2011
Sixth Time #41	AA9JJ, Frank	October 17, 2011
Sixth Time #42	N8CIJ, Dick	October 26, 2011
Bingo II #84	Phil, VE1WT	October 28, 2011
Bingo III #19	N9QPQ, Kay	October 17, 2011
USAPA-K #25	Tom, K7REL	November 1, 2011
Masters Gold #50	Tony, WA9DLB	November 7, 2011
Master Platinum #17	AA9JJ, Frank	October 17, 2011
Master Platinum #18	N9QPQ, Kay	November 12, 2011

Upcoming Events for County Hunters

December has no state QSO parties scheduled.

IN the remainder of November, you have weekends of ARRL Sweepstakes (makes a mess out of the standard bands but not WARC).

However, you have other events such as Straight Key Night – Dec 31, and the ARRL Ten Meter Contest to have fun with. Also the 160M contest for those band counties and maybe, who knows, even a needed county?

See all the scheduled events here at the ARRL Contest Corral

<http://www.arrl.org/files/file/Contest%20Corral/2011-12.pdf>

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N4CD is off for a trip up north, so this issue is 'early'. Hope you didn't get overdosed on Peak Oil this month – it was the ASPO Convention month with lots of good info for you to digest. Oil is sitting close to \$100/bbl, and gas is over \$3 here, and likely \$4 in CA and NY state.

Have a good turkey day.