County Hunter News

December 1, 2010
Volume 6, 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.

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

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

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

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

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

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

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

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

De N4CD (email: telegraphy@verizon.net)

Mobile Activity in November

Scottie, N4AAT, took a trip to Northeast GA running county lines. That let him run on both 40 and 20M SSB, and 40/30/20 CW. It took a while to get through all the bands. He's good for the new Mobile Diamond Award. A week later, he headed back to GA again for more counties.

Jimmy, K4YFH, was back in NC putting out a few. He finally made it home after months on the road putting out the counties.

Jim, N8HAM sent me an email. I overlooked his trips in October accidentally.

"The end of Sept and into Oct I ran about 50 Pa counties, 1 MD and 1 WV in addition to Ohio and Michigan getting there and back. This was a 2000 mile, 5 day trip with all put out, or at least attempts on 20 and 40. In Mid October there was a trip across Ontario into Northern NY, followed by running all of Vermont and back through mid/south NY for a total of 18 NY and 12 Vt counties. This was a 2000 mile and 9 day trip. Again all were put on 20 and 40."

Joe, N5UZW, headed over to MS and gave out many good for the Mobile Diamond Award. Gene, K5GE was on the next day giving out counties. Joe made another two day trip up to MO and north AR putting out MD counties.

Joyce, KD8HB, and George, KD8HA, had another adventure:

"Another what-a-day happened. Brakes went out on car just under a hundred miles from home.

We made the parking lot of a community college, called AAA and about 6 hours later we were home safe and sound. I won't go into the in-between hours, but the people at the college were great. We were warm! I had good runs in all the counties I ran. I am sorry I was not able to finish the run in Brown Co. and the rest of the trip. We are home, and to think what could have happened . . . it could have been worse. “

Randy, AA8R, was out on a trip running them on cw (and SSB)

W3DY, a new county hunter, was putting them out in PA

Kerry, W4SIG, made a nice trip up to KY putting out dozens. He ran late, till after 10pm with a big signal and big crowd on 80M. He stops to run since the Ford E-350 has too much noise to do it on the run.

Kerry, W4SIG – on his western trip
Caribou County, ID
(Last County WBOW mobile to mobile for K5GE)

Bill, K2HVN made it home after two months on the road in the north central part of the country. He noted on K3IMC forum:

“6,213 miles but last year over 11,000. 193 counties run with 89 new for me. Forgot to run Conway and Saline- AR. If anyone worked me in these two let me know as I can't find any on

my tapes.”

Jim, ND9M, headed back to FL after many weeks on the road.

Barry, N0KV, and Pat, N0DXE were out mobile in CO.

Bob, KA9JAC and Ann, KB9YVT, were out running counties in WI.

Jerry, W0GXQ, took a trip to ND and ran it on cw and SSB

Joyce, N9STL, headed from IL to FL for the winter, running the entire way putting them out for Mobile Diamond on 40 and 20M SSB. Lots of activity on 7188/7185 and 14.323 and 14.339 off net on 20M.

Don, N5XG, took a trip out to west TX.

Ray, AB4YZ was out and about in VA

Phil, AB7RW, was out running counties in WA

Karl, K4YT was spotted out in WV.

Jim, N9JF, was off many weeks running counties here and there on business trips.

K0MAF spotted on SSB in many counties in KS

K8YJ spotted in many places along the east coast.

W8RCW ran a lot of counties his month.

WA1IEE spotted on cw in ME on several days in multiple counties.

Dick, NG9L was all over WI on SSB.

Jim, K0ARS was noted on CW.

Ron, KB6UF, put out a few giving out Mobile Diamond counties.

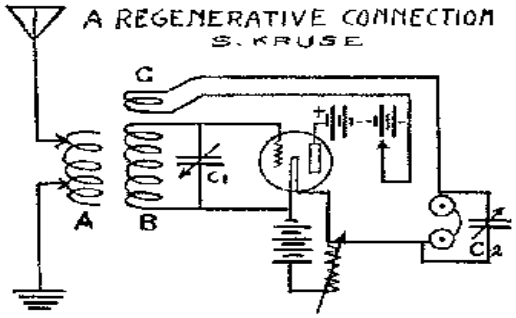
W0EAR was spotted in counties in WI

Steve, AK8A, was running counties in MI.

Regen follow up

We received lots of nice comments on the extensive coverage of the era of regens, from the earliest to the current time describing the latest kits and technology.

I've dug a bit more digging. If you want to go back to 1917, check out A Regenerative Audion Connection by S. Kruse in the September 1917 issue of QST, available to ARRL Members in the QST Archives! QST only started publication in late 1916, so this is one of the earliest issues.



A prior article, in May QST 1916, titled: The Audion as a Detector of Undamped Waves, shows you how to build your own set – the McKnight 'Hook up'. If you are curious, check it out.

September 1916 has a two page article with a regen detector and audion audio stage – Applications of the Audion, by Paul Godley. That's as far back as I can research using the QST Archive Feature – nifty and free for ARRL members.

Plug in Coils

On the Road with N4CD I

It was a nice weekend, and the N4CD mobile hadn't been out county hunting for a while. The weather was going to be nice with highs in the 70s and 80s, so why not run some counties? The days were getting shorter with late sunrise and early sunset as we head toward winter solstice. Radio conditions were decent with the flux above 80 lately so there should be some propagation on higher bands.

The Texas QSO Party was just held, so I figured I'd head to Oklahoma. Few needed TX counties other than for Mobile Diamond, and only those with MP could count those. Of course, if anyone needed stars, MP, MG, Bingo contacts, that would work, but OKLA looked better.

The QSO Party in OK was more than half a year ago, so folks would likely need some of those counties again for various awards. It was all new territory as far as Mobile Diamond transmit counties too. Maybe 200 MD counties have been run so far, but of course, you had to be in the right place and the right time and with good conditions to snag most of them.

I loaded up the car after packing the suitcase for a 2 day overnight trip. It was up to OK quickly on the interstate, then heading west zigging and zagging along the south border on mostly 2 lane roads I ran the few counties I had skipped going to the hamfest two weeks before.

I stopped to run on SSB most of the time and hit a bunch of county lines. On Saturday, the best bands were 20 and 40, and at times 30M. Not much happened on 17M the first day. The band of MP holders – including N4AAT, N9STL, N5UZW, N8KIE, WQ7A, K5GE - were around to help give me MD credit. Likely a few others are getting close to finishing up, too, which will make it a bit easier.

Kyle, WA4PGM, was running in VA on cw. Jim, N9JF, was on his way home running on SSB and CW. Bill, K2HVN was in FL.

[For the new award, to get transmit credit for the county, the mobile, who first has to get MP, has to work at least 3 stations on each of 2 different bands, plus work a Master Platinum holder. There are now 12 MP holders with 3 inactive at the moment. Some days it works. I'm sure they'll be days with none of the MP holders around, too.]

There was an CQ Worldwide SSB DX contest going on which made a real mess of 40M the entire weekend. I listened on 20M and did not detect any SSB CH net running there through the QRM. CQ WW is the most active contest in the world. Joe, N5UZW was doing NC

duties on Saturday and Ron, N5MLP was around on Sundays. Of course, folks jump in and help on 40M all the time to help out the mobiles and for relays.

Things went well. The roads are good in OKLA. By evening I had turned the corner at Roger Mills and headed back east, stopping in Canadian County at a Super 8 in El Reno just off the Interstate 40. (The Motel 6 was full up with some sort of hog show going on in town.) I stopped at sundown. Dinner was at a China Buffet - good. The bands start to shut down, and with the World Series coming on shortly, no sense putting on miles. I watched a few hours of TV, then hit the hay at 10PM. Super 8 had breakfast, so at 6:30 I was there enjoying it. Then it was on the road by 7:15 headed to the next county line before sunrise.

I was headed east into the rising sun – a bit of low clouds made it OK to drive and the sun is now down 'further south' so while you drive east, it's off to the right a bit. No problem. You couldn't ask for a better day for county hunting. (unless you were only a SSB operator only with a 20M antenna – hi hi)

On Sunday, I checked the map and figured I could loop around Oklahoma City (and county) and then head back home. I started in Kingfisher, always needed by someone, then head two counties east and then dropped south running pairs to get home. The DX SSB contest was still going on, and it was a fight to pull out relays on 40M SSB. On Saturday, 17m perked up nicely. OK2PAY made it once or twice on 17M, along with about 10 other regulars from AB7RW, K4XI, NT2A, K1TKL, WB2ABD to K7TM, WD6CKT, KC3X, N4AAT, K8QWY. 20M was good with many Europeans in the log – G3WFP, DL3GA, DL6KVA, OK2EC, OK2PAY, DL8MLD, OE5KE, 9A2WJ/ K7TM is retired now, so he's around to chase counties much of the time.

On 40M CW, W3DYA was always there along with N4RS and frequently KA0SHC. 30M was good at certain times during the day with 599 signals, and not so great much of the day too. It's a weird band.

I ran many county lines heading south, then about 3pm just headed back toward home running the last two in TX again as I zipped on down the interstate. After unloading the car, and relaxing for a few minutes, I zipped over to Cici's pizza – it was Sunday night.

Stats: 830 miles – about 30.5 mpg overall including many stops on county lines with the engine running -– 30 'new' MD counties. At least one LC for an OK county on the way. That's now 70 MD counties transmitted, so 430 to go to reach the magic 500 number! Big trip the end of the month so hopefully that will add another big bunch.

The logging for MD is a pain – you need to enter a lot of info for tracking. 3 contacts on each of 2 bands (6 entries) and a Master Platinum holder(7), the date for each band(8,9) and frequency,(10,11) etc. For 30 counties, that's probably a few thousand keystrokes. Whew!

Well, it gets easier after the first 500 – then you can stop logging transmit counties! I'm tracking transmit counties in a separate XCEL type spreadsheet. I track MD counties in a N4UJK Magellan Map Book – aka Coloring Book. If I work a MP holder in the county, I put a dot in the county. If I work a MP holder from the county, but don't get transmit credit by not having enough contacts/bands, I put in a small circle. If I get transmit credit, I color it in in red. It's going to be years (typically 5+ years for someone to earn a 'new' award) before anyone closes in, but I'm aiming to get those transmit counties out of the way.

SuperComputer News

October 2010

A Chinese scientific research center has built the fastest supercomputer ever made, replacing the United States as maker of the swiftest machine, and giving China bragging rights as a technology superpower.

The computer, known as Tianhe-1A, has 1.4 times the horsepower of the current top computer, which is at a national laboratory in Tennessee, as measured by the standard test used to gauge how well the systems handle mathematical calculations, said Jack Dongarra, a University of Tennessee computer scientist who maintains the official supercomputer rankings.

t Nvidia says the new system in Tianjin—which is being formally announced Thursday—was able to reach 2.5 petaflops. That is a measure of calculating speed ordinarily translated into a thousand trillion operations per second. It is more than 40% higher than the mark set last June by a system called Jaguar at Oak Ridge National Laboratory that stood at No. 1 on a twice-yearly ranking of the 500 fastest supercomputers.

The race to build the fastest supercomputer has become a source of national pride as these machines are valued for their ability to solve problems critical to national interests in areas like defense, energy, finance and science. Supercomputing technology also finds its way into mainstream business; oil and gas companies use it to find reservoirs and Wall Street traders use it for superquick automated trades.

Tianhe-1A stands as the culmination of billions of dollars in investment and scientific development, as China has gone from a computing afterthought to a world technology superpower.

“What is scary about this is that the U.S. dominance in high-performance computing is at risk,” said Wu-chun Feng, a supercomputing expert and professor at Virginia Polytechnic Institute and State University.

http://www.cnbc.com/id/39886462

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May 2010

Intel Corp. announced plans for a new class of chips aimed at the supercomputer market, while a big machine in China neared the top spot of the world's fastest systems. The developments, disclosed at a technical conference in Germany, are the latest signs of evolution in technology aimed at addressing the most complex scientific computing problems. Supercomputers, as the largest systems are called, are widely deployed in tasks such as oil exploration, weapons design, code breaking and financial simulations.

For more than a decade, most of the largest machines have been assembled by using thousands of the so-called x86 microprocessors that Intel and Advanced Micro Devices Inc. originally developed for personal computers. But the latest developments indicate that a new model is starting to gain a foothold, with x86 chips augmented by other varieties that can do more tasks in parallel simultaneously. Where x86 chips typically have one to eight processor cores—the equivalent of electronic brains—more specialized chips such as graphics-processing units, or GPUs, have hundreds of simpler cores.

A prominent example of the shift is a new system called Nebulae at a research center in Shenzhen, China, which was constructed of Intel Xeon chips that are accelerated by GPU chips from Nvidia Corp. Researchers who compile a twice-yearly ranking of the 500 fastest supercomputers on Monday said Nebulae is the fastest system in the world in terms of theoretical peak performance, although it came in second under a standard benchmark test used to rank such systems.

In the prior rankings, published in November 2009, another system in China attained the fifth position by using Intel Xeon chips and GPUs supplied by AMD. Intel, though it accounts for 82% of the largest machines already, said Monday that it will also develop its own chips that can be used to accelerate specialized computing jobs. The Silicon Valley company said the new technology—code-named Knights Corner—will have as many as 50 processor cores on a single chip. It will be created using the company's next manufacturing process, which creates circuitry with dimensions of 22 nanometers, or billionths of a meter, compared with 32-nanometer circuitry in Intel products today, the company said.

The company said the technology—called MIC, for many integrated core—builds on a prior research effort called "single-chip cloud computer" as well as Larrabee, the code name for a chip design that Intel had been developing as a GPU. Intel recently canceled that plan following product delays.

Among other findings on the so-called Top500 list, a Cray Inc. system at Oak Ridge National Laboratory called Jaguar—which is powered by AMD Opteron chips—held onto the No. 1 spot. The U.S. remained the biggest user of supercomputers, with 282 of the 500 largest systems, up from 277 from the list published in November. International Business Machines Corp. edged ahead of Hewlett-Packard Co. as the No. 1 supplier of systems on the list.
The Top500 list is compiled by researchers at the University of Mannheim, Germany, the University of Tennessee and the National Energy Research Scientific Computing Center, which is affiliated with Lawrence Berkeley National Laboratory.

Read more:
http://online.wsj.com/article/SB10001424052748703406604575278671661900004.html#ixzz13fU0mqdG

Kwiklog

KK7X: “I just wanted to let those interested know that Kwiklog Classic will no longer be available after December 31st. I may replace it with Kwiklog Lite which only tracks the USA-CA Award. I believe that Kwiklog Classic has outlived its usefulness as it does not support all of the new awards and I don't have the skills to update the software. Thank you to Willis, KJ4EJ, for such a fine program that supported our community for so many years. I personally now use MARAC Logger as Kwiklog will not run on a Windows 7 64 bit machine. I can run it in XP Mode or on my daughters Vista computer. “

Source: KK7X post on the K3IMC Forum

Nanotech News

High-speed filter uses electrified nanostructures to purify water at low cost By dipping plain

cotton cloth in a high-tech broth full of silver nanowires and carbon nanotubes, Stanford researchers have developed a new high-speed, low-cost filter that could easily be implemented to purify water in the developing world.

Instead of physically trapping bacteria as most existing filters do, the new filter lets them flow on through with the water. But by the time the pathogens have passed through, they have also passed on, because the device kills them with an electrical field that runs through the highly conductive "nano-coated" cotton.

In lab tests, over 98 percent of Escherichia coli bacteria that were exposed to 20 volts of electricity in the filter for several seconds were killed. Multiple layers of fabric were used to make the filter 2.5 inches thick.

"This really provides a new water treatment method to kill pathogens," said Yi Cui, an associate professor of materials science and engineering. "It can easily be used in remote areas where people don't have access to chemical treatments such as chlorine."

Cholera, typhoid and hepatitis are among the waterborne diseases that are a continuing problem in the developing world. Cui said the new filter could be used in water purification systems from cities to small villages.

Faster filtering by letting bacteria through

Filters that physically trap bacteria must have pore spaces small enough to keep the pathogens from slipping through, but that restricts the filters' flow rate.Since the new filter doesn't trap bacteria, it can have much larger pores, allowing water to speed through at a more rapid rate."Our filter is about 80,000 times faster than filters that trap bacteria," Cui said. He is the senior author of a paper describing the research that will be published in an upcoming issue of *Nano Letters*. The paper is available online now.

The larger pore spaces in Cui's filter also keep it from getting clogged, which is a problem with filters that physically pull bacteria out of the water.

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filters that physically pull bacteria out of the water.

Cui's research group teamed with that of Sarah Heilshorn, an assistant professor of materials science and engineering, whose group brought its bioengineering expertise to bear on designing the filters.

Silver has long been known to have chemical properties that kill bacteria. "In the days before pasteurization and refrigeration, people would sometimes drop silver dollars into milk bottles to combat bacteria, or even swallow it," Heilshorn said.

Cui's group knew from previous projects that carbon nanotubes were good electrical conductors, so the researchers reasoned the two materials in concert would be effective against bacteria. "This approach really takes silver out of the folk remedy realm and into a high-tech setting, where it is much more effective," Heilshorn said.

Using the commonplace keeps costs down

But the scientists also wanted to design the filters to be as inexpensive as possible. The amount of silver used for the nanowires was so small the cost was negligible, Cui said. Still, they needed a foundation material that was "cheap, widely available and chemically and mechanically robust." So they went with ordinary woven cotton fabric.
"We got it at Wal-mart," Cui said.

To turn their discount store cotton into a filter, they dipped it into a solution of carbon nanotubes, let it dry, then dipped it into the silver nanowire solution. They also tried mixing both nanomaterials together and doing a single dunk, which also worked. They let the cotton soak for at least a few minutes, sometimes up to 20, but that was all it took.

The big advantage of the nanomaterials is that their small size makes it easier for them to stick to the cotton, Cui said. The nanowires range from 40 to 100 billionths of a meter in diameter and up to 10 millionths of a meter in length. The nanotubes were only a few millionths of a meter long and as narrow as a single billionth of a meter. Because the nanomaterials stick so well, the nanotubes create a smooth, continuous surface on the cotton fibers. The longer nanowires generally have one end attached with the nanotubes and the other end branching off, poking into the void space between cotton fibers.

"With a continuous structure along the length, you can move the electrons very efficiently and really make the filter very conducting," he said. "That means the filter requires less voltage."

The electrical current that helps do the killing is only a few milliamperes strong - barely enough to cause a tingling sensation in a person and easily supplied by a small solar panel or a couple 12-volt car batteries. The electrical current can also be generated from a stationary bicycle or by a hand-cranked device.

The low electricity requirement of the new filter is another advantage over those that physically filter bacteria, which use electric pumps to force water through their tiny pores. Those pumps take a lot of electricity to operate, Cui said.

In some of the lab tests of the nano-filter, the electricity needed to run current through the filter was only a fifth of what a filtration pump would have needed to filter a comparable amount of water.

The pores in the nano-filter are large enough that no pumping is needed - the force of gravity is enough to send the water speeding through.

Although the new filter is designed to let bacteria pass through, an added advantage of using the silver nanowire is that if any bacteria were to linger, the silver would likely kill it. This avoids biofouling, in which bacteria form a film on a filter. Biofouling is a common problem in filters that use small pores to filter out bacteria.

Cui said the electricity passing through the conducting filter may also be altering the pH of the water near the filter surface, which could add to its lethality toward the bacteria.
Cui said the next steps in the research are to try the filter on different types of bacteria and to run tests using several successive filters.

"With one filter, we can kill 98 percent of the bacteria," Cui said. "For drinking water, you don't want any live bacteria in the water, so we will have to use multiple filter stages."

Cui's research group has gained attention recently for using nanomaterials to build batteries from paper and cloth."

Source: http://www.physorg.com/news202464996.html

Mobile Diamond Award

The Awards Committee clarified the interpretation of the rules for the Mobile Diamond award. Here are the clarifications that address WG6X's concerns in the last issue of the County Hunter News.

(Q1) Do I have to earn the Master Platinum Award before I can start working on the Mobile Diamond Award?

(A1) **YES**.

(Q2) When I work another Master Platinum holder, can both of us count both counties toward the Master Diamond Award?

(A2) **YES**.

(Q3) Do I have to run my MP counties on the same day on the two different bands?

(A3) **NO.** You don't get credit for transmitting from the county until you run it on at least two bands.

(Q4) Do I have to work different stations on the different bands or could I work the same three stations on both bands?

(A4) As long as you are working multiple stations on each band, you are complying with the rule. You can't just make multiple contacts with the same station on
the same band and get credit for the county.

(Q5) Do I have to make a contact with another Master Platinum holder on one of the same two bands that I make the other contacts?
(A5) **NO.** The rule says that the MP contact may be on either of the two required bands – but it does not say it must be on one of those two bands.

(Q6) Do I have to be mobile for any of the contacts I make for the Mobile Diamond Award?
(A6) **NO.**

(Q7) Can I run 500 counties on Band A and 500 different counties on Band B and count those 1000 different counties toward the Mobile Diamond transmitted counties requirement?
(A7) **NO.** The requirement is for at least two bands from the same 500 counties.

So, in summary, that means that after a county hunter earns the MP award, they can make a fixed or mobile contact with another MP holder on any band at any time using any mode and count both counties for the Mobile Diamond contact requirement.

They also need to make three contacts from t 500 different counties with any three stations on two different band before they can count that county as transmitted for Mobile Diamond.

The check list for each county is:

___ One contact with another MP holder on any day on any band on any mode from each county in the USA or when either the other MP holder is in the county or you are in the county .

___ Make contacts with any three stations on any day on Band A on any mode while I am transmitting (fixed or mobile or portable) from that county. I need at least 500 different counties.

___ Make contacts with any three stations on any day on Band B on any mode while I am transmitting (fixed or mobile or portable) from the same 500 counties as Band A.

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It seems there needs to be one more on the check list and that is

_____Make a contact with a MP holder from those same 500 transmit counties.

Peak Oil Update

EA 2006 - The Year That The World's Conventional Oil Production Likely Peaked

(Year by year the IEA has slowly come around to understand that peak oil is real)

Has the World Already Passed "Peak Oil"?
New analysis pegs 2006 as highpoint of conventional crude production

The International Energy Agency forecasts that Iraq will triple production from its oil fields, like the al-Fakkah, shown here, but global crude production will stagnate. IEA says the world is becoming increasingly reliant on expensive unconventional sources, like the tar sands of Alberta, Canada, below.

The year 2006 may be remembered for civil strife in Iraq, the nuclear weapon testing threat by North Korea, and the genocide in Darfur, but now it appears that another world event was

occurring at the same time—without headlines, but with far-reaching consequence for all nations.

That's the year that the world's conventional oil production likely reached its peak, the International Energy Agency (IEA) in Vienna, Austria, said Tuesday.

According to the 25-year forecast in the IEA's latest annual World Energy Outlook, the most likely scenario is for crude oil production to stay on a plateau at about 68 to 69 million barrels per day.

In this scenario, crude oil production "never regains its all-time peak of 70 million barrels per day reached in 2006," said IEA's World Energy Outlook 2010.

In previous years, the IEA had predicted that crude oil production would continue to rise for at least another couple of decades.

Now, because of rising oil prices, declines in investment by the oil industry, and new commitments by some nations to cutting greenhouse gas emissions, the new forecast says oil production is likely to be lower than the IEA had expected.

The projected flat crude oil production doesn't translate into an immediate shortage of fuels for the world's cars and trucks. IEA actually projects that the total production of what it calls "petroleum fuels" is most likely to continue steadily rising, reaching about 99 million barrels per day by 2035.

This growth in liquid fuels would come entirely from unconventional sources, including "natural gas liquids," which are created as a by-product of tapping natural gas reservoirs.

The consequences for the world's energy consumers of this increased reliance on natural gas liquids and other unconventional fuels are stark.

"The age of cheap oil is over," said Fatih Birol, IEA chief economist.

"If the consuming nations do not make major efforts to slow down the oil demand growth, we will see higher oil prices," Birol said, "which we think is not good news for the economies of the consuming nations."

IEA was set up by most of the world's industrialized countries after the 1970s world oil crises to analyze the world's energy situation and advise them on policy.

The closely watched most-likely scenario, which the IEA calls the "New Policies Scenario," assumes that countries stick to the commitments they have made in the past couple of years to

cut greenhouse gas emissions.

But even under IEA's so-called "business-as-usual" scenario, without the projected efforts to cut fossil fuel pollution, oil production would be significantly lower in 20 years' time than the IEA had forecast even just a few years ago.

Oil production might rise marginally under the "business-as-usual" scenario, the report said, but supplies would be short enough to send oil prices soaring to double today's level.

A major reason for the rising prices and flatlining production is that for "the currently producing fields of crude oil, the production will decline," Birol said.

Today's active oil fields produce about 70 million barrels per day, but by 2035, he said, "they will produce less than 20 million barrels per day of oil."

Just to keep crude oil production flat would require much more production from new oil fields —including those discovered but not yet developed, and others still to be discovered.

The IEA forecasts that Saudi Arabia—the largest producer—would boost its production by 50 percent, and that Iraq would nearly triple its production.

Maintaining this plateau would require massive investment in the oil industry, the report estimated, about $8 trillion over the next 25 years.

Also, in the IEA's main scenario, production from "tar sands," also known as "oil sands," found mainly in Canada and Venezuela, would triple in the next 25 years.

However, these unconventional sources are generally more expensive and harder on the environment, the IEA said.

Tar sands "mining operations have a large impact on the landscape," the report said, requiring forests to be cleared, and large "tailing ponds" to collect the toxic runoff from tar sands processing.

Tar sands have a bigger climate footprint than conventional oil, with larger greenhouse gas emissions for the whole life cycle, from "well-to-wheels," the new report said.

Barrel for barrel, the IEA said, oil from tar sands would create 5 to 15 percent more emissions of carbon dioxide (CO_2), the principal greenhouse gas causing global warming.

Looking at the reasons for the plateau in crude oil production, "it's clear that it's a mixture of above-ground and below-ground factors," said Guy Caruso, former head of the U.S. Energy

Information Agency, and now at the Center for Strategic and International Studies, a think tank in Washington, D.C.

“It’s partly geological resource limitations,” Caruso said. “There’s decline that we’re fighting in the older fields,” in which production has fallen faster than had been expected.

But there are also “areas like Venezuela, Iraq, Kazakhstan, and Nigeria, where we know the oil is there,” but political turmoil and other issues have kept production far below the potential, he said.

When all the factors are taken into account, the trend is toward rising oil prices, Caruso said. Oil-consuming nations can cope with this if the price rises smoothly, but he added, “what economies have a hard time dealing with is a spike like we had in 2008, when oil reached nearly $150 a barrel, and then dropped back down again.”

Source: http://investorvillage.com/mbthread.asp?mb=4288&nhValue=61426&nmValue=61450&sync=1&tid=9744150&showall=1

IEA warns Iraq will miss 2017 oil target

IEA warns Iraq will miss 2017 oil target
David Blair in London, Financial Times, 04 Nov 2010

Iraq will miss its target of producing 12m barrels of oil a day by 2017 and could take another 20 years to achieve even half that level of output, says the International Energy Agency...

A Perfect Day For Running Counties

By N4AAT

Monday, November 11, 2010, starts out as a great day to run some counties. A little cool, but should warm up in a few hours. I hit the road at 6:00am. About 30 miles from home I realize that I forgot my cell phone. OK, so I head back home to get it. A person never knows when it will be needed. Back on the road, 60 miles later, I head into Georgia, to run some counties. The

main purpose for this run was to get two last counties for N8KIE. No problem, I needed to run some counties anyways.

I ran a few counties on the fly, before I stopped on my first county line, Walton and Newton, GA. All went well running on 40 and 20 SSB. I then went to the CW bands, starting with 40, then 30, 20, 17, in that order. Things didn't go very smooth with the replacement keyer I put in the truck. My good keyer that I used a few days ago, had broke, and I was using a spare. A lot of not running smooth had to do with me, because I'm not a very good CW operator, and for some reason, today it wasn't going as good as it was previous. I already started to become flustered and confused because I can read code very fast. I thought to myself, it will get better as the day goes on.

Well, on the next county line, after my runs, on the CW bands, I get a call from a person unknown, telling me to not run on the regular CW bands, and leave them for operators who can operate more proficiently. Wow, what a nice guy, to tell me not to waste time on the regular bands, and to leave them for better operators. I ask the person who it is, and he hangs up. This kind of ticked me off. Then, when I ran CW again in another county, somebody, knowing that I can't copy code very good, continued to send me a series of sss's and 555's and hhh's, during my run. Now I really started to get ticked off, and my code got worse, because I was mad. To top it off, I then started to get interfered with on 20 meters SSB.

You know, maybe this guy is right. Maybe I should go up 2 or down 2 on the CW bands and stop making a fool of myself. Being mad, I shut off the radio for awhile, and my phone, and started to drive to my original destination, Polk and Paulding, GA. After I cooled off from being mad, I headed up to Cherokee and Bartow, and ran that line. By this time I wasn't in any hurry to go back to CW. It won't take much for me to stop running CW. After this line, I ran Floyd county and then stopped on the Polk and Paulding line, and got the last counties for Bob, N8KIE. Took a picture of the line and then ran some CW. I then headed for Harrlson county. On the way to Harrlson county, I got a flat. Must have picked up a big screw on the last line.

My tires aren't the best any more. got about 80,000 miles on them. I tried to change my own tire, but couldn't get the spare to release from the underside of the truck. Spare has never been used since the truck was new, in 2003. Crank was stuck. OK, called a tow truck. After almost two hours of waiting, the tow truck operator picked up the back of my truck, and when doing so, ripped off my wires that were connected to my Tarheel. Yikes, I was furious. Dang, what else can go wrong. While heading to a garage to get my flat fixed, I asked how far was this garage. Well, wound up in Cobb county, 30 miles from where I had the flat. I guess they get payed by the mile. At this little garage, I waited another hour before someone fixed my flat. By now it was getting late.

I also hit a very big bird and it smashed my bug deflector on the front of my truck. Got to replace that also.

Needless to say, after all this, I stopped and had something to eat. DON'T STOP AT A HUDDLE HOUSE. Got the runs from there food. Damm.

Yup, this was a perfect day to run some counties, but headed straight home instead.

Natural Gas

Gas glut threatens investment in renewables sector, IEA warns

• Liquefied gas capacity will shoot up 47% by the end of 2013
• Shell and Exxon-Mobil are repositioning as gas producers

A global gas glut which could last a decade will act as a "major barrier" to the development of renewable energy, cleaner coal plants and nuclear power, according to the International Energy Agency (IEA).

"The golden age of gas" will lead to cheaper gas prices for consumers, particularly in Europe. But the IEA added that it is also likely to result in a rush to build gas-fired power plants at the expense of much cleaner forms of electricity generation.

The IEA's chief economist Fatih Birol also said that "Big Oil" – oil majors such as Shell and Exxon-Mobil – are suffering an "identity crisis" because they find themselves increasingly shut out of regions like the Middle East where most of the world's remaining oil reserves lie. They are repositioning themselves as gas producers, which companies like Shell are marketing as a cleaner form of energy, he said. "In terms of climate change, gas is definitely a good solution compared to coal and oil. But it's not very innocent compared to renewables and nuclear."

The world faces a long term gas glut because of recent technical advances which have made possible the exploitation of previously untapped shale gas, coal bed methane and tight gas deposits, mostly in the US, China and Australia. The IEA, publishing its annual world energy outlook now estimates that 35% of the increase in global gas production to 2035 will come from such unconventional projects. Last year it estimated that unconventional gas production would account for 20% of the growth, although this covered the period 2007 – 2030. Gas is also the only fossil fuel for which it expects demand to grow by 2035.

The world is already awash with cheap gas because of a fall in demand after the global economic downturn and unexpectedly high production of shale gas in the US, despite fears that

the industry would be held back by environmental regulations. This has coincided with a surge in the construction of new LNG facilities and equipment which liquefies gas so it can be shipped by tankers from remote areas to market rather than having to build new pipelines. LNG capacity will shoot up 47% by the end 2013, the IEA said. As a result of higher gas supplies and lower demand, globally only about two thirds of pipelines and LNG facilities will be full this year. The figure will be even lower in Europe, which could prompt energy companies such as E.ON to try renegotiating their long term contracts with exporters such as Russian firm Gazprom to get a cheaper deal.

The IEA said that the utilization rate of pipelines and LNG facilities will still not have returned to 2007 levels by the end of the decade. This assumes that no new infrastructure is commissioned, which it said was extremely unlikely. It has cut its long term global gas price forecasts, by as much as 10% in the US after 2020.

There are environmental benefits to a gas glut because cheaper gas-fired plants are more likely to replace old coal plants, which emit twice as much carbon. But gas plants' low operating cost will make it harder for wind farms and other renewables, including nuclear, to compete and attract investment. "From the perspective of renewables and nuclear it's not good news," Birol said. He also said that despite the £1bn recently committed by the UK government to develop a coal plant fitted with expensive carbon capture and storage technology (CCS), there may be less appetite to invest in CCS.

The IEA report also spelt out the predicament faced by international oil companies. OPEC, the body that protects the interests of leading oil-producing countries is forecasting to increase its global share of oil production from a third to more than a half by 2035. State controlled oil companies will account for all of the world's increase in global oil production in the next 25 years, while total non-Opec production will start falling after 2025.

Birol added: "Big Oil face an identity crisis. They got used to being able to explore, produce and market oil. But they're not able to do this in the same way any more. Much of the world's oil reserves are out of reach to them. Therefore they have to redefine their business strategy. Gas becomes one alternative for them to redefine their strategy."

State QSO Parties – Kentucky

There was only one QSO Party this month – Kentucky. There were two mobiles out – N5WR and W9WI, who both an a good number of counties with a lot of time spent on 40M cw. There

were half a dozen fixed stations spotted.

From the N4CD QTH, I caught a few needed counties during the QSO Party and missed a few others. It looked like fairly decent activity with at least 20 or 25 calling the mobiles in every county. Over 45 counties were run, so you had a good chance to catch something you needed.

From 3830 reflector:

N5WR/M

Thanks to everyone for the QSOs. I was surprised by the level of activity in this contest. There were a steady group of guys who stuck with me all day, many of them county hunters. Thanks for making this a great run. This is the most contacts I've made so far as a solo op in a QSO party. I just ordered some new QSL cards if anybody needs one.

40 meters was great all day. Best hour was 140 at 20Z. Just like last weekend in Sweepstakes 40 went long early and spent most of the last 3 hours on 80. Never could get much going on 20. Drove a total of 950 miles, nearly 600 in KY. Only took a break once during the contest for gas. Had 2 deer run across the road in the morning somewhere I think in Logan county, had to slow down to avoid hitting one of them. I was ahead of schedule when I made it to Garrard county so decided to head north towards Lexington to pick up Jessamine, Fayette, and Clark. Ran into heavy traffic next to a mall in Lexington, had to make a detour to get around the traffic. Was ahead of schedule again once I get to Knox, so decided to head east to pick up Bell. All told made it to 33 counties.

Had some equipment issues to work through. I usually use my TS-850 on the road which is my 2nd radio, but it when I hooked it up before the contest it was not transmitting at all. So swapped it out for my FT-950 instead which worked well. Also my MFJ screwdriver controller has stopped counting turns for some reason so can't save any memory settings. This means that every time I change bands have to use an antenna analyzer to tune it.

Most QSOs: NT2A(37), W9MSE(36), W5MX(31), KN4Y(28), WA4SM(27), N9QS(25), N0UY(23), KS4S(22), W3DYA(22), K9EN(21), K9JHQ(21), N4VA(21), W9OO(21), K4YT(20)

73, Erik N5WR

W3DYA (TX) - 31 contacts and 28 multipliers – worked N5WR and W9WI mobile plus some fixed stations

VA3KG0 32 SSB contacts with 23 multipliers

K4SX (TN) 36 cw 35 multipliers

W5MX (KY Fixed) - Made 385 contacts – 160 through 15M

KN4Y (FL) 59 cw 40 mults

Making your own Transistors

There's nothing like sitting down on a winter's day, with no mobiles out running, and just whipping off a few homemade transistors for your next projects.

http://hackaday.com/2010/11/05/making-point-contact-transistors/

International ShortWave Broadcasting

Many current hams got interested in radio listening to the short wave radio – to the international broadcasters of the 1950s and 60s and 70s. Even if you didn't have an interest in them, in the 1960s, the broadcasters invaded the lower parts of 40M, wiping out the phone segments of 40M on a daily basis, so you had to be aware of them. In was only recently that these broadcasters left the 7000-7200 part of the 40M band. So, into the 'way back' machine for some broadcasting history.

The Early Days

It was ham radio operators who discovered that frequencies below 200 meters were good for international distances. Banished to those frequencies (above 1.5 MHz) by treaty after WW1, the hams put their noggins to work and showed the world that you could work around the world with reasonable power over the next 15 years. Up until that time, the commercial 'long distance' folks used tens or hundreds of kilowatts and low (15-500 Khz) frequencies.

Initially, the contacts seemed to be random, but hams quickly learned the ins and outs of propagation. By the early 1920s, US hams were working with their counter parts in England and France to make 'long distance' communications more understood. Dr. Heavyside and others proposed the theory of the reflecting ionosphere. It would take decades to really understand what happened with HF propagation. Understanding the nature of the ionosphere allowed antennas to be developed for the best angle of radiation – and best communications.

AT&T and Western Electric, along with other carriers, were interested in providing long distance telephone circuits via radio, and this lead to extensive development of diversity systems, steerable arrays, and new designs to combat fading at short wave frequencies.

AM broadcast stations were also interested in using SW links as 'relays' – to carry the BBC home service to other countries around the world, where they would be picked up by commercial receiving stations, then fed into the local AM stations.

As hams had success, they were booted out of the 200 meter band so commercial stations could operate there. Then hams were forced to move above 100 meters.

Finally, an international treaty created specific bands for specific users. Hams were given the 80 meter band for their exclusive use. There were specific bands allocated for 'short wave broadcasters. Hams quickly got 40M and 20M, too.

KDKA, with Frank Conrad, the original engineer who made this AM broadcast station the first on the air, also was the first to originate SW broadcasts. David Sarnoff of RCA became a believer in SW technology. This new technology was the end of the Alexandersson Alternator, the high power VLF transmitter for intercontinental work.

Short Wave Broadcasting 1914-1933

International broadcasting, in a limited extent, began during World War I, when Central Powers and Allied stations broadcast press communiqués using Morse code. For example, the station in Nauen, Germany became a fully commercial telegraph station in 1911, with a 260 m high antenna and a spark-gap transmitter running 100 kW of power. During World War I, with the severing of Germany's undersea cables, Nauen was the sole means of long-distance communication of Germany. The US Navy Radio Service radio station in New Brunswick, Canada, transmitted the Fourteen Points by wireless to Nauen in 1917. In turn, Nauen station broadcast the news of the abdication of Kaiser Wilhelm II on November 10, 1918.

Following experiments in the shortwave frequencies in 1925 from Eindhoven, in the Netherlands, radio station PCJ began broadcasting to the Dutch East Indies on March 11, 1927.

The BBC followed this with the BBC Empire Service on December 19, 1932, with transmissions aimed towards Australia and New Zealand.

Other notable early international broadcasters included Vatican Radio (February 12, 1931), Radio Moscow, the official service of the Soviet Union which began broadcasting on long-wave in 1923 (this has since been renamed the Voice of Russia, following the collapse of the Soviet Union).

Clarence W. Jones started transmitting on Christmas Day, 1931 from Christian missionary radio station HCJB in Quito, Ecuador.

Shortwave broadcasting from Nauen Germany to the USA, Central and South America, and the Far East began in 1926. A second station, Zeesen, was added later.In January 1932, the German Reichpost assumed control of the Nauen station and added to its shortwave and

longwave capacity;

Broadcasting in South Asia was launched in 1925 in Ceylon - Radio Ceylon, now the Sri Lanka Broadcasting Corporation is the oldest in the region.

From about 1927 on, the shortwave radio spectrum was often filled with official government propaganda. It was the official arm of the government. The BBC (British Broadcasting Company) could inform all citizens of the British empire of what was going on. Same for all countries that had colonies or interests around the world.

Countries broadcast in foreign languages – to target audiences in other countries. Italy broadcast in Arabic – and five years later would invade northern Africa, taking it away from British control. Germany broadcast in multiple languages as did the USSR – during the run up to WW2.

If you wanted to listen in to foreign broadcasts, you could build yourself a simple one or two tube set, and millions did during the late 1920s and 1930s. Or if you had a decent broadcast band radio (and most homes did) , perhaps a superhet set with 5 or 8 tubes in it, 5w audio and decent selectivity, you could buy one of these, which became popular:

Dayton “Short Wave Converter”

This unit converted the incoming 'high frequency' down to an unused frequency in the broadcast band. It was a 'mixer' or converter, and you could tune different bands by changing the plug in coil.

Short Wave Broadcasting 1934-1939

In the US, with its advertiser driven system, dozens of operators also broadcast their AM programs on Short Waves. European listeners with simple 1, 2 or 3 tube receivers could listen in easily. Due to the large geographical area of the Americas, many stations popped up to serve large markets on shortwave bands. Canada had a state run system, and slowly implemented a few stations to cover rural Canadian provinces.

Shortwave programming was a low priority in the Weimar Republic. Once Adolf Hitler assumed power in 1933, shortwave, under the Rundfunk Ausland (Foreign Radio Section), was regarded as a vital element of Nazi propaganda. German shortwave hours were increased from two hours a day to 18 per day, and eventually twelve languages were broadcast on a 24-hour basis, including English. A 100 kilowatt transmitter and antenna complex was built at Zeesen, near Berlin. Specialty target programming to the United States began in 1933, to South Africa, South America, and East Asia in 1934, and South Asia and Central America in 1938.

In the 1930s, international broadcasting was a key means of promoting Nazi Germany foreign policy. German propaganda was organized under Joseph Goebbels, and played a key role in the German annexation of Austria and the Munich Crisis of 1938.

Medium wave transmitters on the periphery of the Third Reich provided specialty programs to listeners in neighboring countries.

In 1936, the International Radio Union recognized Vatican Radio as a "special case" and authorized its broadcasting without any geographical limits. On December 25, 1937, a Telefunken 25-kW transmitter and two directional antennas were added. Vatican Radio broadcasted over 10 frequencies

During the Spanish Civil War, the Nationalist forces received a powerful Telefunken transmitter as a gift of Nazi Germany to aid their propaganda efforts, and until 1943 Radio Nacional de España collaborated with the Axis powers to retransmit in Spanish news from the official radio stations of Germany and Italy.

During the 1930s, various radio makers made different models of shortwave receivers, and many console and table top radios expanded their frequency coverage to also include the lower shortwave bands that international stations used.

World War II

During the Second World War, Russian, German, British, and Italian international broadcasting services expanded. In 1942, the United States initiated its international broadcasting service, the Voice of America. In the Pacific theater, General Douglas MacArthur used shortwave radio to keep in touch with the citizens of the Japanese-occupied Philippine Islands.

Several announcers who became well-known in their countries included British Union of Fascists member William Joyce, who was one of the two "Lord Haw-Haw"s; Frenchmen Paul Ferdonnet and Andre Olbrecht, called "the traitors of [Radio] Stuttgart"; and Americans Frederick William Kaltenbach, "Lord Hee-Haw", and Mildred Gillars, one of the two announcers called "Axis Sally". Listeners to German programs often tuned in for curiosity's sake—at one time, German radio had half a million listeners in the U.S.--but most of them soon lost interest. Japan had "Tokyo Rose", who broadcast Japanese propaganda in English, along with American music to help insure listeners.

The Cold War Era (1945-1991):

The Cold War led to increased international broadcasting, as Communist and non-Communist states attempted to influence each other's domestic population. Some of the most prominent Western broadcasters were the Voice of America, the BBC World Service, and the (covertly) CIA-backed Radio Free Europe/Radio Liberty. The Soviet Union's most prominent service was Radio Moscow (now the Voice of Russia) and China used Radio Peking (then Radio Beijing, now China Radio International). In addition to the U.S.-Soviet cold war, the Chinese-Russian border dispute led to an increase of the numbers of transmitters aimed at the two nations.

West Germany resumed regular shortwave broadcasts using Deutsche Welle on May 3, 1953. Its Julich transmitter site began operation in 1956, with eleven 100-kW Telefunken transmitters. The Wectachtal site was authorized in 1962 and began with four 500-kW transmitters. By 1989, there were 15 transmitters, four of which relayed the Voice of America. Meanwhile in East Germany, the Nauen site began transmitting Radio DDR, later Radio Berlin International, on October 15, 1959.

In addition to the superpower states, international broadcast services grew in Europe and the Middle East. Under the presidency of Gamal Nasser, Egyptian transmitters covered the Arab world; Israel's service, Kol Yisrael, served both to present the Israeli point of view to the world and to serve the Jewish diaspora, particularly behind the Iron Curtain. Every Soviet satellite

country suddenly had to have big shortwave transmitters.

Radio RSA, as part of the South African Broadcasting Corporation, was established in 1966 to promote the image of South Africa internationally and reduce criticism of apartheid.It continued in 1992, when the post-apartheid government renamed it Channel Africa.

Ironically, the isolationist Albania under Enver Hoxha, virtually a hermit kingdom, became one of the most prolific international broadcasters during the latter decades of the Cold War, with Radio Tirana one of the top five broadcasters in terms of hours of programming produced

Post Cold War to today

At the end of the Cold War, many international broadcasters cut back on hours and foreign languages broadcast, or reemphasized other language services. For example, in 1984, Radio Canada International broadcast in English, French, German, Spanish, Czech/Slovak, Hungarian, Polish, Russian, and Ukrainian. In 2005, Canada broadcast in English, Chinese, Arabic, Russian, and Spanish There is a trend towards more TV (e.g. BBC World, NHK World, CCTV-9), and news websites. Some services, such as Swiss Radio International, left shortwave altogether and exist in Internet form. In addition, new standards, such as Digital Radio Mondiale, are being introduced, as well as sending programs over the Web to be played back later, as "podcasts".

Current Assigned Short Wave Broadcast Bands

120 m	2300 - 2495 kHz	tropic band
90 m	3200 - 3400 kHz	tropic band
75 m	3900 - 4000 kHz	shared with the North American amateur radio 80m band
60 m	4750 - 5060 kHz	tropic band
49 m	5900 - 6200 kHz	
41 m	7200 - 7450 kHz	shared with the amateur radio 40m band
31 m	9400 - 9900 kHz	Currently most heavily used band

25 m	11,600 - 12,100 kHz	
22 m	13,570 - 13,870 kHz	substantially used only in Eurasia
19 m	15,100 - 15,800 kHz	
16 m	17,480 - 17,900 kHz	
15 m	18,900 - 19,020 kHz	almost unused, could become a DRM band
13 m	21,450 - 21,850 kHz	
11 m	25,600 - 26,100 kHz	may be used for local DRM broadcasting

AM shortwave broadcasting channels are allocated with a 5 kHz separation for traditional analog audio broadcasting.

International broadcasters for practical reasons sometimes operate outside the normal WRC-allocated bands or use off-channel frequencies to attract attention in crowded bands (60m, 49m, 40m, 41m, 31m, 25m).

Anything new in shortwave? Well, the shortwave broadcasters have proposed going 'digital' to help combat fading and selective sideband fade. It would obsolete every existing receiver and there might not be all that much of a market for it before broadcasting becomes a footnote in the internet age. The new digital audio broadcasting format for shortwave DRM operates 10 kHz or 20 kHz channels.

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During the 1930s, the big deal was to build your own 2 or 3 tube homemade drepession era radio and be able to listen to foreign stations. Of course, most of those stations were running several hundred KW of effective radiated power, so simple gear would work.

In the 1950s, most countries had 100 KW or bigger transmitters, with 10-20 dB gain antenna systems, radiating hundreds of KW to megawatts of power toward their intended receiving audience. That continued well into the 1990s. At that point, the internet took over, the interest in actually listening to the poor quality of shortwave broadcasts declined, the proliferation of cable TV channels exponentially increased, and the audience simply vanished in most countries across Europe and the USA.

Realistic DX-160

During the 50s and 60s and even into the 70s, you'll find hundreds of models of radios made for short wave listening – from Hallicrafters to National to Lafayette to Radio Shack, plus dozens and dozens of kit radios you could build from Knight Kit and Heathkit. With the introduction of transistorized portables, quite a few had a short wave band or two on them.

Knight Star Roamer Tube RX

Now, if you tune across the short wave bands, there is a whole lot less to listen to. Gone are many of the familiar names – many countries have chopped or eliminated the budgets of broadcast services. The VOA shut down most facilities in the USA. There is less and less of an audience. When was the last time you tuned in any shortwave broadcaster?

Heathkit GR-54 Tube Receiver

Tight budgets around the world with shifting priorities have reduced allocations of government funds to broadcasters to record low levels as audiences plummet.

Most modern synthesized ham receivers will cover the entire 1.5 to 30 MHz spectrum. Some only have narrow filters, making receive audio quality poor, but others now have all digital filtering, so you can get a 6 or 8 KHz wide bandwidth to listen to shortwave. There isn't a whole lot there to listen to these days in English, though.

ICOM R-1000 Top of the Line Receiver

Likely hundreds of thousands of 'short wave sets' including the radios like the Hallicrafters S-38, National NC-60, and hundreds of others, are available at most hamfests or on Ebay for $5 to $25. Some hams used them for their novice receivers, but they weren't very good. Most hams wanted to upgrade quickly to an SSB receiver with product detector and good crystal filter! It might be 'ham band only' coverage, too. There were and still are expensive sets made only for SW listeners – Heathkit had several as did Drake, ICOM, Yaesu, and others.

Drake SW1 Shortwave Receiver

Sealing PL-259 Connectors

Hints & Kinks: Sealing PL-259 UHF Plugs and SO-239 UHF Connectors - From ARRL Letter, ARRL, Newington, CT 06111

The popular and low-cost PL-259 UHF plug and its mating SO-239 UHF connector were never designed to be waterproof. In spite of this, many of us find ourselves having to use these connectors out-of-doors for an antenna or cable connection and then have the experience of trying to apply some form of weatherproofing.

If this is not done, and done well, then intermittent connections soon result, especially with wet freezing and thawing conditions, resulting in moisture and corrosion getting into the connectors and even into the coax itself

One well-known solution is to use a bondable rubber tape wrapping. That often seems to work using one of the soft, moldable, stretchable tapes that are available for the purpose. In practice, I have found that the hardest area to seal effectively using this method is the area from the rim of the male PL-259 shell to the mating SO-239 socket face. This is especially true when the SO-239 socket is located partially inside the cowl of the antenna mount (such as the Solarcon/Antron vertical or other similar types) and it is impossible to get sealing tape up into this tight location.

To overcome this problem, simply slip as many tight fitting O-ring(s) over the SO-239 barrel (see Figure) as needed to fill the space between the base of the SO-239 and the coupling ring. Lubricate the O-rings with a generous amount of silicone grease, often sold in the automotive part stores as "dielectric tune-up grease."

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Place the O-ring(s) at the base of the SO-239 barrel and use the PL-259 coupling ring to compress them into a weather-tight seal.

Important: Check that when the mating PL-259 plug is installed and tightened down, the outer rim of the PL-259 shell butts up against and slightly compresses the "O"-ring(s). The "O"-rings I used were ones I had on hand, about 9/16 inch ID × 0.10 inch thick. I am sure anything that's a snug fit will work. Of course, you will still need to wrap the lower half of the PL-259 shell and the spot where the coax

exits the connector with tape to seal that part.

Peak Oil IIII

US Association For The Study Of Peak Oil (US-ASPO) Conference Thoughts: Listen To These Folks

Chris Skrebowski, Energy Institute, London - Skrewbowski is the best analyst I know of in terms of empirically looking at oil supply going forward. Follow his work. Determining the actual liquid fuels peak is much harder after 2008 as demand has changed. OECD demand has shrunk will developing demand is still growing. OPEC has extra supply but its hard to tell how much. The EIA show 2012 as the peak not counting "unidentified projects". Skrewbowski thinks late 2014 is the peak (THAT's JUST 4 YEARS AWAY!!!). Skrebowski goes with 4.7% depletion of all existing production based on 3/4s of EIA's 6.7% depletion for post-peak fields. Skrewboski is expecting no production growth for 2012 with a little growth in 2013 and 2014.

EIA is predicting demand growth of 1.2 Mbpd/year with no double-dip recession. Only half of oil demand is now the OECD. The peak will be around 93.8 million bpd. Current spare capacity is around 4 mbpd with the Saudis, Kuwait and UEA having 2/3s of spare capacity. Takeway: The Saudis control the price of oil. They have been targeting successfully a price band of between $70 and $80/barrel for years and should be able to continue to control the price of oil for another 2 years. Iran, Ecuador and Venezuela oil production is in a sustained decline. Iraq is a real wild-card. Apart from political/security concerns they could produce a lot of oil and shift the peak a couple of years.

Takeway: Watch Iraqi oil production closely. The real (inflation adjusted) price of oil is higher now than in 96 of the last 100 years. $100/barrel price is needed to bring on new Arctic, Deep-Water, oil-sands, etc. The U.S. economy goes into recession whenever its oil expense exceeds 4% of GDP.

Jeffrey Brown discussed the availability of oil exports as Peak Oil kicks in. The key idea is that exports can be expected to drop off even faster than oil production as exporting countries keep

more for themselves. This was backed up with a strong, empirical case based on examining several exporting countries that have already peaked. This idea is not new, but the conclusion of his pitch (if my notes are right) was that IF oil production plateaus at the current level AND IF India and China and oil exporter consumption keeps growing at the recent rates THEN in 5 years the rest of the world will have to get along with one third less oil. Brown is a significant contributor worth following.

Chris Martenson - what a great presenter! Great popularizer, but still very empirical. Fantastic at boiling it down to the key convincing information and seeing the big pictures. He claims there is a relationship between the economy and energy and that energy is the key input to the economy.

He claims peak coal in 2030. Integrates fiat, fractional reserve money system where money is loaned into existence with Peak Oil. The money system requires continued GDP growth which it has been getting from cheap oil-based energy (whose consumption has been growing at roughly an exponential rate). He claims that bad and unexpected things are bound to happen as oil-based energy cannot continue to grow and thus the fiat money system can no longer grow. The money system will have to change. The money system is a complex non-linear system and is inherently unpredictable. Martenson answers the question: "How did we get two bubbles in one decade: Internet and Housing" when ordinarily they come at least a generation apart" with the answer: "They are really one big credit-expansion bubble which hasn't blown up yet". Financial markets do not change gradually and some kind of fundamental change is about to happen.

Dr. Robert Hirsch, Senior Energy Advisor, MISI - Seems to have the best overall view (and makes the best overall case) that Peak Oil is significant and what its implications are.. Hisch makes a strong empirical case that oil consumption correlates with world GDP 1 to 1 (1% GDP growth correlates with 1% oil consumption growth) and that with Peak Oil we might very well be looking at a 4% fall in oil (and GDP) for at least a decade (that's a more than 40% drop in world GDP!!!). Not a radical, but still quite a gloomy outlook. I think that's the way it is.

Source: Oil Drum Blog

Plug In Coils

Probably half the County Hunter News readers have never seen or used a radio with plug in coils. Ever since the mid-60s, only 'boat anchor' radios from the 1950s or earlier used them.

But it's time for a little nostalgia and trip back in the way back machine.

The 1920s

The first receivers didn't have to cover much spectrum. The commercial folks used 15-500 KHz with spark transmitters and later high power alternators. Some sets would tune up to 1500 KHz, but that was 'way up there in frequency. At the lower frequencies, keeping losses low was a consideration, so VLF coils were made out of Litz wire (many separately insulated fine wires of #44 or similar gauge wires combined with silk or cotton threads to form a small wire. There were some sets with 'plug in' coils that allowed sets to cover a wide range. Other sets used a rotary switch arrangement, except that real rotary switches were 'yet to be invented'. What folks did was put multiple contacts on the front panel, and had a wiper arm to select which tap the wished to use on a coil.

Clapp Eastman Regen Set – 1910s era

Note the wiper arm that selected taps on the antenna input coil. By the way, this item sold on ebay for over $3600! It is an ultra rare Clapp Eastham ZRF regen in fairly bad condition. Don't you wish you found one of these in an attic somewhere? This was just the 'tuner' stage before the detector, too!

Many of the early broadcasts sets had the same arrangement on taps.

Marconi Type Coils circa 1910s

The above are 'honeycomb' style coils where you can adjust the coupling between the 3 windings by varying the spacing. This attached to the front of the set. You could install different coils to cover different ranges.

It didn't take long for home builders to figure out that it would be easier to use a plug in coil that fit in a tube socket. When you had a regen, you had at least 4 leads to connect, and if you wanted an antenna input winding, that brought you up to five or six. It wasn't long before manufacturers started to produce coil forms and coil sets already made that allowed you to cover a wide range in frequencies.

Four Pin Plug in Coils

As sets got more complicated, you would need two sets of coils, one for the RF stage and one for the detector circuit in a typical regen.

Pilot Wasp Receiver – with coil sets for RF Amp and Detector

The Pilot Wasp was sold as a kit – a 224 RF Amp Tube, followed by a 201A regen detector and two stages of audio amplification. It came with 10 plug in coils (two sets of five).

Some igneous folks even came up with 'coil turrets' that held three or four plug in coils, and you could rotate the turret assembly to select one of the coils installed, and it would be connected into the circuit. This saved reaching into the radio , possibly removing shields, to change coils.

It wasn't until the mid 1930s that folks finally figured out how to make low loss rotary switches, and started designing 'bandswitched' receivers. We take it for granted today when we change from 160 meters to 20 meters that magically all the right tuned circuits in both the receiver and the transmitter get switched in, and we instantly go from one band to another without the need for retuning on the new frequency. It took 70 years of design to get us there.

Now, what about transmitters? Well, as hams moved up in frequency (often not by choice but by FCC mandate), it was hard to design tuned circuits that would cover the entire range without band switching, In addition, you had much higher power levels, and had to worry about

unwanted feedback and stability problems. So what happened initially? Right, plug in coils for transmitters, often more than one set. You might have one set for the oscillator and one set for the final amp which could handle more power.

Some transmitter plug in coils

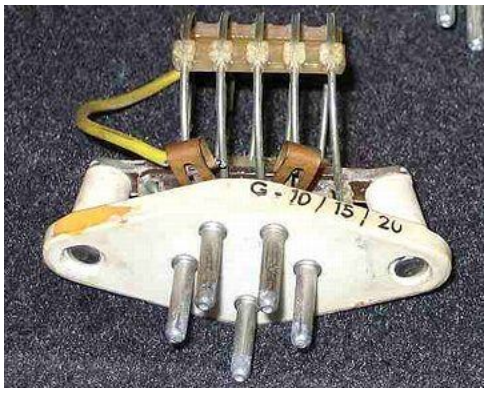
You would change bands by putting in the right coils, then turn the power back on, and retune on the new frequency. QSY wasn't all that fast way back when!

Well, how long did plug in coils stay around?

Here's a Gonset Commander – circa 1951 mobile transmitters

Notice the door on the right hand side of the mobile transmitter?

This is what went inside – a plug in coil for the band you wanted to be on!



Gonset Commander Plug in Coil

The Knight Kit Ocean Hopper Receiver of the early 1950s – a simple two tube regen (12AT6 and 50C5) also had plug in coils which you needed to change to change frequency range.

Designed in the 1930s, the National HRO series of radios were made by the tens of thousands during WW2. They were 'one of the best' you could buy at the time. Here's a little history on them.

James Millen (W1HRX) in Massachusetts was in charge of the mechanical design. According to several accounts, Herbert Hoover, Jr. (amateur radio call sign W6ZH), son of US President Herbert Hoover, and Howard Morgan (of Western Electric) designed the electronics in Hoover's garage in Pasadena, California. Some of National Radio's tool makers marked their overtime slips with HOR for "Hell Of a Rush." Management decided that a version of that abbreviation should be the name of the new receiver, choosing the slight alteration HRO to make it less objectionable. That was quickly countered by saying that HRO stood for "Helluva Rush Order" .

The HRO receiver was first announced in QST magazine in October 1934 and shipped in March 1935, incorporating many design features requested by the fledgling airline industry . It

was also attractive to the amateur radio community. According to the 1935 instruction manual [the HRO price was US$233, the external power supply (to reduce heat in the receiver cabinet and hum) was US$26.50 less tubes, and a 7000 ohm speaker in a rack panel was US$30.00. The HRO found widespread use during World War II as the preferred receiver of various Allied monitoring services, including Y-Service stations associated with the code-breaking group at Bletchley Park (Station X) in England.[An estimated 1,000 standard HROs were initially purchased by Great Britain, and approximately 10,000 total saw use by the British in intercept operation, diplomatic communications, aboard ships and at shore stations as well as for clandestine use.

The plug in coil sets provided coils for the front end, the RF amp, the local oscillator, the mixer circuits, all in one assembly.

HRO Receiver and Coil Sets

The two most distinctive features of this radio were its use of a micrometer-type dial, and plug-in tuning coils that slid into a full-width opening at the bottom of the front panel. The dial, designed by James Millen, allowed for 500 tuning steps over a range of ten full turns of the large tuning knob that tuned with velvet smoothness. Ten times the circumference of the dial is 12 feet (nearly 4 m), which allowed for great frequency resolution. The four standard coils, A, B, C, and D, covered 14-30, 7-14.4, 3.5-7.3, and 1.7-4 MHz, respectively. Two other coils, E and F, sold separately, covered 960–2050 kHz and 480–960 kHz, respectively.[Before each radio left the factory, a technician custom calibrated a set of A, B, C, and D coils for that particular radio, a process that took nearly 4 hours. Each of the four main coils also had bandspread modes set by moving screws that limited the frequency range to 28-29.7, 14-14.4, 7-7.3, 3.5-4 MHz, respectively, for amateur radio use.

Conclusions

So now, when you throw that bandswitch, or simply push a button to go from 40M to 20M to 10M, a lot of 'switching' takes place automatically. In the past, you had to do it all manually, from changing multiple coils, in both your receiver and transmitter, to throwing several band switches, to now simply pushing buttons and letting the internal circuitry do it all for you.

Super Computer News Update

Nov 14, 2010

China overtook the United States at the head of the world of supercomputing on Sunday when a survey ranked one of its machines the fastest on the planet.

Tianhe-1, meaning Milky Way, achieved a computing speed of 2,570 trillion calculations per second, earning it the number one spot in the Top 500 (www.top500.org) survey of supercomputers.

The Jaguar computer at a US government facility in Tennessee, which had held the top spot, was ranked second with a speed of 1,750 trillion calculations per second.

Tianhe-1 does its warp-speed "thinking" at the National Centre for Supercomputing in the northern port city of Tianjin -- using mostly chips designed by US companies.

Another Chinese system, the Nebulae machine at the National Supercomputing Centre in the southern city of Shenzhen, came in third.

The United States still dominates, with more than half of the entries in the Top 500 list, but China now boasts 42 systems in the rankings, putting it ahead of Japan, France, Germany and Britain.

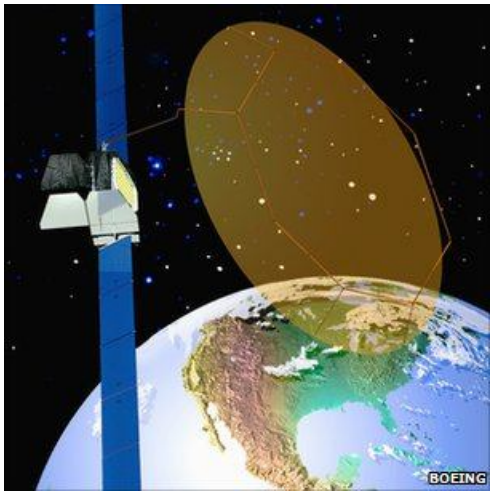
Huge antenna launched into space

A US satellite carrying the biggest commercial antenna reflector ever put in space has been launched successfully from Baikonur in Kazakhstan.

The mesh structure on the Skyterra-1 spacecraft is 22m (72ft) across.

It will relay signals for a new 4G-LTE mobile phone and data system for North America run by Lightsquared.

Callers whose networks are tied into the system will be automatically switched to a satellite if they are out of range of a terrestrial mast.



Lightsquared is the latest effort to try to establish a hybrid satellite-terrestrial system in the US.

Two previous ventures ran into financial problems. Both Terrestar and DBSD North America had to seek legal protection under Chapter 11 bankruptcy rules while they sought to restructure enormous debts built up as they rolled out their systems.

LightSquared has promised a different approach. It says its business will be wholesale only. It will be selling capacity to carriers who wish to offer go-anywhere connectivity to their consumers, be they phone or data users.

The system will be capable of supporting smartphone-sized devices, it says.

Under a schedule approved by the Federal Communications Commission (FCC), the company has to have a ground network of terrestrial stations in place to serve 90% of the US population

by the end of 2015.

The Skyterra-1 satellite was launched from Baikonur on a Proton rocket at 2329 local time on Sunday (1729 GMT)

The 5.4-tonne satellite will be located at 101.3 degrees West longitude and is expected to have a service life of 15 years.

The launch was the 10th Proton flight of 2010, and the seventh organised by International Launch Services, the company that sells the Russian rocket to commercial operators who need to get satellites into orbit.

The 22m-antenna on Skyterra-1 should be deployed by the end of the month. A second satellite, Skyterra-2, will follow in 2011.

Source: BBC News

Awards

CQ Magazine, Ted K1BV Awards Custodian announced:

USACA #1207	Steve, N0SM	November 15, 2010
USACA #1208	Dave, KW1DX	November 19, 2010

MARAC has issued the following awards:

Second Time #309	Pete, N4AKP	November 1, 2010
Bingo #323	Fred, K0LG	October 30, 2010
Bingo II #75	Jerry, N5KGY	October 28, 2010
Bingo II #76	Bob, N8KIE	October 30, 2010
USACA #118	Jim, NW6S	November 20, 2010
USA CW II #23	Pete, N4AKP	November 1, 2010
USA CW III #12	Tom, K7REL	November 8, 2010
Master Gold #46	Jim, N4JT	November 19, 2010

Events for County Hunters

There are no QSO Parties Scheduled in December. You have several ARRL contests including the 160M and 10M contests to chase band counties. The fun begins again in 2011.

This issue a bit short and only has mobile activity up to Nov 20, 2010. N4CD is off on 'vacation' for turkey day. Enjoy the holidays and see you in the Jan 1 issue.