County Hunter News

November 1, 2006
Volume 2, Issue 11

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 attempt to provide you with interesting, thought provoking articles, articles of county hunting history, or about county hunters or events, or provide news of upcoming events.

We hope you will enjoy the new 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.

County Hunter Nets run on 14.0565, 10.126, and 7038.5, with activity nights on 3556.5 on Tuesday evenings around 8-9pm Eastern Time

You can see live spots of county hunter activity at ch.w6rk.com

De N4CD (email: telegraphy@verizon.net)

Notes from the Editor

The CW net is now in operation for a two months on 10.126 – but had some interference issues with Pactor and the 'numbers station'. Investigations are underway to select a different frequency to use on 30 meters.

Some have mentioned that 30 meter activity seems way off. Various reasons have been proposed, but at this end, listening to 10.126 for hours a day results in me turning down the volume often to avoid hearing the Pactor –

and it doesn't get turned back up sometimes. Others have suggested now that several of the 'big guns' have finished working them all on 30M, they are off on other challenges. In addition, 40 meter conditions continue to improve, it is contest season with many state QSO parties and other contests to snag counties, so maybe several different things are going on. One of the net control stations, K2NJ, was laid up for a week and not on the air.

Wow- an excellent month for people who operate both modes. KQ0B finished up second time – he is active both modes. Silver, KC0JG, finished up the difficult Five Star award – using both SSB and CW to hunt down those stars in the counties. Carol Ann, AB2LS, for the past several years has been snagging counties both modes, just got her Master's Gold award. . Great going, and I'm sure being able to work both modes has helped all of them finish up more quickly. N3XX and AD6Z finished up 'all cw', too. The IL QSO party was good for many despite horrible propagation conditions.

It's now 'contest' season with Sweepstakes, and many DX contests, and ARRL 10M and 160M contests coming up. Plan your county hunting accordingly. It's hard to be a mobile when a major contest is going on. For cw, you have 30 meters always, but might lose 20 and 40M bands much of the time during the contests, depending whether it is SSB or CW. Even when the DX contests are SSB, the foreign stations often occupy the 40m cw band.

The cold weather has descended upon much of the USA. If you wish to get a flu shot (recommended for seniors and those not wishing to suffer the consequences of getting the flu), you can find a local place to get it at the following URL. IF you are over 65 and on Medicare, it will pay for the entire cost of the shots. Otherwise, private pay is about $25. Some insurance plans cover it. It's less expensive than buying bottles of flu medicine and coughing and hacking for 10 days. Type in your ZIP code.
http://www.findaflushot.com/lungusa/results.php?radius=5&zip=12181

More articles in the ham magazines are discussing the possibility that this next sunspot cycle may be as good as the one in 1957. I remember that one quite well. I got my ham license in 1963, during the sunspot minimum. Everyone continually told me "Gosh, you should have been here in 1957. Ten meters was open 24 hours a day, every day, and you could work the world with 10 watts and an indoor dipole". And that was 10w of AM –

antique modulation! This while I was struggling to work 1000 miles on cw in the 40 meter novice band, maybe 2000 miles in the 15 meter novice band, and you occasionally heard a DX station on 15 meters. I missed the 'big one' in 1957, and there hasn't been one as big since.

We had five or six days of no sunspots – a precursor toward getting to the sunspot minimum. Of course, that doesn't do much for HF propagation on the higher bands (20M and up). 30M isn't even sounding that good these days. It will be a good winter for 80 and 160, if you operate on those bands.

In this issue – some interesting articles on UltraCapacitors. Haven't heard of them? You will – they'll be 'standard stuff' across most of ham radio and electronics in the near future, most likely. There's a good chance they'll be used in your next car. Would you believe a power supply that will run a 100W transceiver that weights 1.25 lbs? They're a practical application of '**nano-technology'**. (Lots of info on nano-tech for those that missed it in previous issues of the CHNews – but skip the April 1 article). How about a different way to start your car? The word this month is "**ULTRACAPACITOR**'…….and you'll be seeing a lot more of these.

Also information on how to extract 'band counties' totals for the CCA from Kwiklog, more on Sunspot Cycle 24, Peak Oil news and potential nifty solutions, Award announcements, and the County Hunter Activities Calendar.

Counties for the County Challenge Award

Randy, AA8R, sent this helpful email that will allow people to extract the necessary counts from Kwiklog to see how they are doing in the County Challenge Award.

You can find the files on his web site: www.AA8R.com

"I have developed a VB6 program that will take the KWIKLOG MASTER file in as input and produce a formatted output file that can be emailed to Risto. The MASTER.QSO needs to converted to a .CSV file first. There is a utility in KWIKLOG that will do that for them. It will produce all the need breakdowns including total counties per band for each mode as well as the

COMBO & MIXED. This application can be down loaded for free from my web at WWW.AA8R.COM. Once it's down load it will have to UNZIPPED. Users are advised to read the README.TXT first. -- OR -- the folks can send me copy of their MASTER.CSV and I will send back their totals."

This will allow folks to determine both by band and mode their counts on working toward getting them all on each band/each mode, or reaching certain 'band county' totals, or just tracking to see how well they are doing. When you can't get 'new' counties to finish up umpteenth time, you can be filling in missing band/counties by mode working mobiles/helping them run.

Risto, W6RK, updates his band/county totals every few weeks. Please get in your totals to him for listing. Even if you operate only SSB, you can send in your data. Then your 'challenge' is to up those numbers over time – maybe getting to all counties on 40M, or 1000 counties on 10M or whatever you decide!

FCC Band Plan Changes!

From ARRL Letter, October 13, 2006, courtesy ARRL, Inc, Newington, CT

FCC RELEASES LONG-AWAITED "OMNIBUS" AMATEUR RADIO REPORT AND ORDER

Ending a protracted waiting period, the FCC's Report and Order (R&O) in the so-called "omnibus" Amateur Radio proceeding, WT Docket 04-140, was adopted October 4 and released October 10. In it, the FCC adopted nearly all of the changes it had put forth in its 2004 Notice of Proposed Rulemaking (NPRM).

The new rules are expected to become effective later this year. Among the highlights in the October 10 Report and Order, the FCC:

* "refarmed" the current Novice/Tech Plus bands to expand certain phone subbands;

* agreed to allow Novice and Tech Plus licensees to operate CW in the General class CW subbands on 80, 40, 15 and 10 meters.

* deleted the requirement to publicly announce Amateur Radio examination locations and times.

Generals will be able to operate on phone from 3800 to 4000 kHz, Advanced class licensees from 3700 to 4000, and Amateur Extras from 3600 to 4000 kHz – greatly reducing the amount of 80-meter spectrum available for RTTY and data (the only segment where automatically controlled digital stations may operate on 80 meters is 3620 to 3635 kHz).

On 40 meters, Advanced and Extra Class licensees will be able to operate phone from 7125 to 7300 kHz, and Generals from 7175 to 7300 kHz. On 15 meters, General class operators may operate phone from 21,275 to 21,450 kHz.

The FCC affirmed its intention to permit Novice and Tech Plus (or Technician with Element 1 credit) licensees to operate CW in the current General exclusive-CW allocations on 80, 40 and 15 meters and CW/data on 10 meters, where the FCC provided an additional 100 kHz for Novice/Tech Plus licensees.

The various rule changes become effective 30 days after their publication in the Federal Register.

ARRL has posted a list of Frequently Asked Questions (FAQs) regarding the R&O <http://www.arrl.org/announce/regulatory/wt04-140/faq.html>.

A downloadable chart shows the band changes <http://www.arrl.org/announce/regulatory/wt04-140/Hambands3_color.pdf>.

The K2NJ/WB2AXG Adventure

How the West was Lost

A Little Background is needed first…

We wanted to travel again this year, but with a 12 year old Motor-home, it was not to be. Neither of us wanted to even admit to the other that we need a more reliable vehicle. With my health issues, we need something we could rely on, but with our financial situation, there was no way we could spend these big bux… Bless Gail, she was on the internet and found exactly what we needed.

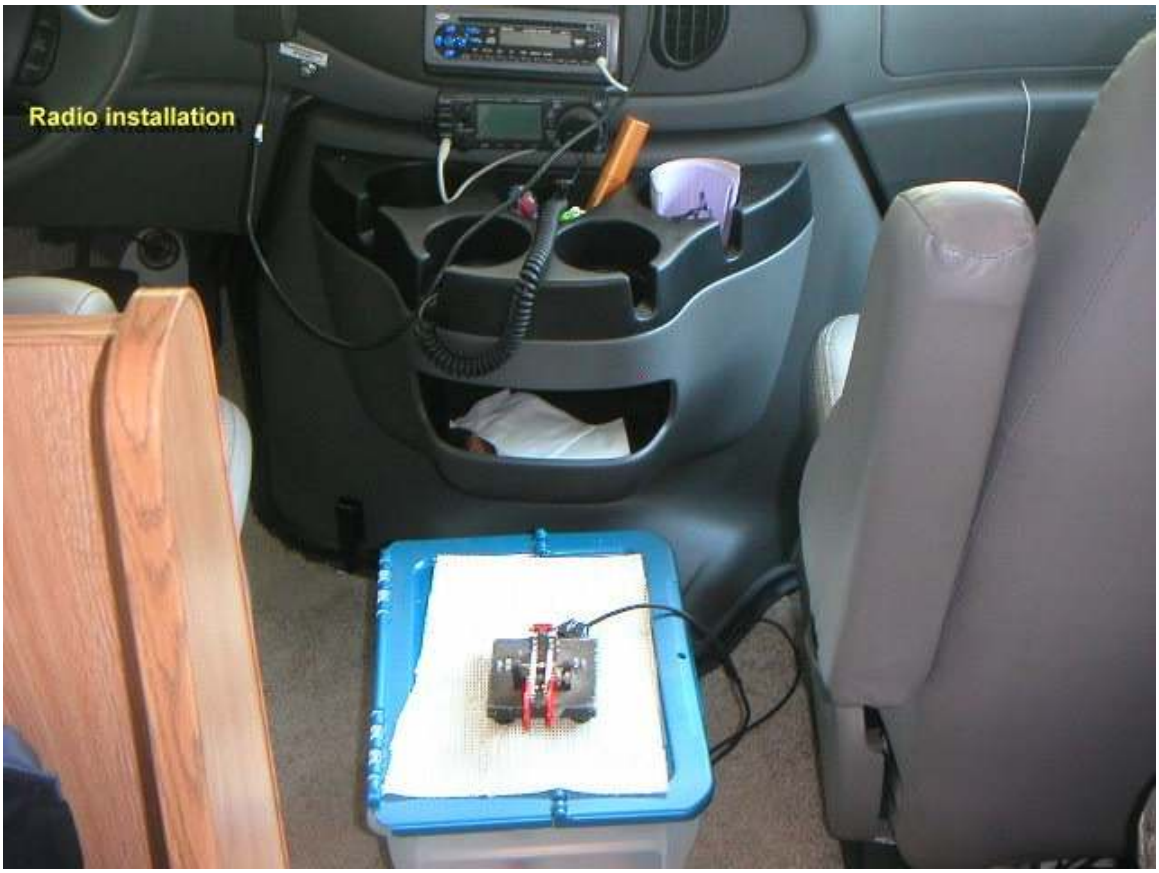
Coachmen Class C 295TH… with an attached toybox…. Now most people want the toybox to put their dirt bike, or 4x4 toys with them… We needed it for my "Lectric Chair" or Motorized Wheelchair… and this fit the bill, and was inexpensive (well, within the RV price range anyway).

We called the local dealer, and he had one on his lot and we decided to **LOOK** at it… after looking for an hour or so, we found ourselves signing papers… What the hell are we doing??? This cost more than we paid for our house…

We took the beast home, and decided that using the ramp system to get the Lectric chair up into it was **not** the best idea… since I almost lost it, going up the first time… we went looking for a chair lift… Found one on Ebay, that is almost identical to the one in our Van… so we bought it and brought it up to Tony (our Magician, Mechanic) to install in the new RV… Now we were ready… and in April took a quick trip to NC to visit friends… found a few things that rattled loose and got them fixed… we are now ready to plan on the BIG trip…

Planning and starting off…

Ya see, we have been in 42 of the real 48 states, not including the DX states (sorry Kent and gang)… we wanted to finish up them this year… so real big plans for after the convention in Wisconsin. I spent hours going through scenario after scenario on the map software. First thing we are to visit a friend Gail works with (at her Mom's house in Illinois, where she grew up)… then I wanted to visit friends I used to work with along with WB9STT in the Chicago area… then off to the convention… after that, no real schedule… yes, places and people to see, but no date/times….
Weeks prior to the start date (1 July) everything was packed – Rig tested and ready… Antenna ready… etc. The week prior to leaving the bedding was put down, the backup rig (one I use in the living room) was packed away in the RV… EVERYTHING was ready, except Gail was still working. We were just waiting for Saturday to come along.



Let the trip begin:

When she got home on Friday, I suggested we leave now… she said something about my parents not being married.. I knew that she was tired… I would have to wait. We went to bed about 9 that night… Now, I was not sleepy and tossed and turned for hours… and about 5 AM I woke up – one of the many potty calls with these damn diuretics I am taking… I decided that was enough… I poked her (gently) saying that Santa was here during the night and we should go check under the tree… She again said something about my parents, and theirs… BUT I was awake and ready… I got up, got dressed and again poked her saying she should come and see all the presents that Santa put under the tree… She said something about where I should put my damn tree… but she was awake now… and within 15 minutes we were in the RV ready to hit the road… We didn't even wake the kids to tell them we were leaving… They would figure it out when we were gone and the RV was missing…

We hit dunkin' doughnuts for coffee and pointed west. Beautiful sunrise over our shoulders… and down through Pennsylvania Dutch Country… where we could get a great lunch… worked a few early risers.. soon it was time to find where to eat… Seeing a big sign for "Good and Plenty" (nicknames the PA Dutch use for their food style) we pulled into this Mega-Restaurant and we went in (now I should explain that my Grandmother was only one generation removed from the PA Dutch Community) So I was really looking forward to this feast… It was Smorgasbord style, not Family style that I am familiar with (Most PA-D is family style, you sit and they bring bowls – you serve yourself and talk to strangers, family etc…)… So something should have set off my alarm then… I took off in my Lectric' Chair… grabbed a plate and went to the food line… There was some Pickled beets.. (good), Corn Relish (also Good, authentic)… Fried Chicken (not too good, PA-D had their chicken boiled, then with gravy and served over noodles (big thick ones – and sliced Potatoes)… but we were in South PA… maybe this is the southern influence… so I took some… the next vat was PIZZA… then Chinese Food… Sushi, Manicotti, now wait a flippin minute… I didn't drive 4 hours to get to eat NJ food… Gail calmed me down and we ate.. (I was picky on what I ate… made them pay for this…)… I had PA Dutch Crab legs, PA-D Sushi, PA-D Peking Duck… you get the picture… only the expensive stuff… Then it was desert time… They had "Shoo-Fly-Pie" on the menu… it's a molasses center, with crumbs on top and a flaky crust underneath… Well this came out without the Molasses or crumbs.. it was a cake inside of a hard pie crust… Gail knew it was time to get me out of there… and back on the road…

Now, we have been in this area a lot in the past… but then, I have never been in Gettysburg PA on the 4th of July weekend before.. .So now you find us two miles from town, sitting in bumper to bumper traffic. An Hour later we are in the center of Gettysburg only to find drum and bugle corps, guys in Grey… Guys in Blue… and Gobs of tourists with camera's in the roadway… Gail was driving or we would never have made it any farther than the local Jail… - another half hour we are through town and on an open road again… Gee, start about three hours before you were expected.. and only an hour behind schedule.. not too bad.

Met up with N2OCW and Pam in MD for a nice chitchat. Then off west again… passing out counties – working a few new ones also.. nice.. and into the first campground on the trip.. just outside of Charleston WV…

I get an Email from KO1U wondering if I can get Larue KY for him, his LC… I look and its only about 25 miles out of the way… sure… it would be morning on Monday… Ran a bunch of counties in the hills of Eastern KY, logged a bunch of contacts.. Night two on the road… Mid-East Kentucky. Not only did I have this one for KO1U, I had two for W0GXQ and one for K7REL on the schedule for western KY.

Get up and running and about noon or so, I get to the GO-NO GO spot for going for KO1U's county… call him, no answer… Jerry called him on the phone and said he is there but has noise… I turn south… and about 45 minutes later (slow road) I am in Larue KY… I call KO1U… nada… Jerry (W0GXQ) phones him and he says he has s7 noise, forget it… AAAGH!… I get Mark's phone number and call him… ouch, he holds the phone near his rig… buzzzzzz.. big time – but I am not easy to quit… I hit my key and dit dit dit dit comes through the phone… I tell him that is me… to put the phone down, and lets work… We did and he was happy… and he says " Thanks, Now see you in Webster "… Did my ears hear right, did I drive 45 minutes for a next to last??? Only to have to drive back up.. oh well, I helped him… off we go back to the route, and down the road work Jerry for his Last in KY(Hopkins) then in Webster… then work KO1U for his LC……
After the run, my cell phone rings… Gail gets it… and she is talking while I finish up the Last Call etc… I look at her and she is all teary eyed… and hands the phone to me. It was Mark, and he called to explain that Larue was his last for WBOW Mixed Mode… and that Webster was his last for WBOW for CW… WOW… two LC-WBOW from one guy in two days… wonder if this has ever been done before???? Got K7REL his next to last but sorry to say his LC was just a bit too far out of the way to get (at least a day)… so I set it up for someone else to get… Still had one in line for N4AKP in IL to get to before we start our visits…

Illinois was a state near finished for us, we needed to only operate from about a dozen or so counties to have operated from all of them… I laid out the route very carefully, not to miss any… and to take the shortest route possible. Well, it wasn't until we were in the campground in WI that I noticed a slight problem. We missed one in southern Illinois.. shoot, there goes our new state for this year… kinda took the wind out of our sails, and we skipped a few in WI since – gee, why not… kinda put us in a funk for a few days… almost turned south to get it… hell, only two days each way – next year on the way to Denver…

Some of the best times on a trip are the ones you don't plan on, they just happen. We were in Northwestern Illinois, and running counties when N9JF called and he was a few miles away and drove over to meet us. He is a genuine nice guy… Why he wanted to meet me is still a question. We spent quite a while discussing county hunting, mobile operation etc… Now another good friend that we got to know so much better…
As normal, we never thought to pull out the camera and snap a pix of him... or anyone else... duhh?

The visit with Gail's friend fell through – she got stuck in NJ and could not make it out till the weekend… we stopped by and said hi to her mom and Gail took her out shopping, and we went out to dinner… and off we went to the campground near Chicago. The next day, off to brunch with my friends (we were able to move everything up two days now, and they had no problem with this)… then off to Door county WI (well, almost directly there, zig zag a bit) to rest up prior to the convention.

What a shock once we got there… we were worried about getting a camp site – but once we got in and found that out of the 97 sites at the campground, only two other campers were there. We went out to a Fish Boil… (local thing, gotta try it)… we talked to the chef (if you call the guy who puts logs on the fire the chef) and he said tourism is off about 90% so far and that they are usually swamped… now only a handful of people there. Gotta love our government (nope, wont go there).

Went to the convention (I am sure it was covered other places, but in a word… great… wonderful, wow!)… ok a few words… From here we were free to travel as we wanted and no more schedules. (well, sorta – Ya see Jerry was down to a handful of counties needed on 30m… he wanted me to get the last one for him in MT. We agreed to do this, and had to wait for him to get the ones in VA first, then we head for the Chouteau – Liberty county line for his next to and his last…).
On the way west to visit our friends outside of Fort Collins, CO… we did see a lot of windmills – This is very exciting to us because of their minimal impact on the environment and produce the power this country really needs. Almost every state we went through had some form of them, but this monster farm in Montana was impressive. These monsters go from horizon to horizon, but this picture shows the company name and gives some sense

of size of the towers. Imagine having these towers in your antenna farm… each with a monster beam on em… hmmmm…

We were in Fort Collins, CO area, visiting a good friend… Well, let me tell you that with crappy lungs, 8,800 feet is nothing to laugh about. Even with supplemental oxygen, you can't get your breath. I was sucking two O2 tanks dry at a time, so we cut our visit with our friends short and headed down to 5,000 feet as soon as we could. Then north through WY and into SD and found out why Custer lost at Little Big Horn… boy, the history books sure don't tell the real story. He flat out screwed up big time… Enough tourist stuff… lets go get some counties.

Got Jerry Custer MT (southeast corner) then off to the North West to get the other two… - Little did I know when plotting this on the software that the last 45 miles was on a dirt (what dirt, all rocks and dust) road…(software shows secondary road, nothing about the surface).. we drove it at about 15mph or vibrate to death… Finally got to the county line (yep, another E/W

dirt road) and parked in the middle of it. Called Jerry, worked him… congratulated him and ran the line.

This is a picture Form Chouteau across the line to Liberty, if you went on the northern side of the road, the Chouteau sign is on the south side of the road… another WIDE line hi hi. GPS shows me right on the line… so no question about it.

We left the line and went south and then decided to go west, not east and retrace the route.. .good move, because about a mile or so down the line… PAVEMENT… unreal how nice this was… From here we went to Yellowstone NP and played tourist again. (yea, a day and a half drive, just down the road a bit)… so far, only Colorado was a new state for us. We were originally going to go from CO into UT and then west… but somehow got detoured a week. But very worth it to help out a friend become the first ever in the world to work all counties on a new band.

We came from the north this time, and called to see if West Yellowstone had camping at the campground in town (walk to everything, not pull up steaks)

but they didn't have anything open that night… OK the next one… SO… We stayed in Bozeman MT… This was good news and bad news… There are tourists out this way…. And … There are tourists out this way… We have stayed in West Yellowstone before, nice town but a bit expensive and totally out to get your money. We came down through Gardiner (north entrance to the park) and stopped to have a Buffalo and an Elk Burger. (Elk was better). Price was not a ripoff… so now the next time we come to Yellowstone we will stay there.

In West Yellowstone we went to our very first Rodeo. This was something we had on our checkoff list. Nice, small town Rodeo – Rah Rah USA, and all that. Lots of guys falling off horses and bulls… what a ball.

We arrived at Old Faithful parking lot and were out of the RV – amazed to see two Ravens working on the zipper a backpack on the back of a motorcycle. We chased them away and they went on to land on top of a car with a roof rack with a vinyl suitcases… We (many of us now) watched them tear into this mesh and get to the food and clothing in the rack. We tried to shoo them, but to no avail…. Anyway, the car had California plates on it… and there was no way to notify the owners of what was going on. Off to see the show at Old Faithful. (which we missed cuz of the Ravens) – had to wait for someone to pour more water down the hole…

All over the Park there are signs stating that these animals are wild.. do not get close to them… Never… Ever… Well, someone forgot to point this out to Gail. Neat picture of a sleeping Bull Buffalo.

She survived it… hi

From here we headed west across Idaho, Malheur Oregon and … hey, what happened to everyone? Hello!!! WOW.. Now I know what Larry (NA7W) is bitchin bout… Seriously, being on the left side of the mountains is different. Nobody hears you… I had to fight to make a QSO from each county we visited. Many I had to beg for a contact (Thanks to the left coasters who took pity on me) and off to San Francisco and up to Muir Woods to see the Giant Redwood's. Wow, would love to have some of them in my yard… imagine how dipoles at 200 feet would play… alas, not to be…

Had a wonderful visit with Bill AD6Z, one of the highlights of the trip, Stupid me, I left the camera sitting in the RV and now nobody will believe me when I describe him... Wonderful man and his wife sure were hospitable. Chatted like we knew each-other our whole lives… From there we went to

Las Vegas… No, we didn't loose much… six whole dollars in slots… but sure we were impressed with the city. The first night we stayed in a campground north of the city, and what a pain it was to commute – Gail made some checking and found we were able to stay in the Excaliber cheaper than in a campground… and as Gail said "someone else made the beds"… hi.

On the road again and we cross the RF divide (not to be called continental divide again) to visit with a girl that used to live up the road from us, but married a guy in the Army. He was stationed in WA, and then they moved to OK… two weeks later, he was in Iraq and she and the two babies were in Lawton OK, not knowing anyone or whatever… so we stopped in to give her some reassurance… And went out for a nice meal, then off East again.

I have to admit the best runs were in KY and NC. Guess lots of people need stuff there and we will take that into account when we head out next time.

When you put the miles on any vehicle as we did this summer, you have to change oil along the way. Now you pull into one of these Jiffy Lube, or Quick Lube places… they are really surprised and you just fit into the stall. They will NOT do the oil in your onboard generator. I need this changed because I run it and it powers my oxygen concentrator. I had to go to a Marine repair place in WI to get this done the first time out. After that, we asked at the campground for a reliable local guy and have them do the work. They appreciate the business and they take care of everything… and usually cheaper than the chain.

Now for the statistics:

Miles driven - 11,757
Gallons of Gas - 1,440
Cost for Gas - $4,187.20

Campgrounds cost us about $1,600 or about $33 a night… This includes Cable hook ups, WIFI (Internet) Fee's which account for about $6 a night extra.

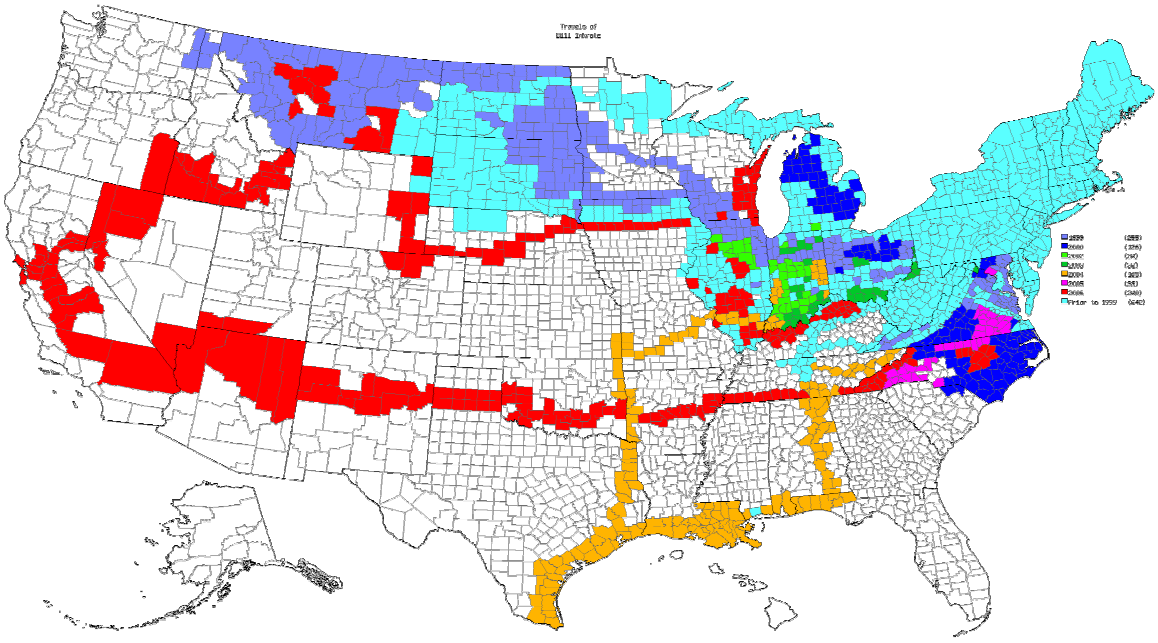
Food was just under $2,000 – this includes eating out and groceries bought and cooked in the RV… which of course was much cheaper, but then in Las Vegas… I am not going to cook in the RV when there is all that stuff to investigate.

Misc – was $1,887 – This includes a little over a thousand dollars in getting my Oxygen tanks swapped out or refilled while on the road. I hope to get this back from Blue Cross, but don't hold your breath… So I am still including it in the totals.

So this trip cost us about Ten Thousand Dollars, and when you consider that we were on the road two months – not too bad… We had 4,500 QSO in the log and 90% of them were on 30M CW… not too many on 20SSB because of my voice problems and congestion… I have talked to the doctor and they think it will be fixed soon with the new meds I am on (heard that before)..

Now the question, would we do it again… I am afraid to say NO… We started out great, but as the time went on the kids (remember them, three of 'em at home) were getting on each other and needed a referee or two… We also were getting fatigued towards the end of the trip. Next time will be about 30 or 40 days max and plan on less road time and more sight seeing time (yea, I say this every year)… also would like to see us plan on something and blitz a state or two .. not do major travel like this.

Here is the counties we have done so far…



You can blow them up a bit by visiting the web site : http://www.mob-rule.com/counties/user-gifs/k2nj.gif it's a great web site for county hunters. You can sign up for it (FREE) at http://www.mob-rule.com/counties/ Use of the site is very easy and once you get into it, it really is neat to see where you have been. I use the colors to indicate the FIRST time I have put it out…

I thank the fella's who stuck with us and acted as NCS and doing all the QSP rolls. I am happy to say I gave out 4 LC for the WBOW on this trip… KO1U (twice), W0GXQ (first on 30M) and VE1WT (Bingo). As well as many LC's for states…. Its nice to know that you are helping others while having a ball.

Hope to make a minor trip every month (cant let the beast sit in the driveway alone can we?) so let me know where you need things in say 300 miles of my QTH and I will do what we can to get them. Thanks for riding along this summer… 73'

Bill n' Gail K2NJ n' WB2AXG

160 Meter Transatlantic Beacon Text

from the ARRL Letter, Oct 6, 2006, courtesy ARRL, Inc, Newington, CT 06111

“160-METER EXPERIMENT WILL EXPLORE MARCONI'S 1901 TRANSATLANTIC SUCCESS

A 160-meter beacon will take to the air this fall and winter from Cornwall, England, to explore how Guglielmo Marconi was able to span the Atlantic by wireless for the first time on December 12, 1901. Radio history says that's when the radio pioneer at a receiving station in Newfoundland successfully copied the Morse code letter "s" sent repeatedly by his team in the Cornwall town of Poldhu. The latter-day venture is a cooperative effort of the Poldhu Amateur Radio Club (PARK) in Cornwall and the Marconi Radio Club of Newfoundland (MCRN). The Poldhu club's Keith Matthew, G0WYS, said the 2001 centenary of Marconi's achievement reopened discussion into the mechanism by which the 1901 spark transmitter signal propagated.

"The winter of 1901 coincided with a sunspot minimum, and it was realized that this coming December 2006 should show similar conditions to those of December 1901," he said. Just how Marconi was able to receive the transatlantic transmission has long been a topic of discussion and even controversy, especially given the frequency Marconi is likely to have used, thought to be between 800 and 900 kHz, and the time of day, afternoon in Newfoundland.

"The beacon will help understand the possibility of low sunspot number transatlantic medium wave propagation 24 hours a day, but especially 1400 through 1800 UTC," Matthew said. The 160-meter amateur band is being used, he explained, because Marconi's original frequency today is a highly populated piece of the radio spectrum.

"It was realized that a clear channel would be necessary on the nearest amateur band, and a temporary license to operate a beacon on 160 meters has now been obtained," Matthew announced. Starting on or about

November 1 and continuing through next February, the GB3SSS beacon will transmit on 1960 kHz.

The 1960 kHz beacon will use a two-minute transmit sequence starting at the top of the hour. It will consist of a CW identification followed by a series of carrier bursts, each reducing in power by 6 dB. An identification in PSK31 will follow. The transmit sequence will repeat at 15-minute intervals.

On the listening end in Newfoundland will be well-known low-frequency experimenter Joe Craig, VO1NA, of the MRCN, who lives near St John's. "This is a very exciting project," Craig said. "I am very grateful for the support from my fellow members in the club and our sister club, the Poldhu Amateur Radio Club." Craig offered his own observations on Marconi's 1901 feat in a 2001 article "Marconi's First Transatlantic Wireless Experiment," for The Canadian Amateur, the journal of Radio Amateurs of Canada (RAC) <http://www.ucs.mun.ca/~jcraig/marconi.html>. Also monitoring in North America will be the Antique Wireless Association's W2AN club station in upstate New York.

ARRL member and radio history buff Bart Lee, KV6LEE, proposed the 160-meter experiment to test the feasibility of Marconi's 1901 claimed achievement. "Continuing cooperation between Canadian and British Amateur Radio operators can thus play a part in verification of one of the most interesting events in the history of our technology," Lee said in his article "A Plea for Timely Experiments" on the California Historical Radio Web site <http://www.californiahistoricalradio.com/photos53.html>. Lee and Matthew recently visited with Craig and other MRCN members in Newfoundland.

Sunspot Cycle 24

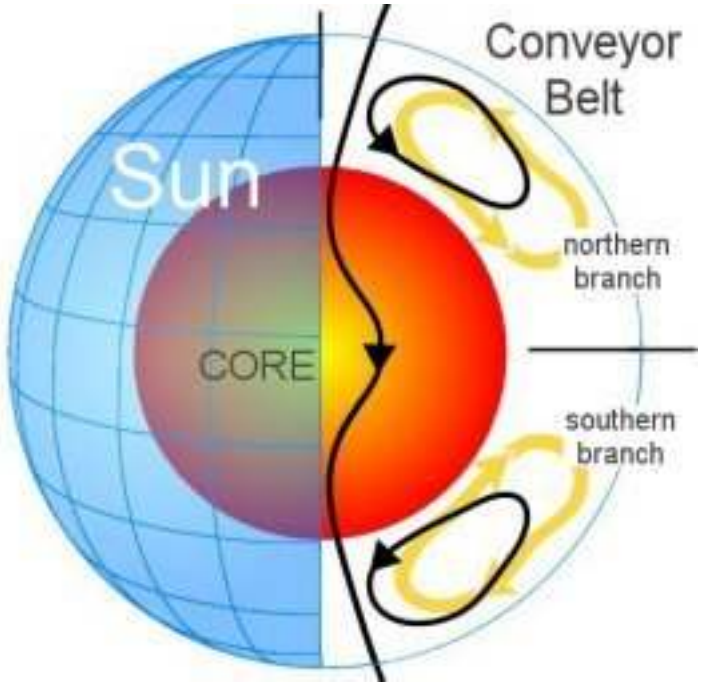
More info (From NASA press releases)

In March, researchers announced that a storm ***is*** coming--the most intense solar maximum in fifty years. The prediction comes from a team led by Mausumi Dikpati of the National Center for Atmospheric Research (NCAR). "The next sunspot cycle will be 30% to 50% stronger than the

previous one," she says. If correct, the years ahead could produce a burst of solar activity second only to the historic Solar Max of 1958.

Dikpati's prediction is unprecedented. In nearly-two centuries since the 11-year sunspot cycle was discovered, scientists have struggled to predict the size of future maxima—and failed. Solar maxima can be intense, as in 1958, or barely detectable, as in 1805, obeying no obvious pattern.

The key to the mystery, Dikpati realized years ago, is a conveyor belt on the sun.



We have something similar here on Earth—the Great Ocean Conveyor Belt, popularized in the sci-fi movie *The Day After Tomorrow*. It is a network of currents that carry water and heat from ocean to ocean--see the diagram below. In the movie, the Conveyor Belt stopped and threw the world's weather into chaos.

The sun's conveyor belt is a current, not of water, but of electrically-conducting gas. It flows in a loop from the sun's equator to the poles and back again. Just as the Great Ocean Conveyor Belt controls weather on Earth, this solar conveyor belt controls weather on the sun. Specifically, it controls the sunspot cycle.

The subsurface plasma flow used in the model has been verified with the relatively new technique of helioseismology, based on observations from both NSF– and NASA–supported instruments. This technique tracks sound waves reverberating inside the Sun to reveal details about the interior, much as a doctor might use an ultrasound to see inside a patient.

The NCAR team's computer model, known as the Predictive Flux-transport Dynamo Model, draws on research by NCAR scientists indicating that the evolution of sunspots is caused by a current of plasma, or electrified gas, that circulates between the Sun's equator and its poles over a period of 17 to 22 years. Researchers believe the turning of the belt controls the sunspot cycle.

"The top of the conveyor belt skims the surface of the sun, sweeping up the magnetic fields of old, dead sunspots. The 'corpses' are dragged down at the poles to a depth of 120,000 miles where the sun's magnetic dynamo can amplify them. Once the corpses (magnetic knots) are reincarnated (amplified), they become buoyant and float back to the surface." Presto—new sunspots!

How do you observe a belt that plunges 120,000 below the surface of the sun? "We do it using sunspots," Hathaway explains. Sunspots are magnetic knots that bubble up from the base of the conveyor belt, eventually popping through the surface of the sun. Astronomers have long known that sunspots have a tendency to drift—from mid solar latitudes toward the sun's equator. According to current thinking, this drift is caused by the motion of the conveyor belt. "By measuring the drift of sunspot groups," says Hathaway, "we indirectly measure the speed of the belt."

Using historical sunspot records, Hathaway has succeeded in clocking the conveyor belt as far back as 1890. The numbers are compelling: For more than a century, "the speed of the belt has been a good predictor of future solar activity."

When the belt is turning "fast," it means that lots of magnetic fields are being swept up, and that a future sunspot cycle is going to be intense. This is a basis for forecasting: "The belt was turning fast in 1986-1996," says Hathaway. "Old magnetic fields swept up then should re-appear as big sunspots in 2010-2011."

Like most experts in the field, Hathaway has confidence in the conveyor belt model and agrees with Dikpati that the next solar maximum should be a doozy. But he disagrees with one point. Dikpati's forecast puts Solar Max at 2012. Hathaway believes it will arrive sooner, in 2010 or 2011.

Not only has this new method of looking at the conveyor activity indicated that this will be a 'big one', other methods are predicting the same.

In another paper, Hathaway and Wilson of NASA show that the level of geomagnetic activity near the time of solar activity minimum has been a reliable indicator for the amplitude of the following solar activity maximum. The geomagnetic activity index can be split into two components: one associated with solar flares, prominence eruptions, and coronal mass ejections which follows the solar activity cycle and a second component associated with recurrent high speed solar wind streams which is out of phase with the solar activity cycle. This second component often peaks before solar activity minimum and has been one of the most reliable indicators for the amplitude of the following maximum. The size of the recent maximum in this second component indicates that solar activity cycle 24 will be much higher than recent cycles with a peak smoothed sunspot number of 160 ± 25.

Wow! Maybe only 4 or 5 years to a sunspot max like few of us have ever experienced. (The bad news is that cycle 25, peaking 11 years later, is going to be one of the all time duds). Just think how many band-counties folks are going to accumulate this sunspot cycle! Things will be wild! Heck, hams in AK will likely be filling in 1000 counties on six meters alone with little effort as folks pile on trying to put AK in the log book! In the late 70s, you could work 5000 miles on six with 10 watts. It was even better in 1957/58, so I hear!

Peak Oil News

Some readers noted that we have provided lots of 'oil news' but few solutions. Here's some of the things potentially on the horizon. The CHNews has covered improved solar cell technology, windmills, the contribution of nano-tech to energy efficiency, 'net zero energy houses', hybrid vehicles (going back to the 1910s), hydraulic hybrids, and other interesting items along these lines. Now some other stuff.

Improving the Ethanol Efficiency

As mentioned earlier, in the CHNews, the production of ethanol from corn is highly energy dependent – it takes a lot of energy to make just a bit more. If you need a million gallons of ethanol a day, it takes 900,000 gallons 'worth' of energy to make that million gallons, so you really have to make about 11 million to get a net of 1 million. This is known on EROEI – Energy Returned on Energy Invested. For ethanol from corn, it is about 1.1:1

To put this in perspective, the first oil wells gave you an EROEI – for every 'gallon' worth of energy you invested to get it, you got 100 gallons worth of net energy. As wells got deeper and deeper, requiring more effort both the drill, and to get the oil out, and to transport it, and refine it, the ratio dropped to 30:1. Now, we are approaching 10:1 and will drop to 3:1 in the future with lots of 'tar sands' – which take tremendous amounts of Natural Gas to ''mine" and 'cook out" of the sand, and then process into useable fuels.

The most promising ways to fix this situation for ethanol are making fuels from cellulose, not corn, which promises to be much more efficient. Making ethanol from sugar cane, which has much higher sugar content, gives an EROEI of about 2 – you get twice as much energy out as you invested. However, not much of the USA, and very little of the political districts (think Iowa, IL, KS, WI and the 'corn belt' in the USA) grows sugar cane due to climatic considerations.

Some research being done in Iowa:
(http://www.physorg.com/news78508751.html)

“Burning natural gas to produce all that heat is the second largest expense at most ethanol plants – trailing only the cost of the corn used for ethanol production. One estimate says Iowa's annual production of more than one billion gallons of ethanol accounts for about 16 percent of the state's demand for natural gas.

That has Iowa State University researchers working with an Ames company to develop a renewable and cost effective alternative to the natural gas burned by most ethanol plants.

The technology involves partial combustion of biomass – that could include corn stalks, distillers grains, waste wood or other biorenewables – to produce a mixture of hydrogen, carbon monoxide, methane and other flammable gases. The resulting mixture is known as producer gas and it can replace natural gas in an ethanol plant's heaters. The producer gas can also be upgraded to what's known as syngas, a mixture that can be converted into high-value transportation fuels, alcohols, hydrogen, ammonia and other chemicals.

Producer gas is made by injecting biomass into a fluidized bed gasifier, a thermal system that pumps air up through a bed of hot sand, creating bubbles and a sand-air pseudo fluid. A reaction between the biomass and the hot sand-air mixture produces flammable gases. The process also generates its own heat to sustain the reaction. It's a system that's reliable, produces few emissions and can be efficiently integrated into a plant's existing natural gas boilers and dryers.”

Using biomass to fuel an ethanol plant can reduce ethanol costs could double the renewable energy ratio of the ethanol product.

Indonesia Update

From Chevron on their production in the country now: (http://www.antara.co.id/en/seenws/?id=21270)

"US-based Chevron Corporation estimates that its oil and gas production in Indonesia will undergo a decline of 8 or 9 percent to 555,000 barrels/day in 2007 from 610,000 barrels/day in 2006, a spokesman said.

To prevent a bigger decline in production, Chevron was also injecting 5.0 million barrels of water per day into its wells to yield 95,000 barrels more of oil per day. The company was expecting additional production from its oil/gas fields in East Kalimantan as of 2009."

"Chevron`s oil and condensate output in 2006 would account for 50 percent of Indonesia`s total oil production."

Oil and other 'Peak" Tidbits

T. Boone Pickens, who made his fortune predicting oil futures, now says oil will hit $70/bbl by year end. The 78 year old former oilman correctly predicted the multi-year rally in energy prices based on his view that crude oil is getting harder and harder to find and to produce. Prices will rise until they convince consumers to use less. His prediction is $100/bbl by next July because some 'geo-political' event will trigger that. There are lots of opportunities for those.

This year's world grain harvest is projected to fall short of consumption by 61 million tons, marking the sixth time in the last seven years that production has failed to satisfy demand. As a result of these shortfalls, world carryover stocks at the end of this crop year are projected to drop to 57 days of consumption, the shortest buffer since the 56-day-low in 1972 that triggered a doubling of grain prices.

World carryover stocks of grain, the amount in the bin when the next harvest begins, are the most basic measure of food security. Whenever stocks drop below 60 days of consumption, prices begin to rise.
With carryover stocks of grain at the lowest level in 34 years, the world may soon be facing high grain and oil prices at the same time (For the scores of low-income countries that import both oil and grain, this prospect is a sobering one.

Corn - U.S. farmers, the world's largest corn growers, will harvest 10.905 billion bushels, down 1.9 percent last year and a September forecast because farmers planted less than expected, the Department of Agriculture said. Global reserves of corn, used mostly as animal feed, will fall to the lowest since 1984.

U.S. inventories of corn before next year's harvest will drop to less than 31 days of use, compared with 64 days before this year's harvest at the end of August, the department said.

ED: Farmers are businessmen. If they have to use more diesel and fertilizer to raise more food, but can't sell it at a profit, they will take marginal lands out of production, or grow other crops that will generate more cash! Some are selling their water rights to cities – making more money, growing less food.

Wheat/Cereals - As the 2006 cereal seasons progress around the globe, latest data continue to point to a slight decrease in world cereal production to 2 020 million tonnes, about 1 percent or 18 million tonnes below the latest estimate of output in the previous year.

The bulk of this year's decrease is expected to be accounted for by the United States, where the planted area is estimated to have been reduced by 4 percent in favor of less input-intensive crops, such as soybeans.

ED: The cost of fuel to raise these crops makes them unattractive. "Less in-put intensive' means less use of fossil based fertilizers and less use of fossil fuels for tractors and combines and irrigation pumps! Keep in mind that modern farming converts fossil fuels, fossil fertilizers, and fossil fuels into crops.

The "State of the Art"

Remember back to when just the power supplies for a receiver like an HRO were separate units and weighed 20-30 lbs, and the power supply for a 100 watt radio, if separate, was about 40-60 lbs? Things have come a long way.

You can chose now between a dozen switching power supplies that will comfortably run a 100w output radio – and they weigh a just a few pounds – maybe 6 to 8 lbs? Comfortable to pick up with your hands, and no problem 'moving' them around in the shack. About the size of a transceiver for mobile use.

Of course, transceivers now weigh 6 or 8 lbs for the '100 watt' class, when 'way back' a DX-100 (100W AM transceiver) or similar weighed it at 100 lbs or so. Most of the weight was 'transformers' and chokes. (Power supply, filament, choke, and modulation transformer, plus audio output and interstate transformers).

Back on your ham tests 30-40 years ago, you sweated over figuring out capacitance in microfarads (mf) or in micro-micro farads (mmf), later picofarads (pf) , and sometimes nanofarads. In tube type equipment, maybe you would see power supply caps at 30 mfd at 300v ratings. In solid state equipment, maybe 100 mfd at 20v rating. Now, with advancing technology, we are into the "Farad" range of values. No measly 10,000 mfd, or even 50,000 mfd for large 12V 20A power supplies.

In the latest issue of CQ Magazine, Phil, AD5X, reviews a power supply available today that takes technology a step further. Now imagine a power supply that will run a 100w radio on SSB or CW that weights 1.25 lbs, and fits comfortably in the palm of your hand! The power supply is 3.37 by 1.55 by 5.25 inches in size, and works from 100 to 250 VAC. Talk about mini! A quarter the size of an IC-706.

It's interesting the way this is done. The Gamma HPS-1A supply uses a 5 amp power supply coupled with a 5 Farad (yes 5 Farad) capacitor bank. The capacitor bank is recharged during the space between cw characters, or

during time in the SSB signal where you don't need maximum output. Phil, AD5X, did some 'on the air' tests and concluded that as long as your cw speed is above 10 wpm, and you use QSK operation, it works FB. If you run non-QSK, you will need to drop down to about 80w output level. It was fine for SSB at 100w.

From their web site:

"Your radio uses power only 35% of the time when transmitting CW, and about 25% during normal Voice SSB operation. The Gamma HPS-1a provides full power capability by the use of Ultra-Capacitors which act like short term batteries. Between spoken syllables and between Morse code characters, the Ultra-Capacitors are being recharged, ready for the next high current pulse requirement. This allows the total weight and size of the power supply to be reduced to 1/3 that of any other power supply on the market. And it operates equally well on input voltages between 100 and 250 VAC, 50 or 60 Hz.

The HPS-1a is over-voltage protected, and current limited. Also RFI and EMI free." It contains five ultra-capacitors (25F each at 2.7v rating).

(For tune up, you can run about 25 watts).

Compared in size to an IC-706 or IC-7000, it sits on top easily with lots of space left over!

The web site for this supplier is www.gammaresearch.net The price range is $150 or so.

So now your entire fixed or portable station can weigh in less than 10 lbs.

Phil, AD5X's review is on line at www.AD5X.com

Nifty? You bet! Can we think of some other uses for UltraCapacitors? Stay tuned!.....another product next month. You can buy ultra capacitors now – they are about $5 for a 25 Farad unit at 2.7v. (It seems that all ultra capacitors are rated at 2.7v).

Peak Oil Solutions – Science or Science Fiction?

Folks want some answers to 'peak oil'. Here's one to put on the back burner. You read about a practical application of UltraCapacitors in the article above of a readily available product. Now, here's something that may or may not happen….but you heard about it here first. It's an application of 'nano-technology' that has been written about in previous issues of the County Hunter News.

From the energy blog
http://thefraserdomain.typepad.com/energy/2006/01/eestor_ultracap.html

Now, imagine instead of 5 Farads at 20v, as in the 13V power supply above, a battery bank of 31 Farads at 3500V, weighing under 400 lbs. Now put it in a car….and drive 500 miles on a charge. One mysterious company in Austin, TX, has filed a patent application for a new type of 'energy storage device' with claims of significant improvement in energy density (watts per lb) exceeding by far that of conventional lead-acid, nickel metal hydride and Li-on batteries. Of course, there are lots of problems to sort out, including short circuit protection against internal failures, manufacturability, and durability.

Unlike a battery with a limited number of charge/discharge cycles, a capacitor typically exhibits no memory. EEStor is claiming a 0.1% discharge rate per day (when you are not driving). Unlike a battery, the voltage will decrease as the charge is removed, so car systems must be able to handle a wide range of input voltages, and be able to charge back up to several thousand volts. (Unfortunately for county hunters, the possibilities for r.f.i production also seem to multiply with each new technology advance!).

From Businessweek:

"Menlo Park, Calif. VC firm Kleiner Perkins Caufield & Byers in July led a $3 million preferred stock investment in EEStor Inc., a Cedar Park, Texas startup that is developing breakthrough battery technology."

"According to a May, 2004 edition of Utility Federal Technology Opportunities, an obscure trade newsletter, EEStor claims to make a battery

at half the cost per kilowatt-hour and one-tenth the weight of lead-acid batteries. Specifically, the product weighs 400 pounds and delivers 52 kilowatt-hours. (For battery geeks: "The technology is basically a parallel plate capacitor with barium titanate as the dielectric," UFTO says.) No hazardous or dangerous materials are used in manufacturing the ceramic-based unit, which means it qualifies as what Silicon Valley types call "cleantech."

As of last year, EEStor planned to build its own assembly line to prove the battery can work and then license the technology to manufacturers for volume production, UFTO says. Selling price would start at $3,200 and fall to $2,100 in high-volume production. “

From
http://www.worldandi.com/subscribers/feature_detail.asp?num=23938

“Ultracapacitors embody another round of innovations beyond the electrolytic capacitors. The charge-separation distance in ultracapacitors (more technically known as electrochemical double-layer capacitors) has been reduced to literally the dimensions of the ions themselves within the electrolyte. Here, charges are not separated by millimeters or micrometers (microns) but by a few **nanometers**. Over time, and the improvements in technology, ranging from electrostatic capacitors to electrolytic capacitors to ultracapacitors, the charge-separation distance has in each instance dropped by three orders of magnitude, from millimeters (10exp-3 meters) to microns (10exp-6 meters) to nanometers (10exp-9 meters). “

Coupling the ultra small separation distance with a relatively vast surface area, in ultracapacitors the ratio of available surface area to charge-separation distance has grown to an amazing 10 raised to the twelfth power. It is this ratio, in fact, that makes capacitors "ultra." The ability to hold opposite electrical charges in static equilibrium across molecular spacing is the key feature.”

So you decide – hype? Maybe an answer to the decline in oil production? Nifty cars that are less expensive to operate, and don’t produce CO2 and byproducts to pollute the air? (assuming you have ‘green electricity available’). One challenge that needs to be overcome is internal protection of the battery. Imagine an internal short circuit, with a few thousand amps at

a few thousand volts suddenly trying to discharge! (LiOn batteries have similar concerns). That will be one of the 'technical challenges' to make this into a 'consumer safe' application with built in fusing, containment of any damage to very limited areas, thermal overload protection, and fire safety.

If you do a search for 'ultra capacitors' on the web, you'll also find that Honda is involved in research to develop them as well, for use in their fuel cell (run on hydrogen) cars. Fuel cells have constant power output, not capable of surges needed by the car for acceleration. If you charge up an ultra cap during cruising, and store energy via regenerative braking, you have that available for passing maneuvers and for accelerating from stops. Think of it as being an 'electronic flywheel' in which you store energy and get it when needed (as opposed to others previous ideas of actually having a big mechanical flywheel in the car to store energy). (Let's see – the hot-rodder of tomorrow might be installing 'upgraded batteries and super wheel motors, and super inverters to boost the zero to 60 performance from 7-8 seconds down to 5 seconds! No more quad carburetors, special high revving cams, larger valves, re-boring engine cylinders, superchargers, putting in bigger engines, less restrictive exhaust systems!).

After all, without 'mobiles' you aren't going to putting out and getting all those rare counties! While this generation of car owners may or may not have these type vehicles, likely those under 30 will be driving something quite different than an internal combustion gasoline engine car in 30-40 years.

More on UltraCapacitors

Press Releases from Maxwell Technologies

San Diego, CA — Maxwell Technologies, Inc. (Nasdaq: MXWL) and Kromberg & Schubert GmbH & Co. KG, a leading global supplier of wire harnesses and electrical and electronic components to the automotive industry, have signed a memorandum of understanding outlining terms of an alliance to incorporate Maxwell's BOOSTCAP® ultracapacitors into a highly efficient, low-cost, engine starting system for automobiles.

Dr. Richard Balanson, Maxwell's president and chief executive officer, said that extensive testing and analysis confirm that an ultracapacitor-based

starter power node located in close proximity to the starter will not only improve starting performance, but also enable reductions in system cost, complexity and weight.

“Incorporating ultracapacitors to relieve the battery of the demanding short-duration, high-current, starting load provides several benefits, including extending battery life, downsizing the battery and reducing cabling,” Balanson said. Arthur Kurz, manager electronic integration, said that ultracapacitors’ burst power capabilities, cold temperature performance and long cycle life make them particularly well-suited for vehicle starting.

“Automotive batteries store a great deal of energy, but must be over-sized to deliver current rapidly enough for acceptable starting performance, and their ability to deliver such current drops off sharply when the temperature approaches freezing,” Kurz said. “Ultracapacitors store less energy than batteries, but can deliver ample current for starting at temperatures as low as -40 degrees, so a system combining batteries and ultracapacitors provides a superior solution.”

Kurz pointed out that many newer automotive designs place the battery in the trunk area, which requires running a heavy, rigid, expensive, 70-to-90 mm copper cable the length of the car to provide sufficient starting current. However, he noted that a system employing a small ultracapacitor-based power module located near the starter can be charged by a lighter, flexible, less expensive, 16-to-25 mm cable.

“In addition to providing faster, more reliable starting, this ultracapacitor-based design reduces heavy, expensive copper cabling and allows for a less complex wiring scheme,” Kurz explained. “Our calculations show that the system will pay for itself by lowering wire harness cost and reducing the size and extending the lifetime of the battery, as well as contributing to improved fuel efficiency by lowering vehicle weight.”

Our ultracapacitors have a demonstrated lifespan of one million recharge cycles, even in extreme environments, reducing maintenance costs and adding value to other power sources.”

Hmm…smaller battery – you might not be able to sit on a county line for 20-30 minutes with the engine off if they cut the capacity of the battery by

2/3rds and stick in an ultracap for starting purposes. Or you might have to add an extra large battery to do so. (or an ultracapacitor bank).

From NASA/John H Glen Research Center

"A government/industry/academic cooperative has developed a hybrid electric transit bus (HETB). The goals of the development program, which continues, include doubling the fuel economy of city transit buses currently in service, and reducing emissions to one-tenth of the levels allowed by Environmental Protection Agency (EPA) standards. A unique aspect of the power system of the HETB is the use of capacitors in its the energy-storage subsystem. At a gross weight of more than 17,000 kg, this is the largest known vehicle to use capacitors to store energy.

Energy storage has always been a problem for electric vehicles, and even a greater problem for hybrid electric vehicles. In a purely electric vehicle, energy is stored, usually in batteries, and then used to power the vehicle until the energy is depleted. At that time energy is stored once more by recharging the batteries. In a hybrid electric vehicle, energy is constantly being stored and used; the repeated charging and discharging puts a tremendous strain on the batteries. This type of use reduces the lifetimes of presently available batteries.

Ultracapacitors that are now available eliminate many of the problems of batteries for hybrid electric vehicles. The ultracapacitors used in the HETB are electrochemical capacitors, which have extremely high volumetric capacitances because of large electrode surface areas and very small electrode separations. The cycle lives of capacitors can be extremely long relative to those of batteries. Thus, it may never be necessary to replace the energy-storage medium in the HETB; consequently, the reliability of the HETB energy system is greater than it would be if batteries were used, the life-of-system cost is reduced, and adverse environmental effects are diminished.

Capacitors can also function at power densities greater than those of batteries. Therefore, very high power levels can be provided during acceleration and can be absorbed during charging. Capacitors have excellent low-temperature characteristics, do not require maintenance, and provide consistent performance over time."

Snippets

"China is experimenting with a new form of electric bus that runs without powerlines using power stored in large onboard supercapacitors, which are quickly recharged whenever the electric bus stops in any bus stop. A few prototypes were being tested in Shanghai in early 2005." source" Wikipedia

"In 2005 aerospace systems and controls company Diehl Luftfahrt Elektronik GmbH chose ultracapacitors *Boostcap*® (of Maxwell Technologies) to power emergency actuation systems for doors and evacuation slides in passenger aircraft, including the new Airbus 380 jumbo jet" source: Wikipedia

Awards

Bingo II #43, K5VYT, Dick, September 27, 2006
Third Time #197, N3ISH, George, October 1, 2006
Third Time #198, KB6UF, Ron, October 9, 2006
USACA #1145, KI7WO, Alan, October 10, 2006
USA-CW #86, AD6Z, Bill, October 9, 2006
MASTERS GOLD $18, K2JG, THE ATLANTIC RADIO CLUB,, OCTOBER 10, 2006
Second Time #367, KQ0B, Mike, October 16, 2006
Master's Gold #19, AB2LS, Carol-Ann, October 15, 2006
Five Star Award 25 , KC0JG, Silver, October 16, 2006
Bingo #285, KJ8F, Sharon, October 16, 20006
Third Time #199, N3XX, Tim, October 18. 2006
USA-CW #87, N3XX, Tim, October 18, 2006

Operating Events for County Hunters

For getting band counties try SS – cw on November 2006, phone later in the month. Lots of activities on all open bands.

ARRL November Sweepstakes -- CW, from 2100Z Nov 4-0300Z Nov 6. (Phone from 2100Z Nov 18 to 0300Z Nov 20; see Oct *QST*, p 103,

Kentucky QSO Party -- CW/Phone, sponsored by the Western KY DX Association from 1400Z Nov 11-0600Z Nov 12. Frequencies (MHz): CW -- 1.815 and 60 kHz above band edge; SSB -- 1.840, 3.985, 7.285, 14.285, 21.385, 28.585. Exchange: RS(T) and KY county or S/P/C. QSO points: 160 meters -- 2 pts, CW -- 2 pts, SSB -- 1 pt. Score: QSO points × KY counties (KY stations add states and provinces) counted only once. KY mobiles add 1000 points for each activated county, min 10 QSOs (not incl home county). 100 bonus points for QSO with KY4DXA. For more information: **k4txj@arrl.net**. Logs due Dec 31 to Western Kentucky DX Association, PO Box 73, Alvaton, KY 42122.

Coming up in December – the 10 meter contest and the 160M ARRL contest.

That's it for this month. All the pics are in the articles this month!

73 de N4CD