



GM Net News

Volume II

Editor: Rick WØPC

January Issue – 2009

(The ARRL Contest Update Newsletter, News and Techniques for the Active Operator)

Another Golden Age

Another golden age of what? Surely, I'm joking? The economy and solar cycle are in a race to see which can be most disappointing. Half the world seems angry with the other half. Long faces are seen on every television screen--and even that old black-and-white set we've kept forever is going dark in February. Bah, humbug...golden age, indeed! Of what?

Well, amateur radio. Oh, right! Tell me another! Our licensee totals are flat, code hasn't been heard in a testing room for years, and your homeowner's association board faints like goats at the very mention of antennas. Electrical shop has been expelled from the high school curriculum, vacuum tubes are surely made from moon dust for what they cost, and "they" are taking lead out of solder! Golden age...what holiday nog has the editor gotten into this time?

Not so fast, you Ebenezers of Electronics, you Scrooges of Software, let's take a moment to remember a time long ago. There was another time when things really *were* tough. It was called the Great Depression and if you think radio stuff was expensive now, go back and compare prices of radio stuff to wages in the 1930's! There were exactly two big contests--Sweepstakes and the ARRL DX Contest. Most hams didn't even know what sunspots were and DX meant "out of state".

Yet in many ways, that era of deprivation and hard-scrabble ham radio is remembered as a Golden Age of Amateur Radio. It was during those cold winters and hot summers (without forced-air heating and central air conditioning) that many of the characteristics of modern amateur radio were forged. The elements that came together were technology, materials, tools, and an interest in experimentation and self-improvement.

I see many of those very same elements converging today. To be sure, technology has a much broader scope than when "Radio Was King!" but this is a technological age! The materials are vastly more sophisticated, although no one seems to have figured out how to calm an obstinate roll of Copperweld(tm) even yet, but amazing capabilities are available for a pittance. We are awash in tools, both of the hardware and software persuasion, many of which are even free!

That leaves the interest in experimentation and self-teaching element. To the skeptics out there grumbling and muttering about appliance operators and "dumbed down" stuff, have you tuned into any of the "do it yourself" movement? And that's what it is...a movement! The first spark was struck with "This Old House" on PBS and slowly the ember grew. Cable TV channels picked up local and national shows on food, crafts, and science, providing kindling to the flame. The number of channels grew, creating an insatiable demand for content. Programmers of the entertainment industry discovered that people like shows about DOING THINGS. The Web fanned the flames with the sudden realization that everyone can be content.

And then the "Mythbusters" phenomenon exploded! Jamie and Adam took stuff apart! They wired, they drilled, they welded, and they measured things! And they blew stuff up! And laughed like hyenas as the fragments pinwheeled and beams shattered and frozen chickens blasted through windscreens! And nonsense Jamie fixed the viewer with a steely gaze from under his cap and said, "Don't try this at home." Well, what more encouragement do you want? It is now officially desirable to be able to tinker, to build, to design, to think, boys and girls.

This groundswell of interest did not go un-noticed by the media and now there are literally dozens of magazines, books, Web sites, television shows, blogs, and whatever media was invented this week, all dedicated to some aspect of doing-it-yourself. There is even a [Do-It-Yourself Network](#) - check it out! [Make Magazine](#) hosts an event called Makerfaire that in four events has attracted around 200,000 people, each paying \$25 to get in and see people...that's right...doing stuff. The Web site [Instructables](#) is crammed full of individually-contributed projects from people beating down the door to contribute! These three examples are but a ripple on the pond.

Who are these do-it-yourselfers? They're people just like you and me with one important difference. They don't know about ham radio yet...or maybe they know the wrong things about ham radio. These are our people! If they can just find the door to ham radio, they'll find an amazing hobby in which you can be an inventor, a collector, an emergency worker, an athlete, an engineer, a radio show host, a scaler of heights, a teacher and mentor, an astronomer, and a geophysicist. All at the same time.

Whatever it is that they are doing now--robotics, hang-gliding, geocaching, hiking, bike racing, programming--has some facet that can link up with a complementary facet of ham radio. These people love the smell of solder in the morning, the thrill of competition, the feel of a well-cut thread, the sound of a well-modulated signal, the satisfaction of watching a network spring to life. They're our people! They just don't know we're here. Why? Because we're afraid to tell them.

The Ebenezers are shifting uncomfortably, worried that these newcomers won't do things just like us, they'll want to change ham radio, I won't like it! Oh, fiddle-dee-dee...the exact same worries bedeviled ham radio as the transition was made from the old spark to the new CW. And again when hams started using phone. And then when SSB displaced AM. And when we started using FM. And when we started using computers. You'd think ham radio had died a dozen times to read the letters in old *QSTs* about rotten this and rotten that. But we're still here.

Those flat licensing numbers are hiding something, dear readers. There's a quiet change afoot as new hams are signing up, masked by natural attrition and the whittling away of dead wood in the ranks. Below the surface of that still water, powerful tides are flowing. More and more new faces are joining us every day. They're finding out what ham radio is really all about--the original open-source technology, the 'net before the 'net, where hands-on lives on. Just as seventy-five years ago, ham radio can be a melting pot of many good things, creating something even better out of the resulting alloy. If we let it and if we let them.

That's a good thing to ponder as we prepare to turn the page on another year, hoping that 2009 will bring us a sunspot or two. Golden Ages look a lot different coming than going. They're new, they're challenging, they're risky, they're scary. It is said that it's not a Real Adventure if you enjoy it while you're having it, but that's no reason not to have an adventure. Or have we forgotten the exciting possibilities that pulled us up to the tower top and down to the workbench and onto the bands in the first place? I don't know what's coming, but I'm feeling those tides of change. And it's going to be golden.

If you tune into the net frequency and don't hear anything....

Maybe you could start up the net. It's really easy once you know what to say and how to get started. Simply put out a call for anyone who you think is usually around like George, KB9VF. If he doesn't come back to you, someone else might. To kick it off, use the following script. Nothing to it... just read the preamble and start having fun. Who knows, you might enjoy doing it. Remember, it's the net control station that gets a chance to chat with everyone. If the band is bad and you can't hear everyone, the relay station will bail you out. Enjoy the hobby!!!

Net Preamble by George, KB9VF

Preamble

This is (your call), today's net control. This net is composed of employees and retirees of the General Motors Corporation.

This net meets daily on this frequency for the purpose of getting better acquainted, expanding our knowledge, and improving our operating techniques. We promote friendship among participants in many locations who have many talents and have or have had a variety of work assignments. The General Motors nets are international in scope on some bands, and visitors are always welcome to check in. Please stay carefully tuned to net control at all times. This is (your call) (working for or retired from) (your) Division in (which city), (state). My home QTH is (where you live). My name is (your name) and we will now take check-ins, one at a time, please.

Net Closing

Are there any late check-ins for the net? (pause for late check-ins). Is there any further business for the net? (pause for any further business) Having no further business, we will close the net at this time. This net is composed of General Motors employees, retirees, and visitors. We meet each day, Monday through Saturday, on or about this frequency, at (1700z or 1800z). Thank you for your participation and please return often. This is (your call) now closing the net. 73 and Good Afternoon.

Beverly Hills doctor reportedly uses liposuction fat to power his SUV

Some may be taking the efforts to go green a little too far. Take Beverly Hills doctor Craig Alan Bittner, who reportedly used fat from his patients' liposuction procedures to power his Ford SUV and his girlfriend's Lincoln Navigator. Here's more from Forbes.com: Love handles can power a car? Frighteningly, yes. Fat--whether animal or vegetable--contains triglycerides that can be extracted and turned into diesel. "The vast majority of my patients request that I use their fat for fuel--and I have more fat than I can use," Forbes reported Bittner wrote on a "lipodiesel" website. "Not only do they get to lose their love handles or chubby belly but they get to take part in saving the Earth."

Then again, you have to admire his engine-uity.

GM NET SCHEDULE:

<u>FREQ.MHz</u>	<u>DAY</u>	<u>TIME-UTC</u>		<u>COMMENTS</u>
		<u>SUMMER</u>	<u>WINTER</u>	
7.2775	Mon - Fri	1700	1800	
14.277**	Tuesday	1615	1615	+ or - 5 kHz for QRM (GM DX Net)

** Indicates the Schedule with Walter, DF4IZ

If you don't see your call on the net schedule and want to get onboard, send George King, KB9VF an email (kb9vf@comcast.net). He is putting together the schedule and I'll print them here in this newsletter. Maybe someday, we will have a website...that's free, and be able to post some things like net control schedule and net times.

January 2009 - GM Net Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Notes: #####				1 Net Control - WOPC (RICK)	2 Net Control - KB9VF (GEORGE)	3 Net Control - K8VW (VERLE)
4	5 Net Control - WB9YUR (BILL)	6 Net Control - K1RAY (RAY)	7 Net Control - WD9AIH (BILL)	8 Net Control - KC8JLC (ART)	9 Net Control - WY8I (JIM)	10 Net Control - WB9YUR (BILL)
11	12 Net Control - WOPC (RICK)	13 Net Control - KC8JLC (ART)	14 Net Control - K1RAY (RAY)	15 Net Control - N8XLS (DENNY)	16 Net Control - K8VW (VERLE)	17 Net Control - K1RAY (RAY)
18	19 Net Control - KB9VF (GEORGE)	20 Net Control - KC8JLC (ART)	21 Net Control - WD9AIH (BILL)	22 Net Control - WA8IHI (CHUCK)	23 Net Control - WY8I (JIM)	24 Net Control - WOPC (RICK)
25	26 Net Control - WB9YUR (BILL)	27 Net Control - N8XLS (DENNY)	28 Net Control - WD9AIH (BILL)	29 Net Control - KB9VF (GEORGE)	30 Net Control - K8VW (VERLE)	31 Net Control - WY8I (JIM)

February 2009 - GM Net Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 Net Control - WD9AIH	3 Net Control- K1RAY	4 Net Control - WA8IHI	5 Net Control- KB9VF	6 Net Control- KC8JLC	7 Net Control - WB9YUR
8	9 Net Control - WOPC	10 Net Control- K8VW	11 Net Control - KB9VF	12 Net Control - N8XLS	13 Net Control - K1RAY	14 Net Control - KC8JLC
15	16 Net Control - WB9YUR	17 Net Control - WD9AIH	18 Net Control- WA8IHI	19 Net Control - K8VW	20 Net Control - KB9VF	21 Net Control- WOPC
22	23 Net Control - KC8JLC	24 Net Control- K1RAY	25 Net Control - WB9YUR	26 Net Control - N8XLS	27 Net Control - WD9AIH	28 Net Control - K8VW

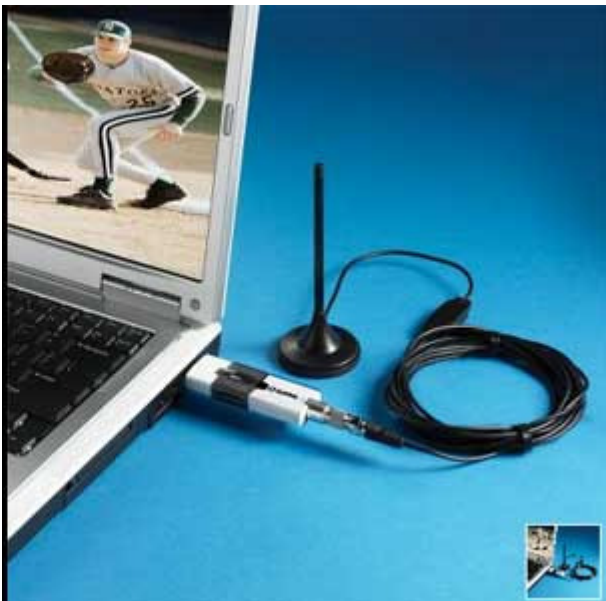
Notes: Schedule with DF4IZ (Walter), every Tuesday at 1615z on 14.277 + or - 5 kc. afternoons or Thursday evening nets, anymore.

No Sunday

Portable HDTV Receiver 3,315 Views

Posted 12 June 2007 by N. A. Hilal

Filed under: [Portable Media](#)



(Image: Portable HDTV Receiver; Credit: www.hammacher.com)

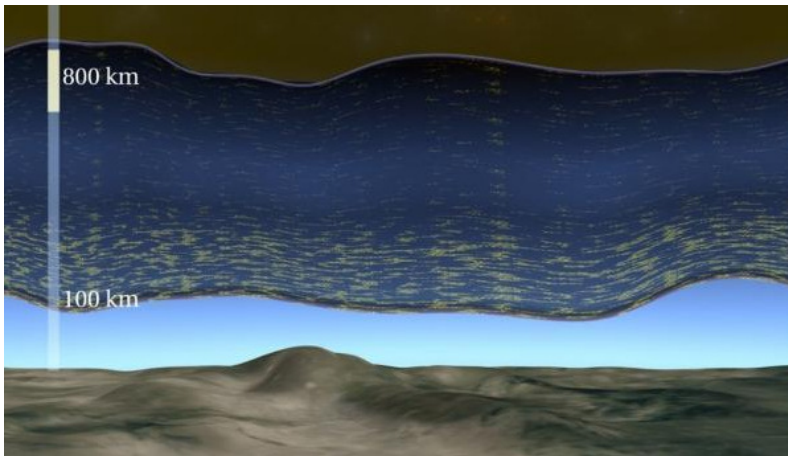
Now you can enjoy any local high-definition television content at any place, thank to the **portable HDTV receiver** that you can buy it from **Hammacher Schlemmer**. To make it work, just plug the receiver to your laptop or desktop through US port and put the antenna in the suitable place.

The receiver sports the same ATSC tuner found in HDTVs as well as special software that allow users to enjoy HD content on standard laptop monitor as well as record favorite program into MPEG2/AVI file format. Available now at www.hammacher.com for \$199.95.

Boundary Between Earth's Upper Atmosphere And Space Has Moved To Extraordinarily Low Altitudes, NASA Instruments Document

<http://www.sciencedaily.com/releases/2008/12/081215121601.htm>

ScienceDaily (Dec. 16, 2008) — Observations made by NASA instruments onboard an Air Force satellite have shown that the boundary between the Earth's upper atmosphere and space has moved to extraordinarily low altitudes. These observations were made by the Coupled Ion Neutral Dynamics Investigation (CINDI) instrument suite, which was launched aboard the U.S. Air Force's Communication/Navigation Outage Forecast System (C/NOFS) satellite on April 16, 2008.



The CINDI suite, which was built under the direction Principal Investigator Rod Heelis of the University of Texas at Dallas, includes both ion and neutral sensors and makes measurements of the variations in neutral and ion densities and drifts.

CINDI and C/NOFS were designed to study disturbances in Earth's ionosphere that can result in a disruption of navigation and communication signals. The ionosphere is a gaseous envelope of electrically charged particles that surrounds our planet and it is important because Radar, radio waves, and

global positioning system signals can be disrupted by ionospheric disturbances.

CINDI's first discovery was, however, that the ionosphere was not where it had been expected to be. During the first months of CINDI operations the transition between the ionosphere and space was found to be at about 260 miles (420 km) altitude during the nighttime, barely rising above 500 miles (800 km) during the day. These altitudes were extraordinarily low compared with the more typical values of 400 miles (640 km) during the nighttime and 600 miles (960 km) during the day.

The height of the ionosphere/space transition is controlled in part by the amount of extreme ultraviolet energy emitted by the Sun and a somewhat contracted ionosphere could have been expected because C/NOFS was launched during a minimum in the 11-year cycle of solar activity. However, the size of the actual contraction caught investigators by surprise. In fact, when they looked back over records of solar activity, they found that C/NOFS had been launched during the quietest solar minimum since the space age began.

This extraordinary circumstance is providing an unparalleled opportunity to study the connection between the interior dynamics of the Sun and the response of the Earth's space environment.

CINDI is a NASA sponsored Mission of Opportunity conducted by the University of Texas at Dallas. NASA's Explorer Program at Goddard Space Flight Center, Greenbelt, Md., managed the CINDI mission. The Explorer Program provides frequent flight opportunities for world-class scientific investigations from space within heliophysics and astrophysics.

The CINDI investigation is carried out as an enhancement to the science objectives of the C/NOFS satellite undertaken by the Air Force Research Laboratory and the Space and Missile Command Test and Evaluation Directorate.

Preparing For A Walk On The Moon

Astronomers Discover That The Earth's Magnetotail Charges The Surface Of The Moon

http://www.sciencedaily.com/videos/2008/1007-preparing_for_a_walk_on_the_moon.htm

October 1, 2008 — Astrophysicists found that the moon's surface becomes electrified during each full moon. The moon passes through the Earth's magnetotail, a cone of highly-charged particles, for about 6 days each month. On the side of the moon facing the sun, ultraviolet particles disrupt the electromagnetic effect, keeping the voltage at low levels, but on the dark side, the voltage can reach hundreds or thousands of volts.

The last time man walked on the moon was in 1972. Now, NASA is planning to re-visit the moon by the year 2020 -- but a shocking discovery about Earth's companion may put a hold on those plans.

Our moon looks calm and rather dull, and nothing ever seems to change. Even an astronaut's footprint lasts millions of years; but now, space scientists have learned something on the moon does change -- and it's quite shocking.

"The surface of the moon can become electrified from charged particles in the surrounding space environment," says Timothy Stubbs, Ph.D., a space scientist at the NASA Goddard Space Flight Center in Greenbelt, Md.

This electric event happens once a month when the moon passes through the earth's magnetotail. A magnetotail is caused when the highly-charged particles of the solar wind zoom past the earth and mix with earth's magnetic field, creating a long tail that extends into the moon's orbit. "The moon is actually sitting in a sea of charged particles," Dr. Stubbs says.

Each month, the moon enters the magnetotail for six days. As it crosses inside the magnetotail, the moon's surface becomes highly charged. If astronauts walked across the charged surface, they might feel a static shock -- just like walking across a carpet and then touching a door knob. It's not a deadly shock, but a powerful zap! It's easy to know when the moon is passing through the earth's magnetotail -- just look for a full moon.

No astronaut has ever landed on a charged-up full moon to know exactly what happens, so learning more now will help astronauts in the future.

"These sorts of things that affect astronauts are things that we'd like to investigate before we return to the moon," Dr. Stubbs says.

When NASA returns to the moon, scientists plan to establish an outpost for long-term moon exploration -- and they plan to also explore the magnetotail.

ABOUT THE MOON: The moon is Earth's only natural satellite, a cold, dry orb whose surface is studded with craters and strewn with rocks and dust. The moon's gravitational force is only 17% of the Earth's gravity. For example, a 100 pound (45 kg) person would weigh just 17 pounds (7.6 kg) on the Moon. The temperature on the Moon ranges from daytime highs of about 265F (130C) to nighttime lows of about -170F (-110C). The moon has no atmosphere. On the moon, the sky always appears dark, even on the bright side (because there is no atmosphere). Also, since sound waves travel through air, the moon is silent; there can be no sound transmission on the moon. The phases of the moon are caused by the relative positions of the earth, sun, and moon. The moon goes around the earth, on average, in 27 days, 7 hours, and 43 minutes. The sun always illuminates the half of the moon facing the sun (except during lunar eclipses, when the moon passes through the earth's shadow). When the sun and moon are on opposite sides of the earth, the moon appears "full" to us, a bright, round disk. When the moon is between the earth and the sun, it appears dark, a "new" moon. In between, the moon's illuminated surface appears to grow (wax) to full, then decreases (wane) to the next new moon.

WHAT IS THE SOLAR WIND? Flowing outward from the Sun's extremely hot corona, the solar wind is a stream of charged particles traveling in all directions at incredibly high speeds. As these changes speed toward the Earth, they interact with other charged particles and can create phenomena such as the northern lights and geomagnetic storms -- which can damage spacecraft, including communications satellites.

The American Astronomical Society and the American Geophysical Union contributed to the information contained in the TV portion of this report.



The Arcala Extremes antenna's at last 160M element went up!

Today is the shortest day of the year - only three hours of daylight and as of yesterday.

Please note the following technical details:

Tower height 100m

80M and 160M booms 60m

Five (5) 80M full-size elements

You note in the picture that OH8SR and OH6RM are working inside the boom

The upper slip-ring has such diameter that you can drive thru with Juha's large Lexus!.



Working inside the boom.

Poor OH8SR - with 2nd 160M element he was working in a total fog without seeing the ground for 7 hours! He seemingly enjoys working inside of the boom! After working three weeks straight OH8SR and OH6RM went home for Xmas!

Holes in Earth's magnetic cloak let the sun in

Tue Dec 16, 2008 5:18pm EST, By Clare Baldwin

<http://www.reuters.com/article/scienceNews/idUSTRE4BF79220081216>

SAN FRANCISCO (Reuters) - The Earth's protective magnetosphere has two large holes that are letting in disruptive solar winds, scientists said on Tuesday.

Understanding how these holes form will help them better predict the electrical storms that cause power grid blackouts and the aurora, activity that will peak in 2012 as sunspots hit their maximum level.

Scientists at the American Geophysical Union meeting in San Francisco said they had been entirely wrong about how solar particles that cause the storms were entering the Earth's magnetosphere.

The magnetosphere is a bubble of magnetism that surrounds Earth and protects us from solar wind.

Scientists once believed that the particles entered when the sun's magnetic field was aligned opposite to that of the Earth's. But findings presented at the meeting show that 20 times more solar particles enter the Earth's magnetic field when it is aligned in the same direction as the sun's magnetic field.

The alignment causes the two magnetic fields to connect and tears holes in the Earth's magnetic field over the poles.

"What we observed was the breach in the levee," said Jimmy Raeder, a physicist at the University of New Hampshire. "This has taken us completely by surprise."

In June 2007, NASA's five THEMIS spacecraft probes flew through one of the tears just as it was opening. Sensors recorded a torrent of solar wind particles streaming into the magnetosphere, said Raeder.

"The opening was huge -- four times wider than Earth itself," said Raeder. "This kind of influx is an order of magnitude greater than what we thought was possible."

Most of the particles are deflected back into space, but some circulate in the magnetosphere, get energized, and cause electrical storms that trigger power grid outages, cause problems for aircraft flying over the poles, and can damage satellites in geosynchronous orbit.

"There's a bigger risk because we have more stuff in space now," said Raeder.

Scientists said that the majority of solar storms take place midway through and on the tail end of the solar cycle. This 11-year cycle of activity is at its minimum now and electrical storms will be at their peak in 2012.

(Editing by Maggie Fox, Editing by Sandra Maler)

From the Editor:

If you know of someone that we are missing, please forward this on to them and send me an email with their email address. Got any pictures of your shack or other articles of interest? Pass them on to me too. I'll help you share them with your friends.

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