

The "Membrain"

"Dedicated to the memory of our former Publisher and DVRC Founding Member, Pete Butler - WB2B"

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DVRC CLUB REPEATER FREQ'S

146.820 (- 600) Camden NJ PL = 131.8 Hz
147.210 (+ 600) Absecon NJ PL = 123.0 Hz
448.0250 (- 5.0 MHz) Camden NJ PL = 131.8 Hz

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November/December 2008

Editor's Corner



By George – WA2RCB

There is a fascinating article online concerning the famous or infamous Russian Woodpecker or Over-The-Horizon-Radar station, now abandoned after the fall of the former Soviet Union, the sound of which many older hams will vividly remember on the HF Bands. A link to the article appears later in this issue. We don't have to worry about the R-WP anymore since most blinking Christmas lights of the incandescent variety, Verizon FIOS Units, DVD/VCR's, Computers, air ionizers, battery chargers and older CRT monitors and TV's all of which use transformerless switching PS units. All these and more put off a racket of their own. Indeed the increased background noise from consumer goods can be heard QRM'ing the lower HF freqs. The 'bands' in 1978 were far quieter from man made noise than in 2008. It should be curious when Digital TV Broadcasting fires up in 02/2009! It remains to be seen if the VHF/UHF ham bands get clobbered with harmonics-rich digital TV signals from over a thousand multi-kilowatt plus TV transmitters. On the other hand HF-SSB continues to be the main mode of communications support and enjoyment for hams worldwide. Check out 75 meters in the early morning there are many great local/regional nets operating from 3.850 to 3.980 – See you all on 20 December 2008 at the DVRC meeting at the Library. Happy Holidays!

George, WA2RCB



Happy Holidays from the DVRC

SERIOUS FLAW FOUND IN INTERNET EXPLORER:

Users of all current versions of Microsoft Corp.'s Internet Explorer browser might be vulnerable to having their computers hijacked because of a serious security hole in the software that had yet to be fixed Monday.

The flaw lets criminals commandeer victims' machines merely by tricking them into visiting Web sites tainted with malicious programming code. As many as 10,000 sites have been compromised since last week to exploit the browser flaw, according to antivirus software maker Trend Micro Inc.

The sites are mostly Chinese and have been serving up programs that steal passwords for computer games, which can be sold for money on the black market. However, the hole is such that it could be "adopted by more financially motivated criminals for more serious mayhem -- that's a big fear right now," Paul Ferguson, a Trend Micro security researcher, said Monday.

"Zero-day" vulnerabilities like this are security holes that haven't been repaired by the software makers. They're a gold mine for criminals because users have few ways to fight off attacks.

The latest vulnerability is noteworthy because Internet Explorer is the default browser for most of the world's computers. Also, while Microsoft says it has detected attacks only against version 7 of Internet Explorer, which is the most widely used edition, the company warned that other versions are also potentially vulnerable.

Microsoft said it is investigating the flaw and is considering fixing it through an emergency software patch outside of its normal monthly updates, but declined further comment. The company is telling users to employ a series of complicated workarounds to minimize the threat. Interim patches are being released starting 17 December 2008. Be sure to run Windows Update.

2009 International Space Station Calendar

As part of NASA's celebration of the 10th anniversary of the International Space Station, the agency is offering a special 2009 calendar to teachers, as well as the general public.

The calendar contains photographs taken from the space station and highlights historic NASA milestones and fun facts about the international construction

project of unprecedented complexity that began in 1998.

Get your copy at the link below:

http://www.nasa.gov/pdf/296130main_calendar09-100.pdf

Free DX Ham Radio Maps (downloadable)

Tim, EI8IC, has a great collection of the most comprehensive prefix maps on the Web; now available for free to download. There are 34 new maps available separately or in a combined zipped archive. EI8IC also has a unique IOTA Bearing List which has been updated with all the latest IOTA island numbers. You can create your own list of beam headings and distance in miles or kilometers to ALL of the IOTA island groups.

He also has maps for CQ Zones, ITU Zones, ITU Regions, Grid Squares, ARRL Sections and much more.

THE MAPS WHEN PRINTED ON A COLOR LASER PRINTER LOOK GREAT ON THE WALL !

Get them at the following Web page:

<http://www.mapability.com/ei8ic/index.html>

Happy Holidays from the DVRC / N2SXH



May Santa bring you a shiny new Ducati This Year!

A Giant Breach in Earth's Magnetic Field?

Dec 16 2008: NASA's five THEMIS spacecraft have discovered a breach in Earth's magnetic field ten times larger than anything previously thought to exist. Solar wind can flow in through the opening to "load up" the magnetosphere for powerful geomagnetic storms. But the breach itself is not the biggest surprise. Researchers are even more amazed at the strange and unexpected way it forms, overturning long-held ideas of space physics.

"At first I didn't believe it," says THEMIS project scientist David Sibeck of the Goddard Space Flight Center. "This finding fundamentally alters our understanding of the solar wind-magnetosphere interaction."

The magnetosphere is a bubble of magnetism that surrounds Earth and protects us from solar wind. Exploring the bubble is a key goal of the THEMIS mission, launched in February 2007.

The big discovery came on June 3, 2007, when the five probes serendipitously flew through the breach just as it was opening. Onboard sensors recorded a torrent of solar wind particles streaming into the magnetosphere, signaling an event of unexpected size and importance.

"The opening was huge—four times wider than Earth itself," says Wenhui Li, a space physicist at the University of New Hampshire who has been analyzing the data. Li's colleague Jimmy Raeder, also of New Hampshire, says " 10^{27} particles per second were flowing into the magnetosphere—that's a 1 followed by 27 zeros. This kind of influx is an order of magnitude greater than what we thought was possible."

The event began with little warning when a gentle gust of solar wind delivered a bundle of magnetic fields stretching from the Sun to the Earth. Like an octopus wrapping its tentacles around a big clam, solar magnetic fields draped themselves around the magnetosphere and cracked it open. The cracking was accomplished by means of a process called "magnetic reconnection." High above Earth's poles, solar and terrestrial magnetic fields linked up (reconnected) to form conduits for solar wind. Conduits over the Arctic and Antarctic quickly expanded; within minutes they overlapped over Earth's equator to create the biggest magnetic breach ever recorded by Earth-orbiting spacecraft.



This gigantic antenna system called Duga-3 is located near Prypiat in the Chernobyl area. It was built in the 70's as an early missile detection system (over-the-horizon radar system). It was also called the Steel Yard hence its distinctive appearance. The antenna was deactivated in 1989. The Russian Woodpecker was a notorious Soviet signal that could be heard on the shortwave radio bands worldwide between July 1976 and December 1989.



More photos of the enormous and now abandoned Russian Woodpecker Transmitter and Antenna Farm can be seen at:

<http://www.artificialowl.net/2008/12/abandoned-giant-duga-3-system-antenna.html>

RESTRICTIVE LOCAL ZONING ORDINANCE PROPOSED AS COURT DATE IN CALIFORNIA ANTENNA CASE NEARS

As his February 2009 court date approaches, Alec Zubarau, WB6X, of Palmdale, California, gets ready to battle his town after being ordered

to dismantle his previously approved antenna system. The City of Palmdale has widened its opposition to Amateur Radio antennas by proposing an ordinance written to thwart the installation of antenna support structures throughout the city.

In 2005, Zubarau applied for a building permit to erect an antenna support structure on his property. The City approved his request, and building permit in hand, Zubarau installed a 22 foot tall crank-up tower (with an ultimate height of 55 feet), but did not place an antenna atop the structure. He also installed a 23 foot tall mast on his house, for a total mast height of 43 feet; he installed an inverted-V on the mast.

In January 2007, he placed a 4 element 20 meter SteppIR antenna on the crank-up tower, and the neighbors started complaining to the City.

ARRL Southwestern Division Vice Director Marty Woll, N6VI, said that the neighbors' assertions consisted of what he called "the typical complaints: Aesthetic impact, diminution of property values and RF interference. The RFI complaints were general in nature; no direct evidence was shown of actual RFI, but the City's Planning Commission staff took the position that based on anecdotal evidence presented by the homeowners, the transmissions occurring from the antenna are causing interference with electrical equipment in the surrounding neighborhood."

Woll said that after Zubarau installed the StepIR in 2007, the City of Palmdale, acting on a petition signed by almost 70 of Zubarau's neighbors, voted to revoke Zubarau's original building permit after he had relied on it in putting up his tower. "In order to gain a continuance, Zubarau told the Planning Commission he would remove the SteppIR, in essence, reverting his antenna configuration back to the way to it was before he installed the antenna" said Len Shaffer, WA6QHD, Zubarau's attorney. "At the next hearing, he was ordered to remove not only the antenna, but the support structure, as well."

The City's planning staff also pointed out that Zubarau's recently erected horizontal array extends three feet into the required 10 foot sideyard setback, and that the active array exceeds thirty feet in height beyond the limit in the ordinance.

"Because Zubarau's permit referred to the support structure as 'an antenna with cage (the base)' and the Planning Commission called it a tower antenna, everyone assumed it was indeed an antenna," Shaffer recalled. "When I pointed out to the Planning Commission that it was nothing more than a support structure and did not radiate, they were surprised. They asked if the support structure functioned as an antenna without the horizontal element. I told them it did not. Judy Skousen, Palmdale's Assistant City Attorney, told the Commission did not matter

"The permit and application was for a tower antenna and that is what it was. It did not matter if the nomenclature was added by city employees rather than Zubarau."

"After exhausting his administrative remedies, Zubarau challenged the action in the courts, aided by Shaffer," Woll said "The court date has been set for early February 2009." Woll continued, saying that the planning staff is placing the burden on Zubarau, saying that he has not submitted a site-specific engineering study showing that the operation or transmission from his house is not interfering with residential uses. The staff also notes that the FCC has failed to resolve RFI complaints in this matter, inferring that the City must act to solve them.

Palmdale Proposes Rewrite of Amateur Radio Antenna Ordinance

Shortly after issuing the permit revocation order, ARRL Southwestern Director Dick Norton, N6AA, said that the City of Palmdale began drafting an amended antenna ordinance that placed severe restrictions on all Amateur Radio antennas. "The

draft was released just before Thanksgiving, and a hearing was scheduled for December 4," Norton said. "Prior to that hearing and at the request of Vice Director Marty Woll, N6VI -- who attended the Palmdale Planning Commission meeting along with about a dozen local hams and supporters -- ARRL General Counsel Chris Imlay, W3KD, wrote a lengthy letter to the City Attorney pointing out numerous flaws in the proposed ordinance and explaining why many of its provisions are void or unenforceable, being pre-empted by federal or state law."

In his letter, Imlay explained to the City that it is without authority to resolve RFI complaints; the jurisdiction is solely that of the FCC, as stated in the Communications Act of 1934, as amended.

"The Federal Communications Commission has exclusive jurisdiction over radio frequency interference (RFI) matters, and technical matters specifically," he said.

Imlay pointed out that the "first specific concern in the draft ordinance is the statement that 'an Amateur Radio antenna, the operation of which causes unreasonable interference with electrical equipment in the surrounding neighborhood, is not compatible with that neighborhood.'"

This is "patently false," Imlay said, stating "there is no correlation between the presence of an outdoor Amateur Radio antenna, its height, configuration or placement and radio frequency interference (RFI) to home electronic equipment. As a matter of technical fact, the higher an antenna, the lower the electrical field in the horizontal plane of the home electronic equipment, and the less the likelihood of RFI in that equipment. Furthermore, the 'cause' of RFI is not the power of an Amateur Radio station, or the presence of an antenna, but rather the inability of home electronic equipment to reject unwanted signals. FCC regulations clearly obligate most home electronic equipment to accept any interference

from licensed radio services as a condition of the permitted marketing and operation of that equipment."

Furthermore, in a Conference Report from the 97th Congress in 1982, Imlay explained that Congressional report "...is further intended to clarify the reservation of exclusive jurisdiction to the Federal Communications Commission over matters involving RFI. Such matters shall not be regulated by local or state law, nor shall radio transmitting apparatus be subject to local or state regulation as part of any effort to resolve an RFI complaint. The Conferees believe that radio transmitter operators should not be subject to fines, forfeitures or other liability imposed by any local or state authority as a result of interference appearing in home electronic equipment or systems. Rather, the Conferees intend that regulation of RFI phenomena shall be imposed only by the Commission."

Saying that the Conference Report went on to clarify "that the exclusive jurisdiction over RFI incidents (including preemption of state and local regulation of such phenomena) lies with the FCC," Imlay told the City of Palmdale that "Obviously, state or local regulations based on interference from one radio service to another would directly frustrate the intention and goals of the Communications Act of 1934, as amended."

Imlay said that in 1985, the FCC said that the "federal power in the area of radio frequency interference is exclusive; to the extent that any state or local government attempts to regulate in this area, [its] regulations are preempted." Imlay explained that the FCC concluded that the Federal regulatory scheme is so pervasive that it is reasonable to assume that Congress did not intend to permit states to supplement it.

According to Shaffer, the City of Palmdale does not think antenna support structures are "compatible" with the town's image: "The Mayor told the Council that while, if a house was built that was not compatible with the neighborhood, they would not bulldoze it to the ground, this is 'just an antenna,' and they can get rid of it if they want to," Shaffer said.

Norton said that the ARRL's Amateur Radio Legal Defense and Assistance Committee has voted to contribute \$5000 toward the cost of Zubarau's lawsuit against the City of Palmdale. "More than \$1500 has already been contributed by clubs and their members from throughout the Southwestern Division, and this contribution from the League-managed Antenna Defense Fund will further help defray the expenses of preparing for the February 2009 court date," Norton said. "Len Shaffer is performing the legal work pro bono, but even just compiling the record to present in court can be costly."

ARRL Defense Committee Chair Jay Bellows, K0QB, said that although the case has not yet reached the appellate level, "The egregious nature of Palmdale's actions -- including ordering removal of a previously approved antenna tower -- the potential impact on a large number of amateurs and the existence of substantial local financial support from the ham community were significant factors in the Committee's decision to provide support for this case."

Bellows said he has participated in nearly 100 tower and antenna matters, from working with local hams and municipalities on tower ordinances to individual tower issues including litigation at the local and appellate level over the past 20 years. "If I've learned anything," he said, "I learned that a simple, clear explanation of who we are, what we do and why the antenna is needed are essential. Even if those steps are perfectly executed, the local authority (in this case, the City of Palmdale) has to be convinced that: 1. Federal law trumps the local

zoning interests either generally or in the particular case; 2. The amateur is going to be politely persistent despite opposition from the locality; 3. The cost to the locality in time and treasure will exceed any political benefit in 'protecting its citizens from the scourge and despoliation of ugly Amateur Radio antennas.' Still, the single most important factor is that the amateur should always be the guy in the 'white hat,' no matter how reprehensible or offensive the actions of the locality or the opposing neighbors."

Norton went on to say that Woll has met with Palmdale hams and the management of the Palmdale Public Safety Department, who he described as "supportive of hams." Woll and Keith Hoyt, K6GXO, will meet with Palmdale's Planning Department and Assistant City Attorney in early January. "The proposed ordinance has been the subject of considerable discussion in Amateur Radio circles," Norton said. "Local hams, [as well as] Division and National League representatives are devoting considerable time and effort toward resolving the issue." (ARRL Letter)

FREQUENCY CHANGE FOR CANADIAN TIME TRANSMISSION STATION CHU

After 70 years of broadcasting Canada's official time, the National Research Council's shortwave station CHU transmission frequency for the **7335 kHz transmitter to 7850 kHz. The change goes into effect at 0000 UTC on January 1, 2009.**

Broadcasting 24 hours a day, CHU is a part of NRC's system for disseminating official time throughout Canada. Listeners hear tones to mark the seconds, a voice to announce the time in French and English and digital data to set computers. The atomic clocks at CHU are part of the ensemble of clocks in the time and frequency research laboratories at the National Research Council Canada in Ottawa.

The NRC clocks are used in conjunction with clocks in the time laboratories of other countries to construct the internationally accepted scale of time, UTC (Coordinated Universal Time). Time transmissions on 3330 and 14670 kHz are not affected and will continue as before.

In April 2007, the ITU reallocated the 7300-7350 kHz band from the fixed service to the broadcasting service. Since then, the NRC said there has been a lot of interference on the 7335 kHz frequency from many information broadcasters around the world. "CHU listeners in Canada and around the world who have for so long considered the 7335 kHz frequency exclusively for time signals, are very vocal about this interference," said Raymond Pelletier, Technical Officer at the NRC-Institute for National Measurement Standards, who oversees the CHU facility.

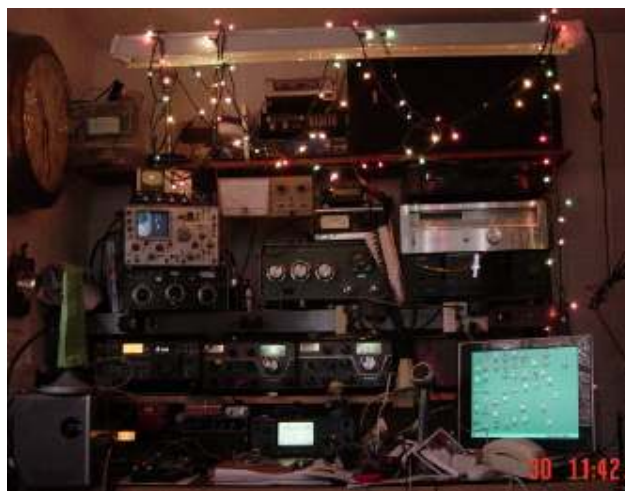


Most people are aware that they are absolutely surrounded and saturated by RF. Its hard to imagine that you're swimming in it, but you are. Unless of course you've built a Faraday cage around your home... I'll tell you how to do that sometime. this time I am not talking about spectrum saturation. I am talking about the little tiny transmitters you are taking home from WalMart. They (and many other big box stores) use RFID chips. They cost 7.2 cents to make, and that's why there are so many of them.

An RFID chip stores and allows for the remotely retrieval of ID data. It can be attached to or imbedded into any product and even into a person. Libraries, schools, our government, and big businesses are all adopting (RFID) radio frequency identification tags. The device can be quite small: commercially available products exist that can be embedded under the skin. The smallest one I am aware of measures 0.4 mm × 0.4 mm, and is thinner than a sheet of paper. It's a little chip that can pinpoint the location of anything you stick the tag to. (J Fritz - 2004)



My XYL and co-Editor Sue wanted some Christmas Bears in this month's issue so here they are! Cute ain't they ?



Xmas Pic of K1GUG shack with a nice set of vintage T4-XC / R4-X Drake Twins. Considered to be two of the ten best vintage "American Iron" tube/hybrid ham radios models ever made. Vintage Drake radios are still highly sought after by DX'ers and Contesters. Their trademark is their sky-blue incandescent analog tuning dials, excellent designed receivers, large control knobs and copper plated chassis.