

RCA AMATEUR RADIO CLUB

JANUARY, 2009 MONTHLY NEWSLETTER INDIANAPOLIS, IN

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE
TUESDAY, JANUARY 13th, 6:30 PM AT THE [G.T. SOUTH'S](#),
5711 E. 71st STREET, INDIANAPOLIS, IN

RCA ARC NEWS

SUMMARY OF THE DECEMBER MEETING – Thanks to everyone who attended the December meeting. We had a good turnout! The freewheeling discussion covered several topics including... AF9A reported on the High Performance SDR Mercury board he is expecting to receive just after Christmas. W9ZB told of the DSP board he had installed in his IC-706. N9KZJ gave an update on the plans to establish a ham station at the Indiana War Memorial. W9CGI gave an update on his PropNET beacon project.

WINTER WX AND CLUB MEETINGS – If we should have snow, ice, or other WX problems on our Club meeting days, we'll cancel the meeting via email to the list no later than mid-afternoon on the day of the meeting. Check your email if in doubt.

CONGRATULATIONS TO GREG COOK, KC9OSE -- Greg upgraded to General last month, a month after getting his Technician license.

INDIANAPOLIS VE TESTING SCHEDULE -- Calling in advance to ensure testing availability is suggested but not mandatory.

January 10, 2008

March 7, 2008

April 4, 2008

June 6, 2008

SPONSOR: Indianapolis Radio Club (W9JP)

LOCATION: Indianapolis Training Center (ITC), 2820 N. Meridian Street.

CONTACTS: Gale Wuollet, AA9WU 317-849-8449, or Jay Wright, KK9L 317-203-3335.

WANTED: INDIANA ARRL TECHNICAL SPECIALISTS -- Jim Osburn, WD9EYB the new IN ARRL Technical Coordinator (TC) wants to increase the number of ARRL Technical Specialists (TS) in the state and is looking for the hams that have a technical interest in the hobby as well as being a technical mentor. If you are interested or know of a ham that might be interested have them contact Jim, WD9EYB. There is an online TS application at this link: <http://www.wirelessinfield.com/tswwebapp>
On a related note, Jim has started a web site selling electronic kits at: <http://www.indianakits.com/>

HAMFESTS & EVENTS

Jan 9	Indy Radio Club, Emergency Communications, Annual Chili Cook-off
Jan 17-19	ARRL January VHF Sweepstakes
Feb 21-22	ARRL International DX Contest (CW)
Mar 7-8	ARRL International DX Contest (Phone)
Mar 14	Wabash Valley ARA, Terre Haute, IN http://www.w9uuu.org

Mar 14	Marion County Severe WX seminar, 9:00 AM at ITC
May 2-3	Indiana QSO Party
May 15-17	Dayton Hamvention
June 13-14	ARRL VHF QSO Party
June 27-28	ARRL Field Day
July 11	Indy Hamfest, Camp Sertoma http://www.indyhamfest.com

WB9LPU RECEIVES "BEST OVERALL KEY" AWARD -- Rich, WB9LPU, received a prestigious award from the Society for the Preservation of Amateur Radio (SPAR) for the Best Overall Key. Rich received the award for his QRP paddles for the PFR (Portable Field Radio® by QRP Kits). To read about the key and see a picture of it, point your browser to <http://www.indyradioclub.org/eqreviews/bestpufferpaddles.pdf>

Rich's keys have won the homebrew contest at the Indy Hamfest a number of times (sponsored by the RCA ARC). Rich shown his keys and other homebrew projects at the Dayton Hamvention and at Indianapolis Radio Club meetings.

FCC CALLS ON AMATEUR RADIO SERVICE FOR ASSISTANCE WITH DIGITAL TV CONVERSION

In December, the ARRL received a request from the FCC asking that ARRL members provide technical educational assistance to their communities concerning the FCC-mandated digital television (DTV) conversion scheduled for February 17, 2009 <http://www.dtv.gov/>.

According to ARRL Media and Public Relations Manager Allen Pitts, W1AGP, Amateur Radio clubs across the country are being asked to develop and implement plans to provide information throughout January and February about the DTV conversion in their areas. The FCC is leaving it up to the clubs to decide how to do this, as local groups understand the communities in ways that the FCC does not. Each community is a little different, Pitts said, so plans carried out by the clubs will vary from community to community. Interested groups should contact their ARRL Section Manager.

Pitts stressed that hams should not make "house calls," sell any equipment or do actual installations; the request is only to distribute technical information and FCC materials. He commented: "As we all know, some folks just never get the message until too late. Materials for presentations, education and many other activities are available online <http://www.dtv.gov/outreach.html>. Beginning early January, FCC staff will contact Section Managers and leaders of interested clubs and, where possible, arrange to meet to share even more information, audio, visual and printed materials, as well as training aids, with the clubs involved this effort. We know the time is short, but your aid in this now will be appreciated."

Dillon continued that local Amateur Radio clubs might consider offering technical advice to consumers via telephone to those consumers who may encounter difficulty with the installation and setting up of their converter box. "Any assistance...will greatly help in the efforts of the FCC to ensure a smooth transition to DTV on February 17, 2009."

Pitts advises interested groups to keep in mind that they are to provide technical educational help only: "At no time should the hams enter someone else's home or install equipment. They should not broker or sell conversion boxes in any way. Clubs can provide such things as a call-in telephone number for technical help, make presentations

at meetings, do demonstrations at malls or give talks to other groups -- whatever works in their community." --ARRL Letter

CONGRESSIONAL COMMITTEE MEMBERS RELEASE REPORT LAMBASTING FCC CHAIRMAN KEVIN MARTIN

On Tuesday, December 9, the House Committee on Energy and Commerce -- the congressional committee that oversees the Federal Communications Commission -- released its majority staff report "on the bipartisan investigation of the FCC's regulatory processes and management practices." The report -- "Deception and Distrust: The Federal Communications Commission under Chairman Kevin J. Martin" -- stated that the investigation was prompted "by allegations to the effect that [FCC] Chairman Kevin J. Martin has abused FCC procedures by manipulating or suppressing reports, data and information" http://www.arrl.org/news/files/FCC_Report120908.pdf.

"Our investigation confirmed a number of troubling allegations raised by individuals in and outside the FCC," said Representative Bart Stupak (D-MI), Chairman of the Subcommittee on Oversight and Investigations. "The Committee staff report details some of the most egregious abuses of power, suppression of information and manipulation of data under Chairman Martin's leadership. It is my hope that this report will serve as a roadmap for a fair, open and efficient FCC under new leadership in the next administration."

Representative John D. Dingell (D-MI), Chairman of the Committee on Energy and Commerce echoed Stupak's concerns: "Any of these findings, individually, are cause for concern. Together, the findings suggest that, in recent years, the FCC has operated in a dysfunctional manner and Commission business has suffered as a result. It is my hope that the new FCC Chairman will find this report instructive and that it will prove useful in helping the Commission avoid making the same mistakes."

The report said that "in an investigation of this nature," the Committee would usually hold hearings "to receive testimony from witnesses and to further examine the issues." But due to what the Committee called "the climate of fear that currently pervades the FCC," the report said the Committee found that key witnesses "were unwilling to testify or even have their names become known." For that reason, they issued a report in place of a hearing "to protect the many honest people who came forward under a promise of protection or anonymity." Chairman Martin was invited to meet with the Committee to discuss matters addressed by the investigation, but the report said he "ignored [the Committee's] invitation," as did his Chief of Staff Daniel Gonzalez and Chief of Public Safety and Homeland Security Bureau Derek Poarch.

In its 110-page report, the Committee described 12 allegations, ranging from retaliation against FCC employees who differed with the Chairman's policies to enhanced 911 wireless services to broadband over power lines (BPL). To go along with the 12 allegations, 22 exhibits were attached to the report, such as internal e-mails, e-mails from FCC commissioners to their staff, statements made by FCC commissioners and letters to and from commissioners (including Chairman Martin). Not all 12 allegations were substantiated by the Committee.

Broadband over Power Lines -- Concerning BPL, the report alleges that FCC officials "ignored complaints of radio frequency interference caused by BPL high-speed Internet technology, delayed an enforcement investigation for two years and improperly withheld engineering data regarding BPL from the public."

The entire article from the ARRL Letter can be found at:
<http://www.arrl.org/news/stories/2008/12/12/10505/?nc=1> --ARRL Letter

FREQUENCY CHANGE FOR CANADIAN STATION CHU

After 70 years of broadcasting Canada's official time, the National Research Council's shortwave station CHU

http://inms-ienm.nrc-cnrc.gc.ca/time_services/shortwave_broadcasts_e.html has moved the transmission frequency for the 7335 kHz transmitter to 7850 kHz. The change went 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. – ARRL Letter

NASA'S NEW FINDINGS - NEXT SUNSPOT CYCLE PEAK COULD BE MORE INTENSE

This upcoming sunspot cycle is expected to peak around 2012 with sunspots, flares and coronal mass ejections that can interact with the Earth's magnetosphere, causing problems for satellites, communication, and power grids. Some scientist think it now looks like it will be more intense than the previous one, which peaked around 2006. The reason is the changes in the sun's alignment.

During the 2006 peak, the solar fields hitting the Earth were first anti-aligned then aligned. Anti-aligned fields can energize particles, but in this case, the energy came before the particles themselves, which doesn't create much of a fuss in terms of geomagnetic storms and disruptions.

This cycle will see aligned, then anti-aligned fields, in theory amplifying the effects of the storms as they hit.

Scientists have found two large leaks in Earth's magnetosphere, the region around our planet that shields us from severe solar storms. The leaks are defying many of scientists' previous ideas on how the interaction between earth's magnetosphere and solar wind occurs: The leaks are in an unexpected location, let in solar particles in faster than expected and the whole interaction works in a manner that is completely the opposite of what scientists had thought.

The findings have implications for how solar storms affect our planet. Solar storms spewing charged particles from the sun can disable satellites and even disrupt power grids.

Earth's magnetic field carves out a cavity in the sun's onrushing field. The Earth's magnetosphere is buffeted like a wind sock in gale force winds, fluttering back and forth in the solar wind.

Both the sun's magnetic field and the Earth's magnetic field can be oriented northward or southward. The sun's magnetic field shifts its orientation frequently, sometimes becoming aligned with the Earth, sometime becoming anti-aligned.

Scientists had thought that more solar particles entered Earth's magnetosphere when the sun's field was oriented southward (anti-aligned to the Earth's), but the new research shows the opposite turned out to be the case.

Essentially, the Earth's magnetic shield is at its strongest when scientists had thought it would be at its weakest. When the fields aren't aligned, the shield is up and very few particles come in. Conversely, when the fields are aligned, it creates a huge breach, and there's lots and lots of particles coming in.

While the interaction of anti-aligned particles occurs at Earth's equator, those of aligned particles occur at higher latitudes both north and south of the equator. The interaction is appending blobs of plasma onto the Earth's magnetic field, which is an easy way to get the solar particles in.

The work was sponsored by NASA and the National Science Foundation and based on observations by NASA's THEMIS(Time History of Events and Macroscale Interactions during Substorms) satellite.

As the THEMIS satellites orbited the earth, they were able to estimate the thickness of the band of solar particles coming when the fields were aligned — it turned out to be about 20 times the number that got in when the fields were anti-aligned.

THEMIS was able to make these measurements as it moved through the band, with two spacecraft on different borders of the band; the band turned out to be one Earth radius thick, or about 4,000 miles (6,437 kilometers). Measurements of the thickness taken later showed that the band was also rapidly growing.

If their finding are correct, the electrical systems on Earth and satellites in space may be more vulnerable to damage during the next solar cycle peak.

The benchmark solar super storm took place in the summer 1859 where in some cases telegraph wires exploded off poles or caught fire. The aurora borealis was seen regularly as far south as Rome along with Florida and Texas in the U.S.

The 1859 event was a mammoth solar flare and for almost an entire minute the amount of sunlight the Sun produced at the region of the flare actually doubled. Not only was this coronal mass ejection an extremely fast mover, the magnetic fields contained within it were extremely intense. The coronal mass ejection overwhelmed Earth's own magnetic field, allowing charged particles to penetrate into Earth's upper atmosphere.

Some of the major Solar Storms of the past:

9/2/1859 – Strongest solar storm recorded, with aurora worldwide and telegraph disruptions

5/13/1921- Storm shuts down NY City transit system with induced ground current

3/35/1940 – Easter Sunday halts U.S. long distance phone service for hours, radio and wire services disrupted.

2/10/1958 – Radio blackout caused by one of the 10 strongest storms

3/13/1989 – Quebec power grid collapses for 9 hours

10/29/2003 – “Halloween” storm causes numerous problems and produced the strongest X-ray flare ever recorded.

SOME RADIO WEB SITES FOR A SLOW NEWS MONTH

The past month has seemed rather slow with ARRL Letter not published during the weeks of Christmas or New Years. So, this seems like a good time to pass along some web sites which you may find interesting.

DTV Transition -- Larry Bloomfield has included, in his Tech-notes publication, a FAQ which has more information that you ever wanted to know about the digital TV transistion. Download the .pdf here:

http://www.tech-notes.tv/Archive/tech_notes_141.pdf

PSK Automatic Propagation Reporter -- This started out as a project to automatically gather reception records of PSK activity and then make those records available in near realtime to interested parties — typically the amateur who initiated the communication. The way that it works is that many amateurs will run a client that will monitor received traffic for callsigns (the pattern 'de callsign callsign') and, when seen, will report this fact.

<http://psk.gladstonefamily.net/>

Space Weather update -- Daily space weather updates and real time meteor data from the Air Force Space Surveillance Radar can be heard at: <http://spaceweatherradio.com/>
Thanks N9KZJ.

When All Else Fails – An amateur radio emergency organization in Michigan:

<http://www.w8cce.org/> Thanks N9KZJ.

Russian Woodpecker -- Just about every ham has cussed this thing at one time or another... Great pics of the Soviet woodpecker antenna!

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

Earthquake information – The USGS Earquake Center. Up to date information on recent earthquakes. <http://earthquake.usgs.gov/> Thanks N9KZJ.

And for us older folks...

RT-159A/URC-4 Radio -- Did you have one of these radios many years ago? The U.S. military's RT-159A/URC-4 radio was widely used during the Korean and Vietnam wars.

<http://www.eetimes.com/showArticle.jhtml?articleID=212200675>

There is a follow-up article here:

http://www.planetanalog.com/showArticle.jhtml?articleID=212500851&cid=NL_planet

Ham radio at Radio Shack -- I don't remember Radio Shack being in the town where I grew up, but I sure remember a lot of the radios and parts in shown in these catalogs:

<http://www.radioshackcatalogs.com/catalogs/1939>

Technical books online -- Pete Millett has done an unbelievable job scanning technical books that are now in the public domain:

http://www.pmillett.com/technical_books_online.htm

There is a whole section devoted to tube manuals:

http://www.pmillett.com/tube_data.htm

JAMSAT ANNOUNCES AMATEUR SATELLITE TO VENUS

AMSAT has received news from Japan that JARL/JAMSAT are collaborating with the Japanese University Space Engineering Consortium (UNISEC) to send an amateur radio payload into a Venus transfer orbit with the primary JAXA Planet-C Venus Orbiter mission planned for May, 2010.

UNITEC-1, developed by the teams who have already launched cubesats such as University of Tokyo's XI-IV, XI-V, and Tokyo Institute of Technology's CUTE-1, CUTE-1.7+APD has the following engineering missions:

1. Onboard computers developed by several universities will be tested in the harsh space environment in the form of a competition; i.e., the computer which can survive to the last in the radiation-rich deep space environment will win the competition.
2. Technologies to receive and decode very weak and low bit rate signal coming from deep space will be developed and tested.
3. Technologies to estimate orbit and signal Doppler shift of the satellite based on the received RF signal will be developed and tested. These technologies are essential for tracking and receiving signals from a satellite in deep space.

The UNITEC-1 team invites the support of amateur radio amateurs all around the world to participate in the receiving and data capture experiments in objectives 2 and 3, above. They note that amateur radio operators working as individuals or in groups develop stations and techniques to relay their received signal reports and data to the UNITEC-1 control station. This is also a unique opportunity to propose amateur experiments or competitions to the satellite team.

UNITEC-1 will transmit a signal consisting of a CW beacon of about 1 bps speed. One experiment requiring the participation of several amateur radio earth stations would include the development of interferometric techniques to combine the received signals from several antennae to improve the received S/N ratio from the spacecraft out-bound from earth.

The UNITEC-1 website provides the latest mission information (such as orbit parameters, data formats and current status). UNITEC-1 will be the first university developed interplanetary satellite as well as the first amateur interplanetary satellite. The team sincerely hopes that UNITEC-1 will provide unique and exciting opportunity for the radio amateurs all over the world to enjoy reception of signals from deep space.

The UNITEC-1 website can be seen at: http://unitec-1.cc.u-tokai.ac.jp/en/news_en -- G3VZV, AMSAT News Service

SHORTS

SABLE ISLAND DXPEDITION POSTPONED -- Reluctantly, due to the current US economic situation, the DXpedition team has decided to postpone the CY0 DXpedition planned for 2009. While we are hopeful to reorganize the DXpedition (possibly for 2010), we have decided that rather than tie up the funds so graciously made available by our sponsors, we will return donations received so the sponsorship may be available to other DXpeditions for this year. We are hopeful that our kind sponsors will be willing to renew their sponsorship when the DXpedition is able to be reorganized in the future. The [sabledx.com website](http://sabledx.com) will remain functional for the time being. Wishing all good DX and

73. Duane Traver, WV2B, Team Leader

THE NEW YORK HALL OF SCIENCE AMATEUR RADIO CLUB - WB2JSM IS PUTTING OUT AN SOS (Save Our Station) -- The Hall of Science Amateur Radio Club located in the New York Hall of Science Children's Museum in Queens, New York needs your help. The club has been demonstrating amateur radio to the visiting public for over 35 years as an independent exhibit. The museum is undergoing a major renovation project and wants us out for good. We have started a petition which we want you to sign and circulate for us in order to help preserve a great ham radio asset by showing officials at the museum that you value what we do. Please visit <http://tinyurl.com/6ljost> to read more about our plight and sign our petition. We have logged over 10,000 contacts from the station and even if you're not in our log your help will let us continue to talk up amateur radio and create the next generation of ham radio operators. Tom Golero, KC2CBA, Club Liaison Officer

www.hosarc.org (the Hall of Science Amateur Radio Club)

www.nyhallsci.org (the Hall of Science museum)

FLEXRADIO DONATES SOFTWARE DEFINED RADIO TO W1AW -- Thanks to the generosity of the crew at FlexRadio. W1AW, the Hiram Percy Maxim Memorial Station, now boasts a software-defined radio (SDR) -- a FLEX 5000A http://www.flex-radio.com/Products.aspx?topic=F5Ka_details. FlexRadio Vice President John Basilotto, W5GI, visited ARRL Headquarters on December 8 to present the radio.

"We are delighted that FlexRadio's generosity makes it possible for visitors to W1AW to experience the exciting direction in which SDR technology is taking radio communication," said ARRL Chief Executive Officer David Sumner, K1ZZ. The radio, located in one of the three W1AW operating suites, will be available for guests to use when they visit W1AW.

GET READY FOR THE ARRL TRIPLE PLAY WAS AWARD -- As of January 1, 2009, the ARRL will offer another award: The Triple Play Worked All States Award <http://www.arrl.org/awards/-tripleplay>. This new, exciting award is available to all amateurs who confirm contacts with each of the 50 states using three modes for each state: CW, phone and RTTY/digital. All 150 contacts must be made on or after the starting date and must be confirmed via Logbook of the World (LoTW) <http://www.arrl.org/lotw/>. All bands -- with the exception of 60 meters -- may be used in pursuit of the Triple Play Award.

The Triple Play Award will be issued on sequentially numbered certificates, starting with #1, as determined by the time stamp of the electronic application as submitted via LoTW. The Triple Play Award is a one-time award -- once you have made the required 150 confirmed contacts via LoTW, you're done, there are no endorsements for this award.

THE RCA ARC MONTHLY NEWSLETTER IS COMPILED AND EDITED BY JIM RINEHART, AND JIM KEETH. ALL MATERIAL CONTAINED HEREIN IS OBTAINED FROM THE SOURCES CREDITED AND EDITED FOR THIS NEWSLETTER. EMAIL TO <mailto:WebMaster@w9rca.org>. Check our web site at <http://www.w9rca.org/>