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The WA7VE

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STARS BOARD MTG MINUTES

STARS BOARD MEETING REPORT

JULY 13, 2013

4:30 p.m.

CCC SOUTH COUNTY CAMPUS , SEASIDE, OR.

PRESENT: KE7QFR - Vice-President, Terry
N7IXI - Treasurer, Kelly
WA7FIV - Trustee, Hal
KN0LL - Robin, Past President
KE7OXP - Carolyn, Secretary

Vanessa (N7ESS), and Pat Craig (KE7VXM) also attended. President Pat Love (KE7RBM) was unable to attend. The meeting was called to order by Terry in Pat's absence.

The Treasurer Report was presented by Kelly. Two checks remain to be written for expenses.

Field Day and 4th of July activities were discussed.

Minutes of June meeting approved as submitted.

The positive issue of training sessions after monthly Club meetings was discussed.

The September meeting of STARS will be a Picnic/Potluck at Cartwright Park in Seaside. It will be held on the same day as our regularly scheduled Club meeting.

The Parade of Lights will be the day after Thanksgiving- Ham participation in working on the Line-Up of floats was discussed.

Field Day – There was a discussion of reimbursement to Doug Peterson and Gary Dick, from Pacific Power, for their kind assistance. A Thank You letter will be sent to Pacific Power for the use of their bucket truck to set up antennas in the trees. The cost of food for Field Day meals was presented to Kelly from Vanessa.

Pat Love will submit papers to ARRL.

Robin (KN0LL) asked if he could be allowed to purchase a Welcome Flag that is used for Field Day then loaned back to Club. Original cost will be pursued by Kelly.

The Membership Meeting adjourned 4:55 p.m.

Submitted by KE7OXP – Carolyn.

HISTORY OF THE CAR RADIO & MOTOROLA

Radios are so much a part of the driving experience, it seems like cars have always had them. But they didn't. Here's the story.

SUNDOWN - One evening in 1929 two young men named William Lear and Elmer Wavering drove their girlfriends to a lookout point high above the Mississippi River town of Quincy, Illinois, to watch the sunset. It was a romantic night to be sure, but one of the women observed that it would be even nicer if they could listen to music in the car.

Lear and Wavering liked the idea. Both men had tinkered with radios – Lear had served as a radio operator in the U. S. Navy during World War I – and it wasn't long before they were taking apart a home radio and trying to get it to work in a car. But it wasn't as easy as it sounds: automobiles have ignition switches, generators, spark plugs, and other electrical equipment that generate noisy static interference, making it nearly impossible to listen to the radio when the engine was running.

SIGNING ON - One by one, Lear and Wavering identified and eliminated each source of electrical interference. When they finally got their radio to work, they took it to a radio convention in Chicago. There they met Paul Galvin, owner of Galvin Manufacturing Corporation. He made a product called a “battery eliminator” a device that allowed battery-powered radios to run on household AC current. But as more homes were wired for electricity, more radio manufacturers made AC-powered radios. Galvin needed a new product to manufacture. When he met Lear and Wavering at the radio convention, he found it. He believed that mass-produced, affordable car radios had the potential to become a huge business.

Lear and Wavering set up shop in Galvin's factory, and when they perfected their first radio, they installed it in his Studebaker. Then Galvin went to a local banker to apply for a loan. Thinking it might sweeten the deal, he had his men install a radio in the banker's Packard. Good idea, but it didn't work – half an hour after the installation, the banker's Packard caught on fire. (They didn't get the loan.)

Galvin didn't give up. He drove his Studebaker nearly 800 miles to Atlantic City to show off the radio at the 1930 Radio Manufacturers Association convention. Too broke to afford a booth, he parked the car outside the convention hall and cranked up the radio so that passing convention-goers could hear it. That idea worked – he got enough orders to put the radio into production.

WHAT'S IN A NAME - That first production model was called the 5T71. Galvin decided he needed to come up with something a little catchier. In those days many companies in the phonograph and radio businesses used the suffix “ola” for their names – Radiola, Columbiola, and Victrola were three of the biggest. Galvin decided to do the same thing, and since his radio was intended for use in a motor vehicle, he decided to call it the Motorola.

But even with the name change, the radio still had problems: a. When Motorola went on sale in 1930, it cost about \$110 uninstalled, at a time when you could buy a brand-new car for \$650, and the country was sliding into the Great Depression. (By that measure, a radio for a new car would cost about \$3,000 today.)

b. In 1930 it took two men several days to put in a car radio – the dashboard had to be taken apart so that the receiver and a single speaker could be installed, and the ceiling had to be cut open to install the antenna.



HISTORY OF THE CAR RADIO & MOTOROLA, CONT'D

These early radios ran on their own batteries, not on the car battery, so holes had to be cut into the floorboard to accommodate them. The installation manual had eight complete diagrams and 28 pages of instructions.

HIT THE ROAD - Selling complicated car radios that cost 20 percent of the price of a brand-new car wouldn't have been easy in the best of times, let alone during the Great Depression – Galvin lost money in 1930 and struggled for a couple of years after that. But things picked up in 1933 when Ford began offering Motorolas pre-installed at the factory. In 1934 they got another boost when Galvin struck a deal with B. F. Goodrich tire company to sell and install them in its chain of tire stores. By then the price of the radio, installation included, had dropped to \$55. The Motorola car radio was off and running. (The name of the company would be officially changed from Galvin Manufacturing to “Motorola” in 1947.)

In the meantime, Galvin continued to develop new uses for car radios. In 1936, the same year that it introduced push-button tuning, it also introduced the Motorola Police Cruiser, a standard car radio that was factory preset to a single frequency to pick up police broadcasts. In 1940 he developed the first handheld two-way radio – the Handy-Talkie – for the U. S. Army.

A lot of the communications technologies that we take for granted today were born in Motorola labs in the years that followed World War II. In 1947 they came out with the first television to sell under \$200. In 1956 the company introduced the world's first pager; in 1969 it supplied the radio and television equipment that was used to televise Neil Armstrong's first steps on the Moon. In 1973 it invented the world's first handheld cellular phone. Today Motorola is one of the second-largest cell phone manufacturer in the world; and it all started with the car radio.

Whatever happened to the two men who installed the first radio in Paul Galvin's car? Elmer Wavering and William Lear, ended up taking very different paths in life.

Wavering stayed with Motorola. In the 1950's he helped change the automobile experience again when he developed the first automotive alternator, replacing inefficient and unreliable generators. The invention lead to such luxuries as power windows, power seats, and, eventually, air-conditioning.

Lear also continued inventing. He holds more than 150 patents. Remember eight-track tape players? Lear invented that. But what he's really famous for are his contributions to the field of aviation. He invented radio direction finders for planes, aided in the invention of the autopilot, designed the first fully automatic aircraft landing system, and in 1963 introduced his most famous invention of all, the Lear Jet, the world's first mass-produced, affordable business jet. (Not bad for a guy who dropped out of school after the eighth grade.)

This story was brought to you by Bud (W3IQ)

STARS MEMBER MTG MINUTES 07-13

STARS Monthly Meeting – July 13, 2013 5:00 PM. At the South County CCC Campus.

The regular Membership Meeting convened at 5:05 P.M.. The meeting was conducted by V.P. Terry Williams (KE7QFR) in the absence of President Pat Love (KE7RBM).

Terry stated Pat had asked her to thank everyone for all they had done to help at Field Day and 4th of July activities.

Next were introductions of all present.

Minutes of the June 2013 Meeting were m/s/c as presented.

Treasurer Kelly Larkins (N7IXI) presented the Treasurer Report:

Starting Balance as of: June 8, 2013 = \$6,446.42;

Income: \$60.05;

Expenses: \$1,459.71;

Ending Balance as of: July 13, 2013 = \$5,046.76.

Jar to Date: \$595.13 (included in ending balance)

Cans & Bottles to Date: \$30.45 (included in ending balance).

New receipt for Treasurer: Food bill totals \$53.91 for Field Day.

Trustee Report by Hal Denison (WA7FIV)

Hal reported the 49 repeater is working well. He stated he and others (including Jim from SEARC) had worked on the 45 (Megler) Repeater. Hal thanked all who had given their time and expertise. Hal said that on the first Thursday of the month Hams and Eggs met at Riley's so as to thank Sue, the waitress, for her faithfulness of waiting on us. We presented a \$20.00 bill to her in gratitude. The money had been taken out of the Jar fund.

Ken Butterfield, Sgt at Arms (KE7PPD) requested that WA7FIV report that all equipment borrowed from the Club had been returned.

The Hood to Coast Race will be held on the last weekend in August. The question was asked if members of STARS members were interested in volunteering. We will discuss this subject further at the August meeting. It was agreed that our after monthly meeting presentations are very valuable.

On September 14th, our STARS monthly meeting time will be spent as a picnic at Cartwright Park.

The Parade of Lights in Seaside – annually held the day after Thanksgiving in the evening - will, again this year, be counting on help from our HAM Club and/or CERT.

Field Day - Hal motioned STARS donate \$50.00, each, to Doug Peterson and Gary Dick for their help to us for that event. The motion was seconded and carried. Also, it was agreed a Thank You letter should be sent to Pacific Power for the use of their truck.

Regarding the 4th of July Fireworks Event, Doug Barker (KE7TAA), commended Jeff (AB7DN), and Ken Tolliver, also a member of STARS, for their dedication in protecting the fenced area on the beach of the Fireworks until closing time – which was somewhere around 1 AM. on the 5th. They had been there since 7 AM. on the 4th.

Meeting adjourned at 5:35 p.m. Minutes submitted by Carolyn (KE7OXP). Door Prizes distributed by Terry and Hal.

OPS-SAT OPPORTUNITY FOR HAMS

The ESA OPS-SAT CubeSat provides a rare opportunity for testing new amateur radio software for use on a CubeSat actually in space. The 3U CubeSat has deployable solar arrays and plans to launch in 2016 into a Low Earth Orbit (LEO).

Although the formal closing dates for expressions of interest from potential experimenters for this project has now closed, contact has been made with Dave Evans at ESA-ESOC who has confirmed that they would be very interested to receive proposals from an AMSAT team to develop a novel use of this spacecraft for amateur radio purposes.

In addition to an X Band downlink and S Band uplinks and downlinks, the spacecraft will carry a simplex transceiver operating with 4k8/9k6 telemetry using GMSK on the 435 MHz band. It is understood that experimenters will have access to an onboard processor running Linux/Java at 500 to 800 MHz.

The project is open to teams led by a group from any ESA member country (this includes Canada) and initial info is shown here although the detailed design is being rapidly iterated. It is emphasized that this is a very open project which will require lots of interaction between the contributing groups.

Bright ideas are needed from our software experts and if there is sufficient interest it may be possible to host a Skype conference about this opportunity. It is not proposed that this should be an AMSAT-UK led project, but Graham Shirville (G3VZV) is happy to provide some initial coordination!

OPS-SAT Evolving Software Technology for Spacecraft Operations

http://www.esa.int/Our_Activities/Operations/OPS-SAT_Evolving_Software_Technology_for_Spacecraft_Operations

LIGHTHOUSE FIRST ACTIVATION

For the first time the lighthouse on Ilheus Formigas (EU-003, DIP AZ-13, WW Loc. HM77OG) will be activated using the callsign CR2F. It is a difficult and expensive operation because the chartered vessel ANTARES, which sails the team and material from Vila do Porto, Santa Maria island to Formigas and back, will stay anchored the entire time anchored near the Ilheus Formigas to ensure a quick evacuation of the team and equipment in case of sudden weather changes.

Station and accommodation will be within the lighthouse so that the operation also counts for DFP NEW ONE!, RLHS AZO-001, TWLHD WLH CU-002, WLOTA 4293 and is Admiralty reference D2638. For WorldWide Flora and Fauna, this activation counts for the Reserva Natural do Ilhote das Formigas (WWFF CTFF-039).

Since the landing on Ilheus Formigas is difficult and the antenna erection around the lighthouse can only be done during good weather (low winds and waves), dates can vary by a few days. *Tentative* dates are +/- 30-31 July 2013. All these scheduled events depend on the weather.

Team members will be Leonel (CU3EJ), Antonio (CU8AS), Siggie (DL2HYH) and Hermann (HB9CRV/CT3FN).

QSL via HB9CRV, LoTW and bureau are OK.

Please monitor www.to-mk.com/ct3fn/ for updated information.

LIGHTNING



Lightning can be quite hazardous to amateur radio gear and amateur radio operators. Hams tend to install tall towers next to their houses and hang large aluminum “lightning attractors” on them. How dangerous this is depends on a number of factors.

First, we should consider the location. Some areas are more prone to lightning than others. Florida is the lightning capitol of the USA. But the Midwest and Great Plains get regular visitations by thunderstorms in season, as well.

The convective action of thunderstorms drives a high velocity air circulation within the thunder cell, creating a static electric charge build up, just like a Van De Graff generator. This produces a high voltage potential between the clouds and the ground, with the ground tending to be negatively charged.

This same circulation lofts water droplets through su-

per-cooled water vapor at higher altitude, causing the formation of ice pellets, which we see as hail. It is good to remember that hail only falls from thunder clouds. Even with no lightning or thunder in evidence, if you experience hail, the potential exists for lightning.

The high voltage potential between the clouds and ground is kept at bay by the energy required to “break down” the air, turning a normally insulating medium into a conducting one. As the voltage across this parcel of air increases, with gathering charge, the air molecules themselves are placed under increased electrical stress. At some point, the electrons are ripped from these molecules and the air becomes ionized. Ionized air is a conductor.

Once a conductive path exists, the electrical current flows through it, at millions of Amperes. During the flash, the air through which the lightning passes is heated hotter than the surface of the Sun. The thermal expansion

this causes, we experience as the crack of thunder.

One way to prevent lightning from hitting your antenna is to provide a substantial ground. A good ground connection allows electrons from the soil to be drawn up the tower and off the “pointy” parts to form a cloud around the antenna. This charge “leakage” lowers the potential, and lessens the chances that the lightning will strike. If it does strike, the good ground connection will help conduct the lightning currents safely to ground. Proper grounding will be the subject of another article.

In the build up to a thunder storm, the air becomes highly charged. Electrons will be shooting off your antenna. This causes a static sound in your receiver that can be anything from a slight rushing sound, to a loud buzz. This is a good sign it’s time to turn off the receiver and ground your antenna.

de N.M7R

\$40 SDR (SOFTWARE DEFINED RADIO)

An IEEE article describes how, with some cheap hardware and free software, you can listen-in on digital and analog signals across a wide range of radio spectrum. The author, radio amateur Stephen Cass (KB1WNR) used a Freeview P250 dongle and a Model B Raspberry Pi microcontroller.

Watch the video and read the article at:

<http://spectrum.ieee.org/geek-life/hands-on/a-40-softwaredefined-radio>

MORE INFO ON LIGHTNING SAFETY

Thunderstorms are dangerous due to lightning. Although lightning fatalities have decreased over the past 30 years, lightning continues to be one of the top three storm-related killers in the United States. Most lightning deaths and injuries occur when people are caught outdoors in the summer months in the afternoon and evening. Although most lightning victims survive, people struck by lightning often report a variety of long-term, debilitating symptoms.

Be smart this summer to help reduce your risks. Below are a few tips to start:

Postpone outdoor activities such as antenna work when a storm has been forecasted.

Unplug electronic equipment before the storms begins.

Remember the 30/30 Lightning Safety Rule: The first "30" represents 30 seconds. If the time between when you see the flash and hear the thunder is 30 seconds or less, the lightning is close enough to hit you.

During a storm, use your NOAA Weather Radio for updates from local officials.

Avoid contact with any metal - tractors, motorcycles, bicycles, and golf clubs.

Avoid contact with plumbing. Do not wash your hands, do not take a shower or wash dishes and do not do laundry. Plumbing and bathroom fixtures easily conduct electricity.

For more tips and helpful information visit: <http://www.ready.gov/thunderstorms-lightning>

TEENAGER DEVELOPS FLASHLIGHT POWERED BY BODY HEAT

The Daily Mail reports that a 15-year-old Canadian girl used her knowledge of electronics to develop an innovative flashlight. The newspaper says Ann Makosinski realized that Peltier tiles, which produce electricity when one side of the tile is heated and the other is cooled, could use body-heat to create energy for a flashlight. The voltage created by the tiles was not enough to power an LED light so she developed an electrical circuit to increase the voltage.

In September she will be one of fifteen finalists presenting their project at the Google Science Fair in Mountain View, California. The winner gets a prize of \$50,000 and a trip to the Galapagos Islands.

Read the full story and watch the video at:

<http://www.dailymail.co.uk/news/article-2351791/15-year-old-Canadian-girl-invents-flashlight-powered-body-heat-earns-spot-Google-Science-Fair-finals.html>

You can find many electrical and radio related stories from 1896 in the Daily Mail news archive (search terms Marconi, Wireless Society of London, Amateur Radio), see:

FITSAT-1 BECOMES A SHOOTING STAR



The amateur radio CubeSat FITSAT-1, also known as NIWAKA, burnt up in the Earth's atmosphere in the early hours of Thursday, July 4, 2013

Takushi Tanaka (JA6AVG) of the Fukuoka Institute of Technology FITSAT project has issued this statement:

FITSAT-1 has decayed on July 4, 2013. The last signal was received by JA0CAW at 03:07 (UT).

I appreciate all hams who joined our experiments, helped our operations and sent me many reports. I could make many friends in the world and enjoyed through FITSAT-1. Though FITSAT-1 became a shooting star, I am very happy now. Thank you very much again all Ham friends.

FITSAT-1, built by students at the Fukuoka Institute of Technology, was one of five CubeSats launched to the International Space Station (ISS) on July 21, 2012.

The CubeSats WE-WISH, TechEdSat, F-1, FITSAT-1 and RAIKO were integrated with the J-SSOD small satellite deployer on the the Japanese Experiment Module Kibo and deployed by the Kibo robotic arm on October 4, 2012 into a 420 km orbit.

Four of them, WE-WISH, TechEdSat, F-1 and FITSAT-1, have now de-orbited only RAIKO remains. The CubeSats that have de-orbited were all 1U in size (10x10x10 cm, 1-1.2 kg). The remaining CubeSat RAIKO is 2U in size, twice the volume and mass (20x10x10 cm, 2 kg).

FITSAT-1 carried a CW telemetry beacon on 437.250 MHz, a 1200 bps AX.25 packet radio transmitter on 437.445 MHz, a high-speed (115.2 kbps) data transmitter on 5840.0 MHz and an optical LED array to flash Morse code to observers on Earth.

The 5840.0 MHz transmitter on FITSAT-1 ran about 2 watts output. It supported a data rate of 115.2 kbps and sent a JPEG 640x480 VGA pictures in just 6 sec.

FITSAT-1's low orbit meant its lifespan was limited to just 9 months but in that time it was able to achieve a number of technology firsts and its success showed the outstanding design and construction abilities of the student team from the Fukuoka Institute of Technology.

Pictures Received on 5840 MHz from Amateur Radio Satellite FITSAT-1

<http://amsat-uk.org/2013/01/08/pictures-received-on-5840-mhz-from-amateur-radio-satellite-fitsat-1/>

FITSAT-1 Successfully Flashes Morse Code from Space

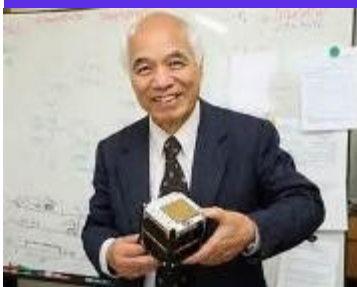
<http://amsat-uk.org/2012/12/12/amateur-radio-cubesat-fitsat-1-successfully-flashes-morse-code-from-space/>

FITSAT-1 website

<http://www.fit.ac.jp/~tanaka/fitsat.shtml>

Further information and pictures of the CubeSats are at:

<http://amsat-uk.org/satellites/techedsat-f-1-fitsat-1-we-wish/>



FREEDV HAM RADIO DIGITAL VOICE

Tony (K2MO) has produced a video showing the performance of the latest FreeDV amateur radio digital voice software. On the Digital Radio Yahoo Group Tony writes:

David Rowe (VK5DGR) has made some changes to his digital voice codec to improve HF channel performance. Tests show that the new 1600 bit/s mode does work noticeably better than the old 1400 bit/s mode.

The revised modem has 16 carriers and a total bandwidth of 1.25 kHz and it recovers quickly from dropouts so there's virtually no latency. Watch FreeDV HF Path Tests

K2MO YouTube Channel

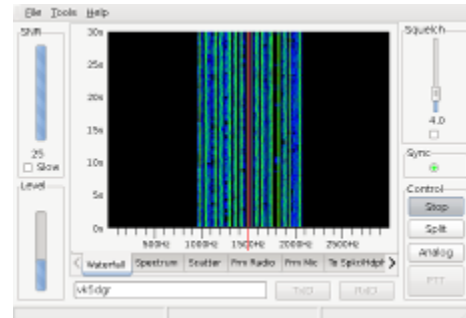
<https://www.youtube.com/user/sandydiesel/>

Join the Digital Radio Yahoo Group at

<http://groups.yahoo.com/group/digitalradio/>

FreeDV

<http://www.freedv.org/>



TEENAGE HAMS HELPED WIN WWII

BBC Technology reporter Katia Moskvitch describes the key role played by teenage amateur radio enthusiasts in World War II. To mark the centenary of the Radio Society of Great Britain, she interviews one of its members, Bob King (G3ASE), who recalls how the amateur organization played a key role in a covert operation to safeguard the country's independence. Read the BBC News story at: <http://www.bbc.co.uk/news/technology-23162846>

RSGB Centenary: <http://rsgb.org/main/about-us/rsgb-centenary-2013/>

AIR WAVES AFFECTED BY AIR WAYS

A recent investigation of interference to communications between pilots and the control tower for aircraft approaching Auckland airport in New Zealand, highlights the risk of unintended signals being generated as an unwanted side effect of radio broadcasting.

This investigation took several weeks because of the low level of signal and intermittent observations of the interference. It involved considerable RSM staff resource as well as requiring the hire of an aircraft to trace the source. While not causing a safety risk, because of the availability of alternative radio channels, the interference did present a significant annoyance and distraction to pilots.

When located, the problem proved to be an unwanted spurious emission from an FM broadcast station transmitter in a community north of Auckland and was quickly addressed by the broadcaster concerned. A recent study by the Australian Communications and Media Authority, checking broadcast stations in Australia, suggests that this sort of problem is relatively common. Around 28% of the transmitters they checked showed the production of unwanted emissions. Many of the emissions were radiated in the aeronautical radio-communication band of 108MHz to 136MHz, presenting a potential risk to safe operation of aircraft. RSM supports the use of external filters as an effective means of limiting the radiation of spurious signals, and recommends that all broadcasters should note the tips given in the CBAA news item for monitoring the health of their transmissions.

CALLING ALL DXERS

PH2M will be active as PJ4M from the island of Bonaire between September 13th to the 26th. Operations will be on the High Frequency bands. QSL via his home callsign direct or via the bureau.

N0TG, AA4VK and N1SNB will be active stroke FS from St. Martin between October 24th to the 31st. This operation will likely mirror probably their PJ7 DXpedition which was described as a suitcase operation on 40 through 10 meters using CW and SSB, with wire antennas and 100 watts. QSL all operators via AA4VK.

IZ1DPS will be operational stroke HC from Ecuador through January 12th, 2014. Activity will be on the HF bands. QSL via IK2DUW, direct, by the Bureau or Logbook of the World only.

A team composed of six French DXers will be operating as TM2NOI from Noirmoutier Island from August 9th to the 11th. The team will try to be active from 160 through 10 meters using CW, SSB and several digital modes. Particular interest will be paid to the Islands on the Air calling frequencies. QSL direct or via the bureau to F4FVI.

Members from the F6KOP Radio Club team will be active as TO7CC from Reunion Island between February 5th to the 17th, 2014. Their operation will be on all bands and modes, with an emphasis on the lower bands and RTTY. The group says that more details will be forthcoming.

SPECIAL EVENT STATION PA1813A CELEBRATES LIBERATION OF ARNHEM

On the air PA0FA will be operating special event station PA1813A through August 13th celebrating the twice liberated city Arnhem, Holland. Arnhem is a city and municipality located in the eastern section of that nation. It is well known that Arnhem was freed back at the end of World War 2 in 1945 but it was liberated once before in 1813 from the French. Hence the PA1813A call for this operation which will be mostly using CW with some SSB and digital modes. The latter two modes will depend on the available time and other possibilities. QSL to PA0FAW either direct or bureau or electronically using or eQSL.

MAYOTTE ISLAND DXPEDITION

Members of the Italian Dxpediton Team have announced the callsign, TO2TT, for their upcoming DXpedition to the Island of Mayotte Island between October 3-17th.

Operators mentioned are Silvano (I2YSB), Vinicio (IK2CIO), Angelo (IK2CKR), Marcello (IK2DIA), Stefano (IK2HKT), Alberto (IZ2AXF) and Mac (JA3US)A. HF Pilot station: Fred (IK7JWY). The 6m Pilot station: Sergi (IK0FTA).

Activity will be on 160-6 meters using CW, SSB and RTTY. They will have with them four Elecraft K3 w/ amps, one Spiderbeam (20-10m), two yagis (20-10m), three vertical antennas (80/40/30m), longwire for 160m and 3 element Cubical Quad for 6m. Online survey for band/mode needs is available on their Web page.

For more details and updates, see the following related Web pages:

Official website: <http://www.i2ysb.com>

Official forum: <http://www.hamradioweb.org>



NO! THIS IS NOT THE END OF THE DX

BANGLADESH

The Mediterraneo DX Club (MDXC) have announced: "As usual the MDXC's guys are working hard to give a good surprise to the international community of DXers and IOTA chasers.

This time, the team leader Antonio, IZ8CCW, and the team co-leader, Gabriele, I2VGV, with the help of S21AM, are in a pole position to put on a new ambitious project: a DXpedition in Bangladesh and the real possibility to establish a real cooperation with the local hams to assist them in any needs and improve their knowledge and skill in the amateur radio world.

The target will be once again the same reached, with great media emphasis and success, as in Brunei last year: a coordinate partnership with the local ham radio.

As a matter of fact the next DXpedition by Mediterraneo DX Club is going on in the best of the way. The team is formed by 20-22 operators from 9 countries. They are going to stay on air for ten days with the usual antennas farm for all bands/modes with 4x Icom 7000, 2x elecraft k2, 1x Icom 7200 and 4x amplifiers.

The exact dates are November 19-29th, 2013.

More information will be forthcoming soon, and soon will be a dedicated Web site online. Of course any donation for sponsorship for this new project will be very welcomed. See www.mdxc.org/bangladesh2013

AVES ISLAND DXPEDITION

It was announced that the 4M5DX Group is planning a DXpedition to Aves Island (NA-020) sometime between November 1st, 2013, and February 28th, 2014. The callsign mentioned is YW0A.

It is suggested to watch the following media web pages at:

DXpedition's Web page - <http://www.avesisland.info> (under construction)

4M5DX Group's Facebook page - <https://www.facebook.com/4M5DX>

4M5DX Group's Twitter page - <https://twitter.com/4m5dxgroup>

RESIDENT HAM GRANTED 5 MHZ PRIVILEGES ON SAMOA

Atsuo Sakuma (5W1SA) has become the first resident operator on the island of Samoa to be issued special permission to operate 5 MHz. This as the Samoan Office of The Regulator says that he can operate from 5.250 to 5.450 MHz. Although 60 meter operating permits have been available to visitors since 2011, these had generally been the 5 United States allocated channels only.

F5SWB as TU5DF will be on the air from the Ivory Coast until October. His operations are 40 through 6 meters using mainly CW with some SSB and PSK31. QSL to his home call.

LZ1GC and 3D2DD will be operational from Rotuma Island from September 27th through October 11th as 3D2GC/P and 3D2DD/P respectively. 3D2GC/P will be active on 160 through 6 meters using CW, SSB while 3D2DD/P will operate SSB only. QSL each operator via his home call.

DX

SABLE ISLAND DXPEDITION

The CY0P DXpedition team is pleased to announce that our Web site is up and operational. This site should be familiar as it is the same as we have used on the previous Sable DXpeditions. Updates will be posted as they are needed.

The team just purchased a large quantity of freeze-dried meals for the DXpedition. In addition, the team added a new, five-element 10-meter yagi to the antenna inventory. This antenna will be assembled and tested before shipment to Halifax, Nova Scotia. The team is making a strong commitment to working as many Asian and Pacific area DX'ers as possible.

The following is from the CY0P Web page [edited]:

"CY0 News Release - June 2013 - Operators Gary/VE1RGB, Rick/AI5P and Murray/WA4DAN, are pleased to announce a DXpedition to Sable Island from October 1st - October 11th, 2013. Approvals are in hand from Parks Canada and the Canadian Coast Guard.

We have chartered with Maritime Air Charter LTD to provide the Britten Norman Islander aircraft for landing on the beach. The call CY0P has been issued for the October DXpedition. The CY0P (Parks) call was chosen in recognition of one of the newest National Parks in Canada.

VE1RGB is a veteran of two previous CY0 DXpeditions and is a top CW contester. AI5P has operated from over 70 DXCC countries and is a CW op. WA4DAN has coordinated two previous CY0 DXpeditions, including the October 2012 DXpedition that was cut short due to Hurricane Sandy.

An all-band, 160-10 meter, CW/SSB/RTTY operation is planned. Monoband yagi antennas are planned for 10, 12, 15, 17 and 20 meters. Currently, we are assembling and testing the monoband yagi antennas. When the testing is completed, the yagi antennas will be packed and shipped to Gary in the Halifax, NS area. More details will follow in the coming weeks.

Murray, WA4DAN
www.cy0dxpedition.com

HOLIDAY OPERATIONS IN NAMIBIA

Operators Serge UX0HX, Max UZ1HZ and Alex UT5UY will be active in holiday style as V5/homecalls from Namibia between August 1-8th. Activity will be on 80-10 meters using CW and SSB. QSLs for V5/UX0HX, V5/UZ1HZ and V5/UT5UY are via UT5UY direct or by the Bureau.

NETHERLANDS SPECIAL EVENT

Look for the special event station PA6SAIL to be active between August 19th and September 10th. Activity will be on the HF bands using CW, SSB, PSK and RTTY and on 6 and 2meters. A special QSL card will be issued for working this callsign. QSL via PA3GEO (by the Bureau or direct)



DX, DX & EVEN MORE DX

AITANA DX GROUP GOING TO NICARAGUA

A team of amateur radio operators from the Spanish Aitana DX Group (ADXG) will be active from Octavio, YN2N, radio shack in Nicaragua between October 1-16th. The callsign will be announced soon.

Operators mentioned are Javi (EA5KM) operating CW, Fer (EA5FX) in CW, Eugen (EA5HPX) CW, Fran (EA7FTR) SSB/RTTY, Jose (EA1ACP) SSB & RTTY and Carlos (EA1DVY) also SSB & RTTY.

Pilot station named is Ismael (EA1AZ).

Activity will be on 160-6 meters. Suggested frequencies are:

CW - 1821, 3521, 7021, 10121, 14021, 18081, 21021, 24901 and 28021 kHz

SSB - 1840, 3795, 7185, 14250, 18145, 21295, 24965 and 28495 kHz

RTTY - 3580, 7035, 10145, 14080, 18105, 21080, 24925 and 28080 kHz

6m - 50101/CW and 50145/SSB

QSL via EB7DX, direct or by the Bureau. An OQRS will be available for direct and Bureau QSLs. All QSOs will be confirmed via LoTW.

For greater detail and updates, visit: <http://nicaragua2013.com>

PG5M will be active from Yap Island September 8th to 15th as V6G. He will be operational on 40 through 10 meters using CW only. QSL via PG5M.

It may be the start of summer in the northern latitudes, its always a good time for Christmas. In this case we are referring to Christmas Island where VK3DAC is active as VK9DAC. His operation is reported to be holiday style on 80 to 10 meters using SSB only. QSL as directed on the air.

GRID SQUARE EXPEDITION TO SCOTLAND

On the air, listen out for 2E1EUB will be on the air from Scotland as 2M1EUB for 14 days beginning August 5th. He will actually be driving around that nation to provide other hams with new grid squares that they have not yet worked. Activity will be on 160, 80 and 2 meter SSB along with several satellites. He does accept E-mails and will arrange schedules to work him at 2e1eub (at) amsat (dot) org.

RK4FF will once again be active as 6V7S from Senegal through July 16th and again from October 22nd to November 27th. His operations will probably be on 80 through 10 meters using CW, SSB and RTTY. QSL via RK4FF.

JJ2NYT, will be active as 9H1N from Malta between August 2ns to the 5th. Activity will be holiday style on 40 through 10 meters using CW and SSB. QSL only via his home callsign.

MOZAMBIQUE

EA4GBA will be operational from Mozambique through December 27th signing C91GBA. He is reported to be active on all of the High Frequency bands on SSB however no operatingschedule has yet been announced. QSL via his home call, direct only.

GOV.DELIVERY TO HALT NWS WX ALERTS

If you are involved in emergency communications activities and use the GovDelivery e-mail service listen up. GovDelivery has announced that it will discontinue disseminating National Weather Service weather alerts effective July 31, 2013.

GovDelivery is a self-subscription service used to deliver e-mail and SMS/text notifications to the general public and has contracts with many government agencies. The National Weather Service began using GovDelivery in 2008 but terminated its contract with GovDelivery in November of 2012, due to budget constraints.

At the time of the National Weather Service contract termination GovDelivery continued distribute weather alert information using a similar e-subscription service. NWS subscribers were notified about the change and offered the opportunity to subscribe to GovDelivery's free service as well as to other third party weather alert services. However, due to the substantial costs of providing a high reliability messaging service at this scale GovDelivery cannot continue the free service.

More information on the discontinuance of GovDelivery NWS alerts and several free alternatives to it are on the web at tinyurl.com/gov-delivery-ends.

ALINCO NOW REPRESENTED BY REMTRONIX

George Howard (NW4G) and the Amateur Radio Division Manager at GigaParts says that he has received word that Alinco is back up and running and products began shipping on July 17th.

In a posting to QRZ.com, Howard says that distribution is now being handled by a company called Remtronix Incorporated with a website at www.remtronix.com. A web search shows Remtronix to be located in Hayward California not that far from San Francisco.

Howard also says that he has received word of several price reductions as well as an announcement of the launch of the new Software Defined Radio based DX-SR9T high frequency transceiver.

ILLW JUST A FEW WEKS AWAY

The online registrations for the International Lighthouse and Lightship Weekend on August 17-18 this year stands at 350 - with more to come, setting the scene for another record year.

In the lead is Germany on 53, just ahead of Australia with 52. Those arch rivals are followed by the USA (40), England (31), Argentina (21), with Sweden and a lot of late interest from Malaysia (both 15).

So far portable amateur radio stations are lined up in 34 countries. The goals of the fun event are raising the public awareness of the old structures, the need for preservation of the old building and to foster international goodwill.



HEDY LAMARR

MOVIE STAR, MATHEMETICIAN, INVENTOR & PATRIOT

Hedy Lamarr, 1930's Hollywood sex symbol, had brains. It's a fact that may be nearly as overlooked as the inventor's wartime creation. A landmark technology that was a precursor to Bluetooth. Lamarr was the type of person who was constantly looking at the world and wondering how can this be fixed or how can that be improved. Does that sound like an engineer, or a sultry movie star?

During an early, unhappy marriage to an Austrian arms dealer, Lamarr would sit at dinner parties thrown by her husband for Nazi generals, listening to them talk about weapons. With her interest in science, she listened closely to all of the weapons talk.

Lamarr later escaped that marriage. She booked passage on the same passenger cruise ship as Louis Mayer of Metro-Goldwyn-Mayer. By the time the ship reached its destination, she had a seven-year, \$3,000-a-week contract with the film studio. The movie *Algiers* with Charles Boyer was filmed in 1938 and Lamarr became a huge movie star.

Lamarr's invention came about because she was keenly aware of the coming war. She was glued to the newspaper, reading all the stories. When German submarines began torpedoing passenger liners, she felt at that point she had to invent something that would help put a stop to those atrocities.

Her idea involved making a radio signal hop around from radio frequency to radio frequency, in order to interfere with signal jamming. Thus, a torpedo could be radio guided with less fear of having the signal jammed. Sure sounds like Spread Spectrum doesn't it?

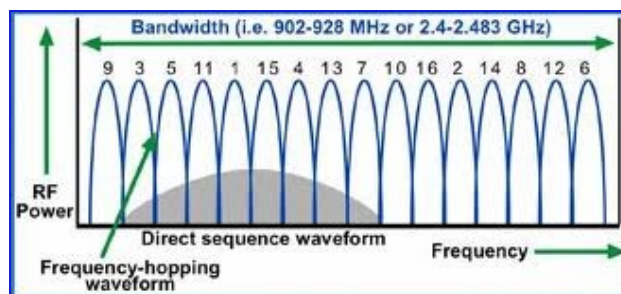
She and a partner obtained a patent, then gave it free of charge to the U.S. Navy.

The Navy threw it into the file. Later the idea of frequency-hopping was resuscitated by the Navy and then the whole system spread like wildfire. The most well-known application today is Bluetooth.

So why isn't Hedy Lamarr the Inventor a famous name?

The patent had expired and during most of the device's life it was a military secret. By the time it came out, it had gone through many permutations with input from various sources.

Her part of the invention was lost in the noise of war.



WESTERN ELECTRIC BACK IN THE TUBE BIZ

The Western Electric name has been resurrected for a new vacuum tube manufacturing venture here in the United States. With its headquarters are in Rossville, Georgia, the company will make vacuum tubes mainly for use in high-end audio components.

While tubes or valves as they are known in Europe were once the mainstay of the world's electronics, they were eventually supplanted by transistors and integrated circuits. Soon afterward most United States based manufacturers deserted the manufacture of tubes to follow the solid state trend. In recent years vacuum tube manufacturing has become the domain of specialty companies mainly in Russia and China, but even they only manufacture the most popular tubes like the venerable 12AX7 and 6L6. These are used in high end specialty audiophile gear and portable amplifiers preferred by some musicians.

The new incarnation of Western Electric is headed by Charles G. Whitener. Initially it will sell only a handful of different tube types that are exact reproductions of Western Electric "classics," such as the 300B. The latter was a power triode audio output tube that was originally designed to be used in movie theaters sound installations.

You can read the entire story of the return of Western Electric tube manufacturing on the web at: tinyurl.com/western-electric-lives. Can somebody find me a pair of new 807A's? The PA system in my old high school auditorium (Wow seems like just yesterday) used a pair of 807's in Push-Pull, Class A operation. What an amplifier!



HAARP SHUTS DOWN

The ARRL reports that the High Frequency Active Auroral Research Program (HAARP) has closed down. HAARP's program manager, Dr James Keeney at Kirtland Air Force Base in Albuquerque, New Mexico, told ARRL that the sprawling 35-acre ionospheric research facility in remote Gakona, Alaska, has been shuttered since early May.

"Currently the site is abandoned," he said. "It comes down to money. We don't have any." Keeney said no one is on site, access roads are blocked, buildings are chained and the power turned off. HAARP's website through the University of Alaska no longer is available

Read the full story at:

<http://www.arrl.org/news/haarp-facility-shuts-down>

2007 World's Premiere Facility For Ionospheric Research Completed

http://southgatearc.org/news/july2007/ionospheric_research_facility.htm

2008 HAARP 7 MHz Moonbounce videos

http://www.southgatearc.org/news/january2008/moonbounce_video.htm

2009 HAARP Twisted Radio Beams

http://www.southgatearc.org/news/march2009/twisted_radio_beams.htm



BOTHELL, WA DEPENDS ON HAM'S

The Bothell Fire Department has 17 different 'zones' within the city, each with a licensed amateur radio operator trained to communicate with rescue crews after a disaster.

The Bothell Reporter newspaper interviews William Harding (KE7DEM) about the network.

Read the complete article online at: <http://www.bothell-reporter.com/lifestyle/215371991.html>

DETROIT EMERGENCY RESPONSE SYSTEM FAILS

WXYZ reported that Detroit, Michigan is the latest city to receive national news media attention for the failure of its P25 (Project 25) digital trunked radio system.

For those of you unfamiliar with P25 radio's, the Project 25 (P25) is a set of standards produced through the joint efforts of the Association of Public Safety Communications Officials International (APCO), the National Association of State Telecommunications Directors (NASTD), selected federal agencies and the National Communications System (NCS), and standardized under the Telecommunications Industry Association (TIA). The P25 suite of standards involves digital Land Mobile Radio (LMR) services for local, state/provincial and national (federal) public safety organizations and agencies.. P25 is applicable to LMR equipment authorized or licensed, in the U.S., under the NTIA or FCC rules and regulations. Although developed primarily for North American public safety services, P25 technology and products are not limited to public safety alone and have also been selected and deployed in other private system application, worldwide.

The Detroit system failed during the 4th of July holiday weekend creating what was described as havoc for first responders. If you have been to Detroit in recent years you understand that it is more like a combat zone than a modern urbane city. Failure of the EMCOMM system it a disaster of biblical proportions.

The radio system is for communication between 911 dispatchers and Detroit's police, fire and Emergency Management Service crews. It failed at around 5:30 a.m. Friday morning, July 5th causing a backlog of hundreds of calls. Michigan State Police stepped in to allow Detroit's emergency system to use the state's communication system. This backup was used for several days while crews worked to restore the Detroit system.

Detroit Police Spokeswoman Sergeant Eren Stephens said that during the initial down time there had been some 60 priority one and more than 170 non-emergency calls that had backed up because of the issue.

Like most new digital systems, Detroit's is dependant on centralized computer control. Failure of the central processing system can bring the entire system to a halt. While Detroit does have a mirrored back-up system in place, it apparently had ever been fully tested and it too failed leading to the State stepping in. More is on-line at tinyurl.com/detroit-radio-down.

A WEBSITE FOR HAM RADIO ROYALTY

If you have a yearning for that truly unusual QSL card, this site could be just your cup of tea. A website has been created that lists those members of Royal families that its creators believe may have held amateur radio callsigns. The page is at tinyurl.com/royal-ham-radio and is sponsored by the Highfields Amateur Radio Club in the UK.

AIRPORT BLACK BOX CREATED BY HAM

The Kennebec Journal reports radio amateur Ron Cote (N1SVC) and John Guimond have developed a unit that could help prevent airplane crashes at small regional airports. The newspaper says that G.A.R.D, or General Audio Recording Device, was created and developed by John Guimond's business partner, Ron Cote, of West Gardiner, through their new commercial venture, Invisible Intelligence LLC.

The device aims to assist in the investigation of crashes by providing a recording of all radio traffic at smaller general aviation airports, without control towers, where currently no mechanism for recording exists. Ron Cote got his amateur radio license at the ripe old age of 12.

Read the full article at:

<http://www.kjonline.com/news/Device-aids-safety-at-smaller-airports.html>

DIAMONDS IN OUR FUTURE RIGS?

The feasibility of GaN-on-diamond HEMT devices has been proven with the successful transfer of a semiconductor epitaxial overlay onto a synthetic diamond substrate.

When it comes to reliability, high-performance semiconductors are largely impacted by operating temperature. Gallium-nitride (GaN) devices, which are capable of high power densities, must dissipate high amounts of heat to be effective and achieve high reliability. By using GaN-on-diamond wafers, TriQuint Semiconductor, Inc. has managed to reduce device temperature and increase thermal conductivity (see photo). According to the firm, this technology will enable new generations of RF power amplifiers (PAs) that reduce size or increase power output by a factor of three compared to today's GaN solutions.

The firm successfully transferred a semiconductor epitaxial overlay onto a synthetic diamond substrate, preserving key GaN crystalline layers. As a result, the GaN semiconductors benefit from the high thermal conductivity of the diamond substrate and low thermal resistance at the boundary between the GaN and diamond materials. This achievement demonstrates the feasibility of GaN-on-diamond HEMT devices.

According to results attained to this point, TriQuint has achieved the goal of a three-fold improvement in heat dissipation while preserving RF functionality, which was the primary objective of the Defense Advanced Research Projects Agency's (DARPA's) Near Junction Thermal Transport (NJTT) program. NJTT focuses on device thermal resistance "near the junction" of the transistor. Thermal resistance inside device structures can be responsible for more than 50% of normal operational-temperature increases. In its research, TriQuint has shown that GaN RF devices can operate at a much higher power density and in smaller sizes by leveraging thermal-management techniques.

Additional fabrication improvements and extensive device testing are underway. Their goal is to optimize the epitaxial-layer transfer process and fully characterize the enhancements that can be achieved in these new HEMT devices. TriQuint demonstrated its new GaN-on-diamond, high-electron mobility transistors (HEMTs) in conjunction with partners at the University of Bristol, Group4 Labs, and Lockheed Martin under the NJTT program.



HEMT =
High Electron
Mobility
Transistor



BROADBAND-HAMNETT (HSMM-MESH) SOFTWARE WINS INTERNATIONAL AWARDS

An interesting ham radio communications concept developed mainly by hams in Texas that are interested in automated emergency communications has been awarded a pair of important prizes. Jim Davis (W2JKD) has the story:

Broadband-Hamnet, formerly HSMM-MESH firmware, developed by amateur radio operators to provide hams with a high-speed digital wireless communication mesh network, has won both US and global awards from the International Association of Emergency Managers.

The USA Council of the designated Broadband Hamnet as a Division 2 Technology and Innovation Award winner. It then went on to win the International Association of Emergency Managers Global Technology and Innovation Award in the same division.

Broadband-Hamnet as "a high-speed, self-discovering, self-configuring, fault-tolerant, wireless computer network. It has very low power consumption and a focus on emergency communication. The firmware itself is available at no charge via the project website at <http://www.hsmm-mesh.org>

The awards will be presented to Broadband-Hamnet in October at the International Association of Emergency Managers annual conference in Reno, Nevada. A demonstration of how it works can be seen in the ARRL video The DIY Magic of Amateur Radio. It's on the web at tinyurl.com/ham-radio-diy-magic.

ET CALLING HOME

Prepare yourself for a tsunami of astronomical revelations with the \$51 million Murchison Widefield Array (MWA) radio telescope in Western Australia now in full swing. The MWA is part of the growing Murchison Radio-astronomy Observatory in a remote part of the Western Australia (VK6) where radio frequency interference is virtually non-existent.

It is a precursor to the \$2 billion international Square Kilometre Array project and comprises 2048 antennas that capture low frequency radio waves. It will step up observations of the sun to detect and monitor massive solar storms and will also investigate a unique concept - seeing if stray FM radio signals can be used to track dangerous space debris.

A little further east, astronomers just have detected the first population of radio bursts known to originate from galaxies beyond our own Milky Way. The sources of the light bursts are unknown, but cataclysmic events, such as merging or exploding stars, are likely the triggers. A single radio burst was detected about six years ago, but researchers were unclear about whether it came from within or beyond our galaxy.

The new radio-burst detections - four in total - are from billions of light-years away, erasing any doubt that the phenomenon is real. The discovery, described in the July 4 issue of the journal Science, comes from an international team that used the Parkes Observatory in Australia (VK2).

Exactly what is triggering the release of the radio waves is unknown. Further scans for radio bursts using the Parkes Observatory are ongoing.

LITHIUM BATTERIES DANGERS



Lithium batteries are undoubtedly popular given their widespread use in consumer products, and even higher powered units in electric vehicles.

However, they have been linked to fires, illicit drug makers and medical problems.

The recent death of a toddler in Queensland, Australia and others injured after swallowing them, has again focused attention on the common power source.

From January 2013 stricter regulations for the carriage of Lithium batteries by air travelers were introduced so check with your airline for the current rules BEFORE you fly.

A battery can also be a convenient source of lithium metal used in illegal methamphetamine laboratories. Sales of larger quantities are restricted for this reason in some areas.

International industry standards for button batteries are soon to be introduced as an urgent safety measure.



These are likely to include strengthened consumer education about the dangers and child-restraint packaging for the cell batteries.

Jim Linton VK3PC

LOOK OUT! HEADS UP!! *TIMBER!!!*



Listeners to KVTK-AM of Yankton, South Dakota, were recently without the station for a few days. This is because an accident caused the station's broadcast tower to fall to the ground.

The tower, which was 309 feet tall, was situated in the middle of what was described as a small, grassy field located about five miles west of the town of Vermillion. Reportedly, a man cutting the grass Monday afternoon June 10th clipped one of the tower's guy-wires, causing it to collapse shortly after 4 p.m. local time.

Engineers and other staffers of Five Star Communications, which also owns KVHT-FM, reportedly worked quickly to find the best way to begin broadcasting again after their tower collapsed. According to press reports the station was back in operation from a temporary site on Friday, June 14th.

A small building located a short distance from the tower's base was not damaged, as the collapsing metal snaked its way around the structure without striking it. Thankfully, no one was physically injured in the mishap.

SGARN

SGARN – Second Generation Amateur Radio Network

The first significant amateur radio digital network, the packet radio network, rose to some prominence in the late 1980's, and then declined throughout the 1990's. Far before the turning of the century, it was effectively in hospice care at best.

Presently, very little of the original packet radio network remains. What does remain is mostly fragmented, adulterated and with no broad sense of purpose and direction.

Some of what remains is nostalgic, the enfeebled efforts of die-hards, while other surviving parts of the network are zombie-like, still moving data but very seldom via amateur radio. Instead they are (for the most part) parasitic afflictions on the internet.

As an amateur radio network, this internet-driven activity is the shuffling stumble of the living dead. - The hideous, pathetic debris of what once lived and robust life and thrived. It is barely amateur radio now.

Many of the old packet networks' functions have been superseded by the internet. One has to wonder exactly what kind or type of data a modern amateur radio network could or should transport, that the internet cannot do a better job doing. This is perhaps the most difficult and yet the most vital question that we must answer with second-generation amateur radio networking.

We must ask ourselves what an amateur radio network can do, in the long run, that the internet cannot. We must also ask ourselves what happens when the internet goes down and what if it stays down for some time?

I have put some thought into this, and have a few ideas about that – but I would like to hear some other ideas on this subject from my fellow amateurs.

- (1) What application software functionality is needed to make the jump to the next iteration of digital ham radio?
- (2) What kind or type of data can a second generation amateur radio network transport, and under what circumstances can the internet cannot do a better job and why or why not?
- (3) What will a second generation ham radio network be capable of in the long run?

I know that there will be a lot of sarcastic and witty answers, and answers that originate from minds that cannot shift gears and think afresh – but optimist that I am, I hope to hear from some serious thinkers as well, from amateurs who are ready, willing and able to look ahead and see a way to innovate, and not merely emulate.

ae7qu@HamRadioWebsites.Net

KITE ANTENNAS

Richard (G3CWI) of portable radio specialists SOTABeams has over 30 years experience of flying antennas from kites. He has compiled a page of tips and links for others wishing to try this entertaining way of getting on the air!

<http://www.sotabeams.co.uk/kites-faq/>

LARGE SUNSPOT TURNS TOWARD EARTH



One of the biggest sunspot groups of the current solar cycle has emerged in the sun's southern hemisphere. AR1785 has an unstable magnetic field that harbors energy for strong solar flares, and it is turning toward Earth. Check <http://spaceweather.com> for more information and updates.

L.A. DRILL INCLUDES HAM RADIO

An interesting emergency communications drill occurred on the United States West coast. This as members of California's Los Angeles County Disaster Communications Service met at its Temple Station on June 24th to practice sending data but doing so without the use of the internet and without the use of any infrastructure.

Deputy Hector Figueroa (KE6VRL) is the Temple Station Systems Administrator for Communications. He says that communications was accomplished via the use of the Amateur Radio Service and the Narrow Band Emergency Messaging Software. This software is capable of running on various computing platforms and operating systems making it easy to implement especially in a disaster. Figueroa says that most of the Disaster Communications Service volunteers were able to install and use the system in less than an hour's time.

Most used battery power for their computers and battery powered radios to send messages during the training. These consisted of message types used in the national Incident Command System to request support, report damage, and provide health and welfare traffic. Members of the City of Rosemead staff also participated in the demonstration and training while volunteers from San Dimas, Temple City and Pasadena were on hand to practice and gain valuable experience. More information is on line at <http://www.temple.lasd.org>.

PELTIER GEN'S MORE POWER THAN SOLAR PANEL

This is interesting so I thought I might share it to see what our readers think. I took a 1.5 sq. in. Peltier and connected an ammeter and a voltmeter to see its output under heat conditions. The Peltier was under a glass bowl in bright sunlight on a hot, clear day so I could get the maximum output using a greenhouse effect. At an outside temperature of 83 F. I saw a reading of 200ma and 20mv output. This was quite high.

A standard solar panel is around 24"x60" or 1440 in. sq. and will normally put out around 12v-17volts at ideally 100watts. If the same number of Peltier squares were connected in series (960) of them the output would be:

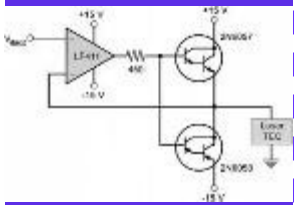
$$960 \times 200\text{ma} = 192 \text{ amps}$$

$$960 \times 20\text{mv} = 19.2 \text{ volts} \quad \text{OR}$$

$$w=va \quad 192 \text{ amp} \times 19.2 \text{ volts} = 3686 \text{ watts}$$

A Peltier works on the principal of a difference of the temp. from one side to the other. The greater the delta T the higher the output. This Peltier is sitting on the ground and has been in that position for the last 6 hours. It reached 200 ma output about 2 hours ago so the output has been steady. Am I missing something here? This looks really interesting.

Since a Peltier "runs" on heat it is not necessary to be orienting it to the sun (as a solar panel). The heat builds up under the glass dome. Also at night it could also work on your roof in such that the warmth from the house through the roof relative to the colder outside air would cause the same effect. Works in daylight and at night time. Hmmmm. What say ye?



NEW SUN-WATCHING SATELLITE LAUNCHED

Turning to space related news, word that NASA has launched a satellite on a two year mission to explore a little-studied region of the sun. The new bird will help to better understand and forecast space weather that can disrupt communications systems on Earth.

Unlike a traditional liftoff, the Iris sun-observing satellite rode into Earth orbit late Thursday, June 27th on board an Orbital Sciences Corporation Pegasus rocket. This is a booster that is released from a modified Lockheed L-1011 jet aircraft that carries it to a launch altitude. In this case the launch carrier took off around sunset from the Vandenberg Air Force Base on California's central coast. At an altitude of 39,000 feet it released the Pegasus booster which ignited its engine for the 13-minute climb to space.

Shortly thereafter NASA confirmed that Iris had successfully reached its intended orbit and that it had received confirmation that the satellite deployed its solar panels and was generating power.

The 7-foot-long Iris, weighing 400 pounds, carries an ultraviolet telescope that can take high-resolution images every few seconds. Unlike NASA's Solar Dynamics Observatory, which observes the entire sun, Iris will focus on a little-explored region that lies between the surface and the corona. That's the glowing white ring that's visible during eclipses.

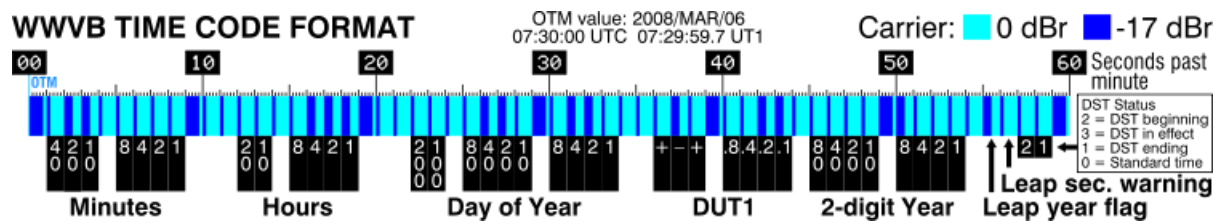
Iris is being managed by the space agency's Goddard Space Flight Center in Greenbelt, Maryland. Its ultimate goal is to learn more about how this region of the sun drives solar wind and to better predict how space weather can cause disruptions to communications here on Earth. The latter is something very near and dear to ham radio operators, world-wide.

As a historical note the first successful Pegasus launch occurred on April 5, 1990 with NASA test pilot and former astronaut Gordon Fullerton in command of the carrier aircraft. Video coverage of the June 27th Iris launch is on-line at tinyurl.com/iris-watches-sun.

WWVB CELEBRATES 50 YEARS OF SERVICE

Friday, June 5th marked the 50th anniversary of a radio station whose sole purpose is to keep the nation on time. Of course we are talking about WWVB, the sister station of WWV that sends out a time-precise signal every night that many clocks and wristwatches across the U.S. use to make sure they have the correct time.

WWVB went on the air on July 5, 1963. It broadcast with 7 kilowatts of Effective Reradiated Power signal on a frequency of precisely 60 kHz. Since then it has become the standard relied upon for accuracy in automated time keeping.



WA7VE

www.wa7ve.org

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Secretary - Carolyn Lee (KE7OXP)

Treasurer - Kelly Larkins (N7IXI)

Trustee - Hal Denison (WA7FIV)



Our membership meetings are held at 5:00 PM on the second Saturday of each month at the Seaside campus of Clatsop Community College. We will be upstairs. The Board meeting begins at 4:30 PM. All are welcome, especially visitors.

Please visit our website for updates and information.

NEW LIFE ON THE WAY FOR HAM DATA SPEEDS?

Once, upon a time the ARRL actually supported restrictions that limited the symbol rate and crippled the development of amateur radio HF data modes. Almost 34 years later they have changed their mind

In 1977 in Docket 20777 the FCC tried to introduce band planning by bandwidth, it was at the time opposed by ARRL who were successful in defeating it.

Subsequently, on March 17, 1980, a 300 baud symbol rate restriction on HF data was introduced with ARRL support. It's intent was to restrict the bandwidth of data transmissions without actually specifying a bandwidth restriction since band planning by bandwidth was something the ARRL bitterly opposed.

The draconian symbol rate restriction limited the ability of US hams to experiment with and develop new and innovative data modes.

In the September issue of QST the ARRL has announced a new position on symbol rates. They are now proposing that the FCC delete all references to symbol rate from Section 97.307(f) of the amateur regulations and adopt a bandwidth limit of 2.8 kHz for amateur data emissions below 29.7 MHz. It appears the ARRL proposals would also eliminate the symbol rate restrictions at VHF and UHF.

Read the ARRL September QST editorial at:

<http://www.arrl.org/files/media/News/ItSeemsToUs.pdf>

FCC 97.307

<http://www.gpo.gov/fdsys/pkg/CFR-2011-title47-vol5/pdf/CFR-2011-title47-vol5-sec97-307.pdf>