



ARES COMMUNICATOR

Information for Scott County Amateurs



August, 2015

Accurate, Reliable Emergency Communications for our Community

Volume 15, Number 8



VOLUNTEERS NEEDED!

Cycle for Life 2015 Info

- CF Cycle for Life is a fully-supported ride
- Route options of 25 & 50 miles.
- Fully stocked rest stops every 10-12 miles
- Bike mechanics for bicycle maintenance and repair
- Ride marshals and plenty of support vehicles
- Post-ride 'Octoberfest' Orchard party
- Registration 7:00am
- Headquarters - Minnetonka Orchards, Mound, MN.

Scott ARES is providing communications support for the event and additional communications volunteers are needed.

To be part of the fun, contact NOBHC@ScottARES.org to volunteer.

The ride usually runs from 7:00am to approximately 1:00pm.

BREAK - OVER

The ARES COMMUNICATOR is published for the benefit of Amateur Radio Operators in Scott County and other interested individuals.
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 Savage, MN. 55378
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 Reader submissions encouraged!

Amateur Radio Parity Act

Greg, K0GW
ARRL Dakota Division Director

The Senate companion bill to the House version of the Amateur Radio Parity Act of 2015 was introduced in late June.

This means that we can write to our Senators to ask for their co-sponsorship of the bill. The House version already has 83 co-sponsors (as of June 29th), and the goal is to get many co-sponsors for the Senate version.

You can find detailed information on both bills at: www.arrl.org/amateur-radio-parity-act

The most powerful thing you can do is to write to your Senators (Klobuchar and Franken) asking for their support. The web page above has a letter.



ARRL Headquarters asks that you send them a copy of your message to your legislators, as instructed on the web page, so that they will be hand delivered on Capitol Hill. Direct letters make a big impression on our representatives, and hand delivery gives us one more chance to talk with Senate staff.

Please join in sending your letters for your Senators to ARRL. Both House and Senate bills have a lot of momentum right now. Please add your voice to keep the ball rolling!

BREAK - OVER

ARES Activities

- Weekly Net Monday 7 PM 146.535 mhz (s)
- Breakfast Saturday, September 12th
- Digital Monday, September 14th

ARES Nets

- MN ARES Phone Net
6:00PM Sunday Freq: 3.860 mhz
- ARRL MN Phone Net
12:00p, 5:30p CST Daily Freq: 3.860 mhz
- ARRL MN CW Net
6:30p, 9:50p CST Daily Freq: 3.568 mhz

NETS WITH OUR NEIGHBORS

- North Dakota: Daily 3.937 mhz 6:30pm
- South Dakota: Daily 3.860 mhz 6:00pm
- Wisconsin: Daily 3.985 mhz 5:30pm
- Iowa: Daily 3.970 mhz 12:30/5:30pm

Metro Skywarn Information



Repeaters

Primary

146.700 Neg Offset PL 127.3 <http://www.wc0hc.org/>

147.210 Pos Offset PL 100.0 <http://www.tcrc.org/>

147.000 Pos Offset NO PL <http://www.k0ltc.org/>

Backups

146.670 Neg Offset PL 114.8 <http://www.anokaradio.org/>

146.760 Neg Offset PL 114.8 <http://tcfmc.org/>

146.925 Neg Offset PL 107.2 <http://www.co.ramsey.mn.us/em/volunteer.htm>

147.120 Pos Offset NO PL <http://www.qsl.net/w0mr/>

145.170 Neg Offset PL 100.0 <http://www.magicrepeater.net/>



Two days ago, Susan was only 8 years old. Next year, she will be 11. What day is it today?

Scott County ARES Contacts

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Assistant Emergency Coordinator

Tony Lambertz KC0YHH

Savage, MN

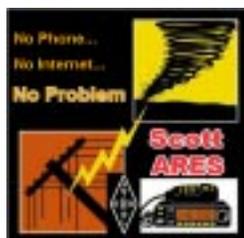
KC0YHH at scottares.org

Assistant Emergency Coordinator

Chad Palm KD0UWZ

Chaska, MN

KD0UWZ at scottares.org



Amateur Radio License Exam

Want to become a ham? Want to upgrade your license? You can find information and resources to success in ham radio at this page: <http://www.scottares.org/License Info.htm>
If you want to ask questions or find a local Elmer (Mentor) just drop an email to: newhaminfo@scottares.org

The hams in Scott ARES gather for breakfast the first Saturday of the month at the Perkins Restaurant in Savage. Bring you ham radio questions and talk to local amateur radio operators.

Now that you have done the work to study for your upgrade, here is where to find a convenient exam session near you. There is a VE exam search engine at: http://www.arrl.org/exam_sessions/search

Walk-ins allowed at most sessions however it is always best to check the details at the specific session you are planning to attend.

Below is a list of scheduled sessions close to Scott County. Good Luck!

August 24, 2015 Monday 6:00 PM

Contact: Dale A. Blomgren

Email: kd0b@arrl.net (952) 402-2155

Carver County Library

7711 Kerber Blvd

Chanhassen MN 55317

Walk-ins allowed, Pre-reg requested.

September 9, 2015 Wednesday 7:00PM

Sponsor: VARC

James C. Rice (612) 384-7709

Location: Perkins Restaurant & Bakery

17387 Kenyon Ave,

Lakeville, MN 55044

Time: 7:00 PM (Walk-ins allowed)

September 19, 2015 Saturday 9:00 AM

Contact: SEMARC

(651) 769-0358

Zion Lutheran church

8500 Hillside Trail South

Cottage Grove MN 55016-3273

Walk-ins allowed

September 26, 2015 Saturday 9:00 AM

Contact: Daniel J. Royer

Email: dan-arrl@droyer.org (952) 888-9756

City Hall-Police Department

1800 W Old Shakopee Rd

Bloomington MN 55431

Walk-ins allowed

Lightning Reading List

Thunderstorm season has been active earlier this summer and the lightning has been spectacular at times. One amateur posted his favorite 'lightning' reading list to a discussion group. Check out some of these resources for a reminder of lightning tips that might save you from the inconvenience from a near-by lightning strike.

Book published by PolyPhaser. Lightning protection and grounding solutions for communication sites by Ken R. Rand.
<http://menters.renlist.org/warren/LightningProtectionAndGrounding.pdf>

Three part article from QST in 2002 by Ron Block, KB2UYT.

Amateur Radio Station Grounding and Lightning Protection by W5BWC, WP30A190 2011.pdf
<http://www.arrl.org/lightning-protection>

Amateur Radio Station Grounding and Lightning Protection by W5BWC. 2011
<http://www.bwcelectronics.com/articles/WP30A190.pdf>

National Fire Protection Association, NFPA 780
Standard for the Installation of Lightning Protection Systems
2004 Edition http://uqu.edu.sa/files2/tiny_mce/plugins/filemanager/files/4310333/Appendix_NFPA_Standard_780_2004.pdf

The Basis of Conventional Lightning Protection Technology
Report of the Federal Interagency Lightning Protection User Group, June 2001 http://www.lightningsafety.com/nisi_lhm/conventionalLPT.pdf

IEEE Press, How to Protect Your House and its Contents from Lightning.
http://www.lightningsafety.com/nIsi_lhm/IEEE_Guide.pdf

There Is No Magic To Lightning Protection: Charge Transfer Systems Do Not Prevent Lightning Strikes
By William Rison, Professor of Electrical Engineering, New Mexico Institute of Mining and Technology, Socorro, New Mexico 87801 <http://www.lightningsafety.com/nIsilhm/magic.pdf>

Controlling Electrical Hazards, OSHA 2002.
<http://vwww.osha.gov/Publications/osha3075.pdf>

PolyPhaser
<http://vwww.protectiongroup.com/PolyPhaser>

Take a Dip in the General Pool

Time to test your knowledge of the information covered by the General Class license exam. Each month we'll take a look at a selection from the question pool.

Strap on your thinking cap and see what you can recall. Here is this month's sample:

1. Which of the following antenna types will be most effective for skip communications on 40 meters during the day?
 - A. Vertical antennas
 - B. Horizontal dipoles placed between 1/8 and 1/4 wavelength above the ground
 - C. Left-hand circularly polarized antennas
 - D. Right-hand circularly polarized antenna
2. What is the correct adjustment for the load or coupling control of a vacuum tube RF power amplifier?
 - A. Minimum SWR on the antenna
 - B. Minimum plate current without exceeding maximum allowable grid current
 - C. Highest plate voltage while minimizing grid current
 - D. Maximum power output without exceeding maximum allowable plate current
3. Which of the following is a common use for the dual VFO feature on a transceiver?
 - A. To allow transmitting on two frequencies at once
 - B. To permit full duplex operation, that is transmitting and receiving at the same time
 - C. To permit ease of monitoring the transmit and receive frequencies when they are not the same
 - D. To facilitate computer interface

(Check next month's issue of the ARES Communicator for the answer.)

July General Pool Answers

1. Which of the following might be an indication that signals heard on the HF bands are being received via scatter propagation?
 - A. The signal is heard on a frequency above the Maximum Usable Frequency
2. Which ionospheric layer is the most absorbent of long skip signals during daylight hours on frequencies below 10 MHz?
 - A. The E layer
 - B. The F layer
 - C. The D layer
 - D. The MUF
3. What type of device is often used to enable matching the transmitter output to an impedance other than 50 ohms?
 - A. Antenna coupler

Test Your NIMS Knowledge

This month we will begin our review of ICS-800: National Response Framework. The purpose of the National Response Framework is to ensure that all response partners across the Nation understand domestic incident response roles, responsibilities, and relationships in order to respond more effectively to any type of incident. The Framework focuses on response and short-term recovery instead of all of the phases of incident management.

Check your recall of the course material with this question. When developing protocols that promote situational awareness, priority should be given to:

- Providing the right information at the right time.
- Improving and integrating national reporting.
- Linking operations centers and tapping subject-matter experts.

- A. Standardizing reports.
- B. Acquiring cutting-edge technology.
- C. Limiting access to information sources.
- D. Using advanced statistical methods.

Check next month's ARES Communicator for the solution

June NIMS Knowledge Solution

Planning across the full range of homeland security operations is:

- A. An inherent responsibility of every level of government.

NBEMS Current Versions

The current version of the Fldigi manual is available at NBEMS Info page at www.scottares.org. Look under the 'Help Sheets' heading.

Now is a good time to check to your digital software to make sure you are running the newest versions. You can find the most recent versions posted at both: www.w1hkj.com/download.html and <http://www.scottares.org/NBEMS.htm>

Here are the most recent releases as of July 24, 2015.

Software	Version
Fldigi	3.22.13
Flwrap	1.3.4
Flmsg	2.0.11
Flamp	2.2.02

The Monday evening training net is a great place to have your digi questions answered and problems solved! Join the Scott ARES group on 146.535 MHz simplex at 7:00pm on Monday evenings.



F-35B Lightning II

The US Marine Corps has declared the F-35B Lightning II operational. Marine Fighter Attack Squadron 121 (VMFA-121), based in Yuma, Arizona, which has ten of the vertical and/or short take-off and landing (VSTOL) multi-role fighters, was officially cleared for worldwide deployment after a five-day Operational Readiness Inspection.

The F-35B is one of three variants of the supersonic fifth-generation Lightning II fighter and is designed primarily for use with the US Marine Corps and the Royal Navy. Using a directed thruster and lift fan, it is capable of vertical or short takeoffs and vertical landings, which means it can operate without airfields or from aircraft carriers without the need for catapult launchers. It will act as the mainstay fixed-wing warplane for Britain's Queen Elizabeth-class carriers and will replace the US Marine Corps' AV-8B Harrier, F/A-18 Hornet, and EA-6B Prowler.

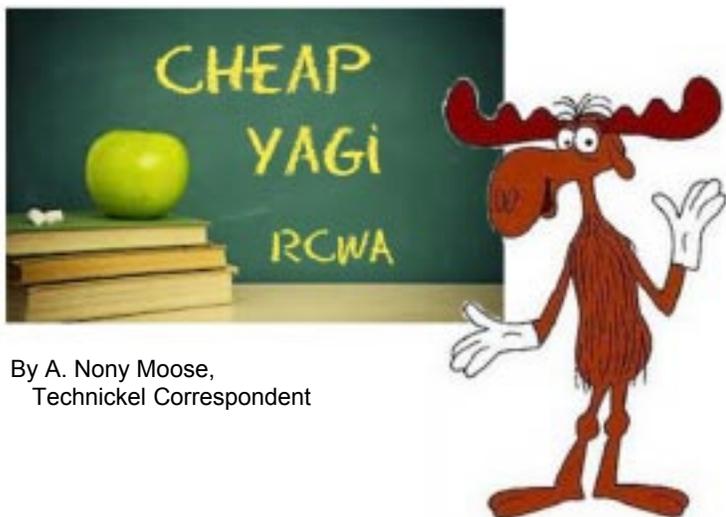


Two F-35B Lightning II Joint Strike Fighters complete vertical landings aboard the USS Wasp (LHD-1) during the opening day of the first session of operational testing.

According to Marine Corps Commandant, General Joseph Dunford, the F-35B and VMFA-121 have fulfilled the requirements as laid out in the June 2014 Joint Report to Congressional Defense Committees

“VMFA-121 has ten aircraft in the Block 2B configuration with the requisite performance envelope and weapons clearances, to include the training, sustainment capabilities, and infrastructure to deploy to an austere site or a ship” said General Dunford. “It is capable of conducting Close Air Support, Offensive and Defensive Counter Air, Air Interdiction, Assault Support Escort, and Armed Reconnaissance as part of a Marine Air Ground Task Force, or in support of the Joint Force.”

Dunford went on to say that the clearance is based on seven weeks of sea trials on an L-class carrier in large-force exercises and multiple live-ordnance sorties. So far, the Marines have qualified 50 F-35B pilots and 500 maintenance personnel. A second squadron, Marine Attack Squadron 211 (VMA-211), is scheduled to go live next year, followed by Marine Fighter Attack Squadron 122 (VMFA-122) in 2018.



By A. Nony Moose,
Technickel Correspondent

Knowing how frugal your Technickel Correspondent is, you can imagine how the title “Cheap Yagi” made his antlers quiver! This fits right in with the group of Real Cheap Wire Antennas (RCWA)!

This design is attributed to Cuban amateurs. They operated VHF stations to communicate over their island country and with neighboring islands. The story goes that they wanted to figure out an antenna that would provide directionality and gain for their low powered operations. The Cuban hams had little material to work with for antenna construction. Literally coat hangers and scrap wood were the basis of the early designs. Several hams collaborated in the design and testing and the ‘Cheap Yagi’ was born. Nope, no supercomputer analysis involved! The design was reportedly featured in a long-ago issue of CQ Magazine.

The design has been tweaked using modern antenna modeling software and produces some good signal reports. Ready for the usual gratuitous antenna ad claims? The guys over in West Antler, MN had some good reports. “This little beauty was a sweet performer, sweeter than Aunt Mabel’s strawberry jam!” and “Fred across town said the signal was about a bazillion bees knees better than the paper clip in the antenna jack!” (*Fred gets a little excited with technical terms*).

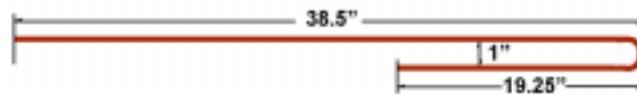
Okay, after claims like that let’s take a look at the actual



The element layout looks pretty much as expected. Make sure your elements are stiff enough to prevent bending when the first humming bird stops for a rest.

design. We’ll start with a 4-element 2M design. The illustration show the basic dimensions and spacing of the elements (recognize that color-code?).

The driven element looks like a lazy J-pole! The feedpoint is at the mid-point of the driven element. The coax center conductor soldered to the long leg and the shield soldered to the end of the “J” at the center of the element.



The driven element looks a lot like the J-pole. You can reduce the 1” spacing to 5/8” where the end of the stub meets the boom. This is where the coax is connected

You can use an inexpensive (CHEAP) 1 x 2 board for the boom and anything from coat hangers, #10 building wire, welding rods, or Aunt Mabel’s corset stays for the elements! The length of the boom is around 45 inches. Better stick with at least RG58 for the feedline.

You have enough information to get your imagination running on designing the actual mechanics of building the Inexpensive (CHEAP) Yagi. Next month we’ll take a look at the Moose’s finished antenna. Happy planning!

BREAK - OVER



As electronics miniaturization heads towards a theoretical physical limit in the tens of nanometers, new methods of manufacturing are required to produce transistors, diodes, and other fundamental electronic components. Now a group of researchers from Berkeley Lab and Columbia University claims to have created the highest-performing, single-molecule diode ever made, which is said to be 50 times better in performance and efficiency than anything previously produced.

Ordinary diodes are usually constructed from silicon with a p-n (positive-negative) junction created at the point of contact between a positively “doped” semiconductor (that is, one that has had its electrical properties altered with additives) and a negatively doped one. Flanked by connecting electrodes (an anode on one side and a cathode on the other), the most common function of such a diode is to permit electric current to flow in one direction only, whilst blocking current from flowing in the reverse direction. As such, a diode used in this way can be seen as a type of flow-

Engima

An Enigma machine, used by Germany to send encrypted communications during World War II, has been sold at auction in London. The machine, which was constructed in 1943, is one of few that survived the conflict intact, as the German military was given orders to destroy them as it retreated.

During its years of use, the German military altered and refined the Enigma cipher machine, creating numerous different models. The 1943 example included three rotors, and was sold complete with an oak hinged-lid carrying case.

The final sale price of the machine was \$232,015, significantly more than the expected figure. It was purchased by an unnamed buyer. Given the historical significance of the machine (it was originally invented in 1918), the high sale price of auctioned example is really no surprise.



To use Enigma, the operator would type in a message, then scramble it using three, four or five notched rotors, each with 26 possible positions. Whoever received the message needed to know the exact settings of the rotors, and those of the machine's plugboard, in order to decode the message. There were more than 159 million million million possible configurations (that's not a typo), and the settings were changed daily.

During the Second World War, the German military believed that the encryption granted by Enigma could not be broken, but thanks to a combination of Polish intelligence and the work of codebreakers at Bletchley Park – including mathematicians Gordon Welchman and Alan Turing – the cipher was eventually beaten. They employed the use of huge, one-ton code-breaking machines called British Bombes, more than 200 of which were used during the height of the operation.



These are three of the rotors the operator changes to modify the message coding.



- cont'd from page 5

control valve that is either “on” or “off”. Technically, this one-way behavior is known as rectification as it can, for example, be used to rectify alternating current to direct current, and so these types of diodes are known as rectifiers.

This on/off – asymmetric – behavior is usually achieved by the creation of molecules that chemically emulate the p-n junction. However, these synthesized molecular junctions have generally resulted in poor forward current flow capabilities and inefficient or patchy rectification.

First noted in 1974 by Mark Ratner and Arieh Aviram, an asymmetric molecule that could act as a rectifier has been a long sought after goal, particularly as diodes form the basis of many microminiature electronic devices. Since then, a range of devices have been constructed, including single molecule diodes and transistors. “Electron flow at molecular length-scales is dominated by quantum tunneling,” said professor Neaton .

At the Molecular Foundry we developed an approach to accurately compute energy-level alignment and tunneling probability in single-molecule junctions. This method allowed myself and Zhenfei Liu to understand the diode behavior quantitatively.”

They created their high-performance rectifier diode using junctions prepared from symmetric molecules attached to gold electrodes. To achieve the necessary asymmetric properties required to operate as a diode, the researchers then altered the surface area of the electrodes as they were exposed to an ionic solution. As a result, a positive voltage increased the current significantly, whilst a negative voltage reduced current flow in an equally significant manner.

“The ionic solution, combined with the asymmetry in electrode areas, allows us to control the junction’s electrostatic environment simply by changing the bias polarity,” said professor Neaton. The Columbia group’s experiments showed that with the same molecule and electrode setup, a non-ionic solution yields no rectification at all.”

The combined Berkeley Lab-Columbia University research team is convinced that the way they have managed to produce a single-molecule diode sets the benchmark for future nonlinear nanoscale device tuning and development, with applications above and beyond just junctions of single-molecule components.

BREAK - OVER

“Now and then it’s good to pause in our pursuit of happiness and just be happy.”

Guillaume Appollinaire

BREAK - OVER

Heat Stroke

Symptoms and Treatment

Remember to be aware of your health when participating in outdoor events during the all-to-short summer season here in Minnesota. Heat stroke can be a stealthy fun stealer.

Heat stroke is the most serious form of heat injury and is considered a medical emergency. If you suspect that someone has heat stroke — also known as sunstroke — call 911 immediately and give first aid until paramedics arrive.

Heat stroke often occurs as a progression from milder heat-related illnesses such as heat cramps, heat syncope (fainting), and heat exhaustion. But it can strike even if you have no previous signs of heat injury.

Heat stroke results from prolonged exposure to high temperatures — usually in combination with dehydration — which leads to failure of the body's temperature control system. The medical definition of heat stroke is a core body temperature greater than 105 degrees Fahrenheit, with complications involving the central nervous system that occur after exposure to high temperatures. Other common symptoms include nausea, seizures, confusion, disorientation, and sometimes loss of consciousness or coma.

Symptoms of Heat Stroke The hallmark symptom of heat stroke is a core body temperature above 105 degrees Fahrenheit. But fainting may be the first sign.

Other symptoms may include:

- Throbbing headache
- Dizziness and light-headedness
- Lack of sweating despite the heat
- Red, hot, and dry skin
- Muscle weakness or cramps
- Nausea and vomiting
- Rapid heartbeat, which may be either strong or weak
- Rapid, shallow breathing
- Behavioral changes such as confusion, disorientation, or staggering
- Seizures
- Unconsciousness

First Aid for Heat Stroke If you suspect that someone has a heat stroke, immediately call 911 or transport the person to a hospital. Any delay seeking medical help can be fatal.

Try these cooling strategies:

- Fan air over the patient while wetting his or her skin with water from a sponge or garden hose.
- Apply ice packs to the patient's armpits, groin, neck, and back. Because these areas are rich with blood vessels close to the skin, cooling them may reduce body temperature.
- Immerse the patient in a shower or tub of cool water, or an ice bath.

If emergency response is delayed, call the hospital emergency room for additional instructions.

\$50 Satellite

2 Yrs in Orbit and Still Ticking

At just a few months shy of turning 2 years old, the \$50SAT (<http://www.50dollarsat.info/>) Amateur Radio "PocketQube" microsatellite — also known as Eagle 2 (MO-76) — is still operating, although it's not entirely well either. The satellite, which transmits on 437.505 MHz at a power of 100 mW, may be heard using a handheld transceiver, but it does not include a transponder. Launched in late 2013 from Russia, \$50SAT is a collaborative education project of Prof Bob Twiggs, KE6QMD, of Kentucky's Morehead State University, and three other radio amateurs — Howie DeFelice, AB2S; Michael Kirkhart, KD8QBA, and Stuart Robinson, GW7HPW.

\$50SAT's stated purpose was to evaluate if the PocketQube form factor offered a cost-effective means for engineering and science students to use in developing real-world skills. The "\$50" is a bit of a misnomer. The tiny satellite actually was constructed from about \$250 worth of parts. Kirkhart recently offered an update on \$50SAT, which measures just 5 × 5 × 7.5 cm and weighs 210 grams.



\$50 Sat compared to an HT. It is almost hand-held size.

"The good news is [that] it is still operating. The bad news is the power situation has been degrading, with an apparent step change on or near May 12, 2015, followed by another on June 23, 2015," he recently posted.

Kirkhart, who lives in Michigan, said his last full telemetry capture was on May 27, and the last time he heard \$50SAT was on June 6. "I continued to attempt to listen for it for another week or so, and heard nothing," he said. \$50SAT transmissions repeat about every 75 seconds, starting with an FM slow Morse code call sign beacon, data at 60 WPM Morse, and FSK RTTY

\$50 satellite - cont'd from page 7

data and digital data telemetry.

Since then, Kirkhart has been monitoring the satellite via the WebSDR (<http://zr6aic.giga.co.za:8902/>) site of Anton Janovsky, ZR6AIC, as \$50SAT makes daytime passes over South Africa. "During these passes, where it has already spent a significant amount of time in sunlight, the battery voltage is below 3400 mV," he said.

Kirkhart speculated that while loss of battery capacity is likely, "it appears the low battery voltage is due to low solar power output." He said this could be a result of solar cell damage; since there was no protective covering on the solar cells, the impact of high-energy particles could have damaged the solar cells, resulting in a drop in output. He also said the solar cells could have been damaged through thermal cycling. A short circuit is another possibility, but, Kirkhart said that, because of the limited amount of telemetry gathered, "it may not be possible to determine the exact cause."

He said that if the solar output continues to drop, the battery voltage may never get above the 3300 mV threshold needed to enable the transmitter, "at which point we will lose the ability to monitor its status."

"Even if this does happen," Kirkhart continued, "we never really thought it would last this long. We would have been happy if it just worked, and really happy if it lasted a month or two."

BREAK - OVER



January 1! Susan was 8 on December 30. Her 9th birthday was on December 31. She will turn 10 at the end of this year. Next year, she'll be 11.

"I predict future happiness for Americans if they can prevent the government from wasting the labors of the people under the pretense of taking care of them."
Thomas Jefferson

2015 Hamfests

Compiled by Doug, N0NAS

Make your calendars! Here is a list of some of the scheduled Hamfests in the area. Time to refine your shopping list and get ready to comb the flea market tables.

Sept 19, 2015

SMARTFEST 2015, Henderson, MN (SW of Belle Plaine)

www.arrl.org/hamfests/smartfest-2015

BREAK - OVER



MEDITERRANEAN SEA A helicopter from the Israeli Navy Sa'ar 5-class corvette INS Hanit (503) transports an Israeli rescue swimmer to the guided-missile destroyer USS Porter (DDG 78) during a medical exercise as part of Reliant Mermaid. Porter is on a routine patrol conducting naval operations in the U.S. 6th Fleet area of operations in support of U.S. national security interests in Europe.



ARES Breakfast

Saturday September 12th
7:30AM
Perkins Restaurant
Savage, MN

NECOS Schedule August 2015

The first Monday or the month the net is held on the WBORMK repeater, Carver. You will find WBORMK here: 147.165/765 PL 107.2

- Aug 10 KD0UWZ Chad
- Aug 17 WA0DGW John
- Aug 24 KB0FH Bob
- Aug 31 KC0YHH Tony
- September
- Sep 7 KB0FH Bob
- Sep 14 WA0DGW John